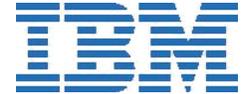


IBM U.S. Federal



Volume II – Technical Proposal (IDIQ)

November 19, 2012

Department of the Interior (DOI)

Foundation Cloud Hosting Services

In Response to Request for Proposal No. D12PS00316

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List of Acronyms

Acronym	Definition
3PAO	Third-Party Assessment Organization
A&A	Assessment and Authorization
AD	Active Directory
AEL	Active Event List
AFMSS	Automated Fluid Minerals Support System
API	Application Programming Interface
APPS	SCG Applications Team
AQL	Acceptable Quality Level
ATO	Authority to Operate
ATS	Automatic Transfer Switch
BIA	Business Impact Assessment
BPaaS	Business Process-as-a-Service
BSM	Business System Management
C&A	Certification and Accreditation
CAC	Common Access Card
CDN	Content Delivery Network
CIO	Chief Information Officer
CIRC	Computer Incident Response Center
CISO	Chief Information Security Officer
CM	Configuration Management
CMDB	Configuration Management Data Base
CCMS	Computing Center Management System
COOP	Continuity of Operations
COTR	Contracting Officer's Technical Representative
COTS	Commercial-Off-the-Shelf
CP	Contingency Planning, or short for ISCP
CPC	Contingency Plan Coordinator
CPU	Central Processing Unit
CRAC	Computer Room Air Conditioner
CSR	Customer Service Representative
DBA	Database Administrator
DIL	Disconnected, intermittent, or low bandwidth
DOI	The Department of the Interior
DOJ	Department of Justice
DR	Disaster Recovery
DS&P	Data Security and Privacy
ERMT	Emergency Management Team



Acronym	Definition
ESC	Enterprise Security Compliance
ESM	Enterprise System Management
FBMS	Financial and Business Management System (DOI SAP ERP Implementation)
FCA	Functional Configuration Audits
FCHS	Foundation Cloud Hosting Services
FDC	Federal Data Center
FFP	Firm Fixed Price
FIPS	Federal Information Processing Standard
FISMA	Federal Information Security Management Act
GIS	Geographical Information System
GLB	Global Load Balancing
GPO	Group Policy Objects
GUI	Graphical User Interface
HIDS	Host Intrusion Detection Systems
HIGLAS	Healthcare Integrated General Ledger Accounting System
I/O	Input/Output
IA	Information Assurance
IaaS	Infrastructure-as-a-Service
IBM	International Business Machines Corporation
ID	Identification
IMS	Integrated Master Schedule
IR	Incident Response
IRS	Internal Revenue Service
ISCP	Information System Contingency Plan
ISDM	IBM Service Delivery Manager
ISIMC	Information Security and Identity Management Committee
ISSO	Information System Security Officer
IT	Information Technology
ITCS	Information Technology Security Standard
ITE	Integrated Test Environment
ITIL	Information Technology Infrastructure Library
ITM	IBM Tivoli Monitoring
ITNM	IBM Tivoli Network Manager
ITSM	IT Service Management
LAN	Local Area Network
MAM	Mobile Application Management
MDM	Mobile Device Management
MFT	Managed File Transfer
MLS	Multi-Level Security

This page contains trade secrets or confidential commercial and financial information that the offeror believes to be exempt from disclosure under the Freedom of Information Act, and which is subject to the legend contained on the cover page of this proposal.



Acronym	Definition
MS	Microsoft Corporation
MTD	Maximum Tolerable Downtime
MTTR	Mean Time to Recovery
NAS	Network Attached Storage
NBC	National Business Center
NIDS	Network Intrusion Detection Systems
NIPRNet	Non-Secure Internet Protocol Router Network
NIST	National Institute of Standards & Technology
NSA	National Security Agency
NSF	National Science Foundation
OASIS	Organizational Application Support and Information Services
OMB	Office of Management and Budget
OPS	SCG Operations Team
OS	Operating System
OS/DB	Operating System/Database
OVF	Open Virtualization Format
PaaS	Platform-as-a-Service
PC	Personal Computer
PCA	Physical Configuration Audits
PDU	Power Distribution Unit
PII	Personally Identifiable Information
PIT	Point-In-Time
PKI	Public Key Infrastructure
PMI	Project Management Institute
PMO	Program Management Office
PMP	Program Management Plan
PMR	Project Management Review
POA&M	Plan of Actions and Milestones
POC	Point of Contact
PWS	Performance Work Statement
QA	Quality Assurance
QAF	Quality Assurance Framework
QAP	Quality Assurance Plan
QASP	Quality Assurance Surveillance Plan
QC	Quality Control
QOS	Quality of Service
RAID	Redundant Array of Independent Disks
RCA	Root Cause Analysis
RFP	Request for Proposals



Acronym	Definition
ROI	Return on Investment
RPO	Recovery Point Objective
RTO	Recovery Time Objective
SA&T	Security Awareness and Training
SaaS	Software-as-a-Service
SAN	Storage Area Network
SAP	Security Assessment Plan
SAR	Security Assessment Report
SCADA	Supervisor Control and Data Acquisition
SCG	IBM's SmartCloud for Government
SDE	Spatial Database Engine
SLA	Service Level Agreement
SLMMF	Service Level Measurement & Management Framework
SLO	Service Level Objectives
SME	Subject Matter Expert
SMIS	Safety Management Information System
SO	Strategic Outsourcing
SOP	Standard Operating Procedure
SOW	Statement of Work
SSL	Secure Sockets Layer
SSO	Single Sign-On
SWG	Software Group
TBSM	Tivoli Business System Management
TCO	Total Cost of Ownership
TCR	Tivoli Common Reporting
TDW	Tivoli Data Warehouse
TEP	Tivoli Enterprise Portal
TIC	Trusted Internet Connection
TICAP	Trusted Internet Connection Access Provider
TIP	Tivoli Integrated Portal
TIPSS-3	Total Information Processing Support Services-3
TSA	Transportation Security Administration
UFMS	United Financial Management System
UI	User Interface
UPS	Uninterruptible Power Supply
URL	Universal/Uniform Resource Locator
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
VDI	Virtual Desktop Infrastructure

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Acronym	Definition
VM	Virtual Machine
VPN	Virtual Private Network
WAN	Wide Area Network



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1 Summary of Approach and Requirements Traceability Matrix

The organization of this volume provides the non-page-limited items in Sections 1, 2, and 3. All page-limited items are solely in Section 4 labeled Page 1 of 93 through Page 93 of 93.

1.1 Summary of Overall Approach

The Department of the Interior (DOI) has a challenge to advance the use and management of Information Technology (IT) from the best practices of the 1990s to the practices and techniques that will be used in the 2020s. The DOI is poised to apply technology innovations to reduce costs and more effectively support the Department's mission of "Protecting America's Great Outdoors and Powering our Future."

The IT Transformation effort is based on current industry trends. Both Government agencies and technology providers are moving to business models based on network delivery, on-demand provisioning, pooled virtualization, elastic capacity, and consumption-based measured services. These new technology and business models will change the way the IT is budgeted, acquired, managed, and delivered.

The Foundation Cloud Hosting Services (FCHS) program is an essential enabler for this overall transformation. Team IBM is excited and enthusiastic to be one of the providers to help the Department with this program. Our approach is based on three cornerstone characteristics:

- **Commitment to the Mission** – Our team has a clear perspective on how to optimize the use of technology and how that technology can support the mission of the Department. Our history, our strategy, our organization, the IT capabilities of the IBM Corporation, our client experiences, and our people are grounded in the concept that the only measure of success is how technology can advance the mission your enterprise.
- **Completeness of the Solution** – Team IBM is proposing a compliant solution for each of the requested technical services lines. Our solutions for Storage, Secure File Transfer, Virtual Machine, and Database Services represent industry best practices with an unwavering focus on end-to-end security, and provide the foundation for today's known requirements and for evolving requirements. Our solutions for Web Hosting, Development and Test Environment Hosting, and FBMS/SAP Application Hosting Services are immediate tactical solutions that are used to implement and harvest the benefits of the core service lines.
In addition, we have proposed IBM's enterprise-class public cloud Infrastructure-as-a-Service (IaaS). This capability delivers secure, scalable and competitively priced hosted IT infrastructure for development, test and other dynamic workloads that have security profiles consistent with IBM's commercial data center enterprise hosting services.
- **Comprehensive Teaming** – Transformation of this size and scale will require skills and experiences that far exceed the resources and capabilities of any one firm. Our Team consists of large, small, incumbent, technical, functional, and strategic firms representing an extraordinary combination of DOI experience and technology and business innovation.

The Foundation Cloud Hosting Services program is the enabler for IT Transformation. Only with a flexible and dynamic IT infrastructure will it be possible to accomplish the data center consolidation and application migration efforts that will assist in capturing the targeted \$100M in annual savings. We are confident that Team IBM is your most compliant, lowest risk and best value technology provider to accomplish that goal.



1.2 Requirements Traceability Matrices

1.2.1 Community Cloud Requirements Traceability Matrix (J-16)

[Requirements_Traceability_Matrix]_[IBM].xlsx
 Traceability Matrix

Procurement Sensitive

AMENDMENT NO. 004

Attachment 16 Requirements Traceability Matrix

Company Name

Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
C.1	(Information)				
C.2	(Information)				
C.2.2	Initial Technical Service Lines				
C.2.2.1	Storage Services				
C.2.2.2	Secure File Transfer Services				
C.2.2.3	Virtual Machine Services				
C.2.2.4	Database Hosting Services				
C.2.2.5	Web Hosting Services				
C.2.2.6	Development and Test Environment Hosting Services				
C.2.2.7	SAP Application Hosting Services				
C.3	(Information)				
C.4	(Information)				
C.5	Establish and Meet Enterprise-Wide Requirements				
C.5.1	Comply with Essential Cloud Service Requirements				
C.5.1.1	On-Demand Self Service	Meets	4-66	4.b.1	(b) (4)
C.5.1.2	Ubiquitous Network Access	Meets	4-67	4.b.1	
C.5.1.3	Location Independent Resource Pooling	Meets	4-67	4.b.1	
C.5.1.4	Rapid Elasticity	Meets	4-67	4.b.1	
C.5.1.5	Measured Services	Meets	4-67	4.b.1	
C.5.2	Manage Service Delivery and Maintain Business Relationships and Interconnections				
C.5.2.1	Provide Browser-Based Management Functionality				
C.5.2.1.1	Define User Roles and Support User Authorization Workflows	Meets	4-67; 1-34	4.b.1; 1.3.1	



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C.5.2.1.2	Provision, Configure and De-Provision (Release) Resources	Meets	4-67	4.b.1	(b) (4)
C.5.2.1.3	Monitor Performance and Manager Alerts and Reporting	Meets	4-67; 1-35	4.b.1; 1.3.2	
C.5.2.1.4	Monitor Resource Usage/Utilization and Provide Cost Metering and Cost Controls	Meets	4-67; 1-38	4.b.1; 1.3.3	
C.5.2.1.5	Manage Open and Resolved Incidents and Service Requests.	Meets	4-32; 1-38	4.a.2.1.6; 1.3.4	
C.5.2.2	Support DOI System Interfaces	Meets	4-67	4.b.1	



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Traceability Matrix

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C.5.2.3	Implement Transparent and Effective Performance Management	Meets	4-67; 1-47	4.b.1; 1.3.6	(b) (4)
C.5.2.4	Implement Efficient, Effective and Formal Governance	Meets	4-38; 4-27; 1-34; 1-38	4.a.3; 4.a.2; 1.3.1; 1.3.4	
C.5.2.5	Protect Intellectual Property Rights	Meets	4-78	4.b.2	



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C.5.2.6	Prohibit and Actively Prevent Adware, SPAM and Remarketing of DOI Information	Meets	4-68	4.b.1	(b) (4)
C.5.3	Establish and Maintain Security and Privacy	Meets	4-81	4.c.1	
C.5.3.1	Comply with FedRAMP and DOI Information Security and Privacy Requirements	Meets	4-81	4.c.1	
	a. DOI Security Control Standards	Meets	4-81	4.c.1	
	b. DOI Cloud Hosting Services IT Security and Privacy Requirements	Meets	4-81	4.c.1	
	c. DOI Privacy Loss Mitigation Strategy (PLMS)	Meets	4-81	4.c.1	
	d. Additional IT Security Information	Meets	4-81	4.c.1	
C.5.3.2	Provide User Authentication and Secure Connections	Meets	4-82	4.c.1	
C.5.3.3	Comply with Security Assurance Requirements	Meets	4-89; 1-52	4.c.2; 1.3.7	
	Provide Security Assessment Plan	Meets	4-89	4.c.2	
	Provide Security Assessment Report	Meets	4-89	4.c.2	
C.5.3.4	Complete Third Party Assessment of Security Controls and Mitigate Weaknesses	Meets	4-89; 1-52	4.c.2; 1.3.8	
J. Attachment 5	Provide Bidder's Security Questionnaire		2-1	2	
C.5.3.4.1	Implement and Maintain Access Controls	Meets	4-82	4.c.1	
C.5.3.4.2	Implement and Maintain Awareness and Training Controls	Meets	4-82	4.c.1	
C.5.3.4.3	Implement and Maintain Audit and Accountability Controls	Meets	4-82	4.c.1	
C.5.3.4.4	Implement and Maintain Security Assessment and Authorization Controls	Meets	4-82	4.c.1	
C.5.3.4.5	Implement and Maintain Configuration Management Controls	Meets	4-82	4.c.1	



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 Traceability Matrix

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C.5.3.4.6	Implement and Maintain Contingency Planning Controls	Meets	4-82	4.c.1	(b) (4)
C.5.3.4.7	Implement and Maintain Identification and Authorization Controls	Meets	4-82	4.c.1	
C.5.3.4.8	Implement and Maintain Incident Response Controls	Meets	4-82	4.c.1	
C.5.3.4.9	Implement and Maintain Maintenance Controls	Meets	4-82	4.c.1	
C.5.3.4.10	Implement and Maintain Media Protection Controls	Meets	4-82	4.c.1	
C.5.3.4.11	Implement and Maintain Physical and Environmental Protection Controls	Meets	4-82	4.c.1	
C.5.3.4.12	Implement and Maintain Planning Controls	Meets	4-82	4.c.1	
C.5.3.4.13	Implement and Maintain Personnel Security Controls	Meets	4-82	4.c.1	
C.5.3.4.14	Implement and Maintain Risk Assessment Controls	Meets	4-82	4.c.1	
C.5.3.4.15	Implement and Maintain System and Services Acquisition Controls	Meets	4-82	4.c.1	
C.5.3.4.16	Implement and Maintain System and Communication Protection Controls	Meets	4-82	4.c.1	
C.5.3.4.17	Implement and Maintain System and Information Integrity Controls	Meets	4-82	4.c.1	
C.5.4	Ensure Portability of IT Systems and Facilitate Migration between System Providers	Meets	4-1	4.a.1	
C.6	Establish and Meet Resource Requirements				
C.6.1	Provide Basic Resources	Meets	4-68	4.b.1	



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C.6.1.1	Provide and Support Operating System Resource Requirements	Meets	4-68	4.b.1	(b) (4)
	Current	Meets	4-68	4.b.1	
	Future	Meets	4-68	4.b.1	
C.6.1.2	Provide and Support Compute-Host Resources	Meets	4-68	4.b.1	
	Contractor Proposed Configurations meet or exceed Minimum Configuration Requirements	Meets	4-68	4.b.1	
C.6.1.3	Provide and Support Storage Resources	Meets	4-68	4.b.1	
C.6.1.3.1	Identify and Provide Access to Storage API's	Meets	4-68	4.b.1	
C.6.1.3.2	Support Storage for Both Files and Data Objects	Meets	4-68	4.b.1	
C.6.1.3.3	Support Standard Storage Operations	Meets	4-69	4.b.1	
C.6.1.3.4	Support Storage Resource Classes	Meets	4-34	4.a.2.1.8	



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C.6.1.3.5	Support Data Migration Across Storage Classes	Meets	4-34	4.a.2.1.8	(b) (4)
	Web-Based Interface	Does not Meet			
	Open Source API Interface	Does not Meet			
C.6.1.3.6	Support Alternative Backup Solutions	Meets	4-33	4.a.2.1.7	
	DOI designed/managed solution	Meets	4-33	4.a.2.1.7	
	Contractor provide solution	Meets	4-33	4.a.2.1.7	
	Comply with Security and Privacy Requirements	Meets	4-33	4.a.2.1.7	
	Available at both OnSite and Offsite locations	Meets	4-33	4.a.2.1.7	
	Web Management Functionality	Does not Meet			
	a. Ability to configure backup schedule	Does not Meet			
	b. Ability to restore files and images from backup	Does not Meet			
	c. Ability to configure retention period and automatic deletions of old files	Does not Meet			
	d. Ability for government to specify the level of redundancy required	Does not Meet			
	e. A scripting interface	Does not Meet			
C.6.1.3.7	Support Secure Transfer of Physical Media	Meets	4-69	4.b.1	
	Secure Chain of Custody	Meets	4-69	4.b.1	
	Flexibility in Courier Pick-up and Delivery Times	Meets	4-69	4.b.1	
C.6.1.4	Provide Transport Resources and Support Interconnections	Meets	4-69	4.b.1	
C.6.1.4.1	Comply with General Transport Requirements	Meets	4-69	4.b.1	
	Calculate bandwidth using 95th percentile method with minimum sample times of five minutes	Meets	4-69	4.b.1	
C.6.1.4.2	Comply With Interconnection Configurations and Requirements				



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C.6.1.4.2.1	Between Compute Host Instances (Same Data Center)	Meets	4-69	4.b.1	(b) (4)
C.6.1.4.2.2	Between Compute Host Instances (Different Contractor Data Centers)	Meets	4-69	4.b.1	
C.6.1.4.2.3	Between Compute-Host at Contractor Data Center and DOI TIC	Meets	4-69	4.b.1	
C.6.1.4.2.4	Between Compute-Host at Contractor Data Center and the Internet	Meets	4-69	4.b.1	
C.6.1.4.2.5	Between Compute-Host at Contractor Data Center to DOI Customers via Direct Connections	Meets	4-69	4.b.1	
C.6.2	Provide Aggregated Resources and Enabling Services				
C.6.2.1	Provide Aggregated Resource Services	Meets	4-69	4.b.1	
C.6.2.1.1	Provide Secure File Transfer Resources	Meets	4-25	4.a.1.10	
C.6.2.1.2	Provide Virtual Machine Resources	Meets	4-70	4.b.1	
	Scalable, redundant, dynamic capabilities or virtual machines	Meets	4-70	4.b.1	
	Allow Government users to procure and provision computing services online via the Internet	Meets	4-70	4.b.1	
	Allow users to remotely load applications and data via the Internet	Meets	4-70	4.b.1	



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	Configuration and Management via Web Browser, over the Internet.	Meets	4-70	4.b.1	(b) (4)
	Government Retains Ownership	Meets	4-70	4.b.1	
	Spawn on-Demand Instances	Meets	4-70	4.b.1	
	Support Acceptable Secure Administration Interface	Meets	4-70	4.b.1	
	Dynamic Allocation based upon load, without service interruption	Meets	4-70	4.b.1	
	Copy/Clone	Meets	4-70	4.b.1	
	Multi-processor Virtual Machines	Meets	4-70	4.b.1	
	Support Processor Isolation	Meets	4-70	4.b.1	
	Supports live migration between physical hosts	Meets	4-70	4.b.1	
	Role-Based access controls and Auditing for Hypervisor	Meets	4-70	4.b.1	
	Hypervisor supports hardware-assisted memory virtualization	Meets	4-70	4.b.1	
C.6.2.1.3	Provide Database Hosting Resources	Meets	4-70	4.b.1	
	Supports Current Range of Software	Meets	4-70	4.b.1	
C.6.2.1.4	Provide Web Hosting Resources	Meets	4-70	4.b.1	
	Supports Current Range of Software	Meets	4-70	4.b.1	
C.6.2.1.5	Provide Development and Test Environment	Meets	4-70	4.b.1	
	Support Range of Technical Service Lines, and range of instances for each (e.g. 0-100)	Meets	4-70	4.b.1	
	Accommodate custom roles and authorizations	Meets	4-70	4.b.1	
C.6.2.1.6	Provide Application Hosting	Meets	4-71	4.b.1	
	Supports Current Range of Software	Meets	4-71	4.b.1	
C.6.2.2	Provide Enabling Services				



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C.6.2.2.1	Support Bulk Data Transfer and Provide Competitive Volume Discounts	Meets	4-71	4.b.1	(b) (4)
	a. Loading data from physical media	Meets	4-71	4.b.1	
	b. Transferring data in/out over the Internet	Meets	4-71	4.b.1	
	c. Transferring Data in/out onto the DOI intranet	Meets	4-71	4.b.1	
	d. Transferring data in/out via dedicated circuits (including VPN)	Meets	4-71	4.b.1	
	One-Time, Free of Charge, Bulk Transfer of all data stored in Contract environment upon termination of Task Orders.	Meets	4-71	4.b.1	
C.6.2.2.2	Provide Operating System Services				
	Contractor will provide	Meets	4-71	4.b.1	
	Contractor will permit DOI to provide at DOI option	Meets	4-71	4.b.1	
	Configure Operating System	Meets	4-71	4.b.1	
	Troubleshoot Operating System Problems	Meets	4-71	4.b.1	
C.6.2.2.3	Provide Licensing and Installation Services	Meets	4-71	4.b.1	
C.6.2.2.4	Provide Patching and Version Control Services	Meets	4-71	4.b.1	
	Commit to defined patching schedule and process	Meets	4-71	4.b.1	
	DOI Receive > 1 week Advance Notice	Meets	4-71	4.b.1	
	DOI right to delay or deny implementation	Meets	4-71	4.b.1	
	Contractor comply with change controls processes and authorities for change	Meets	4-71	4.b.1	
C.6.2.2.5	Provide Disaster Recovery Services				
	Support to design, implement and Manage the Disaster Recovery Solution	Meets	1-52	1.3.8	
	Provide Web-Based capability for configuring Disaster Recovery Options	Does not Meet			
	Supports DOI defining set of mission critical data and snapshots	Meets	1-52	1.3.8	
	Provides all service required to execute failover	Meets	1-52	1.3.8	



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C.6.2.2.6	Supports one or More Solutions for Middleware Licensing	Meets	4-71	4.b.1	(b) (4)
A and/or	Contractor Provided Support for Current (and/or)	Meets	4-71	4.b.1	
B and/or	Contractor Proposed Migration and Standard	Meets	4-71	4.b.1	
C and/or	DOI Provided	Meets	4-72	4.b.1	
C.6.2.2.7	Provides Hosting for DOI Legacy Metering and Reporting Software	Meets	4-72; 3-8	4.b.1; 3.2.a.viii	
	Supports Current Range of Software	Meets	4-72	4.b.1	
C.6.2.2.8	Provides Hosting for Other Middleware	Meets	4-72	4.b.1	
	Supports Current Range of Software	Meets	4-72	4.b.1	



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C.6.2.2.9	Provides Hosting for Scripting and Programming Environments	Meets	4-72	4.b.1	(b) (4)
	Supports Current Range of Software	Meets	4-72	4.b.1	
C.6.2.2.10	Provide or Support Virtual Application and Virtual Desktop Resources	Meets	4-72	4.b.1	
and/or	Provides	Meets	4-72	4.b.1	
	Supports	Meets	4-72	4.b.1	
C.7	Establish and Meet Portfolio of Service Level Requirements				
C.7.1	Optimize End-to-End Performance	Meets	4-36	4.a.2.1.1	
C.7.1.1	Manage Latency between Hosted Applications and End Users	Meets	4-36	4.a.2.1.1	
C.7.1.2	Adapt to Demand Fluctuations to Maintain Service Levels	Meets	4-36	4.a.2.1.1	
C.7.1.3	Streamline and/or Automate Resource Scaling				



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	Tiers of Service, Template Capability and Scaling sequence definition or acceptable alternative	Meets	4-73	4.b.1	(b) (4)
	* Compute-Host: Processor	Meets	4-73	4.b.1	
	* Compute-Host: Memory	Meets	4-73	4.b.1	
	* Storage	Meets	4-73	4.b.1	
	* Transport: Bandwidth	Meets	4-73	4.b.1	
	Restrict to DOI approved tiers and templates in the provisioning portal	Meets	4-73	4.b.1	
	User defined scaling sequence and triggers	Meets	4-73	4.b.1	
C.7.2	Meet Software and Licensing Support Service Level Requirements				
C.7.2.1	Meet Operating System Services Service Level Requirements	Meets	4-35	4.a.2.1.10	
	Contractor Proposed guaranteed minimum performance level	Meets	4-35	4.a.2.1.10	
C.7.2.2	Meet Licensing and Installation Services Service Level Requirements	Meets	4-35	4.a.2.1.10	
	Contractor Proposed guaranteed minimum performance level	Meets	4-35	4.a.2.1.10	



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C.7.2.3	Meet Patching and Version Control Service Service Level Requirements	Meets	4-35	4.a.2.1.10	(b) (4)
	Contractor Proposed guaranteed minimum performance level	Meets	4-35	4.a.2.1.10	
C.7.3	Meet Uptime and Availability Requirements	Meets	4-30; 3-12	4.a.2.1.4; 3.2.b.i	
	Meet Minimum Acceptable Performance Level: 95% Uptime with no more than 36 hours/calendar month of planned downtime.	Meets	4-30	4.a.2.1.4	
	Contractor Recommended Incentives and Disincentives	Meets	4-30	4.a.2.1.4	
	Contractor Proposed from one (1) to four (4) service bands that meet DOI minimum requirements	Meets	4-30; 3-12	4.a.2.1.4; 3.2.b.i	
C.7.4	Meet Disaster Recovery Services Service Levels	Meets	4-30; 1-69; 3-12	4.a.2.1.4; 1.3.9; 3.2.b.i	
	Contractor Provided Draft Disaster Recovery Plan	Meets	4-30	4.a.2.1.4	
C.7.4.1	Meet Recovery Time Objectives (RTO)	Meets	4-30	4.a.2.1.4	
	Contractor Proposed from one (1) to five (5) service bands that meet DOI minimum requirements	Meets	4-30; 3-12	4.a.2.1.4 3.2.b.ii	
	Minimum Acceptable Performance: 7 Days	Meets	4-30	4.a.2.1.4	



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C.7.4.2	Meet Recovery Point Objectives (RPO)	Meets	4-33; 3-13	4.a.2.1.7; 3.2.b.iii	(b) (4)
	Contractor Proposed from one (1) to five (5) service bands that meet DOI minimum requirements	Meets	4-34; 3-13	4.a.2.1.7; 3.2.b.iii	
	Minimum Acceptable Performance: 7 Days	Meets	4-34	4.a.2.1.7	
C.7.5	Meet Backup Service Levels				
C.7.5.1	Comply with Backup Frequency Requirements	Meets	4-34	4.a.2.1.7	
	Provide means DOI authorized technical user to configuring backup and archiving frequency on authorized user defined schedule.	Meets	4-34	4.a.2.1.7	
	Schedule Supports Required Frequencies: Daily, Weekly, Monthly, Yearly.	Meets	4-34	4.a.2.1.7	
	Provide means for DOI authorized technical user to select from approved Mean-Time-to-Restore.	Meets	4-34	4.a.2.1.7	
	Provides means for DOI authorized technical user to select approved Retention Periods.	Meets	4-34	4.a.2.1.7	
C.7.5.2	Meet Mean Time to Restore Requirements	Meets	4-34; 3-13	4.a.2.1.7; 3.2.b.iv	
	Minimum Acceptable Performance Level: 72 Hours	Meets	4-34	4.a.2.1.7	
	Contractor Proposed from one (1) to four (4) service bands that meet DOI minimum requirements	Meets	4-34; 3-13	4.a.2.1.7; 3.2.b.iv	
C.7.5.3	Comply with Data Retention Policies	Meets	4-34	4.a.2.1.8	
	Retention period duration before automatic deletion	Meets	4-35	4.a.2.1.8	
C.7.6	Document and Meet Provisioning Service Level Requirements	Meets	4-31	4.a.2.1.5	



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C.7.6.1	Meet Compute Host and Operations System Provisioning Service Level Requirements	Meets	4-31	4.a.2.1.5	(b) (4)
	Provide means for several tiers of service for the speed in which a hosted system can respond to changes in demand (either manually or automatically)	Meets	4-31; 3-14	4.a.2.1.5; 3.2.b.v	
	Provide means in all cases where resources shall be brought online and available for use within the specified time (either manually or automatically)	Meets	4-31	4.a.2.1.5	
	Minimum Acceptable Performance Level: 24 Hours	Meets	4-31	4.a.2.1.5	
	Contractor Proposed from one (1) to four (4) service bands that meet DOI minimum requirements	Meets	4-31; 3-15	4.a.2.1.5; 3.2.b.v	
C.7.6.2	Meet Storage Provisioning Service Level Requirements	Meets	4-31; 3-14	4.a.2.1.5; 3.2.b.vi	
	Provide means to provision the storage both manually, and/or scale storage resources both manually and automatically	Meets	4-31	4.a.2.1.5	
	Minimum Acceptable Performance Level: 24 Hours	Meets	4-31; 3-14	4.a.2.1.5; 3.2.b.vi	
	Contractor Proposed from one (1) to four (4) service bands that meet DOI minimum requirements	Meets	4-31; 3-14	4.a.2.1.5; 3.2.b.vi	
C.7.7	Meet SAP Hosting Performance Requirements	Meets	4-36	4.a.2.1.12	
	Provide means for several tiers of service for SAP Hosting Services	Meets	4-36	4.a.2.1.12	
C.7.7.1	Meet SAP Computation Performance Requirements	Meets	4-36	4.a.2.1.12	
	Provide means for SAP configurations with scalable processing performance; scalable up and down to meet requirements	Meets	4-36	4.a.2.1.12	
	Performance requirements from 20,000 SAPS (or equivalent) up to and including 1,800,000 SAPS (or equivalent) or further as needs grow	Meets	4-36	4.a.2.1.12	
C.7.7.2	Meet SAP RAM Performance Requirements	Meets	4-37	4.a.2.1.12	
	Provide means for SAP configurations with scalable RAM availability; scalable up and down to meet requirements	Meets	4-37	4.a.2.1.12	
	Performance requirements from 800GB up to 13,000 GB or further as needs grow	Meets	4-37	4.a.2.1.12	



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C.7.7.3	Meet SAP Storage Performance Requirements	Meets	4-37	4.a.2.1.12	(b) (4)
	Provide means SAP configurations with scalable storage availability; scalable up and down to meet requirements	Meets	4-37	4.a.2.1.12	
	Performance requirements from 3.5TB up to 600TB or further as needs grow	Meets	4-37	4.a.2.1.12	
C.7.7.4	Meet Additional SAP Performance Metric Requirement	Meets	4-37	4.a.2.1.12	
C.7.8	Meet Middleware Management Service Level Requirements	Meets	4-35	4.a.2.1.9	
	Provide means for several tiers of management support for Database, Web Server, and Application Servers	Meets	4-35	4.a.2.1.9	
C.7.8.1	Meet Middleware Patching and Version Control Requirements	Meets	4-35; 3-10	4.a.2.9; 3.2.a.ix	
	Provide means to commit to a defined patching schedule and process	Meets	4-35	4.a.2.1.9	
	Provide means for the DOI test patches at least 1 week before they are rolled out to production systems	Meets	4-35	4.a.2.1.9	
	Provide means to ensure compatibility with the business system and to include fall back procedures	Meets	4-35	4.a.2.1.9	
	Provide means for coordination with the system owner prior to making changes on a weekly, monthly, quarterly, and yearly schedule	Meets	4-35	4.a.2.1.9	
C.7.8.2	Meet Additional Middleware Service Level Requirements	Meets	4-35	4.a.2.1.9	
C.7.9	Meet Secure File Transfer Service Levels	Meets	4-25	4.a.1.10	
C.7.10	Meet Virtual Desktop and Applications Service Levels	Meets	4-73	4.b.1	
C.7.11	Meet Customer and Program Support Service Levels	Meets	4-32	4.a.2.1.6	
	Provide means for several tiers of support services; to include both trouble ticket support and service management	Meets	4-32; 3-15; 3-15; 3-15	4.a.2.1.6; 3.2.b.vii; 3.2.b.viii; 3.2.b.ix	
	Provide means to ensure pre-defined service level metrics are met: (availability, time to response, time to resolve, and planned downtime) as identified within the severity level	Meets	4-32	4.a.2.1.6	



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Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
	Provide means to describe an outage greater than 1-hour of unscheduled downtime, including root-cause and fix	Meets	4-32	4.a.2.1.6	(b) (4)
C.7.11.1	Meet Service Center Availability Service Levels	Meets	4-32	4.a.2.1.6	
	Provide means for reaching support or service personnel, during hours of availability for service or log a trouble ticket	Meets	4-32	4.a.2.1.6	
C.7.11.1.1	8x5 Single Time Zone	Meets	4-32	4.a.2.1.6	
C.7.11.1.2	8x5 CONUS	Meets	4-32	4.a.2.1.6	
C.7.11.1.3	8x5 CONUS + Alaska	Meets	4-32	4.a.2.1.6	
C.7.11.1.4	24x7x365/366	Meets	4-32	4.a.2.1.6	
C.7.11.1.5	Custom Work Hours, Custom Work Week, Selected Time Zone(s)	Meets	4-32	4.a.2.1.6	
C.7.11.1.6	Defined Season or Emergency/Incident Support	Meets	4-33	4.a.2.1.6	
C.7.11.2	Meet Service Level Time To Respond (Acknowledge) to Requests Service Levels	Meets	4-33; 3-15	4.a.2.1.6; 3.2.b.vii	
	Provide means for acknowledgement of the request and initial service center within the specified time to respond, within the tiers of services to include the severity and priority levels	Meets	4-33; 3-15	4.a.2.1.6; 3.2.b.vii	
C.7.11.3	Meet Mean-Time-To-Resolve Service Levels	Meets	4-33	4.a.2.1.6; 3.2.b.viii	



Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
	Provide means of commitment on the mean time to resolve all service and support issues to include the severity and priority levels	Meets	4-33; 3-15	4.a.2.1.6; 3.2.b.viii	(b) (4)
C.7.11.4	Minimize Planned Downtime and Maintenance Windows	Meets	4-30	4.a.2.1.4	
	Provide means for support services that accommodate several maintenance window maximums to include planned downtime	Meets	4-30; 3-15	4.a.2.1.4; 3.2.b.ix	
C.8	Optional Characteristics Requirements				
C.8.1	Support Resource Segregation Options	Meets	4-73	4.b.1	
	Provide means for several options for segregating resources; fully segregated; Federal government segregation, and Non-segregated	Meets	4-73	4.b.1	
C.8.2	Support Non-production environments	Meets	4-73	4.b.1	
	Provide means in order to define non-production environments (e.g., test, development, training, staging, sandbox) as customized copies of a production environment	Meets	4-73	4.b.1	
	Provide means for administrators to have the ability to adjust the non-production environment specifications	Meets	4-73	4.b.1	
	Provide means for non-production environments to access production storage or middleware instances, to include populating storage, both inside or outside, of the provider's environment	Meets	4-73	4.b.1	
	Provide the ability to restrict access to non-production environments to users or "domains"	Meets	4-73	4.b.1	
	Provide the ability to create and destroy non-production environments via web console	Meets	4-73	4.b.1	
C.8.3	Support Requirement to Manage Underlying Physical Resources	Meets	4-31	4.a.2.1.4	
C.8.4	Provide Content Delivery Network (CDN)	Does not Meet			
C.8.5	Support Unique Compliance Requirements	Meets	4-92; 4-86 4-88	4.c.5; 4.c.1.14; 4.c.1.15	
C.8.6	Support Alaska/Hawaii Regional Connectivity	Meets	4-36	4.a.2.1.11	



Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
C.8.7	Address Issues Related to Poor Connectivity	Meets	4-36	4.a.2.1.11	(b) (4)
C.8.8	Support or Provide Hardware Clustering	Meets	4-73	4.b.1	
C.8.9	Provide Load Balancing	Meets	4-73	4.b.1	
C.8.10	Support or Provide Interfaces to Non-Department Systems	Meets	4-74	4.b.1	
	Provide the ability to connect a Contractor hosted system or data store to another system that is hosted outside the DOI boundaries	Meets	4-74	4.b.1	
	Provide the means for the connection to be configured to support data exchange, support authentication schemes required by either system, adhere to all security requirements	Meets	4-74	4.b.1	
C.8.11	Support or Provide Static IP Addressing	Meets	4-74	4.b.1	
C.8.12	Provision Dedicated Resources	Meets	4-74	4.b.1	
C.9	Associated Support Services	Meets	4-74	4.b.1	
J.5	Bidder's Security Questionnaire	Meets	2-1	2	
J.17	Scope of Offer Matrix	Meets	3-1	3.1.1	
J.18	Operating Systems Supported	Meets	3-3	3.2.a.i	
J.19	Compute-Host Configurations	Meets	3-4	3.2.a.ii	
J.20	Storage Classes	Meets	3-5	3.2.a.iii	
J.21	Network Connectivity	Meets	3-5	3.2.a.iv	
J.22	Range of Database Software Supported	Meets	3-6	3.2.a.v	
J.23	Range of Web Hosting Software Supported	Meets	3-7	3.2.a.vi	
J.24	Range of Application Hosting elements Supported	Meets	3-8	3.2.a.vii	
J.25	Range of DOI Legacy Metering and Reporting Software Supported	Meets	3-9	3.2.a.viii	
J.26	Range of Other Middleware Supported	Meets	3-10	3.2.a.ix	
J.27	Range of Scripting and Programming Software Supported	Meets	3-11	3.2.a.x	
J.28	Uptime and Availability Service Bands	Meets	3-12	3.2.b.i	
J.29	Recovery Time Objectives (RTO)	Meets	3-12	3.2.b.ii	
J.30	Recover Point Objectives (RPO)	Meets	3-13	3.2.b.iii	
J.31	Mean Time to Restore (MTR)	Meets	3-13	3.2.b.iv	
J.32	Compute-Host Provisioning Service Bands	Meets	3-14	3.2.b.v	
J.33	Storage Provisioning Service Bands	Meets	3-14	3.2.b.vi	
J.34	Customer Service Meantime to Acknowledge (MTA)	Meets	3-15	3.2.b.vii	
J.35	Customer Service Meantime to Resolve or Fix (MTF)	Meets	3-15	3.2.b.viii	
J.36	Scheduled Downtime (Maintenance Windows)	Meets	3-15	3.2.b.ix	



1.2.2 Public Cloud Requirements Traceability Matrix (J-16)

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Attachment 16 Requirements Traceability Matrix

Company Name

Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
C.1	(Information)				
C.2	(Information)				
C.2.2	Initial Technical Service Lines				
C.2.2.1	Storage Services				
C.2.2.2	Secure File Transfer Services				
C.2.2.3	Virtual Machine Services				
C.2.2.4	Database Hosting Services				
C.2.2.5	Web Hosting Services				
C.2.2.6	Development and Test Environment Hosting Services				
C.2.2.7	SAP Application Hosting Services				
C.3	(Information)				
C.4	(Information)				
C.5	Establish and Meet Enterprise-Wide Requirements				
C.5.1	Comply with Essential Cloud Service Requirements				
C.5.1.1	On-Demand Self Service	Meets	4-6	4.a.1.2.6	(b) (4)
C.5.1.2	Ubiquitous Network Access	Meets	4-6	4.a.1.2.6	
C.5.1.3	Location Independent Resource Pooling	Meets	4-6	4.a.1.2.6	
C.5.1.4	Rapid Elasticity	Meets	4-6	4.a.1.2.6	
C.5.1.5	Measured Services	Meets	4-6	4.a.1.2.6	
C.5.2	Manage Service Delivery and Maintain Business Relationships and Interconnections				
C.5.2.1	Provide Browser-Based Management Functionality				
C.5.2.1.1	Define User Roles and Support User Authorization Workflows	Meets	4-7	4.a.1.2.6	
C.5.2.1.2	Provision, Configure and De-Provision (Release) Resources	Meets	4-7	4.a.1.2.6	
C.5.2.1.3	Monitor Performance and Manager Alerts and Reporting	Meets	4-7	4.a.1.2.6	
C.5.2.1.4	Monitor Resource Usage/Utilization and Provide Cost Metering and Cost Controls	Does not meet			
C.5.2.1.5	Manage Open and Resolved Incidents and Service Requests.	Meets	4-7	4.a.1.2.6	



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Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
C.5.2.2	Support DOI System Interfaces	Meets	4-7	4.a.1.2.6	(b) (4)
C.5.2.3	Implement Transparent and Effective Performance Management	Meets	4-7	4.a.1.2.6	
C.5.2.4	Implement Efficient, Effective and Formal Governance	Meets	4-7	4.a.1.2.6	
C.5.2.5	Protect Intellectual Property Rights	Meets	4-7	4.a.1.2.6	
C.5.2.6	Prohibit and Actively Prevent Adware, SPAM and Remarketing of DOI Information	Meets	4-7	4.a.1.2.6	
C.5.3	Establish and Maintain Security and Privacy				
C.5.3.1	Comply with FedRAMP and DOI Information Security and Privacy Requirements	Does not meet	4-7	4.a.1.2.6	
	a. DOI Security Control Standards	Does not meet			
	b. DOI Cloud Hosting Services IT Security and Privacy Requirements	Does not meet			
	c. DOI Privacy Loss Mitigation Strategy (PLMS)	Does not meet			
	d. Additional IT Security Information	Does not meet			
C.5.3.2	Provide User Authentication and Secure Connections	Does not meet	4-7	4.a.1.2.6	
C.5.3.3	Comply with Security Assurance Requirements	Does not meet			
	Provide Security Assessment Plan	Does not meet			
	Provide Security Assessment Report	Does not meet			



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Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
C.5.3.4	Complete Third Party Assessment of Security Controls and Mitigate Weaknesses	Does not meet			
J. Attachment 5	Provide Bidder's Security Questionnaire	Meets	2-1	2	
C.5.3.4.1	Implement and Maintain Access Controls	Does not meet			
C.5.3.4.2	Implement and Maintain Awareness and Training Controls	Does not meet			
C.5.3.4.3	Implement and Maintain Audit and Accountability Controls	Does not meet			
C.5.3.4.4	Implement and Maintain Security Assessment and Authorization Controls	Does not meet			
C.5.3.4.5	Implement and Maintain Configuration Management Controls	Does not meet			
C.5.3.4.6	Implement and Maintain Contingency Planning Controls	Does not meet			
C.5.3.4.7	Implement and Maintain Identification and Authorization Controls	Does not meet			
C.5.3.4.8	Implement and Maintain Incident Response Controls	Does not meet			
C.5.3.4.9	Implement and Maintain Maintenance Controls	Does not meet			
C.5.3.4.10	Implement and Maintain Media Protection Controls	Does not meet			
C.5.3.4.11	Implement and Maintain Physical and Environmental Protection Controls	Does not meet			
C.5.3.4.12	Implement and Maintain Planning Controls	Does not meet			
C.5.3.4.13	Implement and Maintain Personnel Security Controls	Does not meet			
C.5.3.4.14	Implement and Maintain Risk Assessment Controls	Does not meet			
C.5.3.4.15	Implement and Maintain System and Services Acquisition Controls	Does not meet			
C.5.3.4.16	Implement and Maintain System and Communication Protection Controls	Does not meet			
C.5.3.4.17	Implement and Maintain System and Information Integrity Controls	Does not meet			
C.5.4	Ensure Portability of IT Systems and Facilitate Migration between System Providers	Does not meet			
C.6	Establish and Meet Resource Requirements				
C.6.1	Provide Basic Resources	Meets	4-7	4.a.1.2.6	
C.6.1.1	Provide and Support Operating System Resource Requirements	Meets	4-7	4.a.1.2.6	
	Current	Meets	4-7	4.a.1.2.6	
	Future	Meets	4-7	4.a.1.2.6	
C.6.1.2	Provide and Support Compute-Host Resources	Meets	4-7	4.a.1.2.6	
	Contractor Proposed Configurations meet or exceed Minimum Configuration Requirements	Meets	4-7	4.a.1.2.6	
C.6.1.3	Provide and Support Storage Resources	Meets	4-7	4.a.1.2.6	
C.6.1.3.1	Identify and Provide Access to Storage API's	Meets	4-7	4.a.1.2.6	
C.6.1.3.2	Support Storage for Both Files and Data Objects	Meets	4-7	4.a.1.2.6	
C.6.1.3.3	Support Standard Storage Operations	Meets	4-7	4.a.1.2.6	
C.6.1.3.4	Support Storage Resource Classes	Meets	4-7	4.a.1.2.6	
C.6.1.3.5	Support Data Migration Across Storage Classes	Does not meet			
	Web-Based Interface	Does not meet			
	Open Source API Interface	Does not meet			

(b) (4)



Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
C.6.1.3.6	Support Alternative Backup Solutions	Meets	4-7	4.a.1.2.6	(b) (4)
	DOI designed/managed solution	Does not meet			
	Contractor provide solution	Does not meet			
	Comply with Security and Privacy Requirements	Does not meet			
	Available at both OnSite and Offsite locations	Does not meet			
	Web Management Functionality	Does not meet			
	a. Ability to configure backup schedule	Does not meet			
	b. Ability to restore files and images from backup	Meets	4-7	4.a.1.2.6	
	c. Ability to configure retention period and automatic deletions of old files	Does not meet			
	d. Ability for government to specify the level of redundancy required	Does not meet			
	e. A scripting interface	Does not meet			
C.6.1.3.7	Support Secure Transfer of Physical Media	Does not meet			
	Secure Chain of Custody	Does not meet			
	Flexibility in Courier Pick-up and Delivery Times	Does not meet			
C.6.1.4	Provide Transport Resources and Support Interconnections	Does not meet			
C.6.1.4.1	Comply with General Transport Requirements	Does not meet			
	Calculate bandwidth using 95th percentile method with minimum sample times of five minutes	Does not meet			
C.6.1.4.2	Comply With Interconnection Configurations and Requirements				
C.6.1.4.2.1	Between Compute Host Instances (Same Data Center)	Meets	4-8	4.a.1.2.6	
C.6.1.4.2.2	Between Compute Host Instances (Different Contractor Data Centers)	Meets	4-8	4.a.1.2.6	
C.6.1.4.2.3	Between Compute-Host at Contractor Data Center and DOI TIC	Meets	4-8	4.a.1.2.6	
C.6.1.4.2.4	Between Compute-Host at Contractor Data Center and the Internet	Meets	4-8	4.a.1.2.6	
C.6.1.4.2.5	Between Compute-Host at Contractor Data Center to DOI Customers via Direct Connections	Meets	4-8	4.a.1.2.6	
C.6.2	Provide Aggregated Resources and Enabling Services				
C.6.2.1	Provide Aggregated Resource Services	Meets	4-8	4.a.1.2.6	
C.6.2.1.1	Provide Secure File Transfer Resources	Does not meet			
C.6.2.1.2	Provide Virtual Machine Resources	Meets	4-8	4.a.1.2.6	
	Scalable, redundant, dynamic capabilities or virtual machines	Meets	4-8	4.a.1.2.6	
	Allow Government users to procure and provision computing services on-line via the Internet	Meets	4-8	4.a.1.2.6	
	Allow users to remotely load applications and data via the Internet	Meets	4-8	4.a.1.2.6	



Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
	Configuration and Management via Web Browser, over the Internet.	Meets	4-8	4.a.1.2.6	(b) (4)
	Government Retains Ownership	Meets	4-8	4.a.1.2.6	
	Spawn on-Demand Instances	Meets	4-8	4.a.1.2.6	
	Support Acceptable Secure Administration Interface	Meets	4-8	4.a.1.2.6	
	Dynamic Allocation based upon load, without service interruption	Does not meet			
	Copy/Clone	Meets	4-8	4.a.1.2.6	
	Multi-processor Virtual Machines	Meets	4-8	4.a.1.2.6	
	Support Processor Isolation	Meets	4-8	4.a.1.2.6	
	Supports live migration between physical hosts	Meets	4-8	4.a.1.2.6	
	Role-Based access controls and Auditing for Hypervisor	Meets	4-8	4.a.1.2.6	
	Hypervisor supports hardware-assisted memory virtualization	Meets	4-8	4.a.1.2.6	
C.6.2.1.3	Provide Database Hosting Resources	Does not meet			
	Supports Current Range of Software	Does not meet			
C.6.2.1.4	Provide Web Hosting Resources	Does not meet			
	Supports Current Range of Software	Does not meet			
C.6.2.1.5	Provide Development and Test Environment	Meets	4-8	4.a.1.2.6	
	Support Range of Technical Service Lines, and range of instances for each (e.g. 0-100)	Does not meet			
	Accommodate custom roles and authorizations	Meets	4-8	4.a.1.2.6	
C.6.2.1.6	Provide Application Hosting	Does not meet			
	Supports Current Range of Software	Does not meet			
C.6.2.2	Provide Enabling Services				
C.6.2.2.1	Support Bulk Data Transfer and Provide Competitive Volume Discounts	Meets	4-8	4.a.1.2.6	
	a. Loading data from physical media	Does not meet			
	b. Transferring data in/out over the Internet	Meets	4-8	4.a.1.2.6	
	c. Transferring Data in/out onto the DOI intranet	Meets	4-8	4.a.1.2.6	
	d. Transferring data in/out via dedicated circuits (including VPN)	Meets	4-8	4.a.1.2.6	
	One-Time, Free of Charge, Bulk Transfer of all data stored in Contract environment upon termination of Task Orders.	Does not meet			
C.6.2.2.2	Provide Operating System Services				
	Contractor will provide	Meets	4-8	4.a.1.2.6	
	Contractor will permit DOI to provide at DOI option	Meets	4-8	4.a.1.2.6	



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Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
	Configure Operating System	Meets	4-8	4.a.1.2.6	(b) (4)
	Troubleshoot Operating System Problems	Meets	4-8	4.a.1.2.6	
C.6.2.2.3	Provide Licensing and Installation Services	Meets	4-8	4.a.1.2.6	
C.6.2.2.4	Provide Patching and Version Control Services	Meets	4-8	4.a.1.2.6	
	Commit to defined patching schedule and process	Meets	4-8	4.a.1.2.6	
	DOI Receive > 1 week Advance Notice	Meets	4-8	4.a.1.2.6	
	DOI right to delay or deny implementation	Meets	4-8	4.a.1.2.6	
	Contractor comply with change controls processes and authorities for change	Does not meet			
C.6.2.2.5	Provide Disaster Recovery Services	Does not meet			
	Support to design, implement and Manage the Disaster Recovery Solution	Does not meet			
	Provide Web-Based capability for configuring Disaster Recovery Options	Does not meet			
	Supports DOI defining set of mission critical data and snapshots	Does not meet			
	Provides all service required to execute failover	Does not meet			
C.6.2.2.6	Supports one or More Solutions for Middleware Licensing	Meets	4-9	4.a.1.2.6	
A and/or B and/or	Contractor Provided Support for Current (and/or) Contractor Proposed Migration and Standard	Does not meet			
	Contractor Proposed Migration and Standard	Meets	4-9	4.a.1.2.6	
C and/or	DOI Provided	Meets	4-9	4.a.1.2.6	
C.6.2.2.7	Provides Hosting for DOI Legacy Metering and Reporting Software	Meets	4-9	4.a.1.2.6	
	Supports Current Range of Software				
C.6.2.2.8	Provides Hosting for Other Middleware	Meets	4-9	4.a.1.2.6	
	Supports Current Range of Software	Does not meet			



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Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
C.6.2.2.9	Provides Hosting for Scripting and Programming Environments	Meets	4-9	4.a.1.2.6	(b) (4)
	Supports Current Range of Software	Does not meet			
C.6.2.2.10	Provide or Support Virtual Application and Virtual Desktop Resources	Does not meet			
	and/or Provides	Does not meet			
	Supports	Does not meet			
C.7	Establish and Meet Portfolio of Service Level Requirements				
C.7.1	Optimize End-to-End Performance	Meets	4-9	4.a.1.2.6	
C.7.1.1	Manage Latency between Hosted Applications and End Users	Meets	4-9	4.a.1.2.6	
C.7.1.2	Adapt to Demand Fluctuations to Maintain Service Levels	Meets	4-9	4.a.1.2.6	
C.7.1.3	Streamline and/or Automate Resource Scaling				
	Tiers of Service, Template Capability and Scaling sequence definition or acceptable alternative	Does not meet			
	* Compute-Host: Processor	Does not meet			
	* Compute-Host: Memory	Does not meet			
	* Storage	Does not meet			
	* Transport: Bandwidth	Does not meet			
	Restrict to DOI approved tiers and templates in the provisioning portal	Does not meet			
	User defined scaling sequence and triggers	Does not meet			
C.7.2	Meet Software and Licensing Support Service Level Requirements				
C.7.2.1	Meet Operating System Services Service Level Requirements	Does not meet			
	Contractor Proposed guaranteed minimum performance level	Does not meet			
C.7.2.2	Meet Licensing and Installation Services Service Level Requirements	Does not meet			
	Contractor Proposed guaranteed minimum performance level	Does not meet			
C.7.2.3	Meet Patching and Version Control Service Service Level Requirements	Does not meet			
	Contractor Proposed guaranteed minimum performance level	Does not meet			
C.7.3	Meet Uptime and Availability Requirements	Does not meet			
	Meet Minimum Acceptable Performance Level: 95% Uptime with no more than 36 hours/calendar month of planned downtime.	Does not meet			
	Contractor Recommended Incentives and Disincentives	Does not meet			
	Contractor Proposed from one (1) to four (4) service bands that meet DOI minimum requirements	Does not meet			
C.7.4	Meet Disaster Recovery Services Service Levels	Does not meet			
	Contractor Provided Draft Disaster Recovery Plan	Does not meet			
C.7.4.1	Meet Recovery Time Objectives (RTO)	Does not meet			
	Contractor Proposed from one (1) to five (5) service bands that meet DOI minimum requirements	Does not meet			
	Minimum Acceptable Performance: 7 Days	Does not meet			
C.7.4.2	Meet Recovery Point Objectives (RPO)	Does not meet			
	Contractor Proposed from one (1) to five (5) service bands that meet DOI minimum requirements	Does not meet			
	Minimum Acceptable Performance: 7 Days	Does not meet			
C.7.5	Meet Backup Service Levels				
C.7.5.1	Comply with Backup Frequency Requirements	Does not meet			
	Provide means DOI authorized technical user to configuring backup and archiving frequency on authorized user defined schedule.	Does not meet			
	Schedule Supports Required Frequencies: Daily, Weekly, Monthly, Yearly.	Does not meet			
	Provide means for DOI authorized technical user to select from approved Mean-Time-to-Restore.	Does not meet			
	Provides means for DOI authorized technical user to select approved Retention Periods.	Does not meet			
C.7.5.2	Meet Mean Time to Restore Requirements	Does not meet			
	Minimum Acceptable Performance Level: 72 Hours	Does not meet			
	Contractor Proposed from one (1) to four (4) service bands that meet DOI minimum requirements	Does not meet			



Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
C.7.5.3	Comply with Data Retention Policies	Does not meet			
	Retention period duration before automatic deletion	Does not meet			
C.7.6	Document and Meet Provisioning Service Level Requirements	Does not meet			
C.7.6.1	Meet Compute Host and Operations System Provisioning Service Level Requirements	Does not meet			
	Provide means for several tiers of service for the speed in which a hosted system can respond to changes in demand (either manually or automatically)	Does not meet			
	Provide means in all cases where resources shall be brought online and available for use within the specified time (either manually or automatically)	Does not meet			
	Minimum Acceptable Performance Level: 24 Hours	Does not meet			
	Contractor Proposed from one (1) to four (4) service bands that meet DOI minimum requirements	Does not meet			
C.7.6.2	Meet Storage Provisioning Service Level Requirements	Does not meet			
	Provide means to provision the storage both manually, and/or scale storage resources both manually and automatically	Does not meet			
	Minimum Acceptable Performance Level: 24 Hours	Does not meet			
	Contractor Proposed from one (1) to four (4) service bands that meet DOI minimum requirements	Does not meet			
C.7.7	Meet SAP Hosting Performance Requirements	Does not meet			(b) (4)
	Provide means for several tiers of service for SAP Hosting Services	Does not meet			
C.7.7.1	Meet SAP Computation Performance Requirements	Does not meet			
	Provide means for SAP configurations with scalable processing performance; scalable up and down to meet requirements	Does not meet			
	Performance requirements from 20,000 SAPS (or equivalent) up to and including 1,800,000 SAPS (or equivalent) or further as needs grow	Does not meet			
C.7.7.2	Meet SAP RAM Performance Requirements	Does not meet			
	Provide means for SAP configurations with scalable RAM availability; scalable up and down to meet requirements	Does not meet			
	Performance requirements from 800GB up to 13,000 GB or further as needs grow	Does not meet			
C.7.7.3	Meet SAP Storage Performance Requirements	Does not meet			
	Provide means SAP configurations with scalable storage availability; scalable up and down to meet requirements	Does not meet			
	Performance requirements from 3.5TB up to 600TB or further as needs grow	Does not meet			
C.7.7.4	Meet Additional SAP Performance Metric Requirement	Does not meet			
C.7.8	Meet Middleware Management Service Level Requirements	Does not meet			(b) (4)
	Provide means for several tiers of management support for Database, Web Server, and Application Servers	Does not meet			
C.7.8.1	Meet Middleware Patching and Version Control Requirements	Does not meet			
	Provide means to commit to a defined patching schedule and process	Does not meet			
	Provide means for the DOI test patches at least 1 week before they are rolled out to production systems	Does not meet			
	Provide means to ensure compatibility with the business system and to include fall back procedures	Does not meet			
	Provide means for coordination with the system owner prior to making changes on a weekly, monthly, quarterly, and yearly schedule	Does not meet			
C.7.8.2	Meet Additional Middleware Service Level Requirements	Does not meet			
C.7.9	Meet Secure File Transfer Service Levels	Does not meet			(b) (4)
C.7.10	Meet Virtual Desktop and Applications Service Levels	Does not meet			
C.7.11	Meet Customer and Program Support Service Levels	Does not meet			
	Provide means for several tiers of support services; to include both trouble ticket support and service management	Does not meet			
	Provide means to ensure pre-defined service level metrics are met; (availability, time to response, time to resolve, and planned downtime) as identified within the severity level	Does not meet			
	Provide means to describe an outage greater than 1-hour of unscheduled downtime, including root-cause and fix	Does not meet			



[Requirements_Traceability_Matrix]_[IBM].xlsx
Traceability Matrix

Procurement Sensitive

AMENDMENT NO. 004

Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
C.7.11.1	Meet Service Center Availability Service Levels	Meets	4-9	4.a.1.2.6	(b) (4)
	Provide means for reaching support or service personnel, during hours of availability for service or log a trouble ticket	Meets	4-9	4.a.1.2.6	
C.7.11.1.1	8x5 Single Time Zone	Meets	4-9	4.a.1.2.6	
C.7.11.1.2	8x5 CONUS	Meets	4-9	4.a.1.2.6	
C.7.11.1.3	8x5 CONUS + Alaska	Meets	4-9	4.a.1.2.6	
C.7.11.1.4	24x7x365/366	Meets	4-9	4.a.1.2.6	
C.7.11.1.5	Custom Work Hours, Custom Work Week, Selected Time Zone(s)	Meets	4-9	4.a.1.2.6	



Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
C.7.11.1.6	Defined Season or Emergency/Incident Support		4-9	4.a.1.2.6	(b) (4)
C.7.11.2	Meet Service Level Time To Respond (Acknowledge) to Requests Service Levels	Meets	4-9	4.a.1.2.6	
	Provide means for acknowledgement of the request and initial service center within the specified time to respond, within the tiers of services to include the severity and priority levels	Meets	4-9	4.a.1.2.6	
C.7.11.3	Meet Mean-Time-To-Resolve Service Levels	Does not meet			
	Provide means of commitment on the mean time to resolve all service and support issues to include the severity and priority levels	Does not meet			
C.7.11.4	Minimize Planned Downtime and Maintenance Windows	Meets	4-9	4.a.1.2.6	



Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
	Provide means for support services that accommodate several maintenance window maximums to include planned downtime	Meets	4-9	4.a.1.2.6	(b) (4)
C.8	Optional Characteristics Requirements				
C.8.1	Support Resource Segregation Options	Does not meet			
	Provide means for several options for segregating resources; fully segregated; Federal government segregation, and Non-segregated	Does not meet			
C.8.2	Support Non-production environments	Does not meet			
	Provide means in order to define non-production environments (e.g., test, development, training, staging, sandbox) as customized copies of a production environment	Does not meet			
	Provide means for administrators to have the ability to adjust the non-production environment specifications	Does not meet			
	Provide means for non-production environments to access production storage or middleware instances, to include populating storage, both inside or outside, of the provider's environment	Does not meet			
	Provide the ability to restrict access to non-production environments to users or "domains"	Does not meet			
	Provide the ability to create and destroy non-production environments via web console	Does not meet			
C.8.3	Support Requirement to Manage Underlying Physical Resources	Does not meet			
C.8.4	Provide Content Delivery Network (CDN)	Does not meet			
C.8.5	Support Unique Compliance Requirements	Does not meet			
C.8.6	Support Alaska/Hawaii Regional Connectivity	Does not meet			
C.8.7	Address Issues Related to Poor Connectivity	Does not meet			
C.8.8	Support or Provide Hardware Clustering	Does not meet			
C.8.9	Provide Load Balancing	Does not meet			
C.8.10	Support or Provide Interfaces to Non-Department Systems	Does not meet			
	Provide the ability to connect a Contractor hosted system or data store to another system that is hosted outside the DOI boundaries	Does not meet			
	Provide the means for the connection to be configured to support data exchange, support authentication schemes required by either system, adhere to all security requirements	Does not meet			
C.8.11	Support or Provide Static IP Addressing	Does not meet			
C.8.12	Provision Dedicated Resources	Does not meet			
C.9	Associated Support Services	Does not meet			
J.5	Bidder's Security Questionnaire	Meets	2-1	2	
J.17	Scope of Offer Matrix	Meets	3-1	3.1.2	
J.18	Operating Systems Supported	Meets	3-16	3.2.c.i	
J.19	Compute-Host Configurations	Meets	3-17	3.2.c.ii	
J.20	Storage Classes	Meets	3-18	3.2.c.iii	
J.21	Network Connectivity	Meets	3-18	3.2.c.iv	



Solicitation Reference		Offer Reference			
Section #	Requirement	Contractor Self Certification (Meets, Does Not Meet)	Page #	Section #	Brief Description
J.22	Range of Database Software Supported	Meets	3-19	3.2.c.v	
J.23	Range of Web Hosting Software Supported	Meets	3-20	3.2.c.vi	
J.24	Range of Application Hosting elements Supported	Meets	3-21	3.2.c.vii	
J.25	Range of DOI Legacy Metering and Reporting Software Supported	Meets	3-22	3.2.c.viii	
J.26	Range of Other Middleware Supported	Meets	3-23	3.2.c.ix	
J.27	Range of Scripting and Programming Software Supported	Meets	3-24	3.2.c.x	
J.28	Uptime and Availability Service Bands	Meets	3-25	3.2.d.i	
J.29	Recovery Time Objectives (RTO)	Does not meet	3-25	3.2.d.ii	
J.30	Recover Point Objectives (RPO)	Does not meet	3-26	3.2.d.iii	
J.31	Mean Time to Restore (MTR)	Does not meet	3-26	3.2.d.iv	
J.32	Compute-Host Provisioning Service Bands	Meets	3-27	3.2.d.v	
J.33	Storage Provisioning Service Bands	Meets	3-27	3.2.d.vi	
J.34	Customer Service Meantime to Acknowledge (MTA)	Meets	3-27	3.2.d.vii	
J.35	Customer Service Meantime to Resolve or Fix (MTF)	Meets	3-28	3.2.d.viii	
J.36	Scheduled Downtime (Maintenance Windows)	Does not meet	3-28	3.2.d.ix	



1.3 Community Cloud Proposal Submission Deliverable Plans

1.3.1 Community Cloud Role-Based Report

IBM is pleased to offer its SmartCloud for Government (SCG) to support DOI community cloud requirements. The SCG is an existing IBM Federal offering supporting more than 20 U.S. Federal Government clients. The SCG future capability roadmap includes the capability for virtual servers to be provisioned/de-provisioned as required by authorized developers and authorized DOI personnel. This is currently scheduled for availability in 2Q 2013. Once this capability is available, IBM will provide a Self-Service Portal that provisions and manages cloud services. As part of this effort, Team IBM will provide Role-Based Reports for the DOI Community Cloud customer Portal. In support of transparency, environment control, and visibility into operations, IBM will provide a single point of access dashboard and portal. This portal will provide an integrated solution for access to information and performing user actions. Dashboards will be used to display virtual infrastructure resource information, events and alerts, services levels, and reports. Role-based reporting and dashboards can be a highly effective means of achieving business intelligence success. By personalizing reports, analysis and dashboards, based on the role(s) the person has in an organization, we will allow users to see only the information relevant to their role.

IBM has designed and established our SCG in our Raleigh, NC, and Boulder, CO, Federal Data Centers. We have designed these centers and the SmartCloud for Government offering to meet the security, availability and performance requirements of our Federal Government clients. These requirements closely match the DOI requirements, and upgrades are included in the SCG roadmap to bring IBM into full compliance.

1.3.1.1 Tasks

Team IBM will work with DOI personnel to establish the roles and access to the cloud provisioning assets. User authorizations for the self-service interface will be managed with security groups. Group membership determines which requests the user can access. Four predefined security groups are available in the self-service user interface. A user can belong to more than one group. When you create a user, not only do you select security groups, you also select the grant option for each group that the user belongs to. When the grant option is enabled, the user can create new users within the security group.

The groups available for the self-service user interface include:

- **Cloud Customer Administrator** – Users in this role are administrators dedicated to individual customers. They can perform the following tasks:
 - (b) (4)
- **Approver** – Users in this role are administrators who are dedicated to individual customers. They can perform the following tasks:
 - (b) (4)
- **Team Administrator** – Users in this role can perform the following tasks:
 - (b) (4)



- (b) (4)

■ **Team User** – Users in this role can perform the following tasks:

- (b) (4)

When Team IBM is awarded its first Task Order, we will establish the DOI’s Cloud Customer Administrator, the role assigned to a person as designated by DOI. The DOI Cloud Customer Administration will establish a new Team with the corresponding users to establish the new environment, and the monitoring requirements and accounting details as required.

The self-service environment will be supported by the self-service user interface. The Self-Service Virtual Server Management function addresses a longstanding need for efficient management of self-service deployment of virtual servers, storage, network services, and the associated software. Using a set of simple, point-and-click tools, the user can select a preconfigured software stack and have the image automatically installed in a virtual host that is automatically provisioned.

This function reinforces fulfillment operations integrity that involves a wide range of resource actions:

- (b) (4)

1.3.2 Community Cloud Monitor Performance and Manage Alerts and Reporting Plan

Team IBM supports the SCG by a combination of existing and new tools, process and skills to support the business objectives (Network, Compute, Storage, Security, Cloud). This toolset is shared and supports multiple Federal clients while maintaining data security. This infrastructure scales to support the number of customers and customer technology components being managed. IBM provides 24x7 monitoring of Managed Devices. The Monitoring services utilize powerful hardware and software tools designed to monitor, identify and respond proactively to system and network operational irregularities. IBM’s SmartCloud for Government is hosted in our Federal Data Center (FDC), which is staffed by skilled technicians who perform ongoing event monitoring and operations activities to collect, monitor, and analyze events initiated by system and network devices and components. Storage, security, operating system, databases, middleware, routers, switches, communications links, and firewalls, are monitored for events.

1.3.2.1 Tasks

- (b) (4) [Redacted]

- **Security**

- (b) (4) [Redacted]

- **Availability**

- (b) (4) [Redacted]

(b) (4)

[Redacted content]

1.3.2.2 Metrics

Table 1.3.2-1: Availability Metrics
Metrics and related methods and measures.

Metric	AQL	Surveillance Method	Measurement Frequency	RFP Objective
(b) (4)	(b) (4)			

Metric	AQL	Surveillance Method	Measurement Frequency	RFP Objective

1.3.3 Community Cloud Usage and Cost Monitoring Reports

Team IBM will provide Usage and Cost Monitoring Reports in the DOI customer Portal based upon Compute, Network and Storage consumption. Usage reporting measures resource usage and reports the utilization and costs of different computing resources – including servers, storage, networks, databases, virtualized environments, messaging, and many other shared services.

1.3.4 Community Cloud Incident Management Report

Team IBM can provide Incident Management for the DOI customer Portal based upon Compute, Network and Storage services. IBM’s Service Delivery Method integrates the IT Service Management foundational components that we have developed over 30 years of IT systems operations – Configuration, Incident, Problem, Change, Release, Service Level and Availability Management – resulting in a best practice delivery model of people, process and technology. Our



processes are continuously improving, using our experience with our Federal clients to benefit DOI.

Support Approach

Incident and Problem Management – (b) (4)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Our team is mindful of the importance of these key support principles, and incorporates them into our strategy for staffing and managing DOI support. Team IBM staff possess years of experience using numerous tools, and are well versed in the Incident Management life cycle, customer service, providing status reports and metrics to management, and other industry best practices. Team IBM is well versed in the principles of Information Technology Infrastructure Library (ITIL). We understand the importance of following established processes in running an enterprise operation.

Team IBM reviews (b) (4)

[Redacted]

. Our team creates the framework for the Incident Management services based on best practices and align it to ITIL processes. Support processes are aligned to follow ITIL best practices and are documented and incorporated into Standard Operating Procedures that enable Team IBM to provide consistent and predictable service to DOI end-users.

The FDC uses the Remedy ticketing system to (b) (4)

Quality Measurement – (b) (4)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Benefits

- (b) (4)

1.3.5 Community Cloud Quality Assurance Plan

IBM's Quality Assurance Plan (QAP) has been described in details in Section 4.a.6 and the incentives/disincentives relating Service Level Agreements (SLAs) in Section 4.a.2.2. In addition, IBM will provide a Task Order-specific QAP and additional performance management on an as needed basis.

1.3.5.1 Performance Management and Resource Usage

Though the performance management techniques and resource usage have been explained throughout the technical volume, specific details with examples (as requested in RFP Section C.5.2.3) have been expanded below. While IBM has various tools available for performance management and resource usage, the Tivoli-based tools described below are an example of IBM's capability and knowledgebase. As the developer of these tools IBM is able to optimize their performance and take advantage of this integrated toolset. Our tools use industry standard interfaces and do not lock DOI into any single technology.

