The Service Component Reference Model (SRM) Version 1.0

A Foundation for Government-wide Improvement

FEAPMO

FEDERAL ENTERPRISE ARCHITECTURE PROGRAM MANAGEMENT OFFICE

The Federal Enterprise Architecture Program Management Office

FEAPMO

The Service Component Reference Model Version 1.0:

A Foundation for Government-wide Improvement

June 2003

TABLE OF CONTENTS

TABLE OF CONTENTS II

EXECUTIVE SUMMARY 1

TARGET AUDIENCE 2
SUMMARY OF SRM VERSION 1.0 2
ORGANIZATION OF THE DOCUMENT 4

INTRODUCTION TO COMPONENTS 5

SERVICE COMPONENT REFERENCE MODEL VERSION 1.0 8

Definition 8
Purpose 8
DEVELOPMENT OF THE SRM 9
VALIDATION 9
OVERVIEW OF THE SRM STRUCTURE 10
SRM SERVICE DOMAINS, SERVICE TYPES AND COMPONENTS 12
Customer Services Domain 12
Process Automation Services Domain 13
Business Management Services Domain 14
Digital Asset Services Domain 16
Business Analytical Services Domain 18
Back Office Services Domain 20
Support Services Domain 23

USE AND MAINTENANCE 27

THE FEDERAL ENTERPRISE ARCHITECTURE MANAGEMENT SYSTEM (FEAMS) 29
FEA RELATED ACTIVITIES 30
Component Registry /Repository 30
Component-Based Architecture (CBA) 31
Solution Development Life Cycle (SDLC) 32
UPDATES AND MODIFICATIONS TO THE SRM 32

THE FEDERAL ENTERPRISE ARCHITECTURE 33

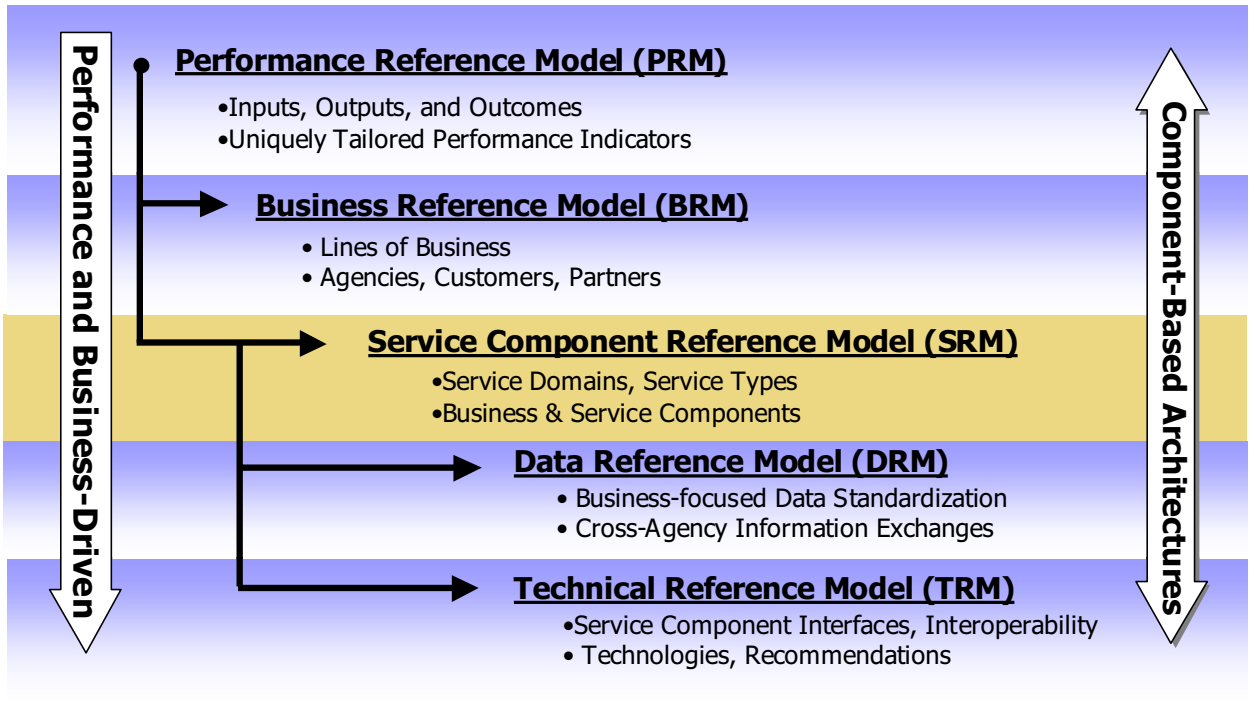
FEA REFERENCE MODELS 33
Performance Reference Model (PRM) – Version 1.0 in Draft 34
Business Reference Model (BRM) – Version 2.0 Released 34
Service Component Reference Model (SRM) – Version 1.0 Released 34
Technical Reference Model (TRM) – Version 1.0 Released 35
Data and Information Reference Model (DRM) 35
BENEFITS OF THE FEA 36
Federal Agency Benefits 36
Citizen Benefits 37
OMB Benefits 37
Congressional Benefits 37
THE FEA PROGRAM MANAGEMENT OFFICE 38
FEA-PMO Governance Structure 38
The Solution Architects' Working Group (SAWG) 39
OMB's IT/E-Gov Working Group 39

FEA-PMO Support Team 40
Architecture and Infrastructure Committee (AIC) – Components Subcommittee 40

EXECUTIVE SUMMARY

To facilitate efforts to transform the Federal Government into one that is citizen-centered, results-oriented, and market-based, the Office of Management and Budget (OMB) is developing the Federal Enterprise Architecture (FEA), a business-based framework for Government-wide improvement. As illustrated in Figure 1, the FEA is being constructed through a collection of interrelated "reference models" designed to facilitate cross-agency analysis and the identification of duplicative investments, gaps, and opportunities for collaboration within and across Federal Agencies.

Figure 1 - The Federal Enterprise Architecture



The FEA Service Component Reference Model (SRM) is intended for use in discovering government-wide business and application Service Components in IT investments and assets. It is a component-based framework that provides – independent of business function – a leverageable foundation to support the reuse of applications, application capabilities, components, and business services.

TARGET AUDIENCE

Program Managers – responsible for assembling components to support the implementation of a project or program that may require cross-agency collaboration and the re-use of agency assets

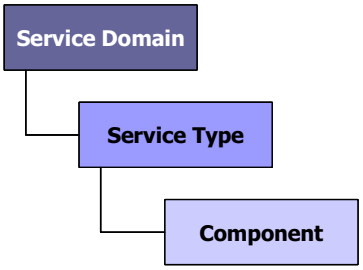
Chief Architects – responsible for the definition and target planning of an Agency's Enterprise Architecture

System / Solution Architects – responsible for building / assembling systems that leverage existing assets and services across the government and industry

SUMMARY OF SRM VERSION 1.0

The Service Component Reference Model (SRM) is a business-driven, functional framework that classifies Service Components with respect to how they support business and/or performance objectives. The SRM, constructed hierarchically, as shown in Figure 2, is structured across horizontal service areas that, independent of the business functions, can provide a leverage-able foundation for reuse of applications, application capabilities, components, and business services.

Figure 2 – SRM Hierarchy



The SRM was developed in cooperation with the Solution Architect's Working Group (SAWG), Federal Agencies, the Industry Advisory Council (IAC), and the Architecture and Infrastructure Committee (AIC). It identifies seven (7) Service Domains that provide a high-level view of the services and capabilities that support enterprise and organizational processes and applications. These Service Domains are described as:

The Seven Service Domains of the SRM

The ***Customer Services*** Domain consists of the capabilities that are directly related to the end customer, the interaction between the business and the customer, and the customer-driven activities or functions. This Service Domain consists of 3 Service Types and 21 Components.

The ***Process Automation Services*** Domain consists of the capabilities that support the automation of process and management activities that assist in effectively managing the business. This Service Domain consists of 2 Service Types and 5 Components.

The ***Business Management Services*** Domain consists of the capabilities that support the management and execution of business functions and organizational

activities that maintain continuity across the business and value-chain participants. This Service Domain consists of 4 Service Types and 20 Components.

The ***Digital Asset Services*** Domain consists of the capabilities that support the generation, management and distribution of intellectual capital and electronic media across the business and extended enterprise. This Service Domain consists of 4 Service Types and 25 Components.

The ***Business Analytical Services*** Domain consists of the capabilities that support the extraction, aggregation and presentation of information to facilitate decision analysis and business evaluation. This Service Domain consists of 4 Service Types and 19 Components.

The ***Back Office Services*** Domain consists of the capabilities that support the management of enterprise planning transactional-based functions. This Service Domain consists of 6 Service Types and 47 Components.

The ***Support Services*** Domain consists of the cross-functional capabilities that can be leveraged independent of Service Domain objective or mission. This Service Domain consists of 6 Service Types and 31 Components.

Figure 3 - SRM Structure

As illustrated in Figure 3, each Service Domain is classified into one or more Service Types that group similar capabilities in support of the domain.

Each Service Type includes one or more Service Components that provide the "building blocks" to deliver the component capability to the business.

ORGANIZATION OF THE DOCUMENT

The remainder of this document is organized according to the following chapters:

***Chapter 1:* Introduction to Components** provides an overview and description of components, component granularity, and linkages into the SRM.

***Chapter 2:* The Service Component Reference Model v1.0** provides a complete overview of Version 1.0, including definitions of each Service Domain, Service Type and Component.

***Chapter 3:* Use and Maintenance** describes, at a high level, how the SRM should be used by the agencies in their EA and Capital Planning processes; how an online repository will facilitate these efforts; and how the SRM will be modified and updated to support the budget process.

***Appendix:* The FEA** provides a high-level overview of the Federal Enterprise Architecture and its benefits, the Federal Enterprise Architecture Program Management Office (FEA-PMO), and supporting committees.

