DATE	REVISION	BY
9/6/04	1.0	EA Team
9/9/04	1.1	EA Team
9/28/04	1.2	EA Team
12/29/05	2.0	EA Team

Grants Management
Target Architecture Profile

DATE: February 24,2006

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1. Introduction

Grants Management represents one of the major Business Functions performed by HUD. A grant is defined under the Federal Finance Assistance to mean the disbursement of funds to non-federal entities. Grant funding can be categorized as 1) formula grants (for activities of a continuing nature); 2) Competitive/competitive grants (for funding projects of fixed or known periods) or 3) Earmarked (for a named purpose noted by Congress in appropriations or similar language).

There are approximately 59 grant programs administered by HUD designed to meet the needs of housing for low income people and to help improve specific geographic areas. Seven program offices within HUD are actively involved in the administration of these grant programs and each office manages their grant program portfolio independently. The level of automated support varies widely from office to office as well as program to program within some offices.

In the past, HUD has attempted to streamline their execution of the Grants Management process across the various offices and grant programs, beginning with a 1997 business process re-engineering (BPR) effort. Since 2004, ten Grant Management initiatives have been funded to modernize HUD's Grants Management processes. These investments are as follows, and details of each investment are contained in the appendices:

- HUD e-Grants (ADM)
- Economic Development Initiative (CPD)
- Integrated Disbursement and Information System - IDIS (CPD)
- IGrants Management Process System Maintenance - GMPSM (CPD)
- Disaster Recovery Grant Reporting System - DRGR (CPD)
- Special Needs Assistance Program Support - SNAPS (CPD)
- Empowerment Zones/Enterprise Community System - EZ/EC (CPD)
- TITLE V (CPD)
- Oversight and Monitoring (PIH)
- Resource Allocation - Grantium (PIH)

After a detailed analysis, it is collectively understood that there is little coordination across initiatives and the investments are conflicting and duplicative. There are three primary competing initiatives moving in

divergent paths. The recommended approach to managing the grants initiatives, from both a business and technical view, leads towards a Grants Management Federated Services architecture that ensures automated support for all grants; reduces HUD operating costs; enables Program Areas to retain ownership of grants IT; and implements a PMO process that allows for exception handling. This document is intended to serve as a starting point for the development of a Grants Management segment architecture that describes the current grants environment and a target architecture for the Grants Management solutions across HUD. The recommendation provides a framework for further analysis that includes a cost effective, baseline set of information technology functionality (grant services) to all HUD programs, HUD grantees, and HUD program staff.

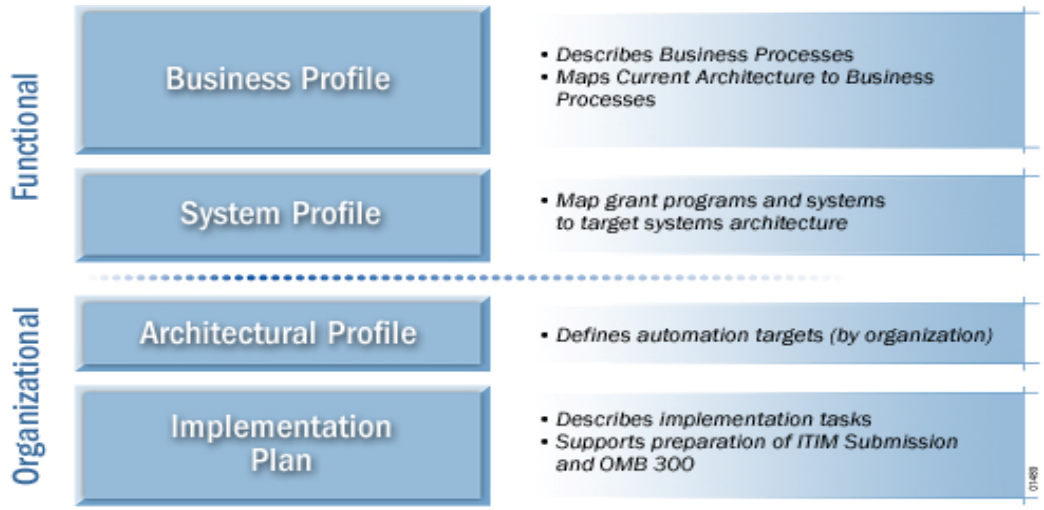
2. About the Blueprint

HUD realizes its Enterprise Architecture through the development of segment target architectures, called Blueprints, designed around core Lines of Business and Business Functions that provide enterprise-wide solutions to multiple Program Areas. The Enterprise Architecture (EA) blueprints provides a unifying architecture in order to focus on mission performance, avoid duplication of effort, reduce costs, promote portability and interoperability, and encourage long-term stability. Grants Management is a cross-cutting Business Function included in the Enterprise Architecture Version 2.0.

In November 2005, the Enterprise Architecture team conducted a business analysis of the Grants Management Business Functions, systems and investments included in the FY2007 portfolio. Baseline systems and current OMB 300 initiatives were researched and a detailed analysis with a recommended approach was provided. This blueprint contains the current Grants Management systems categorized by grant type, system platforms, stakeholders and business purpose. A federated segmented architecture approach that caters to the needs of formula and competitive grant applications is recommended. Common functionality across grant application systems should be consolidated and exposed as a set of grant services.

This blueprint allows HUD to structure its plan for department wide future Grants Management system and includes the sections of a segment architecture blueprint as identified in Exhibit 1-1 Blueprint Segment Architecture Sections below.

Exhibit 1.1. Blue Print Segment Architecture Sections



3. Business Profile

Grants Management represents a significant portion of the work performed within HUD in support of services for citizens. This business profile contains an overview of the 59 grants programs at HUD, the Program Areas that manage them and their stakeholders. It is assumed that there are substantial differences in processing between competitive and formula grants Based on the 1997 business analysis, individual Program Area grants processes and data requirements are unique. The conclusion of the business profile contains an overview of the individual investments in the FY2007 portfolio that pertain to Grants Management.

3.1. Grants Management LOB Consortium

OMB is allowing other agencies to bid on participation as a Center of Excellence (COE) at the end of March 2006. HUD is considering requesting COE selection in March. For HUD to function as a service provider or COE, functional analysis and implementation plans must address electronic processing of grants from funding announcement through award close-out, as well as considerations for a 24x7 data center, customer support, a comprehensive security program and disaster recovery management support.

If HUD achieves COE status, it can lead the Grant Management process rather than being required to ultimately adopt functionality from a service center, which may not service HUD's needs as well. COE status could:

- Enable HUD to lead the Grants Management Process (E-Gov Initiative)
- Prevent HUD from conforming to another selected Service Center
- Ensure automated support for all grants
- Reduce HUD operating costs
- Eliminate overlap in OMB 300 investments
- Reduce number of Grant Management systems
- Leverage existing infrastructure
- Enable Program Areas to retain ownership of grants IT
- Implement a PMO process that allows for exception handling
- Create competitive grants whose data requirements align with implemented formula grant systems
- Create specific grant lifecycle phases that align with implemented alternative grant or subsidy systems
- Make stakeholder buy-in attainable

3.2. Grants Management Programs and Grant Types

Numerous offices within HUD provide support in the form of grants. The Grants Management stakeholder group consisted of the following offices within HUD:

- Office of Community Planning and Development (CPD)
- Office of Public and Indian Housing (PIH)
- Office of Housing – Single Family (SFH)
- Office of Housing – Multi-Family (MFH)
- Office of Healthy Homes and Lead Hazard Control (HHLHC)
- Office of Policy and Research (PD&R)
- Office of Fair and Equal Housing Opportunity (FHEO)
- Office of the Chief Financial Officer (CFO)
- Office of the Chief Information Officer (CIO)

All but CFO and CIO are actively involved in administering grant programs providing Housing or Community Development support. Exhibit 1-2 Grant Programs by Program Area lists the grant programs administered by each office categorized as competitive or formula grants. Preliminary mappings of grant programs by grant type are highlighted below and a detailed analysis will be provided as part of a future update to the Grants Management blueprint.

