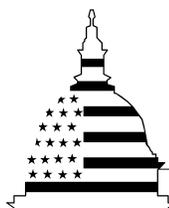


November 2003

INFORMATION
TECHNOLOGY

Leadership Remains
Key to Agencies
Making Progress on
Enterprise
Architecture Efforts



G A O

Accountability * Integrity * Reliability



Highlights

Highlights of [GAO-04-40](#), a report to the Chairman, Committee on Government Reform, House of Representatives, and the Honorable Jim Turner

Why GAO Did This Study

A well-defined enterprise architecture (EA) is a blueprint for institutional modernization and evolution that consists of models describing how an entity operates today and how it intends to operate in the future, along with a plan for how it intends to transition to this future state. Such architectures are essential tools whose effective development and use are recognized hallmarks of successful organizations. Because of the importance of these architectures, GAO was asked to determine (1) what progress federal agencies have made in effectively developing, implementing, and maintaining their EAs and (2) the Office of Management and Budget's (OMB) actions to advance the state of EA development and use across the federal government.

What GAO Recommends

GAO is reiterating open recommendations previously made to the Director of OMB, and it is making additional recommendations to the director that are aimed at advancing the state of EA management maturity across the federal government through improved EA leadership and oversight. OMB officials stated that they generally agreed with our recommendations.

www.gao.gov/cgi-bin/getrpt?GAO-04-40.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Randolph C. Hite at (202) 512-3439 or hiter@gao.gov.

INFORMATION TECHNOLOGY

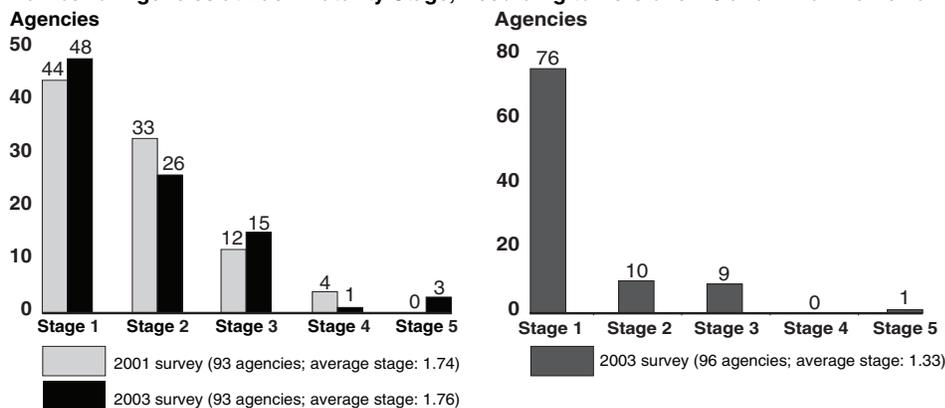
Leadership Remains Key to Agencies Making Progress on Enterprise Architecture Efforts

What GAO Found

Federal agencies' progress toward effective EA management is limited. GAO surveyed federal agencies on their EA programs and compared the results with those of a similar survey that GAO conducted in 2001 ([GAO-02-6](#)). To assign a maturity level to agencies, GAO used its EA management maturity framework, which is a five-stage model that defines criteria that govern where an EA program stands in its progression toward being effectively managed (with Stage 1 being ineffective and Stage 5 being highly effective). Comparing the 2001 and 2003 survey results revealed a very similar overall picture (see figure), in which slight increases in agencies achieving Stage 3 status were offset by slight increases in agencies being at Stage 1. In addition, when GAO assessed the 2003 survey results against a recent update of the framework ([GAO-03-584G](#)), agencies' average maturity was slightly lower. An exception to this is the Executive Office of the President, which is a Stage 5 agency under the latest version of the framework. Part of the reason for this limited progress across the federal government is that agencies continue to face long-standing EA challenges, such as limited executive understanding of EA and a scarcity of skilled architecture staff. Since 2001, more agencies now report these as significant challenges.

OMB has undertaken a variety of actions to advance the state of EA use across the federal government, such as collecting and analyzing architectures for major departments and agencies and requiring that major information technology (IT) investments comply with them. Additionally, OMB has developed parts of a governmentwide EA, and by requiring a mapping of agency architectures to this federal EA as part of the budget review process, it has called attention to the need for agencies to further their own architecture efforts. However, despite OMB's actions, the agencies' responses indicate that only about one-half are satisfied with OMB's leadership in addressing long-standing EA challenges. Until these challenges are effectively addressed, agencies' maturity levels as a whole are likely to remain stagnant, limiting their ability to effectively invest in IT.

Number of Agencies at Each Maturity Stage, According to Versions 1.0 and 1.1 of Framework



Source: GAO.

Contents

Letter	1
Results in Brief	2
Background	3
Agencies Are Making Limited Architecture Management Progress; Most Programs Remain Immature	22
OMB Has Taken Action to Promote Enterprise Architecture, but Improvements Have Not Occurred and Management Challenges Remain	42
Conclusions	52
Recommendations for Executive Action	52
Agency Comments	53

Appendixes

Appendix I: Agencies Indicated Architecture Benefits and Experiences with the Use of Tools, Frameworks, Methodologies, and Contractors	54
Agencies Reported Various Architecture Benefits	54
Agencies Reported Using a Variety of Enterprise Architecture Tools with Varying Degrees of Satisfaction	55
Agencies Reported Using a Variety of Enterprise Architecture Frameworks with Varying Levels of Satisfaction	57
Less Than Half of Federal Agencies Had Selected an Enterprise Architecture Methodology	60
Most Agencies Reported Using Contractor Support for Developing Enterprise Architectures	60
Appendix II: Cost Data Related to Implementing Enterprise Architectures Varied, with Personnel Accounting for Most Costs	62
Departments' Investment in Architecture Varied More Widely than Component and Independent Agencies'	62
Agency and Contractor Personnel Accounted for the Majority of Architecture Development Costs	67
Appendix III: Objectives, Scope, and Methodology	72
Appendix IV: Maturity Stages of Departments and Agencies According to EA Maturity Framework, Versions 1.0 and 1.1	84
Appendix V: Detailed Comparison of Individual Department Responses against Our EA Management Maturity Framework	88
Department of Agriculture	88
Department of Commerce	91

Department of Defense	94
Department of Education	101
Department of Energy	104
Department of Health and Human Services	107
Department of Homeland Security	110
Department of Housing and Urban Development	113
Department of the Interior	116
Department of Justice	119
Department of Labor	122
Department of State	125
Department of Transportation	128
Department of the Treasury	131
Department of Veterans Affairs	134
Appendix VI: Detailed Comparison of Individual Component Responses against Our EA Management Maturity Framework	137
Department of Agriculture	137
Department of Commerce	168
Department of Defense	184
Department of Health and Human Services	230
Department of Justice	255
Department of Transportation	271
Department of the Treasury	290
Appendix VII: Detailed Comparison of Independent Agency Responses against Our EA Management Maturity Framework	312
Agency for International Development	312
Central Intelligence Agency	315
Corporation for National and Community Service	318
Environmental Protection Agency	321
Equal Employment Opportunity Commission	324
Executive Office of the President	327
Export-Import Bank	330
Federal Deposit Insurance Corporation	333
Federal Energy Regulatory Commission	336
Federal Reserve System	339
Federal Retirement Thrift Investment Board	342
General Services Administration	345
National Aeronautics and Space Administration	348
National Credit Union Administration	351
National Labor Relations Board	354
Nuclear Regulatory Commission	357
Office of Personnel Management	360

	Peace Corps	363
	Railroad Retirement Board	366
	Securities and Exchange Commission	369
	Small Business Administration	372
	Smithsonian Institution	375
	Social Security Administration	378
	U.S. Postal Service	381
Appendix VIII:	2003 Survey of Enterprise Architecture Efforts	384
Appendix IX:	GAO Contact and Staff Acknowledgments	405
	GAO Contact	405
	Staff Acknowledgments	405

Tables

Table 1:	FEA Reference Models	7
Table 2:	Framework Stages for Enterprise Architecture Maturity	10
Table 3:	Critical Success Attributes of our EAMMF Versions 1.0 and 1.1	12
Table 4:	Changes in Our EAMMF Version 1.1	20
Table 5:	Core Elements That Most Frequently Contributed to Maturity Stage Increases	31
Table 6:	Core Elements That Most Frequently Contributed to Maturity Stage Decreases	32
Table 7:	Agencies That Need to Satisfy 5 or Fewer Elements to Achieve Stage 5	42
Table 8:	Service Domains and the Capabilities That They Describe	47
Table 9:	Summary of Agencies' Responses to FEA-Related Statements	49
Table 10:	Percentage of Agencies Identifying Particular Enterprise Architecture Management Challenges	50
Table 11:	Percentage of Agencies Satisfied with OMB's Efforts to Address Various Management Challenges	51
Table 12:	Frequently Identified Enterprise Architecture Benefits by Federal Agencies	54
Table 13:	Federal Agencies' Satisfaction with Automated Enterprise Architecture Tools	57
Table 14:	Federal Agencies Enterprise Architecture Framework Satisfaction Levels	59
Table 15:	Federal Agencies' Use of Contractors in Developing Their Enterprise Architectures	61
Table 16:	Cost Data Reported by Agencies	69

Table 17:	Summary of Differences between 2001 and 2003 Survey Populations	74
Table 18:	Twenty-Two Agencies in 2003 Survey Population for Which Responses Do Not Appear	75
Table 19:	Additional Survey Responses	76
Table 20:	Stage 2 Evaluation Criteria for Framework Version 1.0	77
Table 21:	Stage 3 Evaluation Criteria for Framework Version 1.0	78
Table 22:	Stage 4 Evaluation Criteria for Framework Version 1.0	78
Table 23:	Stage 5 Evaluation Criteria for Framework Version 1.0	79
Table 24:	Stage 2 Evaluation Criteria for Framework Version 1.1	80
Table 25:	Stage 3 Evaluation Criteria for Framework Version 1.1	81
Table 26:	Stage 4 Evaluation Criteria for Framework Version 1.1	82
Table 27:	Stage 5 Evaluation Criteria for Framework Version 1.1	83
Table 28:	Agency Maturity Stages According to EAMMF, Versions 1.0 and 1.1	84
Table 29:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Agriculture	88
Table 30:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Agriculture	89
Table 31:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Commerce	91
Table 32:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Commerce	92
Table 33:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Defense, Global Information Grid	94
Table 34:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Defense, Global Information Grid	96
Table 35:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Defense, Business Enterprise Architecture	98

Table 36:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Defense, Business Enterprise Architectur	99
Table 37:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Education	101
Table 38:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Education	102
Table 39:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Energy	104
Table 40:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Energy	105
Table 41:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Health and Human Services	107
Table 42:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Health and Human Services	108
Table 43:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Homeland Security	110
Table 44:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Homeland Security	111
Table 45:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Housing and Urban Development	113
Table 46:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Housing and Urban Development	114
Table 47:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of the Interior	116
Table 48:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of the Interior	117
Table 49:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Justice	119
Table 50:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Justice	120

Table 51:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Labor	122
Table 52:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Labor	123
Table 53:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of State	125
Table 54:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of State	126
Table 55:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Transportation	128
Table 56:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Transportation	129
Table 57:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of the Treasury	131
Table 58:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of the Treasury	132
Table 59:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Veterans Affairs	134
Table 60:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Veterans Affairs	135
Table 61:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Agricultural Marketing Service	137
Table 62:	Maturity Assessment in 2003 (According to Framework Version 1.1): Agricultural Marketing Service	139
Table 63:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Agricultural Research Service	141
Table 64:	Maturity Assessment in 2003 (According to Framework Version 1.1): Agricultural Research Service	142
Table 65:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Animal and Plant Health Inspection Service	144
Table 66:	Maturity Assessment in 2003 (According to Framework Version 1.1): Animal and Plant Health Inspection Service	145

Table 67:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Cooperative State Research, Education, and Extension Service	147
Table 68:	Maturity Assessment in 2003 (According to Framework Version 1.1): Cooperative State Research, Education, and Extension Service	148
Table 69:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Food and Nutrition Service	150
Table 70:	Maturity Assessment in 2003 (According to Framework Version 1.1): Food and Nutrition Service	151
Table 71:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Food Safety and Inspection Service	153
Table 72:	Maturity Assessment in 2003 (According to Framework Version 1.1): Food Safety and Inspection Service	154
Table 73:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Foreign Agricultural Service	156
Table 74:	Maturity Assessment in 2003 (According to Framework Version 1.1): Foreign Agricultural Service	157
Table 75:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Forest Service	159
Table 76:	Maturity Assessment in 2003 (According to Framework Version 1.1): Forest Service	160
Table 77:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Risk Management Agency	162
Table 78:	Maturity Assessment in 2003 (According to Framework Version 1.1): Risk Management Agency	163
Table 79:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Service Center Modernization Initiative	165
Table 80:	Maturity Assessment in 2003 (According to Framework Version 1.1): Service Center Modernization Initiative	166
Table 81:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Bureau of the Census	168
Table 82:	Maturity Assessment in 2003 (According to Framework Version 1.1): Bureau of the Census	170

Table 83:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Economic Development Administration	172
Table 84:	Maturity Assessment in 2003 (According to Framework Version 1.1): Economic Development Administration	173
Table 85:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): International Trade Administration	175
Table 86:	Maturity Assessment in 2003 (According to Framework Version 1.1): International Trade Administration	176
Table 87:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): National Oceanic and Atmospheric Administration	178
Table 88:	Maturity Assessment in 2003 (According to Framework Version 1.1): National Oceanic and Atmospheric Administration	179
Table 89:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): U.S. Patent and Trademark Office	181
Table 90:	Maturity Assessment in 2003 (According to Framework Version 1.1): U.S. Patent and Trademark Office	182
Table 91:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Ballistic Missile Defense Organization	184
Table 92:	Maturity Assessment in 2003 (According to Framework Version 1.1): Ballistic Missile Defense Organization	186
Table 93:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Advanced Research Projects Agency	188
Table 94:	Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Advanced Research Projects Agency	189
Table 95:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Commissary Agency	191
Table 96:	Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Commissary Agency	192
Table 97:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Contract Audit Agency	194

Table 98:	Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Contract Audit Agency	195
Table 99:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Contract Management Agency	197
Table 100:	Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Contract Management Agency	198
Table 101:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Information Systems Agency	200
Table 102:	Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Information Systems Agency	201
Table 103:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Intelligence Agency	203
Table 104:	Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Intelligence Agency	204
Table 105:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Logistics Agency	206
Table 106:	Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Logistics Agency	207
Table 107:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Security Cooperation Agency	209
Table 108:	Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Security Cooperation Agency	210
Table 109:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Security Service	212
Table 110:	Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Security Service	213
Table 111:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Threat Reduction Agency	215
Table 112:	Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Threat Reduction Agency	216
Table 113:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of the Air Force	218
Table 114:	Maturity Assessment in 2003 (According to Framework Version 1.1): Department of the Air Force	219

Table 115: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of the Army	221
Table 116: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of the Army	222
Table 117: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of the Navy	224
Table 118: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of the Navy	225
Table 119: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): National Imagery and Mapping Agency	227
Table 120: Maturity Assessment in 2003 (According to Framework Version 1.1): National Imagery and Mapping Agency	228
Table 121: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Administration for Children and Families	230
Table 122: Maturity Assessment in 2003 (According to Framework Version 1.1): Administration for Children and Families	232
Table 123: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Agency for Healthcare Research and Quality	234
Table 124: Maturity Assessment in 2003 (According to Framework Version 1.1): Agency for Healthcare Research and Quality	235
Table 125: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Centers for Disease Control and Prevention	237
Table 126: Maturity Assessment in 2003 (According to Framework Version 1.1): Centers for Disease Control and Prevention	238
Table 127: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Centers for Medicare and Medicaid Services	240
Table 128: Maturity Assessment in 2003 (According to Framework Version 1.1): Centers for Medicare and Medicaid Services	241

Table 129: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Food and Drug Administration	243
Table 130: Maturity Assessment in 2003 (According to Framework Version 1.1): Food and Drug Administration	244
Table 131: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Health Resources and Services Administration	246
Table 132: Maturity Assessment in 2003 (According to Framework Version 1.1): Health Resources and Services Administration	247
Table 133: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Indian Health Service	249
Table 134: Maturity Assessment in 2003 (According to Framework Version 1.1): Indian Health Service	250
Table 135: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Program Support Center	252
Table 136: Maturity Assessment in 2003 (According to Framework Version 1.1): Program Support Center	253
Table 137: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Bureau of Alcohol, Tobacco, Firearms and Explosives	255
Table 138: Maturity Assessment in 2003 (According to Framework Version 1.1): Bureau of Alcohol, Tobacco, Firearms and Explosives	257
Table 139: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Drug Enforcement Administration	259
Table 140: Maturity Assessment in 2003 (According to Framework Version 1.1): Drug Enforcement Administration	260
Table 141: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Bureau of Investigation	262
Table 142: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Bureau of Investigation	263
Table 143: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Bureau of Prisons	265
Table 144: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Bureau of Prisons	266

Table 145: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): U.S. Marshals Service	268
Table 146: Maturity Assessment in 2003 (According to Framework Version 1.1): U.S. Marshals Service	269
Table 147: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Aviation Administration	271
Table 148: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Aviation Administration	273
Table 149: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Highway Administration	275
Table 150: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Highway Administration	276
Table 151: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Motor Carrier Safety Administration	278
Table 152: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Motor Carrier Safety Administration	279
Table 153: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Railroad Administration	281
Table 154: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Railroad Administration	282
Table 155: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Transit Administration	284
Table 156: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Transit Administration	285
Table 157: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): National Highway Traffic Safety Administration	287
Table 158: Maturity Assessment in 2003 (According to Framework Version 1.1): National Highway Traffic Safety Administration	288
Table 159: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Bureau of Engraving and Printing	290
Table 160: Maturity Assessment in 2003 (According to Framework Version 1.1): Bureau of Engraving and Printing	292

Table 161: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Bureau of the Public Debt	294
Table 162: Maturity Assessment in 2003 (According to Framework Version 1.1): Bureau of the Public Debt	295
Table 163: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Comptroller of the Currency	297
Table 164: Maturity Assessment in 2003 (According to Framework Version 1.1): Comptroller of the Currency	298
Table 165: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Financial Management Service	300
Table 166: Maturity Assessment in 2003 (According to Framework Version 1.1): Financial Management Service	301
Table 167: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Internal Revenue Service	303
Table 168: Maturity Assessment in 2003 (According to Framework Version 1.1): Internal Revenue Service	304
Table 169: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Office of Thrift Supervision	306
Table 170: Maturity Assessment in 2003 (According to Framework Version 1.1): Office of Thrift Supervision	307
Table 171: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): U.S. Mint	309
Table 172: Maturity Assessment in 2003 (According to Framework Version 1.1): U.S. Mint	310
Table 173: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Agency for International Development	312
Table 174: Maturity Assessment in 2003 (According to Framework Version 1.1): Agency for International Development	313
Table 175: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Central Intelligence Agency	315
Table 176: Maturity Assessment in 2003 (According to Framework Version 1.1): Central Intelligence Agency	316
Table 177: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Corporation for National and Community Service	318

Table 178: Maturity Assessment in 2003 (According to Framework Version 1.1): Corporation for National and Community Service	319
Table 179: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Environmental Protection Agency	321
Table 180: Maturity Assessment in 2003 (According to Framework Version 1.1): Environmental Protection Agency	322
Table 181: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Equal Employment Opportunity Commission	324
Table 182: Maturity Assessment in 2003 (According to Framework Version 1.1): Equal Employment Opportunity Commission	325
Table 183: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Executive Office of the President	327
Table 184: Maturity Assessment in 2003 (According to Framework Version 1.1): Executive Office of the President	328
Table 185: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Export-Import Bank	330
Table 186: Maturity Assessment in 2003 (According to Framework Version 1.1): Export-Import Bank	331
Table 187: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Deposit Insurance Corporation	333
Table 188: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Deposit Insurance Corporation	334
Table 189: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Energy Regulatory Commission	336
Table 190: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Energy Regulatory Commission	337
Table 191: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Reserve System	339
Table 192: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Reserve System	340

Table 193: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Retirement Thrift Investment Board	342
Table 194: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Retirement Thrift Investment Board	343
Table 195: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): General Services Administration	345
Table 196: Maturity Assessment in 2003 (According to Framework Version 1.1): General Services Administration	346
Table 197: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): National Aeronautics and Space Administration	348
Table 198: Maturity Assessment in 2003 (According to Framework Version 1.1): National Aeronautics and Space Administration	349
Table 199: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): National Credit Union Administration	351
Table 200: Maturity Assessment in 2003 (According to Framework Version 1.1): National Credit Union Administration	352
Table 201: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): National Labor Relations Board	354
Table 202: Maturity Assessment in 2003 (According to Framework Version 1.1): National Labor Relations Board	355
Table 203: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Nuclear Regulatory Commission	357
Table 204: Maturity Assessment in 2003 (According to Framework Version 1.1): Nuclear Regulatory Commission	358
Table 205: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Office of Personnel Management	360
Table 206: Maturity Assessment in 2003 (According to Framework Version 1.1): Office of Personnel Management	361
Table 207: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Peace Corps	363
Table 208: Maturity Assessment in 2003 (According to Framework Version 1.1): Peace Corps	364

Table 209:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Railroad Retirement Board	366
Table 210:	Maturity Assessment in 2003 (According to Framework Version 1.1): Railroad Retirement Board	367
Table 211:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Securities and Exchange Commission	369
Table 212:	Maturity Assessment in 2003 (According to Framework Version 1.1): Securities and Exchange Commission	370
Table 213:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Small Business Administration	372
Table 214:	Maturity Assessment in 2003 (According to Framework Version 1.1): Small Business Administration	373
Table 215:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Smithsonian Institution	375
Table 216:	Maturity Assessment in 2003 (According to Framework Version 1.1): Smithsonian Institution	376
Table 217:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Social Security Administration	378
Table 218:	Maturity Assessment in 2003 (According to Framework Version 1.1): Social Security Administration	379
Table 219:	Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): U.S. Postal Service	381
Table 220:	Maturity Assessment in 2003 (According to Framework Version 1.1): U.S. Postal Service	382

Figures

Figure 1:	Enterprise Architecture Management Maturity Framework (Version 1.0)	14
Figure 2:	Enterprise Architecture Management Maturity Framework (Version 1.1)	16
Figure 3:	Changes in Maturity Stages from 2001 to 2003 (93 agencies), Based on EAMMF Version 1.0	23
Figure 4:	Agencies in Each Maturity Stage, According to EAMMF Version 1.0	25
Figure 5:	Agencies Whose Maturity Stages Improved or Declined from 2001 to 2003 against EAMMF Version 1.0	26

Figure 6:	Agency Satisfaction of Stage 1 Elements in EAMMF Version 1.0: 2001 versus 2003 Results	27
Figure 7:	Agency Satisfaction of Stage 2 Elements in EAMMF Version 1.0: 2001 versus 2003 Results	28
Figure 8:	Agency Satisfaction of Stage 3 Elements in EAMMF Version 1.0: 2001 versus 2003 Results	29
Figure 9:	Agency Satisfaction of Stage 4 Elements in EAMMF Version 1.0: 2001 versus 2003 Results	29
Figure 10:	Agency Satisfaction of Stage 5 Elements in EAMMF Version 1.0: 2001 versus 2003 Results	30
Figure 11:	Agencies in Each Stage, According to EAMMF Version 1.1	33
Figure 12:	Percentage of Departments, Component Agencies, and Independent Agencies That Satisfied Stage 2 Core Elements of EAMMF Version 1.1	35
Figure 13:	Percentage of Departments, Component Agencies, and Independent Agencies That Satisfied Stage 3 Core Elements of EAMMF Version 1.1	36
Figure 14:	Percentage of Departments, Component Agencies, and Independent Agencies That Satisfied Stage 4 Core Elements of EAMMF Version 1.1	37
Figure 15:	Percentage of Departments, Component Agencies, and Independent Agencies That Satisfied Stage 5 Core Elements of EAMMF Version 1.1	38
Figure 16:	Maturity Level of Departments and Their Component Agencies	41
Figure 17:	Enterprise Architecture Tools Used by Agencies	55
Figure 18:	Enterprise Architecture Frameworks Used by Agencies	58
Figure 19:	Development Costs to Date for Departments	63
Figure 20:	Development Costs to Date for Component Agencies	63
Figure 21:	Development Costs to Date for Independent Agencies	64
Figure 22:	Estimated Completion Costs for Departments	64
Figure 23:	Estimated Completion Costs for Component Agencies	65
Figure 24:	Estimated Completion Costs for Independent Agencies	65
Figure 25:	Estimated Annual Maintenance Costs for Departments	66

Figure 26:	Estimated Annual Maintenance Costs for Component Agencies	66
Figure 27:	Estimated Annual Maintenance Costs for Independent Agencies	67
Figure 28:	Enterprise Architecture Development Costs by Category—All Respondents	68

Abbreviations

BEA	Business Enterprise Architecture
CIO	chief information officer
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
DOD	Department of Defense
DODAF	Department of Defense Architecture Framework
DHS	Department of Homeland Security
EA	enterprise architecture
EAMMF	Enterprise Architecture Management Maturity Framework
EPA	Environmental Protection Agency
EOP	Executive Office of the President
FEA	Federal Enterprise Architecture
FEAF	Federal Enterprise Architecture Framework
FEAPMO	Federal Enterprise Architecture Program Management Office
GIG	Global Information Grid
IT	information technology
IRS	Internal Revenue Service
NIST	National Institute of Standards and Technology
OMB	Office of Management and Budget
TEAF	Treasury Enterprise Architecture Framework

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United States General Accounting Office
Washington, D.C. 20548

November 17, 2003

The Honorable Thomas M. Davis
Chairman, Committee on Government Reform
House of Representatives

The Honorable Jim Turner
House of Representatives

A well-defined enterprise architecture provides a clear and comprehensive picture of the structure of any enterprise, whether it is an organization or a functional or mission area. This structure is defined in models that describe (in both business and technology terms) how the entity operates today and how it intends to operate in the future; it also includes a plan for transitioning to this future state. Such an architecture is an essential tool for leveraging information technology (IT) in the transformation of business and mission operations.

As our experience with federal agencies has shown, attempting to modernize and evolve IT environments without an enterprise architecture to guide and constrain investments often results in operations and systems that are duplicative, not well integrated, unnecessarily costly to maintain and interface, and ineffective in supporting mission goals. A properly managed enterprise architecture helps to clarify and optimize the interdependencies and relationships among enterprise operations and their supporting IT assets, so that agencies can base IT investment decisions on an explicit and common understanding of both today's and tomorrow's environments. The development, implementation, and maintenance of architectures are widely recognized as hallmarks of successful public and private organizations, and their use is required by the Clinger-Cohen Act and the implementing guidance, issued by the Office of Management and Budget (OMB).¹ Further, the E-Government Act of 2002² assigns OMB responsibility for overseeing enterprise architectures.

In light of the importance of these architectures, you requested that we review the state of their use in the federal government. As agreed, our

¹Office of Management and Budget, *Management of Federal Information Resources*, Circular A-130 (Nov. 30, 2000), which implements the Clinger-Cohen Act of 1996, Public Law 104-106, section 5125, 110 Stat. 684 (1996), 40 U.S.C. 11315.

²Public Law 107-347.

objectives were to determine (1) what progress federal agencies have made in effectively developing, implementing, and maintaining their enterprise architectures and (2) OMB's actions to advance the state of enterprise architecture development and use across the federal government. We also collected a variety of related information on agency enterprise architecture experiences and practices, which are described in appendixes I and II of this report.

To accomplish these objectives, we surveyed federal agencies using a questionnaire that was based on our maturity framework for assessing and improving enterprise architecture management.³ We then analyzed agency questionnaire responses and compared them with the results of a similar analysis that we conducted in 2001.⁴ To corroborate certain questionnaire responses, we requested that agencies provide us with supporting documentation. For agency responses related to the content of their respective architectures, we relied on agency responses and did not independently assess the quality of agency enterprise architecture products. Further details of our objectives, scope, and methodology are in appendix III.

Results in Brief

Federal agencies' progress toward effectively managing enterprise architectures is limited, with much work remaining. Since our 2001 assessment of agencies' enterprise architecture management maturity, the percentage of agencies that have established at least a foundation for enterprise architecture management (i.e., they perform management practices that provide the basis for effectively managing the development, maintenance, and use of architectures) is virtually unchanged, decreasing from 53 to 48 percent. Further, the percentage of agencies performing the full complement of management practices that are necessary for effective enterprise architecture management is the same (about 4 percent). In addition, when agencies are assessed against the recent update of our maturity framework (Version 1.1), the percentage that have established at least a foundation for enterprise architecture management drops to 21

³U.S. General Accounting Office, *Information Technology: A Framework for Assessing and Improving Enterprise Architecture Management (Version 1.1)*, [GAO-03-584G](#) (Washington, D.C.: April 2003).

⁴U.S. General Accounting Office, *Information Technology: Enterprise Architecture Use across the Federal Government Can Be Improved*, [GAO-02-6](#) (Washington, D.C.: Feb. 19, 2002).

percent; only one agency (1 percent), the Executive Office of the President, reported performing all of the management practices that are indicative of effective enterprise architecture management. This limited progress can be attributed in part to long-standing enterprise architecture challenges that have yet to be addressed. In particular, since 2001, more agencies now report that agency executive understanding of enterprise architecture and the scarcity of skilled architecture staff are significant challenges. Until agencies have and use well-defined enterprise architectures, their ability to effectively leverage IT in transforming mission operations will be impaired.

OMB has undertaken a variety of actions to advance the state of enterprise architecture use across the federal government. These actions include collecting and analyzing the architectures of major departments and agencies and requiring that major IT investments comply with the cognizant department or agency architecture. Additionally, OMB has developed and continues to evolve governmentwide or federal enterprise architecture products and has required a mapping of agency architectures to this federal architecture as part of the budget review process. However, about one-half of agencies said that they were not satisfied with OMB's efforts to support enterprise architecture management, such as obtaining agency top management understanding and backing and ensuring that the necessary human capital is available for supporting agency enterprise architecture efforts. Also, as previously noted, agencies' maturity levels as a whole remain stagnant, despite OMB's actions. Therefore, additional steps are needed. Accordingly, we are reiterating our open recommendations and making additional recommendations to the Director of OMB that are aimed at improving enterprise architecture leadership and oversight.

In commenting on a draft of this report, officials from OMB's Office of Information and Regulatory Affairs and the Federal Enterprise Architecture Program Management Office stated that they generally agreed with our findings and recommendations.

Background

The concept of an architecture to describe an enterprise first emerged in the mid-1980s, and over the years, various frameworks⁵ for defining the content of enterprise architectures have been published. Our work in the

⁵A framework can be viewed as a logical structure for classifying and organizing complex information.

early 1990s identified architectures as critical success factors in allowing organizations to effectively apply IT to meet mission goals. Since then, we have worked with the Congress, OMB, and the federal Chief Information Officers (CIO) Council to promote the importance of architectures and assist agencies in developing, maintaining, and using them. In our reviews of selected agency IT management practices and major systems modernization programs, we have continued to identify the lack of an architecture as a major management weakness, and we have made recommendations to address this important area.

Enterprise Architecture: A Brief Description

In simple terms, an enterprise can be viewed as any purposeful activity, and an architecture can be characterized as the structure (or structural description) of any activity. Building on this, we can view enterprise architectures as systematically derived and captured structural descriptions—in useful models, diagrams, and narrative—of the mode of operation for a given enterprise, which can be either a single organization or a functional or mission area that transcends more than one organizational boundary (e.g., financial management, homeland security).

The architecture describes the enterprise's operations in both logical terms (such as interrelated business processes and business rules, information needs and flows, and work locations and users) and technical terms (such as hardware, software, data, communications, and security attributes and performance standards). It provides these perspectives both for the enterprise's current (or "as-is") environment and for its target (or "to-be") environment, as well as a transition plan for moving from the "as-is" to the "to-be" environment.

Importance of Enterprise Architectures

The importance of enterprise architectures is a basic tenet of IT management, and their effective use is a recognized hallmark of successful public and private organizations. For over a decade, we have promoted the use of architectures, recognizing them as a crucial means to a challenging goal: that is, agency operational structures that are optimally defined, in terms of both business and technology. The alternative, as our work has shown, is perpetuation of the kinds of operational environments that saddle most agencies today, in which the lack of integration among business operations and the IT resources that support them leads to systems that are duplicative, not well integrated, and unnecessarily costly to maintain and interface.

