



# DoD Architects' Competency Framework Guide

---

New Tools for Career Development and  
Management

DoD EA Career Path Working Group

3/23/2012

This guide to the DoD Architects' Competency Framework provides information about new career development tools for systems and enterprise architects and those who support them.

## Table of Contents

Forward.....	3
Acknowledgements.....	4
Background and Purpose .....	5
Stakeholders of this Guide and Their Expected Benefits.....	6
Motivation for this Guide.....	8
Earlier DoD Efforts to Define Architect Competencies .....	9
Related Efforts Outside DoD .....	9
Current and Future DoD Tools for Architect Career Planning and Development .....	10
Potential Adoption by Other Organizations of DoD Tools for Architect Career Planning and Development .....	10
How Readers Might Use This Guide.....	10
Summary .....	11
List of Terms and Acronyms.....	12
Appendix A - DoD Architects' Competency Framework.....	13
General Competencies.....	13
Technical Competencies .....	18
Appendix B - DoD Architects' Task List .....	22

## Forward

The Department of Defense (DoD) Enterprise Architecture Career Path Working Group (EACPWG) was formed with a Vision to develop an Enterprise Architecture Career Path document that can be used by Enterprise Architects within the DoD as an official DoD Enterprise Architecture guidance document for career progression. This working group was established in accordance with Section 5125(C) (3) of the Clinger-Cohen Act of 1996 (CCA) and by Section 209(B) (2) of the E-Government Act of 2002. The E-Government Act of 2002 provides for an establishment of government wide training programs for federal employees in Information Technology career positions. Specifically, the Career Path Working Group is concerned with the education and training of the workforce for IT architecture. The career development of this workforce is to include the identification of appropriate career paths, and education and training in the duties and tasks involved in the establishment of those career paths.

Our DoD Enterprise Architecture Career Path Working Group under the Architecture and Interoperability Directorate of the Office of the Secretary of Defense (OSD) consist of voluntary association of agencies and organizations who have worked and collaborated to establish a career path for Enterprise Architects within the DoD. This document is the foundation for architects to use as a guide for their professional career in architecture.

*Walt Okon*

Senior Architect Engineer  
Architecture & Interoperability Directorate  
DoD Chief Information Officer  
Office of the Secretary of Defense  
Mark Center Phone: 571-372-4685  
Cell Phone: 703-473- 6849  
Office E-Mail: walt.okon@osd.mil

## Acknowledgements

The DoD Architects' Competency Guide was created by members of the DoD Enterprise Architecture Career Path Working Group (EACPWG). The EACPWG is a voluntary association of agencies and organizations who are collaborating to establish a career path for Enterprise Architects within the DoD. The EACPWG was led by a government Chair, Walter Okon of the Architecture & Interoperability Directorate Office of the Secretary of Defense. Members of the EACPWG include:

Walt Okon – DoD CIO, Senior Architect Engineer

Dr. Allen Boysen – Veterans Administration (retired)

Elmer Brown – DoD IT Workforce Planning

Joyce Grigsby – DoD Human Resources Chief Enterprise Architect

Professor Con Kenney – National Defense University iCollege

Shaun Knight – Penn State Center for Enterprise Architecture

Stephanie McMillan – DoD Information Systems Agency

Professor Matt Newman – National Defense University iCollege

Nguyen Phan – DoD Information Systems Agency

Vanessa Trinh – DoD Information Systems Agency

## Background and Purpose

This guide was developed by the DoD Enterprise Architecture Career Path Working Group (EACPWG) for Department of Defense (DoD) systems and enterprise architects and those who support or depend on them. The purpose of the guide is to provide DoD systems and enterprise architects with details about two new tools for their career planning and development, the DoD Architects' Competency Framework and Task List.

The DoD Architects' Competency Framework (Appendix 1) consists of two sets of competencies: general competencies, those required for a wide range of professional work and technical competencies, those specific to systems and enterprise architecting. The competencies are sets of knowledge, skills, and abilities required to accomplish work tasks, which are catalogued in the DoD Architects' Task List (Appendix 2). The Competency Framework and Task List were developed by a cross-DoD team working with the guidance of the leadership of the DoD IT Functional Community and the expertise of consultants from the Office of Personnel Management.

For systems and enterprise architects the DoD Architects' Competency Framework documents the knowledge, skills, and abilities that DoD will consider in: selecting and developing architects and evaluating their capability to perform the architecting work described in the Task List. Experience in other professions such as public accounting has shown that competency models can make it easier for practitioners to demonstrate that their capabilities match those a potential employer wants to obtain by hiring, promoting, or contracting. DoD standards for architect competencies should increase productivity by reducing the effort required to:

- define a position description
- evaluate applicants for a posted position
- interview selected candidates
- craft individual development plans
- plan developmental assignments and
- select education and training offerings.

This guide also covers planned tools that will roll out to the DoD architect workforce over the next twelve to eighteen months. One of these tools, a set of Proficiency Level Illustrations, will be based on the Competency Framework and describes differing levels of competencies for typical systems and enterprise architect positions. A DoD Department or Agency can then build on an existing Proficiency Level Illustration for a specific systems or enterprise architect job the organization needs to fill; creating a Position Description quickly that meets the organization's requirements while defining cross-DoD competencies consistently. The same Proficiency Level Illustration can also help program managers and contracting officers more rapidly specify the

knowledge, skills, and abilities that a DoD acquisition needs supported. In addition, DoD will implement the Defense Competency Assessment Tool, which enables analysis of skill gaps within the architect workforce to support strategic workforce planning and actions such as hiring or training.

The following sections of this guide identify the key stakeholders for this guide and the expected benefits to them from the DoD Architects' Competency Framework, Task List, and future tools for career development and management; describe the motivation for building current and future tools for architect career development and management; discuss DoD efforts leading up to these new tools; summarize complementary efforts by other organizations; present the Competency Framework and Task List; highlight new tools coming to DoD within the next twelve to eighteen months; and illustrate how readers might use this guide and a representative career progression for DoD architects. The guide ends with a list of terms and acronyms and two appendices showing the DoD Architects' Competency Framework and Task List in their entirety.