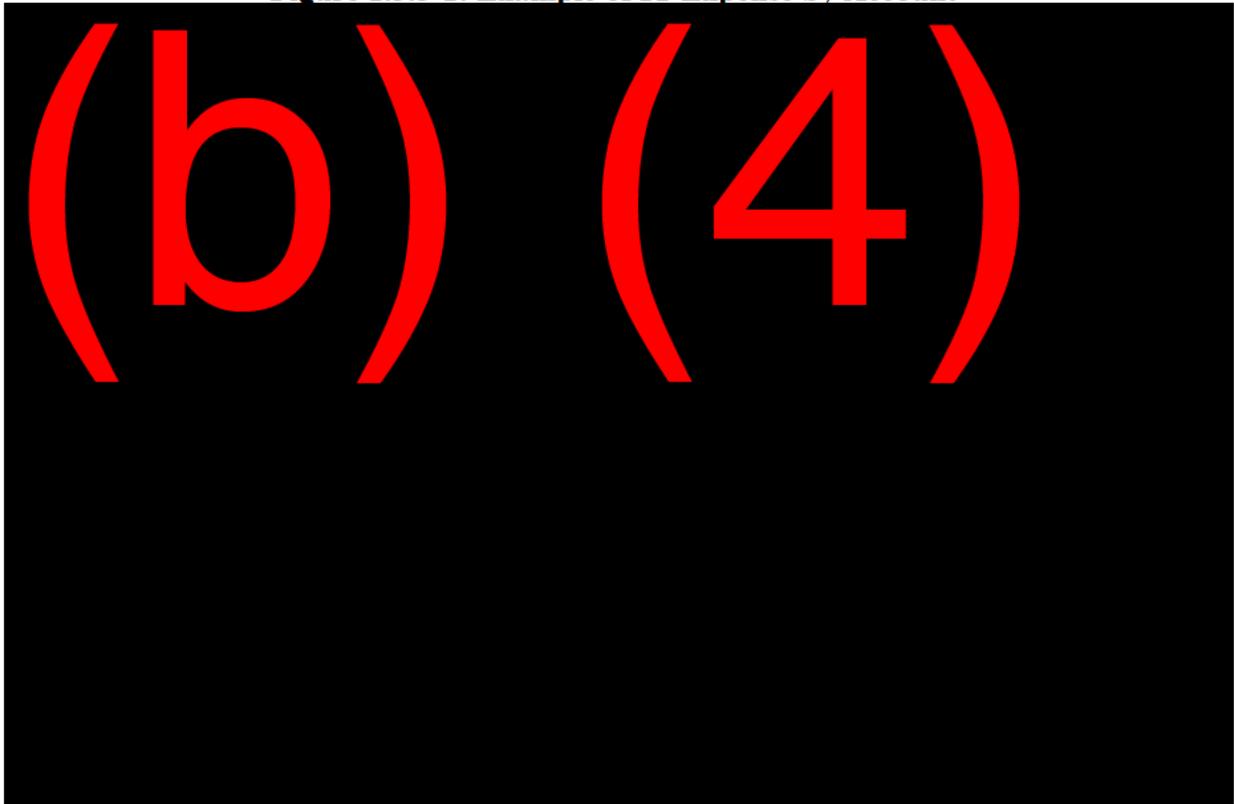
a. Provide role filtered self management tools to support billing, monitoring, and reporting:

The usage and cost monitoring component of our solution provides several out-of-the-box tools; for example, Tivoli Usage and Accounting Manager (TUAM) is a performance and resource management tool. TUAM's custom derived self-management functions help with billing, monitoring, and reporting functions. TUAM can be viewed as a funnel because it processes data from many different systems and sources and integrates the data into a common repository. For example, usage instrumentation data from Mainframes, UNIX/Linux, VMware, and Windows can be poured through the funnel, integrated, costed, and assigned to user accounts and cost centers. This tool restricts what data each user is allowed to see, and what reports they are allowed to run based on their user group.

b. Provide visibility into usage metering using metrics and granularity appropriate to the type of service:

TUAM supports usage metering records produced by a system or user and is configured in a metrics form at a granular level appropriate for the audience. In an example shown in **Figure 1.3.5-1**, IT expense is viewed in a graphical format by account. If a usage spike is found for certain type of account, further details can be obtained for that area and a comparison can be done by account for past periods of performance.

Figure 1.3.5-1: Example of IT Expense by Account



c. Provide a suite of reports, dashboards, and alarms to monitor and track operational and infrastructure performance (e.g., incidents, service usage, capacity, SLA adherence):

IBM provides a suite of reports and dashboards through a combination of Tivoli Integrated Portal (TIP), Tivoli Business System Management (TBSM), and Tivoli Common Reporting (TCR).^{(b) (4)}

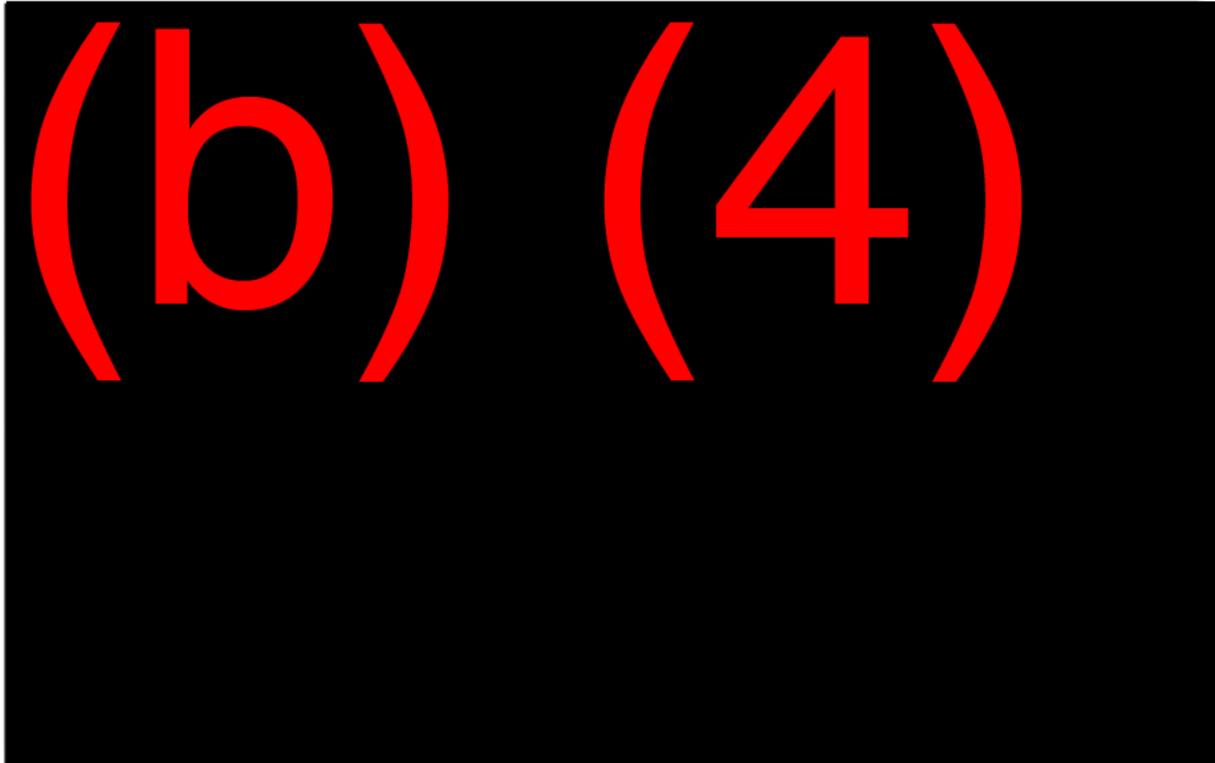
[Redacted text block]

[Redacted text block]

as shown in **Figure 1.3.5-2**.

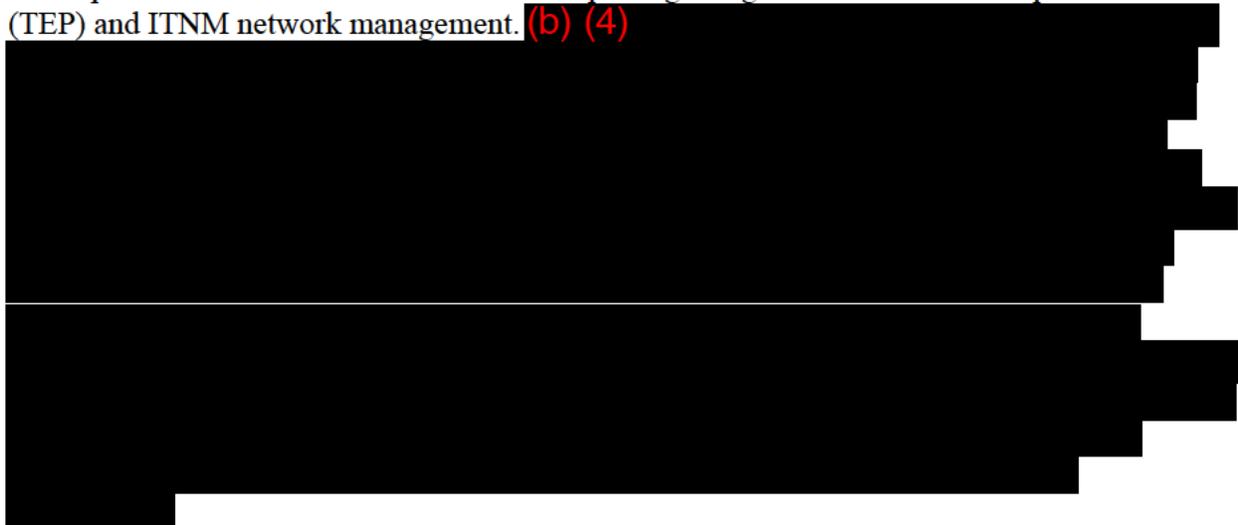
BMC Remedy is the primary ITSM tool set. Infrastructure performance can also be visualized and reported on from within the application suite. There are a large number of reports available through the Remedy web interface to show data related to incidents, changes, service requests and assets.

Figure 1.3.5-2: Sample Active Event List Report
Active even list: On-Demand, On-Time and On-Location.



d. Provide automatic monitoring of resource utilization and other events via service dashboard or other electronic means:

Automatic monitoring of resource utilization is provided both in real-time and historically. IBM accomplishes real-time resource utilization reporting using the ITM Tivoli Enterprise Portal (TEP) and ITNM network management. (b) (4)

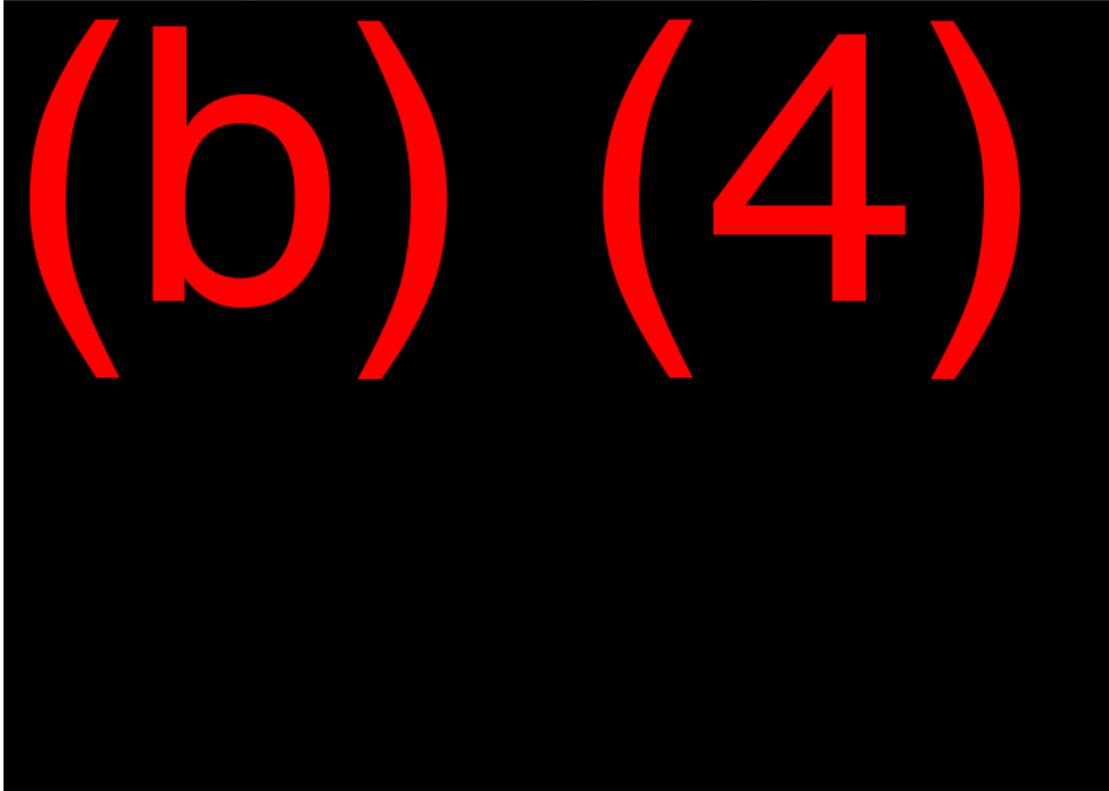


e. Provide the ability to filter and view usage and invoicing by: Technical Service Line, bureau (and sub-bureau), program, IT System, IT System type, IT System Life Cycle, Security Level, and other elements which may be identified in individual Task Orders:

(b) (4)

Figure 1.3.5-3 demonstrates how UNIX Oracle usage and invoicing charges are captured in various summaries and detailed views.

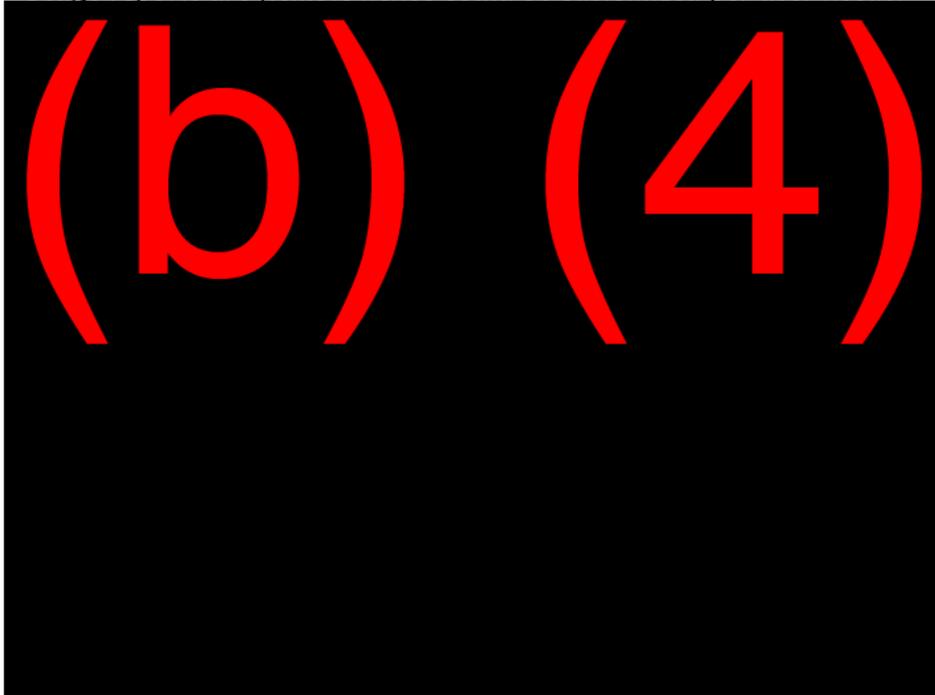
Figure 1.3.5-3: Sample Usage and Charges Breakdown



TUAM also allows viewing of usage in various formats, here is an example of UNIX File System usage report as shown in **Figure 1.3.5-4**.

Figure 1.3.5-4: Sample Usage Report

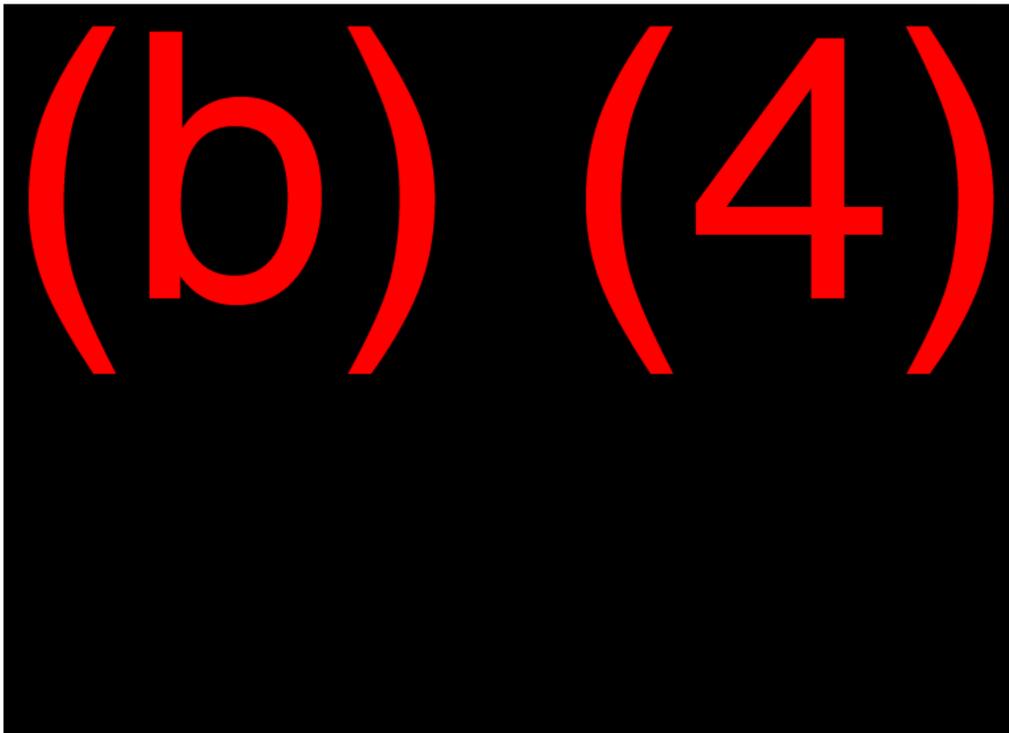
Usage reports are flexible hence could be customized per user needs.



Each Task Order is unique; TUAM has flexibility for these usage and invoice reports to be customized. An example of a customized invoice for a bank is shown in **Figure 1.3.5-5**.

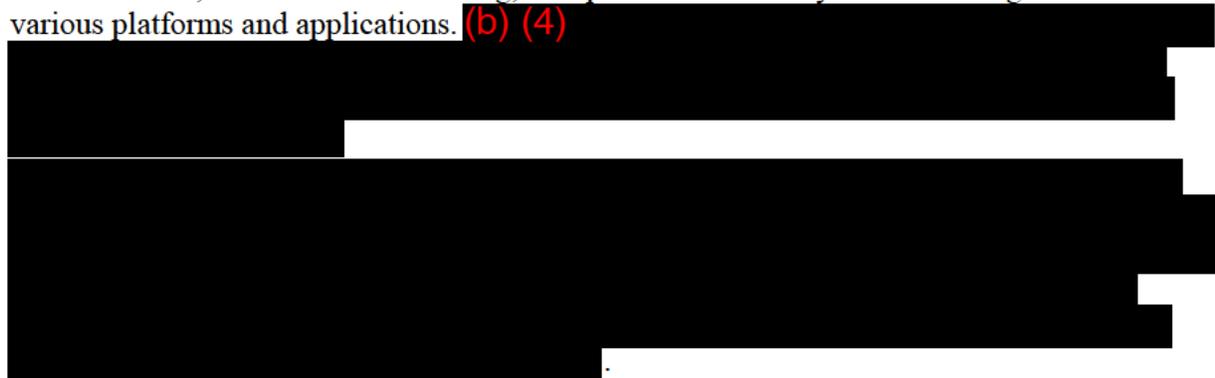
Figure 1.3.5-5: Invoice Example

Flexibility to customize invoices as needed.



f. Provide access to log files generated by the hosted application, associated middleware, operating system, and underlying virtual and physical infrastructure:

The IBM Tool, IBM Tivoli Monitoring, also provides the ability to monitor log files across various platforms and applications. (b) (4)



g. Provide online reporting metrics interface for resource utilization including metrics such as current utilization and historical average for a user defined window of time:

Current utilization is provided by the ITM TEP console. Figures 1.3.5-6 and 1.3.5-7 provide examples of the capabilities and presentation layout options for TEP.

Figure 1.3.5-6: Data Monitoring and Reporting Metrics

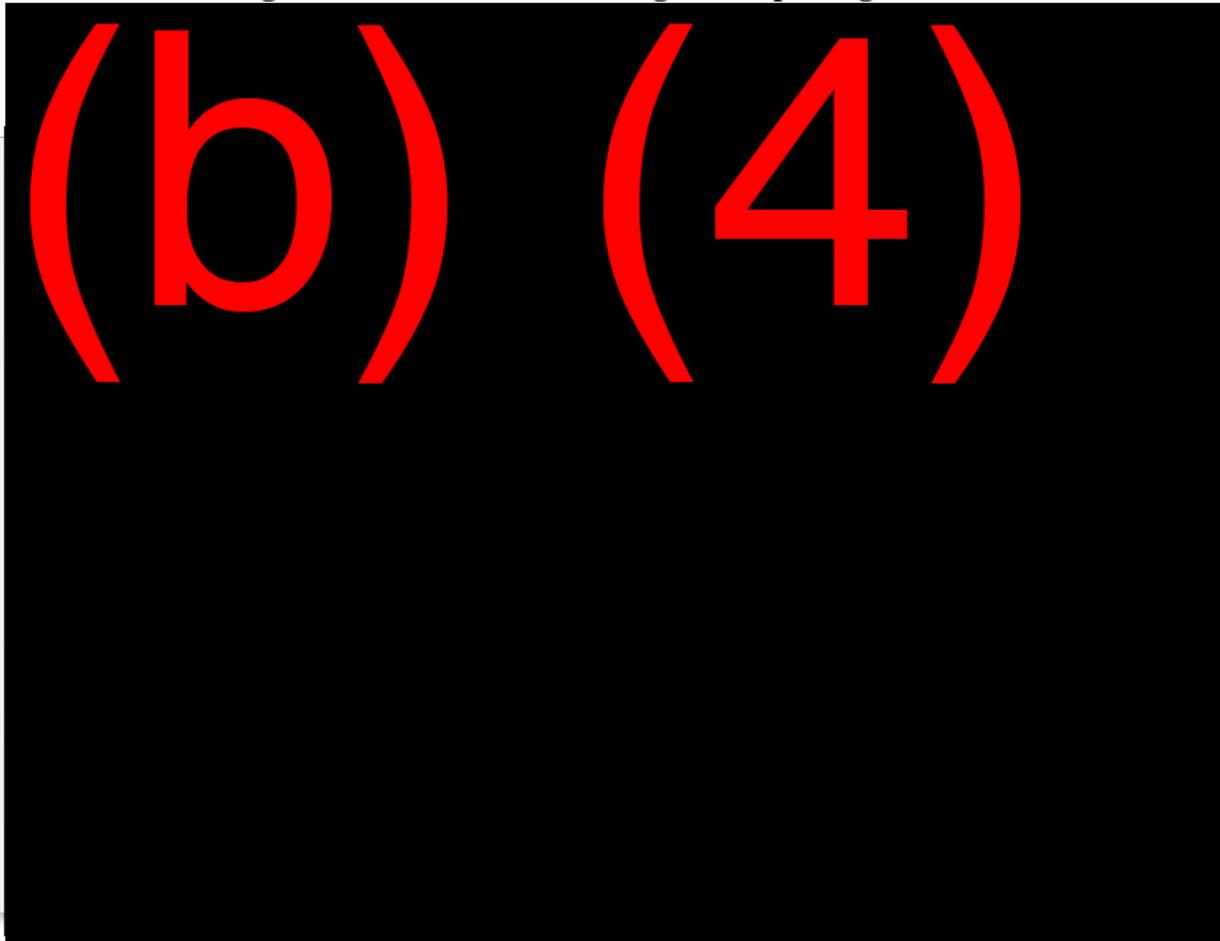
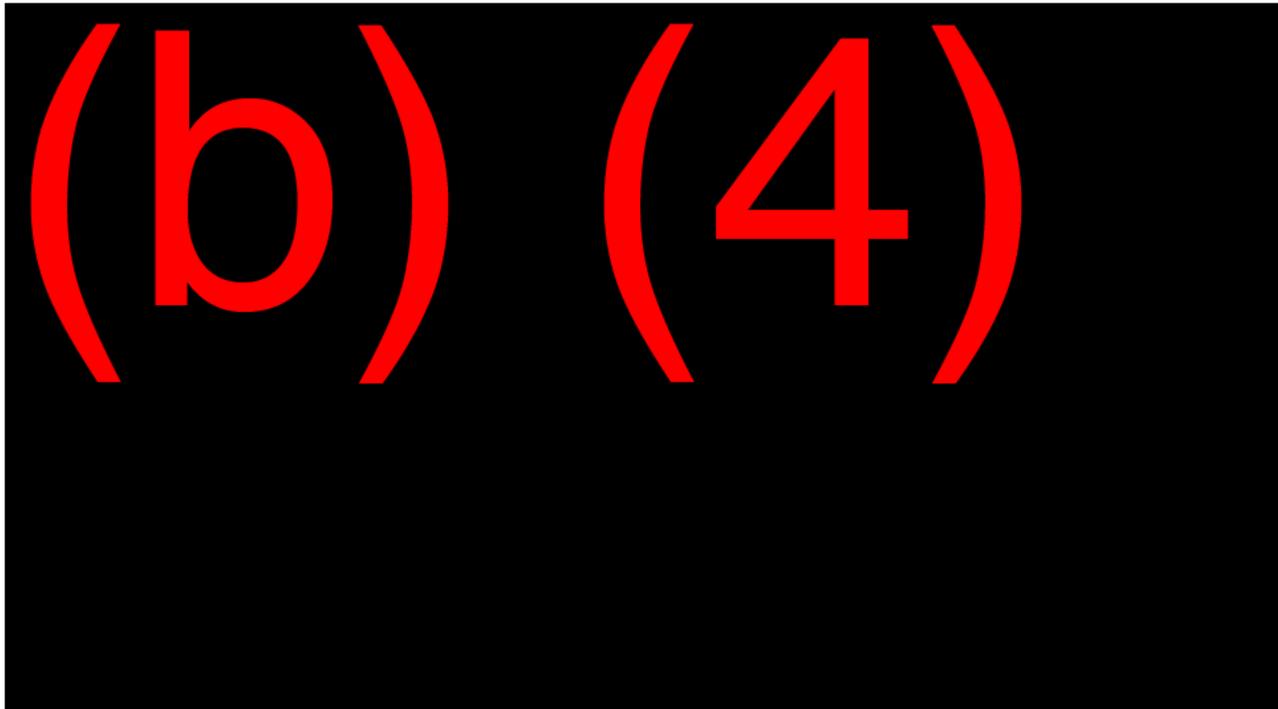


Figure 1.3.5-7: Sample of Disk Writes Per Second



(b) (4)

(b) (4)

1.3.6 Community Cloud Mitigation Plan

The requested Mitigation Plan is based on the FedRAMP evaluation of the FDC and SmartCloud for Government. IBM requested a FedRAMP evaluation from the FedRAMP PMO on June 8, 2012, and IBM has selected an evaluator. The Security Assessment Plan has been approved by FedRAMP PMO and the evaluation is expected to be scheduled in the near future. Upon completion of this evaluation and the resultant security assessment report, a Mitigation Plan will be developed and made available to DOI.

The mitigation plan will address the following:

- (b) (4)

1.3.6.1 FedRAMP

The Federal Data Center (FDC) has assessed security controls required by FEDRAMP. **Table 1.3.6-1** shows identifies the non-implemented security controls that were identified by the FDC. IBM has requested a Third-Party Assessment Organization (3PAO) evaluation on June 8, 2012. It is expected to be scheduled by the end of 2012.

Table 1.3.6-1: Non-Implemented Security Controls
Non-implemented Security Controls in SmartCloud for Government.

Control #	Sub#	Control Name	Control Requirement	Status	Remediation/Mitigation
AC-11	1		(b) (4)		
AC-16		Security Attributes			
CM-6	1				
IA-5	7				
MP-4	1				
RA-5	9				
SA-4	7				

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Control #	Sub#	Control Name	Control Requirement	Status	Remediation/Mitigation
			(b) (4)		
SC-12	2				
SC-12	5				
SC-13	1				
SC-21		Secure Name/ Address Resolution Service (Recursive or Caching Resolver)			
SI-6		Security Functionality Verification			

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Control #	Sub#	Control Name	Control Requirement	Status	Remediation/Mitigation
			(b) (4)		

1.3.6.2 DOI Mandatory Enhancements

Control #	Sub#	Control Name	Control Requirement	Status	Mitigation
AC-11	1	Concurrent Session Control	(b) (4)		
AC-16		Security Attributes	(b) (4)		
CM-6		Configuration Management	(b) (4)		
			(b) (4)		
SC-12			(b) (4)		
SC-12			(b) (4)		

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Control #	Sub#	Control Name	Control Requirement	Status	Mitigation
SC-13			(b) (4)		
SC-21		Secure Name/ Address Resolution Service (Recursive or Caching Resolver)			
SI-6		Security Functionality Verification			

1.3.7 Community Cloud Security Assessment Plan and Report

The requested Security Assessment Plan (SAP) and Report (SAR) will be based on the FedRAMP evaluation of the FDC and SmartCloud for Government. The FedRAMP evaluator will create both the SAP and SAR. IBM requested a FedRAMP evaluation from the FedRAMP PMO on June 8, 2012 and IBM is in the process of selecting the evaluator. The FedRAMP evaluation is projected to be scheduled by the FedRAMP PMO by the end of 2012. Upon completion of this evaluation, the SAP and resultant SAR will be made available to DOI.

1.3.8 Community Cloud Disaster Recovery Plan

Table 1.3.8-1: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.6.2.2.5	(b) (4)

This document defines the strategic plan to address disaster recovery (DR) planning for the International Business Machines (IBM) Federal Data Center (FDC). This Information System Contingency Plan (ISCP, to be abbreviated henceforth as CP) establishes procedures to recover the system in the event of a prolonged disruption, in excess of the recovery time objective (RTO) for availability or serviceability of the cloud infrastructure. The FDC is the primary operation site for our SmartCloud for Government Community Cloud.

This plan has the following objectives:

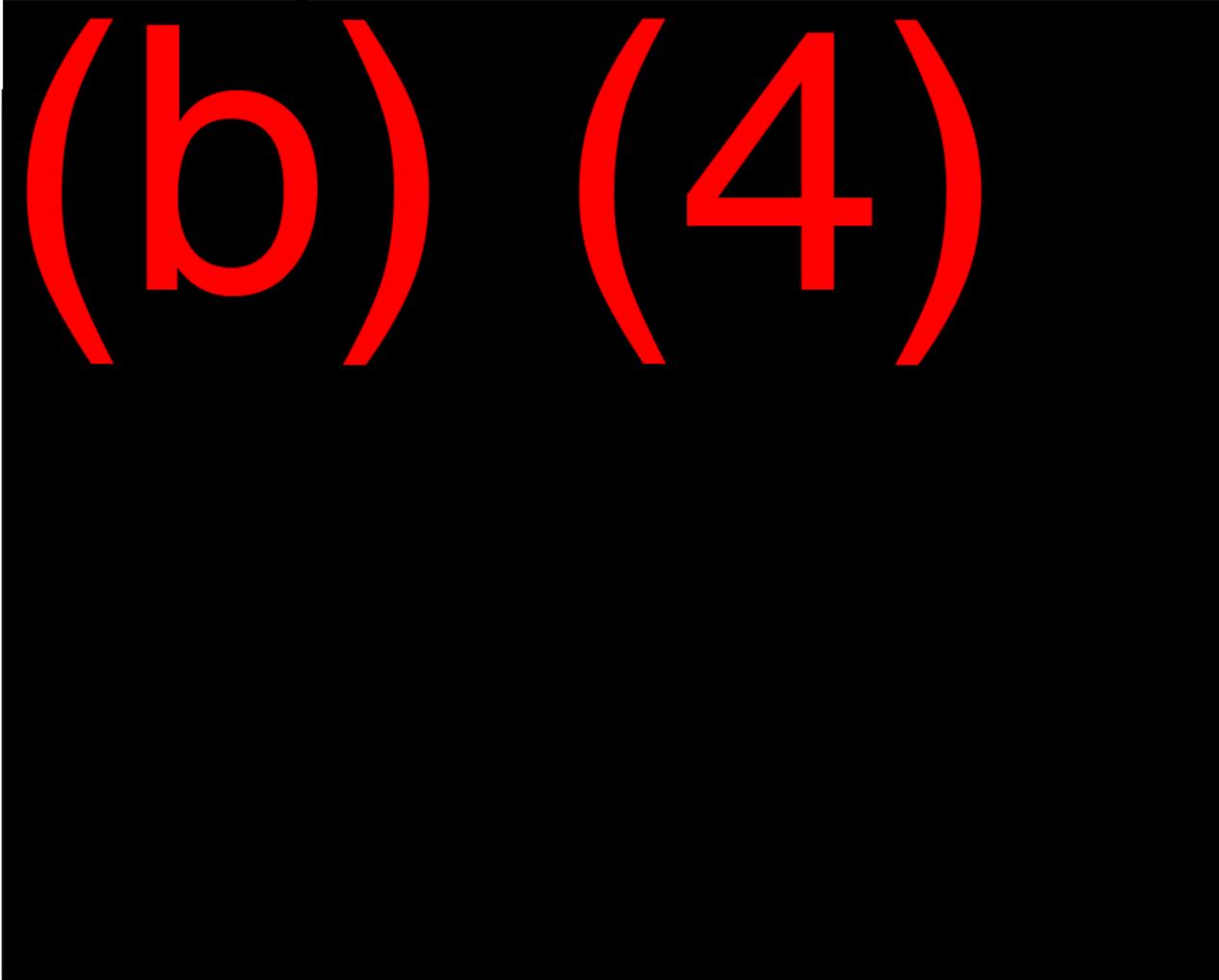
- (b) (4)
-

1.3.8.1 Responsibilities

The following teams have been developed and trained to respond to a contingency event affecting the DOI environment in the SCG. Descriptions of the teams are provided herein.