1. Introduction to Components

FEAPMO

INTRODUCTION TO COMPONENTS

The term "*component*" can represent many things to many people. It can describe a complete business line such as U.S. Treasury's PAY.GOV, a service supporting the validation of a Social Security Number, an application to support Content Management, or a capability that may be accessed through a technology or business interface. With multiple types of components available in industry and across governments, it became critical to the success of the SRM to define "component" and to clarify the level of granularity that will reside within the SRM.

Component Definition

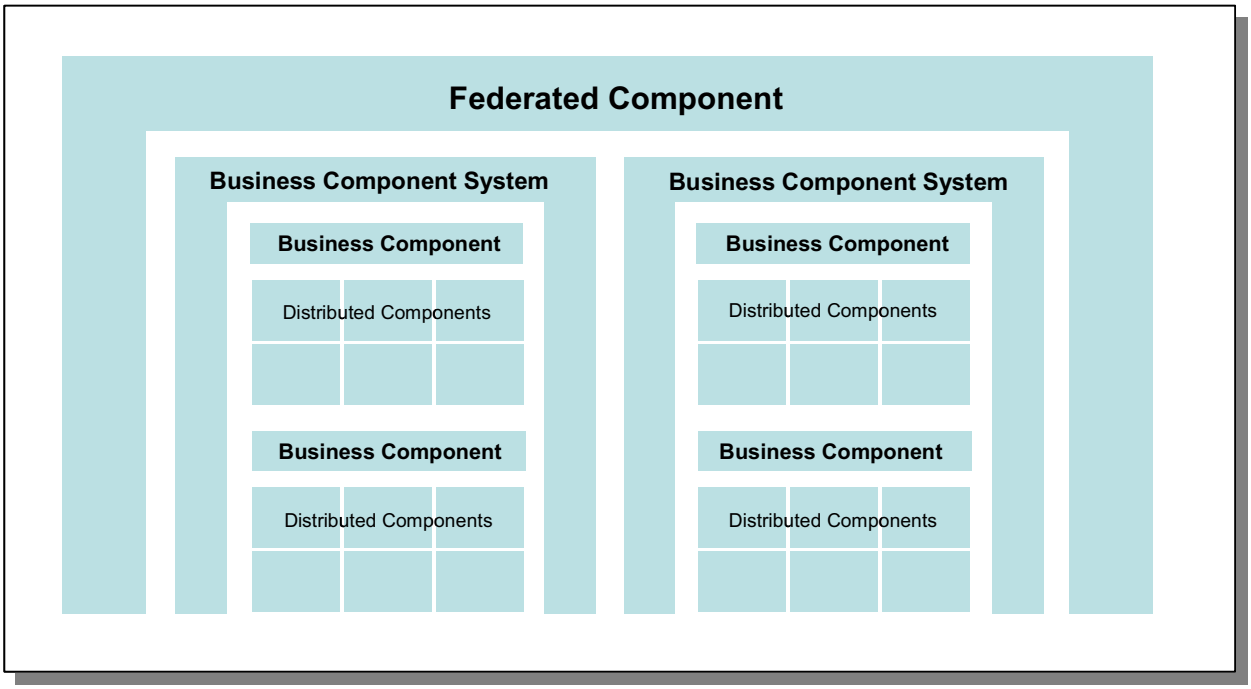
A Component is defined as "*a self contained business process or service with predetermined functionality that may be exposed through a business or technology interface.*"

Component Granularity

LEVEL	DEFINITION	SRM Focus
Federated Component	A set of cooperating system-level components federated to resolve the business need of multiple end users often belonging to different organizations.	**Yes**
Business Component System	A set of cooperating business components assembled together to deliver a solution to a business problem.	**Yes**
Business Component	Represents the implementation of an autonomous business concept or business process. It consists of all the technology elements (i.e., software, hardware, data) necessary to express, implement, and deploy a given business concept as an autonomous, reusable element of a large information system. It is a unifying concept across the development lifecycle and the distribution tiers.	**Yes**
Distributed Component	The lowest level of component granularity. It is a software element that can be called at run-time with a clear interface and a clear separation between interface and implementation. It is autonomously deployable.	**Yes**
Language Class	A class in an object-oriented programming language to build distributed components. This is NOT considered an SRM component.	No

The effective identification, assembly and usage of components allows for aggregate services to be shared across agencies and governments. These services provide the functionality and execution of business processes, which in turn sustain the BRM sub-functions. Service component aggregation will enable rapid building and implementation of components to support a given initiative or investment. Figure 4 below illustrates the concept of aggregate services where multiple Service Components can support a business sub-function.

Figure 4 - Conceptual Hierarchy of Components



The SRM is decomposed into lower levels of granularity beginning from the process and application level to the software and component and module level. This level of decomposition provides various perspectives for stakeholders and solution architects to supoprt the adoption of components and services within an IT initiative, asset or investment.

2. The Service Component Reference Model Version 1.0

FEAPMO

SERVICE COMPONENT REFERENCE MODEL VERSION 1.0

Definition

The SRM is a component-based framework that can provide – independent of business function – a leverage-able foundation for reuse of applications, application capabilities, components, and business services.

Purpose

The SRM serves to identify and classify horizontal and vertical service components that support Federal agencies and their IT investments and assets. The model will aid in recommending service capabilities to support the reuse of business components and services across the Federal Government.

Specifically, the SRM was created to:

- Provide a framework that identifies service components and their relationships to the technology architecture of agencies across the Federal Government
- Classify, categorize and recommend components for the reuse of business services and capabilities across the Federal Government

- Define existing service components that may be leveraged outside agency boundaries
- Align and leverage existing federal guidance and application/architecture recommendations
- Support the 24 Presidential Priority E-Gov initiatives
- Evolve based on new services and components as they are discovered across industry and federal markets

DEVELOPMENT OF THE SRM

In developing the SRM, the FEA-PMO leveraged previous Federal architecture efforts, such as the Federal Enterprise Architecture Framework (FEAF) guidance and Agency application reference models as starting points for designing the government-wide model. Using these architectures as a point of departure, the FEA-PMO performed extensive research on industry and government application capabilities to provide a capabilities frame of reference for agencies to use.

The information contained within these sources provides concise and thorough documentation of the many services and capabilities that industry and government applications and IT investments perform. The FEA-PMO used this information to normalize and categorize service capabilities and components that support, through IT assets, the business of the Federal Government. A hierarchical structure of Service Domains, Service Types and Service Components was crafted to convey a high level categorization of capabilities. Definitions were applied to the 7 service domains, the 29 service types and the 168 supporting components.

VALIDATION

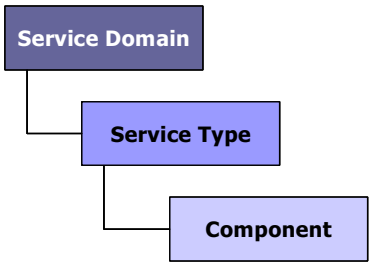
The SRM was reviewed, validated and revised by the FEA-PMO and the SAWG, then released to agencies for feedback on January 29, 2003. Agency comments on the SRM were received through March 26, 2003. This feedback was analyzed by the FEA-PMO to further advance / evolve the model. A Comment Response Document (CRD) was generated and is available through the Agency CIOs.

A first pass was performed at aligning the SRM to the Agencies' major IT initiatives, as well as to the 24 Presidential Priority E-Gov initiatives. The alignment will be validated by agencies through the Federal Enterprise Architecture Management System (FEAMS), discussed further in Chapter 4 of this document.

OVERVIEW OF THE SRM STRUCTURE

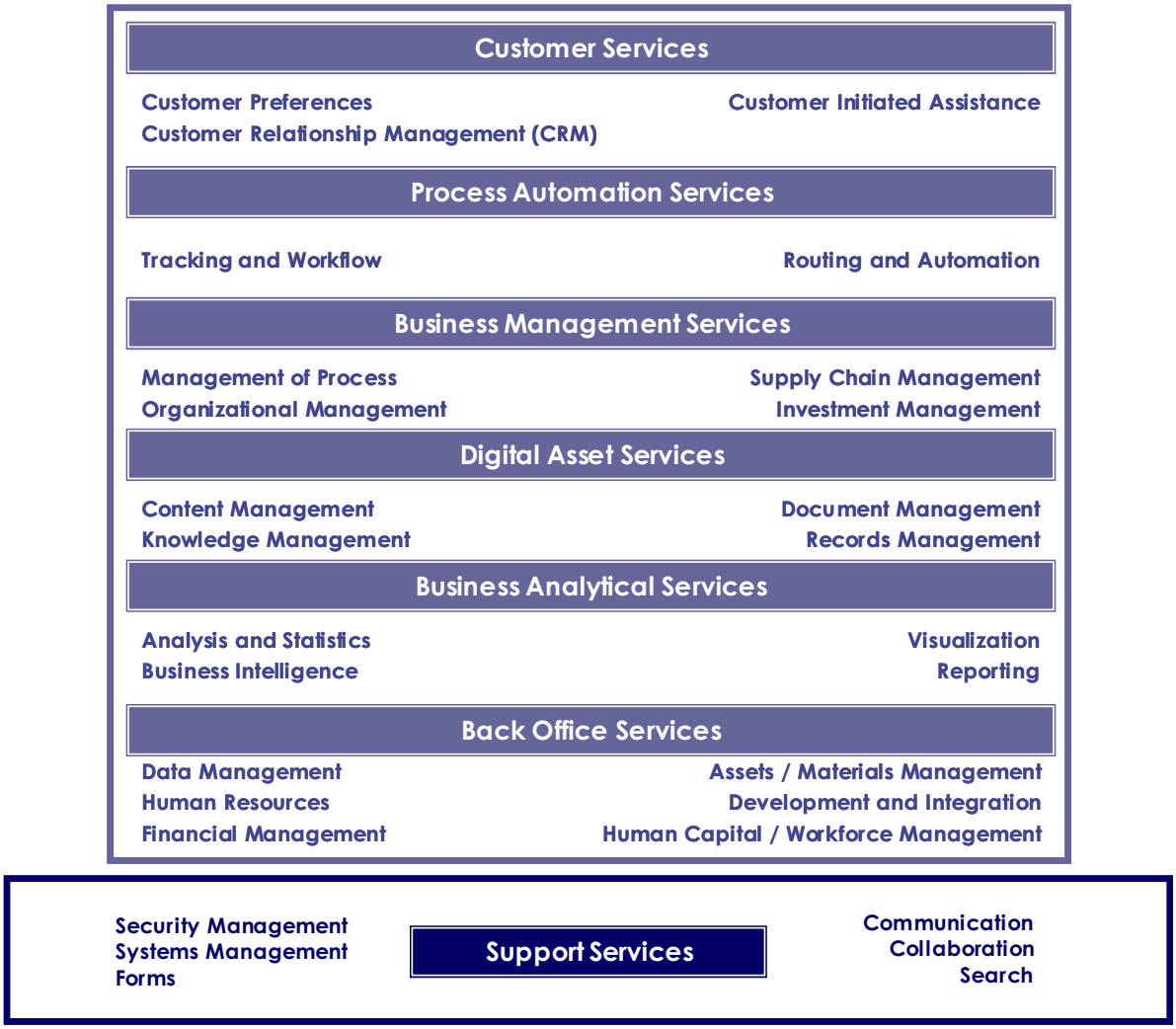
The Federal Enterprise Architecture Service Component Reference Model Version 1.0 is organized as a functional hierarchy, as shown in Figures 5 and 6, with *Service Domains* at the highest level followed by *Service Types* and *Components*. There are 7 Service Domains that provide a top-level categorization of the service capabilities and categories from a business perspective. These seven Service Domains are comprised of 29 Service Types that further categorize and define the capabilities of a Service Domain. The Service Types define the second level of detail that describe a business-oriented service. The next and final layer of the SRM is the Component level.