Exhibit 1-2. Grant Programs by Program Area

Program Area	Grant Program	Grant Type
CPD	HOME TA	**Competitive**
	CHDO (HOME) TA	
	McKinney-Vento Homeless Assistance Programs TA	
	HOPWA TA	
	CDBG Small Cities TA	
	CDBG State TA	
	CDBG Insular Areas TA	
	CDBG Section 108 TA	
	Youthbuild TA	
	Self-Help Ownership Opportunities (SHOP)	
	Rural Housing and Economic Development	
	Youthbuild	
	Brownfield Economic Development Initiative (BEDI)	
CPD	HOPWA	**Competitive**
	Continuum of Care Homeless Assistance Supportive Housing	
	Shelter Plus Care	
	Section 8 Moderate Rehabilitation SRO	
	Indian Development Block Grant	

	Capacity Building Grants	**Subsidy**
	Renewal Permanent Supportive Projects	
	HOME	**Formula**
	Emergency Shelter Grants (ESG)	
	Community Development Block Grants (CDBG)	

Program Area	Grant Program	Grant Type
CPD	Special Needs Assistance Management Information Program (SNAP MIP)	**Formula**
FHEO	Fair Housing Education and Outreach Initiative	**Competitive**
	Fair Housing - Private Enforcement Initiative	
	Fair Housing Organizations Initiative	
	Fair Housing Initiative Program FHIP-HBCU	**Subsidy**
	Section 3 (Closed)	**Formula**
HHLHC	Healthy Homes Demonstration Program	**Competitive**
	Lead Technical Studies	
	Healthy Homes Technical Studies	
	Lead-Based Paint Hazard Control	
	Lead-Based Paint Hazard Reduction Demonstration	
	Operation Lead Elimination Action Program	
	Lead Outreach Grant Program	
MFH	Assisted Living Conversion Program for Eligible Multifamily Projects	**Subsidy**
	Service Coordinators in Multifamily Housing	
	Section 811 Supportive Housing for Persons with Disabilities	
	Section 202 Supportive Housing for the Elderly	**Competitive**
	Section 236	**Subsidy**
	Rent Supplemental, Rental Assistance Program (RAP)	
PD&R	Hispanic-Serving Institutions Assisting Communities	**Competitive**
	Alaska Native/Native Hawaiian Communities	
	Tribal Colleges and Universities	
	Historically Black Colleges and Universities (HBCU)	

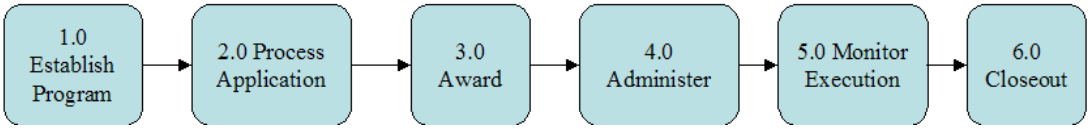
	Community Development Work Study (CDWSP)	
	Doctoral Disertation Research Grant Program	
	Early Doctoral Student	
	Community Outreach Partnership Centers (COPC)	

Program Area	Grant Program	Grant Type
PD&R	Community Development Work Study (CDWSP)	**Competitive**
	Doctoral Dissertation Research Grant Program	
	Early Doctoral Student	
	Community Outreach Partnership Centers (COPC)	
PIH	Housing Choice Voucher (HCV) Family Self Sufficiency for Public Housing Program Coordinators	
	ROSS for Resident Service Delivery-Models Family	
	ROSS for Resident Service Delivery-Elderly	
	ROSS for Family Self-Sufficiency	
	ROSS for Neighborhood Networks	
	ROSS for Homeownership Supportive Services	
	HOPE VI Mainstreet	**Subsidy**
	Mainstream Housing Opportunities For Persons With Disabilities	
SFH	Housing Counseling - Local Housing Counseling Agencies (LHCA)	**Competitive**
	Housing Counseling -Nation and Regional Intermediaries	
	Housing Counseling - State Housing Finance Agencies (SHFA)	
	Housing Counseling	
	Housing Counseling - Predatory Lending	
	Housing Counseling - Section 8 Homeownership	
	Housing Counseling Training	**Subsidy**

3.3. Grants Management Business Process Flow

The first step in defining the Business Profile was to develop the target business process flow and map each grant to the process. The six phases of the Grants Management lifecycle are depicted in Exhibit 1-3 HUD Grants Management Lifecycle Phases below.

Exhibit 1-3. HUD Grants Management Lifecycle Phases



3.4. Grants Overview

Grants are defined under Transfers to State and Local Governments in three ways:

- **Formula Grants** – for activities of a continuing nature
- **Project/Competitive Grants** – for funding projects of fixed or known periods
- **Earmarked Grants** – for a named purpose noted by Congress in appropriations or similar language
- **Subsidies –** a subsidy is defined under Federal Financial Assistance to mean a financial transfer to non-federal entities that reduces costs and/or increases revenues of producers.

Grant payments typically use a hybrid of a payment schedule and drawdown. This allows HUD to control the amount of funding that is provided but still remain flexible to the needs of the grantee. In the Rental Housing Assistance Line of Business, subsidy programs have an initial competitive award process but usually do not require a competitive process for renewal funds. The nature of a subsidy program is long-term, contractual, and generally renewable subject to appropriations. They often serve a broader purpose than do grants. Subsidy payments follow a payment schedule, a drawdown process, an invoicing (voucher) process, or a combination of these payment methods.

The Payment Schedule Method allows HUD to deliver funding to the program administrator in 12 monthly payments based off an initial funding allocation made at the beginning of the year. Drawdown in subsidies, like grants, allows the program administrators to use money as it is needed. However,

drawdowns are usually limited by a payment schedule. Program administrators usually cannot drawdown more than is allowed in a given time period. Invoicing (vouchering) requires the program administrator to submit a bill to HUD, who in turn processes a payment of the amount that is approved by the appropriate contract administrator.

Formula grants and subsidies have grown to be very similar to one another. At their core, they are essentially an outlay of federal funds to non-federal entities that does not have to be repaid. The primary difference that exists, particularly in terms of recipients, is that subsidies may be paid out to private owners. Federal EA makes a fine distinction between grants paid as transfers of funding to state and local governments and subsidy payments that are for "non-federal" recipients only.

The impact of the difference has been lessened as a result of the government no longer offering subsidies in any given market. After a party qualifies for funding, the funding is made available and is paid out to a private entity, either directly or through state and local governments/agencies. In both cases, the funding covers a portion of the end recipients' housing costs, and the funds do not have to be repaid. By treating all payments as grants, HUD would be able to standardize resource allocation processes and systems across units.

From a process standpoint, the major difference that exists is the renewal process for subsidies. Once available grant funding is exhausted, the grant is closed. Although grants terminate and subsidies continue to cycle through the process, the actual initiation and funding processes in place are similar enough that consolidation of these steps would help reduce the number of redundant systems. This consolidation would create a more cohesive funding model for grants and subsidies as a whole.

3.5. Business Process Observations

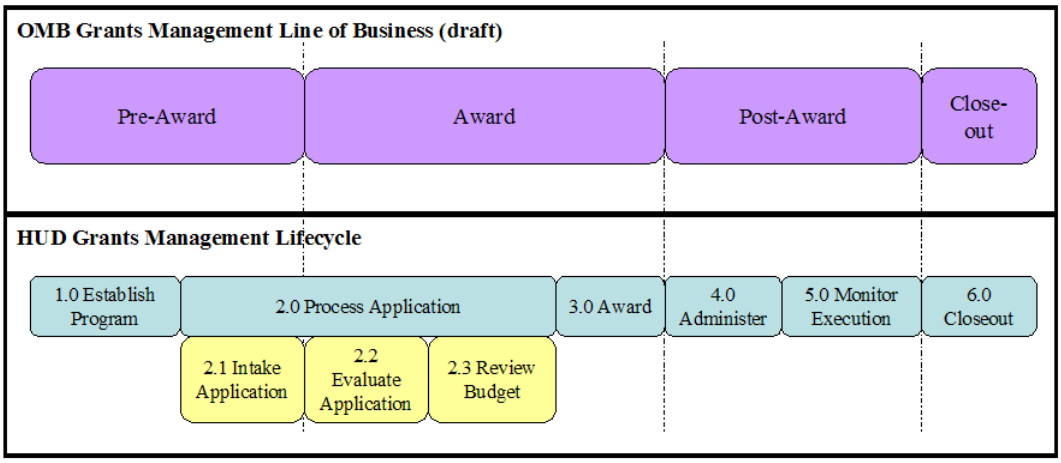
- **Differences between Formula and Competitive** Grants — Nearly all of the distinctions between competitive and formula grant programs occurred in the Establish Program and Process Application phases
- **Transfer of ownership to Field Office** — Most programs have Headquarters staff running the first two phases of the program (Establish Program and Process Application). During the Award phase, control is handed over to the Field Office staff to finalize the grant agreement and to perform the processes in the Administer and Monitoring Execution Phases