(b) (4)

Figure 1.3.8-1: Tier III Data Center Infrastructure

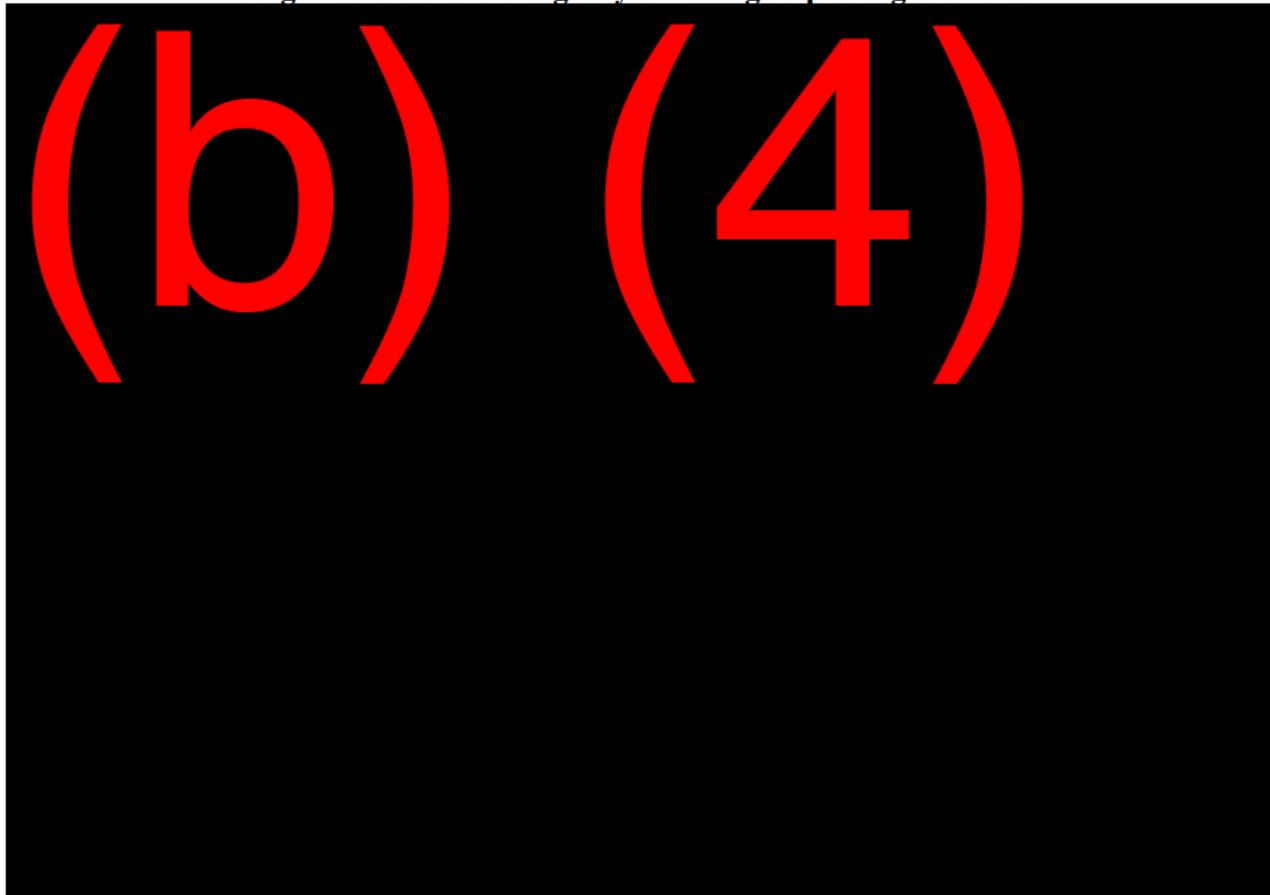


1.3.8.3 System Recovery Plan

IBM FDC maintains a thorough disaster recovery plan to support existing clients in our Federal data center cloud computing environment. (b) (4)

IBM has developed a contingency planning reporting structure to facilitate the effort. **Figure 1.3.8-2** provides the overall reporting structure.

Figure 1.3.8-2: Contingency Planning Reporting Structure



1.3.8.4 Initial Detection of System Disruption

An outage or disruption may occur with or without prior notice and initial detection of the system disruption could be reported from a number of sources depending on the nature of the disruption. (b) (4)

1.3.8.5 Recovery Time Objective

IBM contingency planning efforts enable FDC to activate various capabilities to streamline efficiencies, effectiveness, and responsiveness to minimize infrastructure impact in the event of a failure. To mitigate risk of not meeting expectation, DOI has provided a list of key requirements to help solidify DOI high availability objectives such as Recovery Point Objective (RPO) and Recovery Time Objective (RTO). **Section 3.2.b.ii** provides a list of objectives to meet DOI requirements.

1.3.8.6 Recovery Point Objective

The stated DOI operational objectives align with IBM FDC existing Business Continuity/ Disaster Recovery Plan. IBM will verify standard operating procedures and inspect operational logs to determine if the data has been transported off site from the production computing environment.

1.3.8.7 Site Operational Model

Planning, executing and delivering disaster recovery services can be complex and use a large set of technologies to replicate operational capability and data across sites. IBM's offering and the technical planning and execution staff that we employ matches the DOI requirements to the solution using various site operational models. Site operational models define how IBM will operate and maintain the site infrastructure from the context of normal site-level availability and recovery testing or exercising.

- (b) (4) 

(b) (4)

1.3.8.8 Recovery Operations

(b) (4)

1.3.8.9 Recovery Goals

Team leads follow the recovery order listed in **Table 1.3.8-2**. These procedures guide the teams and team leads as to the steps to be followed, include escalation steps, and instructions to coordinate with other teams when unexpected events or complications occur, such as:

- An action is not completed within the expected time frame
- A key step has not been completed
- Item(s) must be procured
- Other system-specific concerns exist

Table 1.3.8-2: Recovery Procedures and Service Owners

Tasks are directly aligned to responsible service owners.

Task	Coordination Required
Disaster Has Occurred <i>or</i> is Imminent	
(b) (4)	
Disaster Has <i>not</i> Occurred <i>and</i> is not Imminent	
(b) (4)	

1.3.8.10 Activation Criteria and Procedures

The CP should be activated if one or more of the activation criteria for that system are met. If an activation criterion is met, the CPC will activate the plan. The criteria for activation include, but are not limited to (e.g., the CPC may deem upon examination that the unpredicted circumstances of the event require plan activation), the following:

- (b) (4)

■ (b) (4)

1.3.8.11 Recovery Procedures

Each team is responsible for specific tasks and will coordinate with other teams as necessary. During recovery operations, the goal is to achieve as much of the system's original functionality as possible while maintaining the safety of personnel involved in the effort. To make the most efficient use of the time and personnel available, teams are organized and prepared to accomplish specific tasks. The tasks below are separated by team and many of the procedures between the teams are concurrent and not linear from team to team. Throughout the recovery process the Backup/Restore Specialist will provide support as needed.

1.3.8.12 Restoration Team Procedures

The Restoration Team Lead will manage the following activities by the restoration team, as shown in **Table 1.3.8-3**.

Table 1.3.8-3: Restoration Team Procedures

Tasks are aligned to the appropriate operations team provider to expedite service restoration.

Task	Coordination Required
(b)	(4)

1.3.8.13 Operations Team Procedures

The Operations team will perform the following to enable the operations, maintenance, and service of the application, as shown in **Table 1.3.8-4**.

Table 1.3.8-4: Operations Team Procedures

Operations Team tasks are aligned to the needed coordination point to facilitate rapid response.

Task	Coordination Required
(b)	(4)

1.3.8.14 Target Architecture

The target architecture supports the service bands defined by DOI. (b) (4)

Section 3.2.a.i provides the exhibit of uptime and availability capabilities.

1.3.8.14.1 x86 Platform Active/Active Configuration

IBM has designed our SmartCloud for Government with two sites and planned for an active/active configuration to simplify disaster recovery. Each site has the capacity to respond to the entire resource demand. In the event of a site failure, operation will continue at the secondary location without resource constraint. In this scenario, virtual machines on site (A) would restart on-site (B) with minimum down time. Facility failure is transparent to DOI end-users.

Figure 1.3.8-3 depicts IBM proposed architecture for Portfolio (A). (b) (4)

Figure 1.3.8-4 depicts IBM's proposed solution to move the VMs from site A to Site (B).

Figure 1.3.8-3: Portfolio A – Normal Operation Active/Active

In the event of a disaster, our approach maintains system continuity of operation to meet DOI RPO/RTO objectives.

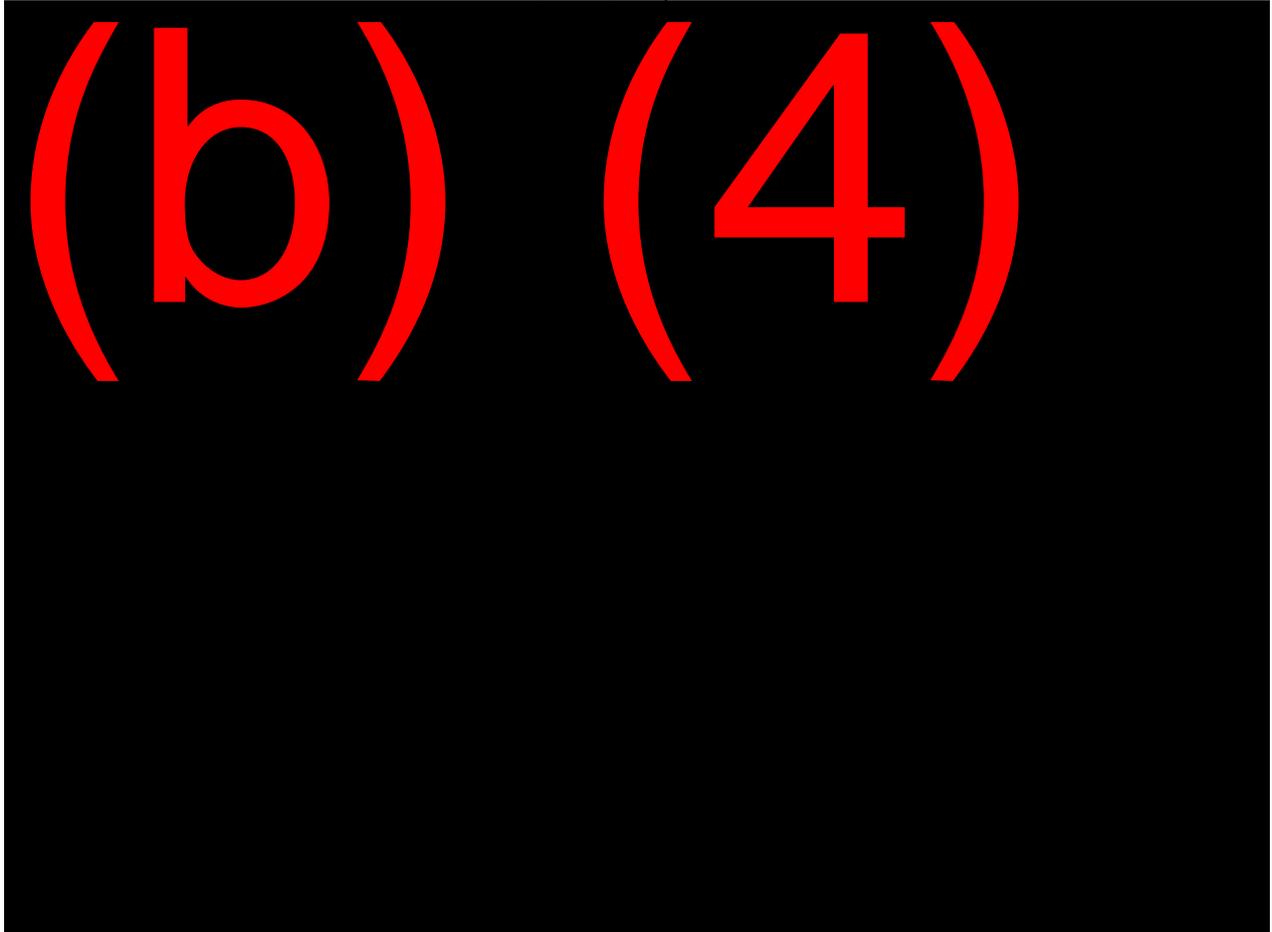
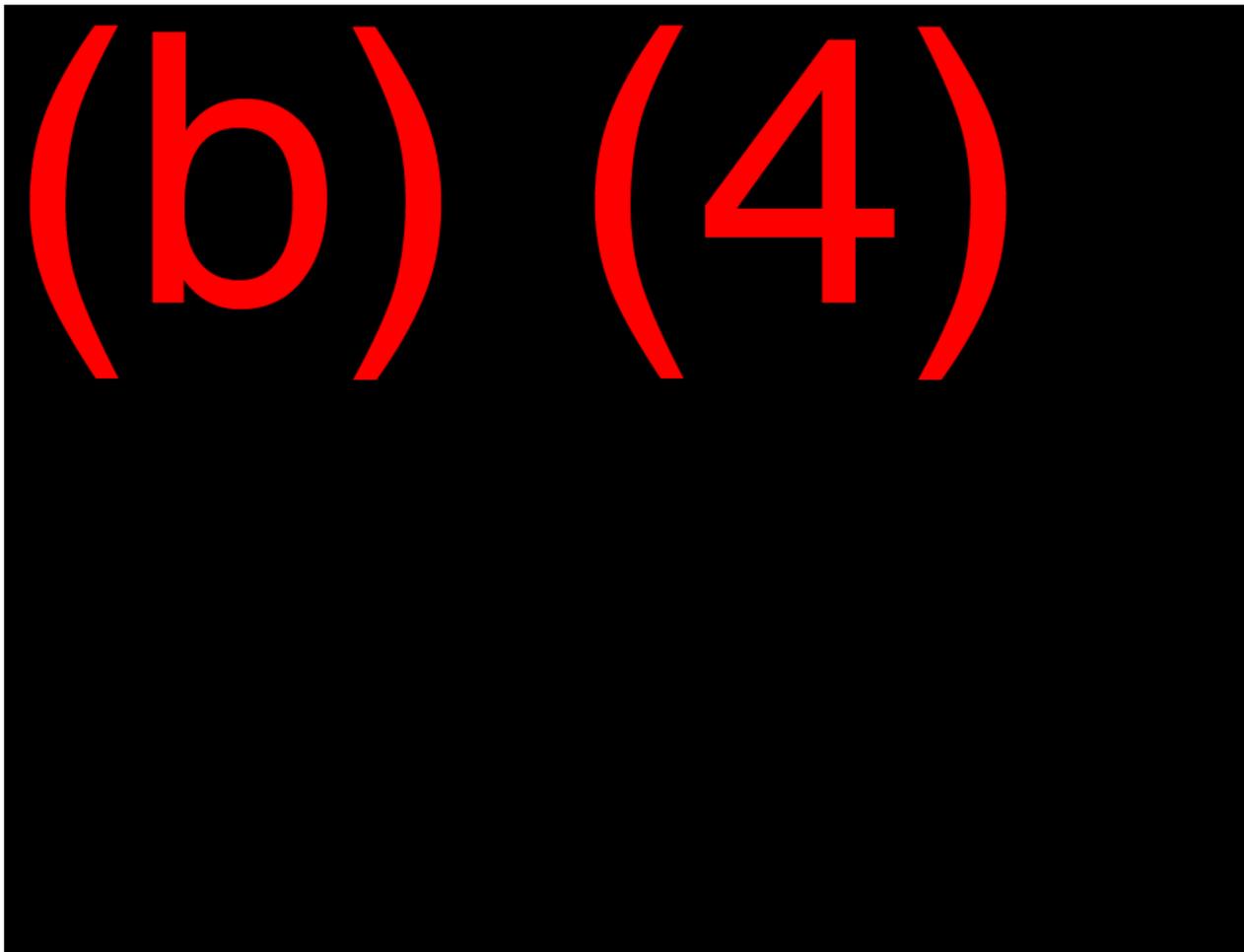


Figure 1.3.8-4: Portfolio A – Site Failover

In the event of a disaster, Team IBM's approach maintains continuity of operation to meet DOI RPO/RTO objectives.

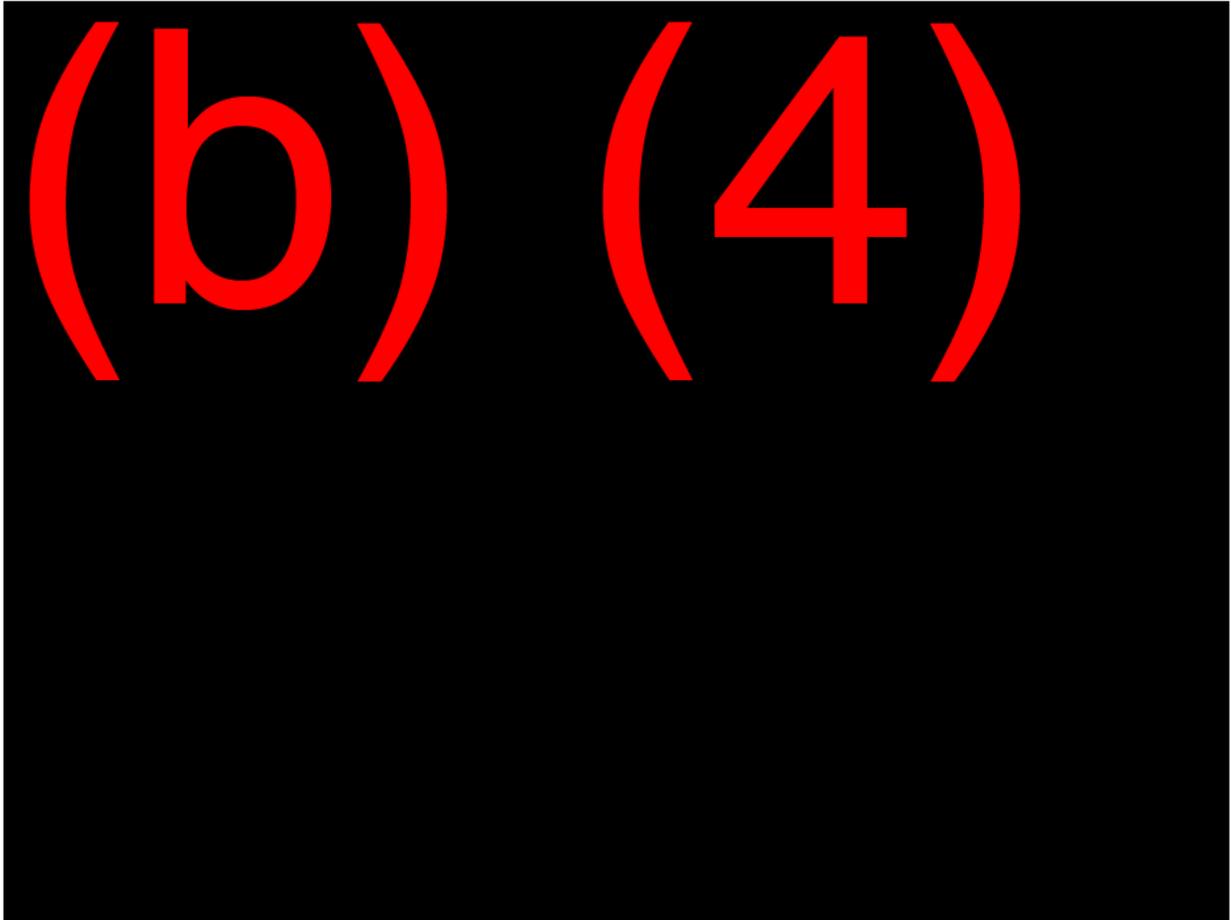


1.3.8.14.2 Portfolio A: Site Restoration

Site (A) infrastructure return to normal operation (**Figure 1.3.8-5**) and resources will migrate from Site (B) back to (A). Site (A) delta will begin replicating from Site (B) to owning repository.

Figure 1.3.8-5: Return to Normal Operation

Migration from Site B back to Site A.



1.3.8.15 Target Architecture

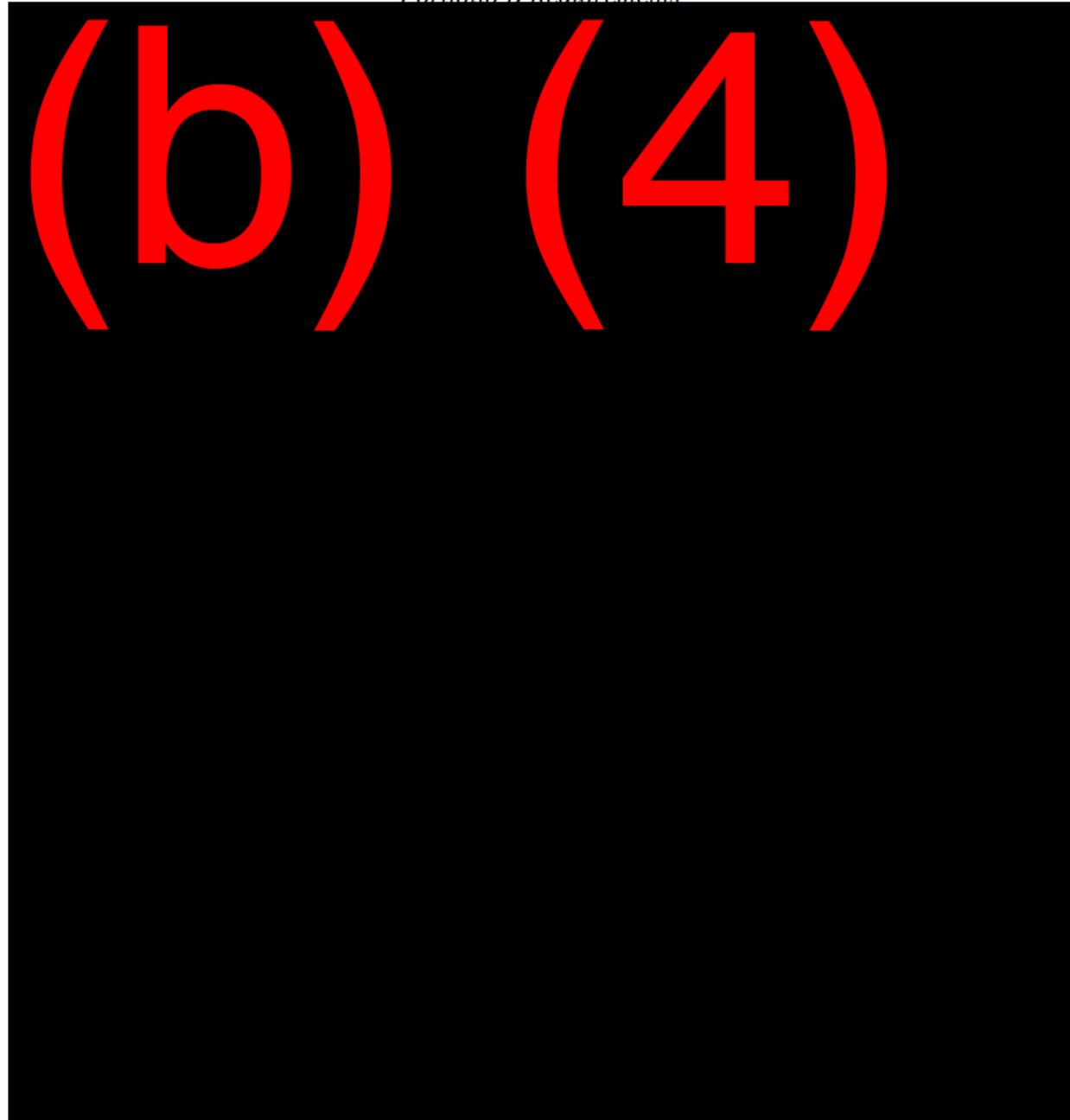
1.3.8.15.1 Portfolio (B) Normal Operation

The system will provide on-demand elastic resources during normal operation to address portfolio (B) requirements. (b) (4)

Figure 1.3.8-6 depicts the normal operation for portfolio (B).

Figure 1.3.8-6: Return to Normal

Portfolio B Requirements

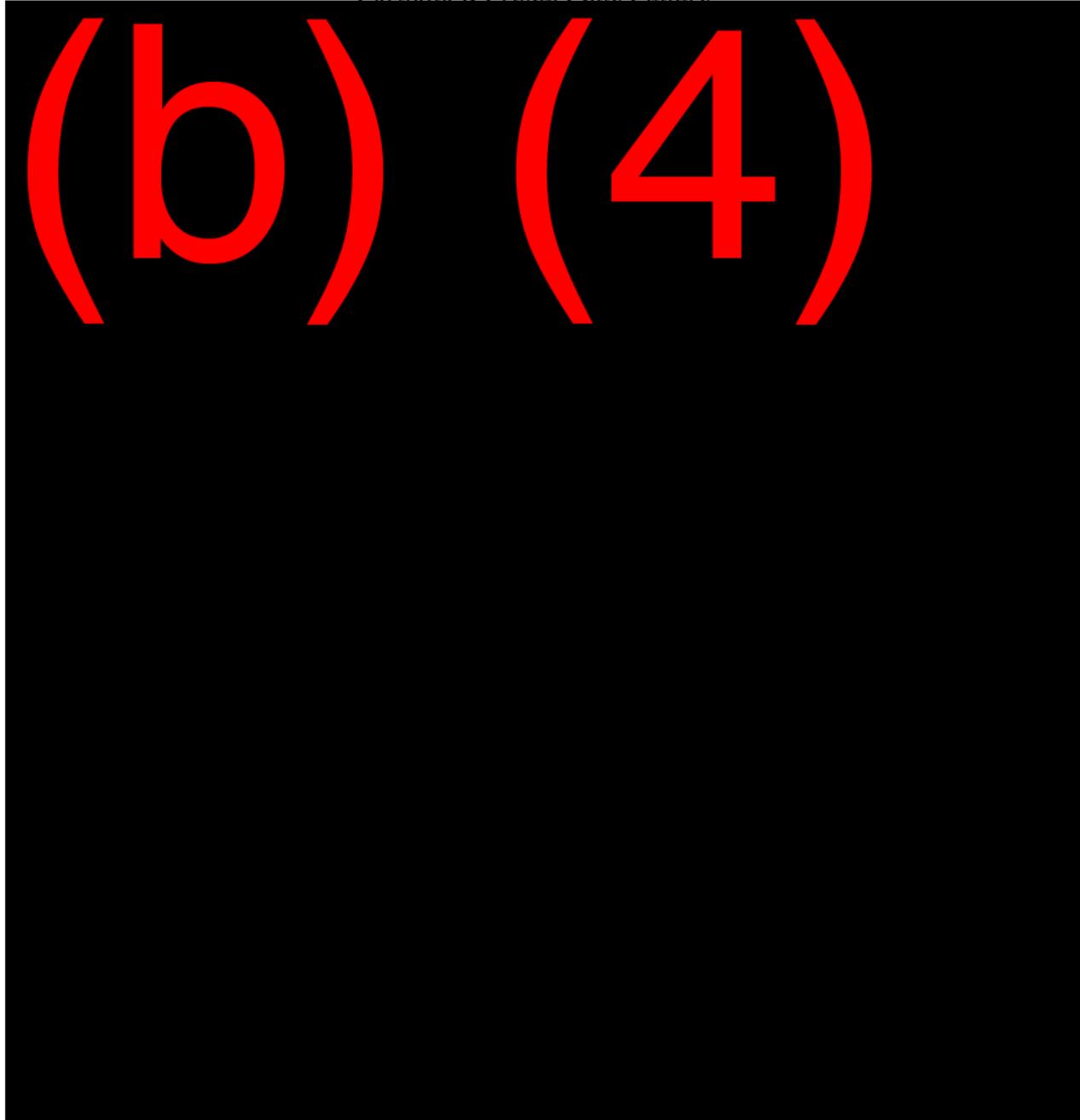


1.3.8.15.2 Portfolio (B) Site Failure

(b) (4) [Redacted] . Figure 1.3.8-7 depicts site failure to the cloud computing infrastructure.

Figure 1.3.8-7: Portfolio B – Site Failure

Portfolio B Primary Site Failure



1.3.8.15.3 Portfolio (B) Restore to Secondary Location

(b) (4)

Figure 1.3.8-8 depicts site restore process and Figure 1.3.8-9 depicts site (B) become the owner of the resources.

Figure 1.3.8-8: Portfolio (B) Restored from Backup

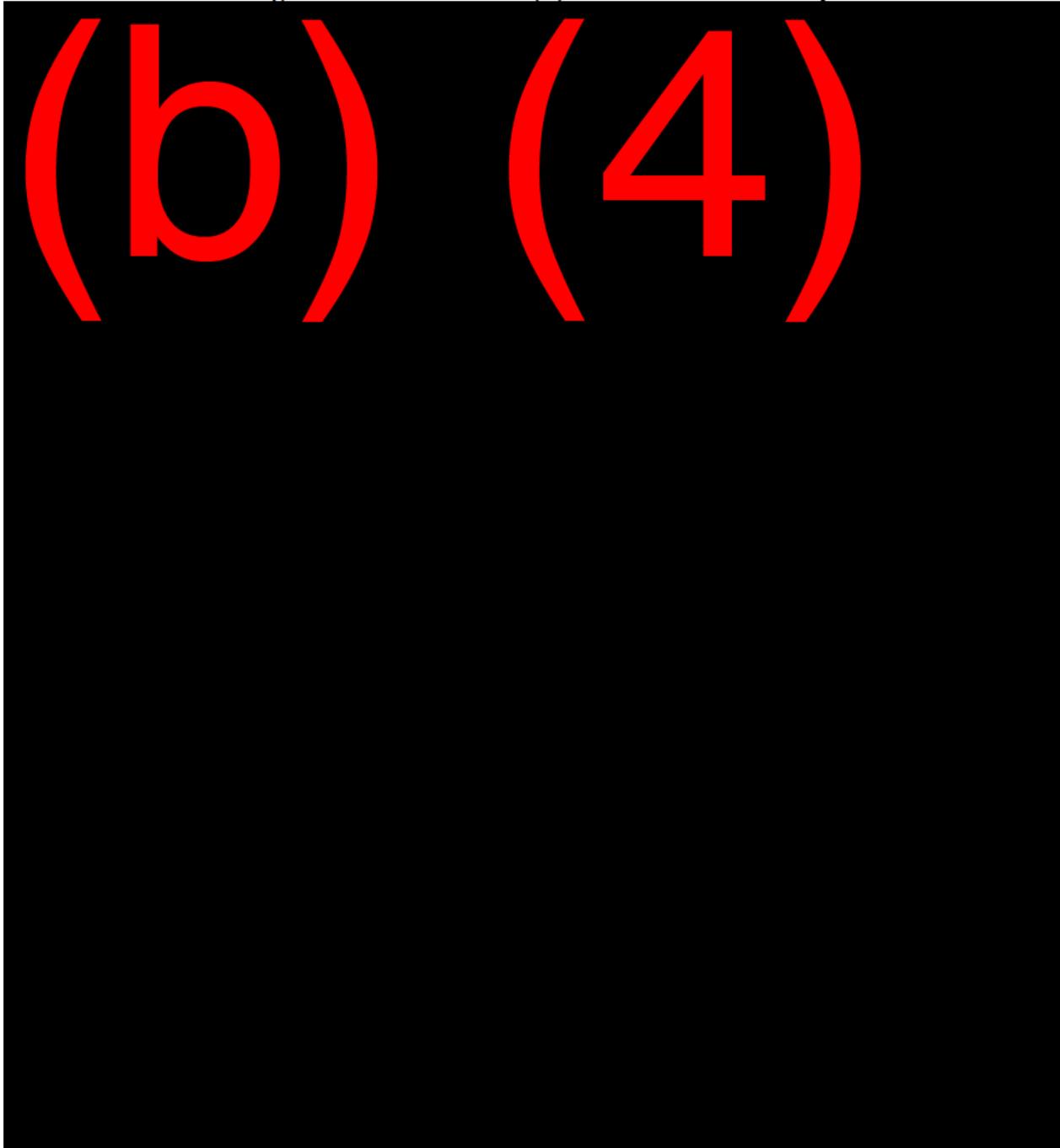
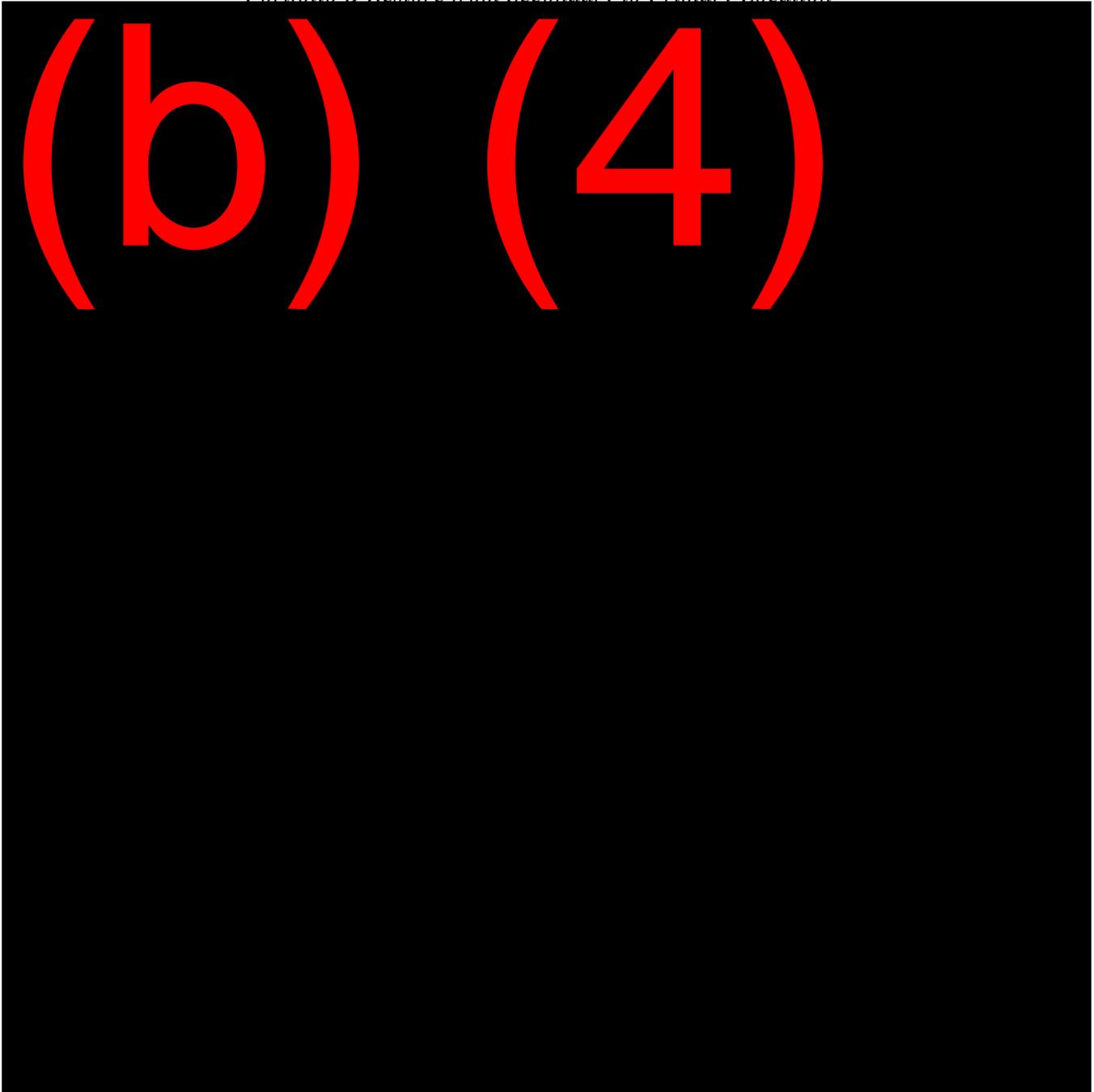


Figure 1.3.8-9: Portfolio (B) Restored from Backup
Portfolio B Restore from Secondary to Primary Location



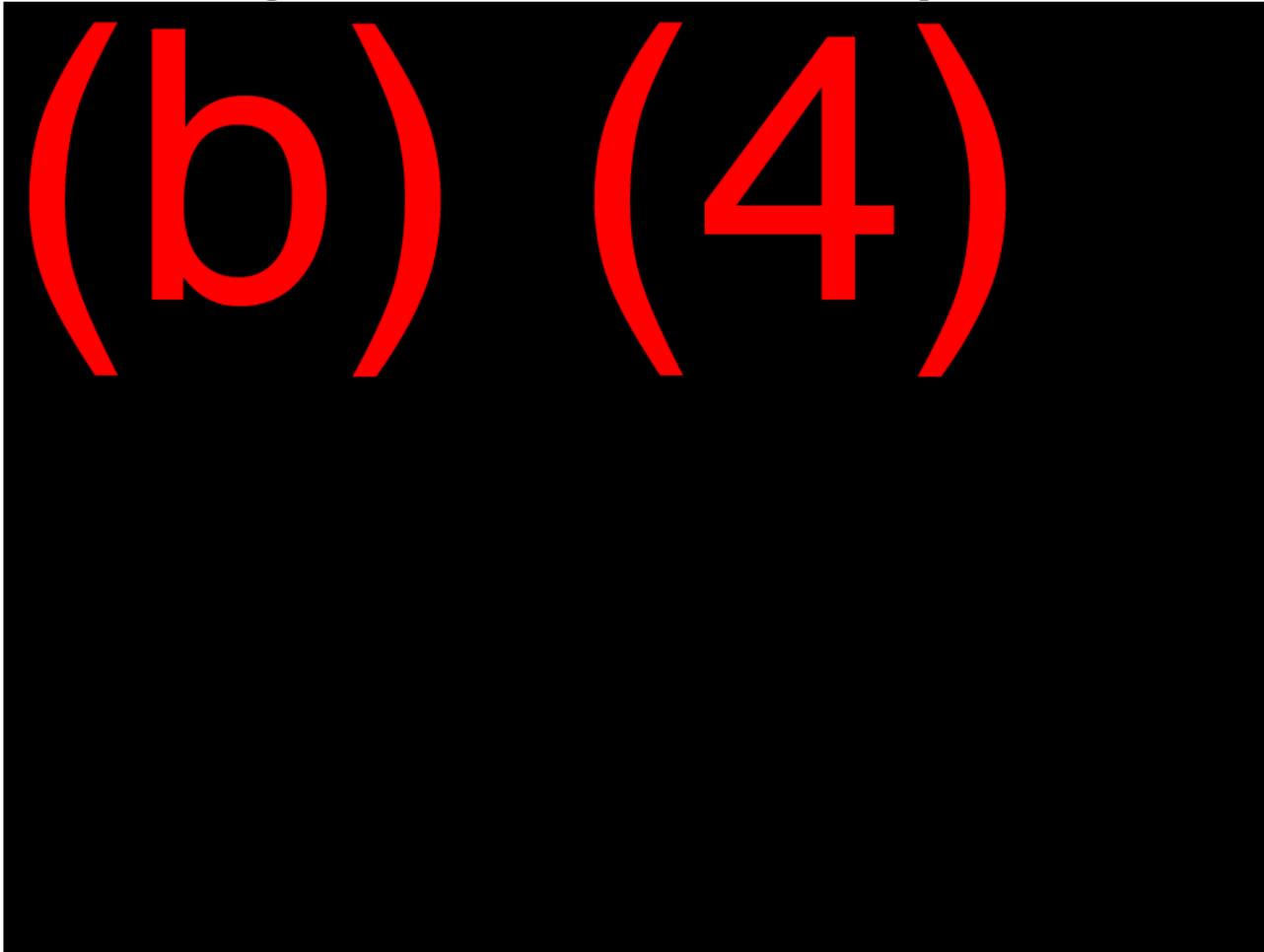
1.3.8.16 Target Architecture Active/Passive

1.3.8.16.1 SAP Site Design Architecture A Configuration: Normal Operation



. Figure 1.3.8-10 depicts the Team IBM proposed architecture for SAP cloud solution.

