Human Resources Line of Business
Foreword to Service Component Model Version 2

The Human Resources Line of Business (HR LOB) initiative was launched in 2004 in support of the President’s Management Agenda. The HR LOB is expected to help the Federal Government realize the potential of electronic government by significantly enhancing human resources service delivery across the Executive Branch. The HR LOB Concept of Operations (CONOPS) proposes a near-term service delivery model in which HR services relating to human resources information systems (HRIS) for Personnel Action Processing and Benefits Management and payroll operations be delivered by HR Shared Service Centers. Over time, as HR shared service centers evolve and expand their capabilities, agencies will have the option to move the more transactional and administrative activities to the service center delivery mode. The HR LOB approach allows agencies to increase their focus on core mission activities and the strategic management of human capital, while HR shared service centers deliver services in an efficient and cost-effective manner with a focus on customer service and quality.

The HR LOB is developing an enterprise architecture in compliance with the Federal Enterprise Architecture guidelines that will form the basis for this delivery model. The HR LOB has published the Business Reference Model, Performance Model, and Data Model through the collaborative efforts of hundreds of HR professionals across government. This document addresses the HR LOB Service Component Model (SCM).

A service component is a self-contained business capability that supports business processes and assist agencies and Shared Service Centers accomplish their missions and performance objectives. The SCM establishes a standard universe of services from which providers will select to form their services portfolio, or menu. Customer agencies in turn will determine which services they will purchase from providers, selecting from the menu. This new services view, depicted by the SCM, will provide the framework and vocabulary that will be the conceptual foundation for this performance-driven line of business.
# Table of Contents

Foreword to Service Component Model Version 2 .............................................................. i

1 Introduction......................................................................................................................... 1
   1.1 HR LOB Background ................................................................................................. 1
   1.2 HR LOB Enterprise Architecture................................................................................ 1

2 HR LOB Service Component Model.................................................................................. 4
   2.1 Overview: What is a Service Component? ............................................................... 4
   2.2 FEA Guidelines for Service Components................................................................. 5
   2.3 Human Resources and Human Capital Management Service Components ............ 7
   2.4 Service Components that Span Lines of Business.................................................... 10

3 HR LOB Service Delivery Model..................................................................................... 15
   3.1 User Types ............................................................................................................... 15
   3.2 Service Delivery Channels....................................................................................... 16
   3.3 Service Delivery Mapping......................................................................................... 17

4 Next Steps and Downstream Use of the HR LOB SCM .................................................. 20
   4.1 Federal Transition Framework.................................................................................... 20
   4.2 Requirements Mapping............................................................................................ 20
   4.3 HR LOB Technical Model........................................................................................ 21

Appendix – HR LOB Service Delivery Model........................................................................ 22
1 Introduction

In the spring of 2004 the Office of Management and Budget (OMB) established five lines of business to identify ways in which services commonly found in numerous agencies could be provided more efficiently. The Human Resources Line of Business (HR LOB), led by the Office of Personnel Management (OPM), was launched in 2004 to realize the potential of electronic government and significantly enhance human resources service delivery for all civilian employees of the Executive Branch.

1.1 HR LOB Background

The Human Resources Line of Business (HR LOB) initiative has been tasked to consider business benefits and impacts of a new service delivery model that preserves some HR functions at the agency level – consistent with the business model determined by the agency – and moves other HR functions to HR LOB Shared Service Centers (SSCs). Initially, the SSCs will deliver the core processes of payroll, benefits management, and personnel action processing. Over time, as the HR LOB Shared Service Centers evolve and expand their capabilities, more functions may shift to the shared services delivery model. The potential business benefits are significant; it is estimated that at least one billion dollars in cost savings can be attained over ten years, resulting from increased productivity and efficiency gains.

Since the basis for the above is HR services, it is necessary to build a common view of them throughout the Federal Government. The Service Component Model identifies HR services – service components – and proposes the means for providing them to its customers – service delivery. It provides a framework and vocabulary for guiding discussions between service providers and customer agencies and is meant to be a catalyst for true cross-agency collaboration.

1.2 HR LOB Enterprise Architecture

Enterprise architectures provide a basis for understanding commonalities across business entities and an opportunity for collaboration and sharing. Federal Enterprise Architecture (FEA) Guidelines define the concept of enterprise architecture specific to the Federal Government. They prescribe the structure, content, and manner in which the architectures will be constructed. The FEA explains that architecture is a tool that enables the Federal Government to identify opportunities to leverage resources and alleviate redundancy or to highlight where agency overlap limits the value of resource investments. The FEA will facilitate horizontal (cross-Federal) and vertical (Federal, State and Local Governments) integration of resources and establish the “line of sight” contribution of resources to mission and program performance.

The HR service delivery approach proposed by the HR LOB is a new model for doing business in the Federal Government. The breadth of this initiative spans Human Resources for the Executive Branch civilian workforce. To help manage the complexity of this effort, a set of architectural blueprints is being constructed to provide a common picture and a common vocabulary for the business of HR in the Federal Government.
There are five models that comprise the HR LOB enterprise architecture (EA). OMB’s Federal Enterprise Architecture (FEA) standards guide their development:

- The Business Reference Model (BRM) is “… a framework that facilitates a functional (rather than organizational) view of the Federal Government’s lines of business, including its internal operations and its services for citizens, independent of the agencies, bureaus and offices that perform them. The BRM describes the Federal Government around common business areas instead of through a stove-piped, agency-by-agency view.”