## **Stakeholders of this Guide and Their Expected Benefits**

There are four groups of stakeholders for whom this guide is intended. The first group is DoD systems and enterprise architects, both uniformed military and civilian employees. The second group consists of those who support DoD systems and enterprise architects directly and includes supervisors, hiring managers, and program managers. The third group provides more general support for DoD systems and enterprise architects and includes Human Resources Specialists and Managers, providers of education and training offerings, the DoD IT Functional Community, and the Architecture & Interoperability Directorate. Members of the fourth group of stakeholders depend on the work of systems and enterprise architects; members of this group include DoD Departments and Agencies, the DoD Chief Information Officer, the OMB Chief Enterprise Architect, and many others.

The benefits from the DoD Architects' Competency Framework vary across the four groups of stakeholders. The framework is designed to provide information supporting a variety of tasks related to career development and management for DoD systems and enterprise architects under the overall goal of increasing the quality of the DoD architect workforce in meeting DoD mission requirements. Information about DoD competency standards for systems and enterprise architects will be available to all four key stakeholder groups as well as additional stakeholders such as other government agencies, companies, or industry groups.

Potential or current DoD employees can identify the competencies required for positions they seek to help them develop their job applications and individual development plans. The competencies can also inform career planning and feedback conversations, as well as individual development planning discussions, between employees and their supervisors. Employees can

also use the competencies to highlight education and/or training that could help them achieve their professional goals of satisfying work, improved job proficiency, and career advancement. Standard competency definitions can also make it easier for employees to understand job requirements and show how their experience, knowledge, skills, and abilities match those requirements.

Supervisors, hiring managers, and program managers can employ the competencies in several ways to help them accomplish their objectives. Specifying a position for a systems or enterprise architect can take less time with a standard set of competencies, particularly for non-architects, and the same is true of defining job categories for an acquisition program requiring architecture tasks. Defining individual proficiency targets and assessing an employee or contractor's progress in meeting them is also eased by standard competencies, as is supporting systems and enterprise architects in career planning and development activities.

Human resources personnel can leverage the standard competencies in defining consistent position descriptions, selecting effective education and training offerings, and planning for future workforce needs. The standard competencies show education and training providers the knowledge, skills, and abilities DoD expects to see in current and future employees and contractors, so the education and training offering providers can demonstrate that their offerings help people develop the desired competencies. To increase the effectiveness of the DoD IT workforce, the DoD IT Functional Community represents DoD Departments and Agencies and coordinates closely with P&R for planning, policy, communication, and coordination activities; standard competencies can lead to increasing the quality of the DoD architect workforce while reducing the cost to hire, train, and manage these employees. The OSD Architecture and Interoperability Directorate provides policy, guidance, and direction for systems and enterprise architecting work, including career development and planning, and the standard competencies can move DoD to a higher level of capability for architecting solutions that support the warfighter and other missions.

The DoD Components, Agencies, and Activities can benefit from the competency standards because employee and contractor architects can be selected more accurately, become productive sooner due to relevant skills and proficiency, and develop professionally faster with appropriate career development and management tools. Services and commands can also lower the cost of educating and training systems and enterprise architects by replacing private sector education and training with offerings from Defense Universities such as the National Defense University, National Acquisition University, Naval Postgraduate School, or Air Force Institute of Technology.

## Motivation for this Guide

The motivation for this guide comes from the DoD Office of the Undersecretary for Personnel and Readiness (OUSDP&R) strategy, U.S. Congressional legislation, commitments made by the Architecture and Interoperability Directorate of the Office of the DoD CIO, and the plan of the Office of Management and Budget Chief Enterprise Architect. According to the 2012-2016 Fiscal Year Strategic Plan of the DoD OUSDP&R, one of objectives supporting the first of their five strategic goals is “Develop enhanced career pathways and leadership development in the civilian workforce. “ To accomplish this objective the OUSDP&R strategic plan envisions a “Civilian Strategic Workforce Plan; A structured, systematic approach to identify current and future civilian workforce requirements as part of total force, competency-based planning to ensure the readiness of the civilian workforce to successfully meet those requirements.” The strategic plan goes on to state that;

“The Civilian Strategic Workforce Plan provides the framework for executing goals and objectives and measuring progress in the Civilian Strategic Human Capital Plan, and should include at a minimum:

- Identification of current and projected civilian manpower requirements, including expeditionary force needs;
- Identification and assessment of current and future competencies required to meet manpower and mission requirements;
- Assessment of current and future competencies existing in the workforce;
- Identification of strategies to close workforce competency gaps and improve recruitment, hiring, development, and retention of employees with needed competencies, particularly in mission-critical occupations, and;
- Result-based measures for tracking progress towards goals and objective.

The National Defense Authorization Act for Fiscal Year 2010, as updated for Fiscal Year 2012, requires DOD to report every two years on plans to shape and improve its civilian workforce and its efforts to address a series of legislative requirements for each workforce. Section 115b of Title 10 of the United States Code emphasizes the need to define competencies for DoD civilian workforce occupations; evaluate the current DoD workforce against those competencies; identify gaps between needed and current workforce competencies; and develop and implement a plan for addressing the identified gaps in the competencies of the civilian workforce.

The Architecture and Interoperability Directorate of the Office of the DoD CIO has worked closely with OUSDP&R and leadership of the IT Functional Community to satisfy the mandate



from Congress and achieve the civilian workforce objective in the OUSD(P&R) strategy as it relates to systems and enterprise architects. In addition, the OMB Chief Enterprise Architect has expressed a goal to establish competency and certification standards for systems and enterprise architectures across the entire U.S. federal government in his published plan of 2011.

