



# Department of the Interior

## Foundation Cloud Hosting Services (FCHS)

IBM’s FCHS contract covers all seven requested technical service lines for cloud hosting along with Associated Support Services. This document describes the services that can be purchased on this contract.

### Associated Support Services

The IBM team has proposed a full spectrum of support services ranging from the preparation and migration of existing workloads for consolidation or a move to the cloud, to the support of sustained operation of the target environment. These fall into several categories:

- Planning Services, including cloud readiness assessments and creation of roadmaps and transition plans
- Engineering Services
- Migration Services, including transition of applications to the cloud
- Application Management Services
- Interface Design and Integration Services
- Testing for Section 508 (accessibility) compliance
- Training Services
- Security Services

The IBM Team has proposed 42 labor categories for Associated Support Services. This will enable us to assist DOI with the full range of IT and business challenges inherent in transformation. To do this, we provide four fundamental sources of value:

#### 1. Unmatched industry and functional expertise

IBM is the world’s largest strategic, operational, business & IT consulting organization, with specialists spanning 20 industries and virtually every functional area. This means we specialize in bringing industry-specific solutions to our clients.

#### 2. Rich, repeatable assets and faster time to value

Our solutions are tailored combinations of discrete assets that draw upon our deep technology and business expertise to address critical challenges and capitalize on new opportunities. These proven solutions have been honed over thousands of proven engagements and enable us to deliver predictable measures of value for our clients across industries. Asset-based solutions provide less risk, faster solution deployment, greater cost effectiveness and rapid ROI.

#### 3. Capabilities without borders

Solutions, expertise and resources are shared across our eight Global Delivery Centers, our three Federal Data Centers, our four Regional Capabilities Centers and a growing network of Centers of Competence; processes and tools are standardized worldwide, and a common governance framework ensures the same level of commitment regardless of location

#### 4. Consulting linked to implementation

IBM Global Business Services builds strategies and methodologies around real implementation experience—in other words, we know our advice is actionable because we are there to help you act on it.

### Highlights:

- DOI-wide IDIQ for cloud services
- Seven technical service lines, covering compute and storage, web hosting, database hosting, secure file transfer, development and test, and SAP application hosting
- Pre-defined Service Level Agreements (SLAs)
- Compliant with all DOI Information Security and Privacy Requirements, including FedRAMP
- Includes Associated Support Services such as planning and migration services



### ***Planning and Migration Services: Workload Matters***

Consolidating IT capabilities and migrating toward a cloud infrastructure can yield significant long term benefits in cost reduction due to savings in space, power, cooling, maintenance support, and reduced investment in new capabilities. Such efforts are inhibited when extensive and detailed information about the current environment is lacking. Servers with heterogeneous configurations, distribution, ownership, and management greatly magnify the challenge and increase risk.

Any major enterprise transformation effort depends on having complete, accurate, and pertinent information available in a timely manner to ensure a successful transformation. Knowledge about the inventory, configurations, utilization, workloads, interdependencies, networks, and mission functionality of the technical components are critical to developing a repeatable and scalable approach utilizing an integrated method and tool set that ensures: 1) continuing mission operations, 2) a well justified and anticipated return on investment, 3) consistent, rapid execution of the migration, 4) a cost effective and agile target environment, and 5) efficient use of target resources by migrated capabilities. IBM's integrated approach circumvents challenges that may arise when relying on manual inventory gathering, which has proven to be insufficient in accurately prioritizing, estimating migration costs, assessing risks, or uncovering the details to successfully execute a migration initiative.

IBM has developed a methodology and a supporting suite of tools that enable moving beyond straightforward consolidation into IT Optimization – that is, maximizing the efficiency and effectiveness of a data center or cloud. This is accomplished through an in-depth analysis of the complete system stack across the complete set of IT components (such as applications, services, appliances, servers, and storage) provided by the data center. The analysis is largely conducted using these methods and assisted by automation.

IBM's automated discovery tooling supports collecting this data on a large scale. IBM's analytics capabilities enable effective use of this configuration, utilization, and dependency data to create a detailed implementation roadmap for future consolidation and optimization that will deliver maximum return on investment and effective migration execution. Then, automated migration enables successful staged/phased transition to the target solution using the analytics based roadmap, with a back-out plan in place to mitigate risk.

One of the key activities that will be required for Interior's Offices and Bureaus to benefit from the use of this contract, will be to assess their readiness to consolidate data centers and/or move to a cloud, and to

create a plan to do so. Some of the services offered by the IBM Team in this contract, guided by the methodology and suite of tools described above, are:

- Conduct planning sessions to understand key issue areas and define specific goals
- Identify appropriate service models, deployment models, and prioritize workloads to be migrated
- Create a capability analysis and gap analysis, transition roadmaps, and project plan to achieve a "cloud-ready" state
- Create a collaborative, detailed transition plan for consolidating data centers and/or migrating workloads to a cloud
- Migrate to the "to-be" environment

### ***Strategy and Transformation: Trusted consulting for end-to-end improvement.***

IT transformation is only part of the story; often the most challenging transformation is the cultural one. Our strategic advisory services lay the foundation to deliver effective implementation, management and continuous improvement for DOI. We help align your technology with your business strategy to deliver tangible value for your organization. Specific capabilities include Business, Technical, IT, and Logistics Strategy; Finance and Risk Management; Operations, Supply Chain, and Performance Management; and Organization, Workforce, and HR Transformation. These could be relevant for wildland fire/incident response supply chains, expanding asset management capabilities (SAP and Maximo), and supporting the critical people-side necessary for successful transformation. This could also drive renewable energy projects by helping coordinate communities and power distribution.