- **Performance Metrics** — The development of performance metrics and guidelines appears to be very limited to nearly non-existent for many programs. While many programs provide (by law) much flexibility in determining how a grantee provides the assistance, overall HUD needs to develop and communicate some level of basic performance metrics for all grantees within a given program. This is in alignment with the direction coming from OMB regarding defining program performance measures.
- **Order and Timing of Processes** — While most of the processes are common between programs, the order and/or timing of when the processes are performed varies from program to program (or office to office). 90% of grant programs are competitive grant programs
- Most information retrieval occurs in the Establish Process and Process Application phases in the Grants Management lifecycle.
- Automation towards grants can be relatively evenly distributed across the first four phases of the Grants Management lifecycle.

3.6. Alignment with the OMB Grants Management Line of Business

The Office of Management and Budget (OMB) has developed a government-wide process flow for the Grants Management Line of Business (GM LOB). Exhibit 1-4 OMB Grants Management Line of Business Process Flow is the draft of the GM LOB process flow published by OMB. The GM LOB process flow is separated into four major phases. The four phases of the OMB Grants Management Line of Business process flow have been aligned to the HUD Grants Management Lifecycle.

Exhibit 1-4. Alignment of OMB GM LOB Process Flow with HUD GM Lifecycle



3.7. Business Profile Target Architecture Summary

The following observations summarize the results of the Business Profile analysis:

- Substantial portions of the Grants Management lifecycle are common to both competitive and formula grants and should be defined in a future analysis
- HUD's Grants Management business process flow aligns closely with the OMB Grants Management Line of Business process flow. The business processes are more complex than most departments in the government.
- Componentization of repetitive grant business processes across grant programs should be emphasized towards building a core set of common services.
- Within the Grants Management lifecycle, the following business processes are significantly impacted by program-specific business rules and/or data, requiring unique processing
    - Package processing
    - Formula grant calculations
    - Risk assessment analysis

The Business Profile of HUD's Grants Management Segment Architecture indicates that a federated Grants Management process flow can be implemented to support greater than 85% of the business processes required by all of the grants programs within HUD.

3.8. FY 2007 Grants Management Investment Overview

Currently, ten IT Grant Management initiatives have been funded for 3 Program Areas. Since 2004, over $300 million dollars has been allocated to Grants Management solutions. There is no coordination across the initiatives and the investments are conflicting and duplicative. Exhibit 1-5. below contains the ten Grants Management investments, their start and end dates, funding values and PCAS numbers.

Exhibit 1-5. FY07 OMB Exhibit 300 Investments

PCAS	Initiatives	Start/End Dates	Total Funding
964750	HUD e-Grants (ADM)	2005 – 2009	$72.68 million
252190	Economic Development Initiative (CPD)	1999 – 2009	$3.22 million
252200	IDIS (CPD)	1993 – 2014	$54.11 million
252210	GMPSM (CPD)	2005 – 2009	$5.93 million
252220	DRGR (CPD)	1997 – 2009	$4.82 million
252230	SNAPS (CPD)	2005 – 2009	$6.58 million
252240	EZ/EC (CPD)	1994 – 2009	$5.46 million
252290	TITLE V (CPD)	2005	$4.61 million
1667980	Oversight and Monitoring (PIH)	2005 – 2012	$42.3 million
*1667970	Resource Allocation - Grantium (PIH)	2005 – 2012	$99.5 million

Most of the Grants Management investments are focused in 3 Program Areas-- ADM, PIH and CPD. Current systems will be absorbed based on system functionality. Each grant program should be mapped by grant type to determine the functional and critical business processes that can be absorbed by target systems. Duplicative functionality should be adequately addressed from a business process standpoint and business processes should analyzed carefully keeping the enterprise-wide federated Grant Management vision at the forefront.

4. Systems Profile

The systems profile contains an overview of the current and target Grants Management system architecture.

4.1. Baseline Systems Analysis

There are currently 15 systems interfacing with 8 financial systems supporting 59 grant programs. These systems create a redundant stove-piped environment with no end-to-end lifecycle integration and no central IT Grants Systems Management. These applications were used as the basis of the systems profile analysis for the target architecture. The table below depicts the systems by grant type (formula/competitive) with their supporting grant programs. Exhibit 1-6 Grants Management Support Systems by Program Office represents the program offices with automated systems that provide support to the Grants Management process lifecycle.

Exhibit 1-6. Baseline Systems

	CPD		PIH		SFH		MFH		HHLHC		PDR		FHEO	
Type	FG	CG*	FG	CG*	FG	CG*	FG	CG*	FG	CG	FG	CG	FG	CG
Count (59)	4	18	0	6	0	6	2	4	0	7	0	0	1	3
	IDIS		GMCSS	Cuff	None	HCS	None	DAP	None	Cuff	None	None	SCTS	None
	AFTS													
	GMP													
	SNAPS													
	DR GR													
Grant Systems		Cuff												
		EZ/EC AES												
		RHEDPS												
		Youth-Build												
		Title V												
		EZ/EC PMS												
Financial Systems	LOCCS, HPI, SECTION 235 AVE, DARTS, FAAD, HUDCAPS, LAS, PAS													

Exhibit 1-7 aligns the baseline systems to the individual grant programs and Program Areas they support.

Exhibit 1-7. Grants Management Programs by Program Area and Grant Systems.

Program Area	Grant Program	Grant System
CPD	HOME TA	IDIS
	CHDO (HOME) TA	
	McKinney-Vento Homeless Assistance Programs TA	None
	HOPWA TA	IDIS
	CDBG Small Cities TA	
	CDBG State TA	
	CDBG Insular Areas TA	
	CDBG Section 108 TA	
	Youthbuild TA	Youthbuild
	Self-Help Ownership Opportunities (SHOP)	CUFF
	Rural Housing and Economic Development	RHEDPS
	Youthbuild	Youthbuild
	Brownfield Economic Development Initiative (BEDI)	GMP
	HOPWA	IDIS
	Continuum of Care Homeless Assistance Supportive Housing	SNAPS
	Shelter Plus Care	
	Section 8 Moderate Rehabiliation SRO	
	Indian Development Block Grant	CUFF
	Capacity Building Grants	

	Renewal Permanent Supportive Projects	None
	HOME	IDIS
Program Area	**Grant Program**	**Grant System**
CPD	Emergency Shelter Grants (ESG)	IDIS
	Community Development Block Grants (CDBG)	
	Special Needs Assistance Management Information Program (SNAP MIP)	SNAPS
FHEO	Fair Housing Education and Outreach Initiative	None
	Fair Housing - Private Enforcement Initiative	
	Fair Housing Organizations Initiative	
	Fair Housing Initiative Program FHIP-HBCU	
	Section 3 (Closed)	SCTS
HHLHC	Healthy Homes Demonstration Program	CUFF
	Lead Technical Studies	
	Healthy Homes Technical Studies	
	Lead-Based Paint Hazard Control	
	Lead-Based Paint Hazard Reduction Demonstration	
	Operation Lead Elimination Action Program	
	Lead Outreach Grant Program	
MFH	Assisted Living Conversion Program for Eligible Multifamily Projects	DAP
	Service Coordinators in Multifamily Housing	TRACS
	Section 811 Supportive Housing for Persons with Disabilities	
	Section 202 Supportive Housing for the Elderly	None
	Section 236	TRACS

	Rent Supplemental, Rental Assistance Program (RAP)	
PD&R	Hispanic-Serving Institutions Assisting Communities	None

Program Area	Grant Program	Grant System
PD&R	Alaska Native/Native Hawaiian Communities	None
	Tribal Colleges and Universities	
	Historically Black Colleges and Universities (HBCU)	
	Community Development Work Study (CDWSP)	
	Doctoral Dissertation Research Grant Program	
	Early Doctoral Student	
	Community Outreach Partnership Centers (COPC)	
PIH	Housing Choice Voucher (HCV) Family Self Sufficiency for Public Housing Program Coordinators	CUFF
	ROSS for Resident Service Delivery-Models Family	
	ROSS for Resident Service Delivery-Elderly	
	ROSS for Family Self-Sufficiency	PIC
	ROSS for Neighborhood Networks	CUFF
	ROSS for Homeownership Supportive Services	
	HOPE VI Mainstreet	None
	Mainstream Housing Opportunities For Persons With Disabilities	PIC
SFH	Housing Counseling - Local Housing Counseling Agencies (LHCA)	HCS
	Housing Counseling -Nation and Regional Intermediaries	
	Housing Counseling - State Housing Finance Agencies (SHFA)	
	Housing Counseling – Colonias	
	Housing Counseling - Predatory Lending	

	Housing Counseling - Section 8 Homeownership	
	Housing Counseling Training	None

Because this alignment effort is performed at a high level, a more detailed analysis is required to fully realize the benefits of a business process to application alignment.