## **Earlier DoD Efforts to Define Architect Competencies**

The establishment and publication of these competency standards for DoD systems and enterprise architects has resulted from collaboration of OUSD(P&R), the DoD IT Functional Community, and the OSD Architecture and Interoperability Directorate. This guide builds on work done within DoD between 2008 and 2012. The initial effort to document competencies for DoD systems and enterprise architects, Phase I: A Competency Framework for the DoD Architect, was published in April, 2008 by the Architecture and Interoperability Directorate. An enhanced competency model, DoD Architects' Competency Framework, was published in April 2011 with input from systems and enterprise across the Federal government and private sector through the assistance of the Industry Advisory Council. The new version of the DoD Architects' Competency Framework was developed by a cross-DoD team working with consultants from the Office of Personnel Management (OPM) under the sponsorship of OUSD(P&R). This version is scheduled to be made available throughout DoD later this year through the Defense Competency Assessment Tool (DCAT).

## **Related Efforts Outside DoD**

Outside of DoD many organizations and practitioners support the goal of strengthening the practice of systems and enterprise architecting by defining common competencies. OPM added enterprise architecture as a specialty, or "parenthetical," within its job family description for IT Specialists in 2003 and updated the job family description in 2008 based on feedback from across the federal government. Many companies have developed their own competency models for systems and enterprise architects according to research conducted by the Pennsylvania State University Center for Enterprise Architecture in the College of Information Sciences and Technology. Several industry associations, such as the Open Group, have developed competency models and certification standards, although no overarching standards for certification have yet been established. Many groups representing systems and enterprise architects have formed a new organization, the Federation of Enterprise Architecture Professional Organizations, to strengthen professional standards and practices through activities such as establishing overarching competency and certification standards; these groups include the Center for the Advancement of the Enterprise Architecture Profession, the Object

Management Group, the Data Management Association, the British Computer Society, the Open Group, and the Association for Computing Machinery.

## **Current and Future DoD Tools for Architect Career Planning and Development**

The DoD tools available for career planning and development available now include a set of competencies (Appendix 1) and a comprehensive list of architecting tasks (Appendix 2) that combine OPM standards with specifics drawn from DoD practitioners. Within the next twelve to eighteen months additional tools will become available as DCAT is implemented DoD-wide. These tools include: Proficiency Level Illustrations that show combinations of competencies required for different architecting positions and spans of responsibility; career path models that show links between positions based on similarities and differences in required competencies; education and training offerings that are mapped to competencies; and reusable position descriptions that comply with the competency standards and proficiency level illustrations.

## **Potential Adoption by Other Organizations of DoD Tools for Architect Career Planning and Development**

There are several more potential activities for strengthening the practice of systems and enterprise architecting in Fiscal Year 2014 and beyond. The DoD Architects' Competency Standards could become the basis for U.S. federal government standards for systems and enterprise architects. DoD and the rest of the federal government could work with industry groups and professional associations to establish overarching standards for certifying architects in different positions at different levels of proficiency, and education and training providers could then create the courses required to help architects develop the required competencies for certification. An industry standards group could then take responsibility for certifying architects against the standards on behalf of all organizations that need systems and enterprise architecture practitioners.

## **How Readers Might Use This Guide**

To illustrate possible uses of the Competency Framework and Task List from the point of view of three stakeholders it is useful to assume that a hiring manager in a DoD Department or Agency has decided to create and fill a position for a systems/enterprise architect. The hiring manager does not know whether the future subordinate, the person filling the position, will be a current DoD employee or a new employee. The hiring manager could go through the Task List and select the essential tasks the future subordinate will need to perform. With this subset of

tasks the hiring manager could then consult the Competency Framework to locate the relevant knowledge, skills, and abilities. Prioritizing the competencies based on the essential tasks the hiring manager can state the minimum and desired competencies when working with Human Resources specialists in crafting the position description. Because the definitions of the general competencies are standardized and the definitions of the technical competencies will become standardized within DoD, the hiring manager can have confidence that requirements can be articulated correctly while following OPM and DoD standards for position descriptions.

An applicant considering a systems/enterprise architect position can review the Task List to identify tasks he or she is already capable of accomplishing and tasks he or she needs to develop new knowledge, skills, and abilities to accomplish. By tracking back from the minimum and desired competencies in a systems/enterprise architect position he or she is seeking to those he or she already possesses, the applicant can determine if there are any gaps between the position requirements and his or her current knowledge, skills, and abilities. To address any gap that exists, the applicant can search for experience and education or training offerings.

## Summary

This guide to the DoD Architects' Competency Framework provides information about new career development and management tools for systems and enterprise architects and those who support them. The Competency Framework and Task List will evolve as requirements for systems and enterprise architects, their supervisors, program managers, Human Resources staff, educators and trainers, and, possibly, external organizations such as OMB evolve. With the implementation of DCAT and the development of Proficiency Level Illustrations, strong, standardized tools for architects to plan and manage their careers will be available throughout DoD.

## List of Terms and Acronyms

CIO – Chief Information Officer

Competency Framework

Competency Model

DCAT – Defense Competency Administration Tool

Components, Agencies, and Activities

DoD – Department of Defense

FY – Fiscal Year

GAO – Government Accountability Office

IT Functional Community

Job Family Specifications

Job Series

OMB – Office of Management and Budget

OPM – Office of Personnel Management

OSD – Office of the Secretary of Defense

OSD Architecture and Interoperability Directorate

OUSD (P & R) – Office of the Under Secretary of Defense Personnel and Readiness

Position Description

Proficiency Level Illustration

Task List

## Appendix A - DoD Architects' Competency Framework

\*Note: A "√" in the Critical column indicates that the competency met the overall Importance criterion (an average rating of at least 3.5 on a 5point scale). A "√" in the Selection column indicates that the competency met both the Importance AND the Required at Entry criterion (at least 50% of SMEs rated the competency at 3 = "Needed for the job and required at entry because it will not be acquired through formal training, such as classroom, on the job, or field training"). A "√" in the Developmental column indicates that the competency met both the Importance AND the Need for Training criterion (at least 2.0 on a 3-point scale).\*\*Note: Competencies that met the cut-offs for the Selection and Developmental criteria are listed for illustration only and should not be used for selection or developmental purposes unless verified by a representative sample of raters from the population for which they will be applied.