- The Data Model is “… intended to promote the common identification, use and appropriate sharing of data/information across the Federal Government through its standardization of data in the following three areas: data context, data sharing and data description.”

- The Performance Model is “… a framework for performance measurement providing common output measurements throughout the Federal Government. The model articulates the linkage between internal business components and the achievement of business and customer-centric outputs.”

- The Service Component Model is “… a business-driven, functional framework classifying Service Components according to how they support business and performance objectives. It serves to identify and classify horizontal and vertical Service Components supporting Federal agencies and their IT investments and assets.”

- The Technical Model is “… a component-driven, technical framework that categorizes the standards and technologies to enable and support the delivery of Service Components and capabilities. It also unifies existing agency technical models and E-Gov guidance by providing a foundation to advance the reuse and standardization of technology and Service Components from a governmentwide perspective.”

Collectively, the five models provide a comprehensive view of how a Federal enterprise’s business mission is supported or enabled by processes, information, organization, and underlying information systems and technologies.

The HR Line of Business has published four of the five models:

- HR LOB Business Reference Model version 2 – The BRM is an end-to-end process view of human resources for the executive branch of the Federal Government. BRM version 1 was previously published in December 2004. During the fall of 2005, 47 HR subject matter experts representing 14 federal agencies reviewed and refined the previous BRM and recommended a revision consisting of 45 processes organized into 10 sub-functions. Each of these processes is further decomposed to the activity level definitions. This report can be viewed by clicking on:  
  http://www.opm.gov/egov/documents/architecture/#brm
HR LOB Data Model version 1 – Completed in January 2006, the Data Model describes two different views – a Conceptual Data Model (CDM) and the Logical Data Model (LDM). The CDM is a single, integrated data structure that shows data objects along with high-level relationships among data objects. The LDM includes more detail for a subset of the CDM scope: the data to be shared across agencies and SSCs. It shows data entities, attributes and relationships between entities. This report can be viewed by clicking on:

http://www.opm.gov/egov/documents/architecture/#dm

HR LOB Performance Model version 1 – The PM proposes a common set of performance measures for core business areas for use throughout the Federal Government. These performance measures will gauge how effectively government HR resources are used to support agency mission results, support the effective management of human capital across the government and provide for effective human resources service delivery to employees, managers/supervisors and other HR constituents. This report can be viewed by clicking on:

http://www.opm.gov/egov/documents/architecture/#pm

HR LOB SCM version 1 – The SCM is a business and performance-driven EA categorization model that assists Federal agencies in identifying “service components” for core business areas that support the achievement of business and performance objectives. As agencies and Shared Service Centers (SSCs) move forward to develop and formalize their relationships, this document will provide input and a common vocabulary for their discussions. This report can be viewed by clicking on:

http://www.opm.gov/egov/documents/architecture/#scm
2 HR LOB Service Component Model

Between June 2006 and March 2007, 97 participants representing 14 HR LOB member agencies met in a series of eight Service Component Model (SCM) work sessions to:

- Identify and define the service components that support HR business processes.
- Insert those service components into the hierarchical SCM taxonomy provided by OMB’s Federal Enterprise Architecture.
- Agree upon the best means of delivering each of the newly identified components to customers.

The HR LOB Business Reference Model was used to structure the eight work sessions:

1. Compensation Management
2. Benefits Management
3. Personnel Action Processing
4. HR Strategy
5. Organization and Position Management
6. Staff Acquisition
7. Performance Management, Human Resources Development
8. Employee Relations, Labor Relations and Separation Management

The Service Component Model version 1 report was published in September 2006 and presented the results of the first three sessions – for HR LOB core business areas. This report extends the version 1 report and presents the results of all eight sessions. This report thus contains the complete, end-to-end HR LOB Service Component Model.

2.1 Overview: What is a Service Component?

The HR LOB Common Solution(s) White Paper and Concept of Operations (CONOPS) discussed two dimensions very important to any Federal line of business: common solutions and standardization.

The concept of common solutions is based on a model that provides a business-driven approach to deliver standardized, scalable, and portable HR services across the Federal Government. Shared Service Centers would be a keystone for common solutions, producing economies of scale and supporting the four goals of the HR Line of Business: reduced cost, improved efficiency, improved customer service, and improved management of human capital.

Standardization defines common and repeatable processes that make common solutions possible. Enterprise architecture provides the framework and vocabulary for deciding what is to be standardized.
Two desirable outcomes result from building out these dimensions – reusability and interoperability.

- **Reusability** is the ability to utilize a business asset in more than one context – by multiple organizations or across multiple processes.
- **Interoperability** is the ability to exchange assets for like assets without undue impact. It enables the purchaser of an asset to trade out one for another. Because the asset is self-contained and independent in terms of what it accomplishes and the resources it needs, there is minimum rippling effect when the trade-out occurs.

Identifying these assets is one step toward achieving the concepts of reusability and interoperability. The challenge is to identify assets that are robust enough to be meaningful (provide enough business value) and still finite enough to be self-contained. The Service Component Model project brought together 97 people from 14 HR LOB member agencies to identify these assets, called service components.