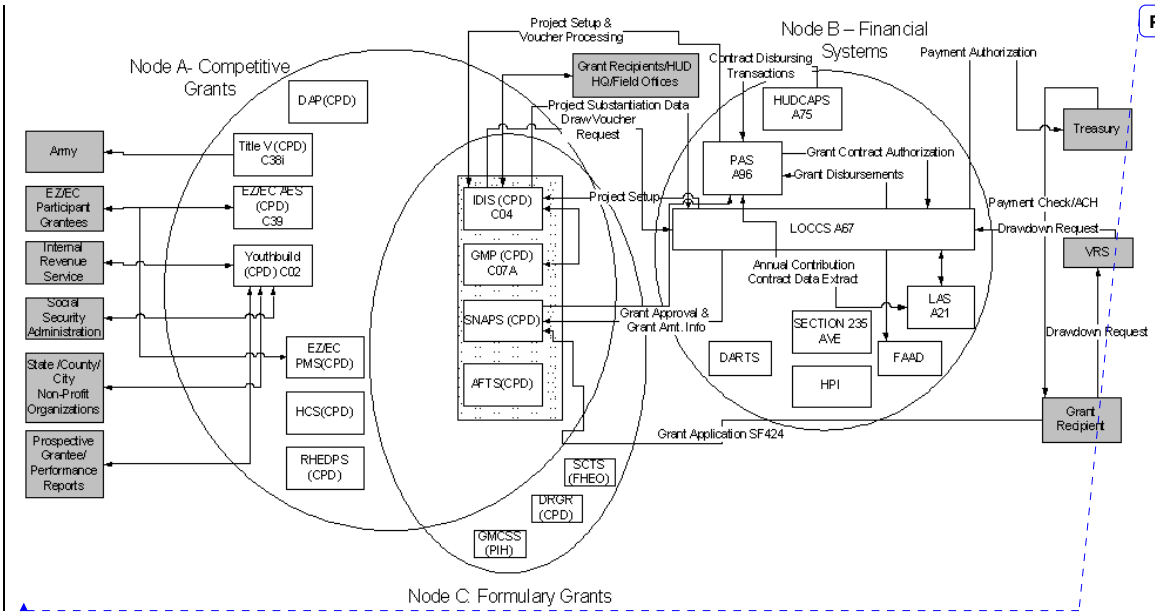
However, the following observations and assessments were made:

- HHLHC and PD&R do not have automated systems to support their grant programs
- It is unknown what level of Grants Management support is provided by cuff systems, as they were not identified as part of this analysis effort
- Additional information is needed to understand which grant programs are being supported by the applications and how much of the lifecycle is supported for each program

4.2. Current Grants Management System Interfaces

Past attempts to identify a common Grants Management system for HUD did not associate collaboration between business processes. Capturing and understanding these collaboration parameters is an important factor in defining the target Grants Management business architecture for HUD. The high level interfaces between the existing Grants Management systems are provided in Exhibit 1-8. Detailed information translation to business requirements for competitive, formula or other grants need to be defined with additional levels of detail in a future analysis.

Exhibit 1-8. SV-1 System Interface Diagram



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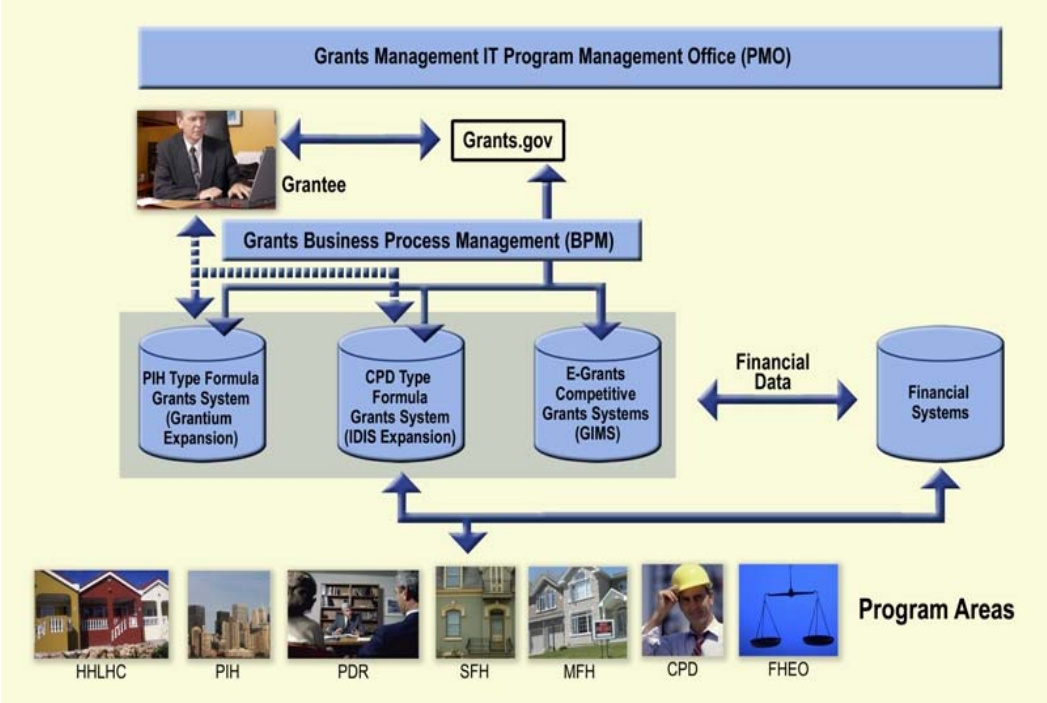
4.3. Target Grants Management Solution System Architecture

The implementation of a Grants Management solution that leverages current technologies and existing systems is the best long term solution for HUD's Grants Management solution. The existing systems, business requirements for grants and the FY2007 Grants Management Line of Business were analyzed and a target solution is recommended. The recommended target solution primarily consists of PIH, CPD formula systems and the E-Grants competitive system collaborating in a federated architecture that will enable the distribution of grants processing across several existing systems.

Exhibit 1-9 represents the recommended target architecture for the enterprise-wide Grants Management solutions. It is a "smart federated" approach in which the grantee will interact with a common body of grant services that will cater to the repetitive tasks such as workflow processing, data analysis/translation, grants.gov packaging, reporting and the processes towards establishing and processing a grant application. Core system functionality will be implemented by the individual Program Areas and a federated service architecture model will service as the channel for systems to interact and collaborate with each other.

Exhibit 1-9. Target System Architecture



4.4. Integration Targets

Grants.gov Integration — One of the initial areas of integration is the Grants.gov system being supported by OMB. At a minimum, this integration is required to receive grant applications from Grants.gov; transform the XML data into a database for pre-defined forms; and store attached files (non-XML) on a file server within HUD. The application package data can be used to interface with other systems that support the Grants Management lifecycle.

Financial Management Integration – The existing Financial Management systems (HUDCAPS, PAS and LOCCS) have a fairly tight integration with several of the existing program office systems. Core Financial Management modules should be implemented in Financial Management systems and not in the target

Cross-cutting services such as reporting, workflow, and rules-based processes, document and data management will be crucial in managing the Grants Management lifecycle within HUD in a service oriented model

Grants Management system. Interfaces could be provided towards collaboration between both systems.

