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4/01/05		

HUD HRMT

DATE: April 1, 2005

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ENTERPRISE ARCHITECTURE PRACTICE
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1 INTRODUCTION

It is the policy of the United States Government that executive agencies shall significantly improve the management of their information systems, including the acquisition of information technology, by implementing the relevant provisions of the Paperwork Reduction Act of 1995 (Public Law 104-13), the Information Technology Management Reform Act (ITMRA) of 1996 (Division E of Public Law 104-106), and the Government Performance and Results Act (GPRA) of 1993 (Public Law 103-62). OMB Circular A-130 (November 2000) issued under the authority of the ITMRA, Paperwork Reduction Act, GPRA and other legislation establishes policy for the management of Federal information resources of all agencies of the executive branch of the Federal government. It specifically orders that agencies must document and submit enterprise architecture (EA) to the Office of Management and Budget (OMB).

OMB Circular A-130 states that enterprise architecture is the explicit description and documentation of current and desired (target) relationships among business and management processes and information technology. EA also provides a strategy that will enable an agency to support its current IT environment and act as a roadmap for the transition to approved target architecture. To support the transition to an agency's target architecture, OMB Circular A-11 added enterprise architecture to the business case (Part III, OMB Exhibit 300) for agency IT investments. OMB Guidance requires agencies to explain how each IT investment supports, modernizes or conforms to the agency's enterprise architecture and the Federal Enterprise Architecture Framework.

The Human Resources Management and Training Segment Architecture initiative is intended to bring together, under a single guiding blueprint, the various modernization efforts conducted over recent years. Both proactive internal strategic planning and external changes in federal IT investment direct the architectural alignment represented in this document. With HUD's Target Enterprise Architecture as the decision-making framework, multiple views of Human Resources and Training are consolidated to present a single vision for business transformation, IT modernization, and appropriate choices in IT portfolio management. The blueprint will evolve to address changing business process needs, and as emerging technologies allow HUD to introduce new business models.

Segment Architecture work is structured and sequenced to produce architectural-aligned deliverables. The process ensures integrity throughout the work, represented in a clear line-of-sight from the business requirements to the

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technology solutions. Moreover, this particular segment architecture introduces a new Departmental business model concept: the application service provider (ASP).

The following sections outline various aspects of the business problem, solution and the framework used to develop the blueprint. Strategic drivers as well as the blueprint methodology are described. Finally, specific recommendations have been formulated to enable Departmental advancement in business transformation and IT modernization.

1.1 BACKGROUND

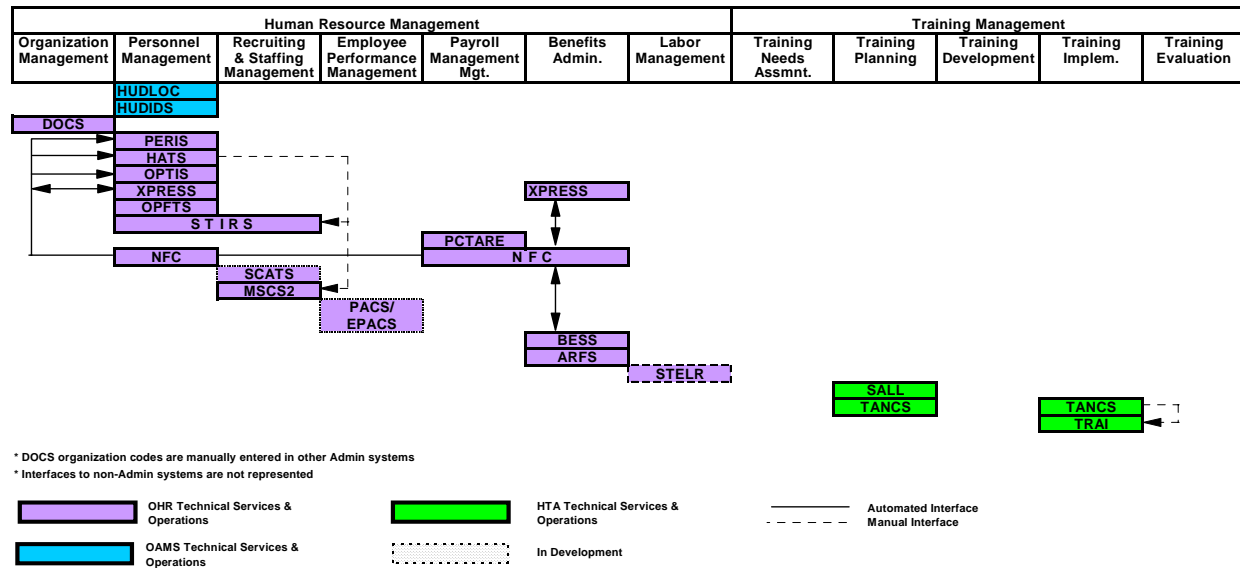
HUD's Office of Human Resources (OHR) and HUD Training Academy (HTA) utilize sixteen legacy systems to process Human Resources data. These systems are stand-alone applications that do not integrate together, but consist of various information technologies that support the many business functions of OHR and HTA. An objective of the SA initiative is to evaluate these system applications as they relate to the supportability of the OHR and HTA business functions and assess alternative system solutions. Subsequently, the SA describes the migration road map from current multiple-system environment to an agency-wide integrated, single platform solution.

In the past, the Office of Administration has been unable to establish a vision and strategy for managing its information systems. As future Information Technology investments are to be scrutinized by the Office of Management and Budget (OMB) in relation to alignment with a Departmental Enterprise Architecture strategy, the Office was compelled to reevaluate its major systems development efforts. The Administration Consolidated Plan (ACP) was initiated in adherence to HUD and federal policy guidance. The main goal of the ACP is to minimize the redundancy and inefficiency currently in the Office's system environment and to provide a strategic plan that emphasizes integration within business functions and applications. Finalized in FY 2003, the ACP includes significant assessment and planning for an Integrated Human Resources and Training System (HIHRTS).

The current HIHRTS system environment consists of 15 production systems, which represents almost half of the Office of Administration's entire systems inventory. Within the environment there are redundant personnel management systems, redundant recruiting and staffing management systems, redundant benefits administration systems, redundant data, non-integrated functionality, and, in some areas, a lack of fully automated processes. The current system environment also consists of limited reporting functionality due to the technical limitations of the existing systems, manual tasks, such as duplicate keying of information, and the issue of DOCS running out of organizational codes.

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Exhibit 1-1 Current HIHRTS System Environment



Federal Line of Business Initiatives

In March 2004, OMB initiated a government-wide Enterprise Architecture analysis of three lines of business. These three core back office solution domains were Financial Management, Grants Management, and Human Resources. Interagency teams examined common business and IT requirements using the Federal Enterprise Architecture Framework and Reference Models as guides. Best practices and a common federal-wide business case were developed for each line of business, culminating in an agency taskforce mandate to align core back office systems to a single budget submission. A major goal of the effort was to identify economies of scale opportunities for an FY 2006 Budget consolidation, which identified common solutions for business processes and/or technology-based shared services for all government agencies.

Human Resources Line of Business (HR LOB) Initiative

The vision for Human Resource is a government-wide, modern, cost-effective, standardized, and integrated Human Resource Information System(s) (HRIS) to support the strategic management of human capital. The Office of Personnel Management (OPM) is the designated Managing Partner, and OPM refines the architectural solution, coordinates agency taskforce activities, and provides policy

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and governance oversight to the HR LOB. A federal agency service center business model is established to enable accelerated modernization of business and IT functionalities. Agencies have the option of hosting a common HRIS for access by other agencies, or outsourcing these requirements to another service center, all based on the common HR LOB enterprise architecture strategy.

The HR LOB directly influences HUD alternatives, and choices, with regard to Human Resource Management and Training automation. HR LOB Agency Taskforce decisions about common architectural solutions guide the modernization design configuration of both business functions and technology services. Selection of outsourcing providers must conform to this definitive set of requirements. Adoption of federal HR LOB architectural solutions is mandated by OMB.

1.2 SEGMENT ARCHITECTURE DEFINITION

In order to organize complex Enterprise Architecture efforts into manageable pieces, HUD has introduced the concept of Segment Architecture (SA) as a key element of the EA practice. A Segment Architecture is an Information Technology architecture for an individual Line of Business (e.g. Multi Family Housing Finance), or a cross-cutting service (e.g. Tracking and Workflow, Grants Management).

The Target SA for the Department of Housing and Urban Development (HUD) Human Resources Management and Training (HRM/T) functions is a business-driven plan or vision that describes the desired end-state modernization design for human capital business, information, technology services, and technology infrastructure solutions. The SA is an evolving, living document representing the iterative implementation of the HRM/T solution. In this initial SA version, information, performance and security architecture components are not included in the architecture vision. These views will be added in the second version parallel with the maturity of an entire HUD Target Enterprise Architecture (EA). The full deployment of the SA vision is anticipated within a two to four year planning horizon.