Managed properly, an enterprise architecture can clarify and help optimize the interdependencies and relationships among an organization's business operations and the underlying IT infrastructure and applications that support these operations. Employed in concert with other important IT management controls (such as portfolio-based capital planning and investment control practices), architectures can greatly increase the chances that organizations' operational and IT environments will be configured so as to optimize mission performance. Enterprise architectures are integral to managing large-scale programs as well as initiatives that span several agencies, such as those currently being undertaken to support the electronic government (e-government) efforts led by OMB.⁶

Brief History of Enterprise Architecture Frameworks and Management Guidance

During the mid-1980s, John Zachman, widely recognized as a leader in the field of enterprise architecture, identified the need to use a logical construction blueprint (i.e., an architecture) for defining and controlling the integration of systems and their components.⁷ Accordingly, Zachman developed a structure or framework for defining and capturing an architecture, which provides for six "windows" from which to view the enterprise.⁸ Zachman also proposed six abstractions or models associated with each of these perspectives.⁹ Zachman's framework provides a way to identify and describe an entity's existing and planned component parts, and the relationships between those parts, before the entity begins the costly and time-consuming efforts associated with developing or transforming itself.

⁶According to OMB, e-government is a mode of operations (using people, process, and technology—particularly Web-based Internet technology) to enhance access to and delivery of government information and service to citizens, business partners, employees, other agencies, and other levels of government.

⁷J.A. Zachman, "A Framework for Information Systems Architecture," *IBM Systems Journal*, vol. 26, no. 3 (1987).

⁸The windows provide the viewpoints of (1) the strategic planner, (2) the system user, (3) the system designer, (4) the system developer, (5) the subcontractor, and (6) the system itself.

⁹The models cover (1) how the entity operates, (2) what the entity uses to operate, (3) where the entity operates, (4) who operates the entity, (5) when entity operations occur, and (6) why the entity operates.

Since Zachman introduced his framework, a number of frameworks have emerged within the federal government, beginning with the publication of the National Institute of Standards and Technology (NIST) framework in 1989. Since that time, other federal entities have issued enterprise architecture frameworks, including the Department of Defense (DOD) and the Department of the Treasury. In September 1999, the federal CIO Council published the Federal Enterprise Architecture Framework (FEAF), which was intended to provide federal agencies with a common construct for their architectures, thereby facilitating the coordination of common business processes, technology insertion, information flows, and system investments among federal agencies. The FEAF describes an approach, including models and definitions, for developing and documenting architecture descriptions for multiorganizational functional segments of the federal government.¹⁰

More recently, OMB established the Federal Enterprise Architecture Program Management Office to develop a Federal Enterprise Architecture (FEA) according to a collection of five “reference models,” which are intended to facilitate governmentwide improvement through cross-agency analysis and the identification of duplicative investments, gaps, and opportunities for collaboration, interoperability, and integration within and across government agencies. The FEA reference models are summarized in table 1.

¹⁰Similar to the Zachman framework, the FEAF’s proposed models describe an entity’s business, data necessary to conduct the business, applications to manage the data, and technology to support the applications.

Table 1: FEA Reference Models

Reference model	Description	Status
Business Reference Model	Describes the business operations of the federal government independent of the agencies that perform them, including defining the services provided to state and local governments.	Version 2.0 released in June 2003
Service Component Reference Model	Identifies and classifies IT service (i.e., application) components that support federal agencies and promotes the reuse of components across agencies.	Version 1.0 released in June 2003
Technical Reference Model	Describes how technology is supporting the delivery of service components, including relevant standards for implementing the technology.	Version 1.1 released in August 2003
Performance Reference Model	Provides a common set of general performance outputs and measures for agencies to use to achieve business goals and objectives.	Version 1.0 released in September 2003
Data and Information Reference Model	Intended to describe, at an aggregate level, the types of data and information that support program and business line operations, and the relationships among these types.	Release planned by January 2004

Source: GAO.

Although these post-Zachman frameworks differ in their nomenclatures and modeling approaches, each consistently provides for defining an enterprise's operations in both logical terms and technical terms, provides for defining these perspectives for the enterprise's current and target environments, and calls for a transition plan between the two.

Several laws and regulations have established requirements and guidance, respectively, for agencies' management of architectures, beginning with the Clinger-Cohen Act in 1996,¹¹ which directs the CIOs of major departments and agencies to develop, maintain, and facilitate the implementation of IT architectures as a means of integrating agency goals and business processes with IT. OMB Circular A-130, which implements the Clinger-Cohen Act, requires that agencies document and submit their initial enterprise architectures to OMB and that agencies submit updates to OMB when significant changes to their enterprise architectures occur. The circular also directs the OMB Director to use various kinds of reviews to evaluate the adequacy and efficiency of each agency's compliance with the circular.

¹¹Public Law 104-106, 40 U.S.C. 11315.

OMB was given explicit responsibility for overseeing government enterprise architectures by the E-Government Act of 2002,¹² which established the Office of Electronic Government within OMB. This act gives OMB the responsibility for facilitating the development of enterprise architectures within and across agencies and supporting improvements in government operations through the use of IT.

Prior Work Indicates Opportunities for Improving Enterprise Architectures

We began reviewing federal agencies' use of architectures in 1994, initially focusing on those agencies that were pursuing major systems modernization programs that were high risk. These included the National Weather Service systems modernization,¹³ the Federal Aviation Administration air traffic control modernization,¹⁴ and the Internal Revenue Service (IRS) tax systems modernization.¹⁵ Generally, we reported that these agencies' enterprise architectures were incomplete, and we made recommendations that they develop and implement complete enterprise architectures to guide their modernization efforts.

¹²Public Law 107-347.

¹³U.S. General Accounting Office, *Weather Forecasting: Systems Architecture Needed for National Weather Service Modernization*, [GAO/AIMD-94-28](#) (Washington, D.C.: Mar. 11, 1994).

¹⁴U.S. General Accounting Office, *Air Traffic Control: Complete and Enforced Architecture Needed for FAA Systems Modernization*, [GAO/AIMD-97-30](#) (Washington, D.C.: Feb. 3, 1997).

¹⁵U.S. General Accounting Office, *Tax Systems Modernization: Blueprint Is a Good Start but Not Yet Sufficiently Complete to Build or Acquire Systems*, [GAO/AIMD/GGD-98-54](#) (Washington, D.C.: Feb. 24, 1998).

Since then, we have reviewed architecture management at other federal agencies, including the Department of Education,¹⁶ the former Customs Service,¹⁷ the former Immigration and Naturalization Service,¹⁸ and the Centers for Medicare and Medicaid Services.¹⁹ We have also reviewed the use of enterprise architectures for critical agency functional areas, such as the integration and sharing of terrorist watch lists across key federal departments,²⁰ and the logistics management area within DOD.²¹ These reviews have continued to identify the absence of complete and enforced enterprise architectures, which in turn has led to agency business operations, systems, and data that are not integrated (“stovepiped”), duplicative, and incompatible. These conditions have either prevented agencies from sharing data or forced them to depend on expensive, custom-developed interface systems to do so.

¹⁶U.S. General Accounting Office, *Student Financial Aid Information: Systems Architecture Needed to Improve Programs' Efficiency*, [GAO/AIMD-97-122](#) (Washington, D.C.: July 29, 1997).

¹⁷U.S. General Accounting Office, *Customs Service Modernization: Architecture Must Be Complete and Enforced to Effectively Build and Maintain Systems*, [GAO/AIMD-98-70](#) (Washington, D.C.: May 5, 1998).

¹⁸U.S. General Accounting Office, *Information Technology: INS Needs to Better Manage the Development of Its Enterprise Architecture*, [GAO/AIMD-00-212](#) (Washington, D.C.: Aug. 1, 2000).

¹⁹U.S. General Accounting Office, *Medicare: Information Systems Modernization Needs Stronger Management and Support*, [GAO-01-824](#) (Washington, D.C.: Sept. 20, 2001).

²⁰U.S. General Accounting Office, *Information Technology: Terrorist Watch Lists Should Be Consolidated to Promote Better Integration and Sharing*, [GAO-03-322](#) (Washington, D.C.: Apr. 15, 2003).

²¹U.S. General Accounting Office, *Information Technology: Architecture Needed to Guide Modernization of DOD's Financial Operations*, [GAO-01-525](#) (Washington, D.C.: May 17, 2001); *Information Technology: DLA Should Strengthen Business Systems Modernization Architecture and Investment Activities*, [GAO-01-631](#) (Washington, D.C.: June 29, 2001); *Combat Identification Systems: Strengthened Management Efforts Needed to Ensure Required Capabilities*, [GAO-01-632](#) (Washington, D.C.: June 25, 2001); *DOD Business Systems Modernization: Improvements to Enterprise Architecture Development and Implementation Efforts Needed*, [GAO-03-458](#) (Washington, D.C.: Feb. 28, 2003); *Information Technology: Observations on Department of Defense's Draft Enterprise Architecture*, [GAO-03-571R](#) (Washington, D.C.: Mar. 28, 2003); *DOD Business Systems Modernization: Longstanding Management and Oversight Weaknesses Continue to Put Investments at Risk*, [GAO-03-553T](#) (Washington, D.C.: Mar. 31, 2003); and *Business Systems Modernization: Summary of GAO's Assessment of the Department of Defense's Initial Business Enterprise Architecture*, [GAO-03-877R](#) (Washington, D.C.: July 7, 2003).

Our Enterprise Architecture Management Maturity Framework

In 2002, we published Version 1.0 of our Enterprise Architecture Management Maturity Framework (EAMMF) to provide federal agencies with a common benchmarking tool for planning and measuring their enterprise architecture efforts, as well as to provide OMB with a means for doing the same governmentwide.²² This framework is an extension of *A Practical Guide to Federal Enterprise Architecture, Version 1.0*, published by the CIO Council. The framework arranges core elements from the practical guide into a matrix of five hierarchical stages and four critical success attributes; that is, each core element appears at a particular stage of maturity, and it is also associated with one of the critical success attributes. In April 2003, we published Version 1.1 of this framework,²³ which reflects changes and additions that are based on comments we received on the initial version.

EAMMF Version 1.0

The EAMMF is made up of five stages of maturity, each of which includes an associated set of elements, along with all of the elements of the previous stages. Table 2 shows these stages, followed by the description of each as contained in Version 1.0 of our framework.

Table 2: Framework Stages for Enterprise Architecture Maturity

Stage	Description
1	Creating EA awareness
2	Building the EA management foundation
3	Developing architecture products
4	Completing EA products
5	Leveraging the EA to manage change

Source: GAO.

Legend: EA = enterprise architecture.

- **Stage 1: Creating EA awareness.** Agencies at this stage are characterized either by no plans to develop and use an enterprise architecture, or by plans and actions that do not yet demonstrate an awareness of the value of having and using one. Although Stage 1

²²GAO-02-6.

²³GAO-03-584G.

agencies may have initiated some enterprise architecture core elements, these agencies' efforts are ad hoc and unstructured, and they do not provide the management foundation that is necessary for successful enterprise architecture development.

- **Stage 2: Building the EA management foundation.** The focus at Stage 2 is on assignment of roles and responsibilities and establishment of plans for developing enterprise architecture products. Specifically, a Stage 2 agency has designated a chief architect and established and staffed a program office that is responsible for enterprise architecture development. Further, a steering committee or group that has responsibility for directing and overseeing the development has been established, and the membership of the steering committee includes business and IT representatives. At Stage 2, the agency either has plans for developing or has begun development of at least some of the necessary enterprise architecture products. This stage also requires the agency to have selected both a framework that will be the basis for the nature and content of the specific products it plans to develop and an automated tool to help in the development.
- **Stage 3: Developing architecture products.** At Stage 3, an agency focuses on actual development of enterprise architecture products. The agency has defined the scope of its enterprise architecture as encompassing the entire enterprise, whether an organization or a functional area, and it has a written and approved policy demonstrating institutional commitment. Although the products may not yet be complete, they are intended to describe the agency in terms of business, data, applications, and technology. Further, the products are to describe the current and future states and the sequencing plan for transitioning from current to future state. As the architecture products are being developed, they are to be subject to configuration control.
- **Stage 4: Completing EA products.** An agency at Stage 4 has complete and approved enterprise architecture products that it can use to help select and control its portfolio of IT investments. The complete products describe the organization in terms of business, data, applications, and technology. Also, the products are complete in that they describe the agency's current and future states and the transition plan for sequencing from the current state to the future state. Further, the agency's CIO has approved the enterprise architecture, and the agency has a written policy requiring that IT investments comply with the enterprise architecture.

- **Stage 5: Leveraging the EA to manage change.** At Stage 5, an agency is able to evolve the enterprise architecture products according to a written and approved policy for maintaining the architecture. Also at this stage, the steering committee, investment review board, or agency head approves the enterprise architecture. Finally, the agency has incorporated the enterprise architecture into its corporate decision making, and it has established and is using metrics to measure the effectiveness of its enterprise architecture.

In addition to the maturity stages, each core element is also associated with attributes that are critical to the successful performance of any management function (see table 3). The critical success attributes are identical in Versions 1.0 and 1.1 of our framework.

Table 3: Critical Success Attributes of our EAMMF Versions 1.0 and 1.1

Attribute	Description
1	Demonstrates commitment
2	Provides capability to meet commitment
3	Demonstrates satisfaction of commitment
4	Verifies satisfaction of commitment

Source: GAO.

Attribute 1: Demonstrates commitment. Because the enterprise architecture is a corporate asset for systematically managing institutional change, the support and sponsorship of the head of the enterprise are essential to the success of the architecture effort. An approved enterprise policy statement provides such support and sponsorship, promoting institutional “buy in” and encouraging resource commitment from participating components. Equally important in demonstrating commitment is vesting ownership of the architecture with an executive body that collectively owns the enterprise.

Attribute 2: Provides capability to meet commitment. The success of the enterprise architecture effort depends largely on the organization’s capacity to develop, maintain, and implement the enterprise architecture. Consistent with any large IT project, these capabilities include providing adequate resources (i.e., people, processes, and technology); defining clear roles and responsibilities; and defining and implementing organizational

structures and process management controls that promote accountability and effective project execution.

Attribute 3: Demonstrates satisfaction of commitment. Satisfaction of the organization’s commitment to develop, maintain, and implement an enterprise architecture is demonstrated by the production of artifacts (e.g., the plans and products). Such artifacts demonstrate “follow through”—actual enterprise architecture production. Satisfaction of commitment is further demonstrated by senior leadership approval of enterprise architecture documents and artifacts; such approval communicates institutional endorsement and ownership of the architecture and the change that it is intended to drive.

Attribute 4: Verifies satisfaction of commitment. This attribute focuses on measuring and disclosing the extent to which efforts to develop, maintain, and implement the enterprise architecture have fulfilled stated goals or commitments. Measuring such performance allows for tracking progress that has been made toward stated goals, allows the appropriate actions to be taken when performance deviates significantly from goals, and creates incentives to influence both institutional and individual behaviors.

Collectively, these attributes form the basis by which an organization can institutionalize management of any given function or program, such as enterprise architecture management. Within each stage, each critical success attribute includes between one and four core elements, which are descriptions of a practice or condition that is needed for effective enterprise architecture management. On the basis of the implicit dependencies among the core elements, the EAMMF associates each element with one of five hierarchical management stages, referred to as *maturity stages*. Each stage reflects the collection of enterprise architecture management practices and conditions (i.e., core elements) that are being undertaken by an enterprise at a given maturity level.

Figure 1 is a summary of Version 1.0 of the framework, showing the key elements associated with the stages and attributes previously described.

Figure 1: Enterprise Architecture Management Maturity Framework (Version 1.0)

	Stage 1: Creating EA awareness	Stage 2: Building the EA management foundation	Stage 3: Developing architecture products	Stage 4: Completing architecture products	Stage 5: Leveraging the EA for managing change
Attribute 1: Demonstrates commitment	Agency is aware of EA.	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Written/approved policy exists for EA development.	Written/approved policy exists for information technology investment compliance with EA.	Written/approved policy exists for EA maintenance.
Attribute 2: Provides capability to meet commitment		Program office responsible for EA development exists. Chief architect exists. EA being developed using a framework and automated tool.	EA products are under configuration management.		
Attribute 3: Demonstrates satisfaction of commitment		EA plans • call for describing enterprise in terms of business, data, applications, or technology; • call for describing "as is" environment, "to be" environment, or sequencing plan.	EA products • describe or will describe enterprise's business—and the data, applications, and technology that support it; • describe or will describe "as is" environment, "to be" environment, and sequencing plan. EA scope is enterprise-focused.	EA products • describe enterprise's business—and the data, applications, and technology that support it; • describe "as is" environment, "to be" environment, and sequencing plan. Agency chief information officer has approved EA.	Either EA steering committee, investment review board, or agency head has approved EA.
Attribute 4: Verifies satisfaction of commitment					Metrics exist for measuring EA benefits.
					

Source: GAO.

Note: Each stage includes all elements of the previous stages.

EAMMF Version 1.1

Version 1.1 of this framework was released in April 2003. Like the initial version, Version 1.1 is based on the CIO Council guidance²⁴ and augmented by our research experience in reviewing architecture programs. Changes and additions to the framework were also based on comments received on the initial version. As a comparison between the two frameworks shows, a number of new elements have been added to Version 1.1. Figure 2 shows a summary of the new framework, Version 1.1.

²⁴CIO Council, *A Practical Guide to Federal Enterprise Architecture, Version 1.0* (February 2001).

Figure 2: Enterprise Architecture Management Maturity Framework (Version 1.1)

	Stage 1: Creating EA awareness	Stage 2: Building the EA management foundation	Stage 3: Developing EA products	Stage 4: Completing EA products	Stage 5: Leveraging the EA to manage change
Attribute 1: Demonstrates commitment		Adequate resources exist. Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Written and approved organization policy exists for EA development.	Written and approved organization policy exists for EA maintenance.	Written and approved organization policy exists for IT investment compliance with EA.
Attribute 2: Provides capability to meet commitment		Program office responsible for EA development and maintenance exists. Chief architect exists. EA is being developed using a framework, methodology, and automated tool.	EA products are under configuration management.	EA products and management processes undergo independent verification and validation.	Process exists to formally manage EA change. EA is integral component of IT investment management process.
Attribute 3: Demonstrates satisfaction of commitment		EA plans call for describing both "as-is" and "to-be" environments of the enterprise, as well as a sequencing plan for transitioning from the "as-is" to the "to-be." EA plans call for describing both "as-is" and "to-be" environments in terms of business, performance, information/data, application/service, and technology. EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	EA products describe or will describe both "as-is" and "to-be" environments, as well as a sequencing plan. Both "as-is" and "to-be" environments are described or will be described in terms given in Stage 2. These descriptions (see Stage 2) address or will address security.	EA products describe both "as-is" and "to-be" environments, as well as a sequencing plan. Both "as-is" and "to-be" environments are described in terms given in Stage 2. These descriptions (see Stage 2) address security. Organization CIO has approved current version of EA. Committee or group representing the enterprise or the investment review board has approved current version of EA.	EA products are periodically updated. IT investments comply with EA. Organization head has approved current version of EA.
Attribute 4: Verifies satisfaction of commitment		EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Progress against EA plans is measured and reported.	Quality of EA products is measured and reported.	Return on EA investment is measured and reported. Compliance with EA is measured and reported.

Source: GAO.

Note: Each stage includes all elements of the previous stages.

The stages and attributes remain the same as with Version 1.0, although the descriptions of the stages are updated in Version 1.1 to reflect the new elements in the framework, as follows:

Stage 1: Creating EA awareness. As with Version 1.0, at Stage 1, either an organization does not have plans to develop and use an architecture, or it has plans that do not demonstrate an awareness of the value of having and using an architecture. Although Stage 1 agencies may have initiated some enterprise architecture activity, these agencies' efforts are ad hoc and unstructured, lack institutional leadership and direction, and do not provide the management foundation that is necessary for successful enterprise architecture development as defined in Stage 2.

Stage 2: Building the EA management foundation. An organization at Stage 2 recognizes that the enterprise architecture is a corporate asset by vesting accountability for it in an executive body that represents the entire enterprise. At this stage, an organization assigns enterprise architecture management roles and responsibilities and establishes plans for developing enterprise architecture products and for measuring program progress and product quality. An organization at this stage also commits the necessary resources for developing an architecture—people, processes, and tools. Specifically, a Stage 2 organization has designated a chief architect and established and staffed a program office that is responsible for enterprise architecture development and maintenance. Further, it has established a committee or group that has responsibility for enterprise architecture governance (i.e., directing, overseeing, and approving architecture development and maintenance). This committee or group membership has enterprisewide representation. At Stage 2, the organization either has plans for developing or has started developing at least some enterprise architecture products, and it has fostered an enterprisewide awareness of the value of enterprise architecture and its intended use in managing its IT investments. The organization has also selected a framework and a methodology that will be the basis for developing the enterprise architecture products and has selected a tool for automating these activities.

Stage 3: Developing the EA. An organization at Stage 3 focuses on developing architecture products according to the selected framework, methodology, tool, and established management plans. Roles and responsibilities assigned in the previous stage are in place, and resources are being applied to develop actual enterprise architecture products. At this stage, the scope of the architecture has been defined to encompass the

entire enterprise, whether an organization or a functional area. Although the products may not be complete, they are intended to describe the organization in terms of business, performance, information/data, service/application, and technology (including security explicitly in each), as provided for in the framework, methodology, tool, and management plans. Further, the products are to describe the current (“as-is”) and future (“to-be”) states and the plan for transitioning from the current to the future state (the sequencing plan). As the products are developed and evolve, they are subject to configuration management. Further, through the established enterprise architecture management foundation, the organization is tracking and measuring its progress against plans; identifying and addressing variances, as appropriate; and then reporting on its progress.

Stage 4: Completing the EA. An organization at Stage 4 has completed its enterprise architecture products, meaning that the products have been approved by the enterprise architecture steering committee (established in Stage 2) or an investment review board, and by the CIO. The completed products collectively describe the enterprise in terms of business, performance, information/data, service/application, and technology for both its current and future operating states, and the products include a sequencing plan for transitioning from the current to the future state. Further, an independent agent has assessed the quality (i.e., completeness and accuracy) of the enterprise architecture products. Additionally, evolution of the approved products is governed by a written enterprise architecture maintenance policy that is approved by the head of the organization.

Stage 5: Leveraging the EA to manage change. An organization at Stage 5 has secured senior leadership approval of the enterprise architecture products and a written institutional policy stating that IT investments must comply with the architecture, unless granted an explicit compliance waiver. Further, decision makers are using the architecture to identify and address ongoing and proposed IT investments that are conflicting, overlapping, not strategically linked, or redundant. As a result, Stage 5 entities avoid unwarranted overlap across investments and ensure maximum systems interoperability, which in turn ensures the selection and funding of IT investments with manageable risks and returns. Also, at Stage 5, the organization tracks and measures enterprise architecture benefits or return on investment, and adjustments are continuously made to both the enterprise architecture management process and the enterprise architecture products.

Significant Differences between EAMMF Versions 1.0 and 1.1

Overall, Version 1.1 is more demanding (i.e., sets a higher standard) than Version 1.0 because Version 1.1 adds important content, clarifies existing content, and links the EAMMF framework to related IT management guidance, such as our IT investment management framework.²⁵ Key differences in Version 1.1 of the framework appear first in Stage 2 and affect later stages either explicitly or implicitly. That is, some planning elements associated with Stage 2 now propagate explicitly through later stages as plans are executed and architecture products are developed, completed, and implemented. For example:

- Version 1.1 includes “performance” among the models that are needed to describe the “as-is” and “to-be” environments; these models are introduced into the planning elements in Stage 2 and built upon as plans are executed: that is, as architecture products are developed and completed in Stages 3 and 4, respectively.
- Version 1.1 explicitly recognizes the need to address security in the descriptions of the “as-is” and “to-be” environments; this element is introduced in Stage 2 and reiterated in Stages 3 and 4.
- Version 1.1 introduces the need to plan for metrics in Stage 2 and to measure different aspects of enterprise architecture development, quality, and use in Stages 3, 4, and 5.

Other differences introduced in Version 1.1 affect later stages implicitly, since each stage includes all elements of previous stages. For example, in Stage 2, an element has been added that recognizes the need for adequate resources (people, processes, and technology). This element appears in Stage 2 explicitly, but it is included in later stages implicitly. Stage 4 now includes an element requiring that enterprise architecture products and management processes undergo independent verification and validation; this element continues in Stage 5.

In addition, two core elements, both in Stage 2, have been altered from Version 1.0, as follows:

²⁵U.S. General Accounting Office, *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, Exposure Draft, [GAO/AIMD-10.1.23](#) (Washington, D.C.: May 2000).

- Enterprise architecture maintenance, in addition to development, is now included among the responsibilities of the program office.
- The use of an enterprise architecture methodology is added to the use of a framework and automated tool in developing the architecture.

Last, the sequence of two elements (the policies on maintenance and on IT investment compliance with the architecture) is reversed in Version 1.1. That is, maintenance policy is now associated with Stage 4 and investment compliance with Stage 5. This reordering reflects greater alignment of these elements with the definitions of their respective framework stages.

Finally, several new elements were added to Stage 5 that provide for maximizing the value and use of the enterprise architecture by keeping it current and using it to manage change (including the existence of a process to formally manage enterprise architecture change, the enterprise architecture being an integral component of the IT investment management process, the periodic updating of enterprise architecture products, and the compliance of IT investments with the enterprise architecture). These and the other changes are summarized in table 4.

Table 4: Changes in Our EAMMF Version 1.1

Stage	New element or new aspect of element	Type of change
Stage 1: Creating EA awareness	(No element specified.)	—
Stage 2: Building the EA management foundation	The EA program should have adequate resources.	New element
	A maintenance element was added to EA program office responsibilities.	Revised element
	The EA should be developed using a methodology.	Revised element
	EA plans must call for describing the “as-is” and “to-be” environments of the enterprise and a sequencing plan for moving from the “as-is” to the “to-be” environment, instead of calling for describing only one or more of these elements.	Revised element
	EA plans must address all descriptions of the “as-is” and “to-be” environments of the enterprise (e.g., business, information/data), instead of addressing only one or more of these descriptions.	Revised element
	“Performance” is added to the terms in which the “as-is” and “to-be” environments are described.	Revised element
	EA plans are to call for security to be explicitly addressed in all descriptions of the enterprise.	New element
	EA plans should call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	New element

(Continued From Previous Page)

Stage	New element or new aspect of element	Type of change
Stage 3: Developing the EA	“Performance” is added to the terms in which the “as-is” and “to-be” environments are described.	Revised element
	EA products are to call for security to be explicitly addressed in all descriptions of the enterprise.	New element
	Progress against EA plans is measured and reported.	New element
Stage 4: Completing the EA	Written and approved organizational policy exists for EA maintenance.	Moved element
	EA products and management processes should undergo independent verification and validation.	New element
	“Performance” is added to the terms in which the “as-is” and “to-be” environments are described.	Revised element
	EA products explicitly address security in all descriptions of the enterprise.	New element
Stage 5: Leveraging the EA to manage change	Quality of EA products is measured and reported.	New element
	Written and approved organizational policy exists for IT investment compliance with EA.	Moved element
	Process exists to formally manage EA change.	New element
	EA is integral component of IT investment management process.	New element
	EA products are periodically updated.	New element
	IT investments comply with EA.	New element
	The organization head has approved the current version of the EA.	Revised element
Return on EA investment is measured and reported.	New element	
	Compliance with EA is measured and reported.	New element

Source: GAO.

Our 2001 Survey Showed the Immature State of Federal Agency Architecture Management

We first surveyed enterprise architecture management maturity across the federal government in 2001, and we reported in February 2002²⁶ that about 52 percent of federal agencies reported having at least the management foundation that is needed to begin successfully developing, implementing, and maintaining an enterprise architecture, and that about 48 percent of agencies had not yet advanced to that basic stage of maturity. At the other extreme, about 4 percent of federal agencies’ enterprise architecture efforts had matured to the point that they could be considered effective, with one agency attaining the highest stage of maturity. This overall state of affairs was consistent for the three agency types that we surveyed: cabinet-level departments (e.g., Treasury); department component agencies (e.g., IRS, which is a component of Treasury); and independent agencies (e.g., Social Security Administration).

²⁶GAO-02-6.

We also reported that the state of architecture management across the federal government was attributable to four management challenges that agencies reported facing as they attempt to develop and use architectures. These challenges were (1) overcoming limited executive understanding, (2) inadequate funding, (3) insufficient skilled staff, and (4) organizational parochialism. Additionally, we recognized OMB's efforts to promote and oversee agencies' enterprise architecture efforts. Nevertheless, we determined that OMB's leadership and oversight could be improved by, for example, using a more structured means of measuring agencies' progress and by addressing the above management challenges. To this end, our February 2002 report provided OMB with the necessary baseline data, improvement framework, and several recommendations. OMB generally agreed with our findings and conclusions in that report and stated that it would consider our recommendations.

Agencies Are Making Limited Architecture Management Progress; Most Programs Remain Immature

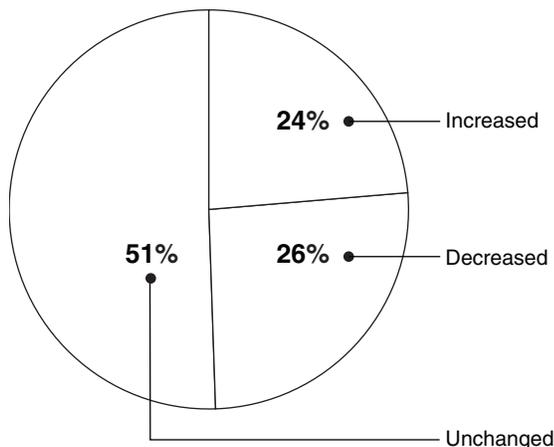
Our 2003 survey results indicate that while some individual agencies have made progress in improving their enterprise architecture management maturity, progress for the federal government as a whole has not occurred. Specifically, while about one-fourth of all agencies improved their enterprise architecture management maturity stage relative to Version 1.0 of our framework, about one-fourth of all agencies decreased in maturity and about one-half of all agencies remained at the same stage. Furthermore, the more demanding standard established by our framework Version 1.1 caused a decline in agency maturity levels, demonstrating that improvements are needed before agencies' enterprise architecture management practices can be considered effective. The average maturity stage for the 96 responses included in our survey was 1.76 when measured against Version 1.0 of our framework and 1.33 when compared with Version 1.1 of our framework.

Appendix IV provides a list of these individual agencies and their maturity stages.

Agencies' Architecture Management Progress Is Limited

Overall, little substantial change was revealed in agencies' overall enterprise architecture maturity when their efforts were compared with Version 1.0 of our framework. Of the 93 agencies included in both our 2001 and 2003 surveys, 22 agencies (24 percent) increased their respective EAMMF maturity stages, 24 agencies (26 percent) decreased their stages, and 47 agencies (51 percent) remained the same.²⁷ (See fig. 3.)

Figure 3: Changes in Maturity Stages from 2001 to 2003 (93 agencies), Based on EAMMF Version 1.0



Source: GAO.