Grants Management System (COTS/GOTS) — As noted earlier, grant programs are currently managed independently by each program office. This resulted in the development of multiple systems to support grant making for individual offices and programs. Additionally, many grant program offices do not have any automated systems to support their Grants Management activities. Implementing a common Grants Management system will reduce long-term system development and maintenance costs, provide support to all grant programs throughout the lifecycle and enable enterprise-wide report on grant status. Program specific automation targets will be developed as components to extend the functionality of the base system.

The decision to move forward with a COTS/GOTS Grants Management package needs to be weighed against the direction required by the OMB GM LOB. As part of grants segmented architecture alternatives, key highlighted benefits for the recommended approach were addressed.

- Incorporates common service components within the target Grants Management solution
- Eliminates overlap in OMB 300 investments
- Reduces the number of Grant Management systems at HUD
- Enables PA's to retain ownership of grants IT
- Ensures automated support for all grants

The target system architecture is defined after evaluating these key system attributes in Exhibit 1-10.

Exhibit 1-10. Evaluation Attributes and System

Indicator	Description
Business Drivers	
Stakeholder acceptance	The likelihood of stakeholder buy in from the program area grants management teams.
Maintenance and development costs	The cost of completing the systems development and maintenance costs
Leverages domain knowledge	Enables program areas to retain independence in managing grants and leverages existing infrastructure and grants knowledge bases.
Supports all grant types	Expands support to grants currently not automated
Technology Drivers	
Data standardization	Reduces inconsistent and duplicative data sets across the grants functions
Duplicative functionality	Reduces redundancy across platforms and business processes
Change management	Localized IT infrastructure and system changes can be easily managed
Agile and flexible design	Ability of systems to adapt to design changes and system upgrades

Indicator	Execute the FY07 Portfolio		Federated Services Architecture
Business Drivers			
Stakeholder acceptance	●		◎
Maintenance and development costs	○		◎
Leverages domain knowledge	●		◎
Supports all grant types	◎		●
Technology Drivers			
Data standardization	○		●
Duplicative functionality	○		●
Change management	●		◎
Agile and flexible design	◎		●
TOTAL	8		12

Adequate	●	(2)
Partially Adequate	◎	(1)
Not Adequate	○	(0)

4.5. Systems Profile Target Architecture Summary

The following observations summarize the results of the Systems Profile analysis:

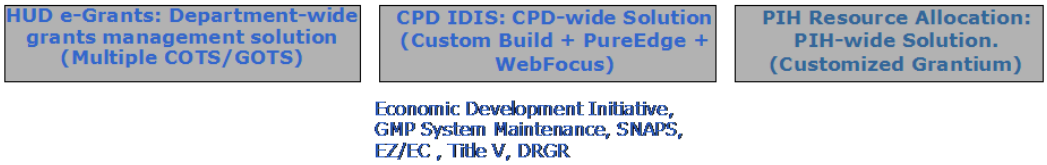
- A more in-depth analysis of the applications and grant programs supporting Grants Management business processes needs to occur to understand the level and breadth of support being provided
- The grants system modernization approach should be implemented at the grant program level as opposed to the grant system level.
- Program specific business processes being supported by applications need to be identified
- Cuff systems providing support at Headquarters and Field Offices need to be identified and analyzed
- Common services such as reporting, workflow, and document management should be incorporated within the target Grants Management solution
- Workflow can be used to provide support to programs that currently do not have automated systems
- Development of the target Grants Management solution should be in compliance with the technical standards approved by HUD's CCMB

5. Architectural Profile

5.1. Grants Management Technology Overview

This section does not analyze core Grants Management Business Functions but details the core federated grant services required to design and implement a Grants Management architecture. Currently, there are three enterprise-wide Grants Management technology investment initiatives at HUD, HUD E-grants, CPD–wide IDIS and PIH Resource Allocation Grantium.

Exhibit 1-11. Current Technology Direction Overview



HUD E-Grants: HUD is seeking to centralize and automate the Department's Grant Management processes into a centralized Grants Management system. HUD eGrants project was initiated to provide an enterprise-wide solution for Grants Management at HUD. The HUD eGrants system will be a department-wide Grants Management system that integrates the full life cycle processes of all HUD grant programs. The life-cycle components in the system cover grant processing from announcement through application submission, evaluation, award, fund requests, performance reporting, monitoring, closeout, and final audit.

CPD IDIS: IDIS is a financial disbursement, tracking, and grantee performance reporting real-time system. IDIS is the primary vehicle for grantee data processing for the Community Development Block Grant (CDBG), Home Investment Partnerships (HOME), Emergency Shelter Grants (ESG), and Housing Opportunities for People with AIDS (HOPWA) formula grant programs. IDIS is used to initiate activities, drawdown grant money, track receipt and use of program income, and report program accomplishments.

PIH Resource Allocation – Grantium: Resource Allocation is the function that will support the Federal Enterprise Architecture Transfer to States Line of Business. It automates the competitive and formula-based processes for allocating program funds to PHAs. Requirements include the intake and evaluation of applications, the calculation of subsidies, the administration of

contracts, and the allocation of funds to residents, housing authorities and non-profit organizations.

These three initiatives will eventually result in business process duplication with systems providing similar functionality at some stage in the Grant Management lifecycle.

5.2. Target Grants Management Architecture Business Objects/Functional Components

There is severe lack of automated support within many program offices and the critical need to receive application packages electronically into systems have lead many program offices in divergent paths. Most systems are still continuing efforts at building stove-piped systems that have limited integration capabilities with each other and not advocating an agile and flexible **component-based** Grants Management target architecture.

Component-Based Solution —
Components offer the potential to assemble systems much more rapidly and provides the design team with enough visibility towards the nuts and bolts of the system. Most components have interfaces which have a mechanism to accept service requests and a consequent mode for returning service responses. The main criteria towards assembling components is to promote reusability and allow existing pre-built components to grow based on application requirements. This component approach can also cater towards a framework of grant services that can be loosely coupled and are independent.

A component is an interface which can coexist independently, exposes behavior that depicts unique functionality and promotes reusability

A component solution will allow HUD to focus on addressing portions of the Grants Management lifecycle with an automated solution. It also positions HUD to prioritize mandates related towards expansion of core functionality that may come out of the OMB GM LOB initiative by having phased releases of functional grant services. As indicated earlier, each functional component is defined to support a discrete set of business processes. The scope of the discrete set of business processes should be determined to enable reasonable response time to OMB mandates while minimizing the impact on the systems and processes supporting HUD grants programs.

Each component represents automation of a portion of the Grants Management lifecycle. The components identified below do not constitute

the full functionality required to support the Grants Management lifecycle but a subset of the complete solution. Additional effort needs to occur to define the comprehensive set of components necessary to support HUD's Grants Management target architecture.

Components to be designed can be categorized into *competitive*, *formula* and *common* grant processing objects (i.e. common to both competitive and formula grants). This subdivision maintains "clean" boundaries for supporting the business processing functionality.

Candidate functional components for common grants processing are discussed below:

- Establishment of workflow processes to facilitate setup of a grant and subsequent application processing steps.
- Routing of application packages to grants.gov and long-term plans to the appropriate offices and reviewing personnel
- Integration with the Financial Management systems to conduct a funds review prior to finalization of grant awards
- Notification of award decisions, including Congress and applicants
- Integration with the Financial Management systems to conduct funds obligations using a consistent format
- Rules and procedures necessary to provide common structure around when and why a formal grant agreement amendment processing must occur
- Integration with the Financial Management systems to support funds drawdown requests and approvals

While a number of the processes within the Establish Process and Process Application lifecycle phases were identified with most commonality, having a grant service oriented federated approach enables program management to have more insight into the effectiveness of programs across field offices and programs.

