

DEPARTMENT

AGENCY

**STATEMENT OF OBJECTIVES FOR CLOUD
MIGRATION SERVICES:**

**INVENTORY, APPLICATION MAPPING, AND
MIGRATION PLANNING**

MONTH YYYY

TEMPLATE

Introduction and Instructions

This sample Statement of Objectives (SOO) describes the objectives and tasks for cloud migration planning services to include: **Inventory (Users, Applications, Infrastructure, Security & Privacy, Service Management); Application Mapping; and Migration Planning.**

Offerors shall use this SOO with other applicable portions of the **RFP/RFQ** as the basis for preparing their proposal. Offerors shall ensure that all aspects of the SOO are thoroughly addressed in their proposals.

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1. Purpose

This Statement of Objectives (SOO) describes the goals that Department/Agency expects to achieve with regard to planning the migration of applications or services to the cloud - including legacy and new applications - and planning for future development of new cloud applications. The primary goal of this acquisition is to prepare Department/Agency for moving applications to the cloud which will result in improvements in efficiency, agility, and innovation.

2. Scope

This SOO addresses work associated with the following cloud migration planning activities:

1. Conducting an inventory (including Users, Applications, Infrastructure, Security & Privacy, and Service Management)
2. Application Mapping
3. Conducting a suitability analysis, identifying appropriate service models (e.g. SaaS, PaaS, IaaS) and deployment models (e.g. private, public, hybrid, community)
4. Providing recommendations to the government for the industry/service model
5. Developing the business case to quantify cost and benefits
6. Migration planning, including developing the migration roadmap.

The strategy for acquiring cloud migration services should align to the strategy of the Federal Data Center Consolidation Initiative (FDCCI), seeking to curb the unsustainable increase in the number of data centers by reducing the cost of data center hardware software and operations; shifting IT investments to more efficient computing platforms; promoting the use of Green IT and increasing the IT security posture of the government.¹

Migration Execution is not included in the scope of this SOO. List additional services here that will support Department/Agency in these activities. The acquisition vehicle name and number, issued by Issuing Agency, is hereby incorporated by reference.

3. Period and Place of Performance

The base Period of Performance will be xx (xx) months from date of award with xx (xx) xx (xx) year options. Services will be provided at specify location.

The Offeror may offer pricing where migration planning services are conducted in the United States and/or pricing where services could be conducted outside of the United States. Offeror should identify all locations where any services will be conducted and ordering activity data will be located. U.S. Based Prices are prices where the services and all data-at-rest (either primary storage or replicated storage) are conducted and located within the United States. Worldwide Prices are prices where the services

¹ <http://www.cio.gov/pages.cfm/page/FDCCI>

and any data-at-rest (either primary storage or replicated storage) are conducted and/or located outside the United States.²

4. Background

The two main drivers of this effort are the increasing benefits and mandates for cloud migration and data center consolidation.

Cloud Migration: Produced by the Office of Management & Budget (OMB), the February 2011 Federal Cloud Strategy outlines the impetus and benefits of migrating to cloud services, including acceleration of data center consolidation and better utilization of existing infrastructure assets. Based on the December 2010 25 Point Plan to reform Federal Information Technology Management, also from OMB, each Federal agency CIO has been directed to leverage this strategy to begin planning the migration of their IT services to cloud solutions.

Data Center Consolidation: The Federal Data Center Consolidation Initiative (FDCCI) was initiated by the Federal Chief Information Officer to reduce the IT footprint for agencies through the consolidation of traditional data centers to promote the use of Green IT, reduce the cost of data center hardware, increase the overall IT security posture of the government, and shift IT investments to more efficient computing platforms and technologies.

These two drivers, as well as OMB mandates such as Cloud First, Three to the Cloud, Shared First, and Future First, highlight the importance of harnessing these fundamental shifts in IT investment patterns to increase IT efficiencies and cut IT costs. Prior to migrating to the cloud or consolidating data centers, it is critical to have an understanding of the current IT environment and make informed decisions about moving applications to the cloud. The first step of The Federal Data Center Consolidation Initiative as described in the Federal Government's 25-point plan, calls for a complete inventory of data center assets and the development of a plan for consolidation.

Department/Agency is in the process of readying workloads and applications to migrate to the cloud. The Department/Agency target operating model is to migrate x services or x% to the cloud and/or list data center consolidation goals. Therefore Department/Agency seeks services to encompass the list phases for cloud migration for all Department/Agency applications, as well as related users, processes, security, and service management.