At the department level,²⁸ 4 departments increased their maturity stage, 4 decreased, and 6 stayed at the same stage. The Department of Homeland Security—which began operations as a department in March 2003—debuted at Stage 3. Although progress for agencies in the aggregate continued to be limited, departments as a group made the most progress: the average maturity for the 14 departments that responded to both the

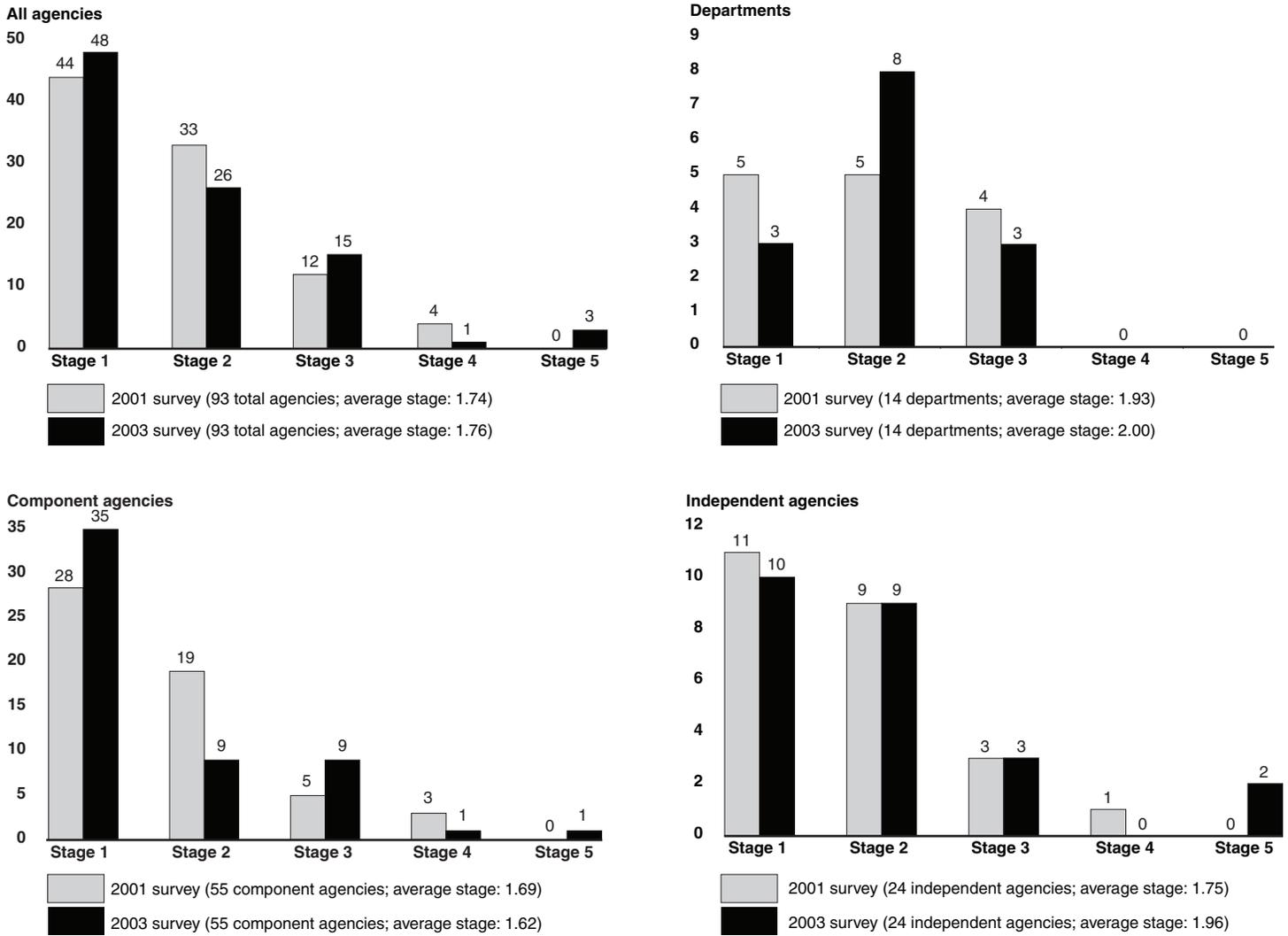
²⁷Numbers do not add to 100 percent due to rounding.

²⁸The Departments of Agriculture, Commerce, Defense, Health and Human Services, Justice, Transportation, and the Treasury submitted both a department response and responses for department component agencies (e.g., the Treasury's Internal Revenue Service). The Departments of Education, Energy, Homeland Security, Housing and Urban Development, the Interior, Labor, State, and Veterans Affairs each submitted a single response that combined the department and department component responses.

2001 and 2003 surveys increased from 1.93 to 2.00 against Version 1.0 of the framework. In contrast, component agencies showed a slight decline in maturity against Version 1.0. Specifically, of the component agencies that responded to both surveys, 9 increased their maturity stage, 15 decreased in maturity, and 31 stayed the same, with the average maturity stage decreasing from 1.69 to 1.62. For independent agencies that responded to both surveys, 9 increased their maturity stage, 5 decreased in maturity, and 10 stayed at the same stage. On average, independent agencies showed an increase in maturity, from 1.75 to 1.96 against Version 1.0.

Figure 4 summarizes the maturity status of departments, components, independent agencies, and all agencies, according to Version 1.0 of our framework, and compares our 2001 and 2003 survey results.

Figure 4: Agencies in Each Maturity Stage, According to EAMMF Version 1.0

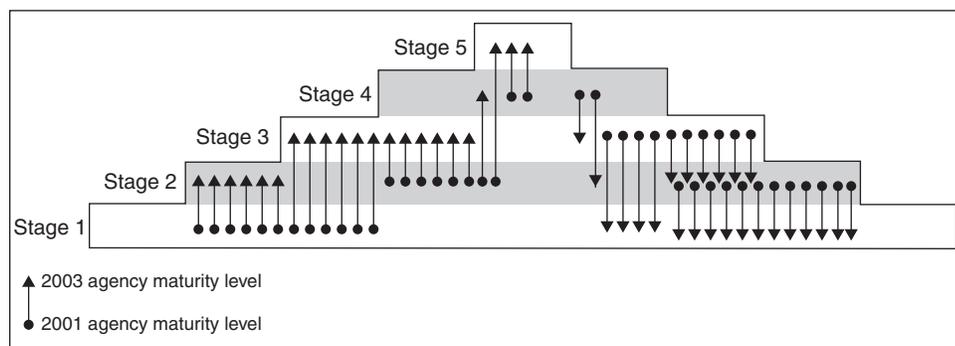


Source: GAO.

Most agencies that made progress from 2001 to 2003 moved from a lower maturity stage to Stage 2 or 3 (as shown in fig. 4, most agencies were clustered in Stages 1 and 2, so this is not unexpected). In particular, of the 22 agencies that increased their maturity stage, 6 increased from Stage 1 to Stage 2, and 12 increased from Stage 1 or 2 to Stage 3. Most agencies that regressed fell to Stage 1 from Stages 2 and 3. Specifically, of the 24 agencies

that decreased their maturity stage, 16 decreased to Stage 1 from Stage 2 or 3. Figure 5 shows the number of agencies whose maturity levels improved and declined between 2001 and 2003 as measured against Version 1.0 of our maturity framework.

Figure 5: Agencies Whose Maturity Stages Improved or Declined from 2001 to 2003 against EAMMF Version 1.0



Source: GAO.

Agencies' progress since our first survey is similarly limited when we consider the total number of core elements satisfied. The 93 agencies that responded to both the 2001 and 2003 surveys satisfied an average of about 11 of the 19 elements in Version 1.0 in both 2001 and 2003. As a whole, the 93 agencies satisfied about 57 percent of all possible framework elements in 2001 and about 60 percent of all possible framework elements in 2003.

From 2001 to 2003, agencies showed improvements in satisfying certain core elements, but these improvements were offset by declines in agency satisfaction of other core elements. Examples of core elements where agency satisfaction significantly improved are as follows:

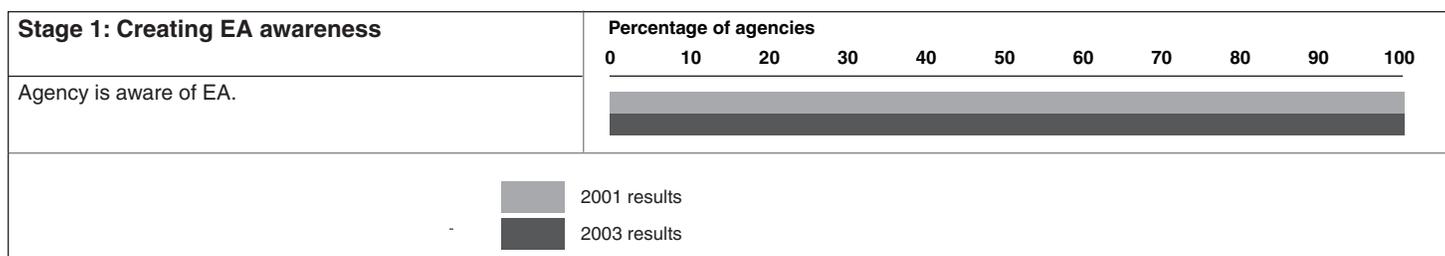
- “Metrics exist for measuring EA benefits” (about a 38 percent increase),
- “Chief architect exists” (about a 23 percent improvement), and
- “EA products are under configuration management” (about an 18 percent increase).

Examples of core elements where agency satisfaction significantly declined are as follows:

- “EA products describe ‘as-is’ environment, ‘to-be’ environment, and sequencing plan” (about a 39 percent decrease);
- “EA products describe enterprise’s business—and the data, applications, and technology that support it” (about a 36 percent decrease);
- “Either EA steering committee, investment review board, or agency head has approved EA” (about a 25 percent decrease); and
- “Program office responsible for EA development exists” (about a 23 percent decrease).

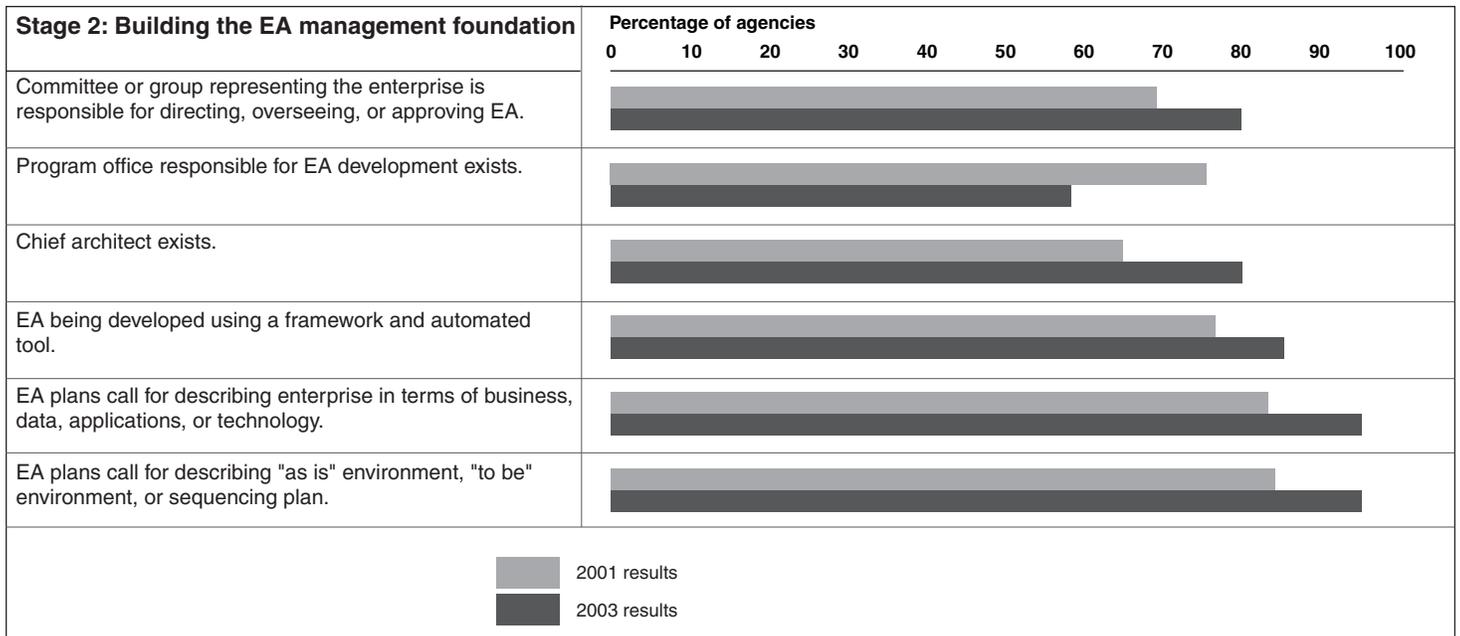
Figures 6 to 10 show the number of agencies that satisfied the framework elements in each stage of Version 1.0 in 2001 and in 2003.

Figure 6: Agency Satisfaction of Stage 1 Elements in EAMMF Version 1.0: 2001 versus 2003 Results



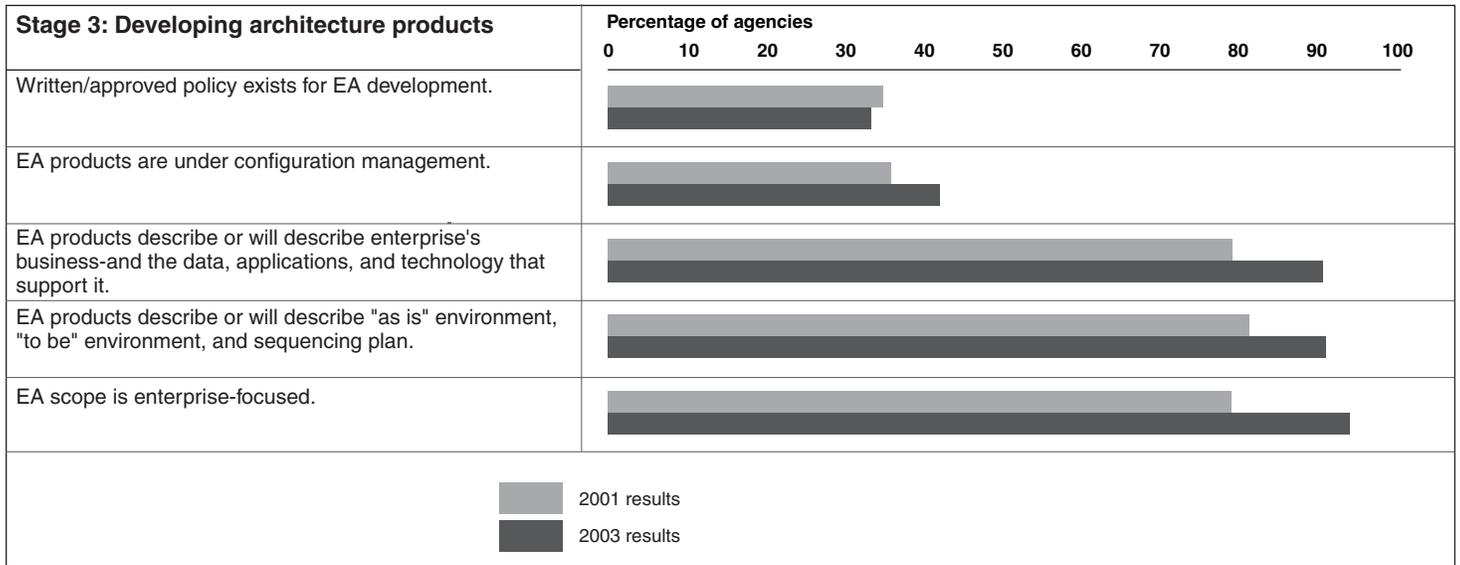
Source: GAO.

Figure 7: Agency Satisfaction of Stage 2 Elements in EAMMF Version 1.0: 2001 versus 2003 Results



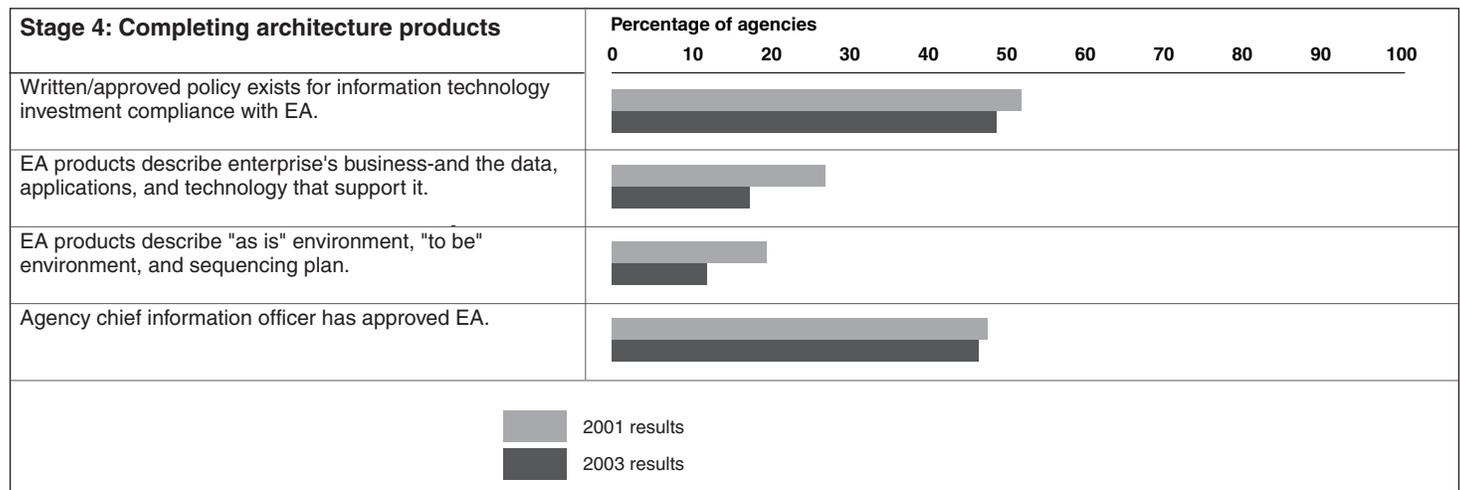
Source: GAO.

Figure 8: Agency Satisfaction of Stage 3 Elements in EAMMF Version 1.0: 2001 versus 2003 Results



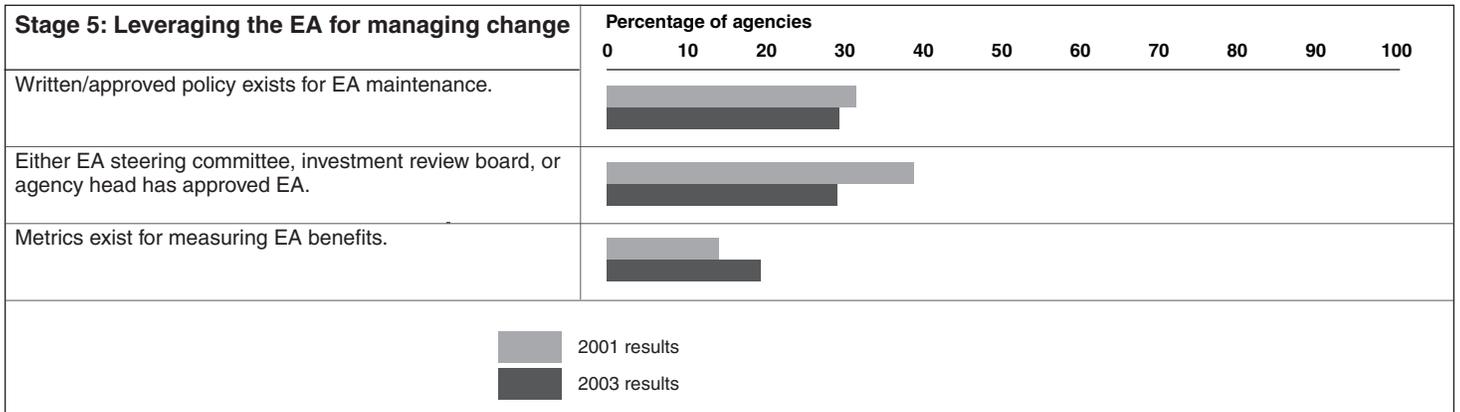
Source: GAO.

Figure 9: Agency Satisfaction of Stage 4 Elements in EAMMF Version 1.0: 2001 versus 2003 Results



Source: GAO.

Figure 10: Agency Satisfaction of Stage 5 Elements in EAMMF Version 1.0: 2001 versus 2003 Results



Source: GAO.

Appendixes V, VI, and VII provide detailed tables showing each of the 93 agencies' status regarding the elements of the framework.

For the 22 agencies that advanced one or more maturity stages from 2001 to 2003, fulfillment of no single core element resulted in these advancements. That is, for the 22 agencies, increases in maturity stages are attributable to the fulfillment of 7 core elements spanning three stages of maturity. Table 5 shows those newly satisfied core elements that accounted for increases in maturity stage.

Table 5: Core Elements That Most Frequently Contributed to Maturity Stage Increases

Agencies increasing maturity stage	Core elements whose fulfillment most frequently contributed to increase	Number of agencies fulfilling element
12 agencies increased maturity from Stage 1 (6 to Stage 2, 6 to Stage 3)	Stage 2 elements:	
	Chief architect exists	6 of 12
	Program office responsible for EA development exists	6 of 12
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA	6 of 12
8 agencies increased maturity from Stage 2 (6 to Stage 3, 1 to Stage 4, 1 to Stage 5)	Stage 3 elements:	
	EA products are under configuration management	7 of 8
2 agencies increased maturity from Stage 4	Stage 5 element:	
	Metrics exist for measuring EA benefits	2 of 2

Source: GAO.

As with increases in agency maturity levels, no single core element accounted for the decreases in agency maturity between our 2001 and 2003 surveys. However, as shown in table 6, the Stage 2 framework element requiring a program office was the most significant newly unsatisfied element for the 24 agencies that decreased maturity levels.

Table 6: Core Elements That Most Frequently Contributed to Maturity Stage Decreases

Agencies decreasing maturity stage	Core elements whose fulfillment most frequently contributed to decrease	Number of agencies not fulfilling element
16 agencies decreased maturity to Stage 1 (12 from Stage 2, 4 from Stage 3)	Stage 2 elements:	
	Program office responsible for EA development exists	13 of 16
	Chief architect exists	4 of 16
7 agencies decreased maturity to Stage 2 (6 from Stage 3, 1 from Stage 4)	Stage 3 elements:	
	Written and approved policy exists for EA development	6 of 7
1 agency decreased maturity to Stage 3 (from Stage 4)	Stage 4 elements:	
	EA products describe “as-is” environment, “to-be” environment, and sequencing plan	1 of 1
	EA products describe enterprise’s business—and the data, applications, and technology that support it	1 of 1

Source: GAO.

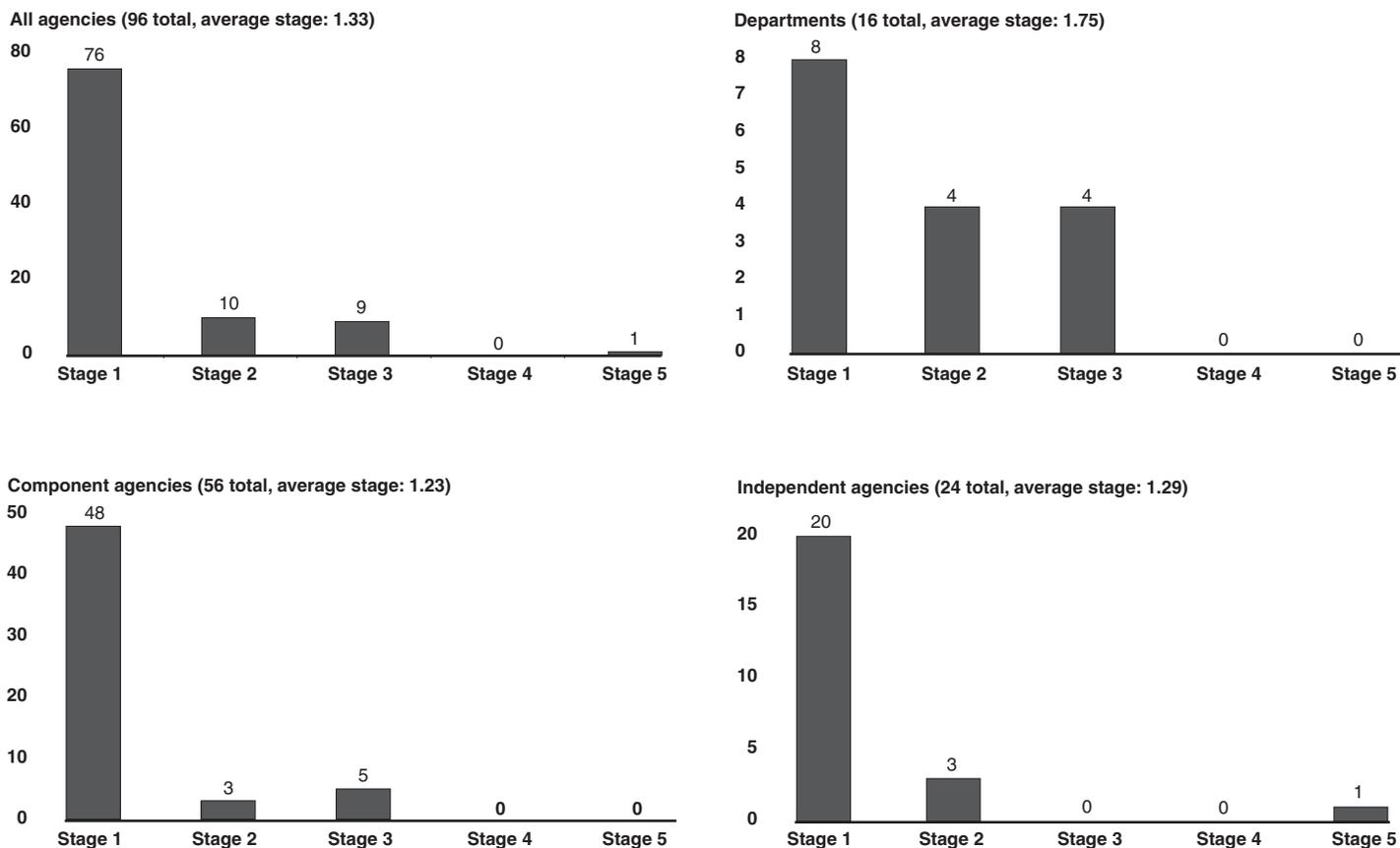
One factor accounting for decreases in maturity is improved accuracy in agencies’ responses to our survey. Improved accuracy is a function of (1) improved agency familiarity with and understanding of enterprise architecture management and our framework since our last survey and (2) the requirement in our 2003 survey for documentation to support certain survey responses.

Current State of Architecture Management across Federal Agencies Is Not Mature

When compared with Version 1.1 of our framework, the state of enterprise architecture management across the federal government is not mature. In particular, about 21 percent of federal agencies (20 of 96) have the Stage 2 management foundation that is needed to begin successfully developing, implementing, and maintaining an enterprise architecture, and about 79 percent of agencies (76 of 96) have not yet advanced to this basic stage of maturity. One agency, the Executive Office of the President, provided responses placing it at a stage of enterprise architecture management maturity that can be considered mature and effective. This overall state of federal government maturity is consistent for each of the three groups that

make up the 96 agencies surveyed: departments, component agencies, and independent agencies. Figure 11 summarizes the maturity status of departments, component agencies, independent agencies, and all agencies according to Version 1.1 of our framework.

Figure 11: Agencies in Each Stage, According to EAMMF Version 1.1

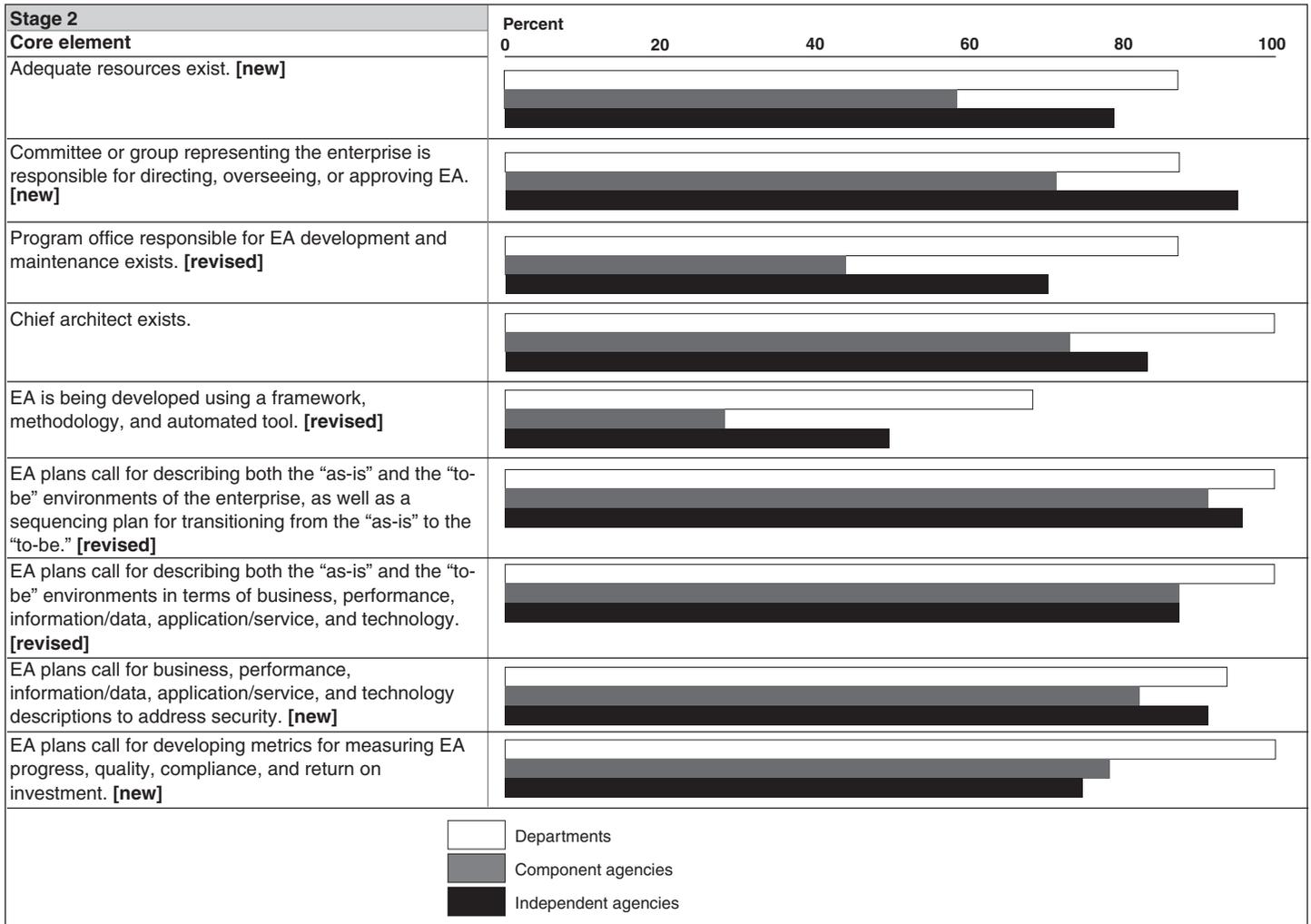


Source: GAO.

No single core element that was added to our framework contributed significantly to this situation, but the “methodology” subelement of the Stage 2 element “EA is being developed with a framework, methodology, and automated tool” was the most significant factor keeping agencies from achieving Stage 2. Specifically, the absence of a “methodology” kept 7 agencies from attaining Stage 2 status.