Candidate functional components for competitive grants processing are discussed below:

- Intake of applications from Grants.gov and preparation of those applications for routing to the specific program offices

- Routines to perform the selection (i.e. initial award decision) of competitive grants in the three major approaches (highest score, lottery and first-come/first-serve)
- Components to conduct the review of grant application packages tailored to support the program specific business rules governing those business processes

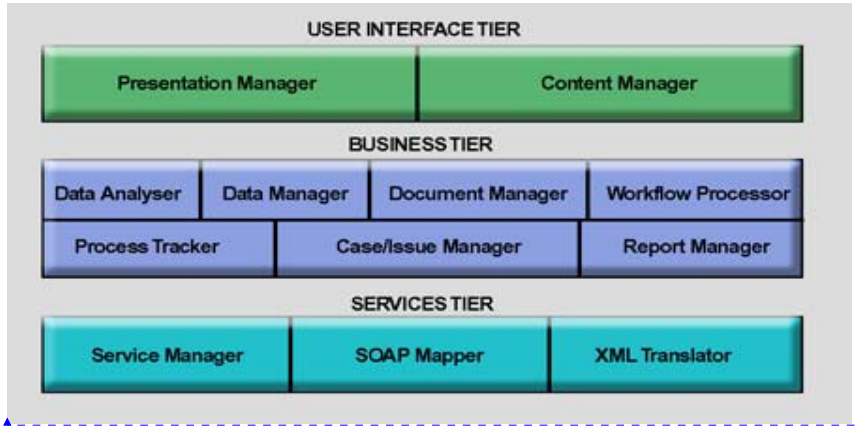
Candidate functional components for formula grants processing are discussed below:

- Support for the electronic submissions of both annual action plans and long-term plans
- Program specific components to calculate formula award amounts for formula grants based upon the program specific business rules and formula factors

5.3. Common Grant Services

In analyzing the business process support and services provided by the existing applications and the common services desired for the target Grant Management solution, a number of common external business grant services can be designed around the Grants Management target system architecture. All components in the Grants Management solutions should be categorized into the following technical layers.

Exhibit 1-12. Core Federated Grant Services



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5.4. User Interface Tier

5.4.1. Presentation Manager

The presentation manager is associated with the data translation of requests and subsequent handshake responses in the form of messages between two system request processes. The aim is to ensure that the messages exchanged between two system processes have a common meaning understood by both parties. The presentation layer is also concerned with data encryption and data security. Data security covers all domains related to Identity Management and Enterprise Authentication and Authorization.

5.4.2. Content Manager

The content manager eases and automates the processes for creating, managing and publishing content for the Web, thereby giving business users extended control over the management of their Web content. This serves as an interface to content repositories that simplify the management of content to Web sites and portals and enables business and technical users to manage their content and portal management objectives through one interface. Integrated with business processes, users can share knowledge and collaborate on related tasks.

5.5. Business Tier

5.5.1. Data Analyzer / Manager

The data manager provides the interface to data-warehouses and business intelligence to quickly traverse through large amounts of data, extract related information and turning that information into actionable inputs to business processes.

5.5.2. Document Manager

The document manager serves as the interface to document management systems to create, manage, deliver, and archive all content from text documents and spreadsheets to digital images, HTML, and XML components. Individual Program Areas can define, model, manage, and analyze business processes consistently and reliably across multiple organizations, systems, and applications.

5.5.3. Workflow Processor

The workflow processor provides the interface to enable programs to consistently communicate with each other transparently via message notifications and secure data feeds. Requests and responses can be coordinated to individual users across systems by workflow systems.

5.5.4. Process Tracker

The process tracker allows for business process flows to be tracked at each stage in the Grant Management system lifecycle. This interface gives the PMO visibility into effectively tracking the grant lifecycle and ensures proactive decision-making.

5.5.5. Case / Issue Manager

This interface provides integration with change management solutions and allows changes and issues within a specific business process to be documented and updated. Change management can thus be enabled collaboratively instead of being managed on a case-by-case basis.

5.5.6. Report Manager

Reporting is the process of accessing data, formatting it, and delivering it inside and outside the organization. It provides users the most-requested pieces of information reliably and securely, via the web or embedded in enterprise applications to rapidly create flexible, feature-rich reports and integrate them into web applications. A key benefit to the report manager is providing secure data access, report viewing and interaction. The report manager provides integration with reporting solutions to facilitate distributed report management and database report repository integration.

5.6. Services Tier

5.6.1. Services Manager

The services manager will serve as the facade to all the grant services providing instantiation, service registry management, service locator and service lifecycle management. Implementation details — such as components, servers, client invocations, and databases on which programs run — are independent from the process definitions and patterns and can be handled implicitly by the service manager.

5.6.2. SOAP Handler (Map)

This interface handles mapping SOAP messages to a system request and response. SOAP is a protocol and messages are send via a SOAP envelope, which is a construct that defines an overall framework for representing the contents of a SOAP message, identifying who should deal with all or part of it, and whether handling such parts are optional or mandatory. It defines a protocol binding framework, which describes how the specification for a binding of SOAP onto another underlying protocol may be written.

5.6.3. XML Translator

This interface automates the translation of XML documents based on one DTD/schema to XML documents based on another DTD/schema. It provides a way to mark up content that adds information about its purpose. With the information stored using XML, the XML parser can reliably extract the relevant information and process it accordingly for multiple situations.

5.7. Federated Grants Management Service Architecture

Grants Management can utilize SOA principles to permit implementation of grant services as a business process as opposed to traditional stove-pipe applications. SOA promotes reusability of IT assets, encompasses faster delivery cycles, enhances openness and vendor-independence, and reduces TCO.

Primarily, SOA advocates the use of shared grant services highlighted above and systems do not need to “reinvent the wheel”. Service re-use could occur within an enterprise (across departments) or beyond. It is loosely coupled (can update application implementations with minimal effect on services that invoke them) and is location transparent (can re-host applications with minimal effect on services that invoke them).

Exhibit 1-13. Comparison Between Traditional & Grants Federated Architectures

Traditional Architecture	Grants Federated Architecture
Designed to last	Designed to change
Tightly coupled	Loosely coupled, agile
Integrate Silos	Compose Services
Product Oriented	Process Oriented
Middleware makes it work	Architecture makes it work
Favors Homogeneous Technology	Favors Heterogeneous Technology

5.8. Grants Management Target Technologies

The target Grants Management solution should use technologies approved by the Enterprise Architecture team contained in the Technical Reference Model (TRM). Technology products and/or standards identified for use in the target Grants Management solution that have not been approved by HUD's CCMB and that do not have an acceptable alternative will need to receive HUD approval.
The Technical Reference Model could be referred to for details on technology standards, platforms and their related components.

6. Implementation Plan

An implementation plan provides strategic direction for moving from the current state to the target architecture through implementation of the automation and integration targets. The implementation approach separates the implementation into major phases and identifies activities that need to occur in each phase. These activities provide the foundation for the development of a detailed migration plan and include additional analysis activities in addition to system development activities. This section outlines the implementation phases and next steps in achieving a federated architecture baseline. Detailed implementation\transition plans will be elaborated in the EA Transition Plan.

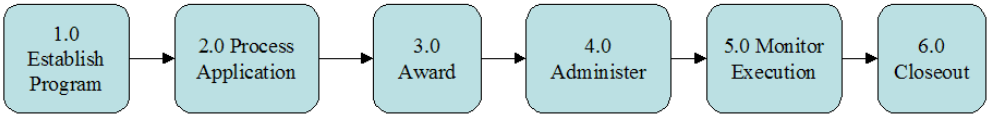
Exhibit 1-14. Long-term strategic goals:

Goal	Benefit
Identify and implement common technologies and business processes	• Streamline the Grants Management process within HUD • Enables the definition and reporting of common performance metrics across the Grants Management lifecycle
Reduce the number of Grants Management systems	• Simplify the decision-making for IT infrastructure during the CPIC process
Position for OMB Grants Management Federated Services initiative	• Ease the transition from agency-internal, program-centric Grants Management processing to service – oriented approach • Allow HUD to promote information sharing across Program Areas and maintain consistency across solutions implemented.

The primary goal of the federated segmented architecture is to expand the solution footprint of the Grants Management system by leveraging critical functionality provided by existing systems and not re-engineering the entire solution. Crucial common modules should be encapsulated as federated grant services maintaining consistency across Program Areas and mission critical systems with a high user ratio should be migrated to this unique service model. By providing a phased approach, existing systems can reassess their functional priorities and arrive at a more cohesive solution thereby reducing redundancy across solution sets.