### General Competencies

#	Competency	Critical	Selection	Development
1	<b>Accountability:</b> Assures that effective controls are developed and maintained to ensure the integrity of the organization. Holds self and others accountable for rules and responsibilities. Can be relied upon to ensure that projects within areas of specific responsibility are completed in a timely manner and within budget. Monitors and evaluates plans, focuses on results and measuring attainment of outcomes.	√	√	√
2	<b>Administration and Management:</b> Knowledge of planning, coordination, and execution of business functions, resource allocation, and production.			
3	<b>Analytical Thinking:</b> Ability to take an objective, data-driven approach while insisting on sound theories behind decisions. Ability to identify patterns and relationships in data as well as seek root causes and underlying issues.	√	√	√
4	<b>Arithmetic:</b> Performs computations such as addition, subtraction, multiplication, and division correctly using whole numbers, fractions, decimals, and percentages.			
5	<b>Attention to Detail:</b> Is thorough when performing work and conscientious about attending to detail.			
6	<b>Conflict Management:</b> Identifies and takes steps to prevent potential situations that could result in unpleasant confrontations. Manages and resolves conflicts and disagreements in a positive and constructive manner to minimize negative impact.	√	√	√
7	<b>Continual Learning:</b> Grasps the essence of new information. Masters new technical and business knowledge. Recognizes own strengths and weaknesses and pursues self-development. Seeks feedback from others and opportunities to master new knowledge.	√	√	√

#	Competency	Critical	Selection	Development
8	<b>Creative Thinking:</b> Uses imagination to develop new insights into situations and applies innovative solutions to problems; designs new methods where established methods and procedures are inapplicable or are unavailable.	√	√	√
9	<b>Customer Service:</b> Works with clients and customers (that is, any individuals who use or receive the services or products that your work unit produces, including the general public, individuals who work in the agency, other agencies, or organizations outside the Government) to assess their needs, provide information or assistance, resolve their problems, or satisfy their expectations; knows about available products and services; is committed to providing quality products and services.	√	√	√
10	<b>Decision Making:</b> Makes sound, well informed, and objective decisions; perceives the impact and implications of decisions; commits to action, even in uncertain situations, to accomplish organizational goals; causes change.	√	√	√
11	<b>Education and Training:</b> Knowledge of teaching, training, research, making presentations, lecturing, testing, and other instructional methods.			
12	<b>External Awareness:</b> Identifies and understands economic, political, and social trends that affect the organization.			
13	<b>Financial Management:</b> Prepares, justifies, and/or administers the budget for program areas; plans, administers, and monitors expenditures to ensure cost-effective support of programs and policies.			
14	<b>Flexibility:</b> Is open to change and new information; adapts behavior or work methods in response to new information, changing conditions, or unexpected obstacles; effectively deals with ambiguity.	√	√	√
15	<b>Influencing/ Negotiating:</b> Persuades others to accept recommendations, cooperate, or change their behavior; works with others towards an agreement; negotiates to find mutually acceptable solutions.	√		√
16	<b>Information Management:</b> Identifies a need for and knows where or how to gather information; organizes and maintains information or information management systems.	√	√	√
17	<b>Integrity/ Honesty:</b> Instills mutual trust and confidence and creates a culture that fosters high standards of ethics. Behaves in a fair and ethical manner toward others and demonstrates a sense of corporate responsibility and commitment to public service.	√	√	√

#	Competency	Critical	Selection	Development
18	<b>Interpersonal Skills:</b> Shows understanding, friendliness, courtesy, tact, empathy, concern, and politeness to others; develops and maintains effective relationships with others; may include effectively dealing with individuals who are difficult, hostile, or distressed; relates well to people from varied backgrounds and different situations; is sensitive to cultural diversity, race, gender, disabilities, and other individual differences.	√	√	√
19	<b>Knowledge Management:</b> Knowledge of the value of collected information and the methods of sharing that information throughout an organization.	√		√
20	<b>Leadership:</b> Interacts with others to influence, motivate, and challenge them.	√		√
21	<b>Legal, Government, and Jurisprudence:</b> Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, government organization and functions, and the democratic political process.			
22	<b>Listening:</b> Receives, attends to, interprets, and responds to verbal messages and other cues such as body language in ways that are appropriate to listeners and situations.	√	√	√
23	<b>Memory:</b> Recalls information that has been presented previously.			
24	<b>Mental Visualization:</b> Sees things in the mind by mentally organizing and processing symbols, pictures, graphs, objects, or other information (for example, sees a building from a blueprint, or sees the flow of work activities from reading a work plan).	√		√
25	<b>Oral Communication:</b> Expresses information (for example, ideas or facts) to individuals or groups effectively, taking into account the audience and nature of the information (for example, technical, sensitive, controversial); makes clear and convincing oral presentations; listens to others, attends to nonverbal cues, and responds appropriately.	√	√	√
26	<b>Organizational Awareness:</b> Knows the organization's mission and functions, and how its social, political, and technological systems work and operates effectively within them; this includes the programs, policies, procedures, rules, and regulations of the organization.	√		√
27	<b>Planning and Evaluating:</b> Organizes work, sets priorities, and determines resource requirements; determines short- or long-term goals and strategies to achieve them; coordinates with other organizations or parts of the organization to accomplish goals; monitors progress and evaluates outcomes.	√		√