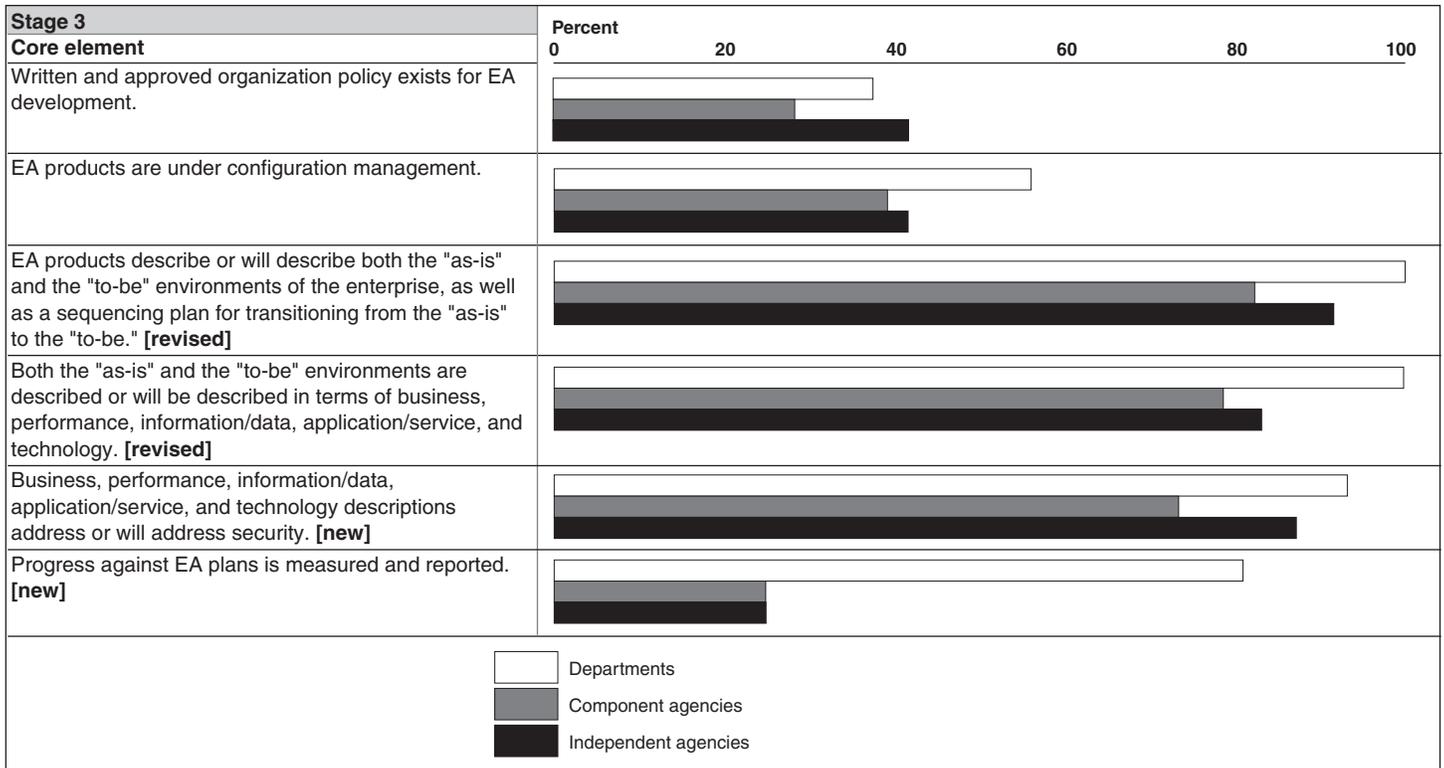
Nevertheless, certain core elements of Version 1.1 of our framework were frequently not satisfied by agencies. Of the 31 core elements in Version 1.1, 17 were not satisfied by over 50 percent of agencies. Furthermore, 8 elements associated with maturity Stages 4 and 5 were not satisfied by over 80 percent of agencies. Figures 12 to 16 show how departments, component agencies, and independent agencies were rated against each of the Version 1.1 core elements.

Figure 12: Percentage of Departments, Component Agencies, and Independent Agencies That Satisfied Stage 2 Core Elements of EAMMF Version 1.1



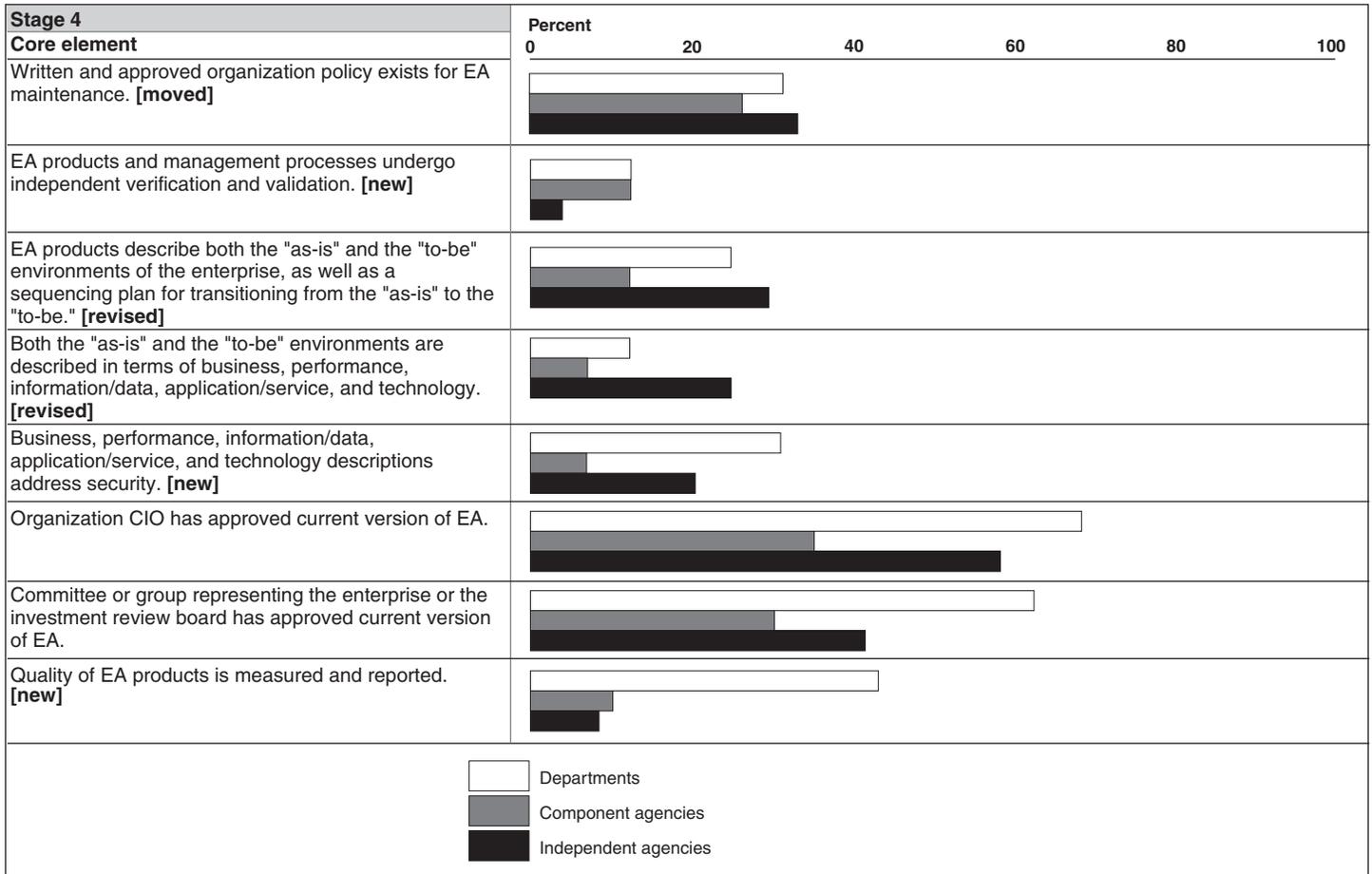
Source: GAO.

Figure 13: Percentage of Departments, Component Agencies, and Independent Agencies That Satisfied Stage 3 Core Elements of EAMMF Version 1.1



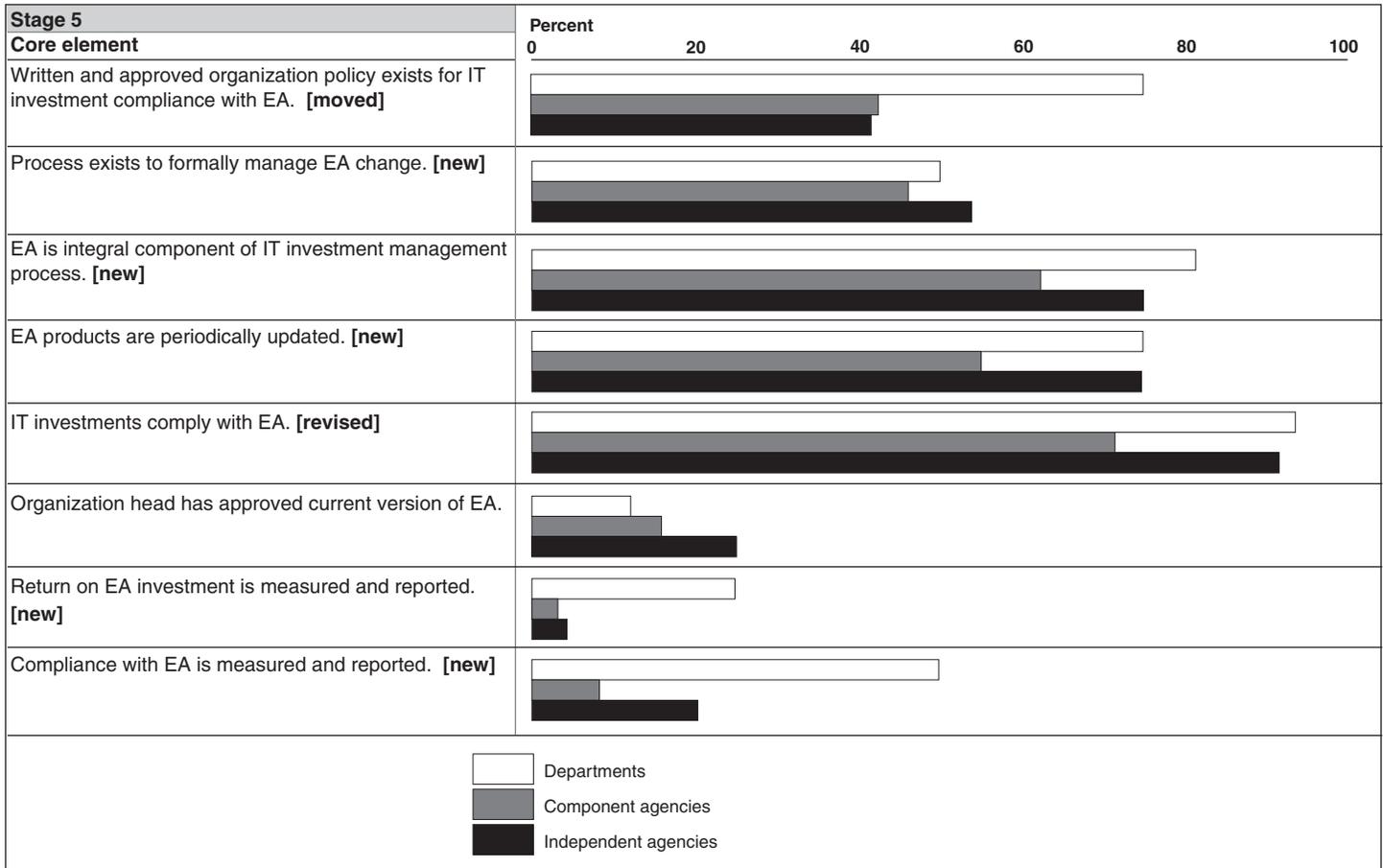
Source: GAO.

Figure 14: Percentage of Departments, Component Agencies, and Independent Agencies That Satisfied Stage 4 Core Elements of EAMMF Version 1.1



Source: GAO.

Figure 15: Percentage of Departments, Component Agencies, and Independent Agencies That Satisfied Stage 5 Core Elements of EAMMF Version 1.1



Source: GAO.

Although significant gaps existed across federal agencies in meeting the core elements of Version 1.1 of the framework, at least 80 percent of agencies reported performing 8 core elements that were related to Stages 2 and 3 of our framework. The most often satisfied elements included the following Stage 2 elements:

- “EA plans call for describing both the ‘as-is’ and the ‘to-be’ environments of the enterprise, as well as a sequencing plan for transitioning from the ‘as-is’ to the ‘to-be’”(about 94 percent);

-
- “EA plans call for describing both the ‘as-is’ and the ‘to-be’ environments in terms of business, performance, information/data, application/service, and technology” (about 90 percent); and
 - “EA plans call for business, performance, information/data, application/service, and technology descriptions to address security” (about 86 percent).

The most often satisfied elements also included the Stage 3 element:

- “EA products describe or will describe both the ‘as-is’ and the ‘to-be’ environments of the enterprise, as well as a sequencing plan for transitioning from the ‘as-is’ to the ‘to-be’” (about 88 percent).

In addition, although only one agency has achieved Stage 5, most agencies reported satisfying the Stage 5 core elements requiring that IT investments comply with their enterprise architecture (about 80 percent) and that enterprise architecture is an integral component of IT investment management process (about 69 percent).

Furthermore, 96 percent of agencies in Stages 1 through 4 are performing at least 1 core element above their current maturity stage,²⁹ which means that agencies as a whole are, to varying degrees, performing above their assigned maturity stages. Specifically, of the 76 agencies at Stage 1, about 95 percent are performing at least 1 core element in a higher maturity stage. About 35 percent of agencies need to satisfy only 1 additional core element to advance to at least the next maturity stage. Two of these agencies, Commerce and the U.S. Mint, could advance two stages by satisfying just 1 additional core element. Commerce, currently a Stage 1 agency, could advance to Stage 3 by satisfying the framework element “Program office responsible for development and maintenance exists.” The Mint, also currently a Stage 1 agency, could advance to Stage 3 by satisfying the framework element “Adequate resources exist.”

Departments, component agencies, and independent agencies had varying degrees of success satisfying certain core elements within individual stages. In general, departments had more success satisfying lower stage

²⁹One agency—the Executive Office of the President—is currently performing at Stage 5 and cannot perform above its current maturity stage. As a result, it is excluded from this analysis.

elements than did components and independent agencies. In Stage 2, for example, while 69 percent of departments reported using a framework, methodology, and automated tool to develop their enterprise architecture, only 29 percent of components and 50 percent of independent agencies reported the same. Additionally, in Stage 3, while 81 percent of departments reported that progress against plans is measured and reported, only 25 percent of components and 25 percent of independent agencies reported the same. One possible reason for this situation, which is discussed later in this report, is that OMB's oversight of agency enterprise architecture efforts focuses on departments and major independent agencies—not on component agencies.

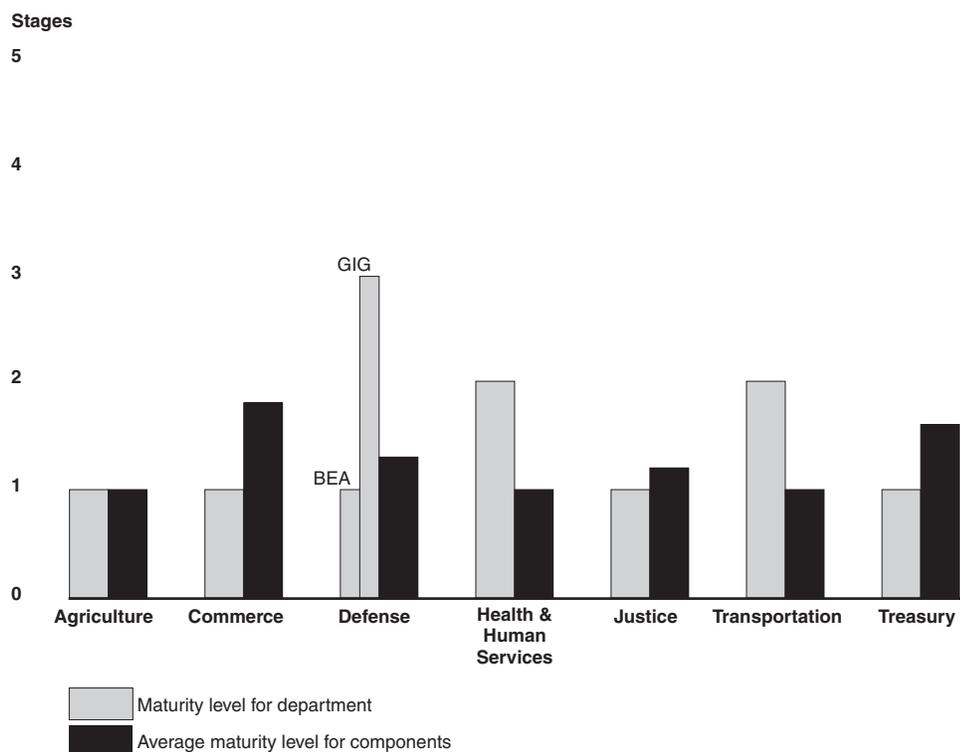
Although, as a whole, departments satisfied more lower level framework elements than did component agencies and independent agencies, departments generally still need to satisfy several lower level framework elements to achieve a Stage 3 maturity level. On average, each department needs to satisfy 2 core elements to satisfy all Stage 2 and 3 framework elements.

The maturity stage of a department generally was not indicative of the maturity of its component agencies. For example, the Departments of Health and Human Services and Transportation reached Stage 2, while their component agencies averaged Stage 1. DOD's Global Information Grid (GIG) architecture³⁰ was at Stage 3 and its Business Enterprise Architecture was at Stage 1, while DOD components averaged slightly over 1. Conversely, the Departments of Commerce, Justice, and the Treasury were at Stage 1, with their component agencies averaging higher maturity levels. Component agencies of Commerce showed a slightly higher maturity level than did component agencies of other departments. Although the average maturity level of the 56 department component agencies we surveyed was 1.23, the five Commerce component agencies showed an average maturity level of 1.80, largely owing to the maturity levels for the Bureau of the Census (Stage 3), the U.S. Patent and Trademark Office (Stage 2), and the National Oceanic and Atmospheric Administration (Stage 2). The Department of Agriculture's maturity level (Stage 1) was the same as the average maturity level of its component

³⁰The GIG architecture describes the globally interconnected, end-to-end set of information capabilities, associated processes, and personnel for collecting, processing, storing, disseminating, and managing information on demand to war fighters, policy makers, and support personnel.

agencies. Figure 16 summarizes the average maturity level for departments and their respective component agencies.

Figure 16: Maturity Level of Departments and Their Component Agencies



Source: GAO.

Note: The Department of Defense's Global Information Grid (GIG) architecture was assessed at Stage 3. The Business Enterprise Architecture (BEA) was assessed at Stage 1.

Eight Agencies Are Either at or Close to Achieving Stage 5 Maturity

The results of our survey and analysis of survey responses against Version 1.1 of our maturity framework show that the Executive Office of the President (EOP) is the sole Stage 5 agency. However, 7 other agencies are close to becoming models of enterprise architecture management. For example, the DOD GIG architecture and IRS, both of which attained Stage 3 of Version 1.1, need to satisfy only 3 more elements to become Stage 5 agencies. To achieve Stage 5, the GIG architecture needs to satisfy the Stage 4 element "EA products describe both the 'as-is' and the 'to-be'

environments of the enterprise, as well as a sequencing plan for transitioning from the ‘as-is’ to the ‘to-be’” and the Stage 5 elements “Return on EA investment is measured and reported” and “Organization head has approved current version of EA.” IRS could become a Stage 5 agency by satisfying the Stage 4 elements “Business, performance, information/data, application/service, and technology descriptions address security” and “EA products and management processes undergo independent verification and validation” and the Stage 5 element “Return on EA investment is measured and reported.” Table 7 shows the agencies that need to satisfy 5 or fewer elements to achieve Stage 5 under Version 1.1.

Table 7: Agencies That Need to Satisfy 5 or Fewer Elements to Achieve Stage 5

Agency	Current maturity stage	Number of elements remaining to achieve Stage 5
Department of Defense, Global Information Grid	3	3
Internal Revenue Service	3	3
Department of Veterans Affairs	3	4
Department of Housing and Urban Development	3	5
Bureau of Alcohol, Tobacco, Firearms and Explosives	2	5
U.S. Mint	1	5
Office of Personnel Management	1	5

Source: GAO.

OMB Has Taken Action to Promote Enterprise Architecture, but Improvements Have Not Occurred and Management Challenges Remain

OMB has taken a number of steps to promote, standardize, and improve enterprise architecture use across the government. For example, OMB now requires agencies to submit enterprise architectures for review. It also leads various CIO Council initiatives to develop the FEA, including associated models, and to facilitate cross-agency efforts and major initiatives such as e-government. However, despite OMB’s actions, the same management challenges facing agencies 2 years ago have increased in prevalence, and agencies report mixed results from OMB’s efforts to address these challenges. The persistence of these challenges can be attributed, at least in part, to the office not implementing our prior

recommendations aimed at addressing them and improving its enterprise architecture oversight.

OMB Has Taken Steps to Promote Agency Enterprise Architecture

OMB recognizes the importance of enterprise architectures and has supported their use since the passage of the Clinger-Cohen Act of 1996, with particular emphasis and attention in the last 2 years. For example, in collaboration with others and us, OMB issued guidance on the purpose and use of enterprise architectures shortly after passage of the act.³¹ It has also incorporated enterprise architecture considerations into its oversight processes and issued guidance directing that agency IT investments be based on agency IT enterprise architectures.³² More recently, it has launched efforts to promote the development and use of enterprise architectures through the budget process and various CIO Council initiatives.

As a means of promoting agencies' enterprise architecture use, OMB has also included requirements for having and using enterprise architectures as part of the budget process, which began with the fiscal year 2002 budget cycle and, according to OMB officials, has continued through the current cycle (fiscal year 2005). More specifically:

- For the fiscal year 2002 budget cycle, OMB required agency budget submissions to provide investment plans in several areas, including enterprise architectures.³³

³¹OMB, *Information Technology Architectures*, Memorandum M-97-16 (June 18, 1997).

³²OMB (Nov. 30, 2000).

³³OMB, *Preparation and Submission of Budget Estimates*, Circular A-11 (Nov. 30, 2001).

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- For fiscal year 2003, OMB required departments and major agencies that are CIO Council members to address how IT investment decision making incorporated architecture alignment and, for agencies that do not have architectures, to provide a plan for developing one.³⁴ OMB also assessed the status of major department and agency architectures against the CIO Council's *Practical Guide for Federal Enterprise Architecture* and reported the assessment results in the President's fiscal year 2003 budget. However, this assessment covered only 23 of the 96 agencies included in this survey, and assessment results were not reported in a way to permit a clear understanding of the agencies' enterprise architecture management status or to facilitate year-to-year progress determinations. For example, for the Environmental Protection Agency (EPA), the assessment resulted in the following report: "EPA has the fundamental elements of an EA documented."
 - As part of the fiscal year 2004 budget cycle, OMB again assessed major department and agency architectures and reported the assessment results in the President's fiscal year 2004 budget. However, the scope of the assessment again was not as comprehensive and meaningful as our survey results and covered only 22 of the 96 agencies included in this survey. For example, for the Department of Agriculture, OMB reported, "USDA's EA is continuing to focus on the business, data, application, and technology layers of the EA. USDA is also working to integrate the EA efforts throughout the department." Also for the fiscal year 2004 cycle, the office evaluated major IT investment business cases for consistency with agency architectures and with the FEA business reference model.

OMB has also worked through the CIO Council, which is co-chaired by OMB's Deputy Director of Management, to improve enterprise architecture management and use. Specifically, the CIO Council established the Architecture and Infrastructure Committee to, for example, develop simpler and more consistent enterprise architecture terminology and facilitate cross-agency enterprise architecture efforts. This committee has

³⁴CIO Council members include the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, the Interior, Justice, Labor, State, Transportation, the Treasury, and Veterans Affairs. Major agencies that are CIO Council members include the Departments of the Army, Navy, and Air Force; Environmental Protection Agency; Federal Emergency Management Agency; Central Intelligence Agency; Small Business Administration; Social Security Administration; National Aeronautics and Space Administration; Agency for International Development; General Services Administration; National Science Foundation; Nuclear Regulatory Commission; and Office of Personnel Management.

three subcommittees that, since being chartered in October 2002, have organized, appointed leaders, established membership, and begun implementing plans. The name and objective of each subcommittee are provided below.

- The Enterprise Architecture Governance Subcommittee was established to provide policy guidance and advice and assistance in the definition, design, and implementation of enterprise architecture discipline and practice throughout the federal government. It is expected to support the alignment of the FEA with agency enterprise architectures and to serve as the core federal group providing advocacy for enterprise architecture integration of business and technology architectures across state, local, and international boundaries.
- The Emerging Technology Subcommittee was created to identify technologies with the potential to improve the value and quality of the FEA.
- The Component Subcommittee is expected to foster the identification, maturation, use, and reuse of component-based architectures and architectural components³⁵ in the federal government.

OMB Is Developing a Federal Enterprise Architecture

OMB's development of the FEA is intended to facilitate governmentwide improvement through cross-agency analysis and the identification of duplicative investments, gaps, and opportunities for collaboration, interoperability, and integration within and across government agencies. According to OMB, the result will be a more citizen-centered, customer-focused government that maximizes technology investments to better achieve mission outcomes. As previously mentioned, the FEA will be composed of five reference models:

Business reference model. The business reference model serves as the foundation for the FEA. It is intended to describe the federal government's businesses, independent of the agencies that perform them. The model consists of four *business areas*: (1) services for citizens, (2) mode of

³⁵OMB defines a component as a self-contained business process or service with predetermined functionality that can be accessed through a technology or business interface.

delivery, (3) support delivery of services, and (4) management of government resources.

These four business areas are decomposed into 39 *lines of business*, which are made up of 153 *subfunctions*. Examples of lines of business under the services for citizens business area are homeland security, law enforcement, and economic development. Each of these lines of business includes a number of subfunctions. For example, for the homeland security line of business, a subfunction is border and transportation security; for law enforcement, a subfunction is citizen protection; and for economic development, a subfunction is financial sector oversight.

Version 1.0 of the model was released to agencies in July 2002 and was used in the fiscal year 2004 budget process. According to OMB, Version 1.0 of the model revealed that many federal agencies were involved in each line of business, and that agencies' proposed fiscal year 2004 IT investments offered multibillion-dollar consolidation opportunities. In June 2003, Version 2.0 was released, which, according to OMB, reflects changes to align the model with other governmentwide management frameworks (e.g., budget function codes) and improvement initiatives (e.g., the President's Budget Performance Integration Initiative) and addresses comments from agencies. OMB expects agencies to use the model, as part of their capital planning and investment control processes, to help identify opportunities to consolidate IT investments across the federal government.

Service component reference model. The service component reference model is intended to identify and classify IT service (i.e., application) components that support federal agencies and promote the reuse of components across agencies. The model is organized as a hierarchy, beginning with seven *service domains*, as shown in table 8.

Table 8: Service Domains and the Capabilities That They Describe

Service domain	Description
Customer services	Interaction between the business and the customer, and customer-driven activities (directly related to the end customer)
Process automation services	Automation of process and management activities that support managing the business
Business management services	Management and execution of business functions and organizational activities that maintain continuity across the business
Digital asset services	Generation, management, and distribution of intellectual capital and electronic media across the business
Business analytical services	Extraction, aggregation, and presentation of information to facilitate decision analysis and business evaluation
Back office services	Management of transaction-based functions
Support services	Cross-functional capabilities that are independent of service domains

Source: OMB.

These service domains are decomposed into 29 *service types*, which are further broken down into 168 *components*. For example, the customer services domain is made up of 3 service types: customer relationship management, customer preferences, and customer-initiated assistance. Components of the customer relationship management service type include call center management and customer analytics, components of the customer preferences service type include personalization and subscriptions, and components of the customer-initiated assistance service type include on-line help and on-line tutorials.

Version 1.0 of the service component reference model was released in June 2003. The model is intended to help agencies and OMB identify, among other things, agencies that are building or have already built similar service components that can be reused.

Technical reference model. The technical reference model is intended to describe the standards, specifications, and technologies that collectively support the secure delivery, exchange, and construction of service components. The model is made up of the following four core service areas:

-
- Service access and delivery: the collection of standards and specifications that support external access, exchange, and delivery of service components.
 - Service platform and infrastructure: the delivery platforms and infrastructure that support the construction, maintenance, and availability of a service component or capabilities.
 - Component framework: the underlying foundation, technologies, standards, and specifications by which service components are built, exchanged, and deployed.
 - Service interface and integration: the collection of technologies, methodologies, standards, and specifications that govern how agencies will interface internally and externally with a service component.

Each of these service areas is made up of *service categories*, which identify lower levels of technologies, standards, and specifications; *service standards*, which define the standards and technologies that support the service category; and the *service specification*, which details the standard specification or the provider of the specification. For example, within the first core service area (service access and delivery), an example of a service category is *access channels*, and service standards are *Web browsers* and *wireless personal digital assistants*. Examples of *service specifications* for the Web browser service standard are Internet Explorer and Netscape Navigator.

Version 1.0 of the technical reference model was released in January 2003, followed by Version 1.1, reflecting minor revisions that were based, in part, on agencies' reviews, in August 2003. The model is intended to help agencies in defining their target technical architectures.

Performance reference model. The performance reference model is intended to describe a set of performance measures for the federal government (i.e., outcome and output measures for each line of business and subfunction identified in the business reference model). Thus, the model is expected to support the measurement of cross-agency initiatives. Version 1.0 of the model was released in September 2003.

Data and information reference model. The data and information reference model is intended to describe the type of data and information that support program and business line operations and the relationships

among these types. Thus, the model is to help describe the types of interactions and information exchanges that occur between the government and its customers. OMB plans to release Version 1.0 of the model in October 2003.

For the fiscal year 2005 budget cycle, OMB officials told us that they will use the FEA performance, service component, and technical reference models to evaluate agencies' major IT investments.

Agency responses to our survey indicated high levels of understanding and support for OMB's FEA work. For example, about 80 percent of agencies responded that they understand the goals and objectives of the FEA (about 8 percent did not) and that they support those goals and objectives (about 6 percent did not), and about 72 percent of agencies responded that their agency's architecture is traceable to the FEA (about 6 percent were not). Additionally, about 67 percent responded that they understand the approach to developing the FEA (about 13 percent did not), and about 63 percent stated that they support this approach (about 10 percent did not). About 61 percent of agencies responded that their enterprise architecture would change as a result of the FEA (about 8 percent would not). (See table 9.)

Table 9: Summary of Agencies' Responses to FEA-Related Statements

Statement	Percentage of agencies that agreed	Percentage of agencies that disagreed	Percentage of agencies that neither agreed nor disagreed
My agency understands the goals and objectives of the FEA	80	8	12
My agency supports the goals and objectives of the FEA	80	6	14
My agency's EA is traceable to the FEA	72	6	22
My agency understands OMB's approach to developing the FEA	67	13	20
My agency supports OMB's approach to developing the FEA	63	10	27
My agency's EA will change as a result of the FEA	61	8	31

Source: GAO.

Prevalence of Long-standing Enterprise Architecture Management Challenges Is Growing

Despite OMB’s architecture-related activities, agencies continue to face the same management challenges that we identified 2 years ago—that is, obtaining top management support and commitment, overcoming parochialism, and having the requisite resources (financial and human capital) to get the job done. Moreover, the percentage of agencies identifying these management challenges has grown. For example, getting top management to understand the purpose, content, and value of architectures was seen as a challenge by about 50 percent of agencies—up from 39 percent in our last survey. As our framework recognizes, obtaining executive understanding and support is essential to having an effective enterprise architecture program. Without it, agencies will have increased difficulty in addressing other challenges, such as overcoming parochialism among organizational components and obtaining requisite resources (funding and human capital). Our survey results bear this out—at the same time that the percentage of agencies identifying top management understanding and support as a challenge rose, the percentage of agencies identifying these other challenges almost all rose. For example, the percentage that identified parochialism as a challenge grew from 39 to 47 percent. Also, while 50 percent of agencies continued to report funding as a significant challenge, the percentage of agencies that reported obtaining skilled staff as a challenge grew from 32 to 49 percent. (See table 10.)

Table 10: Percentage of Agencies Identifying Particular Enterprise Architecture Management Challenges

Management challenge	Percentage of agencies that frequently identified management challenge	
	2001 survey	2003 survey
Fostering top management understanding	39	50
Overcoming parochialism	39	47
Ensuring adequate funding	50	50
Obtaining skilled staff	32	49

Source: GAO.

Agencies also reported mixed levels of satisfaction with OMB’s efforts to address these management challenges. Specifically, just over half of agencies were satisfied with OMB’s efforts to foster top management understanding and to overcome agency component organization parochialism (58 and 53 percent, respectively). Moreover, fewer than half

of agencies (40 percent) were satisfied with OMB's actions to address their enterprise architecture funding and staffing challenges. (See table 11.)

Table 11: Percentage of Agencies Satisfied with OMB's Efforts to Address Various Management Challenges

Management challenge	Percentage of agencies satisfied	Percentage of agencies dissatisfied	Percentage of agencies neither satisfied nor dissatisfied
Fostering top management understanding	58 ^a	14 ^a	27 ^a
Overcoming parochialism	53	10	37
Ensuring adequate funding	40	26	34
Obtaining skilled staff	40	15	45

Source: GAO.