By defining the desired HRM/T end-state from several distinct perspectives (e.g. business, services, etc.), the target SA also provides stakeholders with a "line of sight" into the complex relationships that exist among these different perspectives. For example, the SA provides visibility into how a particular customer need translates into a set of target HUD business processes, and how those business processes will be supported by a common set of technologies.

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The HRM/T Target SA is developed within the context of the HUD Target EA v 1.0, ensuring leverage of common services, accurate use of standards, interoperability, and coordination in the delivery and sustainability of Departmental solutions. Moreover, an SA satisfies the documentation requirements necessary to effectively govern the HRM/T initiative IT Lifecycle.

1.3 PURPOSE

The SA work develops specific HRM/T function recommendations for creating alignment to and leveraging the Target EA. The SA outlines a high-level Transition Plan for achieving HUD's strategic vision and goals, which outlines the sequenced deployment of critical components of the HRM/T transformation initiative. The SA provides decision-makers with a guide for strategic choices in such areas as engaging business transformation, the appropriate deployment of IT modernization, selecting investments and integrating the HRM/T solution across HUD's enterprise.

This strategic document provides a vision and set of directions for Departmental consensus about HRM/T solutions. It will serve as a "Blueprint" for HUD stakeholder investment in enabling information technology. The SA Blueprint will evolve and improve as stakeholders become engaged and actively participate in the development and implementation of the target solution, and as complimentary architecture-aligned solutions emerge across the enterprise.

The intended near-term uses and impacts for SA Blueprint Version 1.0 include:

- Alignment of HRM/T SA to the HUD Target Enterprise Architecture V1.0
- Ensure that IT initiatives are compliant with HUD Target Enterprise Architecture V1.0 in the fiscal year 2006-2007 IT Investment Management Select process
- Develop an EA Transition Plan, which provides a high-level roadmap for moving toward the Target HRM/T SA V1.0

1.4 BENEFITS

The enterprise architecture approach to business problem definition, exploration, and solutions results in the following outcomes:

Improved Program Performance – The overarching benefit of the SA work products is that they identify opportunities to improve the efficiency and effectiveness of HUD's Office of Human Resources (OHR) and HUD Training Academy (HTA)

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programs. It ensures that business functions support strategic goals and priorities, information is optimized in support of the business, and applications and technology solutions are driven by business needs. It also allows HUD to more readily share services across organizational and functional lines.

Simplified Investment Decisions – The SA provides a line of sight from strategy to business function to technology, allowing decision-makers to be able to more quickly assess the relative value of initiatives, and to identify duplicative or misaligned initiatives.

Reduced IT Diversity and Complexity – The SA simplifies HUD’s IT environment by promoting standards and the sharing and reuse of common technologies.

Improved Interoperability - The SA enacts enterprise-wide standards that enabling greater interoperability across disparate applications, both internal and external, and promote platform and vendor independence where appropriate.

Improved Utilization of Resources– The SA reduces system development and operation and maintenance costs by eliminating duplicative investments, promoting sharing of common services, and establishing Department-wide standards.

Accelerated System Implementation – The SA equips the Department’s system developers and architects with a source of component-based services from which to choose that provide well-defined functionality, thus maximizing reuse and portability of previously developed processes, components, code, etc.

2 TARGET ENTERPRISE ARCHITECTURE FRAMEWORK

HUD’s Target Enterprise Architecture (EA) framework defines the set of products that will constitute a comprehensive Target EA for HUD. It is consistent with government and industry best practices for EA. It represents an evolution from the CIO Council’s Federal Enterprise Architecture Framework (FEAF) Version 1.1, and is fully aligned with OMB’s FEA reference models.

The Target EA framework is depicted graphically and summarized below. (Note: Target EA Version 1.0 does not encompass all elements of the Target EA framework. Those framework elements not addressed within the scope of Target EA Version 1.0 are also summarized below.)

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Exhibit 2-1 HUD Target EA Framework



Principles – HUD’s EA principles are brief statements of preferred direction or practice. They help establish a common set of guidelines to govern the development and implementation of EA.

Strategic Direction and Drivers – HUD’s Strategic Direction and Architectural Drivers set the foundation upon which the Target EA is developed. Because HUD’s business strategy drives the Target EA, this section encompasses HUD’s mission, vision, goals and objectives, as defined in the *HUD Strategic Plan, FY 2003-FY 2008*. As technology enables business processes, this section also encompasses HUD’s strategic IT mission, vision, goals and objectives, as defined by the *HUD IT Strategic Plan, FY 2004-FY 2009*. Finally, it defines HUD’s Architectural Drivers, internal and external factors that influence HUD’s Target EA and architectural decision-making process.

Conceptual Target EA – The Conceptual Target EA builds on HUD’s strategic direction and drivers, and provides a high-level conceptual understanding of HUD’s desired end-state. The purpose of the Conceptual Target EA is to establish a common understanding and sense of direction across HUD, setting the foundation for the more detailed architectural layers. The Common Requirements Vision (CRV) details a set of requirements that translates HUD’s strategic direction and drivers into a set of required common services. The Target EA Conceptual Model provides a high-level understanding of the entire HUD EA through a series of graphical models. The Conceptual Target EA also introduces several key concepts or

characteristics of the Target EA that are fundamental to readers' understanding of the architectural layers.

Architectural Layers – The Target EA provides the details of HUD's target performance, business, applications and services, data, and technology layers. In addition, security is addressed in each of these five layers. Each layer provides a different perspective on HUD's target environment, as summarized briefly below:

Performance – The performance layer defines the measures used to determine the performance of IT investments and their contribution to program performance. (To be completed in FY 2006)

Business – The Business Layer defines HUD's business areas, LOBs, business functions, and sub-functions.

Applications and Services – The applications and services layer defines the set of service domains, types, and components that will provide the information processing capabilities needed to support HUD's business (i.e. the ability to capture, store, access, and manipulate business data and information).

Data – The data layer defines the data and information that support program and business line operations. (To be completed in version 2.0)

Technology – The technology layer defines the technology standards, specifications, and products that support the secure delivery, exchange, and construction of HUD's business and application services.

Security – The security layer defines the security elements to be woven into all of the other architectural layers. It encompasses security policies, processes, performance measures, data, and technologies. (To be completed in version 2.0)

The HRM/T Segment Architecture leverages the HUD Target EA Framework ensuring alignment throughout the solution. EA guides the composition of business-driven services. Components of the EA yet to be completed represent an evolution in all segment architectures.

2.1 ENTERPRISE ARCHITECTURE PRINCIPLES SUMMARY

HUD has adopted a set of architecture principles to ensure that EA supports HUD's business and technology requirements. Architecture principles are succinct statements of preferred direction or practice. They help establish a common vision to ensure that strategic objectives are not compromised by tactical decision-

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making. The following 10 principles guide the development and implementation of the HUD's EA:

- HUD maintains a single Department-wide EA.
- HUD's mission, strategies, goals and objectives guide the design of HUD's EA.
- Compliance with HUD's EA is a prerequisite for IT investment.
- HUD participates in efforts to define and implement government-wide solutions.
- HUD's EA promotes sharing, reuse and common solutions.
- HUD's EA reduces complexity through the use of enterprise standards.
- Information and data are managed as enterprise assets.
- Security and privacy are integrated into all architectural layers.
- HUD's EA is implemented through segment architectures.
- HUD's EA seeks to employ current technologies in creating solutions for its stakeholders.

The HRM/T Segment Architecture will conform to the HUD EA principles. This set of foundation values supplies a uniform definition of high-level boundaries and opportunities for modernization.

2.2 STRATEGIC DIRECTION AND DRIVERS

Goals for Human Resources Line of Business

Improve the government wide strategic management of human capital:

- Faster decision-making
- More informed policy-making
- More effective workforce management

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- Improved resource alignment with agency missions

Achieve or increase operational efficiencies in the acquisition, development, implementation and operation of human resources management systems:

- Improved servicing ratio/response times
- Reduced cycle times
- Improved automated reporting

Achieve or increase cost savings/avoidance from human resource solution activities:

- Reduced duplicative software/hardware/operations/labor resources
- Increased competitive environment

HUD IT goals and Objectives

HUD's Strategic Plan (FY 2003 -2008), and its encompassed business goals and objectives drove the formulation of HUD's IT Strategic Plan (FY 2004 -2009). As such, HUD's IT goals and objectives are in direct alignment with the Department's Strategic Plan. The goals and objectives are summarized below. Details can be found in the *HUD IT Strategic Plan, FY 2004-FY 2009*. Two outcomes relate directly to the HRM/T Segment Architecture solution: 1) Foster Continuous Learning and Organizational Excellence; and 2) Build the best IT team in the Federal government.