Figure 5 – SRM Hierarchy



These 168 Components represent the lower-level, logical "building blocks" of a business or application service component.

Figure 6: SRM Structure



The seven Service Domains are each differentiated by the business-oriented capability they represent.

- The ***Customer Services*** domain refers to the set of capabilities that are directly related to the end customer, the interaction between the business and the customer, and the customer-driven activities or functions. This Service Domain consists of 3 Service Types and 21 Components.

- The ***Process Automation Services*** domain refers to the set of capabilities that support the automation of process and management activities that assist in effectively managing the business. This Service Domain consists of 2 Service Types and 5 Components.

- The ***Business Management Services*** domain refers to the set of capabilities that support the management and execution of business functions and organizational activities that maintain continuity across the business and value-chain participants. This Service Domain consists of 4 Service Types and 20 Components.

- The ***Digital Asset Services*** domain refers to the set of capabilities that support the generation, management and distribution of intellectual capital and electronic media across the business and extended enterprise. This Service Domain consists of 4 Service Types and 25 Components.

- The ***Business Analytical Services*** domain refers to the set of capabilities that support the extraction, aggregation and presentation of information to facilitate decision analysis and business evaluation. This Service Domain consists of 4 Service Types and 19 Components.

- The ***Back Office Services*** domain refers to the set of capabilities that support the management of enterprise planning transactional-based functions. This Service Domain consists of 6 Service Types and 47 Components.

- The ***Support Services*** domain refers to the set of cross-functional capabilities that can be leveraged independent of Service Domain objective or mission. This Service Domain consists of 6 Service Types and 31 Components.

SRM SERVICE DOMAINS, SERVICE TYPES AND COMPONENTS

Customer Services Domain

The Customer Services Domain defines the set of capabilities that are directly related to an internal or external customer, the business' interaction with the customer, and the customer driven activities or functions. The Customer Services domain represents those capabilities and services that are at the front end of a business, and interface at varying levels with the customer.

Customer Relationship Management - defines the set of capabilities that are used to plan, schedule and control the activities between the customer and the enterprise both before and after a product or service is offered.

- *Call Center Management* - defines the set of capabilities that handle telephone sales and/or service to the end customer.
- *Customer Analytics* - defines the set of capabilities that allow for the analysis of an organization's customers as well as the scoring of third party information as it relates to an organization's customers.
- *Sales and Marketing* - defines the set of capabilities that facilitate the promotion of a product or service and capture of new business.
- *Product Management* - defines the set of capabilities that facilitate the creation and maintenance of products and services.
- *Brand Management – defines the set of capabilities that support the application of a trade name to a product or service as well as developing an awareness for the name.*
- *Customer / Account Management – defines the set of capabilities that support the retention and delivery of a service or product to an organization's clients.*
- *Contact Management* – defines the set of capabilities that keep track of people and the related activities of an organization.
- *Partner Relationship Management* – defines the set of capabilities that are used to plan and control the activities between an organization, its stakeholders and business partners, including third parties that support services to an organization's stakeholders
- *Customer Feedback* – defines the set of capabilities that are used to collect, analyze and handle comments and feedback from an organization's customers.
- *Surveys* - defines the set of capabilities that are used to collect useful information from an organization's customers.

Customer Preferences - defines the set of capabilities that allow an organization's customers to change a user interface and they way that data is displayed.

- *Personalization* – defines the set of capabilities to change a user interface and how data is displayed.

- *Subscriptions – defines the set of capabilities that allow a customer to join a forum, listserv, or mailing list.*

- *Alerts and Notifications* – defines the set of capabilities that allow a customer to be contacted in relation to a subscription or service of interest.

- *Profile Management* – defines the set of capabilities that allow for the maintenance and modification of a customer's account information related to their profile.

Customer Initiated Assistance - defines the set of capabilities that allow customers to proactively seek assistance and service from an organization.

- *Online Help* – defines the set of capabilhities that provide an electronic interface to customer assistance.

- *Online Tutorials* – defines the set of capabilities that provide an electronic interface to educate and assist customers.

- *Self-Service* – defines the set of capabilities that allow an organization's customers to sign up for a particular service at their own initiative.

- *Reservations / Registration* – defines the set of capabilities that allow electronic enrollment and confirmations for services.

- *Multi-Lingual Support* – defines the set of capabilities that allow access to data and information in multiple languages.

- *Assistance Request - defines the set of capabilities that support the solicitation of support from a customer.*

- *Scheduling - defines the set of capabilities that support the plan for performing work or service to meet the needs of an organization's customers.*

Process Automation Services Domain

The Process Automation Services Domain defines the set of capabilities that support the automation of process and management activities that assist in effectively managing the business. The Process Automation Services domain represents those services and capabilities that serve to automate and facilitate the processes associated with tracking, monitoring, and maintaining liaison throughout the business cycle of an organization.

Tracking and Workflow - defines the set of capabilities for automatic monitoring and routing of documents to the users responsible for working on them to support each step of the business cycle.

- *Process Tracking* – defines the set of capabilities to allow the monitoring of activities within the business cycle.

- *Case / Issue Management* – defines the set of capabilities for managing the life cycle of a particular claim or investigation within an organization to include creating, routing, tracing, assignment and closing of a case as well as collaboration among case handlers.

- *Conflict Resolution* – Defines the set of capabilities that support the conclusion of contention or differences within the business cycle.

Routing and Scheduling - defines the set of capabilities for the automatic directing, assignment, or allocation of time for a particular action or event.

- *Inbound Correspondence Management* – defines the set of capabilities for the management of externally initiated communication between an organization and its stakeholders.

- *Outbound Correspondence Management* – defines the set of capabilities for the management of internally initiated communication between an organization and its stakeholders.

Business Management Services Domain

The Business Management Services Domain defines the set of capabilities that support the management of business functions and organizational activities that maintain continuity across the business and value-chain participants. The Business Management Services domain represents those capabilities and services that are necessary for projects, programs and planning within a business operation to successfully be managed.

Management of Process - defines the set of capabilities that regulate the activities surrounding the business cycle of an organization.

- *Change Management* – defines the set of capabilities that control the process for updates or modifications to the existing documents, software or business processes of an organization.

- *Configuration Management* – defines the set of capabilities that control the hardware and software environments, as well as documents of an organization.

- *Requirements Management* – defines the set of capabilities for gathering, analyzing and fulfilling the needs and prerequisites of an organization's efforts.

- *Program / Project Management* – defines the set of capabilities for the management and control of a particular effort of an organization.

- *Governance / Policy Management* – defines the set of capabilities intended to influence and determine decisions, actions, business rules and other matters within an organization.

- *Quality Management* - defines the set of capabilities intended to help determine the level of assurance that a product or service will satisfy certain requirements.

- *Business Rule Management* – defines the set of capabilities for the management of the enterprise processes that support an organization and its policies.

- *Risk Management* – defines the set of capabilities that support the identification and probabilities or chances of hazards as they relate to a task, decision or long-term goal.

Organizational Management – defines the set of capabilities that support both collaboration and communication within an organization.

- *Workgroup/Groupware* - defines the set of capabilities that support multiple users working on related tasks.

- *Network Management* - defines the set of capabilities involved in monitoring and maintaining a communications network in order to diagnose problems, gather statistics and provide general usage.

Investment Management - defines the set of capabilities that manage the financial assets and capital of an organization.

- *Strategic Planning & Mgmt* – defines the set of capabilities that support the determination of long-term goals and the identification of the best approach for achieving those goals.

- *Portfolio Management* – defines the set of capabilities that support the administration of a group of investments held by an organization.

- *Performance Management* - defines the set of capabilities for measuring the effectiveness of an organization's financial assets and capital.