Figure 1.3.8-10: SAP Site Architecture – Normal Operation



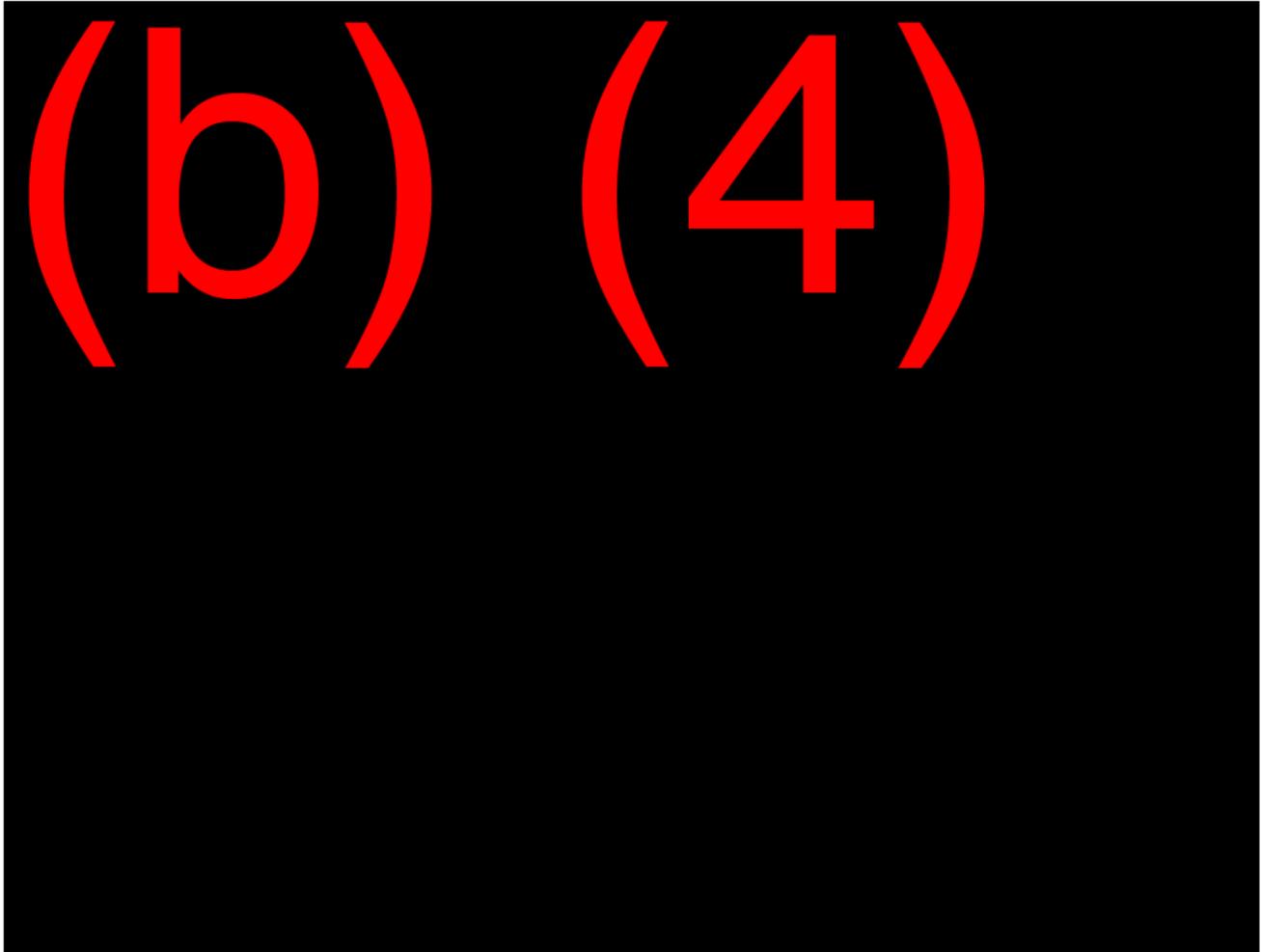
1.3.8.17 Target Architecture

1.3.8.17.1 SAP Site Design Architecture: Site Failure

Once the transition is complete, Site (B) becomes the owner of Site (A) resources with minimum (b) (4)

Figure 1.3.8-11 depicts the Team IBM proposed solution to move the VMs from site A to Site (B).

Figure 1.3.8-11: Site Architecture – Primary Site Failure



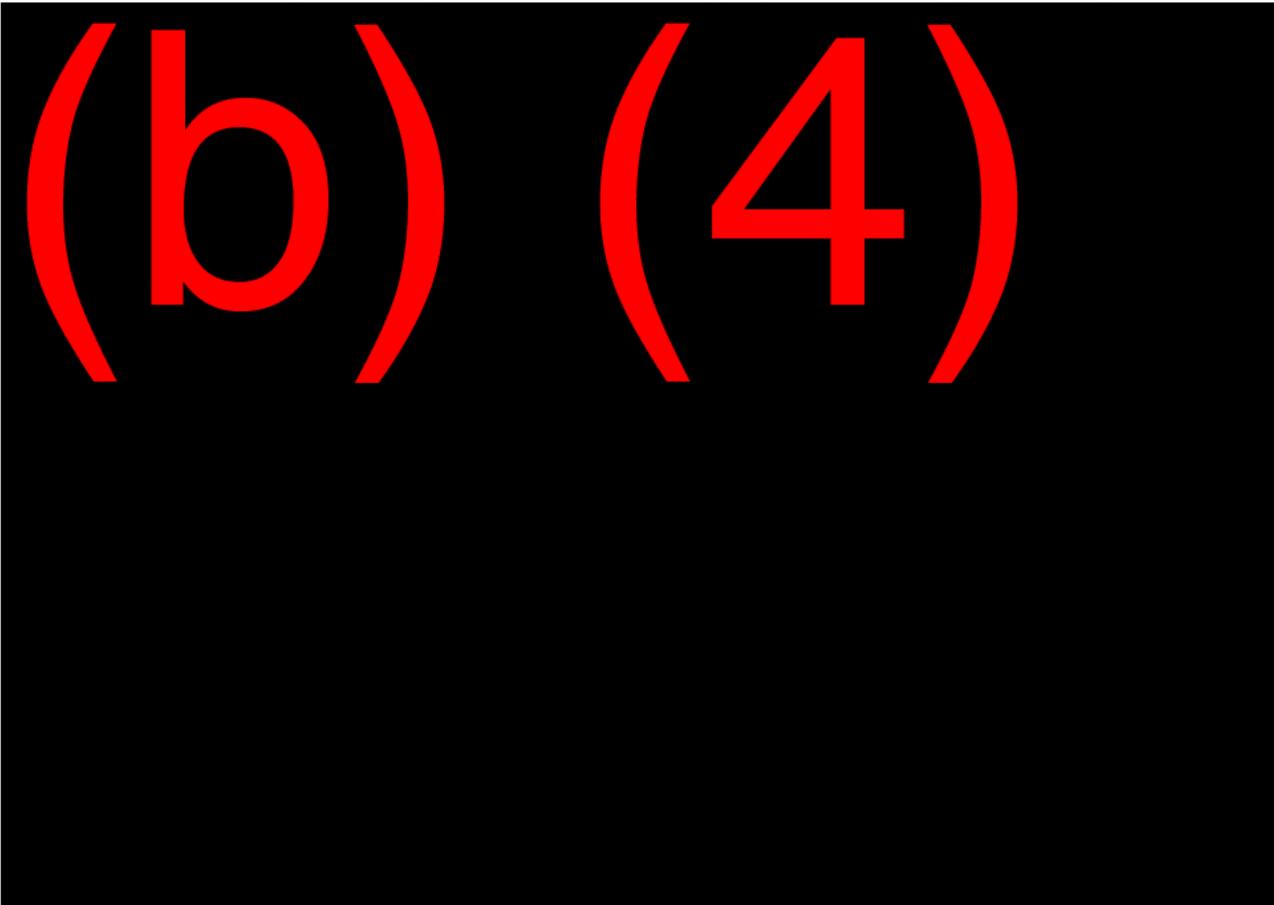
1.3.8.18 Target Architecture

1.3.8.18.1 SAP Site Design Architecture: Return to Normal Operation

(b) (4) (B). Figure 1.3.8-12 depicts returning back to site (A), the owning site of resources during normal operation.

Figure 1.3.8-12: Site Architecture – Return to Normal Operations

Indicate restoral of normal operation back to site (A) after recovering from a site failure.



1.3.9 Community Cloud Impact Plan

The requested Impact Plan will be based on the FedRAMP evaluation of the FDC and SmartCloud for Government. IBM requested a FedRAMP evaluation from the FedRAMP PMO on June 8, 2012 and IBM is in the process of selecting the evaluator. The FedRAMP evaluation is projected to be scheduled by the FedRAMP PMO by the end of this calendar year. Upon completion of this evaluation and the resultant security assessment report, an Impact Plan will be developed and made available to DOI.

In the meantime, IBM has provided impact information for each control in Section 4c and in RFP Attachment J-5. These impacts are based on IBM self-assessment.



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2 Enterprise-Wide Requirements – Community Cloud Bidder’s Security Questionnaire (J-5)

Attachment 5

FedRAMP Baseline Security Control Requirements

Company Name: IBM

Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
1.1.	Access Control (AC)									
AC-1		Access Control Policy and Procedures	AC-1	AC-1	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-2		Account Management	AC-2	AC-2			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-2				AC-2 (1)			Implemented	Assessed by clients for current ATOs.	EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012

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FedRAMP Baseline Security Control Requirements

Company Name: IBM

Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
AC-2	2			AC-2 (2)	(b)(4)		Implemented.	Implemented.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-2	3			AC-2 (3)			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-2	4			AC-2 (4)			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-2	7			AC-2 (7)			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-3	Access Enforcement		AC-3	AC-3			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-3	3			AC-3 (3)			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-4	Information Flow Enforcement			AC-4			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



FedRAMP Baseline Security Control Requirements

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AC-5		Separation of Duties		AC-5	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
AC-6		Least Privilege		AC-6			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
AC-6	1			AC-6 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
AC-6	2			AC-6 (2)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
AC-7		Unsuccessful Login Attempts	AC-7	AC-7			Implemented	Implemented. Assessed by clients for current ATOs.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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AC-8		System Use Notification	AC-8	AC-8	(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-10		Concurrent Session Control		AC-10			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-11		Session Lock		AC-11			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-11	1			AC-11 (1)			Not Implemented			
AC-14		Permitted Actions Without Identification/Authentication	AC-14	AC-14			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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AC-14	1			AC-14 (1)	(b) (4)		Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-16		Security Attributes		AC-16			Not Implemented			
AC-17		Remote Access	AC-17	AC-17			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-17	1			AC-17 (1)			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-17	2			AC-17 (2)			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-17	3			AC-17 (3)			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-17	4			AC-17 (4)			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-17	5			AC-17 (5)			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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AC-17	7			AC-17 (7)	(b)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-17	8			AC-17 (8)		(4)	Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-18		Wireless Access	AC-18	AC-18				N/A. The IBM FDC does not permit wireless access.		
AC-18	1			AC-18 (1)			N/A. The IBM FDC does not permit wireless access.			
AC-18	2			AC-18 (2)			N/A. The IBM FDC does not permit wireless access.			



FedRAMP Baseline Security Control Requirements

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AC-19		Access Control for Mobile Devices	AC-19	AC-19	(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-19		1		AC-19 (1)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-19		2		AC-19 (2)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-19		3		AC-19 (3)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-20		Use of External Information Systems	AC-20	AC-20			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



FedRAMP Baseline Security Control Requirements

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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
AC-20	1			AC-20 (1)	(b)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-20	2			AC-20 (2)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AC-22		Publicly Accessible Content	AC-22	AC-22	(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
		1.2. Awareness and Training (AT)								
AT-1		Security Awareness and Training Policy and Procedures	AT-1	AT-1			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AT-2		Security Awareness	AT-2	AT-2			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



FedRAMP Baseline Security Control Requirements

Company Name: IBM

Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
AT-3		Security Training	AT-3	AT-3	(b)	(4)	Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AT-4		Security Training Records	AT-4	AT-4			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
1.3. Audit and Accountability Policy and Procedures (AU)										
AU-1		Audit and Accountability Policy and Procedures	AU-1	AU-1			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AU-2		Auditable Events	AU-2	AU-2			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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AU-2					(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AU-2	3			AU-2 (3)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AU-2	4			AU-2 (4)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AU-3		Content of Audit Records	AU-3	AU-3			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AU-3	1			AU-3 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
AU-4		Audit Storage Capacity	AU-4	AU-4	(b)(4)		Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AU-5		Response to Audit Processing Failures	AU-5	AU-5			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AU-6		Audit Review, Analysis, and Reporting	AU-6	AU-6			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AU-6	1		AU-6 (1)				Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AU-6	3		AU-6 (3)				Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AU-7		Audit Reduction and Report Generation	AU-7	AU-7			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AU-7	1		AU-7 (1)				Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
AU-8		Time Stamps	AU-8	AU-8			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Company Name: IBM

Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)	
AU-8	1			AU-8 (1)	(b)(4)		Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
AU-8	1						Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
AU-9		Protection of Audit Information	AU-9	AU-9			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
AU-9	2			AU-9 (2)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
AU-10		Non-Repudiation		AU-10			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
AU-10	5			AU-10 (5)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
AU-11		Audit Record Retention	AU-11	AU-11			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
AU-12		Audit Generation	AU-12	AU-12			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
1.4. Assessment and Authorization (CA)											

This page contains trade secrets or confidential commercial and financial information that the offeror believes to be exempt from disclosure under the Freedom of Information Act, and which is subject to the legend contained on the cover page of this proposal.



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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
CA-1		Security Assessment and Authorization Policies and Procedures	CA-1	CA-1	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CA-2		Security Assessments	CA-2	CA-2			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CA-2	1		CA-2 (1)	CA-2 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CA-3		Information System Connections	CA-3	CA-3			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)	
CA-5		Plan of Action and Milestones	CA-5	CA-5	(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
CA-6		Security Authorization	CA-6	CA-6			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
CA-7		Continuous Monitoring	CA-7	CA-7			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
CA-7	2			CA-7 (2)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
1.5. Configuration Management (CM)											

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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
CM-1		Configuration Management Policy and Procedures	CM-1	CM-1	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-2		Baseline Configuration	CM-2	CM-2			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-2	1			CM-2 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	EPA ATO 9/2011; HUD ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-2	1						Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-2	3			CM-2 (3)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-2	5			CM-2 (5)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
CM-3		Configuration Change Control		CM-3	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-3	2			CM-3 (2)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-4		Security Impact Analysis	CM-4	CM-4			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-5		Access Restrictions for Change		CM-5			Implemented	Assessed by clients for current ATOs.	EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-5	1			CM-5 (1)			Implemented	Assessed by clients for current ATOs.	EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-5	5			CM-5 (5)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
CM-6	6	Configuration Settings	CM-6	CM-6	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-6	1			CM-6 (1)			Not Implemented			
CM-6	3			CM-6 (3)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-7		Least Functionality	CM-7	CM-7			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-7	1			CM-7 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-8		Information System Component Inventory	CM-8	CM-8			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-8	1			CM-8 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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CM-8	3			CM-8(3)	(b)	(4)	Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-8	5		CM-8(5)	Implemented			Implemented. Assessed by clients for current ATOs.	EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
CM-9		Configuration Management Plan		CM-9			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
1.6. Contingency Planning [CP]										
CP-1		Contingency Planning Policy and Procedures	CP-1	CP-1			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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CP-2		Contingency Plan	CP-2	CP-2	(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
CP-3		Contingency Training	CP-3	CP-3			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
CP-4		Contingency Plan Testing and Exercises	CP-4	CP-4				Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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CP-4	1			CP-4 (1)	(b) (4)		Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-6		Alternate Storage Site		CP-6			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-6	1			CP-6 (1)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-6	3			CP-6 (3)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-7		Alternate Processing Site		CP-7			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-7	1			CP-7 (1)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-7	2			CP-7 (2)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-7	3			CP-7 (3)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
CP-7	5			CP-7 (5)	(b)(4)		Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-8		Telecommunications Services		CP-8			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-8	1			CP-8 (1)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-8	2			CP-8 (2)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-9		Information System Backup	CP-9	CP-9			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
CP-9					(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-9							Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-9	1			CP-9 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-9	3			CP-9 (3)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-10		Information System Recovery and Reconstitution	CP-10	CP-10			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-10							Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
CP-10	2			CP-10(2)	(b)(4)		Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-10	3		CP-10(3)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
1.7. Identification and Authentication (IA)										
IA-1		Identification and Authentication Policy and Procedures	IA-1	IA-1			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IA-2		Identification and Authentication (Organizational Users)	IA-2	IA-2			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IA-2	1		IA-2(1)	IA-2(1)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IA-2	2			IA-2(2)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IA-2	3			IA-2(3)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IA-2	8			IA-2(8)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
IA-3		Device Identification and Authentication		IA-3	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IA-4		Identifier Management	IA-4			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
IA-4						Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
IA-4	4			IA-4 (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	



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IA-5		Authenticator Management; IA-5		IA-5	(b) (4)		Implemented	Implemented. Assessed by clients for current ATDs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IA-5	1		IA-5 (1)	IA-5 (1)			Implemented	Implemented. Assessed by clients for current ATDs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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IA-5	1				(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IA-5	1				(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IA-5	1				(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Company Name: IBM

Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)	
IA-5	2			IA-5 (2)	(b) (4)		Implemented	Implemented. Assessed by DOJ ATO 1/2012; HUD Audit 8/2012 ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
IA-5	3			IA-5 (3)			Implemented	Implemented. Assessed by DOJ ATO 1/2012; HUD Audit 8/2012 ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
IA-5	6			IA-5 (6)			Implemented	Implemented. Assessed by DOJ ATO 1/2012; HUD Audit 8/2012 ATOs.	EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
IA-5	7			IA-5 (7)			Not Implemented for all components. Only implemented for a subset of components.				
IA-5							Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
IA-5		Authenticator Feedback	IA-5	IA-5			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
IA-7		Cryptographic Module Authentication	IA-7	IA-7			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
IA-8		Identification and Authentication (Non-Organizational Users)	IA-8	IA-8			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
1.8. Incident Response (IR)											



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Company Name: IBM

Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
IR-1		Incident Response Policy and Procedures	IR-1	IR-1	(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IR-2		Incident Response Training	IR-2	IR-2			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IR-3		Incident Response Testing and Exercises		IR-3			Implemented	Implemented. Assessed by clients for current ATOs.	EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IR-4		Incident Handling	IR-4	IR-4			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IR-4				IR-4 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IR-5		Incident Monitoring	IR-5	IR-5			Implemented	Implemented. Assessed by clients for current ATOs.	EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IR-6		Incident Reporting	IR-6	IR-6		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	



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Company Name: IBM

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IR-1		Incident Response Policy and Procedures	IR-1	IR-1	(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IR-2		Incident Response Training	IR-2	IR-2			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IR-3		Incident Response Testing and Exercises		IR-3			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IR-4		Incident Handling	IR-4	IR-4			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IR-4				IR-4 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IR-5		Incident Monitoring	IR-5	IR-5			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
IR-6		Incident Reporting	IR-6	IR-6		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	



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IR-8						(b) (4)		Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
IR-8					(b) (4)		Implemented	Implemented. Assessed by clients for current ATDs.		
1.9. Maintenance (MA)							Implemented	Implemented. Assessed by clients for current ATDs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
MA-1		System Maintenance Policy and Procedures	MA-1	MA-1			Implemented	Implemented. Assessed by clients for current ATDs.		



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MA-2		Controlled Maintenance	MA-2	MA-2	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
MA-2	1			MA-2 (1)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
MA-3		Maintenance Tools		MA-3		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
MA-3	1			MA-3 (1)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
MA-3	2			MA-3 (2)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
MA-3	3			MA-3 (3)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	



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MA-4		Non-Local Maintenance	MA-4	MA-4	(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
MA-4	1			MA-4 (1)			Implemented	Assessed by clients for current ATOs.	EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
MA-4	2			MA-4 (2)			Implemented	Assessed by clients for current ATOs.	EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
MA-5		Maintenance Personnel		MA-5			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
MA-6		Timely Maintenance		MA-6			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
1.10 Media Protection (MP)										



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MP-1		Media Protection Policy and Procedures	MP-1	MP-1	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
MP-2		Media Access	MP-2	MP-2			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
MP-2	1		MP-2 (1)	MP-2 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
MP-3		Media Marking		MP-3			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Company Name: <u>IBM</u>		Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
		MP-4		Media Storage		MP-4	(b)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit. 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
		MP-4	1			MP-4 (1)		(4)	Not Implemented. Backup tapes are encrypted, but SAN disks are not.			
		MP-5		Media Transport		MP-5	(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit. 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
		MP-5	2			MP-5 (2)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit. 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
		MP-5	4			MP-5 (4)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit. 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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MP-6		Media Sanitization	MP-6	MP-6	(b)	(4)	Implemented	Implemented. Assessed by clients for current ATDs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
MP-6	4			MP-6 (4)			Implemented	Implemented. Assessed by clients for current ATDs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
1.11 Physical and Environmental Protection (PE)										
PE-1		Physical and environmental protection policy and procedures	PE-1	PE-1			Implemented	Implemented. Assessed by clients for current ATDs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-2		Physical Access Authorizations	PE-2	PE-2			Implemented	Implemented. Assessed by clients for current ATDs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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PE-3		Physical Access Control	PE-3	PE-3	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-3							Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-4		Access Control for Transmission Medium	PE-4	PE-4			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-5		Access Control for Output Devices	PE-5	PE-5			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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PE-6		Monitoring Physical Access	PE-6	PE-6	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-6	1			PE-6 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-7		Visitor Control	PE-7	PE-7			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-7	1			PE-7 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-8		Access Records	PE-8	PE-8			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-9		Power Equipment and Power Cabling		PE-9			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-10		Emergency Shutoff		PE-10			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-11		Emergency Power		PE-11			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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PE-12		Emergency Lighting	PE-12	PE-12	(b)(4)		Implemented	Implemented.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-13		Fire Protection	PE-13	PE-13			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-13	1			PE-13 (1)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-13	2			PE-13 (2)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-13	3			PE-13 (3)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-14		Temperature and Humidity Controls	PE-14	PE-14			Implemented	Implemented.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-14							Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-15		Water Damage Protection	PE-15	PE-15			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-16		Delivery and Removal	PE-16	PE-16			Implemented	Implemented.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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PE-17		Alternate Work Site		PE-17	(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PE-18		Location of Information System Components		PE-18			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
1.12 Planning (PL)										
PL-1		Security Planning Policy and Procedures	PL-1	PL-1			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PL-2		System Security Plan	PL-2	PL-2			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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PL-4		Rules of Behavior	PL-4	PL-4	(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
PL-5		Privacy Impact Assessment	PL-5	PL-5			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
PL-6		Security-Related Activity Planning	PL-6	PL-6			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
1.1.3 Personnel Security (PS)											
PS-1		Personnel Security Policy and Procedures	PS-1	PS-1			Implemented	Implemented. Assessed by clients for current ATOs.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PS-2		Position Categorization	PS-2	PS-2			Implemented	Implemented. Assessed by clients for current ATOs.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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PS-3		Personnel Screening	PS-3	PS-3	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PS-4		Personnel Termination	PS-4	PS-4			Implemented	Implemented. Assessed by clients for current ATOs.		
PS-5		Personnel Transfer	PS-5	PS-5			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PS-6		Access Agreements	PS-6	PS-6			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
PS-7		Third-Party Personnel Security	PS-7	PS-7			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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PS-8		Personnel Sanctions	PS-8	PS-8	(b)(4)		Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
1.1.4 Risk Assessment (RA)										
RA-1		Risk Assessment Policy and Procedures	RA-1	RA-1			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
RA-2		Security Categorization	RA-2	RA-2			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
RA-3		Risk Assessment	RA-3	RA-3			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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RA-3					(b) (4)					
RA-3							Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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RA-5		Vulnerability Scanning	RA-5	RA-5	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
RA-5					(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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RA-5	1			RA-5 (1)	(b)(4)		Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
RA-5	2			RA-5 (2)			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
RA-5	3			RA-5 (3)			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
RA-5	6			RA-5 (6)			Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
RA-5	9			RA-5 (9)			Not implemented. FDC currently conducts own penetration testing, but IBM is willing to contract a third party for annual penetration testing at additional cost.				
SA-1		System and Services Acquisition Policy and Procedures	SA-1	SA-1				Implemented.	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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SA-2		Allocation of Resources	SA-2	SA-2	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SA-3		Life Cycle Support	SA-3	SA-3			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SA-4		Acquisitions	SA-4	SA-4			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SA-4	1			SA-4 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SA-4	4			SA-4 (4)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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SA-4	7			SA-4 (7)	(b) (4)		Not Implemented for all components. Only implemented for a subset of components.			
SA-5		Information System Documentation	SA-5	SA-5			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SA-5	1			SA-5 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SA-5	3			SA-5 (3)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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SA-6		Software Usage Restrictions	SA-6	SA-6	(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SA-7		User-Installed Software	SA-7	SA-7			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SA-8		Security Engineering Principles		SA-8			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SA-9		External Information System Services	SA-9	SA-9			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SA-9	1		SA-9 (1)				N/A. The FDC does not outsource any security services.				
SA-10		Developer Configuration Management		SA-10			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	



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SA-11		Developer Security Testing		SA-11	(b)(4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SA-11	1			SA-11 (1)			N/A. The FDC infrastructure does not include any custom code.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SA-12		Supply Chain Protection		SA-12			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
1.16 System and Communications Protection (SC)										
SC-1		System and Communications Protection Policy and Procedures	SC-1	SC-1			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-2		Application Partitioning		SC-2			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-4		Information in Shared Resources		SC-4			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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SC-5		Denial of Service Protection	SC-5	SC-5	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-6		Resource Priority		SC-6			Implemented at OS and network levels	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-7		Boundary Protection	SC-7	SC-7			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-7	1			SC-7 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-7	2			SC-7 (2)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-7	3			SC-7 (3)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-7	4			SC-7 (4)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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SC-7	5			SC-7 (5)	(b) (4)		Implemented. Assessed by clients for current ATOs.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-7	7			SC-7 (7)			Implemented. Assessed by clients for current ATOs.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-7	8			SC-7 (8)		N/A. The FDC does not route traffic to external networks.	Implemented.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-7	12			SC-7 (12)			Implemented.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-7	13			SC-7 (13)			Implemented.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-7	18			SC-7 (18)			Implemented.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-8		Transmission Integrity		SC-8			Implemented.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-8	1			SC-8 (1)			Implemented.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-9		Transmission Confidentiality		SC-9			Implemented.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012

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SC-9	1			SC-9 (1)	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-10		Network Disconnect		SC-10			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-11		Trusted Path		SC-11			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-12		Cryptographic Key Establishment and Management	SC-12	SC-12			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-12	2			SC-12 (2)			Not Implemented.				
SC-12	5			SC-12 (5)			Not Implemented.				
SC-13		Use of Cryptography	SC-13	SC-13			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-13	1			SC-13 (1)			Not Implemented.				
SC-14		Public Access Protections	SC-14	SC-14			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	



FedRAMP Baseline Security Control Requirements

Company Name: IBM

Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)	
SC-15		Collaborative Computing Devices	SC-15	SC-15	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-17		Public Key Infrastructure Certificates		SC-17			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-18		Mobile Code		SC-18			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-19		Voice Over Internet Protocol		SC-19			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-20		Secure Name /Address Resolution Service (Authoritative Source)	SC-20	SC-20			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-20	1	Secure Name/ Address Resolution Service (Recursive or Caching Resolver)	SC-20 (1)	SC-20 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-21		Architecture and Provisioning for Name/Address Resolution Service		SC-21			Not Implemented.	Not Implemented.			
SC-22				SC-22			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	



FedRAMP Baseline Security Control Requirements

Company Name: IBM

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SC-23		Session Authenticity		SC-23	(b)(4)		Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-28		Protection of Information at Rest		SC-28			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-30		Virtualization Techniques		SC-30			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SC-32		Information System Partitioning		SC-32			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
1.17 System and Information Integrity (SI)								Implemented	Assessed by clients for current ATOs.	
SI-1		System and Information Integrity Policy and Procedures	SI-1	SI-1			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-2		Flaw Remediation	SI-2	SI-2			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-2	2			SI-2 (2)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



FedRAMP Baseline Security Control Requirements

Company Name: IBM

Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
SI-3					(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-3	1	Malicious Code Protection	SI-3	SI-3			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-3	1			SI-3 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-3	3			SI-3 (3)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



FedRAMP Baseline Security Control Requirements

Company Name: IBM

Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
SI-4		Information System Monitoring		SI-4	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-4	2			SI-4 (2)			Implemented	Implemented. Assessed by clients for current ATOs.	EPA ATO 9/2011; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-4	4			SI-4 (4)			Implemented	Implemented. Assessed by clients for current ATOs.	EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



FedRAMP Baseline Security Control Requirements

Company Name: IBM

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SI-4	5			SI-4 (5)	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-4	6		SI-4 (6)	Implemented			Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SI-5		Security Alerts, Advisories, and Directives	SI-5	SI-5			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit: 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012

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Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
SI-6		Security functionality verification		SI-6	(b) (4)		Not Implemented.	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit. 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-7		Software and Information Integrity		SI-7			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit. 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-7	1			SI-7 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit. 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-8		Spam Protection		SI-8			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit. 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-9		Information Input Restrictions		SI-9			Implemented	Implemented. Assessed by clients for current ATOs.	EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit. 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



FedRAMP Baseline Security Control Requirements

Company Name: IBM

Control Number	Enhancement	Control Name	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO; (authorizing organization);(MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
SI-10		Information Input Validation		SI-10	(b) (4)		Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-11		Error Handling		SI-11			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SI-12		Information Output Handling and Retention	SI-12	SI-12			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOI ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012



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Attachment 5 Agency Mandatory Security Control Enhancements and Clarifications

Company Name		IBM									
Control Reference Number	Control Description	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO (MM/DD/YYYY)	Effective Date of FedRAMP Provisional ATO (MM/DD/YYYY)		
1.1. Access Control (AC)											
AC-10	Concurrent Session Control		AC-10			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012		
AC-11			AC-11 (1)			Not Implemented					
AC-15	Security Attributes		AC-16			Not Implemented					
AC-18			AC-18 (2)			N/A. The IBM FDC does not permit wireless access.					
AC-2			AC-2 (7)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012		
AC-3			AC-3 (3)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012		
1.3. Audit and Accountability Policy and Procedures (AU)											
1.4. Assessment and Authorization (CA)											
CA-2		CA-2 (1)	CA-2 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012		

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Company Name		IBM								
Control Reference Number	Ent	Control Description	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO (MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
CA-7	2			CA-7 (2)	(b) (4)		Implemented.	Implemented.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
1.5. Configuration Management (CM)							Implemented	Assessed by clients for current ATOs.		
CM-2	5			CM-2 (5)			Implemented	Implemented.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-5	1			CM-5 (1)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-5	5			CM-5 (5)			Implemented	Implemented.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CM-6	1			CM-6 (1)			Not Implemented.			