### ***Business Analytics and Optimization: Gain insights and optimize outcomes.***

These services enable organizations to identify, gather, manage and act on the insights critical to improving processes and disciplines across the department and bureaus. Specific capabilities include BAO Strategy; Business Intelligence and Performance Management; Advanced Analytics and Optimization; Enterprise Content Management and Enterprise Information Management. These could help DOI get the most actionable information from the large water, volcanic sensor and spatial data sets collected and distributed by DOI's bureaus. Clients have successfully reduced crime using our analytical tools, which could be applied to tribal reservations and other bureaus that support law enforcement. A risk management approach could drive better decisions in adapting the landscape and managing the wildland-urban interface (WUI).

***Application Management Services: Smarter sourcing for more efficient growth.***

We apply business and technology skills and world-class business processes to streamline application management functions, improve governance, and modernize the application portfolio in support of future business needs and strategic shifts – all while reducing costs, improving quality and speeding time-to-value. Specific capabilities include Application Assembly Optimization, Business Application Modernization, Application Outsourcing, Staff Augmentation, Conversions and Migrations, Testing Services, and Application Virtualization Services. These services can be exercised to rationalize, collapse, and consolidate bureau applications reducing overall operating costs.

***Enterprise Applications: Realize the benefits of global alliances.***

Collaborating with the world’s leading software providers (e.g., SAP and Oracle), we help organizations augment, improve and replace enterprise-wide IT environments to support changing requirements. Where appropriate, as was the case at DOI, we deploy new environments to meet the ever-evolving needs of employees, partners and customers. Specific capabilities include Business Strategy, Systems Integration, ROI Assessments and Tools, Process Improvement, ERP Implementations, Solution Upgrades, Cost Take-Out & Simplification, and Managed Business Transformation. The FBMS project uses some of these services today.

***Application Innovation Services: Solutions to drive industry leadership.***

This is the lead service line responding to the FCHS RFP. Our solution and integration capabilities ensure that technology enables optimized business processes and strategy. Specific capabilities include e-Commerce Solutions, Mobile Solutions, Portal Solutions, Contact Center Solutions, Security and Privacy, Business Process Management, Enterprise Integration, Business Application Modernization & Development, Microsoft Development, Enterprise Architecture and Complex Program Management.

**IBM’s Own Transformation**

IBM itself has gone through a significant transformation in recent years, moving many of our applications to the cloud. Hosting data centers have been consolidated from 155 to five strategic sites, 31 networks have been combined into one globally managed network and deployed applications have been reduced from more than 15,000 to 4,500. From 2006 to 2011, our own IT transformation and optimization efforts yielded US\$1.25 billion in savings. We have lived through this

transformation, and learned from it, and we bring that experience to bear for clients like DOI.

We have learned that workload matters: selection of the right workloads on the right platforms (hardware and software) with the right SLAs is critical to success. An enterprise view enables workload selection for migration and enhances success. There are four ways of looking at candidates for migration to cloud services:

- by location, such as consolidating data centers
- by application, such as moving email to the cloud
- by environment, such as development and test
- by technology, such as replacing all first-generation web systems

Everyone views his own systems as critical; one of IBM’s best practices was to set parameters for eligibility for the highest SLAs (which tend to add cost). Systems that support clients rather than internal users or those that are required to produce required financial reports at quarter close, for example, might be truly critical to the enterprise, not just to the bureau that uses an application, and therefore might merit the highest SLAs.

**IBM Sample Cloud Service Catalog  
Compute-Host (VM) Configurations for  
Windows, Linux and AIX on Intel and Unix  
Server VMs**

Standard	Minimum Configurations	
	Cores (#)	RAM (GB)
Extra Small	1	2
Small	2	4
Medium	4	8
Large	8	16
Extra Large	16	16
<b>High Memory</b>		
Extra Small	1	4
Small	2	8
Medium	4	16
Large	8	32
Extra Large	16	64
<b>High Compute</b>		
Medium	4	2
Large	8	4
Extra Large	16	8
<b>High Compute Cluster</b>		
Large	32	32
Extra Large	64	64
<b>Custom</b>		
(Task Order Defined)	TBD	TBD

All of these configurations (except custom), along with incremental VMs, memory, storage, and transport, are priced in the contract; components can be added or removed to scale up or down.