Architectural Drivers

HUD Architectural Drivers are those factors that influence HUD's Target EA and architectural decision-making process. This section first provides a list of HUD's Architectural Drivers, followed by a thorough and detailed discussion of those

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drivers directly applicable to HRM/T. HUD's Architectural Drivers are as follows:

- Improve services to business partners
- Respond to increased demand for HUD services amid reduced budgetary resources
- Improve HUD financial control
- Address HUD's loss of human capital
- Fulfill HUD's information security requirements
- Improve controls and oversight to reduce housing discrimination
- Enhance flexibility in responding to changing customer demographics
- Respond to, and proactively participate in, government-wide drive for collaboration

1) Address HUD's Loss of Human Capital

HUD faces a serious shortage of Human Capital in coming years as many experienced senior staff and executives, who comprise a large percentage of total HUD personnel, retire. Architectural Implications: a) Workforce modernization - Support a succession planning strategy that includes education, training, and professional development for HUD employees at all levels and incentives to retain top talent; and a recruiting strategy that attracts top candidates; and b) Enterprise knowledge retention and utilization - Capture and make available enterprise-wide intellectual capital (e.g., tangible information such as documents, and intangible experiential knowledge).

2) Respond to, and Proactively Participate in, Government-wide Drive for Collaboration

Use of electronic government and other government-wide initiatives, standards, and best practices to increase citizen access to information, and implement and comply with core government processes (e.g., e-Grants, OMB LOB) and

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mandates (e.g. PMA), respectively. Architectural Implications: a) Standardization and reuse – Participate in Federal E-Gov initiatives to identify opportunities for business process and data standardization, and for reuse across Federal agencies; and b) Modernized IT infrastructure: Upgrade HUD infrastructure to newer standards to accommodate anticipated increases in electronic transactions and data traffic from expanded Internet usage through a myriad of devices.

2.3 ADMINISTRATION CONSOLIDATED PLAN DRIVERS

The Administration Consolidated Plan (ACP) is a comprehensive solution that integrates the Office of Administration's system and business functions. It presents an approach to systems integration that will evaluate and support the Office of Administration's business functions, and serve as a guide for future investment initiatives. Specifically, it provides:

- a strategic plan that ensures the Office of Administration's business functions are supported by its systems;
- the ability to continuously evaluate opportunities for improvement and recommended solutions; and
- a strategic direction for future IT initiatives.

The goals to be achieved by implementing the ACP include:

- Full integration of business functions and systems
- Elimination of stove-pipe, redundant systems
- Improved and more comprehensive support of business functions
- Integration and consolidation of data
- Enhanced reporting capabilities
- Utilization of enabling technologies

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Gap Analysis Drivers

Exhibit 2-2 Gap Analysis of Business Functions to Supporting Systems

Business Function	Supporting System	Gaps	Opportunities for Improvement
Human Resource Management			
Organization Management	DOCS	<p>Technology prevents this system from continuing to adequately support its business function</p> <p>Archaic language</p> <p>Unable to be used by the Field</p> <p>Running out of codes</p> <p>Manual interfaces to other HUD systems</p> <p>Limited reporting capabilities</p> <p>Limited integration with other Human Resource Management and Training Management functions and data</p>	Redesign process for assigning/creating new Organization codes – should be computer generated without the possibility of running out of codes
Personnel management	OPTIS	<p>Downloads from NFC are manual: Tapes are uploaded into the mainframe</p> <p>Manual reviewing and comparison of SF-50 and SF-52 by the ESC</p> <p>Limited integration with other Human Resource Management and Training Management functions and data</p>	<p>Need to include an automatically generated discrepancy report between the printed SF-50's and the originating SF-52's.</p> <p>Automatic verification of the electronic SF-50's to be printed with their originating SF-52's from HATS</p>

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Personnel management	PERIS	<p>Limited integration with other Human Resource Management and Training Management functions and data</p> <p>Redundant personnel management functionality/data</p> <p>Inaccurate and untimely data</p> <p>Limited reporting functionality</p> <p>Inconsistent access to PERIS - HR specialists spend a lot of time responding to manager requests for information</p>	<p>Limited standardization of personnel and space information</p> <p>Alleviate system access issues for HR Managers</p>
Personnel management	STIRS	<p>Limited integration with other Human Resource Management and Training Management functions and data</p> <p>Manual interface from HATS</p> <p>Difficult to use and to learn</p> <p>Limited reporting functionality</p>	<p>Eliminate redundant functionality provided by systems used in other areas of HUD</p>
Personnel management	XPRESS	<p>Limited integration with other Human Resource Management and Training Management functions and data</p> <p>High learning curve to use the system</p>	<p>Expand employee self-service functionality; web enablement</p> <p>Reengineer the process for re-issuing and distributing employee access pins (possibly via lotus notes)</p>

Personnel Management	HATS	<p>Limited integration with other Human Resource Management and Training Management functions and data</p> <p>Redundant personnel management functionality/data</p> <p>Inaccurate information due to the timeliness of the download from NFC</p> <p>Performance problems (HW/SW issues)</p> <p>Limited reporting functionality</p>	<p>Full system functionality needs to be accessible to new user</p> <p>Improve management reporting capabilities that address inaccessible actions</p>
Personnel Management	OPFTS	<p>Limited integration with other Human Resource Management and Training Management functions and data</p> <p>Limited reporting functionality</p> <p>Manual interface with NFC</p> <p>HR community in the Field have problems accessing data in the system</p>	<p>Enhance to provide an automated feed from Lotus Notes for the requests for files</p> <p>Reengineer process to store electronic copies of personnel files</p>
Personnel Management	HUD Locator	<p>Limited standardization of personnel and space information</p> <p>Manual loading of information is inefficient and may result in data standardization, timing, and accuracy issues</p>	
Personnel Management	HUDIDS	<p>Limited standardization of personnel and space information</p>	<p>Distribute technology to the Field to standardize security for access points</p>

Recruiting and staffing management	STIRS	<p>Limited integration with other Human Resource Management and Training Management functions and data</p> <p>Redundant recruiting and staffing management functionality</p> <p>Manual interface from HATS</p> <p>Difficult to use and to learn</p> <p>Limited reporting functionality</p>	Eliminate redundant functionality provided by systems used in other areas of HUD
Recruiting and Staffing Management	MSCS2	<p>Limited integration with other Human Resource Management and Training Management functions and data</p> <p>Redundant recruiting and staffing management functionality</p> <p>Manual interface from HATS</p> <p>Some manual activities are required (cut/paste from MSWord)</p> <p>Limited reporting functionality</p>	Improve printing capability (only 6 items can be printed at one time)
Recruiting and Staffing Management	SCATS (not in production)	System does not exist to support the function of personnel security control and tracking	Integrate with other Human Resource and Training Management functions and data
Employee performance management	PACS/EPACS (not in production)	System does not exist to support the function of employee performance management	Integrate with other Human Resource and Training Management functions and data
Payroll management	PC-TARE	<p>Limited integration with other Human Resource Management and Training Management functions and data</p> <p>Resources are not available to fully support this process</p> <p>Data is not timely (is not real-time)</p>	<p>Revise time-keeping process by providing Web enablement</p> <p>Revise the process to allow for real-time processing</p>

Payroll management	NFC	Limited integration with other Human Resource Management and Training Management functions and data Modify interface to provide more timely data to HR systems	
Benefits administration	XPRESS	Limited integration with other Human Resource Management and Training Management functions and data Redundant Benefits Administration functionality High learning curve to use the system	Expand employee self-service functionality; web enablement Reengineer the process for re-issuing and distributing employee access pins (possibly via lotus notes)
Benefits Administration	BESS	Limited integration with other Human Resource Management and Training Management functions and data Redundant Benefits Administration functionality	Provide real-time information Provide more self-service functions (expand HR actions included in telephone access) Web enablement to allow additional access point
Benefits Administration	ARFS	Limited integration with other Human Resource Management and Training Management functions and data	Web enablement to allow self-service, so employees can run the different retirement scenarios
Labor management	STELR (not in production)	System does not exist to support the function of labor management	Integrate with other Human Resource and Training Management functions and data Provide union related information
Training Management			
Training Needs Assessment		System does not exist to support the function of Training Needs Assessment	Integrate with other Human Resource and Training Management functions and data
Training Planning	SCHEDUALL	Limited integration with other Human Resource Management and Training Management functions and data	

Training planning	TANCS	Limited integration with other Human Resource Management and Training Management functions and data Possible duplication of printing functionality	Note: Web enablement is planned to be addressed
Training Development			Note: System does not exist to support the function of Training Development however typically supported by Office Automation tools
Training Implementation	TANCS	Limited integration with other Human Resource Management and Training Management functions and data Possible duplication of printing functionality	Note: Web enablement is planned to be addressed
Training Implementation	TRAI	Limited integration with other Human Resource Management and Training Management functions and data Manual interface from TANCS	
Training Evaluation		System does not exist to support the function of Training Evaluation	Integrate with other Human Resource and Training Management functions and data

2.4 CONCEPTUAL TARGER EA VISION

The Target EA will be augmented in the near-term with the Data, Security and Performance Layers. HUD is currently in the process of defining an enterprise Data Layer that will be integrated into a future version of the Target EA. The initial Data Layer will be a high-level, enterprise-wide view, and it will be expanded through the segment architecture efforts. Like the Data Layer, performance measures associated with the different architectural layers are best understood and defined by the LOB to which they apply. Therefore, performance measures will be defined incrementally through HUD's Segment Architecture efforts, and will eventually be rolled up and integrated into the overall Target EA. Security will be addressed holistically at the Department level through the development of focused security segment architecture.