The Federal HR enterprise was deconstructed into its constituent sub-functions, processes and activities when the Business Reference Model was built in 2004. The Service Component Model work group examined this end-to-end HR process to identify business services that could support the process. The result is the HR LOB Service Component Model.

The Service Component Model establishes a standard, accepted menu of services for the HR Line of Business. The SCM identifies the universe of services from which providers will select to create their portfolio (menu). Customer agencies, in turn, will purchase services from providers, selecting from their menu.

The SCM project has provided HR LOB participant agencies the opportunity to contribute to the building of a common framework and vocabulary for reusable, interoperable HR services across the Federal Government.

### 2.2 FEA Guidelines for Service Components

The HR LOB Service Component Model identifies and classifies service components that can be leveraged across the government. A service component is a self-contained capability that is in place to support the HR LOB BRM business processes and assists agencies and Shared Service Centers in accomplishing their missions and performance objectives. A service component has the following attributes:

- It has the potential for re-use among different functions and processes.
- It can be shared across different organizations.
- New capabilities can be added with minimum ripple effects.
- It is provider-independent; the same service provided by a different provider can be replaced with minimal disruption to business operations.
- It is product-independent; as long as the same business capability is provided, it does not matter what the product or underlying technology is.
A customer would attach value to it and would be willing to purchase it; a provider would therefore consider offering it.

The intent of the Service Component Model project is to identify and define all service components that support the Human Resources function and to place them into the FEA service component hierarchy. The hierarchy has three levels: service components (level 1) are grouped into service types (level 2) and service types in turn are grouped into service domains (level 3). The following figure shows the hierarchical taxonomy that FEA guidelines have proposed.

<table>
<thead>
<tr>
<th>Service Domain</th>
<th>Service Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Services</td>
<td>Customer Relationship Management, Customer Preferences, Customer Initiated Assistance</td>
</tr>
<tr>
<td>Process Automation Services</td>
<td>Tracking and Workflow, Routing and Scheduling</td>
</tr>
<tr>
<td>Business Management Services</td>
<td>Management of Process, Organizational Management, Investment Management, Supply Chain Management</td>
</tr>
<tr>
<td>Digital Asset Services</td>
<td>Content Management, Document Management, Knowledge Management, Records Management</td>
</tr>
<tr>
<td>Business Analytical Services</td>
<td>Analysis and Statistics, Visualization, Business Intelligence, Reporting</td>
</tr>
<tr>
<td>Back Office Services</td>
<td>Data Management, Human Resources, Human Capital / Workforce Management</td>
</tr>
</tbody>
</table>

**Figure 1 – FEA Service Component Model Taxonomy**

Under each service type, Federal Enterprise Architecture guidelines also present a “starter set” of service components. The SCM work group used this starter set in its discussions.
2.3 Human Resources and Human Capital Management Service Components

Following are the service components for the service types Human Resources and Human Capital Management, under the service domain Back Office Services. It is the recommendation of the SCM work group that OMB adopt these services into the governmentwide Service Component Reference Model. Note also that the work group has recommended simplifying the name of the service type “Human Capital/Workforce Management” to “Human Capital Management”.

Service Domain: Back Office Services

Service Type: Human Resources

Service Components:

Payroll Processing – Captures, validates, and processes payroll and disbursement data for a given pay period by gathering data on employee time worked and leave taken, calculating gross pay and processing deductions and taxes to calculate net pay.

Payroll Reporting – Reports on payroll and human resources information by pay period, by quarter, by calendar year, by fiscal year and as requested; these reports are a result of or integral to the payroll process.

Time and Attendance – Defines work schedules; records and certifies the time and attendance for employees of an organization.

Manager Self-service – Allows managers to be self-sufficient in initiating actions or updating, retrieving, and analyzing employee and organization information within their sphere of control as a manager or supervisor.

Employee Self-service – Allows employees to be self-sufficient in initiating actions or creating, updating, and retrieving information within their sphere of control as an employee.

Pay Administration – Determines eligibility and calculates values for pay and leave and other compensation. The pay data resulting from this service is used as an input to the Payroll Processing service.

Benefits Counseling – Advises individuals on a wide range of benefit options, eligibility and impacts. Provides information, counseling, assistance, and advocacy to employees regarding their benefits and entitlements.

Benefits Processing – Captures, validates, and processes benefits elections and actions.
Benefits Reporting – Provides the capability to report employee participation in benefits programs.

Personnel Action Processing – Initiates, validates, approves, updates, and documents personnel actions and data.

Position Classification – Supports the creation or revision of position descriptions, the evaluation of job requirements against classification standards, and administration of the classification appeal process.

Recruiting – Execute the Staff Acquisition Plan by engaging in marketing, advertising, personal contact, and other outreach activity aimed at building a pool of quality candidates that have potential for meeting the human capital needs of the agency. Recruiting may be aimed at a specific job or it may be more broadly aimed at general agency needs.

Application Management – Accepts employment applications and captures application information in a manner that makes it available to those who need it. Manages and communicates application status. Analyzes and assesses application information to determine applicant eligibility for employment.