^aNumbers do not add to 100 percent due to rounding.

OMB Has Yet to Implement Our Recommendations for Addressing Architecture Management Challenges and Improving Oversight

Our February 2002 report concluded that OMB needed to advance the level of enterprise architecture management maturity by exercising improved oversight and identifying governmentwide solutions to common enterprise architecture management challenges facing agencies. Specifically, we recommended that the OMB Director, in collaboration with the federal CIO Council, use the maturity framework and agency baseline information provided in our February 2002 report as the basis for helping agencies to advance the state of their respective enterprise architecture development, implementation, and maintenance efforts, and for measuring agency progress. We further recommended that in doing so, the director require each of the 116 agencies surveyed in our 2002 report to (1) submit to OMB an annual update of the agency's satisfaction of each of the core elements contained in the maturity framework and (2) have this update verified by the agency's inspector general or comparable audit function before it is submitted to OMB.

Additionally, we recommended in our 2002 report that the OMB Director, in collaboration with the CIO Council, develop and implement a plan to address the governmentwide impediments to greater agency use of enterprise architectures. We recommended that, at a minimum, this plan should include the two primary challenges identified in the 2002 report—that is, agency executive management understanding of enterprise

architectures and the availability of enterprise architecture human capital expertise. Finally, we recommended that the director report annually to the Senate Committee on Governmental Affairs and the House Committee on Government Reform on the results of OMB's annual update of the state and progress of federal agencies' enterprise architecture efforts.

OMB officials generally agreed with the findings and conclusions of our 2002 report and stated that they would consider using our framework. However, after 18 months, office officials told us that they are still considering using our framework as a basis for evaluating agencies' progress in developing and implementing their architectures, but had not committed to doing so because they were still reviewing the options for evaluating agencies' progress in developing and implementing their enterprise architectures using our framework and other potential tools. Additionally, the office did not report any plans to address governmentwide impediments to greater agency use of architectures. Further, OMB reported that it has and plans to continue to provide information to the Congress on the state of agency enterprise architecture efforts and on progress in implementing the FEA.

Conclusions

Overall, the federal government's state of enterprise architecture management remains less than satisfactory, with little progress being made over the last 2 years. As a result, most federal agencies continue to run the serious risk of investing in IT solutions that will not overcome, but rather will perpetuate, long-standing incompatibilities and duplication within agency operational and systems environments. OMB has taken steps to promote the development and use of enterprise architectures; however, these steps have yet to produce desired results. It is thus important for OMB to take additional actions, such as those that we have previously recommended and OMB has yet to implement. To do less risks continued exposure of agency IT investments to the unnecessary risk of being duplicative, incompatible, and needlessly costly.

Recommendations for Executive Action

We reiterate the recommendations we made in our February 2002 report on the governmentwide status of enterprise architecture use, with the modification that OMB use Version 1.1 of our framework and the baseline data from our 2003 survey included in this report, rather than Version 1.0 of our framework and our 2001 survey data.

Additionally, we recommend that the OMB Director, in developing and implementing the plan we previously recommended to address governmentwide impediments to greater agency use of enterprise architectures, ensure that the plan provides for identifying agencies that have effectively overcome enterprise architecture management challenges and sharing those and other lessons learned and best practices. Also, we recommend that the director, in annually reporting to the Senate Committee on Governmental Affairs and the House Committee on Government Reform, as we previously recommended, include in the report what steps have been taken to implement our recommendations, including reasons for not adopting our maturity framework.

Agency Comments

In oral comments on a draft of this report, officials from OMB's Office of Information and Regulatory Affairs and the Federal Enterprise Architecture Program Management Office stated that they generally agreed with our findings and recommendations. They also stated that they agreed with the need for agency assessments using Version 1.1 of our framework, and that these assessments should be independently verified. They added that fully implementing our recommendations would require sustained management attention.

As agreed with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after the date of this letter. At that time, we will send copies to interested congressional committees, the OMB Director, and agencies that participated in our survey. We will also provide copies to others on request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>. If you have any questions concerning this information, please contact me at (202) 512-3439 or by e-mail at hiter@gao.gov. Key contributors to this report are listed in appendix IX.



Randolph C. Hite
Director, Information Technology Architecture
and Systems Issues

Agencies Indicated Architecture Benefits and Experiences with the Use of Tools, Frameworks, Methodologies, and Contractors

In response to our 2003 survey, agencies reported additional information related to the implementation of their enterprise architectures. This information includes architecture benefits and architecture tool, framework, methodology, and contractor experiences.

Agencies Reported Various Architecture Benefits

Office of Management and Budget (OMB) policy, Chief Information Officer (CIO) Council guidance, and our research and reviews of agencies' management of information technology (IT) have identified multiple benefits of effectively using enterprise architectures, including avoiding duplication between IT systems, promoting integration of systems, reducing system-related costs, and optimizing agency mission performance. Agency responses to our 2001 survey affirmed these and offered additional benefits, such as lower system-related costs and benefits related to enhanced productivity and improved efficiency.

Agencies responding to our 2003 survey reported similar benefits. For example, benefits related to improved systems interoperability were cited by 53 percent of agencies, while improved organization and change management were cited by 51 percent of agencies. Also, enhanced productivity and lower system-related costs were cited by 41 percent and 39 percent, respectively. Table 12 shows the benefits that were most frequently identified by survey respondents. One new benefit cited by 56 percent of agencies was the use of "enterprise licenses." Such licenses take advantage of the economies of scale associated with purchasing a large number of commercial product licenses.

Table 12: Frequently Identified Enterprise Architecture Benefits by Federal Agencies

Benefits	Percentage of agencies that identified benefits	
	2001 survey	2003 survey
Lower system-related costs	53	39
Enhanced productivity	49	41
Improved organization and change management	41	51
Improved systems interoperability	24	53
Enterprise licenses	—	56

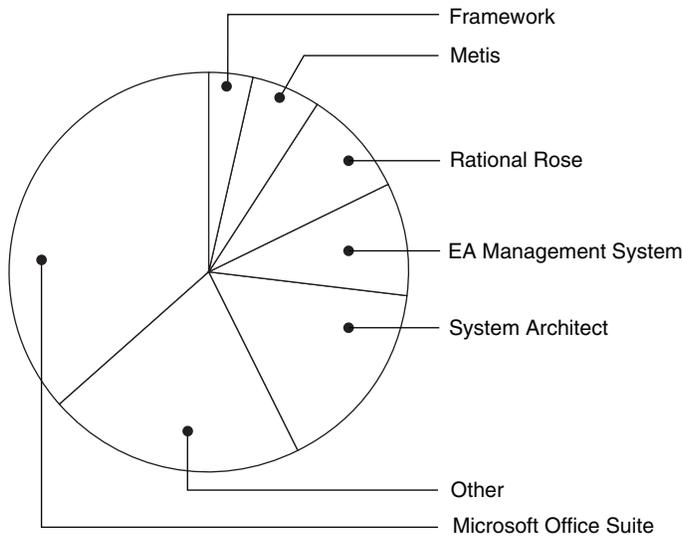
Source: GAO.

Agencies Reported Using a Variety of Enterprise Architecture Tools with Varying Degrees of Satisfaction

An automated enterprise architecture tool serves as the repository of architecture artifacts, which are work products that are produced and used to capture and convey architectural information. An agency's choice of tool should be based on a number of considerations, including agency needs and the size and complexity of the architecture.¹

Agencies reported using various automated tools to develop and maintain their enterprise architectures. The most commonly identified architecture products were Microsoft Office (72 agencies), System Architect (31 agencies), the Enterprise Architecture Management System (18 agencies), Rational Rose (17 agencies), Metis (11 agencies), and Framework (7 agencies). Forty-one agencies reported using "other" architecture products. Figure 17 indicates the proportion of agencies that indicated using each architecture tool.

Figure 17: Enterprise Architecture Tools Used by Agencies



Source: GAO.

¹For a listing of criteria for selecting automated enterprise architecture tools, see U.S. General Accounting Office, *Information Technology: A Framework for Assessing and Improving Enterprise Architecture Management (Version 1.1)*, [GAO-03-584G](#) (Washington, D.C.: April 2003), table 1, p. 14.

Appendix I
Agencies Indicated Architecture Benefits and
Experiences with the Use of Tools,
Frameworks, Methodologies, and
Contractors

Agencies reported different levels of satisfaction with the enterprise architecture tools they are using. As shown in table 13, about 68 percent of agencies using System Architect were satisfied,² about 73 percent of agencies using Metis were satisfied, and about 61 percent of agencies using Microsoft's Office Suite were satisfied. In contrast, about 17 percent of agencies using the EA Management System were satisfied (about 67 percent of agencies using EA Management System responded that it was too early to comment on satisfaction levels), and about 41 and 43 percent of agencies using Rational Rose and Framework, respectively, were satisfied. With respect to agencies' dissatisfaction with their tools, about 3 percent of agencies using System Architect were dissatisfied, and about 13 percent of agencies using Microsoft's Office Suite were dissatisfied. Also, about 11 percent of agencies using the EA Management System were dissatisfied, and about 12 and about 29 percent of agencies using Rational Rose and Framework, respectively, were dissatisfied with those tools. No agencies using Metis were dissatisfied.

²Agencies reporting either very satisfied or satisfied (see the columns under the "agency response" heading in table 13).

**Appendix I
Agencies Indicated Architecture Benefits and
Experiences with the Use of Tools,
Frameworks, Methodologies, and
Contractors**

Table 13: Federal Agencies' Satisfaction with Automated Enterprise Architecture Tools

Name of automated tool	Number of agencies using tool	Agency response (percent)			
		Very satisfied or satisfied	Neither satisfied nor dissatisfied	Somewhat or very dissatisfied	Too early to say
EA Management System	18	17	6	11	67
Framework (Ptech, Inc.)	7	43	29	29	—
Metis (Computas NA, Inc.)	11	73	—	—	27
Office Suite (Microsoft, Inc.)	72	61	24	13	1
Rational Rose (Rational/IBM)	17	41	18	12	29
System Architect (Popkin)	31	68	3	3	26
Other	41	66	27	2	5

Source: GAO.

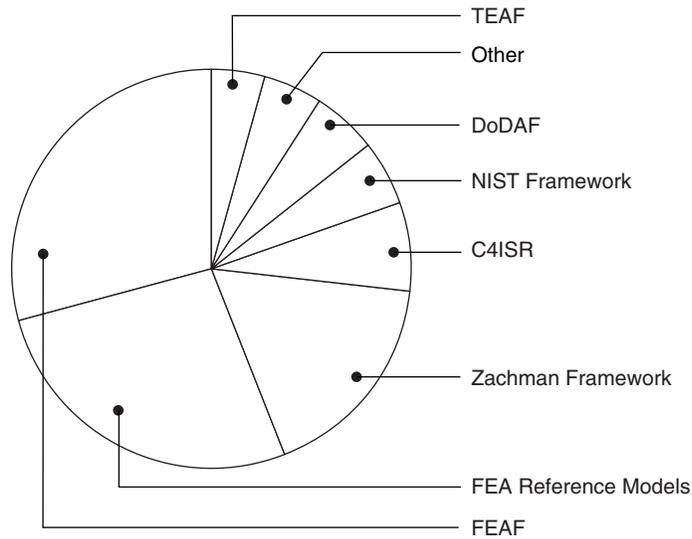
Agencies Reported Using a Variety of Enterprise Architecture Frameworks with Varying Levels of Satisfaction

An enterprise architecture framework (or model) provides a formal structure for representing the architecture and serves as the basis for the nature and content of the specific products that the agency plans to develop, use, and maintain. As such, a framework helps to ensure the consistent representation of information from across the organization and supports orderly capture and maintenance of architecture content.

Appendix I
Agencies Indicated Architecture Benefits and Experiences with the Use of Tools, Frameworks, Methodologies, and Contractors

Agencies reported using various frameworks. The most frequently cited frameworks in our survey responses were the Federal Enterprise Architecture Framework (FEAF) (61 agencies), the Federal Enterprise Architecture Program Management Office (FEAPMO) Reference Models (56 agencies), and the Zachman Framework (36 agencies).³ Figure 18 indicates the proportion of agencies that indicated using each framework. Other frameworks used included the Treasury Enterprise Architecture Framework (TEAF); the National Institute of Standards and Technology Framework (NIST framework); the Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Framework; and the Department of Defense Architecture Framework (DoDAF).

Figure 18: Enterprise Architecture Frameworks Used by Agencies



Source: GAO.

³The total exceeds the 96 survey responses because some agencies reported using more than one framework.

**Appendix I
Agencies Indicated Architecture Benefits and
Experiences with the Use of Tools,
Frameworks, Methodologies, and
Contractors**

Agencies reported different levels of satisfaction with the enterprise architecture frameworks they are using, as shown in table 14. The levels of satisfaction⁴ ranged from 81 percent, reported by agencies using the Zachman Framework, to 45 percent, reported by agencies using the NIST framework. As table 14 shows, few agencies reported being dissatisfied out of 209 responses.⁵

Table 14: Federal Agencies Enterprise Architecture Framework Satisfaction Levels

Name of framework	Number of agencies using framework	Agency response (percent)			
		Very satisfied or satisfied	Neither satisfied nor dissatisfied	Somewhat or very dissatisfied	Too early to say
Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance Framework	15	67	27	7	—
Department of Defense Architecture Framework	11	64	18	—	18
Federal Enterprise Architecture Framework	61	61	16	10	13
Federal Enterprise Architecture Reference Models	56	48	18	7	27
National Institute of Standards and Technology Framework	11	45	27	9	18
Treasury Enterprise Architecture Framework	9	78	22	—	—
Zachman Framework	36	81	6	3	11
Other	10	80	—	—	—

Source: GAO.

⁴The percentage of agencies reporting either very satisfied or satisfied (see the columns under the “agency response” heading in table 14).

⁵The number of responses regarding frameworks is larger than the number of agencies surveyed because some agencies reported using more than one framework.

Less Than Half of Federal Agencies Had Selected an Enterprise Architecture Methodology

An enterprise architecture methodology provides a common set of procedures for developing architecture products and, if implemented properly, helps to ensure consistency in the procedures used across the organization for developing and maintaining the enterprise architecture. An organization's methodology or methodologies should govern how the architecture products will be developed, maintained, and validated. Methodologies need to be documented, understood, and consistently applied. They should prescribe the standards, steps, tools, techniques, and measures to be used to provide reasonable assurance that expected product quality is attained.

Less than half (41 percent) of the federal agencies that we surveyed had selected a methodology. About 55 percent (23 of 42) of the methodologies that agencies reported using were Spewak's enterprise architecture planning methodology⁶ or a variation. Four of the remaining 19 methodologies were developed by META Group, and 2 were developed by Gartner, Inc. Two agencies cited James Martin's Information Strategy Planning, and 2 agencies cited the Department of Commerce's Enterprise Architecture Methodology. The remaining 21 percent (9 of 42) were unique methodologies.

Most Agencies Reported Using Contractor Support for Developing Enterprise Architectures

Agencies reported heavy use of contractor support for developing their respective architectures. Most agencies (72 of 92 agencies that responded to this question—78 percent) stated that their architectures were developed in-house with contractor support. Ten agencies (11 percent) reported that contractors developed their enterprise architectures. Ten agencies (11 percent) reported that they developed their enterprise architectures in-house without any contractor support. Table 15 describes the level of contractor use, by agency type.

⁶Steven H. Spewak, *Enterprise Architecture Planning: Developing a Blueprint for Data, Applications, and Technology*, John Wiley and Sons (September 1993).

**Appendix I
 Agencies Indicated Architecture Benefits and
 Experiences with the Use of Tools,
 Frameworks, Methodologies, and
 Contractors**

Table 15: Federal Agencies' Use of Contractors in Developing Their Enterprise Architectures

Agency type	Developed by contractor(s)	Developed in-house, contractor supported	Developed in-house, exclusively
Department	3	12	1
Component agencies	7	41	5
Independent agencies	—	19	4
Total	10	72	10

Source: GAO.

Cost Data Related to Implementing Enterprise Architectures Varied, with Personnel Accounting for Most Costs

Agency-reported data revealed a wide variance in the cost of developing, completing, and maintaining enterprise architectures. Agencies generally reported that their architecture development costs could be allocated to several categories, with the majority of costs attributable to agency and contractor personnel.

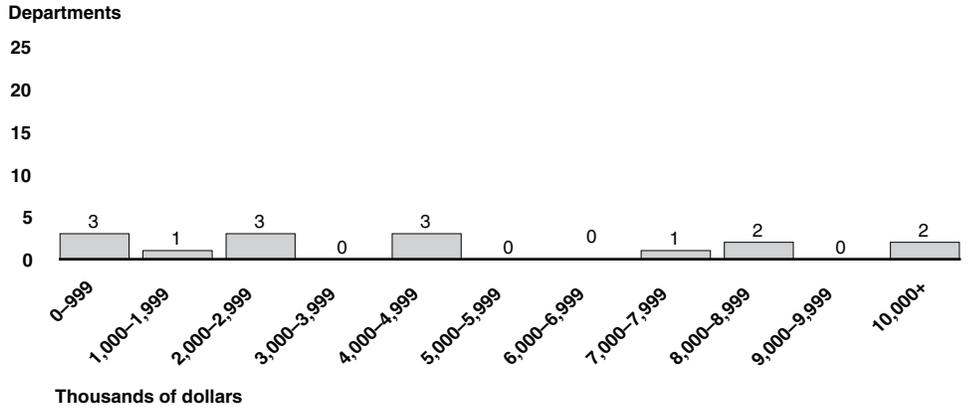
Departments' Investment in Architecture Varied More Widely than Component and Independent Agencies'

As we have previously reported, the scope and nature of the enterprise and the extent of enterprise transformation and modernization envisioned will dictate the depth and detail of the architecture to be developed and maintained. Restated, the architecture should be tailored to the individual enterprise and that enterprise's intended use of the architecture. Accordingly, the level of resources that an agency invests in its architecture is likely to vary. Agency responses to our survey showed this to be the case.

Agencies that reported cost data reported \$599 million being spent to date on the development of architectures, with individual agency development costs to date ranging from \$5,000 to \$248 million. Departments' architecture development costs varied more than component and independent agencies' costs, while component agencies reported spending the most to date, with independent agencies spending the least. Agencies reported estimated costs to complete architecture development ranging from \$3,000 to \$319 million, and annual estimated maintenance costs ranging from \$1,000 to \$36 million. Figures 19 through 27 depict the variability of cost data reported by departments, component agencies, and independent agencies.

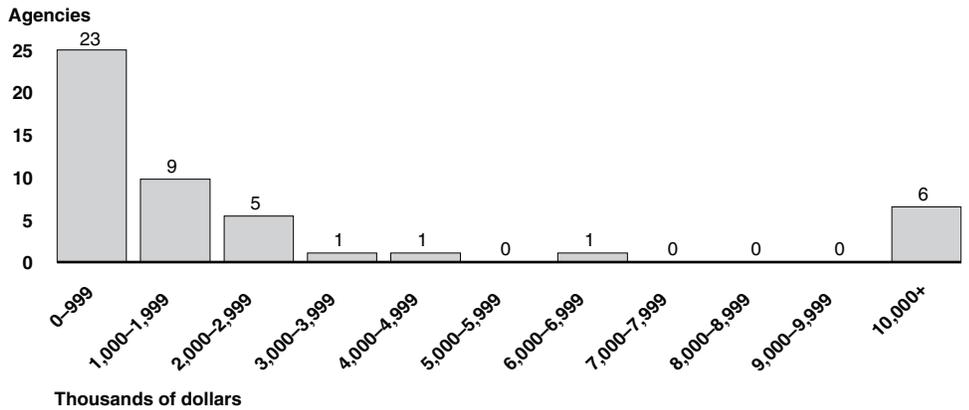
Appendix II
Cost Data Related to Implementing
Enterprise Architectures Varied, with
Personnel Accounting for Most Costs

Figure 19: Development Costs to Date for Departments



Source: GAO.

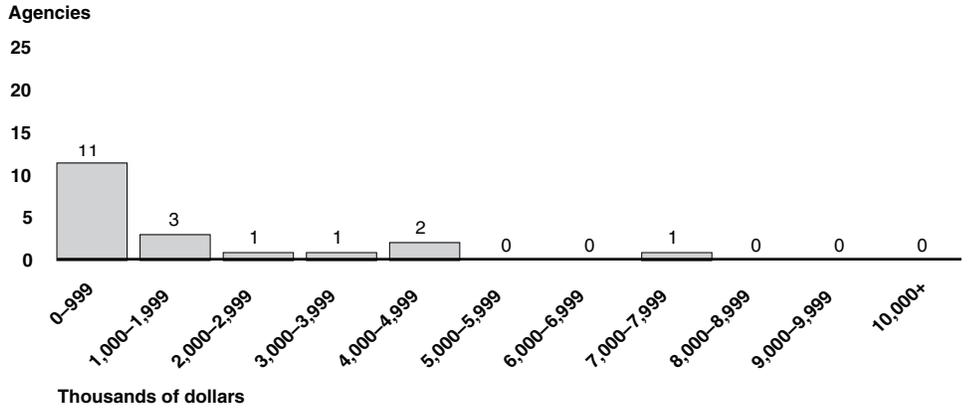
Figure 20: Development Costs to Date for Component Agencies



Source: GAO.

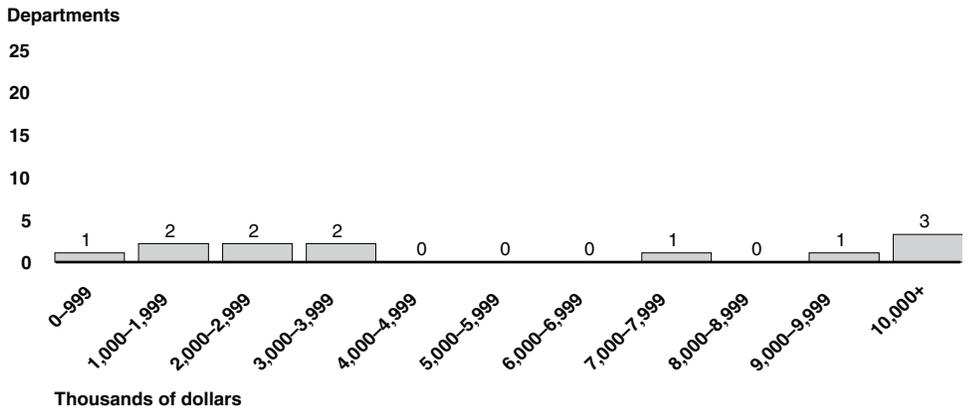
Appendix II
Cost Data Related to Implementing
Enterprise Architectures Varied, with
Personnel Accounting for Most Costs

Figure 21: Development Costs to Date for Independent Agencies



Source: GAO.

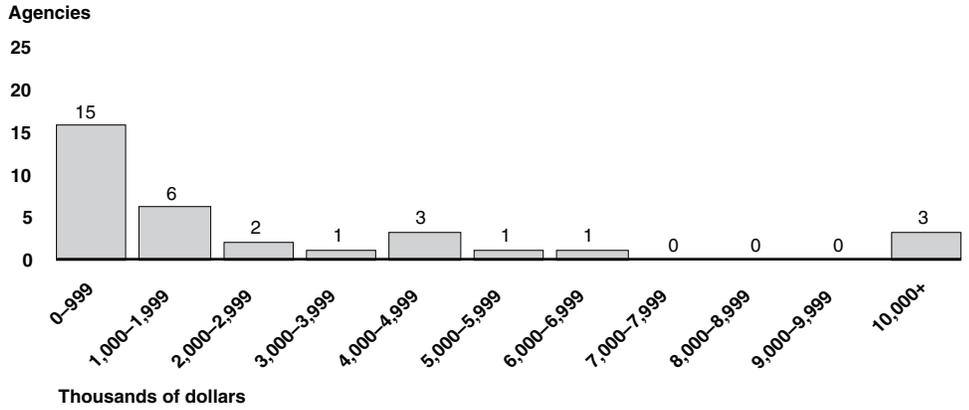
Figure 22: Estimated Completion Costs for Departments



Source: GAO.

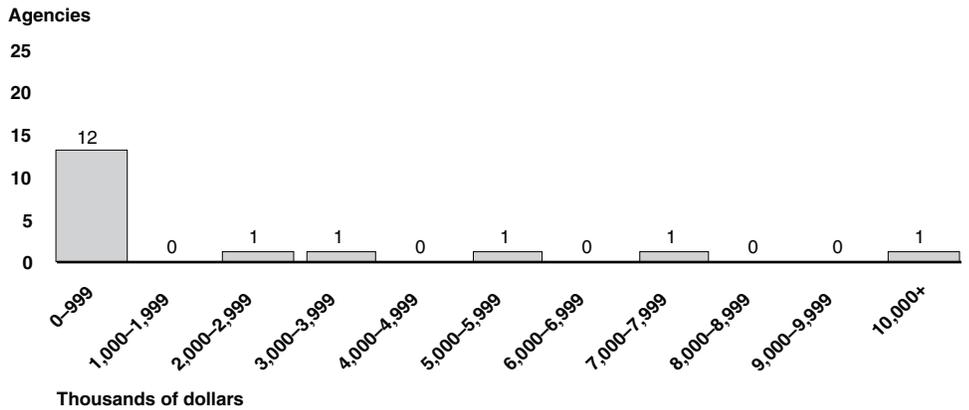
Appendix II
Cost Data Related to Implementing
Enterprise Architectures Varied, with
Personnel Accounting for Most Costs

Figure 23: Estimated Completion Costs for Component Agencies



Source: GAO.

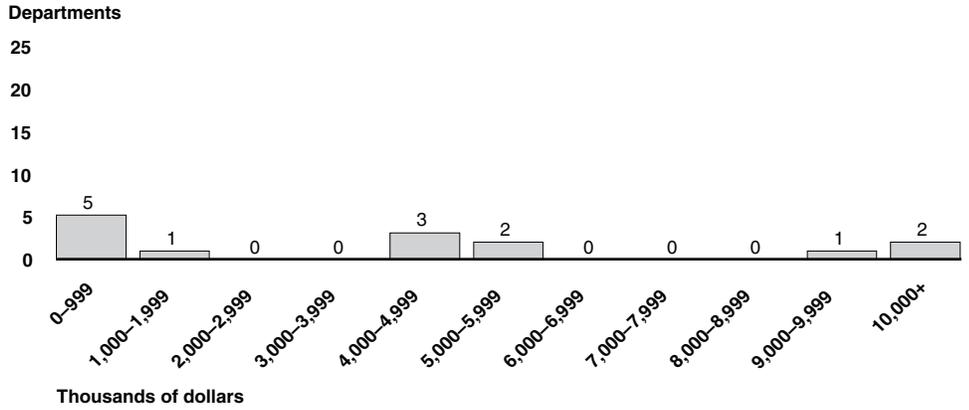
Figure 24: Estimated Completion Costs for Independent Agencies



Source: GAO.

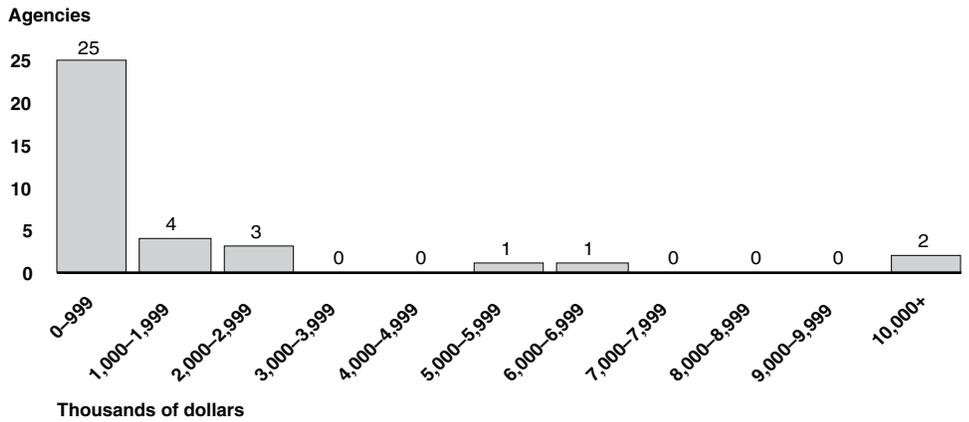
Appendix II
Cost Data Related to Implementing
Enterprise Architectures Varied, with
Personnel Accounting for Most Costs

Figure 25: Estimated Annual Maintenance Costs for Departments



Source: GAO.

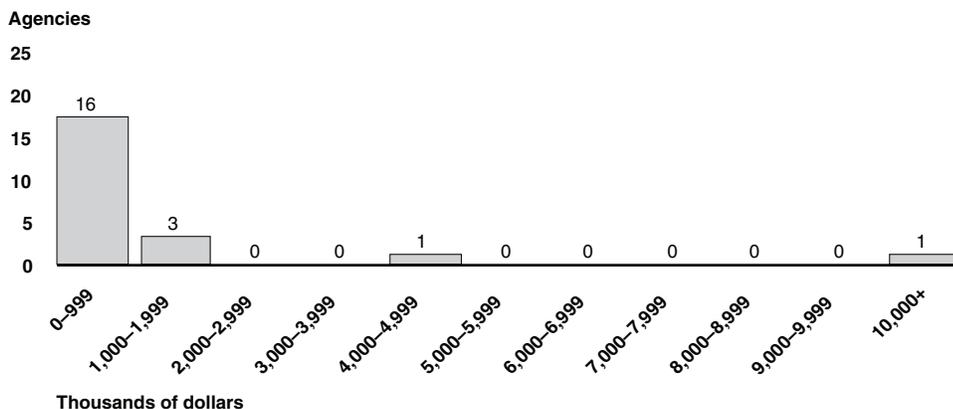
Figure 26: Estimated Annual Maintenance Costs for Component Agencies



Source: GAO.

Appendix II
Cost Data Related to Implementing
Enterprise Architectures Varied, with
Personnel Accounting for Most Costs

Figure 27: Estimated Annual Maintenance Costs for Independent Agencies



Source: GAO.

Agency and Contractor Personnel Accounted for the Majority of Architecture Development Costs

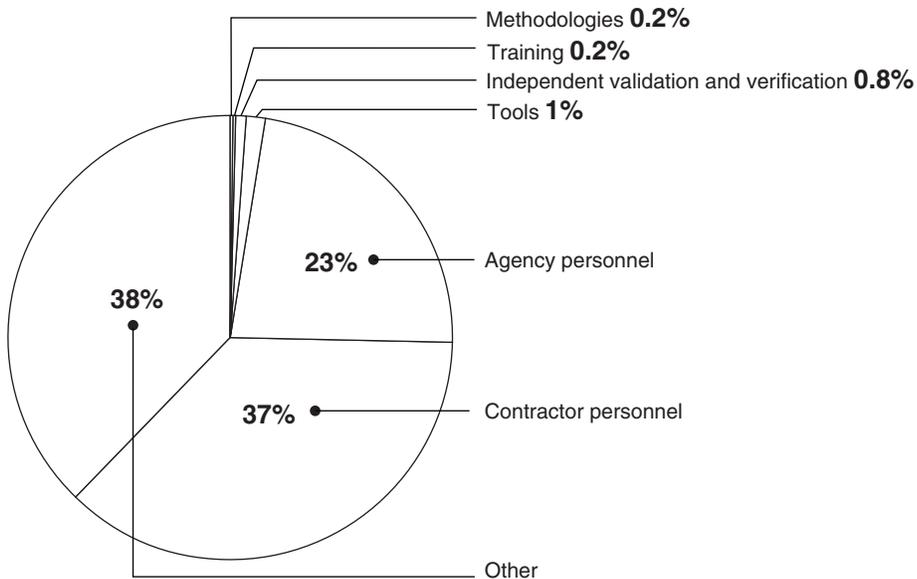
Of the \$599 million reported in architecture development costs, agencies allocated \$511 million to the following seven cost categories that we identified in our questionnaire: agency personnel, contractor personnel, tools, methodologies, independent validation and verification, training, and other.¹ For those agencies that reported and allocated costs, the majority of these costs were for agency and contractor personnel—\$116.7 million (23 percent) were attributed to agency personnel and \$188.9 million (37 percent) were attributed to contractor personnel. About \$193.3 million (38 percent) were attributed to “other” costs,² \$7.1 million (1 percent) to architecture tools, and \$3.9 million (eight-tenths of 1 percent) to independent validation and verification contract personnel. Further, \$1.0 million (two-tenths of 1 percent) of costs were attributed to methodologies and another \$1.0 million (two-tenths of 1 percent) to training. Figure 28 shows the architecture development costs by category.