Supply Chain Management - defines the set of capabilities for planning, scheduling and controlling a supply chain and the sequence of organizations and functions that mine, make or assemble materials and products from manufacturer to wholesaler to retailer to consumer.

- *Procurement* - defines the set of capabilities that support the ordering and purchasing of products and services.

- *Sourcing Management* – defines the set of capabilities that support the supply of goods or services as well as the tracking and analysis of costs for these goods.

- *Catalog Management* – defines the set of capabilities that support the listing of available products or services that an organization offers.

- *Ordering / Purchasing* – defines the set of capabilities that allow the placement of request for a product.

- *Invoice / Requisition Tracking and Approval* – defines the set of capabilities that support the identification of where a shipment or delivery is within the business cycle.

- *Storefront / Shopping Cart* - defines the set of capabilities that support the online equivalent of the supermarket cart, where orders and merchandise are placed.

- *Returns Management* – defines the set of capabilities for collecting, analyzing, and resolving product returns or service cancellations.

Digital Asset Services Domain

The Digital Asset Services Domain defines the set of capabilities that support the generation, management, and distribution of intellectual capital and electronic media across the business and extended enterprise.

Content Management – defines the capabilities that manage the storage, maintenance and retrieval of documents and information of a system or website.

- *Content Authoring* – defines the capabilities that allow for the creation of tutorials, CBT courseware, Web sites, CD-ROMs and other interactive programs.

- *Content Review and Approval* – defines the capabilities that allow for the approval of interactive programs.

- *Tagging and Aggregation* – defines the set of capabilities that support the identification of specific content within a larger set of content for collection and summarization.

- *Content Publishing and Delivery* – defines the set of capabilities that allow for the propagation of interactive programs.

- *Syndication Management* - defines the set of capabilities that control and regulate an organization's brand.

Document Management – defines the set of capabilities that control the capture and maintenance of an organization's documents and files.

- *Document Imaging and OCR* – defines the set of capabilities that support the scanning of physical documents for use electronically.
- *Document Referencing* – defines the set of capabilities that support the redirection to other documents and information for related content.
- *Document Revisions* – defines the set of capabilities that support the versioning and editing of content and documents.
- *Library / Storage* – defines the set of capabilities that support document and data warehousing and archiving.
- *Document Review and Approval* – defines the set of capabilities that support the editing and commendation of documents before releasing them.
- *Document Conversion* – defines the set of capabilities that support the changing of files from one type of format to another.
- *Indexing* – defines the set of capabilities that support the rapid retrieval of documents through a structured numbering construct.
- *Classification* – defines the set of capabilities that support the categorization of documents.

Knowledge Management - defines the set of capabilities that support the identification, gathering and transformation of documents, reports and other sources into meaningful information.

- *Information Retrieval* – defines the set of capabilities that allow access to data and information for use by an organization and its stakeholders.
- *Information Mapping / Taxonomy* – defines the set of capabilities that support the creation and maintenance of relationships between data entities, naming standards and categorization.
- *Information Sharing* – defines the set of capabilities that support the use of documents and data in a multi-user environment for use by an organization and its stakeholders.
- *Categorization* – defines the set of capabilities that allow classification of data and information into specific layers or types to support an organization.
- *Knowledge Engineering* – defines the set of capabilities that support the translation of knowledge from an expert into the knowledge base of an expert system.
- *Knowledge Capture* – defines the set of capabilities that facilitate collection of data and information.

- *Knowledge Discovery* - defines the set of capabilities that facilitate the identification of useful information from data.

- *Knowledge Distribution and Delivery* - defines the set of capabilities that support the transfer of knowledge to the end customer.

Records Management - defines the set of capabilities to support the storage, protection, archiving, classification and retirement of documents and information.

- *Record Linking / Association* - defines the set of capabilities that support the correlation between logical data and information sets.

- *Document Classification* – defines the set of capabilities that support the categorization of documents and artifacts, both electronic and physical.

- *Document Retirement* – defines the set of capabilities that support the termination or cancellation of documents and artifacts used by an organization and its stakeholders.

- *Digital Rights Management* – defines the set of capabilities that support the claim and ownership of intellectual capital and artifacts belonging to an organization.

Business Analytical Services Domain

The Business Analytical Services Domain defines the set of capabilities supporting the extraction, aggregation, and presentation of information to facilitate decision analysis and business evaluation.

Analysis and Statistics - defines the set of capabilities that support the examination of business issues, problems and their solutions.

- *Modeling* – defines the set of capabilities that support the simulating of conditions or activities by performing a set of equations on a set of data.

- *Predictive* – defines the set of capabilities that support the foretelling of something in advance by the use of data.

- *Simulation* – defines the set of capabilities that support the representation of the interaction between real-world objects.

- *Mathematical* – defines the set of capabilities that support the use of mathematical functions and algorithms for the analysis of data.

- *Structural / Thermal* – defines the set of capabilities that support the use of data flow and data modeling diagrams for applying systematic analysis of data.

- *Radiological* – defines the set of capabilities that support the use of radiation and x-ray technologies for analysis and scientific examination.

- *Forensics* – defines the set of capabilities that support the analysis of physical elements using science and technology for investigative and legal purposes.

Visualization - defines the set of capabilities that support the conversion of data into graphical or picture form.

- *Graphing / Charting* – defines the set of capabilities that support the presentation of information in the form of diagrams or tables.

- *Imagery* – defines the set of capabilities that support the creation of film or electronic images from pictures, paper forms or graphics for static or dynamic use.

- *Multimedia* – defines the set of capabilities that support the representation of information in more than one form to include text, audio, graphics, animated graphics and full motion video.

- *Mapping / Geospatial / Elevation / GPS* – defines the set of capabilities that support the use of elevation, latitude, and longitude coordinates.

- *CAD* - defines the set of capabilities that support the design of products with computers.

Business Intelligence - defines the set of capabilities that support information that pertains to the history, current status or future projections of an organization.

- *Demand Forecasting / Mgmt* – defines the set of capabilities that facilitate the prediction of sufficient production to meet an organization's sales of a product or service.

- *Balanced Scorecard* – defines the set of capabilities that support the listing and analyzing of both positive and negative impacts associated with a decision.

- *Decision Support and Planning* – defines the set of capabilities that support the analyze information and predict the impact of decisions before they are made.

- *Data Mining* - defines the set of capabilities that support the exploring and analyzing of detailed business transactions to uncover patterns and relationships within the business activity and history.

Reporting - defines the set of capabilities that support the organization of data into useful information.

- *Ad Hoc* – defines the set of capabilities that support the use of dynamic reports on an as needed basis.

- *Standardized / Canned* –defines the set of capabilities that support the use of pre-conceived or pre-written reports.

- *OLAP* - defines the set of capabilities that support the analysis of information that has been summarized into multidimensional views and hierarchies.

Back Office Services Domain

The Back Office Services Domain defines the set of capabilities that support the management of enterprise planning and transactional-based functions

Data Management - defines the set of capabilities that support the usage, processing and general administration of unstructured information.

- *Data Exchange* – defines the set of capabilities that support the interchange of information between multiple systems or applications.

- *Data Mart* – defines the set of capabilities that support a subset of a data warehouse for a single department or function within an organization.

- *Data Warehouse* – defines the set of capabilities that support the archiving and storage of large volumes of data.

- *Meta Data Management* – defines the set of capabilities that support the maintenance and administration of data that describes data.

- *Data Cleansing* – defines the set of capabilities that support the removal of incorrect or unnecessary characters and data from a data source.

- *Extraction and Transformation* – defines the set of capabilities that support the manipulation and change of data.

- *Loading and Archiving* – defines the set of capabilities that support the population of a data source with external data.

- *Data Recovery* – defines the set of capabilities that support the restoration and stabilization of data sets to a consistent, desired state.

- *Data Classification* – defines the set of capabilities that allow the classification of data.

Human Resources - defines the set of capabilities that support the recruitment and management of personnel.

- *Recruiting* – defines the set of capabilities that support the identification and hiring of employees for an organization.

- *Resume Management* – defines the set of capabilities that support the maintenance and administration of one's professional or work experience and qualifications.

- *Career Development and Retention* – defines the set of capabilities that support the monitoring of performance as well as the professional growth, advancement, and retention of an organization's employees.

- *Time Reporting* – defines the set of capabilities that support the submission, approval and adjustment of an employee's hours.

- *Awards Management* – defines the set of capabilities that support the recognition of achievement among employees of an organization.

- *Benefit Management* – defines the set of capabilities that support the enrollment and participation in an organization's compensation and benefits programs.

- *Retirement Management* - defines the set of capabilities that support the payment of benefits to retirees.

- *Personnel Administration* –defines the set of capabilities that support the matching between an organization's employees and potential opportunities as well as the modification, addition and general upkeep of an organization's employee-specific information.

- *Education / Training* - defines the set of capabilities that support the active building of employee capacities.

- *Health and Safety* – defines the set of capabilities that support the security and physical well-being of an organization's employees.

- *Travel Management* – defines the set of capabilities that support the transit and mobility of an organization's employees for business purposes.

Financial Management - defines the set of capabilities that support the accounting practices and procedures that allow for the handling of revenues, funding and expenditures.

- *Billing and Accounting* – defines the set of capabilities that support the charging, collection and reporting of an organization's accounts.

- *Credit / Charge* – defines the set of capabilities that support the use of credit cards or electronic funds transfers for payment and collection of products or services.

- *Expense Management* – defines the set of capabilities that support the management and reimbursement of costs paid by employees or an organization.

- *Payroll* – defines the set of capabilities that involve the administration and determination of employees compensation.

- *Payment / Settlement* – defines the set of capabilities that support the process of accounts payable.

- *Debt Collection* – defines the set of capabilities that support the process of accounts receivable.

- *Revenue Management* – defines the set of capabilities that support the allocation and re-investment of earned net credit or capital within an organization.

- *Auditing* – defines the set of capabilities that support the examination and verification of records for accuracy.