Systems depicting similar functionality are mapped below at each stage in the Grant Management lifecycle. The system to grant lifecycle mapping should be further analyzed to provide Program Areas with consolidation criteria of business and system functionality. The below table contains preliminary mappings of the current HUD Grants Management systems to the Grants Management lifecycle. Further analysis should be conducted to develop a phased implementation\consolidation of the systems.

Exhibit 1-15. Systems Mapping with Grant Lifecycle



Preliminary Mapping of Current HUD Grants Systems to Grants Lifecycle					
Establish Program	**Process Application**	**Award**	**Administer**	**Monitor Execution**	**Closeout**
			AFTS		
			DAP		
	EZ/ EC AES				
	EZ/EC PMS				
			GMCSS		
				GMP	
			HCS		
IDIS	IDIS	IDIS	IDIS	IDIS	IDIS
				RHEDPS	
				Section 235 AVE	
				Section 3 CTS	
SNAPS	SNAPS	SNAPS			
			TITLE V		
YOUTH-BUILD	YOUTH-BUILD	YOUTH-BUILD			

6.1. Implementation Approach

A **phased approach** to the Grants Management target architecture solution is necessary. The phases of the approach are discussed in more detail below.

Phased Implementation — In addition to the ability to quickly implement a set of functionality, a phased approach *minimizes risk* by segmenting the development of a large solution into smaller, more manageable pieces. It enables the *prioritization of functional components* and minimizes the impact on existing systems at any given point in time. Another advantage of a phased approach is the ability to *implement a portion of the target solution* even if all of the requirements for the overall solution have not been finalized. This is exactly the situation HUD is in due to the current status of

the OMB Grants Management Line of Business (GM LOB) effort and divergent investments at different phases of their lifecycle.

By going with a phased approach, HUD will be able to address their most pressing needs while minimizing the impact on the existing systems and processes. A phased approach, combined with a component-based solution also positions HUD to more easily respond to mandates coming out of OMB related to the GM LOB. The approach for implementing HUD's Grants Management target architecture solution has identified three (3) major phases:

- The **Interim Phase** is focused solely on the assessment of individual grant programs and their related systems. Critical assessment factors are automation support; duplicative functionality, alignment with business/functional goals, adoption of a streamlined grant lifecycle management process and receipt of competitive grant application packages from Grants.gov. This phase does not impact the existing systems or processes used by the program offices.
- The **Foundation Phase** provides automation in handling electronic application packages, includes implementation of common grant services and reusable business processes for both Competitive and formula programs and manages integration of the new capabilities with the existing legacy systems. This should lay out a robust foundation for each Program Area to leverage readily available functionality and focus only on specific business processes for their systems.
- The **Long-Term Phase** provides a federated HUD-wide Grants Management solution for competitive and formula grants. It supports the execution of program-specific business processes and rules. It should compliant with OMB Grants Management Line of Business mandates and be agile and flexible in design.

The subsequent sections will provide additional details for each of these phases.

6.2. Interim Phase

The interim phase is a discovery and assessment phase. All grant programs and their associated systems must be analyzed thoroughly. Outcomes of this phase should include detailed documentation on mapping current programs to systems and their implications towards the FY07 portfolio.

Redundancy across business requirements and processes should be highlighted and an appropriate roadmap must be enforced with ownership on Program Areas to take the needed corrective action

6.3. Foundation Phase

The Foundation phase for the Grants Interface Management solution expands upon this interim solution by significantly increasing the level of automation. This phase also includes the analysis effort to prepare for the implementation long-term target architecture. The major areas of focus for the Foundation Phase include:

- Provide automation in receiving and routing application packages from Grants.gov
- Implementation of the common grant services addressed in the architecture profile
- Integration with a fax solution to handle 3rd party documentation not supported by Grants.gov
- Defining grant program-specific extensions to the common workflow to enable management of program-specific processes and rules and legacy system integration
- Building a roadmap towards the long-term phase translation and implementing a transition plan for existing systems to integrate capabilities provided by the foundation phase.

6.4. Long-Term Phase

The Long-Term phase builds upon the results of the Foundation phase. The details of the Long-term phase will be significantly impacted by the direction of the OMB GM LOB decisions. Major areas of focus for the Long-Term phase include:

- Compliance with OMB GM LOB mandates
- Determining if HUD has the capability, ability and desire to achieve COE status for the GM LOB
- Conducting a Business Process Re-engineering effort to address significant changes in business operations due to implementation of the foundation phase

- Developing Program Area specific functional components to supplement support for capabilities not active in current systems
- Migrating program specific functional components identified in existing legacy applications during the foundation phase to current technology products and standards approved by HUD CCMB (i.e. J2EE, Oracle, etc.)
- Integration with HUD updated financial systems (i.e. HIFMIP)

At the completion of the long-term phase, HUD will have moved from program-specific Grants Management systems to a common Grants Management solution that supports all programs within the agency.

6.5. Next Steps

A high-level timeline for transitioning from the current state to the target architecture for Grants Management is needed. This should document timelines for phasing out legacy systems and incorporating them into Grantium, IDIS and GIMS. Other next steps in implementing the Grants Management target architecture solution include:

- Additional definition of specific business and functional requirements for each grant program with emphasis on the exceptions for each business area
- Conducting a gap/fit analysis between the business and function requirements and the functional components in Grantium, IDIS and GIMS
- Closely work with the program offices to obtain buy-in for the target solution
- Minimizing the funding required to enhance existing systems that will not be part of the long-term solution
- Performing forms consolidation across the grant programs
- Finalizing the target architecture integration goal based upon:
    - Results of the COTS/GOTS solution analysis
    - OMB GM LOB planning phase outcomes
    - Decision for HUD to achieve COE status

- Development of a detailed migration plan to move to the phased approach solution

Appendix P: Grants Management - OMB300 initiatives

(Update to Grants Management Blueprint – Appendices dated 09/06/2004)

Investment Name	Investment Description	Program Area
Economic Development Initiative	This initiative supports the Youthbuild, Rural Housing and Econ Development, Brownfields Economic Development Initiative, and Econ Development Initiative competitive grant programs. The initiative also maintains the Consolidated Econ Dev Reporting module.	CPD
Integrated Disbursement and Information System (IDIS)	DIS supports four HUD formula grant programs administered by CPD. The system enables HUD grantees to draw down program funds and report on the activities outlined in each jurisdiction's Consolidated Plan.	CPD
Grants Management Process System Maintenance (GMPSM)	The GMP system is one of CPD's tools used for carrying out the oversight and management function and ensuring the monitoring of "high risk" grantees by direct input from Field Office staff on information resulting from on-site evaluations.	CPD
Disaster Recovery Grant Reporting System - (DRGR)	DRGR allows grant recipients to describe their disaster recovery needs, develop action plans, and provide quarterly reports on their accomplishments, so CPD Field Office staff can properly monitor the grantees' progress.	CPD
Special Needs Assistance Program Support - (SNAPS)	The SNAPS system is used to capture data from approximately 500 continuums of care representing approximately 3,500 homeless assistance projects. The system captures project information through data input.	CPD
Empowerment Zones/Enterprise Community System - (EZ/EC)	This initiative involves maintaining and modifying the EZ/EC websites to accommodate the addition of round III EZ grantees and Renewal Communities and future competitions.	CPD

Investment Name	Investment Description	Program Area
Title V System	The Title V system contains property information on the properties reported to HUD by all Federal land holding agencies and is the vehicle for establishing the properties in the Federal Register.	CPD
HUD eGrants	The HUD eGrants System (eGrants Back End) is the electronic companion to www.Grants.gov. It will create a paperless web-enabled grants application, monitoring and analysis system. It will allow HUD grants staff to receive applications from Grants.gov.	ADM

Investment Name	Investment Description	Program Area
Resource Allocation (Grantium)	Resource Allocation is the function that will support the Federal Enterprise Architecture Transfer to States Line of Business. It automates the competitive and formula-based processes for allocating program funds to PHAs.	PIH
Oversight and Monitoring	The Oversight and Monitoring function addresses the Federal Enterprise Architecture Controls and Oversight Knowledge Creation and Management and Public Affairs Lines of Business. Current and proposed systems consolidated under this function include Real Estate Assessment Center Systems Comprehensive Compliance and Monitoring Initiative (CCMI), Voucher Management System (VMS), and the Native American Management Information System (NAMIS), Monitoring and Planning System (MAPS) and the Section 8 Management Assessment Program (SEMAP).	PIH