¹The “other” cost category is intended to include costs that cannot be allocated to the categories we specified.

²The Department of the Army allocated its \$247.8 million architecture development costs to two categories: agency personnel (\$59.5 million) and other (\$188.3 million). The \$188.3 million that the Army categorized as “other” accounts for about 97 percent of the total amount of costs categorized as “other.”

Appendix II
Cost Data Related to Implementing
Enterprise Architectures Varied, with
Personnel Accounting for Most Costs

Figure 28: Enterprise Architecture Development Costs by Category—All Respondents



Source: GAO.

Table 16 shows enterprise architecture development, completion, and maintenance costs for each agency that provided cost data.³

³Some agencies did not report any architecture cost data. For example, the Department of Justice reported that it does not maintain records on departmentwide spending for enterprise architecture.

**Appendix II
 Cost Data Related to Implementing
 Enterprise Architectures Varied, with
 Personnel Accounting for Most Costs**

Table 16: Cost Data Reported by Agencies

Agency	Reported costs, by category		
	Development to date	Estimate to complete	Annual maintenance estimate
Department of Agriculture	\$380,000	\$2,641,900	—
Agricultural Marketing Service	—	—	—
Agricultural Research Service	38,200	—	—
Animal and Plant Health Inspection Service	200,000	—	—
Cooperative State Research, Education, and Extension Service	78,960	—	—
Food and Nutrition Service	31,200	—	—
Food Safety and Inspection Service	300,000	600,000	\$100,000
Foreign Agricultural Service	30,000	330,000	10,000
Forest Service	1,445,000	5,830,000	590,000
Risk Management Agency	—	—	—
Service Center Modernization Initiative	—	—	—
Department of Commerce	450,000	455,000	340,000
Bureau of the Census	1,297,744	—	418,467
Economic Development Administration	25,600	76,500	64,500
International Trade Administration	70,000	430,000	—
National Oceanic and Atmospheric Administration	16,100,000	4,500,000	1,550,000
U.S. Patent and Trademark Office	2,000,000	2,200,400	2,350,000
Department of Defense—Business Enterprise Architecture	73,534,000	—	29,700,000
Department of Defense—Global Information Grid Architecture	14,480,000	—	4,750,000
Ballistic Missile Defense Organization	583,000	728,000	405,000
Defense Advanced Research Projects Agency	—	—	—
Defense Commissary Agency	3,229,832	—	1,747,264
Defense Contract Audit Agency	498,020	205,840	459,120
Defense Contract Management Agency	119,000	—	42,500
Defense Information Systems Agency	290,500	1,043,500	383,000
Defense Intelligence Agency	2,160,000	—	670,000
Defense Logistics Agency	4,274,055	1,940,256	1,567,622
Defense Security Cooperation Agency	30,000	70,000	20,000
Defense Security Service	—	—	—
Defense Threat Reduction Agency	1,616,000	6,448,000	1,680,000
Department of the Air Force	40,000,000	300,000,000	15,000,000
Department of the Army	247,822,000	318,658,000	35,569,000
Department of the Navy	19,619,000	—	5,000,000

**Appendix II
Cost Data Related to Implementing
Enterprise Architectures Varied, with
Personnel Accounting for Most Costs**

(Continued From Previous Page)

Agency	Reported costs, by category		
	Development to date	Estimate to complete	Annual maintenance estimate
National Imagery and Mapping Agency	—	—	—
Department of Education	8,580,000	27,865,000	4,710,000
Department of Energy	4,190,000	9,000,000	5,000,000
Department of Health and Human Services	220,000	7,850,000	4,850,000
Administration for Children and Families	1,620,000	440,000	290,000
Agency for Healthcare Research and Quality	51,000	—	—
Centers for Disease Control and Prevention	1,157,000	2,628,000	813,000
Centers for Medicare and Medicaid Services	6,044,350	—	—
Food and Drug Administration	1,408,000	4,353,000	403,000
Health Resources and Services Administration	125,000	—	—
Indian Health Service	121,334	—	—
Program Support Center	—	—	—
Department of Homeland Security	2,250,000	12,475,000	626,750
Department of Housing and Urban Development	7,100,000	3,900,000	5,800,000
Department of the Interior	2,800,000	17,300,000	9,000,000
Department of Justice	—	—	—
Bureau of Alcohol, Tobacco, Firearms and Explosives	2,173,000	1,058,000	2,429,123
Drug Enforcement Administration	267,000	—	—
Federal Bureau of Investigation	—	1,445,000	520,000
Federal Bureau of Prisons	280,020	—	9,600
U.S. Marshals Service	—	—	—
Department of Labor	4,800,000	1,390,000	954,000
Department of State	4,635,068	3,871,720	1,907,110
Department of Transportation	2,645,000	1,930,000	780,000
Federal Aviation Administration	28,053,000	13,480,000	2,890,000
Federal Highway Administration	37,500	37,500	—
Federal Motor Carrier Safety Administration	2,427,275	478,860	240,000
Federal Railroad Administration	178,500	635,000	123,500
Federal Transit Administration	314,000	7,250	30,720
National Highway Traffic Safety Administration	373,554	161,000	340,000
Department of the Treasury	1,296,500	2,700,000	300,000
Bureau of Engraving and Printing	1,282,500	313,500	313,500
Bureau of the Public Debt	1,238,479	1,505,605	470,500
Comptroller of the Currency	245,000	190,000	270,800
Financial Management Service	2,010,000	3,032,000	420,000

**Appendix II
Cost Data Related to Implementing
Enterprise Architectures Varied, with
Personnel Accounting for Most Costs**

(Continued From Previous Page)

Agency	Reported costs, by category		
	Development to date	Estimate to complete	Annual maintenance estimate
Internal Revenue Service	38,800,000	4,190,000	6,030,000
Office of Thrift Supervision	—	—	—
U.S. Mint	1,042,000	1,340,000	540,000
Department of Veterans Affairs	8,717,400	—	14,000,000
Independent agencies:			
Agency for International Development	7,700,000	12,900,000	13,900,000
Central Intelligence Agency	1,500,000	—	1,770,000
Corporation for National and Community Services	15,500	7,500	3,000
Environmental Protection Agency	4,770,000	7,450,000	4,875,000
Equal Employment Opportunity Commission	370,000	121,000	58,000
Executive Office of the President	1,155,000	520,000	750,000
Export-Import Bank	500,000	390,000	125,000
Federal Deposit Insurance Corporation	591,000	—	—
Federal Energy Regulatory Commission	—	204,000	82,000
Federal Reserve System	—	—	350,000
Federal Retirement Thrift Investment Board	—	—	—
General Services Administration	4,333,000	2,891,000	55,000
National Aeronautics and Space Administration	650,000	350,000	200,000
National Credit Union Administration	5,000	—	1,000
National Labor Relations Board	631,366	157,842	134,152
Nuclear Regulatory Commission	3,627,000	5,368,000	966,000
Office of Personnel Management	—	—	1,000,000
Peace Corps	755,000	969,000	463,000
Railroad Retirement Board	434,018	3,000	379,277
Securities and Exchange Commission	900,000	3,000,000	1,450,000
Small Business Administration	1,330,000	583,000	222,000
Smithsonian Institution	206,000	286,000	78,000
Social Security Administration	2,365,000	350,000	880,000
U.S. Postal Service	—	—	—
Total	\$599,022,475	\$805,284,173	\$194,219,505

Source: GAO.

Note: Dashes indicate that no cost data were provided.

Objectives, Scope, and Methodology

Our objectives were to determine (1) what progress federal agencies have made in effectively developing, implementing, and maintaining their enterprise architectures and (2) the actions of the Office of Management and Budget (OMB) to advance the state of enterprise architecture development and use across the federal government.

To address our objectives, we obtained and reviewed relevant guidance on enterprise architectures, such as OMB Circular A-130¹ and guidance published by the federal Chief Information Officers (CIO) Council, including the *Federal Enterprise Architecture Framework Version 1.1*² and the *Practical Guide*.³ We also researched our past reports and guidance on the management and use of enterprise architectures, including the results of our 2001 governmentwide enterprise architecture survey⁴ and our enterprise architecture management maturity framework.⁵

Next, we used the CIO Council's *Practical Guide* and our enterprise architecture management maturity framework to develop two data collection instruments—one for federal departments and one for agencies that are either components within a department or are independent (see app. VIII). We pretested our survey instruments at one federal department and one component agency.

¹Office of Management and Budget, *Management of Federal Information Resources*, Circular A-130 (Nov. 30, 2000).

²Chief Information Officers Council, *Federal Enterprise Architecture Framework*, Version 1.1 (September 1999).

³Chief Information Officers Council, *A Practical Guide to Federal Enterprise Architecture*, Version 1.0 (February 2001).

⁴U.S. General Accounting Office, *Information Technology: Enterprise Architecture Use across the Federal Government Can Be Improved*, [GAO-02-6](#) (Washington, D.C.: Feb. 19, 2002).

⁵U.S. General Accounting Office, *Information Technology: A Framework for Assessing and Improving Enterprise Architecture Management (Version 1.1)*, [GAO-03-584G](#) (Washington, D.C.: April 2003).

To ensure consistency and comparability with our 2001 governmentwide enterprise architecture survey, we based our survey population on the same 116 agencies, with appropriate additions and deletions. These agencies consisted of all cabinet-level departments, major component agencies within departments,⁶ and other independent agencies. We modified our 2001 survey population to reflect the federal government's reorganization of March 1, 2003, in which the Department of Homeland Security (DHS) and its directorates (i.e., component agencies) became operational, resulting in the addition of 5 agencies. At the same time, the establishment of DHS resulted in 4 agencies that were included in our 2001 survey being eliminated from our survey population because they were absorbed into DHS directorates. We also eliminated the U.S. Marine Corps as a separate agency within our population so that the Department of the Navy, at its request, could provide a single response for the Navy and the Marine Corps. Table 17 lists additions to and deletions from our 2001 survey population and provides explanations for each change.

⁶We defined "component agencies" as (1) being one organizational level below their respective cabinet-level department and (2) having a budget request of \$100 million or more.

**Appendix III
Objectives, Scope, and Methodology**

Table 17: Summary of Differences between 2001 and 2003 Survey Populations

Agency	Inclusion in survey	Explanation
DHS DHS, Directorate of Border and Transportation Security DHS, Directorate of Emergency Preparedness and Response DHS, Directorate of Science and Technology DHS, Directorate of Information Analysis and Infrastructure Protection	In 2003, but not in 2001	Became operational on March 1, 2003
U.S. Customs Service Immigration and Naturalization Service Federal Law Enforcement Training Center	In 2001, but not in 2003	Became part of DHS, Directorate of Border and Transportation Security, effective March 1, 2003
Federal Emergency Management Agency	In 2001, but not in 2003	Became part of DHS, Directorate of Emergency Preparedness and Response, effective March 1, 2003
U.S. Marine Corps	In 2001, but not in 2003	Department of the Navy provided a consolidated response for the Navy and the U.S. Marine Corps

Source: GAO.

For each of the 116 agencies, we identified the CIO or comparable official and notified them of our work and distributed the appropriate survey instrument to designated officials via e-mail. We also discussed the purpose and content of the survey instrument with agency officials when requested. After receiving our survey, officials from DHS and the Departments of the Interior and Veterans Affairs told us that their respective architectures cover their component agencies and, thus, a single response would be provided. (When departments opted to provide a departmental response inclusive of component agencies, our analysis pertains to the department as a whole. Conversely, when departments and their component agencies reported separately, our departmental analysis is exclusive of component agencies.) Additionally, officials from the Department of Agriculture’s Farm Service Agency, Natural Resources Conservation Service, and Rural Utilities Service told us they would provide a response that reflects the Service Center Modernization Initiative, which encompasses those three component agencies. We agreed with these proposed approaches. Both the Department of Defense’s Business Enterprise Architecture and Agriculture’s previously mentioned Service Center Modernization Initiative provided responses that were not solicited in our survey population, which we included in our analysis and in this report. Tables 18 and 19 show the consolidated, omitted, and additional responses that led to the difference

**Appendix III
Objectives, Scope, and Methodology**

between our survey population of 116 agencies and the 96 respondents included in this report, including an explanation for each adjustment.

Table 18: Twenty-Two Agencies in 2003 Survey Population for Which Responses Do Not Appear

Agency	Explanation
DHS, Directorate of Border and Transportation Security	Included in DHS departmentwide response
DHS, Directorate of Emergency Preparedness and Response	
DHS, Directorate of Science and Technology	
DHS, Directorate of Information Analysis and Protection	
DHS, U.S. Coast Guard	
DHS, U.S. Secret Service	
Agriculture, Natural Resources Conservation Service	Included in response for Service Center Modernization Initiative, Department of Agriculture
Agriculture, Farm Service Agency	
Agriculture, Rural Utilities Service	
Interior, Bureau of Indian Affairs	Included in Department of the Interior departmentwide response
Interior, Bureau of Land Management	
Interior, Bureau of Reclamation	
Interior, Fish and Wildlife Service	
Interior, Minerals Management Service	
Interior, National Park Service	
Interior, Office of Surface Mining Reclamation & Enforcement	
Interior, U.S. Geological Survey	
Veterans Affairs, Veterans Benefits Administration	Included in Department of Veterans Affairs departmentwide response
Veterans Affairs, Veterans Health Administration	
Defense, Defense Legal Services Agency	Included in Department of Defense response
National Security Agency	Excluded from analysis and report because response was designated "For Official Use Only"
Legal Services Corporation	Did not respond

Source: GAO.

Table 19: Additional Survey Responses

Additional response	Reason for addition
Service Center Modernization Initiative, Department of Agriculture	The Department of Agriculture provided one response for this initiative, which includes the Natural Resources Conservation Service, the Farm Service Agency, and the Rural Utilities Service, as shown in the previous table.
Business Enterprise Architecture, Department of Defense	The Department of Defense provided distinct responses for its two departmentwide enterprise architecture efforts: the Global Information Grid architecture and the Business Enterprise Architecture.

Source: GAO.

The timing of the 96 responses varied, ranging from April 1 to July 9, 2003, and thus the determinations in this report regarding the state of enterprise architecture development and use and progress at specific agencies and groups of agencies are linked to particular points in time. Appendixes V, VI, and VII, which contain the results of our analysis of each agency's response to our survey, identify the date that each agency responded. To verify the accuracy of agencies' responses to our survey regarding enterprise architecture management policies, organizations, and responsibilities, we required agencies to submit documentation or additional information for survey questions related to certain framework criteria. Specifically, we requested agencies to submit documentation or additional information for questions 6 to 11, 18, 20 to 24, 26, and 35 to 39. Although our survey requested that agencies provide data about the status of various enterprise architecture products, we did not independently verify the data that agencies provided about the comprehensiveness or completeness of their architecture products.⁷ Additionally, we contacted agency officials when necessary to clarify their responses.

To determine the progress of federal agencies' enterprise architecture efforts, we analyzed agency survey responses using Version 1.0 of our maturity framework and compared them with the results of our 2001 survey, which were also based on Version 1.0. We also analyzed survey responses using Version 1.1 of our maturity framework to establish a new baseline against which future progress can be measured. When an agency's

⁷We adjusted data that the Department of Defense provided for its Business Enterprise Architecture and the National Aeronautics and Space Administration provided for its enterprise architecture on the basis of the results of completed GAO reviews. We also adjusted data that the Department of Veterans Affairs provided for its enterprise architecture products on the basis of analysis performed in an ongoing GAO review. Agency officials agreed with these adjustments.

response and our subsequent analysis indicated that it did not meet a core element as defined in the framework, we assigned that agency to the next lowest stage of framework maturity (i.e., to achieve a given stage of maturity, an agency must meet all core elements at that stage). For example, if an agency satisfied all Stage 2 and Stage 4 elements, but did not satisfy one Stage 3 element, that agency is considered to be a Stage 2 agency.

When determining agency maturity levels, we did not consider whether agency enterprise architecture plans or products included “performance” because explicitly including enterprise performance data is a relatively new concept, and there was a minimal amount of federal guidance related to enterprise performance data available to agencies at the time our surveys were distributed.

Tables 20 to 23 show the relationship between the survey questions and the framework elements for Version 1.0 of the framework, as well as identify where documentation was required to support answers.

Table 20: Stage 2 Evaluation Criteria for Framework Version 1.0

Element	Evaluation criteria	Related survey questions
Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving the EA.	Agency responded that a committee or group representing the enterprise is responsible for directing, overseeing, and/or approving the EA, and provided supporting documentation.	8
Program office responsible for EA development exists.	Agency responded that a program office responsible for EA development exists, and provided supporting documentation.	9
Chief architect exists.	Agency responded that a chief architect exists, and provided supporting documentation.	10
EA being developed using a framework and automated tool.	Agency responded that the EA is being developed using a framework and automated tool.	15 and 16
EA plans call for describing the enterprise in terms of business, data, applications, or technology.	Agency responded that EA plans call for describing the enterprise in terms of business, data, applications, or technology.	4
EA plans call for describing “as-is” environment, “to-be” environment, or sequencing plan.	Agency responded that EA plans call for describing business, data, applications, or technology in the “as-is” environment or the “to-be” environment, or a sequencing plan.	4

Source: GAO.

**Appendix III
Objectives, Scope, and Methodology**

Table 21: Stage 3 Evaluation Criteria for Framework Version 1.0

Element	Evaluation criteria	Related survey questions
Written/approved policy exists for EA development.	Agency responded that a written and approved policy exists for EA development, and provided supporting documentation.	7
EA products are under configuration management.	Agency responded that EA products are under configuration management, and provided supporting documentation.	24
EA products describe or will describe enterprise’s business—and the data, applications, and technology that will support it.	Agency responded that EA products describe or will describe the enterprise’s business, data, applications, and technology that will support it in both the “as-is” and “to-be” environments.	4
EA products describe or will describe “as-is” environment, “to-be” environment, and sequencing plan.	Agency responded that EA products describe or will describe the enterprise’s business, data, applications, and technology in both the “as-is” and, “to-be” environments, and a sequencing plan for moving from the “as-is” to the “to-be” environment.	4
EA scope is enterprise focused.	Agency responded that the EA scope is departmentwide or agencywide.	3

Source: GAO.

Table 22: Stage 4 Evaluation Criteria for Framework Version 1.0

Element	Evaluation criteria	Related survey questions
Written/approved policy exists for information technology investment compliance with EA.	Agency responded that a written and approved policy exists for information technology investment compliance with EA, and provided supporting documentation.	26
EA products describe the enterprise’s business—and the data, applications, and technology that support it.	Agency responded that EA products describe the enterprise’s business, data, applications, and technology that support it in both the “as-is” and “to-be” environments.	4
EA products describe “as-is” environment, “to-be” environment, and sequencing plan.	Agency responded that EA products describe the enterprise’s business, data, applications, and technology in both the “as-is” and “to-be” environments, and a sequencing plan for moving from the “as-is” to the “to-be” environment.	4
Agency chief information officer has approved EA.	Agency responded that the agency chief information officer has approved the EA, and provided supporting documentation.	20

Source: GAO.

Appendix III
Objectives, Scope, and Methodology

Table 23: Stage 5 Evaluation Criteria for Framework Version 1.0

Element	Evaluation criteria	Related survey questions
Written/approved policy exists for EA maintenance.	Agency responded that a written and approved policy exists for EA maintenance, and provided supporting documentation.	7
Either EA steering committee, investment review board, or agency head has approved EA.	Agency responded that an EA steering committee, investment review board, or agency head has approved the EA, and provided supporting documentation.	20
Metrics exist for measuring EA benefits.	Agency responded that metrics exist to measure return on EA investment or compliance with the EA is measured and reported, and provided supporting documentation.	35 and 38

Source: GAO.

**Appendix III
Objectives, Scope, and Methodology**

Tables 24 to 27 show the relationship between the survey questions and the framework elements for Version 1.1 of the framework.

Table 24: Stage 2 Evaluation Criteria for Framework Version 1.1

Element	Evaluation criteria	Related survey questions
Adequate resources exist.	Agency responded that it (1) plans to develop an EA, (2) is in the process of developing an EA, or (3) has developed an EA and that either no gap existed between requested and approved resources for fiscal years 2001, 2002, and 2003, or if a gap did exist, that the gap did not result in a very adverse or somewhat adverse impact.	13 and 14
Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Agency responded that a committee or group representing the enterprise is responsible for directing, overseeing, or approving EA, and provided supporting documentation.	8
Program office responsible for EA development and maintenance exists.	Agency responded that a program office responsible for EA development and maintenance exists, and provided supporting documentation.	9
Chief architect exists.	Agency responded that a chief architect exists, and provided supporting documentation.	10
EA is being developed using a framework, methodology, and automated tool.	Agency responded that it is using a framework, methodology, and automated tool to develop its EA. (Documentation provided for question 18, methodology.)	15, 16, and 18
EA plans call for describing both the “as-is” and the “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Agency responded that it (1) plans to develop an EA, (2) is in the process of developing an EA, or (3) has developed an EA; that EA plans call for describing the “as-is” and the “to-be” environments of the enterprise in terms of business, information/data, application/service, or technology; and that EA plans call for developing a sequencing plan for transitioning from the “as-is” to the “to-be” environments.	1 and 4
EA plans call for describing both the “as-is” and the “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Agency responded that it (1) plans to develop an EA, (2) is in the process of developing an EA, or (3) has developed an EA, and that EA plans call for describing both the “as-is” and the “to-be” environments in terms of business, information/data, application/service, and technology.	1 and 4
EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Agency responded that it (1) plans to develop an EA, (2) is in the process of developing an EA, or (3) has developed an EA, and that EA plans call for business, information/data, application/service, and technology descriptions to address security in both the “as-is” and “to-be” environments.	1 and 4
EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Agency responded that EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	34

Source: GAO.

**Appendix III
Objectives, Scope, and Methodology**

Table 25: Stage 3 Evaluation Criteria for Framework Version 1.1

Element	Evaluation criteria	Related survey questions
Written and approved organization policy exists for EA development.	Agency responded that a written and approved organization policy exists for EA development, and provided supporting documentation.	7
EA products are under configuration management.	Agency responded that EA products are under configuration management, and provided supporting documentation.	24
EA products describe or will describe both the “as-is” and the “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Agency responded that it either is in the process of developing an EA or has developed an EA; that the EA either describes or will describe the “as-is” and the “to-be” environments of the enterprise in terms of business, information/data, application/service, or technology; and that the EA includes or will include a sequencing plan for transitioning from the “as-is” to the “to-be” environments.	1 and 4
Both the “as-is” and the “to-be” environments are described or will be described in terms of business, performance, information/data, application/service, and technology.	Agency responded that it either is in the process of developing an EA or has developed an EA, and that both the “as-is” and the “to-be” environments are described or will be described in terms of business, information/data, application/service, and technology.	1 and 4
Business, performance, information/data, application/service, and technology descriptions address or will address security.	Agency responded that it either is in the process of developing an EA or has developed an EA and that business, information/data, application/service, and technology descriptions address or will address security in both the “as-is” and “to-be” environments.	1 and 4
Progress against EA plans is measured and reported.	Agency responded that progress against EA plans is measured and reported, and provided supporting documentation.	37

Source: GAO.

**Appendix III
Objectives, Scope, and Methodology**

Table 26: Stage 4 Evaluation Criteria for Framework Version 1.1

Element	Evaluation criteria	Related survey questions
Written and approved organization policy exists for EA maintenance.	Agency responded that a written and approved organization policy exists for EA maintenance, and provided supporting documentation.	7
EA products and management processes undergo independent verification and validation.	Agency responded that EA products and management processes undergo independent verification and validation, and provided supporting documentation.	21 and 22
EA products describe both the “as-is” and the “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Agency responded that it has developed an EA; that the EA describes the “as-is” and the “to-be” environments of the enterprise in terms of business, information/data, application/service, or technology; and that the EA includes a sequencing plan for transitioning from the “as-is” to the “to-be” environments.	1 and 4
Both the “as-is” and the “to-be” environments are described in terms of business, performance, information/data, application/service, and technology.	Agency responded that it has developed an EA and that both the “as-is” and the “to-be” environments are described in terms of business, information/data, application/service, and technology.	1 and 4
Business, performance, information/data, application/service, and technology descriptions address security.	Agency responded that it has developed an EA and that business, information/data, application/service, and technology descriptions address or will address security in both the “as-is” and “to-be” environments.	1 and 4
Organization CIO has approved current version of EA.	Agency responded that the organization CIO has approved the current version of the EA, and provided supporting documentation.	20
Committee or group representing the enterprise or the investment review board has approved current version of EA.	Agency responded that a committee or group representing the enterprise or the investment review board has approved the current version of the EA, and provided supporting documentation.	20
Quality of EA products is measured and reported.	Agency responded that the quality of EA products is measured and reported, and provided supporting documentation.	36

Source: GAO.

Table 27: Stage 5 Evaluation Criteria for Framework Version 1.1

Element	Evaluation criteria	Related survey questions
Written and approved organization policy exists for IT investment compliance with EA.	Agency responded that a written and approved organization policy exists for IT investment compliance with EA, and provided supporting documentation.	26
Process exists to formally manage EA change.	Agency responded that a process exists to formally manage EA change.	25
EA is integral component of IT investment management process.	Agency responded that the EA is integral component of the IT investment management process.	28
EA products are periodically updated.	Agency responded that its EA products are periodically updated, and provided supporting documentation.	23
IT investments comply with EA.	Agency responded that its IT investments comply with the EA.	29
Organization head has approved current version of EA.	Agency responded that the organization head has approved current version of EA, and provided supporting documentation.	20
Return on EA investment is measured and reported.	Agency responded that return on EA investment is measured and reported, and provided supporting documentation.	35
Compliance with EA is measured and reported.	Agency responded that compliance with the EA is measured and reported and provided supporting documentation.	38

Source: GAO.

Legend: IT information technology

After compiling agency responses and determining agencies' respective maturity stages, we analyzed responses across different slices of our respondent population to determine patterns and issues.

Finally, to determine OMB's actions to oversee agency enterprise architecture management efforts, we analyzed relevant policy and budget guidance, obtained information about OMB's roles in the CIO Council and efforts to develop and use the Federal Enterprise Architecture (FEA) (including OMB's use of the FEA in the budget process), and interviewed OMB officials about ongoing and planned management actions. We also analyzed agency responses to survey questions regarding OMB's enterprise architecture-related oversight and guidance.

We conducted our work in the Washington, D.C., metropolitan area, from September 2002 to November 2003, in accordance with generally accepted government auditing standards.

Maturity Stages of Departments and Agencies According to EA Maturity Framework, Versions 1.0 and 1.1

The following table presents three assessments of the maturity stage of each listed organization on the basis of the following: (1) responses to our 2001 survey evaluated against Version 1.0 of our framework,¹ (2) responses to our 2003 survey evaluated against Version 1.0 of our framework, and (3) responses to our 2003 survey evaluated against Version 1.1 of our framework.

Table 28: Agency Maturity Stages According to EAMMF, Versions 1.0 and 1.1

Agency	Maturity stage		
	Version 1.0 (2001)	Version 1.0 (2003)	Version 1.1 (2003)
Department of Agriculture	1	2	1
Agricultural Marketing Service	1	1	1
Agricultural Research Service	1	1	1
Animal and Plant Health Inspection Service	1	1	1
Cooperative State Research, Education, and Extension Service	1	1	1
Food and Nutrition Service	1	1	1
Food Safety and Inspection Service	1	1	1
Foreign Agricultural Service	1	1	1
Forest Service	2	2	1
Risk Management Agency	1	1	1
Service Center Modernization Initiative	N/A	1	1
Department of Commerce	3	1	1
Bureau of the Census	2	3	3
Economic Development Administration	1	1	1
International Trade Administration	1	1	1
National Oceanic and Atmospheric Administration	3	2	2
U.S. Patent and Trademark Office	4	2	2
Department of Defense—Global Information Grid Architecture	3	3	3
Department of Defense—Business Enterprise Architecture	N/A	1	1
Ballistic Missile Defense Organization	2	3	3
Defense Advanced Research Projects Agency	1	1	1
Defense Commissary Agency	1	1	1
Defense Contract Audit Agency	2	1	1

¹GAO-02-6.

Appendix IV
Maturity Stages of Departments and
Agencies According to EA Maturity
Framework, Versions 1.0 and 1.1

(Continued From Previous Page)

Agency	Maturity stage		
	Version 1.0 (2001)	Version 1.0 (2003)	Version 1.1 (2003)
Defense Contract Management Agency	2	1	1
Defense Information Systems Agency	1	3	1
Defense Intelligence Agency	2	3	1
Defense Logistics Agency	1	3	1
Defense Security Cooperation Agency	1	1	1
Defense Security Service	2	1	1
Defense Threat Reduction Agency	2	2	1
Department of the Air Force	3	3	3
Department of the Army	4	3	1
Department of the Navy	2	1	1
National Imagery and Mapping Agency	2	2	1
Department of Education	2	2	1
Department of Energy	2	2	1
Department of Health and Human Services	1	2	2
Administration for Children and Families	1	1	1
Agency for Healthcare Research and Quality	1	1	1
Centers for Disease Control and Prevention	3	2	1
Centers for Medicare and Medicaid Services	2	2	1
Food and Drug Administration	1	1	1
Health Resources and Services Administration	1	1	1
Indian Health Service	2	1	1
Program Support Center	1	1	1
Department of Homeland Security	N/A	3	3
Department of Housing and Urban Development	1	3	3
Department of the Interior	2	2	2
Department of Justice	3	2	1
Bureau of Alcohol, Tobacco, Firearms and Explosives	2	4	2
Drug Enforcement Administration	2	2	1
Federal Bureau of Investigation	1	1	1
Federal Bureau of Prisons	2	1	1
U.S. Marshals Service	1	1	1
Department of Labor	2	1	1
Department of State	3	2	2
Department of Transportation	2	2	2
Federal Aviation Administration	3	2	1

**Appendix IV
Maturity Stages of Departments and
Agencies According to EA Maturity
Framework, Versions 1.0 and 1.1**

(Continued From Previous Page)

Agency	Maturity stage		
	Version 1.0 (2001)	Version 1.0 (2003)	Version 1.1 (2003)
Federal Highway Administration	1	1	1
Federal Motor Carrier Safety Administration	2	1	1
Federal Railroad Administration	1	1	1
Federal Transit Administration	1	1	1
National Highway Traffic Safety Administration	2	1	1
Department of the Treasury	1	1	1
Bureau of Engraving and Printing	1	3	3
Bureau of the Public Debt	3	1	1
Comptroller of the Currency	1	1	1
Financial Management Service	2	1	1
Internal Revenue Service	4	5	3
Office of Thrift Supervision	1	1	1
U.S. Mint	2	3	1
Department of Veterans Affairs	1	3	3
Independent agencies:			
Agency for International Development	3	1	1
Central Intelligence Agency	1	1	1
Corporation for National and Community Service	1	2	1
Environmental Protection Agency	3	2	1
Equal Employment Opportunity Commission	1	2	1
Executive Office of the President	2	5	5
Export-Import Bank	3	1	1
Federal Deposit Insurance Corporation	1	1	1
Federal Energy Regulatory Commission	1	1	1
Federal Reserve System	1	1	1
Federal Retirement Thrift Investment Board	1	1	1
General Services Administration	2	2	1
National Aeronautics and Space Administration	2	1	1
National Credit Union Administration	1	1	1
National Labor Relations Board	1	2	1
Nuclear Regulatory Commission	1	3	2
Office of Personnel Management	4	5	1
Peace Corps	1	2	1
Railroad Retirement Board	2	2	2
Securities and Exchange Commission	2	3	2

Appendix IV
Maturity Stages of Departments and
Agencies According to EA Maturity
Framework, Versions 1.0 and 1.1

(Continued From Previous Page)

Agency	Maturity stage		
	Version 1.0 (2001)	Version 1.0 (2003)	Version 1.1 (2003)
Small Business Administration	2	1	1
Smithsonian Institution	2	2	1
Social Security Administration	2	3	1
U.S. Postal Service	2	2	1

Source: GAO.

