

## FAC-P/PM-IT: Architecture and Design

Workshop Course U211 • 4 DAYS



### You Will Learn How To:

- Analyze, interpret and evaluate technologies within a complex IT environment
- Apply the principles of agency and federal enterprise architecture
- Employ strategies for hardware and software in the enterprise
- Evaluate and plan proper network connectivity and security
- Architect principles of data and management strategies
- Maintain and support the IT enterprise



### Active Learning Workshop:

- Building a project scope and architecture
- Analyzing a system and creating a project design
- Creating a data center layout and infrastructure design
- Designing software systems and data architectures
- Maintaining and managing day-to-day operations

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— D. Lamarche, Manager,  
Thin Client Services”

**About This Course:** In this course, you learn to apply the principles, concepts and methods of enterprise architecture and infrastructure design to align IT strategy with the goals of the organization. You also gain an understanding of data management, including modeling techniques, backup and recovery, data mining and data warehousing as well as the mechanisms required to deliver products and services within the enterprise. Additionally, you learn how to design networking, implement security and build an operations plan.

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#### Adopting Enterprise Architecture

##### Complying with definitions and methods

- Defining agency Enterprise Architecture (EA) and Federal Enterprise Architecture (FEA)
- Revealing Federal Reference Models

##### Standardizing and managing architecture

- Establishing OMB Guidance
- Increasing performance and throughput

##### Aligning the architecture with federal standards

- Measuring results and improvement
- Building a road map for IT development

#### Customizing a Technology Architecture

##### Designing and developing information systems

- Assessing risk, cost, quality and integrity
- Analyzing and planning environments
- Creating a blueprint for achievement

##### Managing system life cycles

- Assessing assumptions and initial criteria
- Establishing an implementation plan
- Assuring integration success

#### Designing Infrastructure Solutions

##### Selecting hardware platforms

- Managing devices and mobility
- Building servers and data centers

##### Choosing operating systems

- Evaluating servers and workstations
- Incorporating mobile devices

##### Networking and telecommunications

- Determining data communication requirements
- Interconnecting technologies

##### Managing and storing data

- Selecting operating systems and file systems
- Defining data management systems

#### Planning Enterprise Data

##### Designing and planning

- Outlining system capacity and sizing/costing infrastructures
- Selecting and evaluating architectures

#### Purchasing and contract negotiation

- Establishing Service Level Agreements (SLAs)
- Creating a serviceability plan

#### Architecting data

- Evaluating data sources
- Segmenting for performance orientation
- Selecting a tiered architecture
- Designing a processing architecture

#### Managing the Data Component

##### Defining basic concepts

- Managing database systems
- Designing storage and repositories

##### Ensuring data accuracy, consistency and currency

- Modeling data and dictionaries
- Standardizing data for normalization

##### Recognizing relational database principals

- Interpreting terminology and models
- Building techniques for effective performance
- Maximizing operating efficiency
- Establishing relationships and transaction criteria

##### Data warehousing and data mining

- Defining models and standards
- Implementing techniques and best practices

#### Supporting IT Operations

##### Maintaining hardware and infrastructure

- Building layered support architecture
- Leveraging specialty roles and knowledge bases

##### Establishing software systems support

- Managing support issues
- Coordinating roll-outs, updates and version control
- Introducing security controls

##### Human factors in technical support

- Promoting effective support teams
- Layering help desk architectures

##### Servicing and maintaining the environment

- Selecting tools and services
- Establishing a support network



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