The Common Requirements Vision (CRV) is a set of architectural requirements that are applicable across HUD. The CRV begins the translation of HUD's Strategic direction and drivers into a set of common services that will be needed in the target environment.

The CRV tables below provide the information for two common requirements that apply to the HRM/T segment architecture blueprint. The common requirements that map to the HRM/T are Online Training and Enterprise Human Resource Management. Only Enterprise Human Resource Management is supported by the proposed HIHRTS solution.

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Exhibit 2-3 Common Requirement: Enterprise Human Resource Management

Common Requirement: Enterprise Human Resource Management		
Description	Source	Capabilities
Enterprise Human Resource Management will encompass a comprehensive suite of processes, services, and technologies to fully support the management of human resources. It will make all HR information available to managers and supervisors for planning and employee development and will help to ensure that HUD employees are used in the most effective manner possible.	<p>HUD Strategic Plan – Rebuild HUD’s human capital and further diversify its workforce</p> <p>Driver – Address HUD’s loss of human capital</p> <p>CRV Revision 2 – Implement an integrated HR system</p>	<p>Recruiting; Resume Management;</p> <p>Career Development and Retention;</p> <p>Time Reporting; Awards Management; Benefits Management; Retirement Management; Personnel Administration; Education/ Training; Health and Safety; Travel</p> <p>Management; Resource Planning and Allocation; Skills Management;</p> <p>Workforce Directory/ Locator; Workforce Acquisition/ Optimization</p>

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Exhibit 2-4 Common Requirement: Online Training

Common Requirement: Online Training		
Description	Source	Capabilities
<p>Online Training will allow HUD to respond to the call to do more with less, the outflow of experienced staff, and changes in needed skill sets by more efficiently delivering training to HUD staff. Online training employs web technologies and a variety of media to deliver quality training to staff anywhere and anytime. While online training is primarily focused on training for HUD employees, the services will also be used to train partners and citizens as appropriate.</p>	<p>HUD Strategic Plan – Rebuild HUD’s human capital and further diversify its workforce</p> <p>Driver – Address HUD’s loss of human capital</p> <p>Driver – Respond to increased demand for HUD services amid reduced budgetary resources</p> <p>Driver – Improve services to business partners</p>	<p>Education/ Training; Skills Management; Multimedia; High-Bandwidth Networking; Enterprise Portal and Portlets; Email; Threaded Discussions; Document Library</p>

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3 SEGMENT ARCHITECTURE BLUEPRINT METHODOLOGY

3.1 ARCHITECTURAL LAYERS

The SA addresses the three layers of business, applications and services, and technology. Each architectural layer is defined within an assessment methodology that profiles the core requirements. Other layers of performance, data, and security are to be incrementally infused over the next six to ten months beginning in FY 2005.

3.2 BUSINESS PROFILE

The HUD Business Layer is defined through the HUD Business Reference Model (BRM). The purpose of the BRM is to assist in the standardization of the terminology used to describe HUD's business Department-wide. This serves as a framework in which to evaluate HUD's business and the relationship of the business to other layers of the architecture (i.e. performance, data, services, and technology).

The HUD BRM defines HUD's business through the sub-function level. Additional detailing of the processes and activities that make up each sub-function is undertaken through HUD's segment architecture efforts. Through each segment architecture effort, functions are decomposed into supporting processes, and in some cases, activities. The HUD BRM is also updated and revised as segment architectures are completed.

Functional Alignment Mapping

Mapping of HUD HRM/T sub-functions to the federal HR LOB sub-functions was performed to determine scope of solution, commonality in naming conventions, and degree to which business processes are adequately identified. Alignment with federal HR LOB aids in the forthcoming location of generic application and services patterns, which should be represented in the service center architectural solution.

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Exhibit 3-1 Business Reference Model Sub-Function to Process Mapping Table

HR LOB BRM Sub-Functions (3/2005)	HUD HRM/Training Sub-Functions	HUD HRM/Training Processes
<p>1) HR Strategy Development: Involves building the strategic foundation for human capital management at the Agency. This includes establishing a long-term Agency mission and vision, establishing business objectives and strategies that guide the Agency toward achieving the mission and vision, establishing annual plans and budgets that provide milestones for meeting objectives and establishing policies and practices that provide day-to-day guidance. Workforce planning and succession planning – based on an Agency-wide competency model – are performed to anticipate future human capital needs. HR performance areas are measured against targets and results are used to improve performance.</p>	<p>Organization Management: Develop and define the organizational structure and assignment of functions, roles responsibilities, and the classification of positions. Includes workflow design and development of staffing plans.</p>	<ul style="list-style-type: none"> • Plan Org. Change • Approve Org. Change • Update Records • Initiate Personnel Action
<p>2) Staff Acquisition: Ensures the requisite human capital assets are in place to deliver on the Agency's mission. This includes devising staff acquisition strategies and plans that anticipate the effort required to identify and attract a qualified and diverse applicant base that will meet current and future hiring needs. Sourcing alternatives are identified to optimize the pool of available applicants. Candidates are evaluated against the requirements of the job, a selection is made and the new employee is brought on board.</p>	<p>Recruitment and Staffing Management: Recruiting, hiring, evaluating, and supporting employees.</p>	<ul style="list-style-type: none"> • Create Vacancy • Evaluate Duties and Responsibilities • Recruit Applicants • Review Applications • Issue Referrals • Track Personnel Action • EEO Review • Maintain Records

<p>3) Organization and Position Management:</p> <p>Reconciles organization design – at the organization and at the position or job level -- to the strategic and operation needs of the Agency. The Agency's mission, strategy and competency model are translated into an overall organization design. Jobs are correlated to the competencies, knowledge, skills and experience required to perform the job. This provides the basis for evaluating the jobs and associating them with job classifications. Re-evaluations may be requested and performed. Disagreement over re-evaluation outcomes may result in appeals.</p>	<p>Personnel Management: Evaluate and support employees; process personnel actions.</p>	<ul style="list-style-type: none"> • Organization Change Defined/Approved • Classify Positions • Feasibility Assessment • Codify Change • Maintain Codes • Track Security Investigations
<p>4) Compensation Management:</p> <p>Includes the adoption of non-discretionary (government-wide), Agency discretionary and alternative compensation programs that are fair, equitable and promote employee retention. Award and bonus payout strategies are devised and administered. Work schedules are established and time worked is recorded and approved. Leave taken is reconciled against leave accrued to determine leave balances. Payroll is processed and reconciled and employee pay and other third party disbursements are generated. Labor costs are</p>	<p>Payroll Management: Includes timekeeping and payment authorizations that pertain to compensating an employee. Includes process pay actions.</p> <p><i>Awards</i></p>	<ul style="list-style-type: none"> • Collect T&A • Manage Leave • EEO Review • Approve Award • Complete Award

<p>distributed, as appropriate, to the appropriate cost accounts.</p>		
<p>5) Benefits Management: Involves establishing and administering employee benefits programs. This includes the adoption or creation of Agency discretionary benefits programs. Benefits communication materials are created and made available via a variety of media. Benefits elections are checked against eligibility rules, enrollments are activated and information is sent to third party providers as appropriate. Electronic and hard copy benefits records are maintained and also made to third parties as appropriate.</p>	<p>Benefits Administration: Identifies the need for various employee benefits, arranges for their provision, and administers their delivery to employees. Includes workers' compensation, leave programs, employee assistance (such as counseling services, health care, personal savings plans).</p>	<ul style="list-style-type: none"> • Initiate Retirement • Determine Eligibility • Calculate TSP • Estimate Benefits • Employee Self-Service
<p>6) Employee Development and Performance Management: Involves setting individual performance standards and ensuring employees are equipped to meet those standards. This begins with setting employee development and performance strategy at the Agency level. Needs assessments are performed to determine overall Agency competency deficiencies and development programs are created, as resources permit, to address deficiencies. At the individual employee level, the manager and employee work together to establish a career plan for the employee. Ongoing and periodic employee performance assessments are conducted utilizing an Agency-wide, competency-based performance management framework. An individual development plan is put into place as necessary to identify developmental activities that address performance goals and / or deficiencies.</p>	<p>Employee Performance Management: Involves performance management for employee appraisals and <i>incentive awards</i>.</p>	<ul style="list-style-type: none"> • Develop Performance Plan • Complete Rating • Track Personnel Action