- *Activity – Based Management* – defines the set of capabilities that support a defined, specific set of finance-related tasks for a given objective.

- *Currency Translation* - defines the set of capabilities that support the calculations and differences among multiple mediums of exchange.

- *Financial Reporting* - defines the set of capabilities that support the structured dissemination of financial data and information in both physical format and electronic media.

Assets / Materials Management – defines the set of capabilities that support the acquisition, oversight and tracking of an organization's assets.

- *Property / Asset Management* – defines the set of capabilities that support the identification, planning and allocation of an organization's physical capital and resources.

- *Asset Cataloging / Identification* – defines the set of capabilities that support the listing and specification of available assets.

- *Asset Transfer, Allocation, and Maintenance* – defines the set of capabilities that support the movement, assignment, and replacement of assets.

- *Facilities Management* – defines the set of capabilities that support the construction, management and maintenance of facilities for an organization.

- *Computers / Automation Management* – defines the set of capabilities that support the identification, upgrade, allocation and replacement of physical devices, including servers and desktops, used to facilitate production and process-driven activities.

Development and Integration - defines the set of capabilities that support the communication between hardware/software applications and the activities associated with deployment of software applications.

- *Legacy Integration* – defines the set of capabilities that support the communication between newer generation hardware/software applications and the previous, major generation of hardware/software applications.

- *Enterprise Application Integration* – defines the set of capabilities that support the re-designing of disparate information systems into one system that uses a common set of data structures and rules.

- *Data Integration* - defines the set of capabilities that support the organization of data from separate data sources into a single source using middleware or application integration as well as the modification of system data models to capture new information within a single system.

- *Instrumentation and Testing* – defines the set of capabilities that support the validation of application or system capabilities and requirements.

- *Software Development* –defines the set of capabilities that support the creation of both graphical and process application or system software.

Human Capital / Workforce Management – defines the set of capabilities that support the planning and supervision of an organization's personnel.

- *Resource Planning and Allocation* – defines the set or capabilities that support the means for assignment of employees and assets to sustain or increase an organization's business.

- *Skills Management* – defines the set of capabilities that support the proficiency of employees in the delivery of an organization's products or services.

- *Workforce Directory / Locator* – defines the set of capabilities that support the listing of employees and their whereabouts.

- *Team / Org Management* – defines the set of capabilities that support the hierarchy structure and identification of employees within the various sub-groups of an organization.

- *Contingent Workforce Management* – defines the set of capabilities that support the continuity of operations for an organization's business through the identification of alternative organization personnel.

- *Workforce Acquisition / Optimization* - defines the set of capabilities that support the hiring and re-structuring of employees and their roles within an organization.

Support Services Domain

The Support Services Domain defines the set of cross-functional capabilities that can be leveraged independent of Service Domain objective and / or mission.

Security Management – defines the set of capabilities that support the protection of an organization's hardware/software and related assets.

- *Identification and Authentication* – defines the set of capabilities that support obtaining information about those parties attempting to log on to a system or application for security purposes and the validation of those users.
- *Access Control* – defines the set of capabilities that support the management of permissions for logging onto a computer or network.
- *Encryption* – defines the set of capabilities that support the encoding of data for security purposes.
- *Intrusion Detection* – defines the set of capabilities that support the detection of illegal entrance into a computer system.
- *Verification* – defines the set of capabilities that support the confirmation of authority to enter a computer system, application or network.
- *Digital Signature* – defines the set of capabilities that guarantee the unaltered state of a file.
- *User Management* – defines the set of capabilities that support the administration of computer, application and network accounts within an organization.
- *Role / Privilege Management* - defines the set of capabilities that support the granting of abilities to users or groups of users of a computer, application or network.
- *Audit Trail Capture and Analysis* – defines the set of capabilities that support the identification and monitoring of activities within an application or system.

Collaboration – defines the set of capabilities that allow for the concurrent, simultaneous communication and sharing of content, schedules, messages and ideas within an organization.

- *Email* - defines the set of capabilities that support the transmission of memos and messages over a network.
- *Threaded Discussions* – defines the set of capabilities that support the running log of remarks and opinions about a given topic or subject.
- *Document Library* – defines the set of capabilities that support the grouping and archiving of files and records on a server.
- *Shared Calendaring* – defines the set of capabilities that allow an entire team as well as individuals to view, add and modify each other's schedules, meetings and activities.
- *Task Management* – defines the set of capabilities that support a specific undertaking or function assigned to an employee.

Search - defines the set of capabilities that support the probing and lookup of specific data from a data source.

- *Query* – defines the set of capabilities that support retrieval of records that satisfy specific query selection criteria.
- *Precision / Recall Ranking* – defines the set of capabilities that support selection and retrieval of records ranked to optimize precision against recall.
- *Classification* – defines the set of capabilities that support selection and retrieval of records organized by shared characteristics in content or context.
- *Pattern Matching* – defines the set of capabilities that support retrieval of records generated from a data source by imputing characteristics based on patterns in the content or context.

Communication - defines the set of capabilities that support the transmission of data, messages and information in multiple formats and protocols.

- *Real Time / Chat* – defines the set of capabilities that support the conferencing capability between two or more users on a local area network or the internet.
- *Instant Messaging* – defines the set of capabilities that support keyboard conferencing over a Local Area Network or the internet between two or more people.
- *Audio Conferencing* – defines the set of capabilities that support audio communications sessions among people who are geographically dispersed.
- *Video Conferencing* – defines the set of capabilities that support video communications sessions among people who are geographically dispersed.
- *Event / News Management* – defines the set of capabilities that monitor servers, workstations and network devices for routine and non-routine events.
- *Community Management* - defines the set of capabilities that support the administration of online groups that share common interests.
- *Computer / Telephony Integration* - defines the set of capabilities that support the connectivity between server hardware, software and telecommunications equipment into a single logical system.

Systems Management – defines the set of capabilities that support the administration and upkeep of an organization's technology assets, including the hardware, software, infrastructure, licenses and components that comprise those assets.

- *License Management* – defines the set of capabilities that support the purchase, upgrade and tracking of legal usage contracts for system software and applications.

- *Remote Systems Control* – defines the set of capabilities that support the monitoring, administration and usage of applications and enterprise systems from locations outside of the immediate system environment.

- *System Resource Monitoring* – defines the set of capabilities that support the balance and allocation of memory, usage, disk space and performance on computers and their applications.

- *Software Distribution* – defines the set of capabilities that support the propagation, installation and upgrade of written computer programs, applications and components.

Forms Management – defines the set of capabilities that support the creation, modification and usage of physical or electronic documents used to capture information within the business cycle.

- *Forms Creation* – defines the set of capabilities that support the design and generation of electronic or physical forms and templates for use within the business cycle by an organization and its stakeholders.

- *Forms Modification* - defines the set of capabilities that support the maintenance of electronic or physical forms, templates and their respective elements and fields.

3. Use and Maintenance

FEAPMO

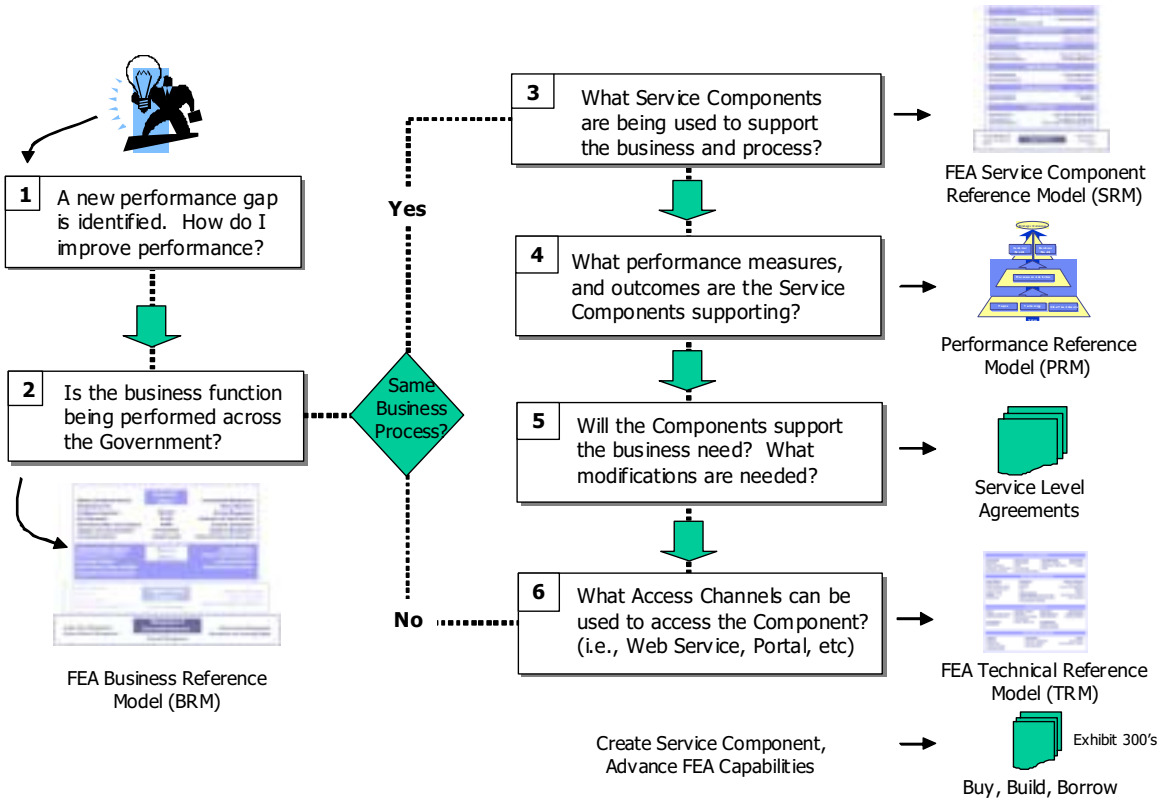
USE AND MAINTENANCE

The FEA and SRM are intended for use in analyzing investments in IT and other capital assets. As agencies plan for their IT capital investments, they will be able to access the FEA to identify:

- Agencies that are building or have already built similar Service Components and capabilities,
- Agencies that are already collecting or plan to collect similar data,
- Suitable technologies already being used elsewhere, in support of Service Components, and
- Potential collaboration partners to jointly resource a project.