Learning Administration – Supports the administrative and logistical aspects of human resource development. This includes publishing a course catalog, securing a facility, scheduling instructor(s), administering registration, receiving class evaluations, and certifying course completion.

Workers Compensation – Provides comprehensive workers compensation services including adjudication, case management, counseling, and fraud investigation.

Health and Fitness – Supports the physical well-being of an organization's employees. This may include health, wellness, and fitness programs and education.

Unemployment Compensation – Provides services under the unemployment compensation program including claims processing, billing, reporting, and handling appeals.

**Service Type:** Human Capital Management

**Service Components:**

Competency Management – Supports the building of competency libraries, competency frameworks that help define and manage proficiency, and
competency processes that support the development, maintenance, and use of competencies across the Federal Government.

Succession Planning – The identification, creation, and development of a pipeline of talent available to fill current and future requirements for agency-identified positions.

Workforce Planning – The process of assessing the current workforce and identifying gaps with respect to future work requirements. It also involves the creation of plans and strategies to reduce or eliminate these gaps.

Workforce Reshaping – Considers the current personnel inventory and reallocates workforce as applicable.

Organization Design – Supports the creation or revision of an agency’s organization structure and reporting relationships.

Position Management – Supports the assignment of work and establishment of positions to carry out the organization's mission or program and maintenance of the agency's inventory of positions.

Assessment Model – Identifies or develops assessment tools and criteria to be used to determine the best qualified candidates for a particular job or job group.

Staffing – Fulfills governmentwide and agency-specific regulatory requirements to effect a hiring action for specific position(s). Applies assessment tools and methods to evaluate candidates against requirements of the job for which they are being considered.

Career Development Planning – Supports the identification of development opportunities and learning needs based on agency needs, individual goals and needs, and/or gaps in competencies, knowledge, skills and abilities. This may be at the individual level or at a department or program level.

Human Resources Development Needs Assessment – Works collaboratively with the agency to support the identification of development needs and recommendations regarding human resource development programs and priorities.

Human Resources Development Program Development – Supports training needs analysis, design, development, and evaluation of human resource development learning opportunities. This may include a single learning opportunity or a group or series of learning opportunities.
Human Resources Development Program Delivery – Provides the learning opportunity to enhance an employee’s competencies, knowledge, skills, and abilities to support individual professional development and/or agency needs. This may include a single learning opportunity or a group or series of learning opportunities.

Human Capital Program Review and Assessment – Supports the evaluation of HC and HR programs via an assessment of whether objectives have been met.

Performance Management – Provides consultative support to agencies on the design, development, implementation, and evaluation of performance management programs. May also provide support to managers and supervisors on individual performance management processes and issues.

Employee Relations – Provides support to management for a variety of employee relations matters including disciplinary action, adverse action, administrative action, action related to unacceptable performance, alternative dispute resolution, grievance, third-party decisions and appeals, suitability, reasonable accommodation, and termination. Provides training to employees on standards of conduct.

Labor Relations – Provides support to management and/or agency on a variety of labor relations matters including mediation, arbitration, alternative dispute resolution, filings, and compliance with statutory labor-management relations obligations. Provides training on labor relations topics.

2.4 Service Components that Span Lines of Business

The SCM work group also identified service components outside the HR/HCM service types that support the Human Resources process. These service components are listed below, again structured by service type and service domain. Although these service components fall outside of the areas of Human Resources and Human Capital Management, they were determined by the SCM work group to be integral to supporting the HR LOB BRM processes.

The work group has proposed changes to service component names, to service component definitions, and to the taxonomy. Because these service components could potentially be used across lines of business, our recommendations are not as authoritative as they are for the above HR and HCM service types. Since the following services are more governmentwide in nature, our recommendation is that OMB convene a governmentwide work group to discuss the components, their names, definitions, and placement in the hierarchy.

Service Domain: Back Office Services

Service Type: Data Management

Service Component:
Data Exchange – Supports the interchange of information between multiple systems or applications; includes verification that transmitted data was received unaltered.

**Service Type:** Financial Management

**Service Component:**

Labor Cost Allocation – Attaches labor costs to accounting codes.

**Service Domain:** Customer Services

**Service Type:** Customer Relationship Management

**Service Components:**

Customer Support – Provides a wide range of assistance to various populations (e.g., resolving technical problems, responding to process and policy questions).

Call Center Management – Plans, schedules and controls the activities between the customer and the enterprise both before and after a product or service is offered.

Customer Feedback – Collects, analyzes and handles responsive comments from an organization's internal or external customers and stakeholders.

Partner Relationship Management – Plans and controls the activities between an organization, its stakeholders and business partners – including third parties that support services to an organization’s stakeholders.

Marketing – Facilitates the promotion of a product or service as well as developing an awareness of the program. This could include brand management.

**Service Type:** Customer Initiated Assistance

**Service Component:**

Employee Assistance Program – Provides professional counselors to support employees and family members in addressing problems that can adversely affect job performance, reliability, and personal health.

**Service Domain:** Business Analytical Services

**Service Type:** Business Intelligence
Service Components:

Decision Support and Planning – Provides for the identification, gathering and analysis of data for decision making, resolution of problems and business issues and to support predicting of the impact of decisions before they are made or predicting events that require decision making in the present.

Reporting – Retrieves, manipulates and presents information as needed.