<p>7) Employee Relations:</p> <p>Includes a variety of activities that support the affiliation of the Agency as employer and its nonunion employees. This includes setting and communicating conduct expectations and addressing situations when misconduct and / or performance problems occur. Administrative grievances are filed and investigated and decisions are rendered according to findings. Third party proceedings are conducted when an employee feels his or her issues cannot be resolved otherwise. Reasonable accommodation requests are evaluated and accommodations are put into place based on findings. Employees are investigated regarding their suitability for employment. And employee assistance program services are made available to employees and their families.</p>		
<p>8) Labor Relations:</p> <p>Involves managing the relationship between the Agency and its unions and bargaining units. This includes negotiating and administering labor contracts and collective bargaining agreements. Negotiated grievances are filed and investigated and decisions are rendered according to findings. Negotiated third party proceedings are conducted when an employee feels his or her issues cannot be resolved otherwise.</p>	<p>Labor Management: The support and facilitation of employee groups and labor relations programs including administering partnerships with the union.</p>	<ul style="list-style-type: none"> • Create Case • Maintain Case • Close Case
<p>9) Separation Management: Management</p> <p>Includes those activities that take place when an employee leaves an Agency. This includes handling the appropriate notifications and determining the terms of the</p>	<p>Personnel Action Request – Retirement</p> <p>Termination of Employees</p>	<ul style="list-style-type: none"> • Initiate Action • Verify Eligibility • Release to NFC

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<p>separation. Interactions take place to ensure knowledge transfer occurs between the separating employee and remaining employees. Separating employees are offered transition counseling and support.</p>		<ul style="list-style-type: none"> • Maintain OPF
<p>10) N/A – (Training)</p>	<p>Training Needs Assessment: Review and define skills and develop survey questionnaire. Administer survey and analyze results. Prioritize training needs. Make funding allocations based on prioritization.</p> <p>Training Planning: Develop training schedule, determine training source, determine roles and responsibilities, arrange for facilities and announcement of the course.</p> <p>Training Development: The development of course and course materials.</p> <p>Training Implementation: The enrollment of students and conduct training course.</p> <p>Training Evaluation: Monitor and evaluate training classes and critique their effectiveness.</p>	<ul style="list-style-type: none"> • Develop Training Budget • Locate Resources • Maintain Online Resources • Advertise Courses • Employee Request for Approvals • Employee Course Enrollment

* Words in italics represent HUD HRM/Training functions or processes represented in HIHRTS target environment, but only identified in high-level workflows.

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3.3 ARCHITECTURAL PROFILE

The architectural profile describes the automation and integration targets for the HRM/T target solution. These automation and integration targets are the system components that make up the target architecture of the HRM/T Segment Architecture Blueprint.

The target architecture for the HUD Integrated Human Resources and Training System (HIHRTS) acquisition project is based on the Department of Treasury HR Connect Enterprise Resource Planning (ERP) solution. The ERP will replace and modernize current systems with a Application Service Provider business approach to satisfying the needs of the Office of Human Resources (OHR) and the HUD Training Academy (HTA). HIHRTS will consolidate the functions of 15 legacy systems currently in use. These current systems are isolated, unable to communicate with one another, unable to create timely reports, and do not process data quickly. They are not JFMIP compliant and require manual and intensive processes to work around system weaknesses and to provide HR and Training information. The systems to be replaced include:

- Automated Retirement Forms System (ARFS): ARFS is no longer used at HUD. Its functionality is now performed through the Federal Retirement Benefit (FRB) and is included in the scope of this effort.
- Benefits Service System (BESS): provides employee benefit information.
- Departmental Organization Code System (DOCS): controls organization codes.
- Emergency Contact System (ECS): contains employee-designated emergency information.
- Employee Express System (XPRESS): provides employees with information and self-service for adding, changing, or stopping selected payroll deductions
- FRB: provides forms and calculations for retirement actions and retirement inquiries.
- Human Resource Action Tracking System (HATS): processes personnel actions.
- Merit Staffing Control Systems (MSCS2): processes vacancy announcements.

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- Office of Personnel and Training Inquiry System (OPTIS): maintains all personnel actions processed each pay period.
- Performance Accountability and Communications System (PACS): processes employee performance appraisals.
- Personal Computer Time and Attendance Remote Entry System (PC-TARE): reports time and attendance.
- Personnel Information System (PERIS): provides employee information.
- Security Control Tracking System (SCATS): monitors employee clearance levels.
- Training Announcement and Confirmation System (TANCS): produces and tracks training assignments.
- Training Information System (TRAI): an NFC system which records training data for HUD employees.

From analysis of various HIRTS and ACP documentation there appear to be other systems that support HR functions. These systems should be considered for duplicative functionality and possibly replacement or consolidation within HIRTS or another system:

- Office of Personnel File Tracking System (OPFTS).
- Staff Tracking and Reporting System (STIRS).
- HVU (HUD Virtual University).
- Time and Attendance Data (TNA).
- EEO Management Analysis System (EEMAS).

The tables below identify the automation targets, the systems that currently support the automation targets, and the systems and functionality that will be impacted by HIRTS.

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Exhibit 3-2 HRM Functions to Systems Mapping

Systems	Human Resource Management Functions						
	Benefits Admin.	Employee Performance Mgmt.	Labor Mgmt.	Organization Mgmt.	Payroll Mgmt.	Personnel Mgmt.	Recruiting and Staffing Mgmt.
ARFS	X						
BESS	X						
DOCS				X			
ECS						X	
HATS						X	
HOMS						X	
HUDIDS						X	
MSCS2							X
NFC	X				X	X	
OPFTS						X	
OPTIS						X	
PACS		X					
PC-Tare					X		
PERIS						X	
SCATS							X
STIRS						X	X
TDLS						X	
XPRESS	X					X	

Systems that HIHRTS will replace and their corresponding function(s) are shaded in "gray." The Labor Management function is bolded and has diagonal lines because it is a function that currently isn't supported by any systems. Labor Management is a function that should be considered for an automation target. Systems that are not shaded support HR functionality but the functionality is currently provided by HIHRTS. HUD will consider replacing the remaining systems with HIHRTS in an effort to maximize the investment into the HIHRTS solution.

The following table shows that currently the Training Needs Assessment and Training Planning functions are supported by multiple applications. In the case of ScheduAll and TNA, they support functions that HIHRTS will provide. HUD will consider not using ScheduAll and TNA for support provided by HIHRTS.

Exhibit 3-3 Training Functions to Systems Mapping

Systems	Training Management Functions				
	Training Devel.	Training Evaluation	Training Implementation	Training Needs Assessment	Training Planning
ScheduAll					X
TANCS			X		X
TNA				X	
HVU	X	X		X	
TRAI				X	X

Systems that HIHRTS will replace and their corresponding function(s) are shaded in "gray."

Integration Targets

The interface tables provided in the HUD HIHRTS Functional Requirements Document served as the source for the integration analysis. As explained in Exhibit 3-4 below, the current environment has integration targets identified between the National Finance Center (NFC) and some of the existing systems. HIHRTS will

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replace the existing interfacing subsystems listed in the table. Therefore, HIHRTS will require interfaces with NFC. The DOCS system is identified as a system that has multiple internal interfaces, and is one of the systems that HIHRTS will replace. Therefore, any system that DOCS interfaces with will potentially need interfaces to HIHRTS.

Exhibit 3-4 Integration Targets Table

External Interfacing System	Interfacing Subsystem	Data Transfer Requirement/	Communications Media Used for Data Transfer	Data Format
NFC	PC-TARE	Time and attendance data including hours worked and leave balances	Secured T1 line between HQ & NFC MCI Cloud network between field and HQ	Text & numeric, with summary totals
OPM Web Site for entering data to USA Jobs	MSCS	HUD Vacancy Announcement Detail	Internet	Text & numeric, mostly text
NFC	DOCS	Required NFC Organizational data	Secured T1 line between HQ & NFC	Text & numeric
NFC	XPRESS	Employee benefits and payroll information	Internet	Text and numeric
NFC	BESS	Employee benefits information	Internet	Text and numeric

3.4 SYSTEM PROFILE

This section describes the systems as they relate to the enterprise business functions, the service component that supports the business, and the technology used to implement the systems.