An illustration of the utility of the FEA and SRM are presented in Figure 7.

Figure 7 - FEA / SRM Use Case Example



The FEA will provide agencies with a powerful tool to investigate alternatives to costly (and potentially duplicative) IT investments *up front* and before a significant expenditure of resources. Reciprocally, OMB will be using the FEA to ensure that proposed Agency IT investments are not duplicative, and to analyze the architecture throughout the year to identify opportunities for cross-agency collaboration. As such, the FEA will help ensure that the Federal Government eliminates redundant investments, and that Agencies save time and money by leveraging reusable business processes, data stores, and IT components.

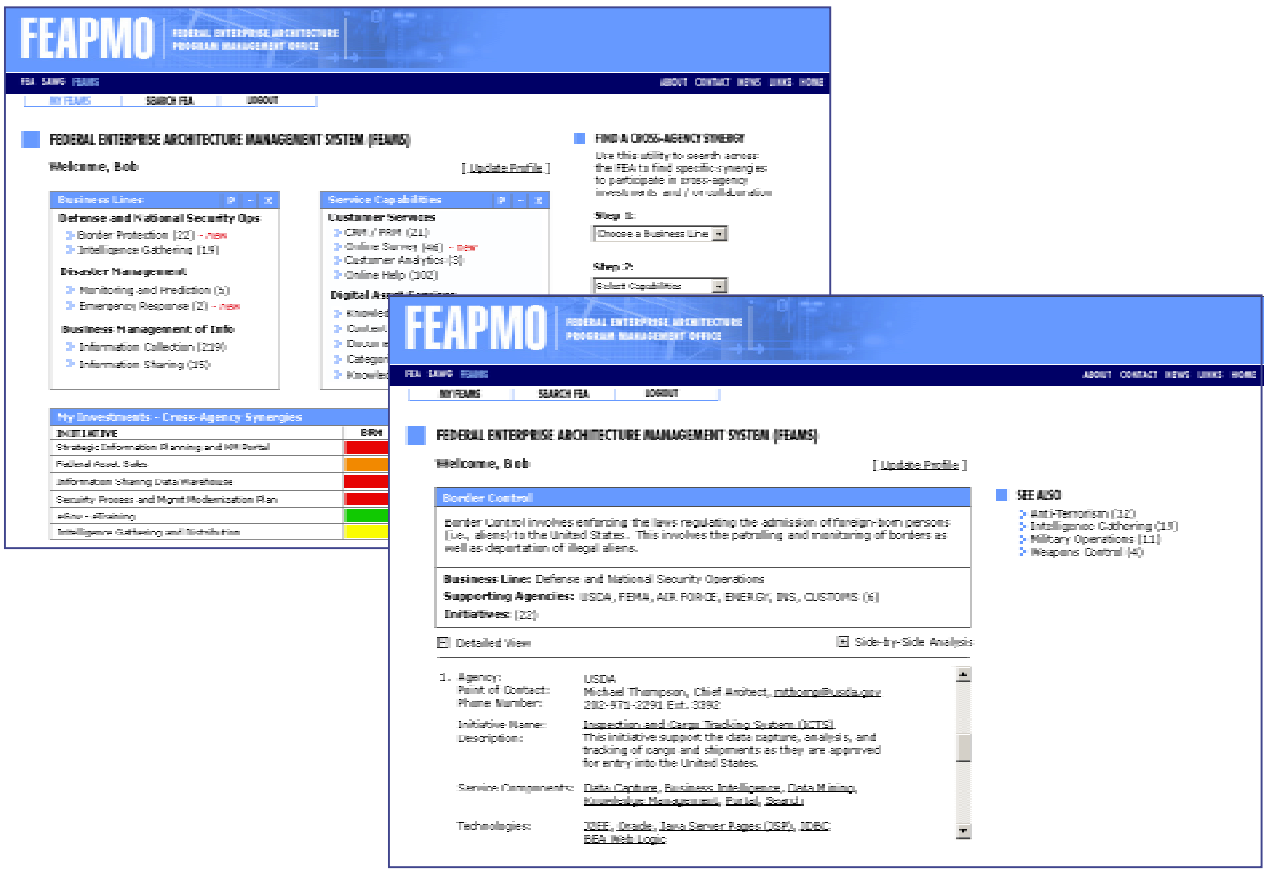
The alignment and relationship of the SRM to Agency enterprise architectures is one of the next steps towards implementing the model across the federal government. Aligning the layers of the TRM and the SRM to Agency technology, business (process or activity), and application architectures, enables the categorization of an Agency's IT investments, assets and infrastructure by the common definition and purpose of the Service Specifications and Service Components in the TRM and SRM, respectively.

THE FEDERAL ENTERPRISE ARCHITECTURE MANAGEMENT SYSTEM (FEAMS)

FEA analysis and maintenance are greatly facilitated through the use of an Internet-based automated EA repository and analysis tool – the Federal Enterprise Architecture Management System (FEAMS). Agencies will be given access to FEAMS and can use it in both capital planning and architecture development efforts.

In addition to storing the FEA reference models, FEAMS, as shown conceptually in Figure 8 will include general information on Agencies' IT initiatives. Initiative alignment to the BRM Lines of Business that they support, the Service Components and technology that these components leverage, and the performance metrics that they use in achieving performance objectives, will be presented. It is OMB's goal that FEAMS will eventually include information on all of the capital assets in which Federal Agencies invest.

Figure 8 - FEAMS



The FEA, including the SRM, is being released to Federal Agencies through the FEA-PMO Website, http://www.feapmo.gov. The website provides Agencies with downloadable access to the SRM in multiple electronic formats – PDF, Word, and XML. FEAMS will advance these capabilities by providing Agency representatives the ability to search across FEA reference models to deter-

mine the availability of services and components they may be able to reuse as well as data and information that they may be able to share.

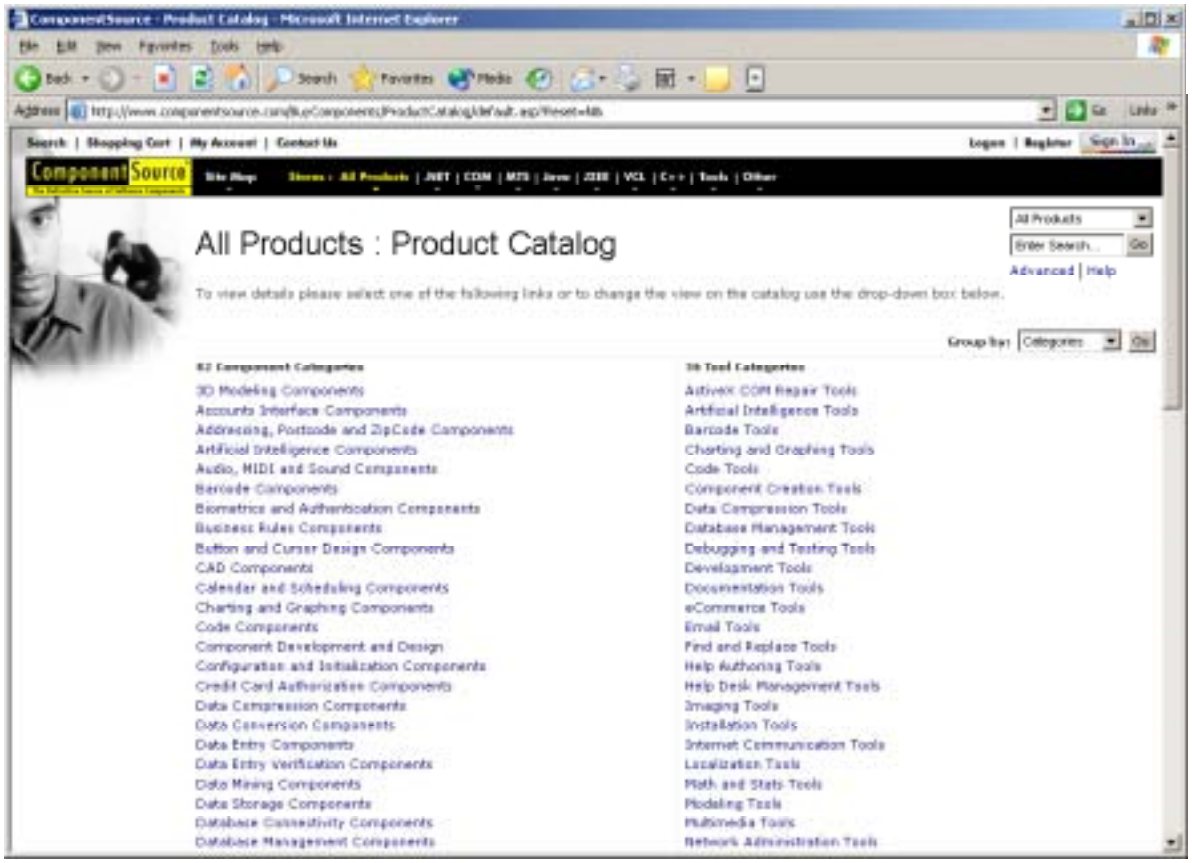
FEA RELATED ACTIVITIES

Component Registry /Repository

The creation of a component repository and registry for component directory services is envisioned to be one of the tangible, ongoing outcomes of the FEA analysis at the service, technology and data layers. As reusable components are identified and collaboration between agencies begins to take place, there will be the need for a repository and mechanism for storing, maintaining and sharing these components.