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Control Reference Number	Ent	Control Description	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO (MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
CM-8	3			CM-8 (3)	(b)		Implemented.	Implemented.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
1.6. Contingency Planning (CP)							Implemented	Assessed by clients for current ATOs.		
CM-9	2			CP-2 (2)			Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
CP-10	3			CP-10 (3)	(4)		Implemented.	Implemented.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
1.7. Identification and Authentication (IA)							Implemented	Assessed by clients for current ATOs.		
1.8. Incident Response (IR)							Implemented	Assessed by clients for current ATOs.		
IR-7	2			IR-7 (2)		Implemented	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	

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Company Name		IBM								
Control Reference Number	Ent	Control Description	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO (MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
1.9		Maintenance (MA)								
MA-3	3			MA-3 (1)		(b)	Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
MA-5		Maintenance Personnel	MA-5	MA-5		(4)	Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
1.10		Media Protection (MP)								
MP-4	1			MP-4 (1)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012

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DOI Mandatory Enhancements

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Company Name		IBM								
Control Reference Number	Ent	Control Description	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO (MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
SA-12		Supply Chain Protection		SA-12	(b) (4)			Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012
SA-4	7			SA-4 (7)			Not Implemented for all components. Only implemented for a subset of components.			
SA-9	1			SA-9 (1)			N/A. The FDC does not outsource any security services.			
1.16. System and Communications Protection (SC)										

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Control Reference Number	Ent	Control Description	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (if Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO (MM/DD/YYYY)	Effective Date of FedRAMP Provisional ATO (MM/DD/YYYY)	
SC-12	2			SC-12 (2)	<div style="background-color: black; color: red; text-align: center; padding: 20px; font-size: 48px; font-weight: bold;">(b) (4)</div>		Not Implemented.				
SC-12	5			SC-12 (5)			Not Implemented.				
SC-13	1			SC-13 (1)			Not Implemented.				
SC-21		Secure Name/ Address Resolution Service (Recursive or Caching Resolver)		SC-21			Implemented	Implemented.			
SC-6		Resource Priority		SC-6			Implemented at OS and network levels	Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-7	8			SC-7 (8)			N/A. The FDC does not route traffic to external networks.				
SC-7	12			SC-7 (12)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-7	13			SC-7 (13)			Implemented	Implemented. Assessed by clients for current ATOs.	HUD ATO 9/2011; EPA ATO 1/2012; DOJ ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
SC-7	18			SC-7 (18)			Implemented	Assessed by clients for current ATOs.	HUD ATO 1/2012; HUD Audit 8/2012	FedRAMP evaluation requested 6/8/2012; projected 12/31/2012	
1.17. System and Information Integrity (SI)											

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Attachment 5 Agency Mandatory Security Control Enhancements and Clarifications

Company Name		IBM							
Control Reference Number	Control Description	Low-Impact	Moderate-Impact	Control Requirement	Control Parameter (If Applicable)	Vendor Self Assessment (Control Implemented or Not Implemented)	Third Party Assessment (Control Implemented or Not Implemented)	Effective Date of Current ATO (MM/DD/YYYY)	Effective Date (Actual/Projected) of FedRAMP Provisional ATO (MM/DD/YYYY)
SI-6	Security functionality verification				(b) (4)				

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3 Scope of Offer Matrix and Government-Provided Templates

3.1 Scope of Offer Matrices

3.1.1 Community Cloud Scope of Offer Matrix (J-17)

J_17_Scope of Offer
 Solicitation No. D12PS00316- Foundation Cloud Hosting Services (FCHS)
 Attachment 17

Offeror: IBM

Procurement Sensitive

Section	Technical Service Line	In-Scope	Offer Proposed Cloud Service Model			Scope of Associated Support Services Provided							
			IaaS/PaaS	SaaS		Planning	Engineering	Migration	Application Management	Interface Design and Integration Services	Testing	Training	Security
C.1.1.1	Storage Services	X	X			X	X	X	X	X	X	X	X
C.1.1.2	Secure File Transfer Services	X		X		X	X	X	X	X	X	X	X
C.1.1.3	Virtual Machine Services	X	X			X	X	X	X	X	X	X	X
C.1.1.4	Database Hosting Services	X	X			X	X	X	X	X	X	X	X
C.1.1.5	Web Hosting Services	X	X			X	X	X	X	X	X	X	X
C.1.1.6	Development and Test Environment Hosting Services	X	X			X	X	X	X	X	X	X	X
C.1.1.7	SAP Application Hosting Services	X	X			X	X	X	X	X	X	X	X

3.1.2 Public Cloud Scope of Offer Matrix (J-17)

J_17_Scope of Offer
 Solicitation No. D12PS00316- Foundation Cloud Hosting Services (FCHS)
 Attachment 17

Offeror: IBM

Procurement Sensitive

Section	Technical Service Line	In-Scope	Offer Proposed Cloud Service Model			Scope of Associated Support Services Provided							
			IaaS/PaaS	SaaS		Planning	Engineering	Migration	Application Management	Interface Design and Integration Services	Testing	Training	Security
C.1.1.1	Storage Services	X	X			X	X	X	X	X	X	X	X
C.1.1.2	Secure File Transfer Services	X		X		X	X	X	X	X	X	X	X
C.1.1.3	Virtual Machine Services	X	X			X	X	X	X	X	X	X	X
C.1.1.4	Database Hosting Services	X	X			X	X	X	X	X	X	X	X
C.1.1.5	Web Hosting Services	X	X			X	X	X	X	X	X	X	X
C.1.1.6	Development and Test Environment Hosting Services	X	X			X	X	X	X	X	X	X	X
C.1.1.7	SAP Application Hosting Services	X	X			X	X	X	X	X	X	X	X



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3.2 Government-Provided Templates

3.2.a Establish and Meet Community Cloud Resources Requirements

3.2.a.i Community Cloud Operating Systems Supported (J-18)

Section B: Pricing
 VM OS

Procurement Sensitive

Attachment 18 - Operating Systems Licensing and Support							
Operating System License Descriptions and Ranges of Version/Release Support							
IBM			Supported		Provided		
			Range of Versions/Releases		Range of Versions/Releases		
OS ID	Operating System		From	To	From	To	
OS0001	Microsoft Windows	Enterprise Server	2003	2008	2003	2008	1
OS0002	LINUX	Centos	5.7	6	5.7	6	1,2
OS0003	LINUX	Red Hat	5	6	5	6	1
OS0004	LINUX	Ubuntu	6	6	6	6	1
OS0005	LINUX	Enterprise	10	12	10	12	1
OS0006	LINUX	Scientific	6	6	6	6	
OS0007	Sun Solaris	for Intel	Do Not Support		Do not Provide		
OS0008	Sun Solaris	for SPARC	Do Not Support		Do not Provide		
OS0009	IBM	AIX	6	7.1	7.1	7.1	
OS0010	HP	HPUX	Do Not Support		Do not Provide		
OS0011							
OS0012							
OS0013							
OS0014							
OS0015							
OS0016							

Notes:

1	Support included for current DOI standards in addition to the latest versions of LINUX and Microsoft Windows operating systems. Support will be updated as new version are released.
2	Microsoft Windows 2003 Licensing is Bring Your Own, no longer offered by Microsoft.



3.2.a.ii Community Cloud Compute-Host Configurations (J-19)

J_19_compute host configs Attachment 19
 Attachment 19 - [Compute_Host_Config]_[IBM].xlsx

Company Name:	IBM
Definition of Core:	2GHZ

Standard	Contractor Configuration	
	Cores (#)	RAM (GB)
Extra Small	1	2
Small	2	4
Medium	4	8
Large	8	16
Extra Large	16	16

High Memory		
Extra Small	1	4
Small	2	8
Medium	4	16
Large	8	32
Extra Large	16	64

High Compute		
Medium	4	2
Large	8	4
Extra Large	16	8

High Compute Cluster		
Large	32	32
Extra Large	64	64

Custom		
(Task Order Defined)		



3.2.a.iii Community Cloud Storage Classes (J-20)

J_20_storage classes

Attachment 20 - [Storage_Class]_[IBM].xlsx

Company Name:

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

3.2.a.iv Community Cloud Network Connectivity (J-21)

J_21 Network Connectivity

[Network_Connectivity]_[IBM].xlsx

Company Name

Section	From	To	Minimum Requirements
C.6.1.4.2.1	Compute Host Instance (Vendor Data Center A)	Compute Host Instance (Vendor Data Center A)	(b) (4)
C.6.1.4.2.2	Compute Host Instance (Vendor Data Center A)	Compute Host Instance (Vendor Data Center B)	
C.6.1.4.2.3	Vendor Data Center	DOI Intranet (measured at the DOI Trusted Internet Connection point of entry)	
C.6.1.4.2.4	Compute Host Instance, Vendor Data Center	Internet	
C.6.1.4.2.5	Vendor Data Center	DOI Customers (LAN-to-LAN VPN and dedicated circuits)	



3.2.a.v Community Cloud Range of Database Software Supported (J-22)

J_22 Databases Supported
 Attachment 22 - (DATABASE)_ (IBM).xlsx

Company Name:

IBM

Database Supported			
Software	Supported	Licensing Available	Comments
Informix	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
MS SQL Express	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
MS SQL Server (2005, 2008, 2010, 2012)	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
MySQL	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Oracle 10g	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Oracle 11g	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Oracle 8a	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
PostGIS	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
PostgreSQL	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
SQLite	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Sybase IQ	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well



3.2.a.vi Community Cloud Range of Web Hosting Elements Supported (J-23)

J_23 Web Hosting Elements
 Attachment 23 - (WEB_HOSTING_SOFTWARE)_ (IBM).xlsx

Company Name:

IBM

Web Hosting Elements Supported

Software	Supported	Licensing Available	Comments
Apache	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
TomCat	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Geronimo	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
IBM WebSphere	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Oracle Application Server	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Jrun	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
GlassFish	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
IBM HTTP Server	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
IIS	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Jetty (Eclipse Foundations)	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well



3.2.a.vii Community Cloud Range of Application Hosting Software Supported (J-24)

J_24 Application Hosting
 Attachment 24 - (APPLICAITON_HOSTING_SOFTWARE)_ (IBM).xlsx

Company Name:

IBM

Application Hosting Supported

Software	Supported	Licensing Available	Comments
ColdFusion	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
GlassFish	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Hibernate	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
JBOSS App Server and Suite	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Matlab	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Media Wiki	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Oracle Application Server and BPM Middleware	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Silverlight	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Sun SMQ	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Tuxedo	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
WebLogic	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
WordPress	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well



3.2.a.viii Community Cloud Range of DOI Legacy Metering and Reporting Software Supported (J-25)

J_25 Legacy Meter Report
 Attachment 25 - (LEGACY_METERL_HOSTING_SOFTWARE)_IBM.xlsx

Company Name: IBM

DOI Legacy Metering and Reporting Software Supported Template			
Software	Supported	Licensing Available	Comments
Actuate	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
AWStats	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Crystal Reports	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Fiddler	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Groundworks	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Hyperion SQR	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
IBM Applications Service Center	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Jasper Server	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
MS SCOM	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
NAGIOS	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
SmarterStats	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Splunk	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Windows Log Parser	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well



3.2.a.ix Community Cloud Range of Other Middleware Supported (J-26)

J_26 Other Middleware
 Attachment 26 - (OTHER_MIDDLEWARE_SOFTWARE)_ (IBM).xlsx

Company Name: IBM

Other Middleware Supported			
Software	Supported	Licensing Available	Comments
Adlassian Jira	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Adobe Pro	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
ArborText	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Citrix XenApp	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Citrix XenDesktop	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Citrix XenServer	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Common Spot	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
CommVault	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Documentum	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Eclipse Plug-ins	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Entellitrak	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Hydra	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
IBM FileNet	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Microsoft Dynamix CRM 2011	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Net Backup	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Networker	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Oracle ADF	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Prolifics	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
PureDisk	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
SharePoint	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Software AG/Entirex DCOM (Communicator, XML Mediator, Adapters)	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
SQL Foms	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Web Center Content	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
XML DataPower	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well



3.2.a.x Community Cloud Range of Scripting and Programming Software Supported (J-27)

J_27 Scripting and Programming
 Attachment 27 - (PROGRAMMING_SOFTWARE)_IBM).xlsx

Company Name:

IBM

Scripting and Programming

Software	Supported	Licensing Available	Comments
.NET	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
ASP.net	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Flex Action Script	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
ISAPI	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Java	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Java Script	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Jscript	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Node.js	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
4GL	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Perl	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
PHP	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Python	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
RScript	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
Ruby on Rails	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well
UNIX Scripting	X	X	SmartCloud for Government Supports, IBM has licensing available, IBM has professional services as well



3.2.b Community Cloud Service Level Requirements

3.2.b.i Community Cloud Uptime and Availability Service Bands (J-28)

Uptime and Availability Service Levels

Attachment 28 - Uptime and Availability Service Bands Template

Company Name IBM

Uptime and Availability

Service Band	Minimum (>=)	Maximum (<)	Maximum Planned Downtime
Band 1	99.99%	100%	<4 minutes/month
Band 2	99.90%	99.99%	<43 minutes/month
Band 3	99%	99.90%	<7.2 hours /month
Band 4	95%	99%	<36 hours/month
Minimum Acceptable Performance:	95%		<36 hours/month

3.2.b.ii Community Cloud Recovery Time Objectives (RTO) (J-29)

Recovery Time Objective (RTO)

Attachment 29 - Recovery Time Objectives (RTO) Template

Company Name IBM

Recovery Time Objective (RTO)

Service Band	From	To
Band 1	0 minutes	5 minutes
Band 2	5 minutes	4 hours
Band 3	4 hours	24 hours
Band 4	24 hours	48 hours
Band 5	48 hours	7 days
Minimum Acceptable Performance:		7 days



3.2.b.iii Community Cloud Recovery Point Objectives (RPO) (J-30)

J_30_RPO

[Service_Level_RPO]_[IBM].xlsx

Attachment 30 - Recovery Point Objective (RPO) Template

Company Name

IBM

Recovery Point Objective (RPO)

Service Band	From	To
Band 1	0 minutes	5 minutes
Band 2	5 minutes	4 hours
Band 3	4 hours	24 hours
Band 4	24 hours	48 hours
Band 5	48 hours	7 days
Minimum Acceptable Performance:		7 days

3.2.b.iv Meantime to Restore (MTR) (J-31)

Attachment 31 - Meantime to Restore (MTR) Template

Company Name

IBM

Mean Time to Restore Services

Service Band	Mean-Time to Restore
Band 1	15 minutes
Band 2	4 hours
Band 3	24 hours
Band 4	72 hours
Maximum MTR	72 hours



3.2.b.v Community Cloud Compute-Host Provisioning Service Bands (J-32)

Provisioning Service Levels

Compute Host

Attachment 32 - Compute-Host Provisioning Service Bands Template

Company Name

IBM

Complete Manual Request

(in Minutes)

Service Band	Emergency	
	Minimum (\geq)	Maximum ($<$)
Band 1	0 minutes	15 minutes
Band 2	15 minutes	2 hours
Band 3	2 hours	8 hours
Band 4	8 hours	24 hours
Minimum Acceptable Performance:		24 hours

3.2.b.vi Community Cloud Storage Provisioning Service Bands (J-33)

Provisioning Service Levels

Storage

Attachment 33 - Storage Provisioning Service Bands Template

Company Name

IBM

Complete Manual Request

(in Minutes)

Service Band	Emergency	
	Minimum (\geq)	Maximum ($<$)
Band 1	0 minutes	15 minutes
Band 2	15 minutes	2 hours
Band 3	2 hours	8 hours
Band 4	8 hours	24 hours
Minimum Acceptable Performance:		24 hours



3.2.b.vii Community Cloud Customer Service Meantime to Acknowledge (MTA) (J-34)

Attachment 34 - Customer Service Meantime to Acknowledge (MTA) Template

Company Name	IBM							
	Severity/Priority							
	1		2		3		4	
Service Band	Minimum (>=)	Maximum (<)	Minimum (>=)	Maximum (<)	Minimum (>=)	Maximum (<)	Minimum (>=)	Maximum (<)
Band 1	0 minutes	15 minutes	0 minutes	30 minutes	0 minutes	45 minutes	0 minutes	60 minutes
Band 2	15 minutes	2 hours	30 minutes	4 hours	45 minutes	6 hours	60 minutes	8 hours
Band 3	2 hours	8 hours	4 hours	16 hours	6 hours	24 hours	8 hours	36 hours
Band 4	8 hours	24 hours	16 hours	48 hours	24 hours	72 hours	36 hours	96 hours
DOI Minimum Performance Level	24 hours		48 hours		72 hours		96 hours	

3.2.b.viii Community Cloud Customer Service Meantime to Resolve or Fix (MTF) (J-35)

Attachment 35 Customer Service Mean Time to Resolve or Fix (MTF) Template

Company Name	IBM							
	Severity/Priority							
	1		2		3		4	
Service Band	Minimum (>=)	Maximum (<)	Minimum (>=)	Maximum (<)	Minimum (>=)	Maximum (<)	Minimum (>=)	Maximum (<)
Band 1	0 min	15 min	0 min	30 min	0 min	45 min	0 min	60 min
Band 2	15 min	2 hr	30 min	4 hr	45 min	6 hr	60 min	8 hr
Band 3	2 hr	8 hr	4 hr	16 hr	6 hr	24 hr	8 hr	36 hr
Band 4	8 hr	24 hr	16 hr	48 hr	24 hr	72 hr	36 hr	96 hr
DOI Minimum Performance Level	24 hr		48 hr		72 hr		96 hr	

3.2.b.ix Community Cloud Scheduled Downtime (Maintenance Windows) (J-36)

Planned Downtime Service Bands

ATTACHMENT 36

Company Name

IBM

Service Band	Maximum Scheduled Downtime Per week	
	Minimum (>=)	Maximum (<)
Band 1 (High Availability)		0.1 min
Band 2	0.1 min	1 hr
Band 3	1 hr	2 hr
Band 4	2 hr	4 hr
Band 5	4 hr	8 hr
DOI Maximum Allowed	8 hr	



3.2.c Establish and Meet Public Cloud Resources Requirements

3.2.c.i Public Cloud Operating Systems Supported (J-18)

Section B: Pricing
 VM OS

Procurement Sensitive

Attachment 18 - Operating Systems Licensing and Support							
Operating System License Descriptions and Ranges of Version/Release Support							
IBM			Supported		Provided		1
			Range of Versions/Releases		Range of Versions/Releases		
OS ID	Operating System		From	To	From	To	2 3 4
OS0001	Microsoft Windows	Enterprise Server	2003	2008	2003	2008	
OS0002	LINUX	Centos	Do not Support		Do not Provide		
OS0003	LINUX	Red Hat	5	6	5	6	
OS0004	LINUX	Ubuntu	Do not Support		Do not Provide		
OS0005	LINUX	Enterprise	Do Not Support		Do not Provide		
OS0006	LINUX	Scientific	6	6	Do not Provide		
OS0007	Sun Solaris	for Intel	Do Not Support		Do not Provide		
OS0008	Sun Solaris	for SPARC	Do Not Support		Do not Provide		
OS0009	IBM	AIX	6	6	6	6	
OS0010	HP	HPUX	Do Not Support		Do not Provide		
OS0011	LINUX	SUSE Enterprise	11	11	11	11	
OS0012							
OS0013							
OS0014							
OS0015							
OS0016							

Notes:	
1	Operating system licensing is included.
2	Centos is not provided or supported; however, it can be installed and supported by the Government.
3	Ubuntu is in the roadmap for 2013. Right now it can be installed and supported by the Government.
4	AIX 7 is on the roadmap to be provided and supported early in 2013.



3.2.c.ii Public Cloud Compute-Host Configurations (J-19)

J_19_compute host configs Attachment 19
 [Compute_Host_Config]_[IBM].xlsx

Company Name:	IBM
Definition of Core:	2GHZ

Standard	Contractor Configuration	
	Cores (#)	RAM (GB)
Extra Small	1	2
Small	2	4
Medium	4	8
Large	8	16
Extra Large	16	16
High Memory		
Extra Small	1	4
Small	2	8
Medium	4	16
Large	8	32
Extra Large	16	64
High Compute		
Medium	NA	NA
Large	NA	NA
Extra Large	NA	NA
High Compute Cluster		
Large	NA	NA
Extra Large	NA	NA
Custom		
(Task Order Defined)		



3.2.c.iii Public Cloud Storage Classes (J-20)

J_20_storage classes
 [Storage_Class]_[IBM].xlsx

Company Name:

Storage Classes

Storage Class	Throughput	Uptime/ Availability	Example
SCE+	8 Gbps	N/A	
SCE	1 Gbps	N/A	

3.2.c.iv Public Cloud Network Connectivity (J-21)

J_21 Network Connectivity
 [Network_Connectivity]_[IBM].xlsx

Company Name

Section	From	To	Minimum Requirements
C.6.1.4.2.1	Compute Host Instance (Vendor Data Center A)	Compute Host Instance (Vendor Data Center A)	(b) (4)
C.6.1.4.2.2	Compute Host Instance (Vendor Data Center A)	Compute Host Instance (Vendor Data Center B)	
C.6.1.4.2.3	Vendor Data Center	DOI Intranet (measured at the DOI Trusted Internet Connection point of entry)	
C.6.1.4.2.4	Compute Host Instance, Vendor Data Center	Internet	
C.6.1.4.2.5	Vendor Data Center	DOI Customers (LAN-to-LAN VPN and dedicated circuits)	



3.2.c.v Public Cloud Range of Database Software Supported (J-22)

J_22 Databases Supported
 [DATABASE]_[IBM].xlsx

Company Name:

IBM

Database Supported			
Software	Supported	Licensing Available	Comments
Informix			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
MS SQL Express			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
MS SQL Server (2005, 2008, 2010, 2012)			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
MySQL			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Oracle 10g			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Oracle 11g			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Oracle 8a			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
PostGIS			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
PostgreSQL			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
SQLite			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Sybase IQ			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.



3.2.c.vi Public Cloud Range of Web Hosting Elements Supported (J-23)

J_23 Web Hosting Elements
 [WEB_HOSTING_SOFTWARE]_[IBM].xlsx

Company Name: IBM

Web Hosting Elements Supported

Software	Supported	Licensing Available	Comments
Apache			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
TomCat			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Geronimo			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
IBM WebSphere		X	SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Oracle Application Server			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Jrun			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
GlassFish			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
IBM HTTP Server		X	SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
IIS			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Jetty (Eclipse Foundations)			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.



3.2.c.vii Public Cloud Range of Application Hosting Software Supported (J-24)

J_24 Application Hosting
 [APPLICATION_HOSTING_SOFTWARE]_[IBM].xlsx

Company Name:

IBM

Application Hosting Supported

Software	Supported	Licensing Available	Comments
ColdFusion			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
GlassFish			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Hibernate			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
JBOSS App Server and Suite			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Matlab			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Media Wiki			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Oracle Application Server and BPM Middleware			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Silverlight			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Sun SMQ			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
Tuxedo			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
WebLogic			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.
WordPress			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering.



3.2.c.viii Public Cloud Range of DOI Legacy Metering and Reporting Software Supported (J-25)

J_25 Legacy Meter Report
 Public 3.2.c.viii.xlsx

Company Name: IBM

**DOI Legacy Metering and Reporting Software
 Supported Template**

Software	Supported	Licensing Available	Comments
Actuate			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.
AWStats			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.
Crystal Reports			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.
Fiddler			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.
GroundWork			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.
Hyperion SQR Production Reporting			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.
IBM Applications Service Center			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.
JasperReports Server			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.
Microsoft Systems Center Operations Manager (MS SCOM)			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.
NAGIOS			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.
SmarterStats			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.
Splunk			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.
Windows Log Parser			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing and support are not included with the standard offering. Metering and reporting software can be installed as long as there is no conflict with software IBM is required to run as part of the offering.



3.2.c.x Public Cloud Range of Scripting and Programming Software Supported (J-27)

J_27 Scripting and Programming
 [PROGRAMMING_SOFTWARE]_[IBM].xlsx

Company Name:

IBM

Scripting and Programming			
Software	Supported	Licensing Available	Comments
.NET			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
ASP.net			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
Flex Action Script			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
ISAPI			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
Java			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
Java Script			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
Jscript			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
Node.js			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
4GL			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
Perl			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
PHP			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
Python			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
RScript			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
Ruby on Rails			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.
UNIX Scripting			SmartCloud Enterprise and SmartCloud Enterprise+ are IaaS offerings. The middleware installation, licensing, and support are not included with the standard offering.



3.2.d Public Cloud Service Level Requirements

3.2.d.i Public Cloud Uptime and Availability Service Bands (J-28)

Uptime and Availability Service Levels

Attachment 28 - Uptime and Availability Service Bands Template

Company Name

IBM

Uptime and Availability

Service Band	Minimum (>=)	Maximum (<)	Maximum Planned Downtime
Band 1 (Platinum)	99.9%	100%	
Band 2 (Gold)	99.7%	100%	
Band 3 (Silver)	99.5%	100%	
Band 4 (Bronze)	98.5%	100%	
Minimum Acceptable Performance:	95.0%		

3.2.d.ii Public Cloud Recovery Time Objectives (RTO) (J-29)

The IBM Public Cloud is not currently priced to offer service bands related to this service level requirement. IBM may be able to offer service bands in the future, depending on future solution developments and task order requirements.

Recovery Time Objective (RTO)

Attachment 29 - Recovery Time Objectives (RTO) Template

Company Name

IBM

Recovery Time Objective (RTO)

Service Band	From	To
Not applicable for SCE		
Not applicable for SCE+		
Minimum Acceptable Performance:		7 days



3.2.d.iii Public Cloud Recovery Point Objectives (RPO) (J-30)

The IBM Public Cloud is not currently priced to offer service bands related to this service level requirement. IBM may be able to offer service bands in the future, depending on future solution developments and task order requirements.

J_30_RPO

[Service_Level_RPO]_[IBM].xlsx

Attachment 30 - Recovery Point Objective (RPO) Template

Company Name

IBM

Recovery Point Objective (RPO)

Service Band	From	To
Not applicable for SCE		
Not applicable for SCE+		
Minimum Acceptable Performance:		7 days

3.2.d.iv Public Cloud Meantime to Restore (MTR) (J-31)

The IBM Public Cloud is not currently priced to offer service bands related to this service level requirement. IBM may be able to offer service bands in the future, depending on future solution developments and task order requirements.

Attachment 31 - Meantime to Restore (MTR) Template

Company Name

IBM

Mean Time to Restore Services

Service Band	Mean-Time to Restore
Not applicable for SCE	
Not applicable for SCE+	



3.2.d.v Public Cloud Compute-Host Provisioning Service Bands (J-32)

Provisioning Service Levels

Compute Host

Attachment 32 - Compute-Host Provisioning Service Bands Template

Company Name IBM

Complete Manual Request
(in Minutes)

	Emergency	
Service Band	Minimum (>=)	Maximum (<)
Band 1 (SCE)	0 minutes	1hr
Band 2 (SCE+)	24 hrs	72 hrs
Minimum Acceptable Performance:		24 hours

3.2.d.vi Public Cloud Storage Provisioning Service Bands (J-33)

Provisioning Service Levels

Storage

Attachment 33 - Storage Provisioning Service Bands Template

Company Name IBM

Complete Manual Request
(in Minutes)

	Emergency	
Service Band	Minimum (>=)	Maximum (<)
Band 1	0 minutes	15 minutes
Minimum Acceptable Performance:		24 hours

3.2.d.vii Public Cloud Customer Service Meantime to Acknowledge (MTA) (J-34)

Attachment 34 - Customer Service Meantime to Acknowledge (MTA) Template

Company Name	IBM							
	Severity/Priority							
	1		2		3		4	
Service Band	Minimum (>=)	Maximum (<)	Minimum (>=)	Maximum (<)	Minimum (>=)	Maximum (<)	Minimum (>=)	Maximum (<)
SCE+		4 hours		24 hours		7 days		30 days
SCE Advanced Premium		30 mins						24 hours
DOI Minimum Performance Level		24 hours		48 hours		72 hours		96 hours



3.2.d.viii Public Cloud Customer Service Meantime to Resolve or Fix (MTF) (J-35)

Attachment 35 Customer Service Mean Time to Resolve or Fix (MTF) Template

Company Name	IBM							
	Severity/Priority							
	1 (90% within)		2 (90% within)		3		4	
Service Band	Minimum (>=)	Maximum (<)	Minimum (>=)	Maximum (<)	Minimum (>=)	Maximum (<)	Minimum (>=)	Maximum (<)
SCE+	0 min	4 hr	0 min	24 hr	0 min	7 days	0 min	30 days
DOI Minimum Performance Level	24 hr		48 hr		72 hr		96 hr	

3.2.d.ix Public Cloud Scheduled Downtime (Maintenance Windows) (J-36)

The IBM Public Cloud is not currently priced to offer service bands related to this service level requirement. IBM may be able to offer service bands in the future, depending on future solution developments and task order requirements.

Planned Downtime Service Bands

ATTACHMENT 36

Company Name	IBM	
	Maximum Scheduled Downtime Per week	
Service Band	Minimum (>=)	Maximum (<)
Not applicable for SCE		
Not applicable for SCE+		
DOI Maximum Allowed	8 hr	

4 Technical Solution

4.a Service Delivery, Management and Technical Approach

4.a.1 Background Objectives and Requirements, to Include Day 1 TOs and Representative Use Cases

IBM's FISMA-compliant FDCs provide cost-effective, secure systems supporting business continuity through cloud services, content caching, green technologies, proven ITIL-aligned practices, infrastructure and tools.

Table 4.a.1-1: SOW Requirements Fulfillment

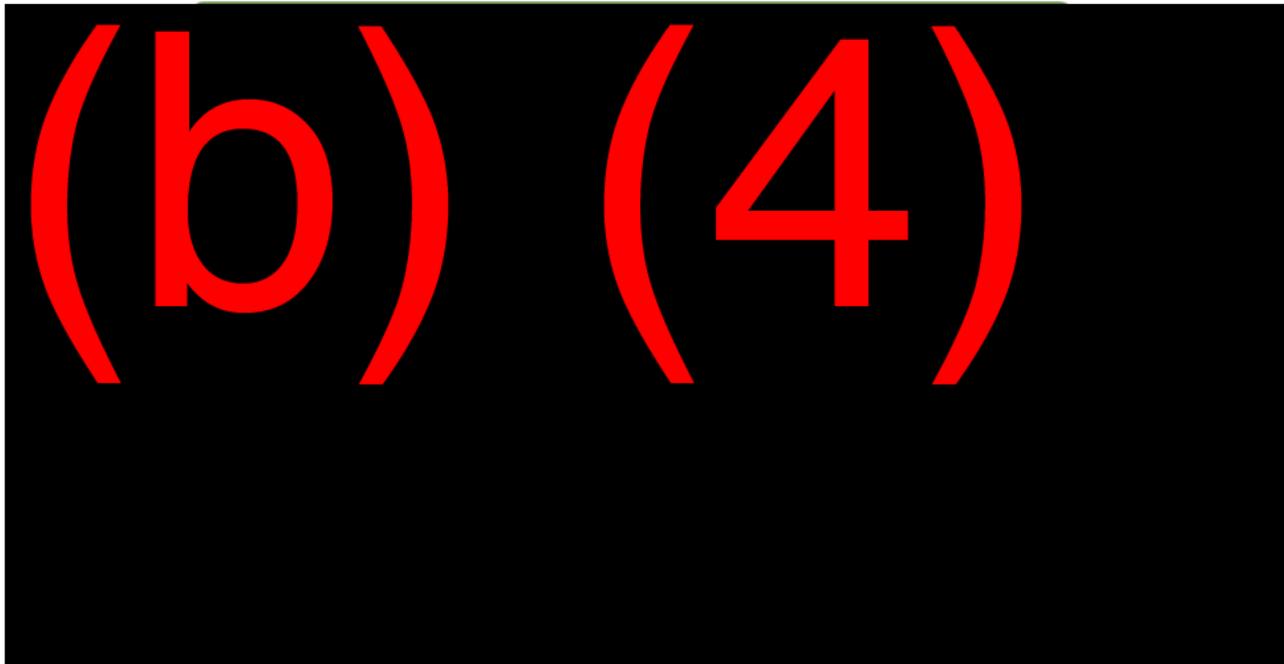
SOW Section	Team IBM's Approach
C.5.4	(b) (4)

4.a.1.1 IBM's Community Cloud Services

Cloud Computing provides real tangible value in cost reduction and improved agility. IBM was an early leader in the Cloud Computing space (**Figure 4.a.1-1**) and continues to invest heavily in technology advances and adoption best practices.

Figure 4.a.1-1: Architectural Overview of IBM's SmartCloud for Government

Tools, processes, and techniques to support the DOI's environment.



IBM offers SmartCloud for Government, which is a secure, multi-tenant cloud for Federal agencies only (see **Figure 4.a.1-1**). IBM's offering maintains the unique privacy and security needs that the DOI demands while gaining operational and cost efficiencies via a shared infrastructure, commercial-off-the-shelf (COTS) cloud technology and functionality, and

subscription pricing. IBM supports the unique needs of the Federal Government, including FISMA Compliance and U.S. Citizen support in IBM Federal Data Centers that are restricted to Government clients.

(b) (4)

Table 4.a.1-1). Once this capability is available, IBM will provide a Self-Service Portal that provisions and manages cloud services.

IBM offers a range of cloud solutions tailored to the Federal Government. Our cloud solutions address unique Federal requirements and each solution is tailored to Federal Government agency unique needs. In 2010, IBM was chosen by the U.S. Air Force to collaboratively develop a Cyber Secured Cloud Architecture, which led to a 1,000-user Air Force pilot of a private managed cloud, hosted in IBM's FDC.

IBM is an industry pioneer in cloud computing and brings extensive knowledge and capabilities in managing IT infrastructure. Our three FDCs are located in Boulder, CO; Research Triangle Park (RTP), NC; and Rocket Center, WV. Both Boulder and RTP are IBM-owned and -operated facilities, designed specifically to meet the demanding Federal Security Standards, including FISMA, and energy-efficient "green" data centers standards. The Boulder FDC and RTP FDC are certified as LEEDS Silver and LEEDS gold, respectively. Our Rocket Center FDC is a Government-owned, contractor-operated (GOCO) facility located on a U.S. Navy Base for enhanced physical security and NIPRNet SIPRNet connectivity. Team IBM's solution is based on commercially available technology and IT processes mitigating the risk of "lock-in" and disentanglement issues. The infrastructure components of the solution are industry leading, providing the DOI improved price performance and facilitating the adoption of new technology. (b) (4)

(b) (4)

(see

Proof Points

- More than 400 data centers
- More than 8 million square feet of data center raised floor
- 200,000+ servers managed
- Approx 1,000 mainframes managed
- Support for 4.1M end-users
- 37M help desk calls annually
- 156,352TB storage managed

Benefit for DOI: Low-risk tools, processes, and methods with proven track-record of delivering cost savings, innovation, and enhanced decision-making.

Key Features

(b) (4)



(b) (4)

[Redacted text block]

The DOI environment is diverse and complex. DOI needs a vendor that understands the complex inter-dependencies among infrastructure components and mission-critical applications, and can plan and execute the successful migration into a cloud environment. We have the tools to assess your environment, map dependencies, and generate roadmap for cloud migration groups.

IBM addresses service availability through redundancy, resiliency, and contingency capabilities in IBM's cloud portfolio, fulfilled by the business service management components. IBM SmartCloud provisioning supports agile service delivery, self-service requests and highly automated operations, rapid scalable deployment, and reduced complexity of IT infrastructure management. These capabilities support changing business needs by agile service delivery, saving IT costs through self-service request and highly automated operations. Our target architecture includes an integrated tool suite to provide visibility into system health while enabling efficient operations support.

(b) (4)

[Redacted text block]

4.a.1.2 IBM's Public Cloud Services

IBM understands that DOI desires the most cost-effective, best value proposed solution for each service of the technical service lines defined within the RFP. With that in mind, we are pleased to offer two web-based standard IBM solutions for Public Clouds, SmartCloud for Enterprise (SCE) and SmartCloud for Enterprise+ (SCE+). This Public Cloud is currently available (see **Table 4.a.1-2**) and is independent of, and offered in addition to, our Community Cloud offer. IBM feels that this aggressively priced public cloud solution can best meet DOI public cloud requirements and has described its capabilities separately from community cloud requirements within this document, including performance levels, assumptions, and constraints. Please note

(b) (4)

Table 4.a.1-2: IBM Public Cloud Access
IBM offers free trial access to our public cloud.