This system profile will focus on the functionality of HIHRTS and provide the:

- Mapping of the system functionality to the HR Functions and Sub functions
- Mapping of the HIHRTS service to the appropriate HUD Reference Models
- Define relationship to appropriate Presidential initiatives

The Department of Treasury HR Connect approach intends to combine the best COTS and GOTS HR products, providing an enterprise suite of functionality to HUD users. By combining multiple vendor products into an enterprise suite, best-in-breed functionality is delivered from a single environment to the user base. Vendor products are bundled into a single product line with branding and all vendor references removed. HR Connect resides on an Oracle RDBMS, which is open architecture, SQL compliant. This facilitates integration of a variety of tools, as well as the efficient development of reports and custom applications.

The majority of the HR business and systems functionality is provided through the Peoplesoft Human Capital Management (HCM) application HRMS software. PeopleSoft is an open standards software that is delivered with a tool set for enhancing the delivered capabilities to meet Federal requirements. Employee and manager self-service are also provided through this software. QuickHire, a dominant software provider for Federal recruitment, provides vacancy announcement, applicant intake, and qualification and selection functionality. Payroll is provided through a robust bi-directional interface to the National Financial Center. Data mining, workforce analytics, and reporting needs are delivered through the Business Objects application.

PeopleSoft HCM includes:

- Comprehensive set of government Title V HR functions including Personnel Action Processing (PAR), e-Performance, and employee and labor relations tracking and classification.
- Pure Internet Architecture (PIA), with no code on client, streamlines certification and accreditation, enables easier deployments, limits risk, and reduces defects associated with traditional system push updates and upgrades.

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- Proven scalability to support large scale enterprises.
- Open integration framework – facilitates Enterprise Application Integration-standard for open integration.
- Architecture supports “plug-in” technologies for strategic initiatives and services (e.g., QuickHire, OnDemand).
- Integrated Development Suite facilitates customization of product to meet specific business process needs.
- Continued, concerted effort to upgrade development tools set—Business Component Interface, Application Messaging, and Integration Broker—facilitates quality improvement, defect prevention, and reduces development costs.

The PeopleSoft Human Resources Management System (HRMS), Version 8.8, to serve as the backbone for the HIHRTS System. The PeopleSoft modules and software components purchased under HIHRTS and replicated in HR Connect include:

Exhibit 3-5 PeopleSoft Software and Modules

PeopleSoft Software	Module or Component
Human Resources 8.8	Module
Payroll Interface	Module
Time and Labor	Module
eRecruit	Module
eRecruit Manager Desktop	Module
eProfile	Module
eDevelopment	Module
eBenefits	Module
ePay	Module
HRMS Warehouse	Module
Enterprise Portal 8.4	Module
HRMS Portal Pack	Module
PeopleTools - 8.4	Component
MicroFocus – Server Express	Component
Rational Robot V2002 for PeopleSoft	Component
BEA WebLogic	Component

Exhibit 3-6 Core PeopleSoft Functionality Description

Product	Analysis
Core HRMS	PeopleSoft has strong core personnel as well as payroll and benefits administration functionality.
Workforce Planning	PeopleSoft has good workforce planning, which can use cost and competency data.
Portal/Self-Service	PeopleSoft provides integrated employee self-service, which includes profile maintenance, online pay stubs, benefits enrollment and life-event maintenance.
Competency Management	PeopleSoft integrates competencies into planning, recruiting, performance, learning and succession planning.
Performance Management	ePerformance is a new module introduced in v.8.8. It has strong functionality but is still ramping up its initial production customers.
Compensation Management	PeopleSoft provides many products to support compensation management, including eCompensation, eCompensation Manager Desktop, Enterprise Sales Incentive Management and Rewards Workbench, in addition to functionality in the HCM module. An enhanced Total Compensation Management solution is planned for v.8.9.
Time and Expense Management	PeopleSoft has solid functionality for time and attendance (Time and Labor) and Expense Management.
E-Learning	Enterprise Learning Management is a new module introduced in v.8.8. It has competitive functionality but is still ramping up its initial production customers.
Recruiting	eRecruit has good functionality for resume management, searching and recruitment process management.
Contingent Workforce Management	Contingent Workforce Management has the essential functionality for requisition management, sourcing, selection, work order management, time and expense capture, and invoicing/payments.
Multinational Capabilities	PeopleSoft supports payroll and local regulatory requirements in 18 countries. Its global payroll engine also can be used to support additional countries.
Reporting/Analytics	PeopleSoft has a strong analytics infrastructure supported through Enterprise Performance Management, and delivers strong workforce analytics and workbenches on this platform. The company also provides strong, ad-hoc reporting tools.

Source: Gartner Research (July 2004)

HR Connect Solution

An assessment conducted of HRM/T business functions and the enabling HR Connect system functionality yielded a mapping of business services. The following table identifies aspects of the ERP solution supporting business needs.

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Exhibit 3-7 BRM Sub-Function to ERP (HR Connect) Functionality Mapping Table

HR LOB BRM SUB-FUNCTIONS (3/2005)	HUD HRM/TRAINING SUB-FUNCTIONS	HUD HRM/TRAINING PROCESSES	HR CONNECT FUNCTIONALITY
<p>1) HR Strategy Development: Involves building the strategic foundation for human capital management at the Agency. This includes establishing a long-term Agency mission and vision, establishing business objectives and strategies that guide the Agency toward achieving the mission and vision, establishing annual plans and budgets that provide milestones for meeting objectives and establishing policies and practices that provide day-to-day guidance. Workforce planning and succession planning – based on an Agency-wide competency model – are performed to anticipate future human capital needs. HR performance areas are measured against targets and results are used to improve performance.</p>	<p>Organization Management: Develop and define the organizational structure and assignment of functions, roles responsibilities, and the classification of positions. Includes workflow design and development of staffing plans.</p>	<p>Plan Org. Change Approve Org. Change Update Records Initiate Personnel Action</p>	<p>Currently provided by HR Connect. HR Connect Workforce Analytics provides management reports and metrics both current and historical for management decision – making, tracking workload, and overall health of an organization. Data warehouse with query capability scheduled for September 2004.</p> <p>Currently provided by HR Connect. HR Connect delivers Position Management functionality and a centralized position description library. All positions maintained in the library are posted and/or approved by position classification specialist and business unit managers. Any modifications requested by management to an existing position must be approved not only by management but review and posted to the library by a classifier.</p>
<p>2) Staff Acquisition: Ensures the requisite human capital assets are</p>	<p>Recruitment and Staffing Management: Recruiting, hiring, evaluating, and</p>	<ul style="list-style-type: none"> • Create Vacancy • Evaluate Duties and Responsibilities 	<p>Currently provided by HR Connect. HR Connect delivers applicant intake for</p>

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<p>in place to deliver on the Agency's mission. This includes devising staff acquisition strategies and plans that anticipate the effort required to identify and attract a qualified and diverse applicant base that will meet current and future hiring needs. Sourcing alternatives are identified to optimize the pool of available applicants. Candidates are evaluated against the requirements of the job, a selection is made and the new employee is brought on board.</p>	<p>supporting employees.</p>	<ul style="list-style-type: none"> ● Recruit Applicants ● Review Applications ● Issue Referrals ● Track Personnel Action ● EEO Review ● Maintain Records 	<p>external applicants and by third quarter of FY 05 for internal applicants using Career Connector.</p> <p>Currently provided by HR Connect. HR Connect delivers vacancy tracking through the internal/external recruitment module (Career Connector).</p>
<p>3) Organization and Position Management:</p> <p>Reconciles organization design – at the organization and at the position or job level -- to the strategic and operation needs of the Agency. The Agency's mission, strategy and competency model are translated into an overall organization design. Jobs are correlated to the competencies, knowledge, skills and experience required to perform the job. This provides the basis for evaluating the jobs and associating them with job classifications. Re-evaluations may be requested and performed. Disagreement over re-evaluation outcomes may result in appeals.</p>	<p>Personnel Management: Evaluate and support employees; process personnel actions.</p>	<ul style="list-style-type: none"> ● Organization Change Defined/Approved ● Classify Positions ● Feasibility Assessment ● Codify Change ● Maintain Codes ● Track Security Investigations 	<p>Currently provided by HR Connect. HR Connect delivers three modules for Personnel Action Processing, Employee Self-Service (ESS), Manager Self-Service (MSS), and HR Self-Service (HRS) (Back office). Personnel actions processed in any one of these modules the PAR action will post to the employee history record.</p> <p>Currently provided by HR Connect. HR Connect provides automated workflow for all PAR processing (ESS, MSS, and HRS). Employees, Managers, and HR professionals, can initiate, manage, and finalize personnel actions online.</p> <p>Currently provided by HR Connect. Upon initialization of a separation Personnel Action Request (PAR) in MSS and/or ESS a file is generated to physical security, data security,</p>