The proposed services will support desired outcomes, including:

- Comprehensive analysis and understanding of the current environment, and analysis of which on-premise technical resources are best suited for the cloud
- Comprehensive planning for migration to the cloud that supports cost-effective, secure, and agile IT management.

The proposed services will consist of determining the current inventory, assessing the current environment to determine which workloads and applications are suitable for migration, determining the service and deployment models, developing the business case, and developing the Cloud Migration Strategy and Plan. These services will list all capabilities necessary to effectively support cloud

² Worldwide pricing is only applicable if the work location is not based at the customer's site

migration. All services delivered will be required to meet vendor-offered Service Level Agreements (SLAs) as well as the performance criteria described later in section 6.

5. Current Environment

Provide a brief, high-level description of your agency's current environment. Examples of current environment factors are listed below:

- Strategic operations or mission objectives
- Description of IT organization, infrastructure, etc.
- Prevalence of on-premise or off-site hosting
- Current cloud initiatives and strategy
- Budget constraints
- Related programs that could impact cloud migration (e.g. refresh schedules, large acquisitions)

6. Objectives

The overall objective is to assess the migration of workloads and applications to the cloud, supported by comprehensive cloud migration planning services. To achieve this, these cloud migration planning services must meet applicable business, technical, security, management, and administrative objectives. Cloud migration services should be aligned with objectives of the enterprise service delivery model, and support the agency's ability to deliver future sustainable services. If an objective corresponds to a particular program phase, it appears in a subsection labeled: Inventory (Phase 1), Application Mapping (Phase 2), or Migration Planning (Phase 3).

6.1. Business Objectives

- 6.1.1. Enable strategic decisions by Agency/Department to effectively migrate applications to the cloud, maximizing cost reduction and efficiency of IT environment.
- 6.1.2. Provide maximum alignment to FDCCI requirements and cloud migration mandates and requirements, amplifying Agency/Department's ability to achieve management objectives.
- 6.1.3. Provide cloud migration services that accommodate considerations from an enterprise perspective including impact on Agency/Department business units, contracts, management, and technical components (application, infrastructure, and security).
- 6.1.4. Provide all support operations necessary to fully develop and deliver services for the appropriate phases (Inventory, Application Mapping, Migration Planning).
- 6.1.5. **Inventory (Phase 1):**
 - Utilize industry best practices to conduct an inventory of Agency IT assets to provide Agency/Department with a comprehensive view of Agency/Department applications, infrastructure and security.
 - Produce thorough analysis resulting in a comprehensive report on Agency/Department IT users and stakeholders that would be impacted by cloud migration. For example,

stakeholder groups could include Executive Sponsor, Legal & Contracts Management, Business Units, Application, Infrastructure, Security, and End User stakeholders.

- Describe approach and methodology for identifying the business processes and governance processes that are associated with current inventory (both applications & infrastructure).

6.1.6. **Application Mapping and Assessment (Phase 2):**

- Provide work products for application mapping that result in the Agency/Department's understanding of the benefits and implications of moving individual applications or groups of applications to the cloud.
- Utilize existing frameworks and data fields as prescribed by the FDCCI or agency data center consolidation efforts.
- Produce "quick win" analysis of applications that are well-suited for accelerated deployment to the cloud, and provide recommendations for executing this migration.

6.1.7. **Migration Planning (Phase 3):**

- Produce a roadmap for Agency/Department to effectively plan for cloud migration that maximizes cost reduction and identifies constraints and inhibitors to cloud migration. Considerations for this roadmap include:
 - Describe approach to developing a business case for migration to include comparison of current expenditures to proposed expenditures (ranging from facility, hardware, middleware & database, infrastructure etc.), demonstrating ROI of proposed solution.
 - Provide a migration plan describing recommendations for migration that encompasses the appropriate service models (SaaS, PaaS, or IaaS), and deployment model (private, public, community, etc.) of all services to be migrated, as well as rationale for the recommended cloud models.
 - Provide recommendations for cloud migration based on applications' development lifecycle, business relevance, security impacts, organizational roles, financial aspects of cloud service delivery, and other migration considerations.
 - Address sourcing model that will be authorized to control where applications will be hosted based on security, performance, disaster recovery, and service level requirements.
 - Provide recommendations for incorporating government-wide and agency-specific security controls into the target design and migration plan.
- Describe approach to identify and manage communication, change management, and training needs for migration planning.
- Produce a plan that will have the IT management environment encompassing the management of conventional hosting, private and public clouds.
- Describe approach to ensure that procedures and documentation are developed for migration execution.
- Describe approach to cloud governance for post-implementation.