The AIC Component Subcommittee (CS) will establish a component registry that will be accessible over a secure extranet to initiative owners and the managing partners of the 24 Presidential Priority E-Gov initiatives. For instance, this registry might provide an area in which users can find, evaluate, share, download, and rate software components, as shown in Figure 9, as well as a directory of business functions that the component supports. The component registry might provide the "latest" research and analysis surrounding the selection and recommendation of third-party / industry components that are supported by the Component-Based Architecture specifications.

Figure 9 - Sample Component Registry



The component repository will enable the rapid discovery and assembly of data, technology and service components for use in applications and systems that support the objectives of an agency initiative. Whenever possible, the sharing of these components will be accomplished through standards-based, reusable, secure, portable and interoperable technology. Service Level Agreements between the partnering agencies will help build the understanding for implementation and usage of these components.

The establishment of a component registry is widely accepted as a means in which organizations can leverage the knowledge and intellectual property across public, state and local industries. For instance, organizations such as the National Association of State CIO's (NASCIO) have partnered with ComponentSource to create the National Software Component Exchange (NSCE) for state and local governments. Other exchanges and component-service organizations offer similar services that should be leveraged when making the decision to partner and/or build a similar solution.

Component-Based Architecture (CBA)

The AIC CS is currently engaged in the creation of an FEA Component-Based Architecture (CBA) document to support the adoption of components, and component-based architectures within and across an enterprise. This document will include, but will not be limited to:

- Scope and Objectives
- A high-level concept of the Government's federated component based architecture, and the strategy for evolution from today to the future.
- Why Component Based Architecture?
- What is it?
- What does it do for me?
- When to apply it?
- Where does it apply?
- Who applies it?
- High-level use case / Concept of Operations
- Impacts / Implications
- Constraints and Challenges
- Examples and lessons learned

Solution Development Life Cycle (SDLC)

The FEA-PMO, in close cooperation with the SAWG and the AIC CS is championing the creation of a new Solution Development Life Cycle (SDLC) that focuses on the rapid assembly and deployment of solutions using a Component-Based approach. The SDLC consists of parallel strategic, business, and implementation phases that continually measure and evolve the initiative performance, objectives, and outcomes – in respect to how the initiative supports the customer. The SDLC will compliment existing SDLC methodologies and provide a common framework to support the architecting, development, and implementation of cross-agency e-Gov initiatives.

UPDATES AND MODIFICATIONS TO THE SRM

The current SRM is the first iteration and will be modified periodically as conditions evolve and additional agency architecture information is provided. As with most EA efforts, the development and ongoing maintenance of the FEA is an iterative and continuous improvement process. Since many agencies are still in the process of developing their EAs, OMB expects that the SRM will initially require more frequent revisions, but that the model will stabilize over time. Changes to the FEA will continue to be verified through Federal Agencies and will be published to the FEA-PMO Website.

As the FEA – and the SRM – become institutionalized, the maintenance and upkeep will be the responsibility of both agencies and OMB. Agencies will provide the high-level information – often through the annual budget preparation process – required to maintain (and mature) the FEA. However, comments on the SRM may be made throughout the year through the FEA-PMO website as new issues arise.

OMB and the FEA-PMO look forward to a process of consistent improvement to all aspects of the FEA, and certainly, Federal Agencies must play a primary role in the process. OMB will receive, compile, normalize, and validate comments on the SRM throughout the year. A process is being established to integrate the SRM revision process with Agencies' capital planning efforts and OMB's budget review and allocation processes to ensure that updated versions of the model are issued before agencies initiate their annual planning processes.

In summary, OMB envisions a collaborative and mutually beneficial management plan for the FEA that will result in positive outcomes for all stakeholders. OMB will work over the coming months to develop and publish a formalized FEA Management and Maintenance Plan that will provide explicit instructions to Agencies on the roles, responsibilities, standards, and expectations for the management and upkeep of the FEA. The high-level information contained herein is intended to provide the general concepts of current thinking in this area, and is subject to modification. OMB commits to obtaining Agency comments and feedback on the FEA Management and Maintenance Plan.

A. The Federal Enterprise Architecture

FEAPMO

THE FEDERAL ENTERPRISE ARCHITECTURE

The FEA is a business and performance-based framework for cross-agency, government-wide improvement. It provides OMB and the Federal agencies with a new way of describing, analyzing, and improving the federal government and its ability to serve the citizen. The lack of an FEA to support cross-agency collaboration was cited by the 2001 Quicksilver E-Government Task Force as a key barrier to the success of the 24 Presidential Priority E-Government initiatives approved by the President's Management Council in October 2001.

Led by OMB, the purpose of the FEA is to identify opportunities to simplify processes, re-use Federal IT investments and unify work across the agencies and within the lines of business of the Federal Government. The outcome of this effort will be a more citizen-centered, customer-focused government that maximizes technology investments to better achieve mission outcomes.

FEA REFERENCE MODELS

The FEA is comprised of five (5) reference models. Collectively, they will provide universal definitions and constructs of the business, performance and technology of the Federal Government. The reference models will serve as a foundation to leverage existing processes, capabilities,

components and technologies as Government Agencies build target enterprise architectures. They are designed to facilitate cross-agency analysis and the identification of duplicative investments, gaps, and opportunities for collaboration within and across Federal Agencies.

Performance Reference Model (PRM) – Version 1.0 in Draft

The PRM is a framework for performance measurement that provides common outcome and output measures throughout the Federal Government. It allows agencies to better manage the business of Government at a strategic level while providing a means for gauging progress towards the target FEA. The PRM accomplishes these goals by establishing a common set of general performance outputs and measures that agencies use to achieve program and business goals and objectives. The model articulates the linkage between internal business components and the achievement of business and customer-centric outcomes. Most importantly, it facilitates resource allocation decisions based on comparative determinations of which programs/organizations are more efficient and effective.

The PRM will be designed to integrate with and complement OMB's development of the Program Assessment Rating Tool (PART) and Common Measures Initiative. By defining outcome and output for Service Domains, Types and Components, the PRM will provide the tools necessary to measure the effectiveness of components across agency initiatives at the federal enterprise level. Additional guidance on both the PRM and PART will be provided as the linkages between these two initiatives are clearly established.

Business Reference Model (BRM) – Version 2.0 Released

The Business Reference Model is a framework for describing the business of the Federal Government independent of the agencies that perform it, and serves as the foundation for the FEA. The model describes the Federal Government's Lines of Business, including its internal operations and its services for the citizen, independent of the Agencies, bureaus and offices that perform them. By describing the Federal Government around common business areas instead of the stovepiped, agency-by-agency view, the BRM promotes agency collaboration.

The new version of the BRM (Version 2.0) will be used in support the FY 2005 budget formulation process. Version 2.0 differs from its predecessor as a result of agency comments, the addition of a new "Mode of Delivery" layer, and closer alignment with the Budget Function Classifications.

Service Component Reference Model (SRM) – Version 1.0 Released

The SRM is a business-driven, functional framework that classifies Service Components with respect to how they support business and/or performance objectives. The SRM is structured across horizontal service areas that, independent of the business functions, can provide a leverageable foundation for reuse of applications, application capabilities, components, and business services.

Technical Reference Model (TRM) – Version 1.0 Released

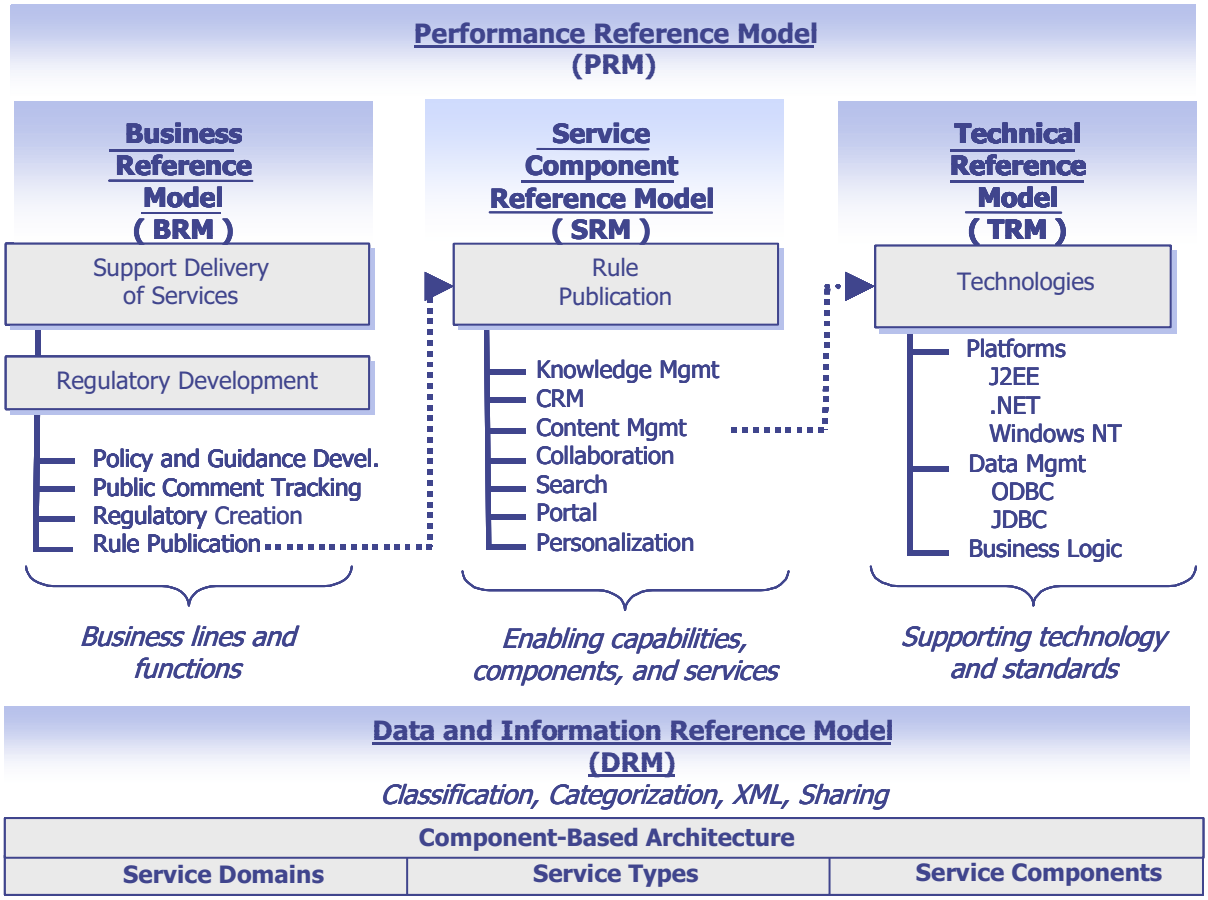
The TRM is a hierarchical foundation used to describe how technology is supporting the delivery of Service Components and capabilities. The TRM will outline the technology elements that collectively support the adoption and implementation of component-based architectures, as well as the identification of proven products and toolsets that are embraced by government-wide initiatives such as FirstGov.Gov, Pay.Gov, and the 24 Presidential Priority E-Government Initiatives.