## Operating System Support

- Microsoft Windows Enterprise Server: 2003 & 2008 (Please note: Windows 2003 is supported on a “Bring Your Own License” model, as it is no longer offered by Microsoft)
- Linux: Centos 5.7, Red Hat 5, Red Hat 6, Ubuntu, SUSE Enterprise 10, Scientific
- IBM AIX

Support for the AIX operating system on Power systems, which are highly integrated and optimized, provides an unmatched combination for DOI users needing compute power. For those applications already running on AIX, this offering eliminates the cost of conversion while providing the performance you love—while you pay only for the service you use, as you use it.

## Storage Services

Storage Classes

Storage Class	Throughput	Uptime/Availability	Example
A	8 Gbps	99.999%	High Speed SAN
B	1 Gbps	99.999%	low-speed SAN
C	50 Mbps	99.9%	Remote On-line Storage
D	Access within 24 hrs	offline	Tape Library

## Transport Services

Transport services will be provided via public backbone, Internet DOI TIC, Vendor TIC, DOI LAN, LAN VPN, or to remote data center; they are included in VM pricing. Network transport exceeding VM thresholds can be billed on a per-Gigabyte basis.

## Database Hosting

The IBM Team will provide licenses, support of DOI licenses, and professional services for the following database management systems: Informix, MS SQL Express, MS SQL Server (2005, 2008, 2010, 2012), MySQL, Oracle 10g, Oracle 11g, Oracle 8a, Post GIS, PostGreSQL, SQLite, and Sybase IQ.

## Web Hosting

The IBM Team will provide licenses, support of DOI licenses, and professional services for the following web hosting elements: Apache, TomCat, Geronimo, IBM WebSphere, Oracle Application Server, Jrun, GlassFish, IBM HTTP Server, IIS, and Jetty (Eclipse Foundations).

## Application Hosting

The IBM Team will provide licenses, support of DOI licenses, and professional services for the following application hosting elements: ColdFusion, GlassFish, Hibernate, JBOSS App Server and Suite, Matlab, Media Wiki, Oracle Application Server and BPM Middleware, Silverlight, Sun SMQ, Tuxedo, WebLogic, and WordPress.

## Legacy Meter Reporting

The IBM Team will provide licenses, support of DOI licenses, and professional services for the following legacy meter reporting elements: Actuate, AWStats, Crystal Reports, Fiddler, Groundworks, Hyperion SQR, IBM Applications Service Center, Jasper Server, MS SCOM, NAGIOS, SmarterStats, Splunk, and Windows Log Parser.

## Middleware

The IBM Team will provide licenses, support of DOI licenses, and professional services for the following middleware: Adlassian Jira, Adobe Pro, ArborText, Citrix XenApp, Citrix XenDesktop, Citrix XenServer, Common Spot, CommVault, Documentum, Eclipse Plug-ins, Entellitrak, Hydra, IBM FileNet, Microsoft Dynamix CRM 2011, Net Backup, Networker, Oracle ADF, Prolifics, PureDisk, SharePoint, Software AG/Entirex DCOM (Communicator, XML, Mediator, Adapters), SQL Forms, Web Center Content, and XML DataPower.

## Scripting and Programming

The IBM Team will provide licenses, support of DOI licenses, and professional services for the following scripting and programming elements: .NET, ASP.net, Flex Action Script, ISAPI, Java, Java Script, Jscript, Node.js, 4GL, Perl, PIIP, Python, RScript, Ruby on Rails, and UNIX Scripting.

## Service Level Agreements

DOI requested very strict SLAs in the RFP, and the IBM Team offers a wide variety of service levels, including the most restrictive ones specified in the solicitation. IBM provides a menu from most to least restrictive from which users of this contract can select the one that meets their needs for their specific task order. We have engineered our offerings to meet each service level; SLAs that drive up cost are listed as value-added services in our catalog, so that DOI can easily see the pricing impact of stricter SLAs.

## Summary

Our clients benefit from the unmatched depth and breadth of expertise and experience that is IBM. Carrying on our 100-year tradition are more than 435,000 current IBMers, including 3,000 active researchers, in over 170 countries around the world. For more than 60 years, Research has been one of IBM's key differentiators in the marketplace, making the kind of discoveries that shape the future of business, government, academia and society. Through the practical application of today's research, we not only help IBM lead and our clients succeed, but we help define the way people interact with technology for decades to come. We've enjoyed nearly 20 consecutive years of U.S. patent leadership, and we count five Nobel Laureates and seven National Medal of Technology honorees among our number. We helped create the information technology industry and continue to shape it today.

For the DOI FCHS contract, IBM has also brought together a team with unmatched expertise and experience with the Bureaus and Offices of the Department. These team members—many of them small businesses—offer specialized skills and intimate knowledge of many of the applications and processes that DOI may choose to move to a cloud. For each Task Order Request we will select the right sets of skills and knowledge from this pool of expertise that will best meet the needs of DOI.

IBM, along with the team we have assembled from industry leaders with experience working with DOI, are here to help you meet your IT Service Delivery business objectives, and deliver effectively and efficiently on your mission.



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