Data Mining – Sifts through a variety of data and business transaction results to uncover patterns and relationships that can be aggregated and interpreted for business decision-making.

Strategic Planning and Management – Supports the determination of long-term goals and the identification of the best approach for achieving those goals.

Activity-Based Management – Uses activity-based costing to improve strategic and operational decisions in an organization. Activity-based costing establishes relationships between overhead costs and activities so that overhead costs can be more precisely allocated to products, services or customer segments. Activity-Based Management combines business process analysis (how an organization’s processes consume resources) and activity-based costing to create a cost model that dynamically reflects the underlying business processes of the organization, which can better inform decision-making.

Service Type: Presentation

Service Component:

Multimedia – Supports the representation of information in more than one form including text, audio, graphics, animated graphics and video.

Service Type: Analysis and Statistics

Service Components:

Modeling and Simulation – Supports the simulating of conditions or activities by performing a set of equations on a set of data and the representing of the interaction between real-world objects.

Predictive Analysis – Supports the forecasting of something in advance through the use of data.

Mathematical Methods – Supports the use of mathematical functions and algorithms for the analysis of data.
Service Domain: Digital Asset Services

Service Type: Information Services

Service Components:

Knowledge Management – Organizes and manages information regarding policy and process for subsequent retrieval through knowledge sharing.

Content Management – Creates, revises, and manages content regarding policy, business rules, processes etc. for publication into the knowledge base.

Records Management – Provides the capability to store, protect, archive, classify, retrieve and retire documents and information.

Service Domain: Business Management Services

Service Type: Management of Process

Services Components:

Project Management – Organizes and manages resources in such a way that the resources deliver the results required to complete the defined scope of an effort within defined time and cost constraints. A project is a temporary, one-time endeavor undertaken to realize a particular outcome.

Consultative Services – Provides support on program and policy development and implementation.

Program Management – Manages the day-to-day operations of an ongoing effort.

Requirements Management – Gathers and analyzes the needs, expectations or prerequisites that specify an effort to be undertaken by an organization.

Quality Management – Manages an enterprise’s processes that help determine the level of assurance that a product or service will satisfy certain requirements.

Risk Management – Identifies the probabilities of hazards as they relate to a task, decision or long-term goal, proposes approaches to mitigating risks and allows for a process to ensure risk identification and mitigation are being done on an ongoing basis.

Change Management – Control the process for updating or modifying an enterprise’s existing business processes, documents or software.
Configuration Management – Controls an organization’s hardware environment, software environments and documents.

**Service Domain:** Process Automation Services

**Service Type:** Tracking and Workflow

**Service Components:**

Process Tracking – Allows the monitoring of activities within and/or across business cycles.

Case/Issue Management – Manages the life cycle of a particular claim or investigation including the creation, routing, tracing, assignment and closing of a case; also supports collaboration among case handlers.
3 HR LOB Service Delivery Model

The HR LOB Service Component Model provides a framework for identifying and defining the *business capability* that must be in place to support the HR LOB BRM business processes. The HR LOB service delivery model takes this analysis further and recommends *how* each capability may be made available to the consumers of the capability.

The service delivery model identifies and defines the various consumers of services, or “user types”. It maps those users to service components, and for each instance proposes the "delivery channel" to be used to deliver the service in an effective and efficient manner.

This HR LOB service delivery model is described in the sub-sections that follow. Note that this model provides *recommendations* only; each customer agency will ultimately define the delivery structure for their particular agency and negotiate these delivery expectations with their provider in a Service Level Agreement (SLA).

3.1 User Types

Over the course of the Service Component Model Project, the SCM work group identified and defined thirteen *user types*. User types are generic customers – constituents that might take advantage of or consume a service. User types are role-based in nature; an individual may perform different roles depending on the activity being performed. An HR Executive, for example, is performing the role of HR Executive when she is making decisions around succession planning. On the other hand, she is performing the role of Active Employee when she is using the service component employee self-service to enter her own benefits enrollment data. And she is performing the role of Manager when she is initiating a personnel action for a direct report.

The HR LOB service delivery model user types are listed below, along with their definitions.

- **HR Executive** – An individual at the executive level of an organization responsible for the human resources function.
- **Executive** – An individual at the executive level of an organization.
- **Manager** – An individual who supervises or is accountable for the performance of others and who manages employee resources.
- **Active Employee** – An individual occupying or who has been selected for a position in or under the Executive Branch.
- **Other Employee** – An individual currently working for the Executive Branch who is not an active employee and is not being paid by the government. Examples include indirect hire foreign nationals, students, medical residents and volunteers.
Prospective Employee – An individual who is considering employment with the Executive Branch.

HR Staff – An individual who is involved in developing and/or executing HR policies and processes. In addition to agency employees, this could also include a contractor performing a staff augmentation role or SSC employees.

Other Staff – An individual outside of the Human Resources function, within or external to the agency, employed by a public or private sector entity who uses HR products and services to assist in the performance of their official duties. Examples include an individual who works in financial management, legal or other administrative or program areas of an entity, outside of HR.

External Vendor/Organization – An enterprise that provides and/or receives services but is not in a staff augmentation capacity (performing the role of HR Staff). Examples include third party vendors such as TALX and FSA.