#	Competency	Critical	Selection	Development
28	<b>Political Savvy:</b> Knowledge of agency culture as well as internal and external politics that impact the work of the organization. Approaches each problem situation with a clear perception of organizational and political reality; acts consistently with organizational norms and expectations.	√		√
29	<b>Problem Solving:</b> Identifies problems; determines accuracy and relevance of information; uses sound judgment to generate and evaluate alternatives, and to make recommendations.	√	√	√
30	<b>Project Management:</b> Applies the principles, methods, or tools for developing, scheduling, coordinating, and managing projects and resources, including monitoring and inspecting costs, work, and contractor performance.			
31	<b>Public Service Motivation:</b> Shows a commitment to serve the public. Ensures that actions meet public needs; aligns organizational objectives and practices with public interests.			
32	<b>Reading:</b> Understands and interprets written material, including technical material, rules, regulations, instructions, reports, charts, graphs, or tables; applies what is learned from written material to specific situations.	√	√	√
33	<b>Reasoning:</b> Identifies rules, principles, or relationships that explain facts, data, or other information; analyzes information and makes correct inferences or draws accurate conclusions.	√	√	√
34	<b>Resilience:</b> Deals effectively with pressure and maintains focus and intensity and remains optimistic and persistent, even under adversity. Recovers quickly from setbacks. Effectively balances personal life and work.			
35	<b>Risk Management:</b> Knowledge of the principles, methods, and tools used for risk assessment and mitigation, including assessment of failures and their consequences.	√		√
36	<b>Self Esteem:</b> Believes in own self worth; maintains a positive view of staff and displays a professional image.			
37	<b>Self Management:</b> Sets well defined and realistic personal goals; displays a high level of initiative, effort, and commitment towards completing assignments in a timely manner; works with minimal supervision; is motivated to achieve; demonstrates responsible behavior.	√	√	√
38	<b>Strategic Thinking:</b> Formulates effective strategies consistent with the business and competitive strategy of the organization in a global economy. Examines policy issues and strategic planning with a long-term perspective. Determines objectives and sets priorities; anticipates potential threats or opportunities.	√	√	√
39	<b>Stress Tolerance:</b> Deals calmly and effectively with high stress situations (for example, tight deadlines, hostile individuals, emergency situations, dangerous situations).			



#	Competency	Critical	Selection	Development
40	<b>Teaching Others:</b> Helps others learn through formal or informal methods; identifies training needs; provides constructive feedback; coaches others on how to perform tasks; acts as a mentor.			
41	<b>Teamwork:</b> Encourages and facilitates cooperation, pride, trust, and group identity; fosters commitment and team spirit; works with others to achieve goals.	√	√	√
42	<b>Technical Competence:</b> Uses knowledge that is acquired through formal training or extensive on the job experience to perform one's job; works with, understands, and evaluates technical information related to the job; advises others on technical issues.	√	√	√
43	<b>Technical Documentation:</b> Knowledge of procedures for developing technical and operational support documentation.			
44	<b>Technology Application:</b> Uses machines, tools, or equipment effectively; uses computers and computer applications to analyze and communicate information in the appropriate format.	√	√	√
45	<b>Technology Awareness:</b> Knowledge of developments in existing and emerging technologies and their applications.	√		
46	<b>Vision:</b> Understands where the organization is headed and how to make a contribution; takes a long term view and recognizes opportunities to help the organization accomplish its objectives or move toward the vision.	√		
47	<b>Written Communication:</b> Recognizes or uses correct English grammar, punctuation, and spelling; communicates information (for example, facts, ideas, or messages) in a succinct and organized manner; produces written information, which may include technical material that is appropriate for the intended audience.	√	√	√

## Technical Competencies

#	Competency	Critical	Selection	Development
48	<b>Acquisition Process:</b> Knowledge of DoD lifecycle acquisition program milestones, policies, procedures, and processes (e.g., Analysis of Alternatives (AoA), Capabilities Based Assessment (CBA)).	√		√
49	<b>Architecture Frameworks:</b> Knowledge of the current Department of Defense Architecture Framework (DoDAF) and other architecture frameworks to include an understanding of the foundational framework for developing and representing architecture descriptions that ensure a common denominator for understanding, comparing, and integrating architectures across organizational, Joint, and multinational boundaries.	√		√
50	<b>Capacity Management:</b> Knowledge of the principles and methods for monitoring, estimating, or reporting performance and capability of information systems/components.			
51	<b>Capital Planning and Investment Control:</b> Knowledge of the principles and methods of capital investment analysis or business case analysis, including return on investment analysis and portfolio management.			
52	<b>Configuration Management:</b> Knowledge of the principles and methods for planning or managing the implementation, update, or integration of systems components.	√		√
53	<b>Contracting/ Procurement:</b> Knowledge of various types of contracts, techniques or requirements (e.g., firm fixed price, cost plus award fee, Federal Acquisitions Regulations).			
54	<b>Cost Benefit Analysis:</b> Knowledge of the principles and methods of cost benefit analysis, including the time, value of money, present value concepts, and quantifying tangible and intangible benefits.			
55	<b>Current Infrastructure:</b> Knowledge of current Global Information Grid (GIG) and organizational infrastructure elements and how they impact implementation plans.	√		√
56	<b>Data Management:</b> Knowledge of the principles, procedures, and tools of data management, such as modeling techniques, data backup, data recovery, data dictionaries, data warehousing, data mining, data disposal, and data standardization processes.	√		√
57	<b>Database Management Systems:</b> Knowledge of the uses of database management systems and software to control the organization, storage, retrieval, security, and integrity of data.			
58	<b>Enterprise Architecture:</b> Knowledge of principles, concepts, and methods of enterprise architecture to align strategy, plans, and systems with the mission, goals, structure, and processes of the organization.	√	√	√

#	Competency	Critical	Selection	Development
59	<b>Enterprise Architecture Administration:</b> Knowledge of and ability to apply the principles, methods, and toolsets for automating, developing, implementing, troubleshooting, or administering EA tools, database systems, and other file management systems.	√		√
60	<b>Hardware:</b> Knowledge of specifications, uses, and types of automated technology (for example, computers, satellites, routers).			
61	<b>Information Assurance:</b> Knowledge of methods and procedures to protect information systems and data by ensuring their availability, authentication, confidentiality, non-repudiation, and integrity.	√		√
62	<b>Information Resources Strategy and Planning:</b> Knowledge of the principles, methods, and techniques of information technology (IT) assessment, planning, management, monitoring, and evaluation.			
63	<b>Information Systems/Network Security:</b> Knowledge of methods, tools, and procedures, including development of information security plans, to prevent information systems vulnerabilities, and provide or restore security of information systems and network services.	√	√	√
64	<b>Information Technology Architecture:</b> Knowledge of architectural methodologies used in the design and development of information systems, including the physical structure of a system's internal operations and interactions with other systems.	√	√	√
65	<b>Information Technology Requirements Analysis:</b> Knowledge of the principles and methods to identify, analyze, specify, design, and manage functional and nonfunctional (for example, security, availability, maintainability) requirements; includes translating functional requirements into technical requirements used for logical design or presenting alternative technologies or approaches.	√		√
66	<b>Information Technology Standards:</b> Knowledge of the processes associated with development, adoption, specification, certification and enforcement of IT standards. Knowledge of current and emerging standards that are being evaluated and approved by standards forums.	√	√	√
67	<b>Infrastructure Design:</b> Knowledge of the architecture and topology of software, hardware, and networks, including LANS, WANS, operating systems, and telecommunications systems, their components and associated protocols and standards, and how they operate and integrate with one another.	√		√