Appendix Q: Baseline - Systems / Platform Overview

(Update to Grants Management Blueprint – Appendices dated 09/06/2004)

System	Grant Type	Hardware	Operating System	Software
AFTS	FG / CG	Intel	MS DOS	CA Clipper, FoxPro
Cuff	FG / CG	Intel, Sun	Windows, Unix	MS Access / Excel, Non-Standard toolkit
DAP	CG	Intel	Windows Server	PowerBuilder 9.0, Erwin 3.5
DRGR	FG\CG	Intel	Windows Server, IIS	COM+, HTML JavaScript, MS Access, ASP, PowerBuilder 6.5, PowerSoft CGI, SQL Server
DARTS	Financial	Unisys	OS 1100	Linc, Cobol
EZ/EC AES	CG	Intel	Windows Server	PowerBuilder 6.5
EZ/EC PMS	CG	Intel	Windows Server	PowerBuilder 6.5
FAAD	Financial	Unisys	OS 1100, SB6 6D2	Cobol
GMCSS	FG	Intel	Windows IIS, Windows 2000 Server	HTML, Javascript, ASP , MS Visual C++, PVCS, SQL Server 2000, XML
GMP	FG / CG	IBM Mainframe, Intel, Sun	Windows Server, MVS ESA 2.3.1	Cobol, DBASE II, Foxpro, HUDWare 2, MS Access, MS SQL Server. Powerbuilder 6.5

System	Grant Type	Hardware	Operating System	Software
HCS	CG	IBM Mainframe, Sun	OS/390,Unix	AMS Financials, Lotus Notes, Cobol/Fortran, ColdFusion, Java 1.2
HPI	Financial	Intel	Windows IIS	ColdFusion Enterprise, SQL Server 7.0
HUDCAPS	Financial	IBM Mainframe, Intel	Windows Server/ MVS ESA 2.3.1	CA Top Secret, CICS 4.1, Cobol, Cognos, ColdFusion, MS Visual Studio 6.0
IDIS	FG / CG	IBM Mainframe, Intel	OS/390, Windows Server, LDAP Server, Sun Solaris	Cobol, DB2,CA Top Secret, MS Visual Studio 6.0
LAS	Financial	Unisys	OS 1100, SB6	Case IE, LINC,RDMS 9R3

System	Grant Type	Hardware	Operating System	Software
			6D2	
LOCCS	Financial	Unisys	OS/2200	Lotus Notes, Cold Fusion, Cobol/Fortran
PAS	Financial	Unisys, Intel	OS 1100, SB6 6D2, Windows Server	Cobol, DMS-1100, Mapper
RHEDPS	CG	Intel	Windows Server, IIS	ERWin 3.5, ASP

System	Grant Type	Hardware	Operating System	Software
Section 235 AVE	Financial	Honeywell DPS-6 Mini	LAN File Server	Dbase III+, FoxBase
SECTION 3 CTS	FG	Intel	Windows Server	Cold Fusion 4.01, FoxBase, MS SQL Server 6.5
SNAPS	FG / CG	Intel	Windows Server	BPWIN, COM+, Crystal Reports 8.0, ERWin 3.5, HUDWare 2, ASP, MS Visual Studio 6.0, True DB Grid, VSS
TITLE V	CG	Intel	Windows Server	FoxPro, HUDWare 2, PowerBuilder 6.5, SQL Server
YOUTHBUILD	CG	Intel	Windows Server	FoxPro, SQL Server

Appendix R: Baseline – Systems / Function

(Update to Grants Management Blueprint – Appendices dated 09/06/2004)

System	Full Name	Program Area	Business Function
AFTS	Automated File Tracking System	CPD	Grants Management, Information Management/Administer Grants, Manage Performance and Closeout Grants/Verify Control Deliverable
Cuff	Multiple ad-hoc applications	ALL	Small standalone applications based on specific application business requirements
DAP	Development Application Processing	MFH	
DRGR	Disaster Recovery Grants Reporting	CPD	Grants Management/Administer Grants, Intake Applications, Manage Performance, Closeout Grants/Receive Application or Plan, Verify Control Deliverable
DARTS	Departmental Accounts Receivable Tracking/Collection System	CFO	
EZ/EC AES	Application Evaluation System	CPD	Grants Management/Evaluate Applications, Intake Applications/Develop Score, Receive Application or plan, Review Application or Plan
EZ/EC PMS	Performance Measurement System	CPD	
FAAD	Federal Assistance Awards Data	CFO	Grants Management, Planning and Performance Evaluation/Analyze Performance Evaluation, Collect Performance Information, Disseminate Performance Results/Verify Control Deliverable

System	Full Name	Program Area	Business Function
GMCSS	Grants Management Center Support System	PIH	Grants Management/Award, Administer Contract, Prepare Financial Reports
GMP	Grants Management Process	CPD	Grants Management, Financial Resource Management/Administer Grants, Execute Budget, Maintain Financial Accounts, Manage Performance, Closeout Grants

System	Full Name	Program Area	Business Function
HCS	Housing Counseling System	SFH	Grants Management/Administer Grants, Evaluate Applications/Verify control Deliverable
HPI	HUD Program Inventory	CIO	
HUDCAPS	HUD Central Accounting & Payment System	CFO	Financial Resource Management, Rental Assistance/Administer Grants, Administer Rental Assistance Program, Allocate Rental assistance funds, Award and Administer Contract, Award Grants, Execute Budget, Maintain Financial Accounts, Manage Funds, Manage Performance and Closeout Grants, Prepare Financial Reports, Qualify or Re-qualify Partners, Request Contract Services, Take Corrective Action/Analyze Accounts and Balances, Analyze Expenditures, Determine Fund Financial Condition, Issue Financial Statements, Reconcile Records and Transactions, Record Financial Events, Record Funding Decisions, Reprogram Budget Resources

System	Full Name	Program Office	Business Function
IDIS	Integrated Disbursement & Information System	CPD	Grants Management/Financial Resource Management/Administer Grants, Execute Budget, Maintain Financial Accounts, Manage Performance and Closeout Grants, Prepare Financial Reports/Analyze Accounts and Balances, Analyze Expenditures, Assess Performance and Risk, Issue Financial Statements, Make Disbursement, Reconcile Records and Transactions, Record Financial Events

LAS	Loan Accounting System	CFO	Acquisition/Financial Resource Management, Grants Management, Mortgage and Loan Insurance/Administer Grants, Issue Insurance and Loans, Maintain Financial Accounts, Prepare Financial Reports, Service Insurance and Loans/Analyze Accounts and Balances, Issue Financial Statements, Process Multifamily Initial and Final Closings, Process Payments, Reconcile Records and Transactions, Record Financial Events

System	Full Name	Program Office	Business Function
LOCCS	Line of Credit Control System	CFO	Grants Management, Financial Resource Management/Administer Grants, Execute budget, Maintain financial accounts, Manage funds, Manage Performance and Closeout Grants, Prepare Financial Reports/Analyze Accounts and Balances, Analyze Expenditures,, Assess Performance and Risk, Reconcile Records and Transactions, Record Financial Events, Verify Control Deliverable
PAS	Program Accounting System	CFO	Financial Resource Management, Grants Management, Rental Assistance/Administer Grants, Allocate Rental Assistance Funds, Execute Budget, Maintain Financial Accounts, Manage Funds, Prepare Financial Reports/Analyze Accounts and Balances, Analyze Expenditures, Issue Financial Statements, Reconcile Records and Transactions, Record Financial Events

System	Full Name	Program Office	Business Function
RHEDPS	Rural Housing & Economic Development Program System	CPD	Financial Resource Management, Grants Management/Maintain Financial Accounts/Record Financial Events
Section 235 AVE	Automated Validating & Editing	CFO	

System	Full Name	Program Office	Business Function
SECTION 3 CTS	Compliant Tracking System	FHEO	Grants Management, Monitoring and Enforcement/Conduct Monitoring, Manage Funds
SNAPS	Special Needs Assistance Program Support (SNAPS)	CPD	Financial Resource Management, Grants Management/Award grants, Evaluate Applications, Intake Applications, Maintain Financial Accounts/Allocate Grant Funds, Determine Ranking, Develop Score, Receive Application or Plan, Record Financial Events