Former Employee – An individual who separated from Federal civilian service but did not retire.

Retiree – An individual who retired from Federal civilian service.

Family Member – An individual who is a member of an active, retired or former employee's family.

Government Agency – Another Federal Government entity that provides information to and/or receives information from an HR process.

### 3.2 Service Delivery Channels

This section proposes a four-tiered structure of service access and delivery. This structure is based on best practice-based service delivery models that have been deployed throughout the public and private sectors.

Service delivery channels indicate the manner in which each service component would be accessed by the users who have access to it. Typically, delivery channels are organized into a tiered structure. The users of each service component gain access at a particular level and may be escalated to successively higher levels as necessary.

**Tier 0 – Direct Access.** The Direct Access tier enables the user to perform an action related to the task or activity without any direct involvement or guidance from another person. This environment provides the capability for managers and employees to directly enter and receive data. It also provides a means for communicating critical information, posting FAQs, and announcing policies and procedures.
**Tier 1 – Call Center.** The Call Center tier enables the user to speak to a Human Resource generalist who utilizes scripts and knowledge base to respond to a wide variety of questions and issues. If necessary, a call center human resources generalist may transfer a call to a subject matter expert at tier 2.

**Tier 2 – Subject Matter Expert.** The Subject Matter Expert tier interprets policy to respond to escalated issues and questions. The subject matter expert usually has a specialized experience or knowledge in a specific topic that the service component is related to (e.g., benefits processing) and is typically empowered to make routine or low-risk decisions. A subject matter expert may transfer a question or issue it to a decision maker at tier 3.

**Tier 3 – Decision Maker.** The Decision Maker tier responds to complex issues, questions and critical incidents. The decision maker interprets policy and has decision-making authority around complex issues, questions and critical incidents. They also maintain operational oversight and focus on employee satisfaction.

### 3.3 Service Delivery Mapping

For each service component, the SCM work group identified the user types that would benefit from or use that service. And for each usage instance, the work group identified the delivery channel the user type would *use first* to access the service. A number of very important points must be made about this mapping.

First, access is not limited to a tier; any delivery scenario could be escalated upward to higher tiers to address questions or issues that cannot be adequately handled at the lower tier. The user type would have alternatives for accessing a service, but the model presents our subject matter experts’ *recommendations* about the most likely starting point for accessing the service. This starting point should be *innovative* – encouraging innovation in the use of tools and technology – but also *realistic* – acknowledging each user type’s propensity for certain behaviors.

Second, the service delivery model is not mandated; it merely provides an informed point of view that may be used as reference material for service providers and customer agencies when they design their service delivery processes and negotiate their service level agreements. In fact, it will be the Service Level Agreement (SLA) between each customer agency and its provider that will define service delivery expectations. It should be noted that the service delivery channels for the service components proposed in the delivery model are applicable to any shared services environment – internal to an agency providing the service to its own customers or external through an outsourced service provider.

Additionally, service delivery requirements will vary by agency to accommodate the various union contracts, variances in agency sizes and needs, and requirements to provide access to human resources services to *all* employees – some of whom may have special needs or may not have access to personal computers at home or work.
And finally, although our discussions took place for each intersection of service component to user type, it is probably more useful to look at the recommendations in the aggregate rather than individually. For instance, one can focus on the aggregation of services supported by each tier. If one examines the HR LOB Service Delivery Model to look at all the services available via direct access, for example, one gets a view of the functionally and content that should be made available via the Web, what an employee portal might look like, and what the requirements are for single sign-on across multiple applications. If one looks at the services available via the call center, one gets a view of the skills and experience needed by call center staff, the automated tools needed for call center staff, and the infrastructure needed to house and support the call center. The service delivery model will thus be a useful planning tool.

Another aggregate view that might prove interesting comes from looking down the columns of the HR LOB Service Delivery Model to see how service delivery could vary by user type. For example, 88% of the HR and HCM services that are delivered to an executive level role (executive and HR executive) are delivered via tier 2, subject matter expert, or tier 3, decision maker. In other words, executives are going to be inclined to talk with subject matter experts and in some cases with their peers—other executives—when they are performing the executive role, largely making broad decisions and resolving complex issues. They are not likely going to call the call center to resolve an issue that has escalated to their level.

Similarly, HR staff will be more likely to work with subject matter experts on human capital management-related topics and issues. 73% of the HCM services accessed by HR staff are delivered via tier 2, subject matter experts. The remaining 27% are delivered via direct access (tier 0). Contrast this to HR services: just 19% of HR services accessed by HR staff are delivered by subject matter experts while 69% are delivered via direct access. The lower cost direct access method of delivery is employed for the more administrative (HR) issues while a more people-intensive method of delivery is employed for the more strategic (HCM) issues.

Employees, retirees, and family members will in many cases be encouraged to utilize Web-based resources or the call center as a first resort. These user types (active employee, other employee, prospective employee, former employee, retiree, and family member) will be encouraged to use direct access for 63% of the HR services they access. They will be encouraged to use the call center for the remaining 35% of the HR services they access.