Public Cloud Access
IBM provides a free trial of the SmartCloud for Enterprise environment:
http://www.ibm.com/cloud-computing/us/en/iaas.html
To go directly to the free trial, use this link: http://www.ibm.com/developerworks/cloud/cloudtrial.html

Today’s dynamic business environment is challenging. DOI needs a cost-effective, agile IT infrastructure to drive new services and applications to market quickly; However, setting up and maintaining an IT infrastructure to meet these needs can mean high up-front capital expenses and operational costs. In addition, you may have to resolve issues, such as poorly utilized infrastructures that are difficult to reallocate in response to unpredictable or intermittent workloads. Application development and test activities often suffer from insufficient test environments, resulting in prolonged development cycles and quality issues. Cloud computing can help DOI cope with these challenges by providing rapid provisioning and elasticity.

IBM has two public cloud offerings for DOI, the IBM SmartCloud Enterprise and the IBM SmartCloud Enterprise+. IBM is happy to discuss these options for pure public cloud services and to discuss the options for enhancing these services to exactly meet the DOI requirements. IBM has provided a set of assumptions and constraints and information on volume discounts that further defines these services in our price volume.

4.a.1.2.1 IBM SmartCloud Enterprise (SCE)

IBM SmartCloud Enterprise (SCE), IBM’s enterprise-class public cloud IaaS, provides a secure and scalable hosted IT infrastructure with on-demand access to virtual server and storage resources. IBM SCE is part of IBM’s larger SmartCloud framework, which also includes cloud architecture for private and hybrid clouds. It is well suited for development and test activities and other dynamic workloads, and goes beyond competitive IaaS offerings with highly flexible services and IBM security.

4.a.1.2.2 Benefits of IBM SmartCloud Enterprise

With IBM SCE, DOI will gain access to an IaaS cloud that will enable you to deploy new servers and storage environments across the globe in minutes (as opposed to weeks or months) and pay for them only for as long as you use them. (b) (4)

(b) (4)



IBM SmartCloud Enterprise also offers DOI the following elements of value:

- **Controlled Access.** (b) (4)
[Redacted]
- **Managed Security.** (b) (4)
[Redacted]
- **On-Demand Support.** (b) (4)
[Redacted]

4.a.1.2.3 Differentiators of IBM SmartCloud Enterprise

IBM SmartCloud offers enterprises internet access to a more flexible, feature-rich virtual server, storage, and network infrastructure. Unlike our competitors, IBM offers local agreements for global delivery of an open platform with enterprise-class security, reliability, and control features that enable enterprises to rethink their IT solutions:

- (b) (4)
[Redacted]

IBM leverages our many years of proven expertise in delivering and supporting security-rich, reliable data centers to enable us to provide successful cloud-based solutions in enterprise and midmarket environments of many different sizes and levels of complexity. In addition, IBM provides global delivery, based on local business relationships and flexible options, such as reserved capacity pools and VPN integration.

4.a.1.2.4 IBM SmartCloud Enterprise+ (SCE+)

- (b) (4)
[Redacted]

(b) (4)

4.a.1.2.5 Benefits of IBM SmartCloud Enterprise+

IBM SmartCloud Enterprise+ has been designed to support enterprise-class workloads and includes a full suite of managed services. (b) (4)

(b) (4)

(b) (4)

(b) (4)

4.a.1.2.6 Differentiators of IBM SmartCloud Enterprise+

Monitoring and Management of Operating Systems (OS)

- (b) (4)

ITIL-Based Managed Services Enable More Consistent and Efficient Service Management

- (b) (4)

Table 4.a.1-3: SOW Requirements Fulfillment

SOW Section	Team IBM's Public Cloud Approach
C.5.1 Comply with	<ul style="list-style-type: none">(b) (4)



SOW Section	Team IBM's Public Cloud Approach
Essential Cloud Service Requirements	<ul style="list-style-type: none"> (b) (4)
C.5.2 Manage Service Delivery and Maintain Business Relationships and Interconnections	<ul style="list-style-type: none"> (b) (4)
C.5.3 Establish and Maintain Security and Privacy	<ul style="list-style-type: none"> (b) (4)
C.6 Establish and Meet Resource Requirements	<ul style="list-style-type: none"> (b) (4)



SOW Section	Team IBM's Public Cloud Approach
C.6.1.4.2 Comply With Interconnection Configurations and Requirements	• (b) (4) [Redacted]
C.6.2 Provide Aggregated Resources and Enabling Services	• (b) (4) [Redacted]



SOW Section	Team IBM's Public Cloud Approach
C.6.2.2.6 Supports one or More Solutions for Middleware Licensing	• (b) (4) [Redacted]
C.6.2.2.7 – C.6.2.2.10 Supports Current Range of Software	• (b) (4) [Redacted]
C.7 Streamline and/or Automate Resource Scaling	• (b) (4) [Redacted]
C.7.11.1 Meet Service Center Availability Service Levels	• (b) (4) [Redacted]

4.a.1.3 Service Line: SAP Application Hosting

IBM has a long history with the DOI and their FBMS application environment. For the past six years, IBM worked closely with the DOI to build and implement their FBMS application. IBM has a strong understanding of the FBMS environment and applications required to support the environment.

(b) (4)

By selecting the IBM Power solution, DOI FBMS realizes the following benefits:

- **High Availability.** (b) (4)

 **Proof Points**

DOI FBMS

Since 2006, IBM has provided support for the DOI implementation of FBMS:

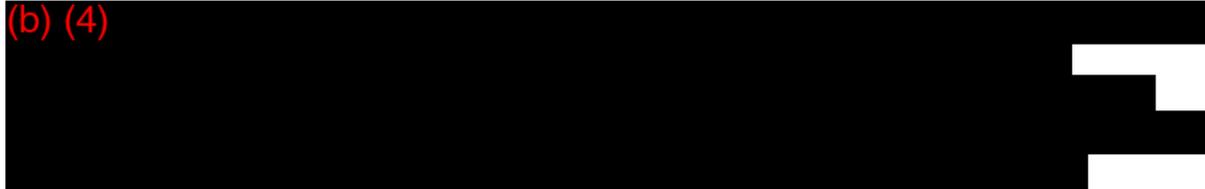
- Full range of implementation services
- 12+ SAP modules
- 65+ interfaces
- 10 bureaus across 2 locations

Benefit to DOI: Leveraging IBM understanding of DOI mission, system interfaces and data, and FBMS roadmap to facilitate cloud assessment, migration, and hosting

- **High Performance.** (b) (4)

- **Cost-Effective.** (b) (4)

(b) (4)



4.a.1.3.1 Why IBM Power Systems for SAP

IBM Power Systems has an excellent track record in the SAP marketplace. There have been more than 14,800 SAP installations on Power Systems in more than 7,100 customers worldwide. Power Systems have seen a growth in SAP UNIX market share over the last 5 years with IBM being the only vendor to be in this enviable position. SAP and IBM Power Systems have demonstrated close collaboration over the years:

- IBM helped SAP to develop the new enhancements to CCMS to make it virtualization-aware.
- IBM and SAP worked together to define the new standards for decimal floating point, enabling new SAP financial operations to be more easily maintained by SAP and to operate far faster on IBM Power Systems platforms.
- Power Systems customers have driven some of the highest transaction volumes and database sizes. To support this, IBM and SAP have developed new testing methodologies, customer specific benchmarks, tools and techniques.
- The IBM Insight for SAP tool is available to customers regardless of platform.
- Technologies from IBM, from new versions of AIX to new hardware features such as Live Partition Mobility and Active Memory Expansion have been rapidly supported by SAP minimizing delays for customers.
- Migrations from competitive platforms to Power/AIX have such large databases that new methodologies and tools had to be developed by IBM. Many of these capabilities have now been incorporated into the standard SAP migration methodology.

Proof Points

Adobe SAP Migration
Working with the IBM Migration Factory, Adobe consolidated the standalone servers and business-critical SAP systems and Oracle databases:

- From many Sun Solaris servers utilized at 10-15% to just five IBM pSeries AIX servers utilized at 80%
- IBM helped migrate SAP applications and Oracle databases from Sun to pSeries AIX

Benefits: Adobe has estimated

- Total project savings and cost will come to \$60M over 5 years
- OS and database license fees cut by 40%

4.a.1.3.2 SAP Certification

SAP AG has certified IBM capabilities to deliver and manage clients' implementations of SAP® applications via a hosted delivery model and IBM's Cloud Platforms. This certification enables IBM to provide enterprises around the world with hosted and cloud-based support of the entire SAP solution portfolio, including business software applications for customer relationship management, enterprise resource planning, product life cycle management, supply chain management, and corporate services.

4.a.1.3.3 IBM and SAP

The SAP and IBM alliance reflects more than 30 years of leadership based on continuous collaboration, innovation and service. The result is a "best of both worlds" scenario incorporating an enriched set of business solutions for large, small and midsized enterprises a direct route to one of the world's largest consulting services organizations and an extensive services

Proof Points

IBM and SAP have successfully delivered more than 10,000 installations to more than 8,000 enterprises. Internal to IBM, nearly 30,000 users employ SAP applications.

portfolio, including SAP- and IBM-based services and industry-specific service templates.

IBM has brought SAP onto our team as a subcontractor for DOI FCHS. IBM and SAP together are uniquely positioned to offer SAP HANA In-Memory solutions, a leading infrastructure solution for deploying SAP In-Memory systems. Recently SAP published performance results for a 100TB SAP HANA system on IBM hardware, the only HANA system able to scale to that size. At the University of Kentucky, SAP implemented HANA to support monitoring and improve student retention. The HANA implementation improved reporting time by 420X and query load times by 15X. In addition, the university was able to retire legacy systems, reduce IT infrastructure costs, and increase worker productivity.

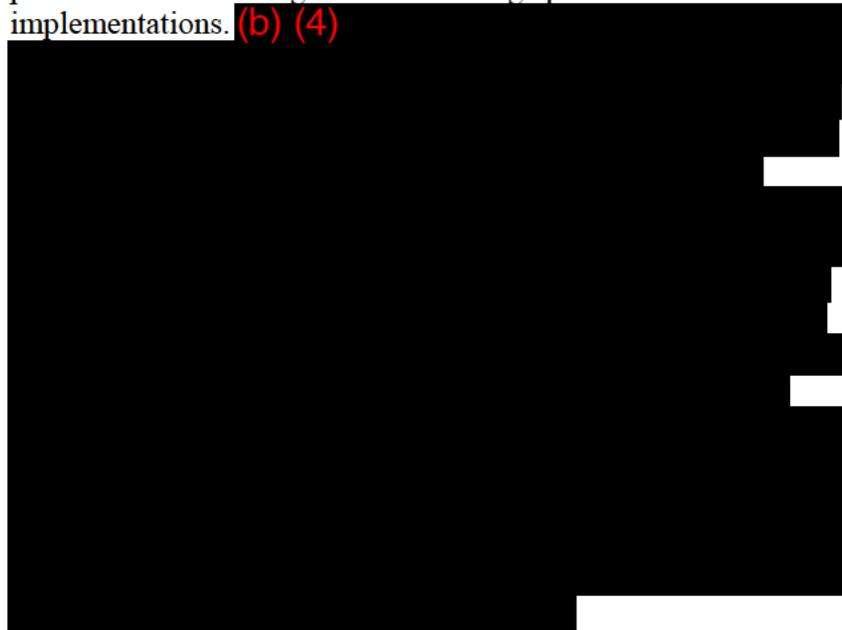
 **Proof Points**

Vince Kellen
University of Kentucky CIO

"SAP HANA offers an effective real-time data driven system which is essential to giving immediate performance feedback and increased retention rate of students, increasing millions in revenue for the university every year."

4.a.1.3.4 Team IBM SAP Storage Solution

The Team IBM SAP Hosting Service offer includes a high performance storage solution, leveraging IBM's partnership with NetApp. NetApp provides the agile and highly available storage platforms used by the IBM SmartCloud for Government today. NetApp is also a leading provider of data management and storage platforms for SAP implementations. (b) (4)



 **Proof Points**

SAP AG and NetApp

SAP has been a NetApp customer and partner for more than 10 years and has invested triple-digit millions of dollars over that timeframe.

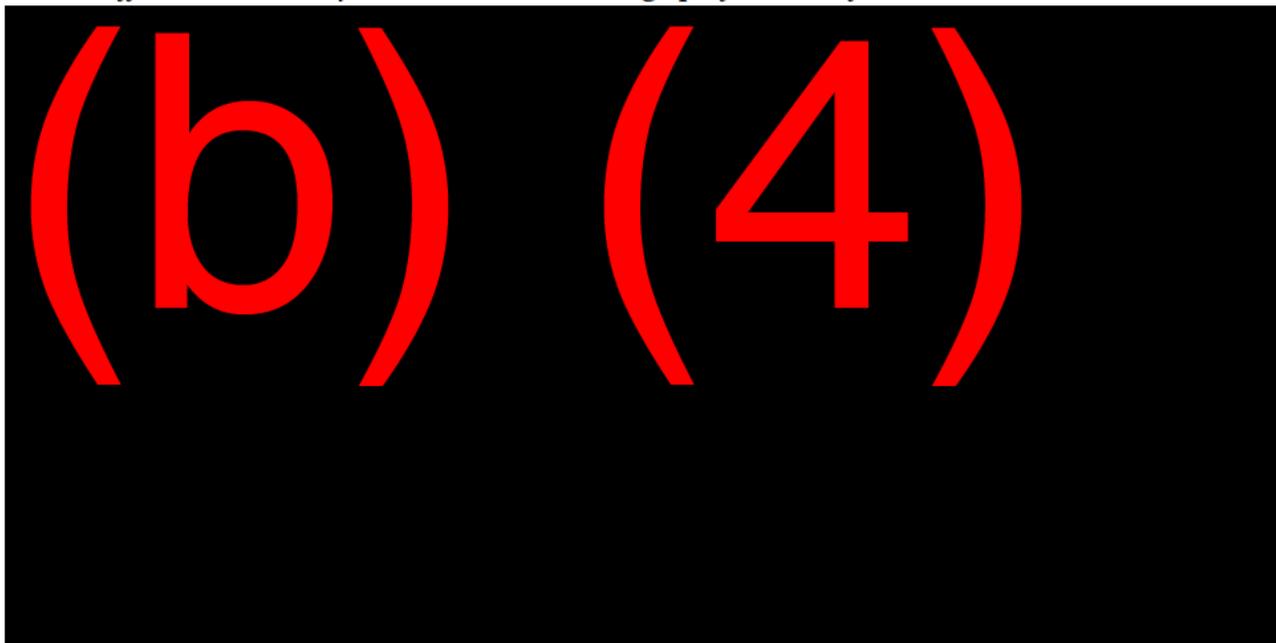
- NetApp has a dedicated team covering SAP in Germany
- NetApp account team works closely with SAP subject matter experts from the NetApp Competence Center for SAP based in Waldorf, Germany

NetApp's clustered FAS6280A systems (Figure 4.a.1-2) meet storage capacity needs, enable modular, cost-effective scalability and will deliver the high performance for DOI SAP databases.



Figure 4.a.1-2: NetApp Reference Architecture for SAP Environments

NetApp's clustered FAS6280A systems meet storage capacity needs, enable modular, cost-effective scalability and will deliver the high performance for DOI SAP databases.



4.a.1.3.5 SAP Landscape Migration

A SAP landscape migration involves moving an existing SAP environment (e.g., Enterprise, R/3, and Business Warehouse) to new servers and/or new software. Migrations usually involve unloading SAP database(s) from the existing landscape and loading it onto the new landscape. Testing and tuning the process is where IBM Global Services provide value-add. IBM Consulting teams have successfully migrated large-scale SAP infrastructures, utilizing IBM tools to make the process faster with fewer errors. The DOI's custom programs and reports will move unchanged along with the database to the new hosted environment.

There are three components of a landscape migration project:

- (b) (4) [Redacted]

Proof Points

Demonstrated Success in Large-Scale SAP Migrations

IBM's Data Migration team led the Navy in migrating data from legacy systems while minimizing impact to existing production users. At Naval Supply Systems Command (NAVSUP), the Data Migration team converted 338,000 master data records and more than 6,000 transactional records, with no impact to the existing production users at the Naval Air Systems Command (NAVAIR).

(b) (4)

[Redacted]

[Redacted]

Team IBM will also meet SAP hosting performance requirements identified in the RFP Work Statement C.7.7 (see Section 4.a.2 Service Level Agreements).

4.a.1.4 Service Line: Development and Test Java Sandbox

IBM's SCG is a secure, multi-tenant community cloud for use by Government agencies designed to meet FISMA and FedRAMP security controls. The IBM SCG has both DoD and Federal Civilian agencies, has been through several Certifications and Accreditations (C&A) activities and has received Authority to Operate (ATO) from these agencies. We maintain the unique privacy and security needs Federal agencies demand while gaining operational and cost efficiencies via a shared infrastructure, COTS cloud technology, and subscription pricing. This approach delivers a cloud computing cost advantages to DOI.

Our NIST-based architecture is the foundation for our SCG (Figure 4.a.1-1), and also for our public and private cloud offerings. This close affinity enables DOI to capture the innovations and competitive pricing coming out of the commercial market and the security rigor needed for Government agencies. (b) (4)

[Redacted]

[Redacted]

**Proof Points**
GoArmyEd
The Army asked IBM to develop the Army University Access Online, an online learning program that

- Incorporates accredited learning from 29 U.S. colleges and universities
- Is accessible from anywhere
- Incorporates 146 certificate and degree programs

Benefit to DOI: The IBM development methodology is compliant with ISO 9000 and CMMI Level 5. IBM can leverage this capability to provide DOI with Dev/Test infrastructure and Services to develop enterprise applications

(b) (4)

Proof Points

Air Force Enterprise Information Services Sandbox

Platform-as-a-Service (PaaS) for the USAF providing a delivery model for Information Technology (IT) services and scalable infrastructure, hosted in IBM SmartCloud for Government.

- Microsoft SharePoint 2010, IBM FileNet P8 V5, and Vana Solutions Case Management
- EIS production environment mirror, designed to scale to support approximately 1,000 USAF personnel

Section

3.2.a shows IBM's capability to support these key DOI technologies.

4.a.1.4.1 IBM Community Cloud – Rational Platform-as-a-Service

(b) (4)

4.a.1.4.2 The IBM Public Cloud Development and Test Environment

In addition to its FISMA compliant community cloud, IBM is pleased to provide the option of a public cloud. The IBM public cloud is intended to provide DOI or other government entities with a development and test platform that is competitively priced and metered. IBM's SmartCloud for Enterprise (SCE) allows for rapid provisioning of an established set of platforms, which can be used as a sandbox environment to assess new applications and other IT capabilities. The SCE portal can be accessed using URL in Table 4.a.1-1. SCE+ can be used to procure cloud infrastructure with additional services and customized images. Do to DOI availability requirements IBM did not bid its public cloud for this Task Order.

4.a.1.5 Service Line: Web Hosting – USGS-CIDA Publications Library

4.a.1.5.1 IBM Cloud-Based Web Hosting

(b) (4)

[Redacted content]

Proof Points

IRS Web Hosting

IRS required web hosting infrastructure for IRS Business Systems Modernization project. IBM provides:

- Conformance to IRS architecture standards
- 24x7x365/366 availability
- Two portals (Registered Users and Employee Users)
- 15 new IRS web-based applications
- 24x7 help desk
- Security services
- SLA management

Benefit to DOI: IBM is a DOI provider with deep experience hosting complex applications for Federal Government clients.

[Redacted content]

[Redacted content]

[Redacted content]

Proof Points

IBM SmartCloud for Government

IBM built and hosts the web-based DOJ 9/11 Victims Compensation Fund (VCF), which provides fast and accurate administration of tens of thousands of claims in the expanded 9/11 VCF program. The 9/11 Claims Management System, which runs on IBM SmartCloud, is hosted in IBM's FDC located in Raleigh, NC.

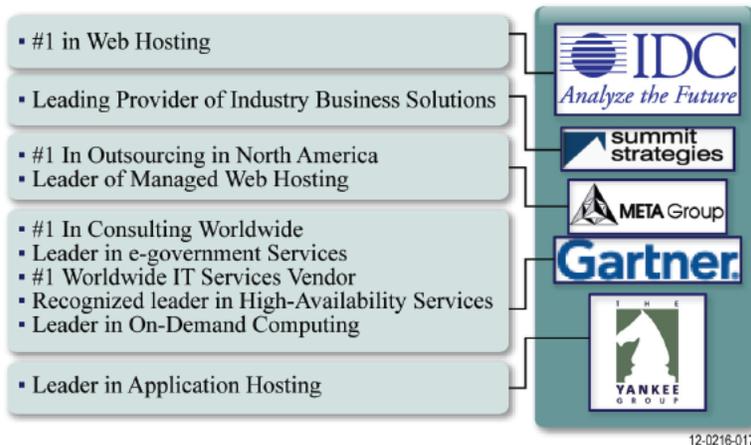
[Redacted content]

4.a.1.5.2 Advantage of IBM SmartCloud for Government

IBM SCG infrastructure is hosted in FISMA-compliant datacenters dedicated to Government clients. The SCG is designed to support high-performance, high availability application needs and low-end, cost-efficient demand. The IaaS provides DOI control over the provisioned environment including operating systems and provisioning of resources. IBM services offer options for bulk updating, as a site like USGS publication services requires, from network to physical media transfers. The SCG solution enables IBM to support the SLA enhancements to requirements of Portfolio A or Portfolio B, whichever DOI decides.

(b) (4)

Figure 4.a.1-3: IBM Capabilities
With 2,500+ hosting clients, we are positioned to minimize DOI transition risk.



[Redacted text block]

[Redacted text block]

As the USGS publications portal provides the means to purchase and download imagery, maps, data, publications, citations and reference material to a global audience, DOI can leverage our experience managing large complex portals, including the IRS infrastructure and other Government portal environments, as well as our experience providing commercial high traffic high availability e-commerce web sites.

The USGS site provides both download and order to print services, which requires workflow and supply chain expertise, that IBM can assist DOI with in the many stages of operation to leverage new technologies and new methods as they develop. The management of more than 100,000

Proof Points

IRS Web Hosting

Since 2004, IBM has been supporting, maintaining, and operating production environments that host new IRS Web-based applications such as the highly complex Modernized eFile (MeF). In 2012, the MeF system processed 64.2M individual tax returns by April.

publications listed in the USGS Portal requires experienced content management processes, as well as advanced, sophisticated, searching methods and approaches that IBM can enhance. IBM’s web, content management, and service delivery subject matter experts can be leveraged to assess, diagnose, and enhance the infrastructure to deliver the content worldwide, 24 hours a day with a high level of service and confidence.

4.a.1.5.3 Web Hosting in the IBM Public Cloud

In addition to its FISMA-compliant community cloud, IBM is pleased to provide the option of a public cloud. The IBM public cloud is intended to provide DOI or other Government entities with a competitively priced web hosting platform. IBM SCE allows for rapid provisioning of an established set of platforms, which can host web applications and databases. And SCE+ can be used to procure cloud infrastructure with additional services and customized images.

Proof Points

Storage Citations for FDC

IBM hosts for Centers for Medicare and Medicaid (CMS) the single largest implementation of Oracle Financials in the world, Healthcare Integrated General Ledger Accounting System (HIGLAS).

4.a.1.6 Community Cloud Service Portfolios A and B Representative Use Cases

Team IBM has taken DOI’s requirements for IaaS including application configurations, performance and availability characteristics and has estimated the corresponding configurations required to support the representative use cases. IBM is bidding both Service Portfolio A and B for the Storage, VM Hosting, and Database Hosting. Further, IBM has accepted the DOI proposed Service levels (see Section 3.2.b) and has established an aggressive set of disincentives to support our commitment to DOI (see Section 4.a.2.2).

Applied to each of the VM and storage configurations are the value added services to account for:

- **VM Availability** – This service area includes the DOI Service level requirements for Uptime and Availability, Recovery Point Objectives (RPO), and Planned Downtime and Maintenance Windows. IBM’s Service Catalog provides for the flexibility that DOI needs to support both Service Portfolio A and Service Portfolio B as documented in the Representative Use Case. IBM has assumed Service Band 2 for Service Portfolio A configuration and Service Band 4 for Service Portfolio B. **Table 4.a.1-4** maps the VM Availability requirements as documented in the Representative Use Case to the corresponding IBM Service Band.

Table 4.a.1-4: VM Availability Requirements

Team IBM’s VM availability approach provides a low-risk, cost-effective solution.

	Service Portfolio A	IBM Service Catalog Service Band 2	Service Portfolio B	IBM Service Catalog Service Band 4
Uptime and Availability	>99.99%	>=99.9% to <99.99%	>95%	>=95% to <99%
Recovery Point Objective (RPO)	24 Hours	4 Hours	7 Days	48 Hours
Planned Downtime per Month (Maintenance Windows)	1 Hour	1 Hour	8 Hours	4 Hours

- **Systems Administration Services** – The System Administration Service provides ongoing support of customer servers up to and including the Operating System (OS). This includes keeping the OS up to date and patched from vulnerabilities as well as basic system configuration. For each Representative Use Case, IBM has assumed that this service is



required for the IBM provided operating system and not required for DOI supplied operating system.

- **Service Desk** – This service area includes the DOI Service level requirements for Recovery Time Objectives (RTO), Backup Requirements: Mean Time to Restore, Service Center Availability (24x7x365/366), Service Level Time-to-Respond (Acknowledge), Mean-Time-to-Resolve (Monthly Average). IBM has grouped these together because the service levels are tied to available support resources and their hours of availability. IBM’s Service Desk is priced on a per call basis and factors in both response time and recovery times. IBM has estimated the number of calls per month to be one per VM or ¼ per 100,000 GB of storage. For the purposes of estimation, we are assuming a mix of Severity 1 and 2, and Severity 3 and 4 level calls. Billing will be based on the actual number of calls. **Table 4.a.1-5** maps the Service Desk requirements as documented in the Representative Use Case to the corresponding IBM Service Band.

Table 4.a.1-5: Service Desk Requirements

Team IBM’s flexible service desk, bands offering meets the DOI’s mission objectives.

	Service Portfolio A	IBM Service Catalog Service Band 1	Service Portfolio B	IBM Service Catalog Service Band 3
Customer Support Availability	24x7x365/366	24x7x365/366	8x5 Mountain	8x5 Mountain
Recovery Time Objective (RTO)	24 Hours	5 Minutes	7 Days	24 Hours
Mean Time to Restore (MTR)	4 Hours	15 Minutes	24 Hours	24 Hours
Maximum Time to Acknowledge (MTA) – Severity 1	15 Minutes	15 Minutes	8 Hours	24 Hours
Mean Time to Resolve or Fix (MTF)	2 Hours	15 Minutes	24 Hours	45 Minutes

- **ESM Services** – This service area provides the core functions for availability, performance, and event management. ESM includes 24x7x365/366 automated monitoring of networks, systems and critical business services with real-time alerting, ticketing, notification and reporting capabilities. For each Statement of Work, IBM has assumed that this service is required for Service Portfolio A only.
- **Security Engineering**– This service covers the Management and Administration of Dedicated Security Devices and Software, Physical and Virtual Firewalls, Intrusion Detection Systems, and Security Zones.
 For each Representative Use Case, IBM has assumed that this additional service is not required.
- **FISMA Services** – This service covers support for Maintaining the management and operational security controls:
 - Document and Reporting Support
 - Working with the customer-designated information system security officer (ISSO) or equivalent to provide documentation maintenance and compliance reporting
 - Maintaining the documentation of the management, operational, and technical security controls
 - Updating, maintaining, and reporting on the Plan of Action and Milestones
 - Test and Audit Support

- Providing personnel support for two audits (internal or external) or security tests and evaluations for each year.
- Support for one annual customer-driven test of each of the following processes (not to exceed 2 hours per test):
 - Continuity of Operations Plan or Disaster Recovery Plan
 - Incident Response Plan
- Providing input on one data call a month (requiring no more than 8 hours of work)
- Reporting security and privacy incidents to the customer-designated resource

For each Representative Use Case, IBM has assumed that this additional service is not required.

- **Security Operations Center (SOC) Services** – The Security Operations Center (SOC) provides 24x7x365/366 monitoring and tuning for intrusion prevention as well as scanning, system log monitoring, anti-malware monitoring, security event and security incident escalation, security incident response support services, and standard reporting. As defined by NIST SP 800-61, a security incident is “A violation or imminent threat of violation of computer security policies, acceptable use policies, or standard security practices.” For each Representative Use Case, IBM has assumed that this additional service is not required.

4.a.1.6.1 Bulk Transport

IBM supports several bulk transport options including over the internet, dedicated circuits, through the DOI TIC, physical Tape, and Disk Array. To meet the enhanced bulk transport requirements we have identified disk array transport and replication as the most cost-effective method. IBM will support DOI with transporting physical storage to and from the IBM facilities and replicating the storage within the windows identified by the enhanced SLAs.

4.a.1.7 Service Line and Representative Use Case – Storage Services

IBM offers IBM SCG Storage-as-a-Service, an aggressively priced storage-virtualization solution designed to support DOI’s storage optimization efforts. IBM’s SCG Roadmap includes the capability for storage to be provisioned/de-provisioned as required by authorized developers as identified by authorized DOI personnel. This is currently scheduled for availability in 2Q 2013 and are based on the currently available SCE portal (see Table 4.a.1-1). Once this capability is available,

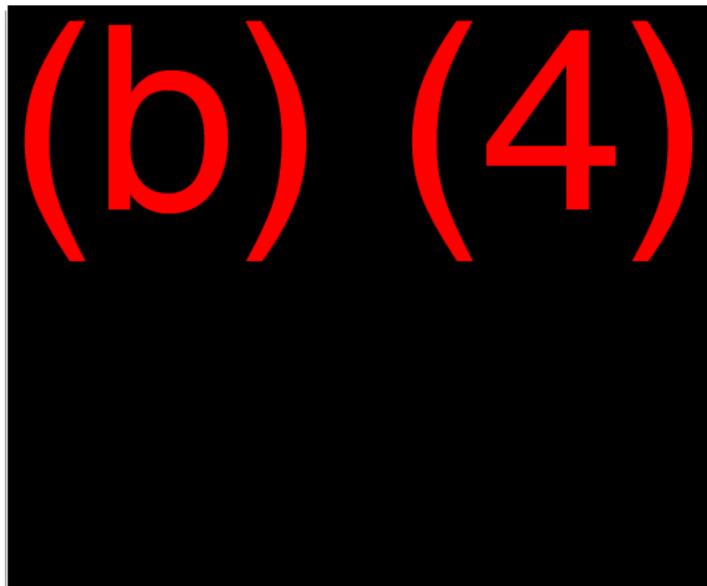
(b) (4)



Our solution (Figure 4.a.1-4)

(b) (4)

Figure 4.a.1-4: Self-Service Storage Provisioning UI enables DOI users’ self-provisioning of storage.



(b) (4)

IBM SmartCloud for Government makes use of the latest advancements in storage technology to deliver reliable and tiered performance storage service and designed with enterprise level computing of our tenants in mind. (b) (4)

(b) (4)

(b) (4)

IBM recognizes that DOI's needs over the next 10 years will drive requirements for a variety of robust enterprise storage solutions. (b) (4)

(b) (4)

(b) (4)

(b) (4)

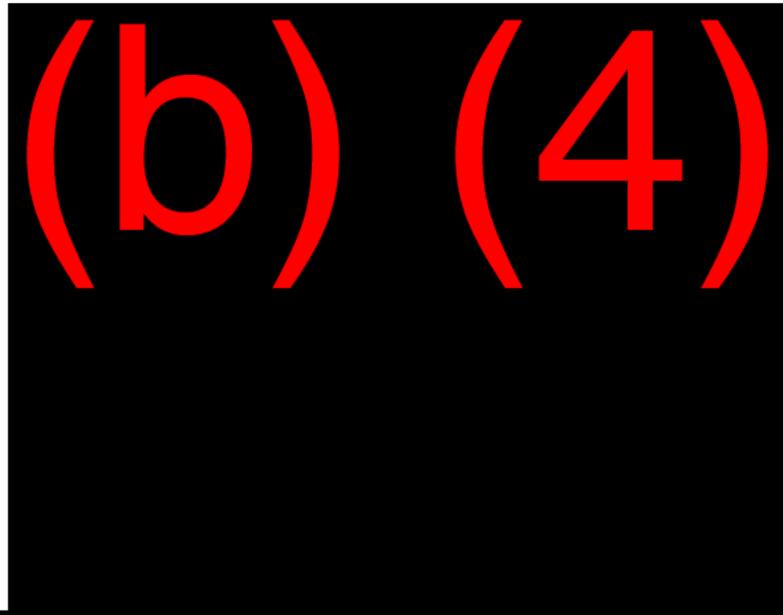
(b) (4)

 **Proof Points**

American Greetings – NetApp
NetApp has been selected as the platform to support the existing SAP CRM production environments as well as the ongoing deployment of SAP finance, supply chain and merchandise management applications.
American Greetings is providing a press release for upcoming launch of NetApp product line and has presented at VMWare and other conferences on NetApp's behalf.

NetApp enables modular scalability to accommodate increasing performance and capacity demands by adding nodes to meet increased performance requirements. NetApp's SAN OS, Clustered Data ONTAP, provides workload balancing and virtual storage migration across storage nodes. Clustered Data (also referred to as cluster mode) allows IBM to conduct SAN maintenance and upgrades without disrupting or degrading operations and performance in the environment (see **Figure 4.a.1-5**).

Figure 4.a.1-5: Storage Redundancy and Balancing
NetApp Cluster Data balances workloads to protect performance and provide high availability.



(b) (4)

[Redacted text block]

4.a.1.8 Service Line and Representative Use Case – Virtual Machine Services

IBM's solution will meet the DOI's desire for metered, cloud-based virtual machine services through IaaS with a self-service web-based management portal for authorized DOI users to provision, release, and manage virtual server assets to support a multi-year transition and migration to cloud services. The IBM SmartCloud for Government supports a wide variety of DOI required Operating Systems. IBM has taken on Microsoft as a subcontractor because we recognize DOI's investment in Microsoft technology. Further, IBM has provided pricing for VM configurations without operating systems, so that DOI can leverage its internal licenses where appropriate. (b) (4)

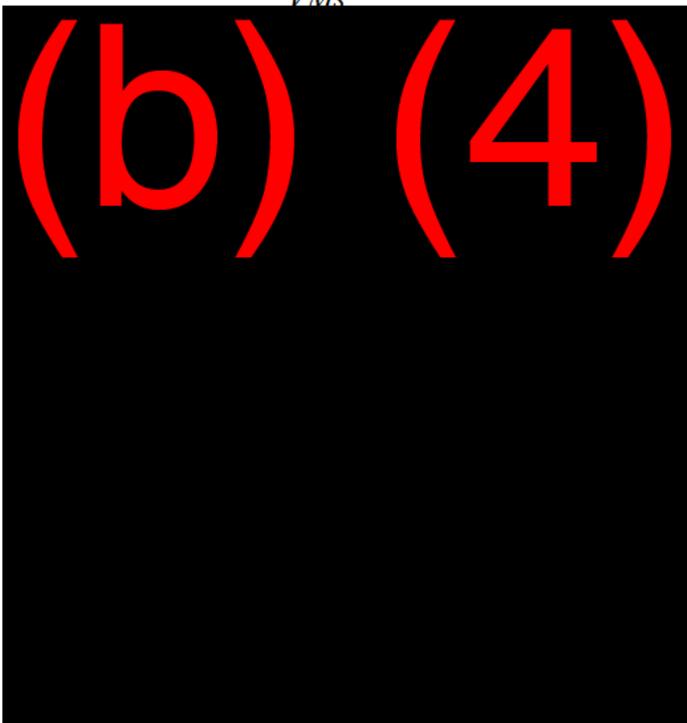
[Redacted text block]

(b) (4)



Figure 4.a.1-6: Self-Service through Web Portal

Will provide users simple, interactive capabilities to provision, manage, and monitor VMs



4.a.1.9 Service Line and Representative Use Case – Database Hosting Services

IBM solution meets the DOI desire for metered, cloud-based Database Hosting services through IaaS with a self-service, web-based management portal for authorized DOI users to provision, release, and manage server and storage assets to support a transition and migration to cloud services. The IBM SmartCloud for Government supports a wide variety of DOI required Operating Systems. IBM has taken on Microsoft as a subcontractor because we recognize DOI's investment in Microsoft technology. Further, IBM has provided pricing for VM configurations without operating systems, so that DOI can leverage its internal licenses where appropriate. (b) (4)

(b) (4)

(b) (4)

(b) (4)

Proof Points

IBM Oracle Relationship

IBM and Oracle have worked together since 1986 to solve complex business problems for our clients. Today, we are helping more than 140,000 organizations of all sizes change the way they do business.