#	Competency	Critical	Selection	Development
68	<b>Modeling and Simulation:</b> Knowledge of modeling and simulation tools and techniques planning and supporting test and evaluation programs; characterizing systems support decisions involving requirements; evaluating design alternatives; or supporting operational preparations.			
69	<b>Netcentric Concepts:</b> Knowledge of techniques for implementing a DoD netcentric strategy for distributing and sharing information.	√		√
70	<b>Network Management:</b> Knowledge of the operation and management of network and telecommunication systems and linked systems and peripherals.			
71	<b>Operations Support:</b> Knowledge of procedures to ensure production or delivery of products and services, including tools and mechanisms for distributing new or enhanced software.			
72	<b>Planning, Programming, Budgeting, and Execution (PPBE) Process:</b> Knowledge of DoD policies, procedures, and processes for expenditure of funds (e.g., appropriations, authorizations, allocations, obligations).	√		√
73	<b>Process Control:</b> Knowledge of the principles, methods, and procedures used for the automated control of a process, including the design, development, and maintenance of associated software, hardware, and systems.			
74	<b>Process Improvement:</b> Knowledge of methods, metrics, tools, and techniques of process improvement (for example, Business Process Reengineering, Lean Six Sigma, Capability Maturity Model for Integration).	√		√
75	<b>Product Evaluation:</b> Knowledge of methods for researching and analyzing external products to determine their potential for meeting organizational standards and business needs.			
76	<b>Quality Assurance:</b> Knowledge of principles, methods, and tools of quality assurance and quality control used to ensure a product fulfills functional requirements and standards.			
77	<b>Requirements Process:</b> Knowledge of DoD requirements capability gap, key performance parameter, key system attribute, policies, procedures, and processes (e.g., Joint Capability Integration Development System (JCIDS)).	√	√	√
78	<b>Research:</b> Knowledge of the scientific principles, methods, and processes used to conduct a systematic and objective inquiry; including study design, collection, analysis, and interpretation of data; and the reporting of results.	√		√

#	Competency	Critical	Selection	Development
79	<b>Software Applications Security:</b> Knowledge of methods, tools, and procedures used to design and build security measures into software applications to prevent vulnerabilities, maintain or restore security of information systems, and defend against unauthorized access to software applications and data.	√		√
80	<b>Software Development:</b> Knowledge of the principles, methods, and tools for designing, developing, and testing software in a given environment.			
81	<b>Software Engineering:</b> Knowledge of software engineering design and development methodologies, paradigms, and tools; the software life cycle; software reusability; and software reliability metrics (e.g., agile development techniques, object orientation).	√		√
82	<b>Software Testing and Evaluation:</b> Knowledge of the principles, methods, and tools for analyzing and developing software test and evaluation procedures.			
83	<b>Systems Engineering:</b> Knowledge of systems engineering design and development methodologies, paradigms, tools, and metrics over the lifecycle.	√		√
84	<b>Systems Integration:</b> Knowledge of principles, methods, and procedures for installing, integrating, and optimizing information systems components.	√	√	√
85	<b>Systems Life Cycle:</b> Knowledge of systems life cycle management concepts used to plan, develop, implement, operate, maintain, and dispose of information systems.	√		√
86	<b>Systems Testing and Evaluation:</b> Knowledge of the principles, methods, and tools for analyzing and developing systems test and evaluation procedures and technical characteristics of IT systems, including identifying critical operational issues.			

## Appendix B - DoD Architects' Task List

Note: A "√" indicates the task statement met Importance (at least 3.0) criterion. However, since the sample of SMEs who provided task ratings for the current study did not fully represent the DoD Enterprise Architect population, it is recommended that any future efforts to collect additional task ratings from SMEs for the Enterprise Architect position use all of the tasks provided below.

#	Task	Critical Tasks
1	Attends or participates in formal training, workshops, or seminars (e.g., classroom, on-line, or computer-based).	√
2	Searches for and extracts information (e.g., from data repositories, file servers, Internet, reports, publications).	√
3	Uses information systems to access, create, edit, print, send, retrieve, or manipulate data, files, or other information.	√
4	Conducts training sessions, classes, workshops, or seminars to develop or maintain technical proficiency.	
5	Supports policy dissemination across the organization.	√
6	Designs training courses or develops instructional materials or activities.	
7	Reviews work products of others to provide feedback.	√
8	Participates in recruitment activities for prospective employees (e.g., job fairs, college/university sponsored events, professional associations).	
9	Recommends recognition and rewards for effective or outstanding performance.	
10	Schedules work assignments to coordinate the work of team.	√
11	Uses computer software (e.g., word processing, spreadsheets, email) to develop reports, presentations, and correspondences.	√
12	Coordinates staff action packages for approval in accordance with established procedures.	√
13	Complies with relevant laws, regulations, policies, standards, or procedures (e.g., information security, health and safety, privacy act, maintenance).	√
14	Analyzes or interprets data or other information.	√
15	Operates specialized office equipment other than computers (e.g., plotter).	
16	Proofreads and edits documents to verify completeness, correctness, consistency, compliance, or authenticity.	√
17	Determines appropriate architectural products or services to meet stakeholder needs.	√
18	Develops a working knowledge of the functional domain, organizational culture, capabilities, and area of control within a stakeholder's business or needs.	√
19	Creates enterprise architecture vision and concept of operations to clarify value proposition.	√