Many HR professionals react negatively to service delivery recommendations that propose widespread use of tiers 0 and 1, claiming they are impersonal and low touch and therefore contrary to the mission of HR. However, a number of real benefits can be realized by leveraging tiers 0 and 1:

- **Resource Optimization.** These services involve largely repeatable, predictable processes and therefore can be delivered by tiers 0 or 1. And since these services tend to be high volume, there could be significant business value to moving these services to tiers 0 and 1 and freeing up higher cost subject matter experts to do the less repeatable, predictable work.
- **Quality.** High touch does not necessarily mean high quality. Use of tiers 0 and 1 introduces consistency: everyone gets the same information and level of service.
Continuous Improvement. Data about questions and issues can more easily be aggregated and used to improve Web content, revise call center scripts and knowledge bases, and even update policy.

The following matrix summarizes service delivery by user type for those service components within the service types Human Resources and Human Capital Management. User types appear in the left column. The other columns show, for each delivery channel, the percentage of HR and HCM services delivered to each user type. The complete model appears in the Appendix.

<table>
<thead>
<tr>
<th>User Type</th>
<th>tier 0</th>
<th>tier 1</th>
<th>tier 2</th>
<th>tier 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR Executive</td>
<td>15%</td>
<td>0%</td>
<td>70%</td>
<td>15%</td>
</tr>
<tr>
<td>Executive</td>
<td>10%</td>
<td>0%</td>
<td>62%</td>
<td>28%</td>
</tr>
<tr>
<td>Manager</td>
<td>26%</td>
<td>11%</td>
<td>63%</td>
<td>0%</td>
</tr>
<tr>
<td>Active Employee</td>
<td>78%</td>
<td>17%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Other Employee</td>
<td>79%</td>
<td>21%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Prospective Employee</td>
<td>88%</td>
<td>12%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>HR Staff</td>
<td>48%</td>
<td>7%</td>
<td>45%</td>
<td>0%</td>
</tr>
<tr>
<td>Other Government Staff</td>
<td>60%</td>
<td>0%</td>
<td>40%</td>
<td>0%</td>
</tr>
<tr>
<td>Government Agency</td>
<td>88%</td>
<td>0%</td>
<td>12%</td>
<td>0%</td>
</tr>
<tr>
<td>External Vendor / Organization</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Former Employee</td>
<td>33%</td>
<td>67%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Retiree</td>
<td>33%</td>
<td>67%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Family Member</td>
<td>43%</td>
<td>57%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table 1 – Delivery Channel Recommendations Across User Types
4 Next Steps and Downstream Use of the HR LOB SCM

The service component, service type, and service domain recommendations contained in this report will be submitted to the Office of Management and Budget for inclusion in the governmentwide Service Component Reference Model. It is the recommendation of the HR LOB SCM work group to accept as submitted the service components under the service types Human Resources and Human Capital Management. The work group also recommends that OMB consider its recommendations for the service components that fall under other service types.

4.1 Federal Transition Framework

The HR LOB Concept of Operations promotes reusability of business assets across the Federal Government. The HR LOB Service Component Model identifies services that can be provided across multiple Federal agencies and thus promotes reusability at the services level. It can be used in tandem with OMB’s Federal Transition Framework (FTF) to identify opportunities for cross-agency collaborative efforts aimed at producing these reusable assets. According to OMB (http://www.whitehouse.gov/omb/egov), the FTF is a source for “clear and consistent information describing governmentwide IT policy objectives and cross-agency initiatives, such as the E-Gov and Line of Business initiatives.” One core element of the Federal Transition Framework is the FTF Catalog, which “is a single information source for cross-agency … initiatives using a simple, familiar and organized structure. It contains governmentwide … policy objectives and cross-agency initiatives including:

- “OMB-sponsored initiatives, e.g., E-Gov and LOB initiatives
- “Government-wide initiatives, e.g., Internet Protocol Version 6 (IPV6), Homeland Security Presidential Directive 12 (HSPD 12)”

Line of Business enterprise architecture artifacts, such as the HR LOB Service Component Model, will be used to conceive and originate initiatives while the FTF Catalog will broadcast the existence of these initiatives so they may be leveraged by other government agencies.

4.2 Requirements Mapping

The HR LOB Target Requirements for Shared Service Centers maps each requirement to the BRM activity or activities it supports. This mapping is important because it adds information to the requirement; some requirements are not so easily understood without understanding the BRM activities they support.

It is the recommendation of the SCM work group that we also map the requirements to service components. Understanding the collection of requirements that supports each service component would help to define that service component in terms of customer expectations (requirements) for the service. It could be a very important basis for negotiation between customer and provider. A number of benefits could be achieved from this mapping:
• It will provide detailed content to the SLA and be a very tangible basis for SLA negotiation.
• It will reduce risk because expectations will be clarified and thus surprises will, conceivably, also be reduced.
• It will provide a means for delineating “basic service” (defined by those requirements designated as SSC only) and “premium service” (defined by those requirements designated as SSC/agency).
• It will enable providers to better predict their involvement in the whole process and thus be better able to project staffing, infrastructure, and other resource requirements.
• It will afford a real basis for providers to price their services.

4.3 HR LOB Technical Model
The HR LOB SCM will be used to build the HR LOB Technical Model (TM), providing the architectural business layer from which the architectural technology layer will emerge.