			<p>facilities, financial services, management and separating employee clearance.</p> <p>Currently provided by HR Connect. HR Connect also provides Manager Self-service. HR Connect ESS supports granting access to active employees, where appropriate, for viewing and making changes to their personnel records</p>
<p>4) Compensation Management:</p> <p>Includes the adoption of non-discretionary (government-wide), Agency discretionary and alternative compensation programs that are fair, equitable and promote employee retention. Award and bonus payout strategies are devised and administered. Work schedules are established and time worked is recorded and approved. Leave taken is reconciled against leave accrued to determine leave balances. Payroll is processed and reconciled and employee pay and other third party disbursements are generated. Labor costs are distributed, as appropriate, to the appropriate cost accounts.</p>	<p>Payroll Management: Includes timekeeping and payment authorizations that pertain to compensating an employee. Includes process pay actions.</p> <p><i>Awards</i></p>	<ul style="list-style-type: none"> ● Collect T&A ● Manage Leave ● EEO Review ● Approve Award ● Complete Award 	<p>Report capability only. HR Connect Workforce Analytics provides reports of actual expenditures for salary and compensation by pay period. This data is imported from the payroll system (NFC). HR Connect provides management one place to obtain personnel and payroll reports.</p>
<p>5) Benefits Management: Involves establishing and administering employee benefits programs. This includes the adoption or creation of Agency discretionary benefits programs. Benefits</p>	<p>Benefits Administration: Identifies the need for various employee benefits, arranges for their provision, and administers their delivery to employees. Includes workers' compensation,</p>	<ul style="list-style-type: none"> ● Initiate Retirement ● Determine Eligibility ● Calculate TSP ● Estimate Benefits ● Employee Self-Service 	<p>No. Benefits administration is provided by NFC/OPM.</p>

<p>communication materials are created and made available via a variety of media. Benefits elections are checked against eligibility rules, enrollments are activated and information is sent to third party providers as appropriate. Electronic and hard copy benefits records are maintained and also made to third parties as appropriate.</p>	<p>leave programs, employee assistance (such as counseling services, health care, personal savings plans).</p>		
<p>6) Employee Development and Performance Management:</p> <p>Involves setting individual performance standards and ensuring employees are equipped to meet those standards. This begins with setting employee development and performance strategy at the Agency level. Needs assessments are performed to determine overall Agency competency deficiencies and development programs are created, as resources permit, to address deficiencies. At the individual employee level, the manager and employee work together to establish a career plan for the employee. Ongoing and periodic employee performance assessments are conducted utilizing an Agency-wide, competency-based performance management framework. An individual development plan is put into place as necessary to identify developmental activities that address performance goals and / or deficiencies.</p>	<p>Employee Performance Management: Involves performance management for employee appraisals and <i>incentive awards</i>.</p>	<ul style="list-style-type: none"> • Develop Performance Plan • Complete Rating • Track Personnel Action 	<p>Partially addressed by HR Connect. Current functionality provides tracking and monitoring performance data. HR Connect E-Performance module will be implemented by end of FY 05.</p>

<p>7) Employee Relations:</p> <p>Includes a variety of activities that support the affiliation of the Agency as employer and its nonunion employees. This includes setting and communicating conduct expectations and addressing situations when misconduct and / or performance problems occur. Administrative grievances are filed and investigated and decisions are rendered according to findings. Third party proceedings are conducted when an employee feels his or her issues cannot be resolved otherwise. Reasonable accommodation requests are evaluated and accommodations are put into place based on findings. Employees are investigated regarding their suitability for employment. And employee assistance program services are made available to employees and their families.</p>			<p>Partially addressed by HR Connect. HR Connect delivers functionality to track discipline and grievance case work.</p>
<p>8) Labor Relations:</p> <p>Involves managing the relationship between the Agency and its unions and bargaining units. This includes negotiating and administering labor contracts and collective bargaining agreements. Negotiated grievances are filed and investigated and decisions are rendered according to findings. Negotiated third party</p>	<p>Labor Management:</p> <p>The support and facilitation of employee groups and labor relations programs including administering partnerships with the union.</p>	<ul style="list-style-type: none"> ● Create Case ● Maintain Case ● Close Case 	<p>Partially addressed by HR Connect. HR Connect delivers functionality to track discipline and grievance case work.</p>

<p>proceedings are conducted when an employee feels his or her issues cannot be resolved otherwise.</p>			
<p>9) Separation Management: Management</p> <p>Includes those activities that take place when an employee leaves an Agency. This includes handling the appropriate notifications and determining the terms of the separation. Interactions take place to ensure knowledge transfer occurs between the separating employee and remaining employees. Separating employees are offered transition counseling and support.</p>	<p><i>Personnel Action Request – Retirement</i></p> <p>Termination of Employees</p>	<ul style="list-style-type: none"> ● Initiate Action ● Verify Eligibility ● Release to NFC ● Maintain OPF 	<p>No.</p>
<p>10) N/A (Training)</p>	<p>Training Needs Assessment: Review and define skills and develop survey questionnaire. Administer survey and analyze results. Prioritize training needs. Make funding allocations based on prioritization.</p> <p>Training Planning: Develop training schedule, determine training source, determine roles and</p>	<ul style="list-style-type: none"> ● Develop Training Budget ● Locate Resources ● Maintain Online 	<p>(TBD-N/A)</p>

	<p>responsibilities, arrange for facilities and announcement of the course.</p> <p>Training Development: The development of course and course materials.</p> <p>Training Implementation: The enrollment of students and conduct training course.</p> <p>Training Evaluation: Monitor and evaluate training classes and critique their effectiveness.</p>	<p>Resources</p> <ul style="list-style-type: none"> • Advertise Courses • Employee Request for Approvals • Employee Course Enrollment 	
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Map Business Information Requirements to HUD's SRM

The framework for HUD's Target Applications and Services Layer is the Service Component Reference Model (SRM). The HUD SRM is a taxonomy and framework for identifying, organizing, and classifying components based on the type of functionality they provide. The HUD SRM is based on the FEA SRM. It follows the FEA taxonomy and encompasses that subset of the FEA SRM components required to support HUD's business. More information pertaining to the HUD SRM can be found in the HUD Target Enterprise Architecture Version 1.0.

The Back Office Services domain of the SRM supports the HR business functions. The Back Office Services refers to the set of capabilities that support the management of enterprise planning transactional-based functions. The primary services that apply to HR are Human capital/Workforce Management and Human Resources are contained in HUD Target EA.

The Service Components that support HR business functions are listed in a table in Appendix A. These mappings were used to identify common services currently being provided through automation as well as identifying areas that should have

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improved automation support due to the implementation of HIHRTS. The service components that map to HIHRTS have been shaded.

Security protocol standards are used to protect HR Connect data and information systems from unauthorized access, use, modification or destruction to provide integrity, confidentiality and availability. Three security protocols standards used within the HR Connect system include SSL, TLS and SSH. SSL is an open, non-proprietary protocol for securing data communication across computer networks and sits between the application layer protocol HTTPS and the connection protocol TCP/IP. It provides server authentication, message integrity, and data encryption. TLS provides communication privacy over the Intranet while SSH is a strong method of client authentication.

The HR Connect application uses static display software protocols such as Hyper Text Markup Language (HTML) to create a pre-defined, unchanging graphical interface. The HR Connect Business Logic is platform independent utilizing PeopleSoft, and the Data Management/database connectivity is through SQLNet.

HR Connect uses these secure, encrypted communications from a user's browser desktop session to the HR Connect application via HTTPS/SSL. All access to HR Connect is permitted only after a user provides valid authentication credentials. In addition, the HR Connect infrastructure is protected by firewall technology.

HR Connect enforces data security and access to appropriate data via application security and role level security. Access to HR Connect data is strictly controlled through the application via the tiered HR Connect architecture. Business rules enforce and restrict access to HR Connect data. Direct access to the HR Connect database is not provided. Access to HR Connect data is strictly controlled via the 3-tiered architecture through the application. A valid, sanctioned, authenticated HR Connect user may receive access to only that data authorized based on business need and enforced through business rules per the application (via application security and role level security). No direct access to the database is permitted.

Map Business Information Requirements to HUD's TRM

HUD's TRM is taxonomy for describing the standards, specifications, technologies and products that support the secure delivery, exchange, and construction of business (or service) components. Similar to the Federal Enterprise Architecture (FEA) TRM, HUD's TRM applies a three-tier hierarchy: Service Areas, Service Categories and Service Standards. Service Areas contain multiple Service Categories, and Service Categories contain multiple Service Standards. In addition,

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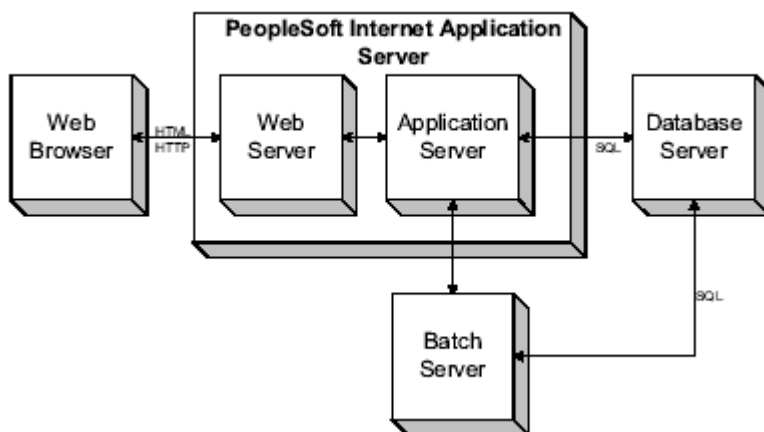
HUD's TRM contains two additional layers – the Service Specification and Product layers. These layers exist logically at the same level, under Service Standard.