#	Task	Critical Tasks
20	Serves as a subject matter expert of the functional domain area of a customer's business or needs.	√
21	Directs individuals, problems, questions, or complaints to the proper person or place.	√
22	Modifies products or services based on suggestions or feedback from customers.	√
23	Responds to requests or resolves stakeholder concerns.	√
24	Seeks customer feedback to ensure customer satisfaction.	√
25	Collaborates with others to accomplish work-related activities.	√
26	Composes complex correspondence or other written work (e.g., manuals, books, management or technical reports, research or contract proposals).	√
27	Composes simple correspondence or other written work (e.g., memoranda, form letters, email).	√
28	Conducts or leads briefings, meetings, or conferences.	√
29	Contacts others orally to obtain information.	√
30	Discusses results, problems, plans, suggestions, terms, or conditions with others.	√
31	Justifies or explains decisions, conclusions, findings, or recommendations.	√
32	Explains nontechnical information orally.	√
33	Explains technical or other complex information orally.	√
34	Initiates and maintains contacts with individuals outside the organization.	√
35	Negotiates with others to reach an agreement, settlement, compliance, or a solution.	√
36	Notifies individuals or offices in writing of decisions, problems, or further actions needed.	√
37	Participates or represents the organization or clients at briefings, meetings, or conferences.	√
38	Persuades others to take a particular course of action or to accept findings, recommendations, changes, or alternative viewpoints.	√
39	Promotes or develops and maintains positive working relationships with key individuals or groups.	√
40	Reads and understands nontechnical materials (e.g., letters, memoranda, electronic mail).	√
41	Reads and understands technical materials (e.g., journals, reports, manuals, proposals).	√
42	Reads and understands charts, graphs, diagrams, or tables.	√

#	Task	Critical Tasks
43	Reviews complex information (such as, research on contract proposals, finance, technical, or management reports) to provide feedback on the content.	√
44	Reviews reports, documents, records, data, or other materials to verify completeness, correctness, consistency, compliance, or authenticity.	√
45	Serves as a representative for management at external or internal meetings, conferences, or seminars.	√
46	Serves as liaison between the organization and other offices to exchange information, resolve problems, etc.	√
47	Revises reports, briefings, information/position papers, and other materials.	√
48	Creates tables, charts, graphs, or diagrams to organize or show information.	√
49	Prepares specialized or technical drawings, sketches, or illustrations using automated technology (e.g., computer-aided design, computer-aided engineering, process modeling).	√
50	Develops or maintains documentation for applications, programs, or databases supporting Enterprise Architecture (EA).	√
51	Provides input regarding resource requirements (e.g., time, staff, equipment, costs) based on program or project objectives or operational needs.	√
52	Develops or provides input for contract artifacts (e.g., bid specifications, requests for proposals, statements of work, technical evaluation plans).	√
53	Develops Enterprise Architecture (EA) implementation plans or strategies.	√
54	Develops Enterprise Architecture (EA) testing strategies, plans, or scenarios.	√
55	Develops metrics for the evaluation of Enterprise Architecture (EA) program effectiveness and efficiency.	√
56	Identifies or develops performance measurement tools (e.g., off-the-shelf) for the evaluation of Enterprise Architecture (EA) program effectiveness and efficiency.	√
57	Produces metrics to evaluate Enterprise Architecture (EA) program effectiveness and efficiency.	√
58	Develops, modifies, or provides input on plans, goals, or objectives (e.g., strategic plans, work breakdown structures, integration plans) for Enterprise Architecture (EA) projects, programs, systems, or operations.	√
59	Evaluates Enterprise Architecture (EA) projects or programs to determine compliance with organizational policies, procedures, architectures, and operational capabilities.	√
60	Evaluates the efficiency or effectiveness of organizational programs, projects, or operations to ensure compliance with the Enterprise Architecture (EA).	√
61	Analyzes metrics for the evaluation of Enterprise Architecture (EA) program effectiveness and efficiency to provide input to the EA implementation plan.	√



#	Task	Critical Tasks
62	Evaluates vendors, products, services, systems, or proposals to make recommendations for contracting (including licensing agreements).	√
63	Identifies technology requirements and resource constraints in implementing the Enterprise Architecture (EA) program.	√
64	Manages the Enterprise Architecture (EA) to ensure process alignment (e.g., dependencies, sequencing), efficiency, and effectiveness.	√
65	Identifies project, system, or certification documentation requirements or procedures (e.g., DoD Information Enterprise Architecture).	√
66	Implements operational, program, or project plans to meet objectives.	√
67	Manages, leads, or administers programs, projects, operations, or activities.	√
68	Monitors program/project resources, including personnel, expenditures, or cash flow.	√
69	Tracks the progress of tasks, programs, projects, operations, or activities.	√
70	Prepares budget requests or justifications for funding.	√
71	Prioritizes projects according to program plans, goals, and objectives.	√
72	Provides oversight or technical guidance to coworkers, team members, or contractor support staff assigned to projects.	√
73	Develops Enterprise Architecture (EA) strategic plan, goals, or objectives to guide organizational efforts.	√
74	Advises others on the application of architecture modeling tool sets used to document, maintain, and enhance the architectural planning process.	√
75	Develops the policies, principles, and processes for the Enterprise Architecture (EA) (e.g., architecture governance, architecture development).	√
76	Assess and report level of compliance to laws, regulations, policies, principles, and processes to support management of organizational risks.	√
77	Develops the policies, principles, and processes to guide the use of Enterprise Architecture (EA) in organizational decision making.	√
78	Designs information systems infrastructure architectures (e.g., networks or telecommunication systems).	√
79	Designs applications and services architectures (e.g., personnel functions, finance, logistics).	√
80	Designs business process architectures (e.g., procure-to-pay, hire-to-retire).	√
81	Designs data and information management architectures (e.g., data storage, disaster recovery).	√
82	Designs security architectures (e.g., information assurance, cyber security).	√
83	Designs enterprise, domain, segment, or portfolio architectures.	√