The TM will identify the technology services that support the service components and, like the Service Component Model, place these services into a taxonomy provided by OMB FEA guidelines. These technology services will provide a framework for understanding opportunities for the reuse of technology, just as the SCM provides a framework for understanding opportunities for the reuse of business services.

The TM will also offer detailed requirements, standards, and specifications for these technology services. These will serve as an important basis for technology certification.
Appendix – HR LOB Service Delivery Model

On the Service Delivery Mapping Matrix that appears on the following pages:

- Direct access is designated by: 0
- Call center is designated by: 1
- Subject matter expert is designated by: 2
- Decision maker is designated by: 3
<table>
<thead>
<tr>
<th>Service Domain</th>
<th>Service Type</th>
<th>Service Component</th>
<th>HR Executive</th>
<th>Executive</th>
<th>Manager</th>
<th>Active Employee</th>
<th>Other Employee</th>
<th>Prospective Employee</th>
<th>HR Staff</th>
<th>Other Govt. Staff</th>
<th>Government Agency</th>
<th>External Vendor/Org</th>
<th>Former Employee</th>
<th>Retiree</th>
<th>Family Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back Office Services</td>
<td>Human Resources</td>
<td>Payroll Processing</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Payroll Reporting</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time and Attendance</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manager Self Service</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Employee Self Service</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pay Administration</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits Counseling</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits Processing</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits Reporting</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Personnel Action Processing</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Position Classification</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recruiting</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Application Management</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Learning Administration</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Workers Compensation</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Health and Fitness</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unemployment Compensation</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Human Capital Management</td>
<td>Competency Management</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Succession Planning</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workforce Planning</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workforce Reshaping</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Organization Design</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HR LOB Service Component Model Version 2</td>
<td>September 28, 2007</td>
<td>Page 24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>--------------------</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Data Management</strong></td>
<td>Data Exchange</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Financial Management</strong></td>
<td>Labor Cost Allocation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Customer Services</strong></td>
<td>Customer Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Call Center Management</td>
<td>2 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Customer Feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Partner Relationship Management</td>
<td>3 2 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Customer Initiated Assistance</strong></td>
<td>Employee Assistance Program</td>
<td>1 1 1 2 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

```
| Position Management | 2 3 2 | 0 0 |
| Assessment Model    | 2 2 2 | 0   |
| Staffing            | 2 2 2 | 0   |
| Career Development Planning | 2 2 2 | 0 0 2 |
| HR Development Needs Assessment | 2 2 2 | 0 0 2 |
| HR Development Program Development | 2 2 2 | 2 2 |
| HR Development Program Delivery | 2 0 0 | 0 2 0 |
| Human Capital Program Review and Assessment | 2 2 0 0 0 0 2 2 |
| Performance Management | 2 2 2 | 0 0 2 2 |
| Employee Relations   | 2 2 2 | 0 0 2 2 |
| Labor Relations      | 2 2 2 | 2 2 |
| Data Management      | Data Exchange      | 0 0 0 0 |
| Financial Management | Labor Cost Allocation | 0 0 |
| Customer Support     | 3 2 1 1 1 1 2 1 2 2 1 1 1 |
| Call Center Management | 2 2 | 2 2 |
| Customer Feedback    | 2 2 2 0 0 2 0 |
| Partner Relationship Management | 3 2 2 | 2 2 |
| Marketing            | 2 2 0 0 0 0 0 0 |
| Customer Initiated Assistance | Employee Assistance Program | 1 1 1 2 2 |
|                         |                   | 1 1 |
```
<table>
<thead>
<tr>
<th>Business Intelligence</th>
<th>Decision Support and Planning</th>
<th>Reporting</th>
<th>Data Mining</th>
<th>Strategic Planning and Management</th>
<th>Activity-Based Management</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 2 2</td>
<td>0 2 2</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Presentation</td>
<td>Multimedia</td>
<td>0 0 0</td>
<td>0 0 2</td>
<td>0 0</td>
<td>0</td>
</tr>
<tr>
<td>Analysis and Statistics</td>
<td>Modeling and Simulation</td>
<td>2 2 2</td>
<td>2 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Predictive Analysis</td>
<td>2 2 2</td>
<td>2 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Mathematical Methods</td>
<td>2 2 2</td>
<td>2 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Digital Asset Services</td>
<td>Knowledge Management</td>
<td>0 0 0</td>
<td>0 0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Information Services</td>
<td>Content Management</td>
<td>3 3 0</td>
<td>0 0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Records Management</td>
<td>2 2 2</td>
<td>0 0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Business Management Services</td>
<td>Project Management</td>
<td>3 2 2</td>
<td>2 2 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Management of Process</td>
<td>Consultative Services</td>
<td>3 2 2</td>
<td>2 2 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Program Management</td>
<td>2 2 2</td>
<td>2 2 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Requirements Management</td>
<td>2 2 2</td>
<td>2 2 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Quality Management</td>
<td>2 2 2</td>
<td>2 2 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Risk Management</td>
<td>2 2 2</td>
<td>2 2 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Change Management</td>
<td>2 2 2</td>
<td>2 2 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Configuration Management</td>
<td>2 2 2</td>
<td>2 2 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Process Automation Services</td>
<td>Tracking and Workflow</td>
<td>Process Tracking</td>
<td>Case / Issue Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------</td>
<td>------------------</td>
<td>-------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>