Detailed Comparison of Individual Department Responses against Our EA Management Maturity Framework

Department of Agriculture

The Department of Agriculture provided its 2001 survey responses on July 9, 2001, and its 2003 responses on May 12, 2003.

Table 29: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Agriculture

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	No	Yes
	EA being developed using a frame work and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Table 30: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Agriculture

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

**Department of
Commerce**

The Department of Commerce provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 18, 2003.

Table 31: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Commerce

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	Yes	No
Overall maturity stage		Stage 3	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Table 32: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Commerce

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
	Progress against EA plans is measured and reported.	Yes
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
	Quality of EA products is measured and reported.	Yes

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Department of Defense

Global Information Grid

The Department of Defense provided its 2001 survey responses on July 25, 2001, and its 2003 response for its Global Information Grid on June 5, 2003.

Table 33: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Defense, Global Information Grid

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	Yes

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 3	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework

Table 34: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Defense, Global Information Grid

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	Yes
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	Yes
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	Yes	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework

Business Enterprise Architecture

The Department of Defense provided its 2003 response for its Business Enterprise Architecture on May 30, 2003. The department did not provide a similar response to our 2001 survey.

Table 35: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Defense, Business Enterprise Architecture

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	—	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	—	No
	Program office responsible for EA development exists.	—	Yes
	Chief architect exists.	—	Yes
	EA being developed using a framework and automated tool.	—	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	—	Yes
Stage 3: Developing architecture products	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	—	Yes
	Written/approved policy exists for EA development.	—	No
	EA products are under configuration management.	—	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	—	Yes
Stage 4: Completing architecture products	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	—	Yes
	EA scope is enterprise-focused.	—	Yes
	Written/approved policy exists for information technology investment compliance with EA.	—	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	—	No
Stage 5: Leveraging the EA for managing change	EA products describe “as is” environment, “to be” environment, and sequencing plan.	—	No
	Agency chief information officer has approved EA.	—	Yes
	Written/approved policy exists for EA maintenance.	—	No
Overall maturity stage	Either EA steering committee, investment review board, or agency head has approved EA.	—	Yes
	Metrics exist for measuring EA benefits.	—	No
Overall maturity stage		N/A	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework

Table 36: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Defense, Business Enterprise Architectur

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
Stage 3: Developing architecture products	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	No
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes	
Quality of EA products is measured and reported.	Yes	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	Yes
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

**Department of
Education**

The Department of Education provided its 2001 survey responses on July 23, 2001, and its 2003 responses on April 28, 2003.

Table 37: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Education

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework

Table 38: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Education

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	Yes
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Department of Energy

The Department of Energy provided its 2001 survey responses on June 28, 2001, and its 2003 responses on April 23, 2003.

Table 39: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Energy

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	Yes	Yes
Overall maturity stage		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Table 40: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Energy

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
	Progress against EA plans is measured and reported.	Yes
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
	Quality of EA products is measured and reported.	Yes

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Department of Health and Human Services

The Department of Health and Human Services provided its 2001 survey responses on August 14, 2001, and its 2003 responses on May 12, 2003.

Table 41: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Health and Human Services

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	No	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Table 42: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Health and Human Services

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

**Department of
Homeland Security**

The Department of Homeland Security was not involved in our 2001 survey because it was established on March 1, 2003. It provided its 2003 responses on June 10, 2003.

Table 43: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Homeland Security

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	—	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	—	Yes
	Program office responsible for EA development exists.	—	Yes
	Chief architect exists.	—	Yes
	EA being developed using a framework and automated tool.	—	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	—	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	—	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	—	Yes
	EA products are under configuration management.	—	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	—	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	—	Yes
	EA scope is enterprise-focused.	—	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	—	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	—	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	—	No
	Agency chief information officer has approved EA.	—	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	—	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	—	No
	Metrics exist for measuring EA benefits.	—	Yes
Overall maturity stage		N/A	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Table 44: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Homeland Security

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	Yes
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	Yes	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	Yes
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Department of Housing and Urban Development

The Department of Housing and Urban Development provided its 2001 survey responses on June 28, 2001, and its 2003 responses on April 21, 2003.

Table 45: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Housing and Urban Development

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 1	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework

Table 46: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Housing and Urban Development

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	Yes
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

**Department of the
Interior**

The Department of the Interior provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 21, 2003.

Table 47: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of the Interior

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	Yes
	Metrics exist for measuring EA benefits.	Yes	Yes
Overall maturity stage		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Table 48: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of the Interior

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes	
Quality of EA products is measured and reported.	Yes	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework

Department of Justice

The Department of Justice provided its 2001 survey responses on July 10, 2001, and its 2003 responses on May 20, 2003.

Table 49: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Justice

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 3	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework

Table 50: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Justice

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
Stage 3: Developing architecture products	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework

Department of Labor

The Department of Labor provided its 2001 survey responses on July 2, 2001, and its 2003 responses on April 17, 2003.

Table 51: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Labor

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Table 52: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Labor

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	Yes
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Department of State

The Department of State provided its 2001 survey responses on July 13, 2001, and its 2003 responses on May 12, 2003.

Table 53: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of State

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 3	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Table 54: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of State

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

**Department of
Transportation**

The Department of Transportation provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 24, 2003.

Table 55: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Transportation

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
Stage 3: Developing architecture products	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
Stage 4: Completing architecture products	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
Stage 5: Leveraging the EA for managing change	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	No
Overall maturity stage	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework

Table 56: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Transportation

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
Stage 3: Developing architecture products	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

**Department of the
Treasury**

The Department of the Treasury provided its 2001 survey responses on June 28, 2001, and its 2003 responses on April 26, 2003.

Table 57: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of the Treasury

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

Table 58: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of the Treasury

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	Yes	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

**Department of
Veterans Affairs**

The Department of Veterans Affairs provided its 2001 survey responses on August 17, 2001, and its 2003 responses on April 21, 2003.

Table 59: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of Veterans Affairs

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	No	Yes
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	Yes
	Metrics exist for measuring EA benefits.	Yes	Yes
Overall maturity stage		Stage 1	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework

Table 60: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of Veterans Affairs

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes	
Quality of EA products is measured and reported.	No	

**Appendix V
Detailed Comparison of Individual
Department Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	Yes
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Detailed Comparison of Individual Component Responses against Our EA Management Maturity Framework

Department of Agriculture

Agricultural Marketing Service

The Agricultural Marketing Service provided its 2001 survey responses on July 9, 2001, and its 2003 responses on May 13, 2003.

Table 61: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Agricultural Marketing Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	No
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	No	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
	Agency chief information officer has approved EA.	Yes	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 62: Maturity Assessment in 2003 (According to Framework Version 1.1): Agricultural Marketing Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Agricultural Research
Service**

The Agricultural Research Service provided its 2001 survey responses on July 13, 2001, and its 2003 responses on April 18, 2003.

Table 63: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Agricultural Research Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	No	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	Yes
Stage 3: Developing architecture products	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	Yes
	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
Stage 4: Completing architecture products	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
	EA scope is enterprise-focused.	No	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
Stage 5: Leveraging the EA for managing change	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	No
Overall maturity stage	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 64: Maturity Assessment in 2003 (According to Framework Version 1.1): Agricultural Research Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Animal and Plant Health
Inspection Service**

The Animal and Plant Health Inspection Service provided its 2001 survey responses on June 26, 2001, and its 2003 responses on April 21, 2003.

Table 65: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Animal and Plant Health Inspection Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	No
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	Yes	No
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
Overall maturity stage	Metrics exist for measuring EA benefits.	No	No
		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 66: Maturity Assessment in 2003 (According to Framework Version 1.1): Animal and Plant Health Inspection Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	No
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Cooperative State Research,
Education, and Extension
Service**

The Cooperative State Research, Education, and Extension Service provided its 2001 survey responses on July 9, 2001, and its 2003 responses on April 16, 2003.

Table 67: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Cooperative State Research, Education, and Extension Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	No	Yes
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	No	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
Stage 3: Developing architecture products	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
Overall maturity stage	Metrics exist for measuring EA benefits.	No	No
		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework

Table 68: Maturity Assessment in 2003 (According to Framework Version 1.1): Cooperative State Research, Education, and Extension Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
Stage 3: Developing architecture products	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Food and Nutrition Service The Food and Nutrition Service provided its 2001 survey responses on July 17, 2001, and its 2003 responses on April 24, 2003.

Table 69: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Food and Nutrition Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	No
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	No	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 70: Maturity Assessment in 2003 (According to Framework Version 1.1): Food and Nutrition Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
	Quality of EA products is measured and reported.	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Food Safety and Inspection
Service**

The Food Safety and Inspection Service provided its 2001 survey responses on July 9, 2001, and its 2003 responses on June 10, 2003.

Table 71: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Food Safety and Inspection Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	No	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	No	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 72: Maturity Assessment in 2003 (According to Framework Version 1.1): Food Safety and Inspection Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Foreign Agricultural Service The Foreign Agricultural Service provided its 2001 survey responses on July 12, 2001, and its 2003 responses on May 5, 2003.

Table 73: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Foreign Agricultural Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	No	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	No	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 74: Maturity Assessment in 2003 (According to Framework Version 1.1): Foreign Agricultural Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Forest Service

The Forest Service provided its 2001 survey responses on August 3, 2001, and its 2003 responses on April 21, 2003.

Table 75: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Forest Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 76: Maturity Assessment in 2003 (According to Framework Version 1.1): Forest Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Risk Management Agency

The Risk Management Agency provided its 2001 survey responses on July 27, 2001, and its 2003 responses on May 6, 2003.

Table 77: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Risk Management Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	No	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
	EA scope is enterprise-focused.	No	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 78: Maturity Assessment in 2003 (According to Framework Version 1.1): Risk Management Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
	Quality of EA products is measured and reported.	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Service Center
Modernization Initiative**

The Service Center Modernization Initiative provided its responses on May 16, 2003.

Table 79: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Service Center Modernization Initiative

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	—	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	—	Yes
	Program office responsible for EA development exists.	—	No
	Chief architect exists.	—	Yes
	EA being developed using a framework and automated tool.	—	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	—	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	—	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	—	No
	EA products are under configuration management.	—	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	—	No
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	—	No
Stage 4: Completing architecture products	EA scope is enterprise-focused.	—	No
	Written/approved policy exists for information technology investment compliance with EA.	—	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	—	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	—	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	—	No
	Written/approved policy exists for EA maintenance.	—	No
	Either EA steering committee, investment review board, or agency head has approved EA.	—	Yes
	Metrics exist for measuring EA benefits.	—	No
Overall maturity stage		N/A	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 80: Maturity Assessment in 2003 (According to Framework Version 1.1): Service Center Modernization Initiative

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	No
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
	Quality of EA products is measured and reported.	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Department of
Commerce**

Bureau of the Census

The Bureau of the Census provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 21, 2003.

Table 81: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Bureau of the Census

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
	Agency chief information officer has approved EA.	Yes	Yes

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	Yes	No
Overall maturity stage		Stage 2	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 82: Maturity Assessment in 2003 (According to Framework Version 1.1): Bureau of the Census

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
Committee or group representing the enterprise or the investment review board has approved current version of EA.	No	
Quality of EA products is measured and reported.	Yes	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Economic Development
Administration**

The Economic Development Administration provided its 2001 survey responses on July 10, 2001, and its 2003 responses on April 28, 2003.

Table 83: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Economic Development Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 84: Maturity Assessment in 2003 (According to Framework Version 1.1): Economic Development Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**International Trade
Administration**

The International Trade Administration provided its 2001 survey responses on June 26, 2001, and its 2003 responses on April 29, 2003.

Table 85: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): International Trade Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
Stage 3: Developing architecture products	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
Stage 4: Completing architecture products	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	No	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
Stage 5: Leveraging the EA for managing change	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
	Agency chief information officer has approved EA.	Yes	Yes
	Written/approved policy exists for EA maintenance.	Yes	No
Overall maturity stage	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	Yes
		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 86: Maturity Assessment in 2003 (According to Framework Version 1.1): International Trade Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
	Quality of EA products is measured and reported.	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**National Oceanic and
Atmospheric Administration**

The National Oceanic and Atmospheric Administration provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 21, 2003.

Table 87: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): National Oceanic and Atmospheric Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
Stage 3: Developing architecture products	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
Stage 5: Leveraging the EA for managing change	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	Yes
	Written/approved policy exists for EA maintenance.	Yes	Yes
Overall maturity stage	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	No
		Stage 3	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 88: Maturity Assessment in 2003 (According to Framework Version 1.1): National Oceanic and Atmospheric Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
Stage 3: Developing architecture products	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	Yes	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**U.S. Patent and Trademark
Office**

The U.S. Patent and Trademark Office provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 21, 2003.

Table 89: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): U.S. Patent and Trademark Office

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	Yes	Yes
	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	Yes	No
Overall maturity stage		Stage 4	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 90: Maturity Assessment in 2003 (According to Framework Version 1.1): U.S. Patent and Trademark Office

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	Yes
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	Yes	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Department of Defense

Ballistic Missile Defense Organization

The Ballistic Missile Defense Organization provided its 2001 survey responses on July 25, 2001, and its 2003 responses on June 10, 2003.

Table 91: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Ballistic Missile Defense Organization

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 2	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 92: Maturity Assessment in 2003 (According to Framework Version 1.1): Ballistic Missile Defense Organization

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
Committee or group representing the enterprise or the investment review board has approved current version of EA.	No	
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	Yes
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Defense Advanced Research
Projects Agency**

The Defense Advanced Research Projects Agency provided its 2001 survey responses on July 25, 2001, and its 2003 responses on April 7, 2003.

Table 93: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Advanced Research Projects Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	No	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	No
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	No
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	EA scope is enterprise-focused.	No	No
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 94: Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Advanced Research Projects Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	No
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	No
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Defense Commissary
Agency**

The Defense Commissary Agency provided its 2001 survey responses on July 25, 2001, and its 2003 responses on June 9, 2003.

Table 95: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Commissary Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	Yes	Yes
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 96: Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Commissary Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	Yes
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Defense Contract Audit Agency

The Defense Contract Audit Agency provided its 2001 survey responses on July 25, 2001, and its 2003 responses on May 30, 2003.

Table 97: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Contract Audit Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	Yes	Yes
	Written/approved policy exists for EA maintenance.	Yes	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	Yes	No
Overall maturity stage		Stage 2	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 98: Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Contract Audit Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Defense Contract
Management Agency**

The Defense Contract Management Agency provided its 2001 survey responses on July 3, 2001, and its 2003 responses on May 30, 2003.

Table 99: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Contract Management Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	Yes	Yes
	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	Yes	No
Overall maturity stage		Stage 2	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 100: Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Contract Management Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Defense Information
Systems Agency**

The Defense Information Systems Agency provided its 2001 survey responses on July 11, 2001, and its 2003 responses on June 10, 2003.

Table 101: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Information Systems Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	No	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	Yes	No
Overall maturity stage		Stage 1	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 102: Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Information Systems Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Defense Intelligence Agency The Defense Intelligence Agency provided its 2001 survey responses on July 25, 2001, and its 2003 responses on June 20, 2003.

Table 103: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Intelligence Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	Yes	Yes
	Written/approved policy exists for EA maintenance.	Yes	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 104: Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Intelligence Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	Yes
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
	Quality of EA products is measured and reported.	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Defense Logistics Agency

The Defense Logistics Agency provided its 2001 survey responses on July 25, 2001, and its 2003 responses on May 22, 2003.

Table 105: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Logistics Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	No	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 106: Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Logistics Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
Committee or group representing the enterprise or the investment review board has approved current version of EA.	No	
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Defense Security
Cooperation Agency**

The Defense Security Cooperation Agency provided its 2001 survey responses on July 25, 2001, and its 2003 responses on June 19, 2003.

Table 107: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Security Cooperation Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	No	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 4: Completing architecture products	EA scope is enterprise-focused.	No	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 108: Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Security Cooperation Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	No
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Defense Security Service

The Defense Security Service provided its 2001 survey responses on July 25, 2001, and its 2003 responses on June 9, 2003.

Table 109: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Security Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 110: Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Security Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Defense Threat Reduction
Agency**

The Defense Threat Reduction Agency provided its 2001 survey responses on July 25, 2001, and its 2003 responses on May 29, 2003.

Table 111: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Defense Threat Reduction Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 112: Maturity Assessment in 2003 (According to Framework Version 1.1): Defense Threat Reduction Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	No
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	Yes
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	Yes
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Department of the Air Force The Department of the Air Force provided its 2001 survey responses on July 27, 2001, and its 2003 responses on June 2, 2003.

Table 113: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of the Air Force

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 3	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 114: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of the Air Force

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	Yes	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Department of the Army

The Department of the Army provided its 2001 survey responses on July 25, 2001, and its 2003 responses on June 2, 2003.

Table 115: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of the Army

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 4	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 116: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of the Army

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Department of the Navy

The Department of the Navy provided its 2001 survey responses on July 25, 2001, and its 2003 responses on June 9, 2003.

Table 117: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Department of the Navy

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	No
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 118: Maturity Assessment in 2003 (According to Framework Version 1.1): Department of the Navy

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**National Imagery and
Mapping Agency**

The National Imagery and Mapping Agency provided its 2001 survey responses on July 25, 2001, and its 2003 responses on June 6, 2003.

Table 119: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): National Imagery and Mapping Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework

Table 120: Maturity Assessment in 2003 (According to Framework Version 1.1): National Imagery and Mapping Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Department of Health and Human Services

Administration for Children and Families

The Administration for Children and Families provided its 2001 survey responses on June 29, 2001, and its 2003 responses on May 12, 2003.

Table 121: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Administration for Children and Families

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 122: Maturity Assessment in 2003 (According to Framework Version 1.1): Administration for Children and Families

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Agency for Healthcare
Research and Quality**

The Agency for Healthcare Research and Quality provided its 2001 survey responses on July 12, 2001, and its 2003 responses on May 12, 2003.

Table 123: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Agency for Healthcare Research and Quality

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 124: Maturity Assessment in 2003 (According to Framework Version 1.1): Agency for Healthcare Research and Quality

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Centers for Disease Control
and Prevention**

The Centers for Disease Control and Prevention provided its 2001 survey responses on July 23, 2001, and its 2003 responses on May 12, 2003.

Table 125: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Centers for Disease Control and Prevention

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	Yes	No
	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 3	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 126: Maturity Assessment in 2003 (According to Framework Version 1.1): Centers for Disease Control and Prevention

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Centers for Medicare and
Medicaid Services**

The Centers for Medicare and Medicaid Services provided its 2001 survey responses on June 29, 2001, and its 2003 responses on May 12, 2003.

Table 127: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Centers for Medicare and Medicaid Services

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	Yes	Yes
	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 128: Maturity Assessment in 2003 (According to Framework Version 1.1): Centers for Medicare and Medicaid Services

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
	Progress against EA plans is measured and reported.	Yes
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
	Quality of EA products is measured and reported.	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Food and Drug
Administration**

The Food and Drug Administration provided its 2001 survey responses on July 13, 2001, and its 2003 responses on May 12, 2003.

Table 129: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Food and Drug Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	Yes	No
	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 130: Maturity Assessment in 2003 (According to Framework Version 1.1): Food and Drug Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	Yes
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Health Resources and
Services Administration**

The Health Resources and Services Administration provided its 2001 survey responses on June 29, 2001, and its 2003 responses on May 12, 2003.

Table 131: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Health Resources and Services Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 132: Maturity Assessment in 2003 (According to Framework Version 1.1): Health Resources and Services Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Indian Health Service

The Indian Health Service provided its 2001 survey responses on June 29, 2001, and its 2003 responses on May 12, 2003.

Table 133: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Indian Health Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
	Agency chief information officer has approved EA.	Yes	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 134: Maturity Assessment in 2003 (According to Framework Version 1.1): Indian Health Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	No
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	No
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
	Quality of EA products is measured and reported.	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Program Support Center

The Program Support Center provided its 2001 survey responses on June 29, 2001, and its 2003 responses on May 12, 2003.

Table 135: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Program Support Center

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	No	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
	EA scope is enterprise-focused.	No	No
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 136: Maturity Assessment in 2003 (According to Framework Version 1.1): Program Support Center

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
	Quality of EA products is measured and reported.	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Department of Justice

**Bureau of Alcohol, Tobacco,
Firearms and Explosives**

The Bureau of Alcohol, Tobacco, Firearms and Explosives provided its 2001 survey responses on July 16, 2001, and its 2003 responses on April 21, 2003.

Table 137: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Bureau of Alcohol, Tobacco, Firearms and Explosives

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
	Agency chief information officer has approved EA.	No	Yes

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 4

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework

Table 138: Maturity Assessment in 2003 (According to Framework Version 1.1): Bureau of Alcohol, Tobacco, Firearms and Explosives

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
Stage 3: Developing architecture products	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	Yes
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	Yes
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Drug Enforcement
Administration**

The Drug Enforcement Administration provided its 2001 survey responses on July 18, 2001, and its 2003 responses on May 20, 2003.

Table 139: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Drug Enforcement Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	No	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 140: Maturity Assessment in 2003 (According to Framework Version 1.1): Drug Enforcement Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Federal Bureau of
Investigation

The Federal Bureau of Investigation provided its 2001 survey responses on July 18, 2001, and its 2003 responses on May 28, 2003.

Table 141: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Bureau of Investigation

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	No
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	No
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
Stage 4: Completing architecture products	EA scope is enterprise-focused.	No	Yes
	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	Yes	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 142: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Bureau of Investigation

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	No
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	No
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Federal Bureau of Prisons

The Federal Bureau of Prisons provided its 2001 survey responses on July 18, 2001, and its 2003 responses on May 22, 2003.

Table 143: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Bureau of Prisons

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	No
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 144: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Bureau of Prisons

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	Yes
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

U.S. Marshals Service

The U.S. Marshals Service provided its 2001 survey responses on June 29, 2001, and its 2003 responses on May 19, 2003.

Table 145: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): U.S. Marshals Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	No	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	No
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	No
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	EA scope is enterprise-focused.	No	No
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 146: Maturity Assessment in 2003 (According to Framework Version 1.1): U.S. Marshals Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	No
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	No
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
	Quality of EA products is measured and reported.	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Department of Transportation

Federal Aviation Administration

The Federal Aviation Administration provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 29, 2003.

Table 147: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Aviation Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
	Agency chief information officer has approved EA.	Yes	Yes

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	Yes	No
Overall maturity stage		Stage 3	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework

Table 148: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Aviation Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	Yes
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes	
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Federal Highway
Administration**

The Federal Highway Administration provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 1, 2003.

Table 149: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Highway Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	No	Yes
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	No	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	No	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	Yes
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 150: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Highway Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Progress against EA plans is measured and reported.	Yes	
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Federal Motor Carrier
Safety Administration**

The Federal Motor Carrier Safety Administration provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 24, 2003.

Table 151: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Motor Carrier Safety Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	No
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	No
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 152: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Motor Carrier Safety Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	No
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Federal Railroad
Administration**

The Federal Railroad Administration provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 24, 2003.

Table 153: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Railroad Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	Yes	No
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 154: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Railroad Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Federal Transit
Administration**

The Federal Transit Administration provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 24, 2003.

Table 155: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Transit Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	No	Yes
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	No	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	No	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 156: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Transit Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**National Highway Traffic
Safety Administration**

The National Highway Traffic Safety Administration provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 24, 2003.

Table 157: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): National Highway Traffic Safety Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	No
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	No	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 158: Maturity Assessment in 2003 (According to Framework Version 1.1): National Highway Traffic Safety Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Department of the
Treasury**

**Bureau of Engraving and
Printing**

The Bureau of Engraving and Printing provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 21, 2003.

Table 159: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Bureau of Engraving and Printing

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	No	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	No	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	Yes

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 160: Maturity Assessment in 2003 (According to Framework Version 1.1): Bureau of Engraving and Printing

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Bureau of the Public Debt

The Bureau of the Public Debt provided its 2001 survey responses on July 5, 2001, and its 2003 responses on April 21, 2003.

Table 161: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Bureau of the Public Debt

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	No
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	No
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 3	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 162: Maturity Assessment in 2003 (According to Framework Version 1.1): Bureau of the Public Debt

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
	Quality of EA products is measured and reported.	No

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	Yes
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Comptroller of the Currency The Comptroller of the Currency provided its 2001 survey responses on June 28, 2001, and its 2003 responses on April 16, 2003.

Table 163: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Comptroller of the Currency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	Yes	No
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 164: Maturity Assessment in 2003 (According to Framework Version 1.1): Comptroller of the Currency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

**Financial Management
Service**

The Financial Management Service provided its 2001 survey responses on June 28, 2001, and its 2003 responses on May 19, 2003.

Table 165: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Financial Management Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 166: Maturity Assessment in 2003 (According to Framework Version 1.1): Financial Management Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Internal Revenue Service

The Internal Revenue Service provided its 2001 survey responses on July 20, 2001, and its 2003 responses on April 21, 2003.

Table 167: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Internal Revenue Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 4	Stage 5

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 168: Maturity Assessment in 2003 (According to Framework Version 1.1): Internal Revenue Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
	Progress against EA plans is measured and reported.	Yes
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	Yes
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
	Quality of EA products is measured and reported.	Yes

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Office of Thrift Supervision The Office of Thrift Supervision provided its 2001 survey responses on June 29, 2001, and its 2003 responses on June 9, 2003.

Table 169: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Office of Thrift Supervision

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	No	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	No
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	No
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	EA scope is enterprise-focused.	No	No
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 170: Maturity Assessment in 2003 (According to Framework Version 1.1): Office of Thrift Supervision

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	No
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	No
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
Progress against EA plans is measured and reported.	No	
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

U.S. Mint

The U.S. Mint provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 21, 2003.

Table 171: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): U.S. Mint

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	Yes
	Metrics exist for measuring EA benefits.	Yes	Yes
Overall maturity stage		Stage 2	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

Table 172: Maturity Assessment in 2003 (According to Framework Version 1.1): U.S. Mint

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	Yes
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	Yes	

**Appendix VI
Detailed Comparison of Individual
Component Responses against Our EA
Management Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	Yes
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

Detailed Comparison of Independent Agency Responses against Our EA Management Maturity Framework

Agency for International Development

The Agency for International Development provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 22, 2003.

Table 173: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Agency for International Development

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 3	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 174: Maturity Assessment in 2003 (According to Framework Version 1.1): Agency for International Development

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Central Intelligence Agency

The Central Intelligence Agency provided its 2001 survey responses on August 6, 2001, and its 2003 responses on May 30, 2003.

Table 175: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Central Intelligence Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	No	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 176: Maturity Assessment in 2003 (According to Framework Version 1.1): Central Intelligence Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

**Corporation for
National and
Community Service**

The Corporation for National and Community Service provided its 2001 survey responses on July 20, 2001, and its 2003 responses on April 22, 2003.

Table 177: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Corporation for National and Community Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	No	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	No	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 178: Maturity Assessment in 2003 (According to Framework Version 1.1): Corporation for National and Community Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Environmental Protection Agency

The Environmental Protection Agency provided its 2001 survey responses on June 28, 2001, and its 2003 responses on May 15, 2003.

Table 179: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Environmental Protection Agency

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 3	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 180: Maturity Assessment in 2003 (According to Framework Version 1.1): Environmental Protection Agency

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	Yes
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Equal Employment Opportunity Commission

The Equal Employment Opportunity Commission provided its 2001 survey responses on August 1, 2001, and its 2003 responses on May 2, 2003.

Table 181: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Equal Employment Opportunity Commission

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
Stage 3: Developing architecture products	EA plans call for describing "as is" environment, "to be" environment, or sequencing plan.	Yes	Yes
	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise's business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe "as is" environment, "to be" environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise's business—and the data, applications, and technology that support it.	No	No
	EA products describe "as is" environment, "to be" environment, and sequencing plan.	Yes	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	Yes	Yes
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 182: Maturity Assessment in 2003 (According to Framework Version 1.1): Equal Employment Opportunity Commission

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
	Quality of EA products is measured and reported.	No

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Executive Office of the President

The Executive Office of the President provided its 2001 survey responses on October 1, 2001, and its 2003 responses on June 6, 2003.

Table 183: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Executive Office of the President

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
	Agency chief information officer has approved EA.	No	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 2	Stage 5

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 184: Maturity Assessment in 2003 (According to Framework Version 1.1): Executive Office of the President

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	Yes
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	Yes
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	Yes	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	Yes
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 5

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Export-Import Bank

The Export-Import Bank provided its 2001 survey responses on September 20, 2001, and its 2003 responses on June 11, 2003.

Table 185: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Export-Import Bank

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
	Agency chief information officer has approved EA.	Yes	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 3	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 186: Maturity Assessment in 2003 (According to Framework Version 1.1): Export-Import Bank

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Federal Deposit Insurance Corporation

The Federal Deposit Insurance Corporation provided its 2001 survey responses on July 20, 2001, and its 2003 responses on April 18, 2003.

Table 187: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Deposit Insurance Corporation

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	No	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
	EA scope is enterprise-focused.	No	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 188: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Deposit Insurance Corporation

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Federal Energy Regulatory Commission

The Federal Energy Regulatory Commission provided its 2001 survey responses on August 27, 2001, and its 2003 responses on May 12, 2003.

Table 189: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Energy Regulatory Commission

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	Yes	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 190: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Energy Regulatory Commission

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
	Quality of EA products is measured and reported.	No

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Federal Reserve System

The Federal Reserve System provided its 2001 survey responses on August 23, 2001, and its 2003 responses on April 23, 2003.

Table 191: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Reserve System

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 192: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Reserve System

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	No
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	Yes
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
	Quality of EA products is measured and reported.	No

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Federal Retirement Thrift Investment Board

The Federal Retirement Thrift Investment Board provided its 2001 survey responses on July 20, 2001, and its 2003 responses on July 9, 2003.

Table 193: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Federal Retirement Thrift Investment Board

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	No
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	No	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	No
Stage 3: Developing architecture products	EA plans call for describing "as is" environment, "to be" environment, or sequencing plan.	No	No
	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise's business—and the data, applications, and technology that support it.	No	No
	EA products describe or will describe "as is" environment, "to be" environment, and sequencing plan.	No	No
Stage 4: Completing architecture products	EA scope is enterprise-focused.	No	No
	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise's business—and the data, applications, and technology that support it.	No	No
	EA products describe "as is" environment, "to be" environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
Overall maturity stage	Metrics exist for measuring EA benefits.	No	No
		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 194: Maturity Assessment in 2003 (According to Framework Version 1.1): Federal Retirement Thrift Investment Board

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	No
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	No
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	No
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	No
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

**General Services
Administration**

The General Services Administration provided its 2001 survey responses on July 2, 2001, and its 2003 responses on April 23, 2003.

Table 195: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): General Services Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 196: Maturity Assessment in 2003 (According to Framework Version 1.1): General Services Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

**National Aeronautics
and Space
Administration**

The National Aeronautics and Space Administration provided its 2001 survey responses on July 25, 2001, and its 2003 responses on April 21, 2003.

Table 197: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): National Aeronautics and Space Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	No
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 198: Maturity Assessment in 2003 (According to Framework Version 1.1): National Aeronautics and Space Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	No
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	Yes
	IT investments comply with EA.	No
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

**National Credit Union
Administration**

The National Credit Union Administration provided its 2001 survey responses on July 18, 2001, and its 2003 responses on April 10, 2003.

Table 199: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): National Credit Union Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	No	No
	Chief architect exists.	No	No
	EA being developed using a framework and automated tool.	No	No
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
	EA scope is enterprise-focused.	No	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
	Agency chief information officer has approved EA.	No	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 200: Maturity Assessment in 2003 (According to Framework Version 1.1): National Credit Union Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	No
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	No
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	No
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	Yes
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

**National Labor
Relations Board**

The National Labor Relations Board provided its 2001 survey responses on August 9, 2001, and its 2003 responses on June 9, 2003.

Table 201: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): National Labor Relations Board

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	No	Yes
	Program office responsible for EA development exists.	No	Yes
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	No	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	No	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	No	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	No	Yes
	EA scope is enterprise-focused.	No	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 202: Maturity Assessment in 2003 (According to Framework Version 1.1): National Labor Relations Board

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Nuclear Regulatory Commission

The Nuclear Regulatory Commission provided its 2001 survey responses on July 23, 2001, and its 2003 responses on April 21, 2003.