6.2. Technical Objectives

6.2.1. Provide all technical advisory services necessary to fully develop and deliver services for the appropriate phases (**Inventory, Application Mapping, Migration Planning**).

6.2.2. Provide **cloud migration planning** services that account for the systems lifecycle, ranging from development, testing, and production. Provide services that include considerations for maintaining cloud services post-deployment.

6.2.3. **Inventory (Phase 1):**

- Produce a baseline of Agency/Department's technical environment including inventory of both infrastructure and applications, to include development/testing environments.
- Describe considerations for inventorying the infrastructure such as hardware, application, middleware & databases, networks, as well as any other relevant factors or components of the infrastructure.
- Include how any changes to the applications or their deployment will affect interfaces with enterprise services, e.g. authentication and authorization.
- Describe methodology for utilization of auto-discovery tools to complete the inventory tasks.

6.2.4. **Application Mapping and Assessment (Phase 2):**

- Provide technical services for application mapping including illuminating interdependencies such as application dependencies and affinities to servers, server configuration etc.
- Identify and document critical dependencies between applications and data
- Describe approach to developing application evaluation criteria, application profiling, and application dependency mapping:
 - Include approach to mapping multi-purpose applications.
 - Identify and describe methodology for analyzing applications/infrastructure across a range of lifecycle stages (e.g. development, testing, and production).
- Describe approach for decomposition of applications and identification of common functions and services that can potentially be migrated to the cloud, and identification of potential shared services.

6.2.5. **Cloud Migration (Phase 3):**

- Deliver a technical architecture capturing the "to-be" cloud migration state that is consistent with adopted federal enterprise architecture frameworks³ and consistent with specific Agency/Department architecture standards.
- Include considerations in the migration planning solution for the target design such as capacity, schedules, migration priority, cost, etc.

³ For example, Federal Enterprise Architecture Framework <http://www.cio.gov/documents/fedarch1.pdf>

- Describe approach to providing technical advice to cloud migration that will enable Agency/Department to implement metering to migrated cloud services including provisioning capabilities, accounting capabilities, billing capabilities, etc.
- Describe approach to testing for migration planning.
- Produce a plan that will support co-existing non-cloud and cloud architectures during and after migration.

6.3. Security Objectives

- 6.3.1. Provide comprehensive analysis of current applications and infrastructure that incorporates considerations for security such as data sensitivity, legal or other regulatory issues, disaster recovery, currently deployed remote access or internal security considerations, etc.
- 6.3.2. Provide technical services regarding security and privacy in the migration planning services that are consistent with the NIST Special Publication 800-144 – “Guidelines on Security and Privacy in Public Cloud Computing” or other applicable standards and guidelines.
- 6.3.3. Describe framework and approach to incorporating both federal and agency security requirements into migration planning recommendations.
- 6.3.4. List any additional Security and Privacy standards to which the contractor should conform their services/solution. For example:
 - Properly securing the connections between formerly collocated systems, including systems not migrated for business or other reasons.
 - Implementation of Trusted Internet Connections and similar mandates.

6.4. Management Objectives

- 6.4.1. Allow the contractor maximum flexibility to innovatively manage program cost, schedule, performance, risks, warranties, contracts and subcontracts, vendors, and data required to deliver effective inventory services.
- 6.4.2. Maintain clear government visibility into program cost, schedule, technical performance, and risk, including periodic reporting.
- 6.4.3. Provide meaningful reporting and analytics that provide Agency/Department with up-to-date and comprehensive information regarding technical and management performance.

6.5. Administrative Objectives

- 6.5.1. Utilize relevant tools and analysis techniques for analyzing, evaluating and presenting information gathered throughout the migration planning phases. Describe approach and examples of relevant tools and analysis techniques for all relevant phases.
- 6.5.2. Provide Agency/Department decision making support in the form of relevant artifacts and work products.
- 6.5.3. Describe in the proposal methods of compliance with requirements for the business, management and security objectives, proposing service level agreements (SLAs), associated