#	Task	Critical Tasks
84	Documents solution architectures to guide development and improve alignment.	√
85	Uses tools and techniques (e.g., modeling) to develop Enterprise Architecture (EA), including organizational structures, key processes, and infrastructures.	√
86	Evaluates the current state of the system development life cycle for a program or project to determine Enterprise Architecture (EA) capability necessary to meet stakeholder needs.	√
87	Determines the difference between current (as-is) and target (to-be) architecture for programs, portfolios, or the enterprise to provide input to a transition architecture.	√
88	Reviews and provides input to implementation plans to ensure alignment with the enterprise architecture.	√
89	Develops reference models for the Enterprise Architecture (EA) (e.g., data, data exchanges, technology services, security, etc.).	√
90	Updates or maintains information in compliance with EA reference models.	√
91	Updates or maintains architectures in accordance with approved policies and procedures.	√
92	Develops transition plans to migrate to the target (to-be) architecture.	√
93	Educates customers, stakeholders, and decision makers on the use and value of the Enterprise Architecture (EA).	√
94	Collaborates with the systems engineering teams to support integration (e.g., program, process, application, system, technology) in accordance with the target architecture.	√
95	Integrates disparate architectures in accordance with the architectural framework to ensure consistency and validity across the enterprise.	√
96	Evaluates the application of architecture modeling tool sets used to document, maintain, and enhance architectures.	√
97	Evaluates the impact of Enterprise Architecture (EA) products and services.	√
98	Identifies opportunities for organizational improvement (e.g., systems, applications, business processes, emerging technologies, policies).	√
99	Leads, or participates in, evaluations of the agency's business processes, applications, and information technology (IT) infrastructure to determine the feasibility of adopting enterprise solutions.	√
100	Manages (i.e., assesses, analyzes, implements, and documents) the Enterprise Architecture (EA) to support alignment of strategy, plans, programs, services, and systems with the mission, goals, structure, and processes of the organization.	√
101	Provides Enterprise Architecture (EA) guidance, support, and coordination to customers and project teams.	√

#	Task	Critical Tasks
102	Researches and evaluates architecture alternatives to make recommendations.	√
103	Selects the application of architecture modeling tool sets used to plan, document, maintain, and enhance the architectural process.	√
104	Executes risk management process to support architectural integration and compliance across the enterprise.	√
105	Develops or implements information management plans for the organization.	√
106	Aligns Enterprise Architecture (EA) and capital planning processes and information to enable organization-wide decision making.	√
107	Aligns Enterprise Architecture (EA) and information assurance (information systems/cyber security) processes and information to enable organization-wide decision making.	√
108	Models operational, programmatic, or system interdependencies to support decision making (e.g., integration, alignment, capital planning).	√
109	Participates in the development and assessment of stakeholder requirement process to maximize efficiency and interoperability across the enterprise.	√
110	Provides input to the standards process (e.g. data standards, interoperability standards, IT Standards Committee (ITSC), DoD Standardization Program [DSP]).	√
111	Facilitates meeting of stakeholders to elicit information required for the development of architectures or decision making.	√
112	Conducts feasibility studies and provides trade-off analyses to support a cost-effective solution.	√
113	Conducts surveys or interviews to gather information necessary to support the development of architectures, policies, procedures, or strategies.	√
114	Designs or develops automated databases in support of Enterprise Architecture (EA).	√
115	Develops or implements data migration strategies for Enterprise Architecture (EA).	√
116	Establishes data domains, naming conventions, or standards for Enterprise Architecture (EA).	√
117	Processes or analyzes data using computer systems or applications (e.g., spreadsheets, architecture modeling tools, architecture repository tools).	√
118	Acquires and maintains a working knowledge of relevant laws, regulations, policies, standards, or procedures.	√
119	Develops, amends, or revises regulations, policies, standards, or procedures.	√
120	Keeps abreast of key organizational activities, policies, and priorities likely to affect operations or the program area.	√

#	Task	Critical Tasks
121	Designs and coordinates Enterprise Architecture (EA) (e.g., ontologies, foundations, or frameworks) in collaboration with allied defense establishments or other international bodies.	√
122	Designs and coordinates Enterprise Architecture (EA) (e.g., ontologies, foundations, or frameworks) in collaboration with federal, state, local, or tribal governments.	√
123	Identifies, utilizes, or creates reusable Enterprise Architecture (EA) products.	√
124	Plans or creates Enterprise Architecture (EA) prototypes to determine feasibility.	√
125	Plans or creates prototypes to determine Enterprise Architecture (EA) feasibility.	√
126	Advises management concerning major aspects of system design (e.g., system interrelationships, operating mode, software).	√
127	Advises senior management officials in the appropriate application of technology, including emerging information technology (IT) issues and their impact.	√
128	Analyzes information systems requirements in the context of Enterprise Architecture (EA).	√
129	Assesses and reports the impact of forecasted changes in technology and business requirements on information technology (IT) investment plans.	√
130	Assists organizations with the development of business cases, including performance metrics.	√
131	Assesses network architecture or infrastructure (e.g., network, bandwidth, capacity, telecommunications).	√
132	Conducts analytical studies, cost-benefit analyses, or other research.	√
133	Provides input on models for automating business processes (e.g., electronic health records).	√
134	Assists organizations with the development of information systems performance requirements.	√
135	Evaluates the impact (e.g., costs or benefits) of changes to laws, regulations, policies, standards, or procedures.	√
136	Explains or provides guidance on laws, regulations, policies, standards, or procedures to management, personnel, or clients.	√
137	Keeps abreast of latest technology, information, research, etc., to maintain knowledge in field of expertise (e.g., reads trade journals, participates in professional/technical associations, maintains credentials).	√
138	Keeps abreast of current events (e.g., technological, economic, political, social, educational, or employment trends) and applies the information as appropriate.	√
139	Participates in configuration management (e.g., reviewing configuration change requests).	√

#	Task	Critical Tasks
140	Provides input to the information technology (IT) capital planning process (e.g., Exhibit 53, Enterprise Transition Plan [ETP]).	√
141	Addresses conflicts in laws, regulations, policies, standards, or procedures.	√