Data and Information Reference Model (DRM)

The Data and Information Reference Model (DRM), still being developed, will describe, at an aggregate level, the data and information that support program and business line operations. The model will aid in describing the types of interactions and information exchanges that occur between the Federal Government and its various customers, constituencies, and business partners. It will categorize the government's information along general content areas specific to BRM sub-functions and decompose those content areas into greater levels of detail, ultimately to data components that are common to many business processes or activities. The DRM will establish a commonly understood classification for Federal data and lead to the identification of duplicative data resources as well as enable information sharing between agencies. A common data classification model will streamline the processes associated with information exchange both within the Federal government and between the government and its external stakeholders.

The DRM will be produced on a business line by business line basis, as opposed to a single cumulative effort. This allows for the identification of and concentration on key improvement areas, producing clearly identified and measurable results. The FEA-PMO will oversee the focused DRM efforts to ensure all appropriate points of integration are identified. Additionally, they will help identify reusable data components that support a Line of Business and/or Sub-functions. Attributes of these data components will be based upon specifications as identified in the FEA Technical Reference Model, and accessed by a specific Service Component.

Figure 10 – FEA Reference Model Integration



As depicted in Figure 10, the SRM and other FEA reference models provide definitions and constructs of the business, performance and technology of the Federal Government. They serve as a foundation to access and leverage existing processes, capabilities, components, technologies, and data as agencies build target Enterprise Architectures (EA).

BENEFITS OF THE FEA

Federal Agency Benefits

The FEA is a high-level architecture for the Federal government as a whole. The FEA provides vision into the federal-wide architecture giving each agency a collection of new capabilities from which to choose for defining and implementing their target EA environments. Agencies will now be able to:

- Save time and money by leveraging reusable business processes, data, and IT-components in other agencies

- Leverage FEA work products as a catalyst for agency-specific EA efforts

- Ensure proposed investments are not duplicative with those of other agencies – prior to developing business cases and submitting them to OMB

- Suggest modifications to the SRM to ensure future versions accurately portray the Capabilities and Service Components of industry and government, including the role specific agencies play

Agencies have played a key role in the definition of Version 1.0 of the SRM and they will continue to play a role in its advancement and evolution.

Citizen Benefits

The true driver behind the FEA effort is the need to improve the government's delivery of services both to and for the public. The agency-centric systems and processes that have previously characterized government must be replaced with integrated, citizen-centric applications and processes. The FEA, through its support of the 24 Presidential Priority e-Government Initiatives, as well as other cross-agency, citizen-focused e-Government efforts, is a key component of the citizen-focused transformation in government.

OMB Benefits

The FEA provides both the policy and budget sides of OMB with a greatly enhanced cross-agency analytical capability. Through the analysis of the FEA, OMB will be able to see opportunities for collaboration of processes, data, services and technology across the federal agencies. Examples of the benefits to OMB include:

- Elimination or consolidation of redundant investments in IT capabilities, business processes, or other capital assets

- Identification of common business functions across agencies

- Integration of performance measurement with the budget process along the key business lines of the government

Congressional Benefits

Application of the Federal Enterprise Architecture will yield a wealth of information on Federal business lines, programs and capital investments; and the performance of those business lines,

programs and capital investments. This information will be made available to Congress as it considers the authorization of and appropriation of funding for Federal programs, and as it fulfills its oversight responsibilities on behalf of the citizen.

THE FEA PROGRAM MANAGEMENT OFFICE

The Federal Enterprise Architecture Program Management Office (FEA-PMO) was established to provide the definition and development of the FEA. The FEA-PMO manages and coordinates activities surrounding:

- Definition of the FEA through a set of Government-wide reference models focusing on business, performance, service components and capabilities, technologies and standards, and data and information.

- Development of a core set of standardized Component-Based Architecture models to facilitate technology solutions and the development of a complete architecture (baseline, target, and transition) for each of the 24 Presidential Priority E-Government initiatives.

- Assessment and identification – through high-level architecture, critical success factors, and Line of Business performance information – of new opportunities for business process and system consolidation to improve government efficiency and effectiveness.

- Development of a web-based FEA repository, called the Federal Enterprise Architecture Management System (FEAMS), to provide agencies with a view of cross-agency information and the alignment of IT investments to areas of the Federal Enterprise Architecture.

FEA-PMO Governance Structure

OMB's Chief Technology Officer (CTO) and the FEA Program Manager provide leadership for the FEA-PMO and SAWG (discussed in the following section). The CTO is responsible for ensuring the overall success of the Program, overseeing the completion of program tasks, and securing the approval of program deliverables by senior OMB officials and the Program's external stakeholders (e.g., CIO Council, CFO Council, Procurement Executives Council, and senior federal IT, planning, budget, and procurement staff). The Program Manager provides day-to-day guidance on specific tasks, approves all work products and deliverables, and secures sufficient resources to carry the Program forward. Both the CTO and Program Manager communicate with the Program's stakeholders, both formally and informally, on a regular basis.

The Solution Architects' Working Group (SAWG)

To support the development and implementation of various reference models and IT investments, including the Presidential Priority E-Gov initiatives, the FEA-PMO has the SAWG. The primary goal of the SAWG is to help define and evolve several of the federal reference models, and to assist Federal Agencies with activities surrounding the technical design of solutions to their initiatives and to promote and communicate the principles of Component-Based Architecture and component reuse. Specifically, the SAWG is responsible for:

- Providing E-Government initiative teams with a suite of templates to assist in the development, implementation and rollout of an e-Gov initiative.
- Providing E-Government initiative teams with solution architects who will assist in defining initiative blueprints, and validate system architectures to support the planning and implementation of the Presidential Priority E-Government initiatives.
- Establishing linkages between relevant Government-wide entities to ensure that standards, best practices, and lessons learned are leveraged across the entire government.
- Selecting, recommending, and assisting in the deployment of technologies that are proven, stable, interoperable, portable, secure, and scalable.
- Facilitating the migration and transition of E-Government initiatives from legacy and "inward-driven" architectures (i.e. agency-centric), to architectures that embrace component-driven methodologies and technology reuse.
- Identifying and capitalizing on opportunities to leverage, share, and reuse technologies to support common business requirements, activities, and operations across the Federal Government.
- Championing the creation and propagation of intellectual capital that can assist in E-Government transformation.

The FEA Program Manager serves as the Chief Architect for the SAWG. In this capacity, the Program Manager is responsible for determining the appropriate technical architecture to be used by the Presidential Priority E-Government initiatives, and providing the necessary technical oversight of the project to ensure that the technical architecture is designed, developed, tested, and deployed properly and according to plan. The Chief Architect works closely with the Solutions Architect(s) assigned to each E-Government initiative to ensure that all technical architecture requirements are adequately addressed.

OMB's IT/E-Gov Working Group

OMB's IT/E-Gov Working Group provides overall guidance to the work of the FEA-PMO. It is comprised of the IT leads within the Resource Management Offices and officials within the Information Policy and Technology Branch. The ultimate goal of the Working Group is to leverage

Agency management, investments, and processes to achieve effectiveness and efficiency goals for programs and business lines. The Working Group played a key role in developing and implementing IT policy in preparation for the Fiscal year 2004 budget process, and is playing a key role in the development of the Federal Reference Models.

FEA-PMO Support Team

The FEA-PMO Support Team was established to execute program tasks in accordance with the FEA-PMO Work Plan. The Support Team is responsible for delivering draft work products – for example, the FEA reference models – to Federal agencies for review and comment; and analyzing and incorporating comments, as appropriate, to produce a final product. The FEA-PMO has created and maintains a website, http://www.feapmo.gov, to help ensure that Program information is shared with as wide an audience as possible.

Architecture and Infrastructure Committee (AIC) – Components Subcommittee

The AIC Components Subcommittee (CS) was established to foster the identification, maturation, use and reuse of Component-Based Architectures and Architectural Components in the federal government. The underlying objectives are to foster the basic principles of interoperability, reusability and portability of processes, services and infrastructure components by Federal agencies and related partners and stakeholders as they modernize their business processes through data sharing, e-government automation and improved information systems.

The efforts of the CS will be directed toward achieving these outcomes:

- Identification of business processes, service components, and technologies for re-use through analysis of the FEA Service Component and Technical Reference Models.
- Reduction of IT costs for federal agencies achieved through the re-use of business processes, service components, and technologies.
- Rapid solution development through the re-use of components.
- Rapid integration of disparate business services.
- Development and implementation of e-Gov solutions based on component-based architectures.