Table 203: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Nuclear Regulatory Commission

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	Yes	Yes
Overall maturity stage		Stage 1	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 204: Maturity Assessment in 2003 (According to Framework Version 1.1): Nuclear Regulatory Commission

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

**Office of Personnel
Management**

The Office of Personnel Management provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 28, 2003.

Table 205: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Office of Personnel Management

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	Yes
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 4	Stage 5

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 206: Maturity Assessment in 2003 (According to Framework Version 1.1): Office of Personnel Management

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	No
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	Yes
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Peace Corps

The Peace Corps provided its 2001 survey responses on July 20, 2001, and its 2003 responses on May 15, 2003.

Table 207: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Peace Corps

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	No	Yes
	Chief architect exists.	No	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	No
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 1	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 208: Maturity Assessment in 2003 (According to Framework Version 1.1): Peace Corps

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	No
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Railroad Retirement Board

The Railroad Retirement Board provided its 2001 survey responses on July 11, 2001, and its 2003 responses on April 18, 2003.

Table 209: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Railroad Retirement Board

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	Yes	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	Yes
	Metrics exist for measuring EA benefits.	No	Yes
Overall maturity stage		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 210: Maturity Assessment in 2003 (According to Framework Version 1.1): Railroad Retirement Board

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	Yes
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	Yes
Overall maturity stage		Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Securities and Exchange Commission

The Securities and Exchange Commission provided its 2001 survey responses on July 19, 2001, and its 2003 responses on April 22, 2003.

Table 211: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Securities and Exchange Commission

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
Stage 3: Developing architecture products	EA plans call for describing "as is" environment, "to be" environment, or sequencing plan.	Yes	Yes
	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise's business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe "as is" environment, "to be" environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise's business—and the data, applications, and technology that support it.	No	No
	EA products describe "as is" environment, "to be" environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	Yes
	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
Overall maturity stage	Metrics exist for measuring EA benefits.	No	No
		Stage 2	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 212: Maturity Assessment in 2003 (According to Framework Version 1.1): Securities and Exchange Commission

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

**Small Business
Administration**

The Small Business Administration provided its 2001 survey responses on June 29, 2001, and its 2003 responses on April 22, 2003.

Table 213: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Small Business Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	No
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	No
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	Yes	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	Agency chief information officer has approved EA.	Yes	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	No
	Either EA steering committee, investment review board, or agency head has approved EA.	Yes	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 214: Maturity Assessment in 2003 (According to Framework Version 1.1): Small Business Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	No
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	No
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	Yes
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	No
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	No
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	Yes
	These descriptions address security.	Yes
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	No
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Smithsonian Institution

The Smithsonian Institution provided its 2001 survey responses on July 31, 2001, and its 2003 responses on April 21, 2003.

Table 215: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Smithsonian Institution

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	Yes	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	No
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 216: Maturity Assessment in 2003 (According to Framework Version 1.1): Smithsonian Institution

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	No
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	No
	These descriptions address or will address security.	Yes
	Progress against EA plans is measured and reported.	Yes
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
	Quality of EA products is measured and reported.	Yes

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Social Security Administration

The Social Security Administration provided its 2001 survey responses on July 3, 2001, and its 2003 responses on April 21, 2003.

Table 217: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): Social Security Administration

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	No	Yes
	EA products are under configuration management.	No	Yes
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
	EA scope is enterprise-focused.	Yes	Yes
Stage 4: Completing architecture products	Written/approved policy exists for information technology investment compliance with EA.	No	Yes
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	No	Yes
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
	Agency chief information officer has approved EA.	No	Yes
Stage 5: Leveraging the EA for managing change	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	Yes
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 3

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 218: Maturity Assessment in 2003 (According to Framework Version 1.1): Social Security Administration

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	Yes
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
	Progress against EA plans is measured and reported.	No
Stage 4: Completing architecture products	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	Yes
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	Yes
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	Yes
	Quality of EA products is measured and reported.	No

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	Yes
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	Yes
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	Yes
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

U.S. Postal Service

The U.S. Postal Service provided its 2001 survey responses on August 13, 2001, and its 2003 responses on April 21, 2003.

Table 219: Comparison of Maturity Assessments in 2001 and 2003 (According to Framework Version 1.0): U.S. Postal Service

Stage	Element	Satisfied?	
		2001 results	2003 results
Stage 1: Creating EA awareness	Agency is aware of EA.	Yes	Yes
Stage 2: Building the EA management foundation	Committee or group representing the enterprise is responsible for directing, overseeing, and/or approving EA.	Yes	Yes
	Program office responsible for EA development exists.	Yes	Yes
	Chief architect exists.	Yes	Yes
	EA being developed using a framework and automated tool.	Yes	Yes
	EA plans call for describing enterprise in terms of business, data, applications, or technology.	Yes	Yes
	EA plans call for describing “as is” environment, “to be” environment, or sequencing plan.	Yes	Yes
Stage 3: Developing architecture products	Written/approved policy exists for EA development.	Yes	Yes
	EA products are under configuration management.	No	No
	EA products describe or will describe enterprise’s business—and the data, applications, and technology that support it.	Yes	Yes
	EA products describe or will describe “as is” environment, “to be” environment, and sequencing plan.	Yes	Yes
Stage 4: Completing architecture products	EA scope is enterprise-focused.	Yes	Yes
	Written/approved policy exists for information technology investment compliance with EA.	No	No
	EA products describe enterprise’s business—and the data, applications, and technology that support it.	Yes	No
	EA products describe “as is” environment, “to be” environment, and sequencing plan.	No	No
Stage 5: Leveraging the EA for managing change	Agency chief information officer has approved EA.	No	No
	Written/approved policy exists for EA maintenance.	No	Yes
	Either EA steering committee, investment review board, or agency head has approved EA.	No	No
	Metrics exist for measuring EA benefits.	No	No
Overall maturity stage		Stage 2	Stage 2

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

Table 220: Maturity Assessment in 2003 (According to Framework Version 1.1): U.S. Postal Service

Stage	Element	Satisfied?
Stage 1: Creating EA awareness	—	Yes
Stage 2: Building the EA management foundation	Adequate resources exist.	Yes
	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Yes
	Program office responsible for EA development and maintenance exists.	Yes
	Chief architect exists.	Yes
	EA is being developed using a framework, methodology, and automated tool.	No
	EA plans call for describing both “as-is” and “to-be” environments of the enterprise, as well as a sequencing plan for transitioning from the “as-is” to the “to-be.”	Yes
	EA plans call for describing both “as-is” and “to-be” environments in terms of business, performance, information/data, application/service, and technology.	Yes
	EA plans call for business, performance, information/data, application/service, and technology descriptions to address security.	Yes
	EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Yes
Stage 3: Developing architecture products	Written and approved organization policy exists for EA development.	Yes
	EA products are under configuration management.	No
	EA products describe or will describe both “as-is” and “to-be” environments, as well as a sequencing plan.	Yes
	Both “as-is” and “to-be” environments are described or will be described in terms given in Stage 2.	Yes
	These descriptions address or will address security.	Yes
Stage 4: Completing architecture products	Progress against EA plans is measured and reported.	No
	Written and approved organization policy exists for EA maintenance.	Yes
	EA products and management processes undergo independent verification and validation.	No
	EA products describe both “as-is” and “to-be” environments, as well as a sequencing plan.	No
	Both “as-is” and “to-be” environments are described in terms given in Stage 2.	No
	These descriptions address security.	No
	Organization CIO has approved current version of EA.	No
	Committee or group representing the enterprise or the investment review board has approved current version of EA.	No
Quality of EA products is measured and reported.	No	

**Appendix VII
Detailed Comparison of Independent Agency
Responses against Our EA Management
Maturity Framework**

(Continued From Previous Page)

Stage	Element	Satisfied?
Stage 5: Leveraging the EA for managing change	Written and approved organization policy exists for IT investment compliance with EA.	No
	Process exists to formally manage EA change.	Yes
	EA is integral component of IT investment management process.	No
	EA products are periodically updated.	Yes
	IT investments comply with EA.	Yes
	Organization head has approved current version of EA.	No
	Return on EA investment is measured and reported.	No
	Compliance with EA is measured and reported.	No
Overall maturity stage		Stage 1

Sources: GAO, agency cited.

Note: Each stage includes all elements of previous stages.

2003 Survey of Enterprise Architecture Efforts

To assess agency enterprise architecture management maturity levels, we developed two similar surveys, one addressed to departments and the other to component and independent agencies. These two surveys were largely identical, with the following differences:

- Throughout, questions referred to “departments” in the department survey and to “agencies” in the agency survey.
- Two questions on the department survey (questions 39 and 40) and three questions on the agency survey (questions 39 to 41) were addressed specifically to departments and agencies, respectively.
- The last five questions on the two surveys were numbered differently, since they followed the department- and agency-specific questions described above. Questions 41 to 45 on the department survey were numbered 42 to 46 on the agency survey. (Note, however, that these five questions were not used in the decision criteria described in app. III.)

The following reproduced survey combines the two surveys into one display by using the phrase “agency/department” in places where one or the other term had been used in the separate surveys. It also displays both the two department questions and the three agency questions that were addressed specifically as described above.

Appendix VIII
2003 Survey of Enterprise Architecture
Efforts



United States General Accounting Office

**Survey of Federal Agencies'/Departments'
Enterprise Architecture Efforts**

Introduction

To assist Congress in its oversight of the federal government, GAO is conducting a survey of federal departments' and agencies' enterprise architecture (EA) efforts to gauge progress towards meeting Clinger-Cohen Act and OMB requirements and to identify successes that can be shared with other federal agencies. There are two versions of this survey. One version is being sent to federal agencies and a different version is being sent to cabinet-level departments.

Enterprise architectures are well defined and enforced blueprints (i.e., descriptions) for operational and technological change. Such architectures provide a clear and comprehensive picture of an entity, whether it is an organization (e.g., federal department, agency, or bureau) or a functional or mission area that cuts across more than one organization (e.g., financial management). This picture consists of three integrated components:

(1) a snapshot of the enterprise's current operational and technological environment; (2) a snapshot of its target environment; and (3) a capital investment roadmap for transitioning from the current to the target environment (i.e. sequencing plan).

We are requesting departments and agencies to provide information from readily available data. We are not asking that extensive analyses be performed in order to respond to these questions. Please complete this survey and return it to GAO no later than April 21, 2003.

You may return your completed survey and any supporting materials by E-mail, fax, or Federal Express.

If you return your survey by E-mail, the address is:
pettisb@gao.gov.

If you return your survey by fax, the fax number is:
(202) 512-6450 - Attn: Scott Pettis.

If you return your survey by Federal Express, the address is: Scott Pettis, Senior IT Analyst, 441 G St. NW, Rm. 4Y12, Washington, DC 20548.

We are also asking that you provide the name and telephone number of a contact for your agency/department who can answer any questions we may have about your survey responses.

Agency/Department Contact

Name: _____

Title: _____

Organization: _____

Telephone: () _____

Fax: () _____

Email: _____

If you have any questions, please contact:

Scott Pettis
Voice: (202) 512-4683
Email: pettisb@gao.gov

or

Michael Holland
Voice: (202) 512-2908
Email: hollandm@gao.gov

Appendix VIII
2003 Survey of Enterprise Architecture
Efforts

1. Which of the following best describes your agency/department's status with respect to enterprise architecture?
(Check one box.)

1. We have developed an enterprise architecture → *Skip to question 3.*

2. We do not have an enterprise architecture, but are in the process of developing one → *Skip to question 3.*

3. We do not have an enterprise architecture, but plan to develop one → *Skip to question 3.*

4. We do not plan to develop an enterprise architecture → *Answer question 2.*

2. Please explain why your agency/department does not plan to develop an enterprise architecture.
(Enter your response in the box below.)

↪ **If you were directed to answer question 2, you have completed the survey.**
Please return it as soon as possible. Thank you.

YOU SHOULD ANSWER THE FOLLOWING QUESTIONS IF YOUR AGENCY/DEPARTMENT HAS AN ENTERPRISE ARCHITECTURE, IS IN THE PROCESS OF DEVELOPING ONE, OR PLANS TO DEVELOP ONE.

Appendix VIII
2003 Survey of Enterprise Architecture
Efforts

3. Which of the following best describes the scope of your agency/department's completed, in-process, or planned enterprise architecture(s). *(Check all that apply and provide additional information if necessary.)*

- 1. Agency/department wide, organization based (i.e., all mission and business functions)
- 2. Agency/department wide, function based (e.g., financial management, logistics management, grant management, etc.)
- 3. Non-agency/department wide organization based
- 4. Non-agency/department wide function based

➔ If you checked box 3 or 4 above because your architecture is not agency/department wide, please list the organizations or functions covered by your enterprise architecture, and explain the basis for the defined scope. *(Enter your response in the box below.)*

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

4. Does (or will) this particular enterprise architecture include the following?
(Check one box for each row.)

	Yes, it does (1)	Yes, it will (2)	No (3)
A description of the agency/department's current or "as-is" environment, including:			
Business operations			
Performance measurement			
Information/data			
Services/applications			
Technology			
An explicit discussion of security in the "as is" business operations, performance measurement, information/data, services/applications, and technology descriptions of the agency/department.			
A description of the agency/department's future or "to-be" environment, including:			
Business operations			
Performance measurement			
Information/data			
Services/applications			
Technology			
An explicit discussion of security in the "to be" business operations, performance measurement, information/data, services/applications, and technology descriptions of the agency/department.			
A description of the sequencing plan for moving from the "as is" to the "to be" environment.			

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

5. If you answered "No" to any of the items in question 4, please explain why. *(Enter your response in the box below.)*

6. Is your agency/department's enterprise architecture published? *(Check one box and provide additional information if necessary.)*

- 1. Yes → ***Please provide a list naming each enterprise architecture product/artifact with a brief description of each product/artifact.***
- 2. No

7. Does your agency/department have a written and approved policy for the development, maintenance, and use of enterprise architecture? *(Check one box for each row. If policy is written but not approved, please check "No".)*

	Yes (1)	No (2)
Development of the enterprise architecture		
Maintenance of the enterprise architecture		
Use of the enterprise architecture		

If you checked "yes" for development, maintenance, or use, please provide a copy of the written and approved policy.

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

8. Has your agency/department established committees or groups that represent the agency/department and have responsibility for the following? *(Check one box for each row.)*

	Yes (1)	No (2)	Name of committee or group
Direction of the enterprise architecture			
Oversight of the enterprise architecture			
Approval authority for the enterprise architecture			
Other aspects of the enterprise architecture <i>(Describe)</i>			

If yes, please provide a copy of the charter or comparable documentation.

9. Has your agency/department established an official program office with responsibility for the following? *(Check one box for each row.)*

	Yes (1)	No (2)
Development of the enterprise architecture		
Maintenance of the enterprise architecture		

If yes, please provide a copy of the charter or comparable documentation.

10. Does your agency/department have an individual designated as the chief architect? *(Check one box and provide additional information if necessary.)*

1. Yes → Please provide this individual's name and phone number:

Name: _____

Phone number: () _____

Does this individual report to the chief information officer?

1. Yes

2. No → What position does the chief architect report to?

2. No → **Skip to question 12.**

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

11. Is your agency/department's chief architect responsible for each of the following? (Check one box for each row.)

	Yes (1)	No (2)
Heading the enterprise architecture program office		
Directing development of the enterprise architecture		
Directing maintenance of the enterprise architecture		
Other - <i>Specify:</i>		

Please provide a position description or comparable document describing the chief architect's responsibilities.

12. Please provide the costs of developing and maintaining your enterprise architecture by the following major cost elements: (If you are in the process of developing your Enterprise Architecture, please enter data in all three columns.)

Cost Element	Actual Cost to Develop Enterprise Architecture (to date)	Estimated Cost Remaining, if any, to Complete Enterprise Architecture	Actual or Estimated Average Annual Maintenance Cost
Agency/department personnel	\$	\$	\$
Development contractor personnel	\$	\$	\$
Independent verification and validation contractor personnel	\$	\$	\$
Methodology	\$	\$	\$
Tools	\$	\$	\$
Training	\$	\$	\$
Other (describe)	\$	\$	\$
Total	\$	\$	\$

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

13. Please quantify your agency/department's requested and approved enterprise architecture resources.

Resources	Requested			Approved		
	FY 2001	FY 2002	FY 2003	FY 2001	FY 2002	FY 2003
Funding	\$	\$	\$	\$	\$	\$
Personnel (FTEs)						

If any gap exists between requested and approved resources for Fiscal Year 2001, 2002, or 2003, please answer question 14. Otherwise, proceed to question 15.

14. How much of an impact, if any, has the gap between enterprise architecture resources requested and resources finally approved had on your agency/department's enterprise architecture program? *(Check one and provide additional information if necessary.)*

- 1. Very adverse impact
- 2. Somewhat adverse impact
- 3. Moderate adverse impact
- 4. Slight adverse impact
- 5. No adverse impact

Please provide any additional details about the impact of any gap noted above. *(Enter your response in the box below.)*

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

15. Which of the following automated tools are being used for this enterprise architecture? For each tool being used, how satisfied or dissatisfied are you with it? (Check yes or no in each row. If yes, check additional box.)

	Is tool being used?	If tool is being used, are you . . .					
		Very satisfied	Somewhat satisfied	Neither satisfied nor dissatisfied	Somewhat dissatisfied	Very Dissatisfied	Too early to say
		(1)	(2)	(3)	(4)	(5)	(6)
Enterprise Architecture Management System (EAMS)	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Framework by Ptech Inc.	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
JCAPS by Logicon Inc.	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Metis by Computas NA, Inc.	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Microsoft Office Suite (Word, Excel, Powerpoint, etc.)	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
ProVision by Proforma Corp.	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Rational Rose by Rational Software Corp./IBM Software Group	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
System Architect by Popkin Software	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Other - <i>Specify:</i>	<input type="checkbox"/> Yes →						
Other - <i>Specify:</i>	<input type="checkbox"/> Yes →						
None of the above	<input type="checkbox"/> Yes →						

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

16. Which of the following model(s) or framework(s) (i.e., a formal structure for representing the enterprise architecture) is your agency/department using to develop this enterprise architecture? For each model or framework being used, how satisfied or dissatisfied are you with it? (Check yes or no in each row. If yes, check additional box.)

	Is model or framework being used?	If model or framework is being used, are you . . .					
		Very satisfied (1)	Somewhat satisfied (2)	Neither satisfied nor dissatisfied (3)	Somewhat dissatisfied (4)	Very Dissatisfied (5)	Too early to say (6)
Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR)	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Department of Defense Architecture Framework (DoDAF)	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Federal Enterprise Architecture Framework (FEAF)	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Federal Enterprise Architecture Program Management Office (FEAPMO) Reference Models	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
National Institute of Standards and Technology Framework (NIST)	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Treasury Enterprise Architecture Framework (TEAF)	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Zachman Framework	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Other - <i>Specify:</i>	<input type="checkbox"/> Yes →						
Other - <i>Specify:</i>	<input type="checkbox"/> Yes →						
None of the above	<input type="checkbox"/> Yes →						

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

17. Which of the following best describes how your agency/department's enterprise architecture was or is being developed? (Check one box and provide additional information if necessary.)

- 1. Developed in-house using contractor(s) support
- 2. Developed in-house without any contractor(s) support
- 3. Developed by contractor(s) → Please provide the contractor's name(s):

18. Is your agency/department using an enterprise architecture development methodology or methodologies (i.e., a common set of procedures, such as Spewak's Enterprise Architecture Planning methodology, for developing enterprise architecture products)? (Check one box and provide additional information if necessary.)

- 1. Yes → Provide the following information about the enterprise architecture methodology or methodologies your agency/department is using:

Name: _____

Source: _____

Version number: _____ Date: Mo: _____ Yr: _____

Name: _____

Source: _____

Version number: _____ Date: Mo: _____ Yr: _____

Name: _____

Source: _____

Version number: _____ Date: Mo: _____ Yr: _____

Name: _____

Source: _____

Version number: _____ Date: Mo: _____ Yr: _____

- 2. No

19. To what extent was or is your agency/department's "business" side involved in developing the enterprise architecture? (Check one.)

- 1. Very great extent
- 2. Great extent
- 3. Moderate extent
- 4. Some or little extent
- 5. No extent

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

20. Was the current version (i.e., latest major release) of your agency/department's enterprise architecture submitted **and** approved by the following entities: *(Check one box in each row under submitted **and** approved. If the enterprise architecture was submitted but not approved, please check "No". If no, indicate whether action is planned.)*

	Submitted and Approved	If no, is action planned?
Approved by your agency/department's chief information officer?	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No → Month Yr	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No Month Yr
Approved by your agency/department's enterprise architecture steering committee?	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No → Month Yr	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No Month Yr
Approved by a committee or group representing the enterprise?	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No → Month Yr	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No Month Yr
Approved by your agency/department's investment review board?	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No → Month Yr	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No Month Yr
Approved by the head of your agency/department?	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No → Month Yr	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No Month Yr
Approved by other official or committee? <i>Please specify:</i>	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No → Month Yr	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No Month Yr
Submitted to OMB?	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No → Month Yr	<input type="checkbox"/> Yes → Date: _____ <input type="checkbox"/> No Month Yr

Please provide documentation for each approval indicated above.

21. Do your agency/department's enterprise architecture products undergo independent verification and validation (IV&V)? *(Check one box and provide additional information if necessary.)*

1. Yes → *If IV&V is contractor-provided, please provide a copy of the contractor's statement of work.*
2. No

22. Do your agency/department's enterprise architecture management processes undergo independent verification and validation (IV&V)? *(Check one box and provide additional information if necessary.)*

1. Yes → *If IV&V is contractor-provided, please provide a copy of the contractor's statement of work.*
2. No

Appendix VIII
2003 Survey of Enterprise Architecture
Efforts

23. Does your agency/department periodically update its enterprise architecture products? *(Check one box and provide additional information if necessary.)*
1. Yes → If yes, please provide → Date of last update: _____
Month Year
2. No
24. Is your agency/department's enterprise architecture under configuration management (i.e., a process for establishing and maintaining the integrity of work products)? *(Check one box and provide additional information if necessary.)*
1. Yes → If yes, please provide → Date of current version: _____
Month Year
- Current version number: _____
2. No
25. Does a process exist for formally managing changes to your agency/department's enterprise architecture? *(Check one.)*
1. Yes
2. No
26. Does your agency/department have a written and approved policy that requires that IT investments comply with the enterprise architecture? *(Check one box and provide additional information if necessary. If policy is written but not approved, please check "No".)*
1. Yes → **Please provide a copy of the written policy. Continue with question 27**
2. No → **Skip to question 28**
27. Does your agency/department permit waivers to its requirement that IT investments comply with the enterprise architecture? *(Check one.)*
1. Yes, only if the request provides a written justification
2. Yes, a waiver can be granted based on an informal request
3. No, the agency/department does not provide for waivers to this policy
28. Is your agency/department's enterprise architecture an integral component of your agency/department's IT investment management process? *(Check one.)*
1. Yes
2. No
29. To what extent does your agency/department's IT investments comply with the enterprise architecture? *(Check one.)*
1. Very great extent
2. Great extent
3. Moderate extent
4. Some or little extent
5. No extent

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

30. Was your agency/department's decision to develop an enterprise architecture based on: 1) a business case that provided economic justification (i.e., benefits in excess of costs); 2) the need to comply with the Clinger-Cohen Act and/or OMB requirements; 3) the need to respond to the President's Management Agenda; and/or, 4) some other factor(s) that was considered?
(Check all that apply.)

- 1. A business case that anticipated a positive return
- 2. The need to comply with Clinger-Cohen and/or OMB requirements
- 3. The need to respond to the President's Management Agenda
- 4. Other factor(s) - Please specify in the box below:

31. What benefits, if any, can be attributed to your agency/department's use of an enterprise architecture? If the benefit can be attributed to the use of an enterprise architecture, to what extent, if at all, has the benefit been attained thus far?
(Check yes or no in each row. If yes, indicate extent benefit attained.)

Benefits	Benefit attributable to Enterprise Architecture?	If yes, extent benefit attained thus far					
		Very great extent (1)	Great extent (2)	Moderate extent (3)	Some or little extent (4)	No extent (5)	Too early to say (6)
Lower system-related costs	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Enhanced productivity	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Improved organization and change management	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Improved systems interoperability	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Enterprise licenses	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Other (describe)	<input type="checkbox"/> Yes → <input type="checkbox"/> No						
Other (describe)	<input type="checkbox"/> Yes → <input type="checkbox"/> No						

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

32. To what extent, if at all, did the following challenges affect the development of your agency/department's enterprise architecture? *(Check one box in each row.)*

	Very great extent (1)	Great extent (2)	Moderate extent (3)	Some or little extent (4)	No extent (5)
Top management's understanding of the importance and value of enterprise architecture					
Parochialism/cultural resistance					
Funding					
Skilled staff					
Other – <i>Please specify:</i>					
Other – <i>Please specify:</i>					
Other – <i>Please specify:</i>					

33. Please describe strategies your agency/department is adopting to address the challenges you list above.

34. Does your agency/department plan to develop metrics for enterprise architecture progress, quality, return on investment, and compliance? *(Check one.)*

- 1. Yes
- 2. No

35. Does your agency/department measure and report the return on its enterprise architecture investment? *(Check one box and provide additional information if necessary. If return is measured but not reported, please check "No")*

- 1. Yes → Please identify the metric(s) and the latest data reported for each metric:

- 2. No

Appendix VIII
2003 Survey of Enterprise Architecture
Efforts

36. Does your agency/department measure and report the quality of its enterprise architecture products? *(Check one box and provide additional information if necessary. If product quality is measured but not reported, please check "No")*

1. Yes → Please identify the metric(s) and the latest data reported for each metric:

2. No

37. Does your agency/department measure and report its progress in meeting enterprise architecture plans? *(Check one box and provide additional information if necessary. If progress is measured but not reported, please check "No")*

1. Yes → Please identify the metric(s) and the latest data reported for each metric:

2. No

38. Is the compliance of your agency/department's IT investments with your enterprise architecture measured and reported?
(Check one. If compliance is measured but not reported, please check "No".)

1. Yes → Please identify the metric(s) and the latest data collected for each metric:

2. No

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

From this point, the agency and department surveys differ.

Agency survey

- 39.** Is your agency a sub-component of a cabinet level federal department such as the Department of the Treasury or USDA? *(Check one.)*
1. Yes → *Continue with question 40*
 2. No → *Skip to question 42*
- 40.** To what extent, if at all, has your agency's **department** provided oversight of your enterprise architecture efforts? *(Check one.)*
1. Very great extent
 2. Great extent
 3. Moderate extent
 4. Some or little extent
 5. No extent
- 41.** Was your agency's enterprise architecture approved by your **department's** chief information officer? *(Check one.)*
1. Yes
 2. No

Department survey

- 39.** Has your department issued any policy or guidance for your department components' (i.e., agencies and/or bureaus) enterprise architecture development, maintenance, or use? *(Check one box and provide additional information if necessary.)*
1. Yes → *Please provide a copy of the policy or guidance with your response.*
 2. No
- 40.** What steps has your department taken to ensure that department components are adhering to the policy (e.g., oversight and approval processes)?
- a. _____
 - b. _____
 - c. _____

From this point, the questions are again the same for each survey, except for their numbering: on the department survey, each question number was one less than the numbering shown in the following (the numbering shown corresponds to that on the agency survey).

Note that none of the questions that follow were used in the decision criteria that determined the maturity stage assigned to any respondent (see appendix III for these criteria).

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

42. Overall, how satisfied or dissatisfied is your agency/department with OMB’s direction and guidance to your agency/department regarding development, maintenance, and implementation of your enterprise architecture? *(Question responses will be aggregated and not directly attributable to any agency/department.) (Check one and provide additional information if necessary.)*

- 1. Very satisfied
- 2. Satisfied
- 3. Neither satisfied nor dissatisfied
- 4. Dissatisfied
- 5. Very Dissatisfied

If you indicated that your agency/department is other than “Very satisfied” or “Satisfied,” please describe why and what improvements are needed.

43. How satisfied is your agency/department with OMB’s efforts to address the following enterprise architecture management challenges GAO reported in its February 2002 report (GAO-02-6)? *(Question responses will be aggregated and not directly attributable to any agency/department.) (Check one box in each row and provide additional information if necessary.)*

Management challenge	Very satisfied (1)	Satisfied (2)	Neither satisfied nor dissatisfied (3)	Dissatisfied (4)	Very dissatisfied (5)
Fostering top management understanding					
Overcoming parochialism					
Ensuring adequate funding					
Obtaining skilled staff					

If you indicated that your agency/department is other than “Very satisfied” or “Satisfied,” to any of the above, please describe why and what improvements are needed.

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

44. Do you agree or disagree with the following statements as they apply to OMB's Federal Enterprise Architecture (FEA)? *(Question responses will be aggregated and not directly attributable to any agency/department.) (Check one box in each row.)*

Statement	Strongly Agree (1)	Agree (2)	Neither agree nor disagree (3)	Disagree (4)	Strongly disagree (5)
My agency/department understands the goals and objectives of the FEA					
My agency/department supports the goals and objectives of the FEA					
My agency/department understands OMB's approach to developing the FEA					
My agency/department supports OMB's approach to developing the FEA					
My agency/department's enterprise architecture is traceable to the FEA					
My agency/department's enterprise architecture will change as a result of the FEA					

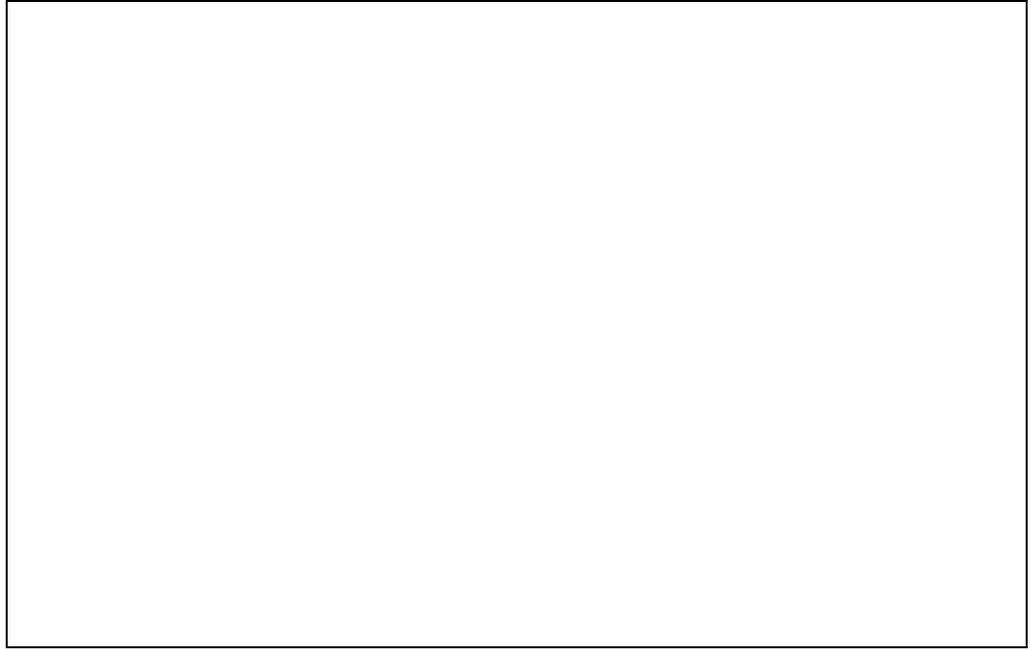
If you indicated other than "Strongly agree" or "Agree," to any of the above, please describe why and what improvements are needed.

45. In your agency/department's opinion, what impact has the FEA had (or will the FEA have) on your agency/department's enterprise architecture? *(Question responses will be aggregated and not directly attributable to any agency/department.) (Check one.)*

1. Very positive impact
2. Generally positive impact
3. Neither positive nor negative impact
4. Generally negative impact
5. Very negative impact
6. No basis to judge

**Appendix VIII
2003 Survey of Enterprise Architecture
Efforts**

46. Please provide any additional comments on your agency/department's enterprise architecture program in the box below.



**Thank you for your assistance.
Please return your survey and any requested supporting materials to
the E-mail address or fax number indicated on page 1.**

GAO Contact and Staff Acknowledgments

GAO Contact

Mark T. Bird, (202) 512-6260

**Staff
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