HIHRTS has been mapped to the Federal TRM and the table is included in Appendix B. Considering that the HIHRTS solution is a service provided by the Department of Treasury, this document doesn't map the Treasury's HR Connect solution to the HUD TRM. The TRM in Appendix B does provide the technology products that will be needed to access the Treasury's HR Connect solution from the HUD environment.

The HR Connect production database resides at the Detroit Computing Center (DCC). The Shared Development Center (SDC) in Washington, DC, provides a secure environment for the development and testing of the HR Connect product. User access to HR Connect is provided over the Treasury Communications System (TCS) and/or IRS Intranet telecommunication infrastructures. Access to the system is controlled by the Treasury Enterprise Directory Service (TEDS), which uses authentication and encryption to ensure data security. The TCS is a common network that is accessible by all non-IRS Treasury bureaus as an entry point into the HR Connect system. IRS users are routed directly to the DCC through a dedicated high-speed firewall. Non-Treasury bureaus can use TCS to enter HR Connect through a secure firewall.

The system architecture is based primarily on the PeopleSoft Federal HRMS product suite, the Oracle Database Management System (DBMS) version 8.1 running on the UNIX operating system, and Sun server platforms with EMC storage technologies.

Exhibit 3-8 High-Level HR Connect Architecture



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3.5 IMPLEMENTATION PLAN

Full integration of the HIHRTS Human Resource, Payroll, and Training functions and systems, eliminates all redundant systems, and retires all legacy systems through the implementation of an Enterprise Resource Planning (ERP) COTS Package. The Department of Treasury "HR Connect," PeopleSoft-based ERP will deliver business and systems functionality through an Application Service Provider model. This solution will eliminate the disparate systems, varying platforms and technologies, interfaces, reporting deficiencies and manual processing currently exemplified in the systems which support the Human Resource, Payroll and Training functions.

Some supporting systems will require modification to obtain information from HR Connect. The scope of the modification and data integration efforts will be finalized after the HIHRTS system is implemented. For example, there is a requirement for HIHRTS to interface with the National Finance Center (NFC) for payroll purpose.

HUD's Office of the Deputy Assistant Secretary for Human Resource Management (DAS/HRM) and Office of the Deputy Assistant Secretary for Operations (DAS/OPS) will implement HIHRTS, a web-based, comprehensive software application that will re-engineer and manage all aspects of HUD's human resources (HR) and training processes. This system will replace the Office of Human Resources (OHR) and HUD Training Academy's (HTA) legacy systems. HIHRTS will also meet the HR functional needs of HUD Management, OHR, HTA, and all HUD employees. HIHRTS will capture and report on transactions in a manner consistent with Federal laws and regulations. It will also enable the OHR and HTA to meet Departmental and external reporting requirements, and to maintain responsibility for its own reporting.

HIHRTS will strengthen HUD's HR and training control processes and practices by adopting the best practices inherent in PeopleSoft, which will bring HUD into compliance with the requirements of the Joint Financial Management Improvement Plan (JFMIP), Department of Treasury (Treasury), General Accounting Office (GAO), Office of Management and Budget (OMB), and Office of Personnel Management (OPM).

HIHRTS will provide HUD with a single, comprehensive system to effectively manage its human capital. This system will enable HUD to re-engineer its HR processes and integrate all HR information into a single platform. HIHRTS will be available to all Managers and Supervisors for strategic planning and employee development and will ensure that HR resources are identified, developed, and used in the most efficient manner.

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4 RECOMMENDATIONS

In order to continue the maturity of the Target HRM/T segment architecture, the Blueprint documents the following set of recommendations:

EA Alignment

Update HUD Target EA to represent HRM/T business functions, processes, and technology services by June 2005.

Evolve and align HRM/T segment architecture blueprint to reflect performance, data and security layers of HUD target ea as those components are finalized.

Participate in ongoing Office of Personnel Management HR Line-of-Business taskforces and working groups to mature HUD understanding of federal HRM/T modernization.

Require Department of Treasury to align HR Connect with HR Line-of-Business goals by June 2005.

Functionality

Update HRM/T Transition Plan to address value, dependencies and deployment of administrative, strategic, and supporting functionality:

Administrative HR functionality: personnel administration; position management; benefits administration; payroll

Strategic HR functionality: workforce planning; portal/employee self-service; competency management; performance management; compensation management; time and expense management; learning; recruitment; contingent workforce management

Other Supporting functionality: reporting/analytics; workflow

Deliver business process management capability through Workflow Management solution; automate business processes, in whole or part, for documents, information or workflows, which are passed from one participant to another for action, according to a set of procedural rules.

Workforce deployment optimization: leverage PeopleSoft planning and optimization technology to help do a better job of optimizing staff deployments, matrix teams, Integrated Product Teams (IPT), etc..

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Develop Knowledge Management capability; extend value of HRM/T data and information to include push/pull schedules, access, reuse, and value-add in support of HUD Human Capital Strategy.

Develop reporting/analytics to support business intelligence gathering in recruitment, performance management, total compensation management, time and expense management, and self-service; build capacity to identify direct cost savings to the enterprise or help employees increase their productivity.

Integration

Participate in development of complimentary Document and Records Management segment architecture for HUD enterprise; define process, storage and archival integration requirements for HRM/T.

Develop HR Connect link with service component used in managing flow of multi-step processes that span application systems running in different business units.

Coordinate with HUD Financial Management IPT and deploy pilot use of PeopleSoft pre-built integration packs for Oracle (HCM to financial integration).

Develop HRM/T business rules and data management requirements with HUD enterprise data warehouse (EDDS function); establish protocols for HR Connect data exchange interface.

PeopleSoft has introduced several add-on modules to help organizations move from an administrative focus to a more-strategic focus. Add-on modules include eRecruit, Time and Labor, Enterprise Learning Management, and ePerformance. Opportunities to leverage PeopleSoft module packages and bundling, for example, Workforce Development Portal (eDevelopment and ePerformance) and Recruiting Solutions (eRecruit and Services Procurement).

Portal/Content Management

Strategy: portal/intranet environment is only the gateway to all self-service applications, enabling single-sign-on, a consistent user interface and integration (between the custom components and the core HRMS). Therefore, HUD should have specific strategy for end-to-end delivery of HR services through this environment.

Self-Help: do not take employee acceptance of self-service for granted. HR self-service implementation is an enterprise-wide change initiative: 1) focus on more than Web-based self-service, 2) examine the overall service delivery requirements

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and 3) choose the best access mechanisms (for example, PC, kiosk, telephone) and delivery models (for example, HR service center, Fax server).

Develop a Content Management Plan and internal control traceability process to ensure HR Connect portal information is accurate, proactive, and responsive to employee HRM/T needs.

5 COLLABORATION

Leverage ASP and portal business model to provide effective access to HR specialists at appropriate time, with custom or one-off information services.

Build in HR Specialist Service Level Agreement performance metrics and measures; capture real-time views of service delivery.

Enable 360 review of HR business process effectiveness; empower workers to identify and make in-process corrections.

Risk Mitigation

Conduct detailed process value analysis and information value chain modeling of HUD program area HRM/T business requirements; define common needs and map to HR Connect solution.

Obtain raw data (record level) downloads and/or reporting from HR Connect; exercise fiduciary responsibility over employee information.

Develop Service/Product Level Agreements with HUD Program areas; establish performance boundaries for maintaining HRM/T service and product quality.

Next Steps

Develop strategy for addressing Recommendations.

Complete FY 2007 OMB Exhibit 300 business case to reflect HRM/T segment Architecture guidance.

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Provide cost benefit analysis of HR Connect service post implementation. A post implementation cost analysis will allow OMB to determine if a shared service provider approach is cost effective for other agencies.

Update ACP to reflect actual system decomposition and relationship to other Administration enterprise wide initiatives.

Develop a plan to implement integration targets in FY06, specifically external interfaces to NFC and internally systems that are support by DOCS.

Update this HR Segment Blueprint to reflect changes in future EA Target Architectures and HR functions that HIRTS does not support.

Negotiate raw data dump from HR Connect Oracle database.

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