- The IBM Global Business Services Oracle Practice is one of Oracle's strongest partnerships, offering more than 10,000 Oracle application-skilled consultants.
- Support of IBM hardware at the development level for Oracle is supported by the IBM Oracle International Competency Center.
- IBM services support of Oracle middleware and applications are provided by IBM's Oracle Consulting Practice.

(b) (4)

(b) (4)

(b) (4)

Proof Points

IBM DB2 is Cloud-Ready

DB2 in the Cloud delivers increased utilization of resources and can reduce database administration costs.

- Applications running on separate servers may all have limited overhead for high demand situations. Instead, by deploying applications in a cloud configuration using DB2, increasing headroom without buying new hardware
- DB2 on Cloud automates provisioning, allowing DBA time to be focused on tuning and development

(b) (4)

4.a.1.10 Service Line and Representative Use Case – Secure File Transfer

Table 4.a.1-6: SOW Requirements Fulfillment

Requirement	Response
C.6.2.1.1	(b) (4)
C.7.9	

(b) (4)

The Sterling MFT Solution meets the RFP requirements as described in **Table 4.a.1-7**.

Table 4.a.1-7: Secure File Transfer Requirements Compliance Matrix
IBM has a Secure File Transfer solution that meets DOI requirements

Requirement	Response
1.0 Accessing Solution	(b) (4)

2.0 File Transfer Features	(b) (4)
3.0 File Recipient Features	(b) (4)
4.0 Administrative Requirements	(b) (4)

5.0 Help Desk Support	
6.0 Scalable License Model	

4.a.2 Service Level Agreements

4.a.2.1 Community Cloud Service Level Agreements

4.a.2.1.1 Community Cloud Service Level Approach

(b) (4)

Benefits

- (b) (4)
-

4.a.2.1.2 Community Cloud Performance Penalties Approach

(b) (4)

(b) (4)

[Redacted text]

The following process outlines the four steps for calculating Team IBM's invoice adjustment and applying it to an invoice:

1. (b) (4)

Table 4.a.2-1: Color Ratings for Service Levels

Team IBM will apply penalties and penalty offsets (b) (4)

SLA Score	Definition	Payment Adjustment
(b) (4)	(b) (4)	(b) (4)

4. (b) (4)



(b) (4)

[Redacted]

4.a.2.1.3 Community Cloud Performance Metrics Calculation Methods

Each service level requirement has specific criteria and measurements that will be used to define the targets and measure the performance. The methods of calculating performance that IBM is proposing represent a combination of industry best practices and the internal intellectual capital from our 100 years of customer service, applied to DOI-specified Service level requirements by band.

Team IBM recognizes that performance across groups of DOI service levels have the same underlying causes. Team IBM has grouped these related service levels into six Service Areas:

- (b) (4)
- [Redacted]

These specific metrics and calculations for each of the FCHS service offerings are outlined in the remainder of this section.

4.a.2.1.4 Community Cloud Availability Cloud Resources

Team IBM will meet availability service levels as proposed by DOI in Section 3.2.b.i Team IBM has established that to reach the Band 1 and Band 2 service for the following DOI service levels, we must adjust our VM solution as described below:

- (b) (4) [Redacted]
- [Redacted]
- [Redacted]

Table 4.a.2-2: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.7.3	(b) (4)
C.7.4	[Redacted]
C.7.4.1	[Redacted]
C.7.11.4	[Redacted]



SOW Section	Team IBM's Approach
C.8.3	(b) (4)

4.a.2.1.5 Community Cloud Asset Provisioning

Team IBM will meet asset provisioning service levels as proposed by DOI in Sections 3.2.b.v and 3.2.b.vi.

Table 4.a.2-3: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.7.6	(b) (4)
C.7.6.1	
C.7.6.2	

4.a.2.1.6 Community Cloud Service Desk

Team IBM will meet service desk service levels as proposed by DOI in Sections 3.2.b.ii, 3.2.b.vii, and 3.2.b.viii. Team IBM has established that to reach the Band 1 and Band 2 service for the following DOI service levels, we must adjust our service desk solution as described below:

- (b) (4)

- (b) (4) [Redacted]

Table 4.a.2-4: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.5.2.1.5	(b) (4)
C.7.11	(b) (4)
C.7.11.1	(b) (4)
C.7.11.1.1	(b) (4)
C.7.11.1.2	(b) (4)
C.7.11.1.3	(b) (4)
C.7.11.1.4	(b) (4)
C.7.11.1.5	(b) (4)

SOW Section	Team IBM's Approach
C.7.11.1.6	
C.7.11.2	
C.7.11.3	

4.a.2.1.7 Community Cloud Backup and Disaster Recovery (DR)

Team IBM will meet backup frequency service levels as proposed by DOI (see **Table 4.a.2-5**). We have determined that the backup requirements are met with our current SCG capability.

Table 4.a.2-5: Backup Frequency Bands

Band	Frequency
(b)	(4)

Table 4.a.2-6: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.6.1.3.6	
C.7.4.2	

SOW Section	Team IBM's Approach
C.7.5.1	
C.7.5.2	

4.a.2.1.8 Community Cloud Storage

Team IBM will meet asset provisioning service levels as proposed by DOI (see Section 3.2.b.v) We have determined that the backup requirements are met with our current SCG capability.

Table 4.a.2-7: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.6.1.3.4	
C.6.1.3.5	
C.7.5.3	

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SOW Section	Team IBM's Approach
	(b) (4)

4.a.2.1.9 Community Cloud Middleware Patching and Version Control

Team IBM will meet asset provisioning service levels as proposed by DOI.

Table 4.a.2-8: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.7.8	(b) (4)
C.7.8.1	
C.7.8.2	

4.a.2.1.10 Community Cloud Software and Licensing Support

Table 4.a.2-9: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.7.2.1	(b) (4)
C.7.2.2	
C.7.2.3	

4.a.2.1.11 Community Cloud Infrastructure Performance

Table 4.a.2-10: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.7.1	
C.7.1.1	
C.7.1.2	
C.8.6	
C.8.7	

4.a.2.1.12 Community Cloud SAP Performance Levels

Table 4.a.2-11: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.7.7	
C.7.7.1	



SOW Section	Team IBM's Approach
C.7.7.2	
C.7.7.3	
C.7.7.4	

4.a.2.2 Public Cloud Service Level Agreements

(b) (4)

4.a.3 Potential Problem Areas

Table 4.a.3-1: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.5.2.4	(b) (4)
(b) (4)	

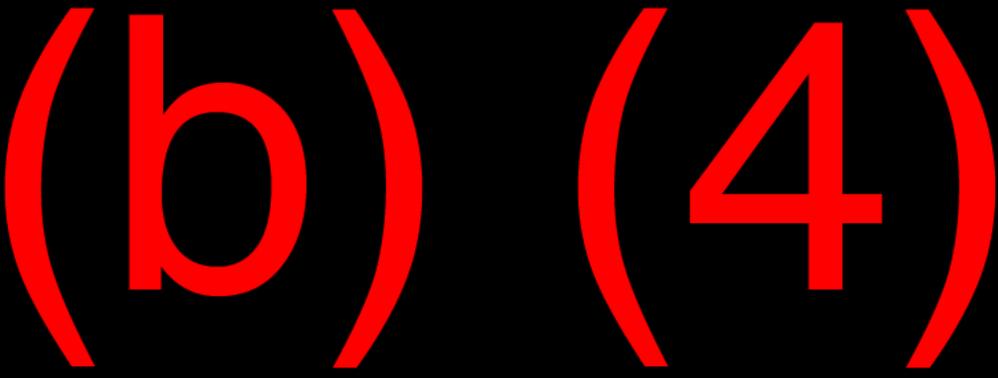
4.a.3.1 Potential Business, Management, and Governance Factors

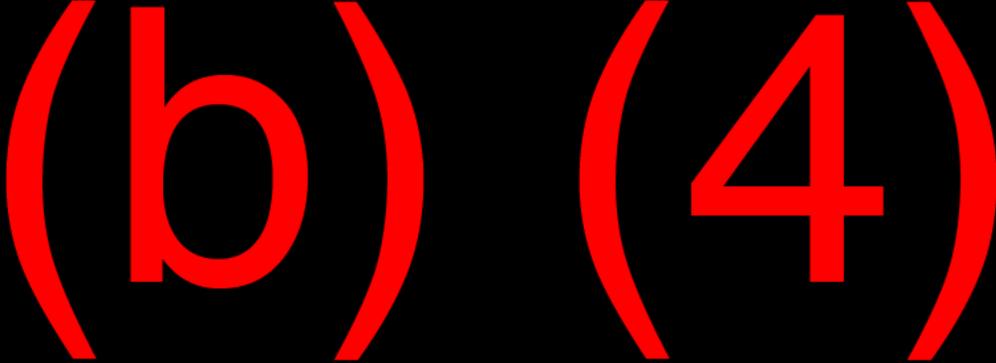
Table 4.a.3-2: Potential Business, Management, and Governance Factors

Team IBM offers an extensive set of best practices to identify, mitigate, and resolve potential problem areas.

Potential Problems/Issues/Risks	Suggested Solution Approaches/Mitigation Actions	Benefits to DOI
(b) (4)		



Potential Problems/Issues/Risks	Suggested Solution Approaches/Mitigation Actions	Benefits to DOI
		

Potential Problems/Issues/Risks	Suggested Solution Approaches/Mitigation Actions	Benefits to DOI
		



4.a.3.2 Potential Transition/Migration Factors

Transitioning to a new infrastructure service requires the ability to migrate with little or no disruption to business Operations. Team IBM coordinates work closely with DOI in making this transition successful. **Table 4.a.3-3** demonstrates key issues/risks encountered and successful mitigation experience from the execution of similar initiatives by the Team IBM.

Table 4.a.3-3: Transition/Migration Factors

Complex transition and migration requires trusted providers to help minimize risks and avoid failures.

Potential Problems/	Suggested Solution Approaches/Mitigation Actions	Benefits to
(b)	(4)	

Potential Problems/ Issues/Risks	Suggested Solution Approaches/Mitigation Actions	Benefits to DOI
(b)	(4)	

We recognize that transition and program success cannot be accomplished by Team IBM working alone. Our approach is to proactively collaborate with the DOI and associated contractors during transition and throughout the life of the program. Features of our transition approach are highlighted in **Table 4.a.3-4**.

Table 4.a.3-4: IBM Transition Approach

Our approach implements processes that moves problem resolution from hands-on resolution to problem avoidance, increasing user satisfaction and lowering costs.

Features of Our Transition Approach	Benefits to DOI
(b)	(4)

4.a.3.3 Potential Security Factors

IBM has a strong security posture that enable adherence to applicable Federal information security and privacy regulations. We understand DOI's desire to be in front of potential threats identified in other global environments and can leverage our worldwide data center security practices for the protection of DOI's environment. As a trusted provider with proven experience with FISMA compliance, we work with DOI to achieve/maintain FISMA compliance, proactively monitor the portal environment and leverage our expertise to guard against security

threats. **Table 4.a.3-5** is a list of security-related potential problems/issues and our recommended Solution Approaches/Mitigation Actions.

Table 4.a.3-5: Potential Security Factors

DOI benefits leveraging IBM security strengths to mitigate potential threats.

Potential Problems/Issues/Risks	Suggested Solution Approaches/Mitigation Actions	Benefits to DOI

Security is of utmost importance in Federal accounts and is a pervasive feature across our architecture, protecting digital assets and transactions. Team IBM provides systems monitoring, threat detection, analysis and escalation. If there is an incident, we alert DOI management and DOI Computer Security Incident Response Capability immediately upon detection. We formulate an IT Operational Security Plan, detailing a security framework and providing an action plan to minimize exposure to cyber vulnerabilities by implementing safeguards to protect the infrastructure and other solution components.

IBM FDCs adheres to IBM's corporate standards for baseline IBM physical security and electronic security policies, processes and guidelines. (b) (4)

IBM Security Solutions – Backed by Industry Validation

- #1 Security Company in the World – *SC Magazine* – 2010
- Leadership in Managed Security Services (2007, 2008, 2009) – Gartner, Forrester Wave, Frost & Sullivan
- #1 Identity Management Provider – IDC – 2007
- #1 Vulnerability Assessment Provider – Frost & Sullivan (2007)
- Gartner Leader Quadrant, Network IPS – 2008
- Gartner Leader Quadrant, Web Access Management (2007)

(b) (4)

4.a.3.4 Risk Management Approach

IBM has a well-defined Issues and Risk Management approach. As depicted in **Figure 4.a.3-1**, Team IBM will leverage its proven approach to mitigate delivery risks. This process proceeds from proactive identification of risks, to assessment of the likelihood and impact of the issue, to development of risk mitigation plans that include specific actions that can be initiated when required. If the risk should become reality, additional steps are taken to minimize the impact and correct the underlying causes of the issue.

Figure 4.a.3-1: Risk Management Process

Team IBM's Risk Management Approach mitigates delivery risks.



4.a.4 Migration and Coexistence Strategies

Successful migration to a new infrastructure hosting environment and coexistence during the data center consolidation period requires depth and breadth of the expertise to minimize the disruptions to mission-critical business Operations and enable significant cost savings. Team IBM has a proven track record to meet this challenge and help DOI with a successful IT transformation.

In 1997, IBM created a global office of the CIO, transferring IT governance to one centralized authority saving \$1.25B from 2006-2011. Data center optimization has also been a vehicle for innovation uncovering new ways to restructure for growth and respond to changing business requirements more quickly.

Team IBM presents a thorough approach to satisfy Section M.4.4.1.1.4 requirement of demonstrated understanding of migration and coexistence strategies that support uninterrupted delivery during transition. IBM services are built upon the foundation of our portfolio of infrastructure offerings, which encompass hardware and software solutions. These services are also supported by skills, methods and automation/enabling tools, used by IBM to help thousands of clients enhance infrastructure flexibility through consolidated and virtualized IT infrastructure, improved energy efficiency,

 **Proof Points**

- Data Center Infrastructure Consolidation**
 - Reduced 235 data centers to 12
- Application Rationalization**
 - 93 percent reduction in software licenses from 26,700 to 1,800
- IT Consolidation and Virtualization**
 - Consolidated and virtualized 6,500 servers onto ~30 IBM System z™ mainframes

and enhanced operational management. We conduct the migration according to our best practice Smarter Migration methodology phases—assess strategy and analysis, design, develop and test, and implement.

4.a.4.1 IBM Process for Migrating DOI to IBM SmartCloud for Government

Migration Challenges: (b) (4)

[Redacted text block]

Proof Points

Migration Factory Experience
The Migration Factory uses a five-step process, which has been meticulously refined over 25 years and hundreds of successful migrations.

[Redacted text block]

IBM Solution (Migration Process): (b) (4)

[Redacted text block]

Our automation-focused approach, illustrated in **Figure 4.a.4-1** explains the aspects of migration, coexistence, and workload-appropriate migrations. (b) (4)

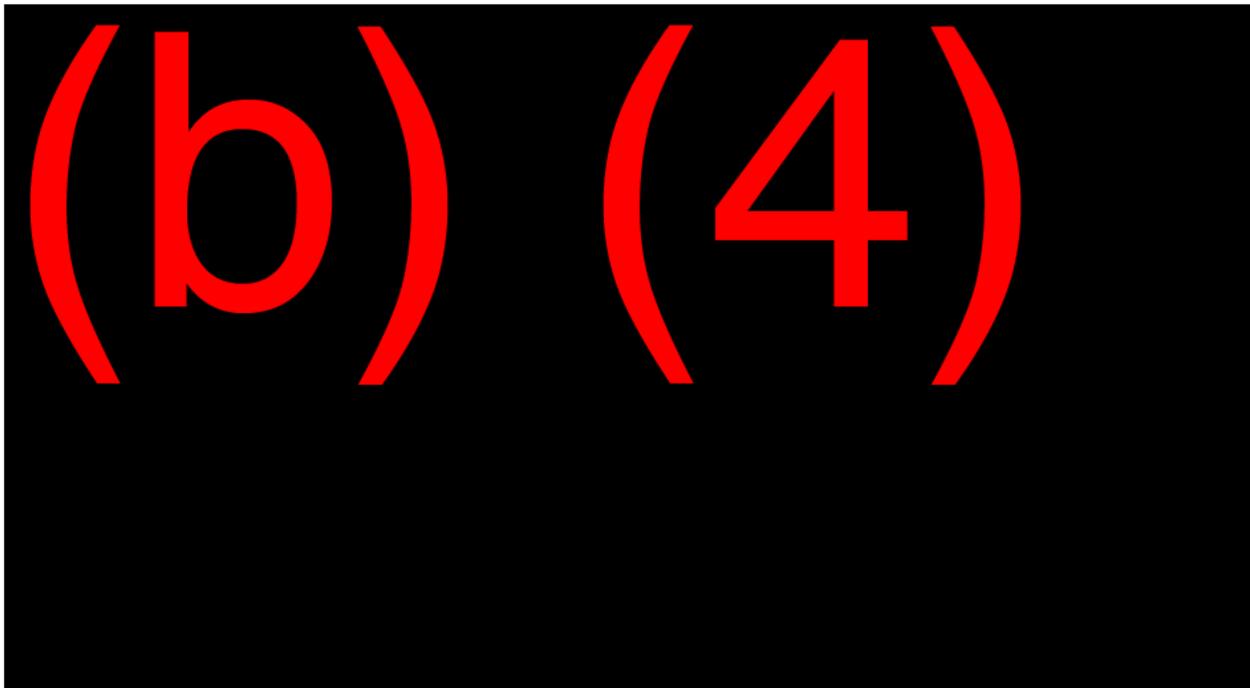
[Redacted text block]

4.a.4.2 Coexisting Workloads from Current and Target Operating Environments

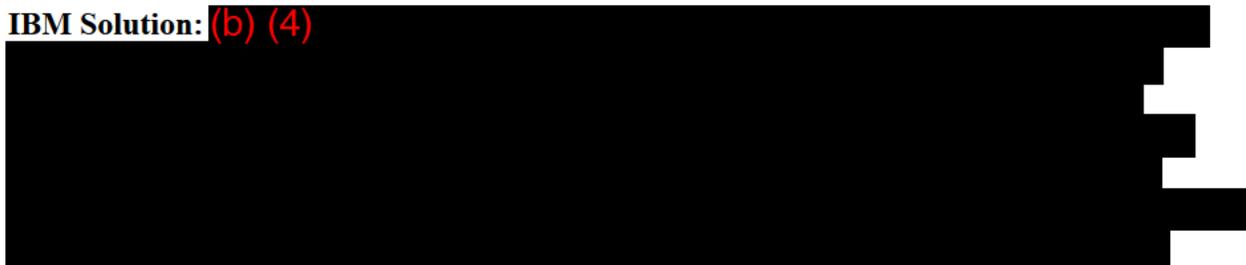
Coexistence Challenges: (b) (4)



Figure 4.a.4-2: Coexisting Workloads – Wave Interdependency



IBM Solution: (b) (4)



(b) (4)



4.a.4.3 Migration Methods and Techniques

IBM practitioners employ several move methods to balance the constraints of application outage windows with cost and tolerance for risk. At each individual task order level we would evaluate and select the most optimum migration technique considering risks, cost and schedule, as shown in **Figure 4.a.4-3**. Some of these techniques are described in the following sections:

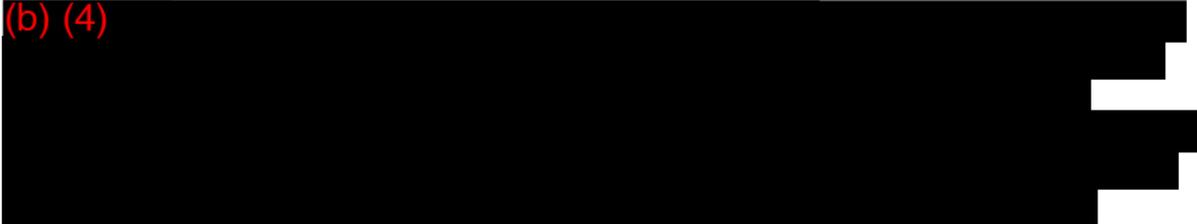
- (b) (4)
- 

Figure 4.a.4-3: Data Migration Techniques

Various techniques differ in requirements as well as cost and risk profiles.



- (b) (4)

Proof Points

- ✓ **25 years of porting experience**
- ✓ More than 2,500 porting/migration/re-platforming projects performed
- ✓ More than 15,000 workloads/applications ported
- ✓ Created Migration process 25 years ago
- ✓ Developed tools for porting/migration
- ✓ **15 years of consolidation, standardization and virtualization experience**
- ✓ More than 100 large Server Consolidation projects performed
- ✓ More than 200,000 servers consolidated and/or upgraded
- ✓ Created first Server Consolidation Methodology in 1995

- (b) (4) [Redacted]

4.a.5 Awareness and Training Requirements

Team IBM provides a consistent and proven integrated security methodology framework to comply with Awareness and Training requirements (**Figure 4.a.5-1**). This methodology is based on the integration of Federal Information Security Framework, IBM Security Framework, and IBM's Data Security and Privacy (DS&P) program. This framework is designed to manage and protect the Confidentiality, Availability and Integrity of our clients' and IBM data, and supports the processes outlined in the NIST Risk Management Framework. Included as part of our DS&P control framework component of this methodology is our best practices, policies and procedures associated with maintaining compliance with Federal Security Awareness and Training requirements. IBM's SA&T policy requires members of Team IBM, to include our subcontractors, to be knowledgeable of their security responsibilities and principles of effective risk management.

Figure 4.a.5-1: IBM Integrated Security Methodology Framework

Integrating Government and industry best security practices to protect DOI's data.



- (b) (4) [Redacted]

4.a.5.1 Security Awareness and Training (SA&T) Policy and Procedures (AT-1)

Team IBM's SA&T policy aligns with OMB Circular A-130 Appendix III, which requires the Government employees and contractors to complete user awareness training once a year. To meet this requirement, along with Team IBM's high standards for providing data security and privacy, IBM initiated, disseminates, executes and tracks the administration of our SA&T policy



and procedures for the Federal contract we support. Our SA&T policy, which is part of our overall Data Security and Privacy (DS&P) policies, is a formal, documented set of procedures that facilitate the implementation of the related FedRAMP baseline security controls, and addresses the purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance to specific contract specific enhancements. IBM supports our Federal clients by providing and tracking security awareness training for IBM and subcontractor personnel.

A recent example of how we maintain compliance with Federal SA&T requirements is IBM's support to the National Science Foundation (NSF). The IBM IT Security Team reviewed and updated our training plan to include what NSF requires Federal employees and contractors to complete. Updates included new information to be shared such as phishing, social engineering and other information. Following the training, Team IBM tracked and reported the number of employees/contractors who had completed their training for inclusion in the FISMA reporting to the NSF.

4.a.6 Quality Assurance Plan (QAP)

4.a.6.1 Introduction

This section provides the basic template that IBM uses to develop a Quality Assurance Plan. It will be customized for future task orders based on their stated requirements.

A key factor in Team IBM successfully implementing and sustaining high performance quality levels in meeting DOI's objectives is a robust quality assurance (QA) program. Team IBM's Quality Assurance Plan (QAP) describes our approach to implanting and managing a robust QA program.

We tailor our QA program processes and templates to meet the needs of the FCHS, as we did successfully on other large programs, such as U.S. Department of Justice Unified Financial Management System (DOJ UFMS), Transportation Security Administration Organizational Application Support and Information Services (TSA OASIS) and Internal Revenue Service Total Information Processing Support Services-3 (IRS TIPSS-3), as well as others such as Federal Deposit Insurance Corporation (FDIC), and New York Police Department Crime Data Warehouse (NYPD-CDW) contracts to meet their specific needs. We draw on that experience to develop a QAP that meets the specific DOI needs.

The Quality Assurance Plan (QAP) for FCHS contains measurement and analysis activities that are designed to provide objective results that can be used in communicating project progress, making informed decisions when managing the project activities, taking appropriate corrective actions when significant performance deviations are identified, and providing insight into project and process performance. The primary project activities that are supported are:

- (b) (4)
- 

(b) (4) [Redacted]

4.a.6.2 Scope

The measurement objectives, defined in the QAP, are designed to support the stated and established quality and process-performance objectives, in addition to delivery project management and organizational process management.

4.a.6.3 Purpose and Objective

The purpose of the QAP is to formally define measurements that will reflect or support the FCHS performance, describe the process required for collecting and reporting these measurements, and describe the process to achieve the project's established quality and process-performance objectives.

 **Proof Points**

- ✓ At TSA Oasis, IBM created a Playbook to control requirements and tied them to incentive/disincentives thereby integrating QA/QC to scope, budget and schedule
- ✓ At DOJ UFMS, IBM developed 'foundation build standards' using 4 steps of Quality Management Method to enable new business processes before the implementation, resulting in shorter development cycle

4.a.6.4 Validation of this Plan

This plan will be validated through the peer review process involving members of the FCHS leadership team. All issues and actions resulting from the inspection will be closed prior to this document being baselined and put under configuration control.

4.a.6.5 Related Documentation

This section identifies the documents that are related to the contents of this document as indicated in the following paragraphs.

4.a.6.5.1 Parent Documents

The parent documents establish the criteria and technical basis for the existence of this document. The parent document is:

- IBM Solutions Development Group (SDG) Policy

4.a.6.5.2 Reference Documents

Reference documents are those documents that, although not a part of this document, serve to amplify or clarify its contents, or dictate work policy or procedures. The specific reference documents are:

- Software Engineering Institute (SEI) Capability Maturity Model Integration (CMMI) for Development (CMMI-DEV), Version 1.2, Staged Representation
- The Goal/Question/Metric Method: A Practical Guide for Quality Improvement of Software Development, Rini Van Solingen and Egon Berghout, McGraw-Hill, 1999

4.a.6.6 Methodology

Team IBM's quality management method consists of four major steps, shown in **Figure 4.a.6-1**. These steps are consistent with the ISO 9001 series of standards and guidelines on project quality management.

Figure 4.a.6-1: Quality Management Method



appropriate implementation of behaviors which satisfy the measurement facilitates realization the second goal.

(1) Plan for Quality: (b) (4)
[Redacted text block]

(2) Establish the QA Framework (QAF): (b) (4)
[Redacted text block]

(3) Perform Quality Control Activities: (b) (4)
[Redacted text block]

(4) Implement Corrective Actions: (b) (4)
[Redacted text block]

We leverage many techniques to implement corrective actions. Among the techniques are:

- (b) (4) [Redacted]

Team IBM leverages lessons learned, personnel from similar projects, and past performance/ experiences of our key personnel to determine not only how best to resolve challenges, but more importantly to decide how best to mitigate risk and maintain quality.

4.a.6.7 Critical Success Factors

Critical success factors that were considered when developing the FCHS QAP and associated measurement assets are:

- (b) (4) [Redacted]

4.a.6.8 Measurement Development Process

The following steps have been taken and will be used to define and refine the measurements used on the FCHS project.

4.a.6.8.1 Business Goals and Objectives

The SDG Measurement Model identifies the business objective to be addressed by the Quantitative Project Management program. It is:

- (b) (4) [Redacted]

4.a.6.8.2 FCHS Business Goals and Objectives

The scope of the FCHS is to provision an infrastructure type service offering for hosting that:

- (b) (4) [Redacted]

4.a.6.8.3 Classify and Align Measurement

Team IBM has taken DOI's requirements for IaaS including application configurations, performance and availability characteristics and has estimated the corresponding configurations required to support the implementation in IBM's SCG. The implementation utilizes configurations as available in our Cloud Offering Services Order Guide.

For each of the Acceptable Quality Levels, Team IBM provides the following monitoring information:

(b) (4)

[Redacted content]

4.a.6.8.4 Describe and Document the Measurement

4.a.6.8.4.1 Support the System’s Needs in Terms of Processing Power, Memory, Storage, and Connectivity

Business Goal	(b) (4)
Relevant Question	
Metric	
Relevant Process/Subprocess	
Metrics to Quantitatively Manage the Process	
Inputs	
Collector	
Frequency of Collection	
Reporter	
Frequency of Reporting	
Reporting Mechanism	

Presentation Requirements	(b) (4)
---------------------------	---------

4.a.6.8.4.2 Operates Within the Enumerated Constraints

Business Goal	(b) (4)
Relevant Question	
Metric	
Relevant Process/Subprocess	
Metrics to Quantitatively Manage the Process	
Inputs	
Collector	
Frequency of Collection	
Reporter	
Frequency of Reporting	
Reporting Mechanism	
Presentation Requirements	

4.a.6.8.4.3 Meets or Exceeds the Acceptable Quality Levels and Performance Standard

Business Goal	(b) (4)
Relevant Question	

Metric	(b) (4)
Relevant Process/Subprocess	
Metrics to Quantitatively Manage the Process	
Inputs	
Collector	
Frequency of Collection	
Reporter	

Frequency of Reporting	(b) (4)
Reporting Mechanism	
Presentation Requirements	

4.a.6.9 Monitoring and Reporting Project Measurements

Process performance indicators provide actionable information that will be used by the FCHS Management Team. **(b) (4)**

4.a.7 Management and Organizational Structure

IBM and our teaming companies combine to form a proven team with the requisite skills and experience to be successful on the FCHS program. Our team has the resources and commitment to deliver our solution on time and within budget, and to meet or exceed performance requirements. Team IBM's organizational structure provides our program manager control over project activities, to include those of our subcontractors, while facilitating efficient lines of communication with DOI leadership. Our organization is flexible and agile enough to rapidly address the evolving and sometimes unpredictable needs of the Government to support the DOI mission. Team IBM's program organization adheres to three time-tested principles for managing programs with similar scope and complexity:

- **(b) (4)**

We look forward to building a strong, collaborative working relationship with DOI across our entire organization, backed up with the commitment of Team IBM's senior executives to enable success on this project. The leadership team we assign to FCHS has experience managing large programs that demand effective coordination and collaboration across multiple task orders – a skill critical to the success of this program. Knowing that the Government intends to award three task orders, we are investing in the establishment of a leadership team and program structure that can execute on Day 1 and grow to support the program as DOI awards follow-on task orders.

Proof Points

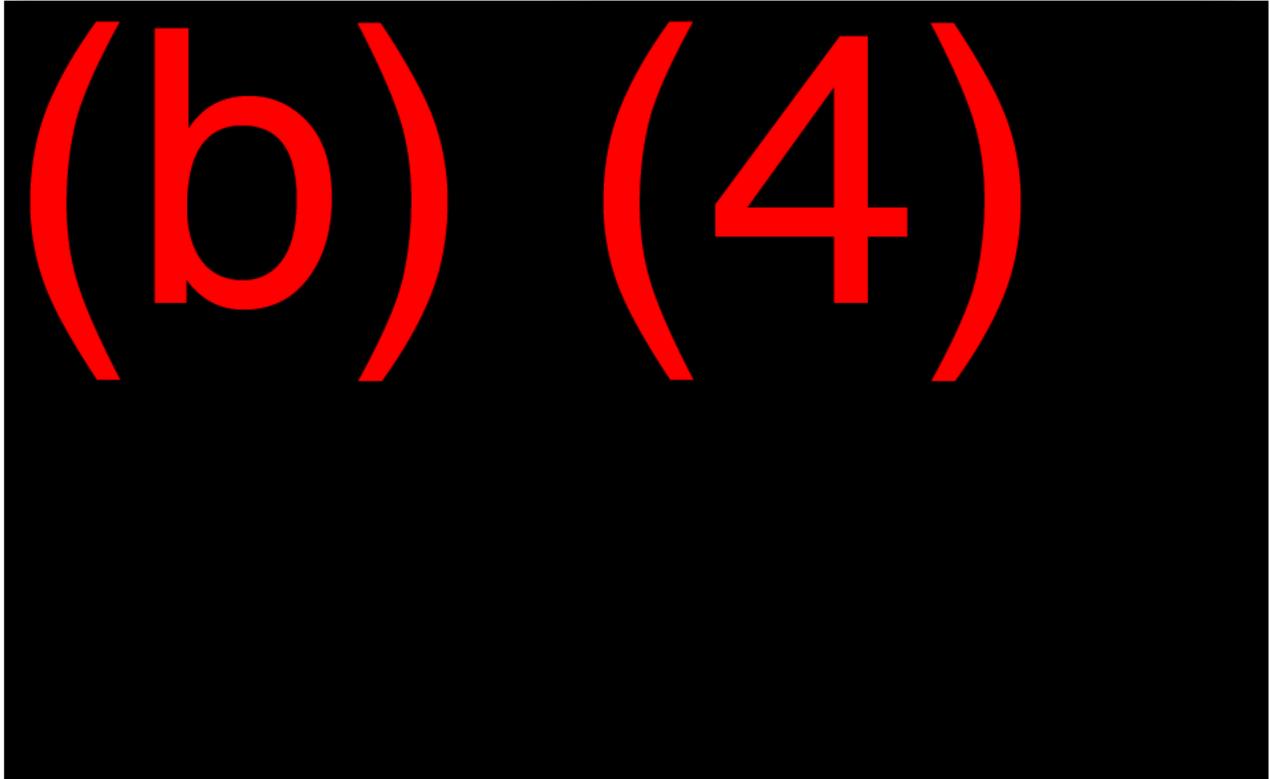
- ✓ Team IBM develops cloud solutions for some of the world's largest organizations
- ✓ Managing the implementation of the Citigroup private cloud:
 - Global financial institution with more than 200 Million customer accounts in 140 countries
 - 12 Global Datacenters with more than 250,000 users
 - 60,000 physical and virtual servers
 - 22 different versions of Windows, Linux, and UNIX

4.a.7.1 IBM Service Delivery Management and Organizational Structure

To achieve DOI's IT transformation goals and objectives, Team IBM establishes a management and organization structure based on a governance and management model that can execute with discipline and precision, operate within the context and history of existing culture and infrastructure, and understand and anticipate the architecture and technology trends that are driving the IT field.

Figure 4.a.7-1 depicts this structure and demonstrates IBM's commitment as the prime contractor to involve our talented team of subcontractors in various facets of program execution, to include participation in the Strategic Advisory Board:

Figure 4.a.7-1: IBM IT Service Delivery Management Roles and Responsibilities
A one-badge team integrated and organized to enable success.



1. **Strategic Advisory Board:** (b) (4)

[Redacted content]

2. **Program Management:** (b) (4)

[Redacted content]

3. **Task Order Management:** (b) (4)

[Redacted content]



(b) (4)



Associated Support Services

(b) (4)



Engineering Services: (b) (4)



Interface Design and Integration Services: (b) (4)



Training Services: (b) (4)

[Redacted]

[Redacted]

 **Proof Points**

More than 70 percent of IBM's consultants have earned the security certifications required to support the Federal Government and more than 65 percent of our staff hold security clearances at the secret level and above.

We offer:

- (b) (4) [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

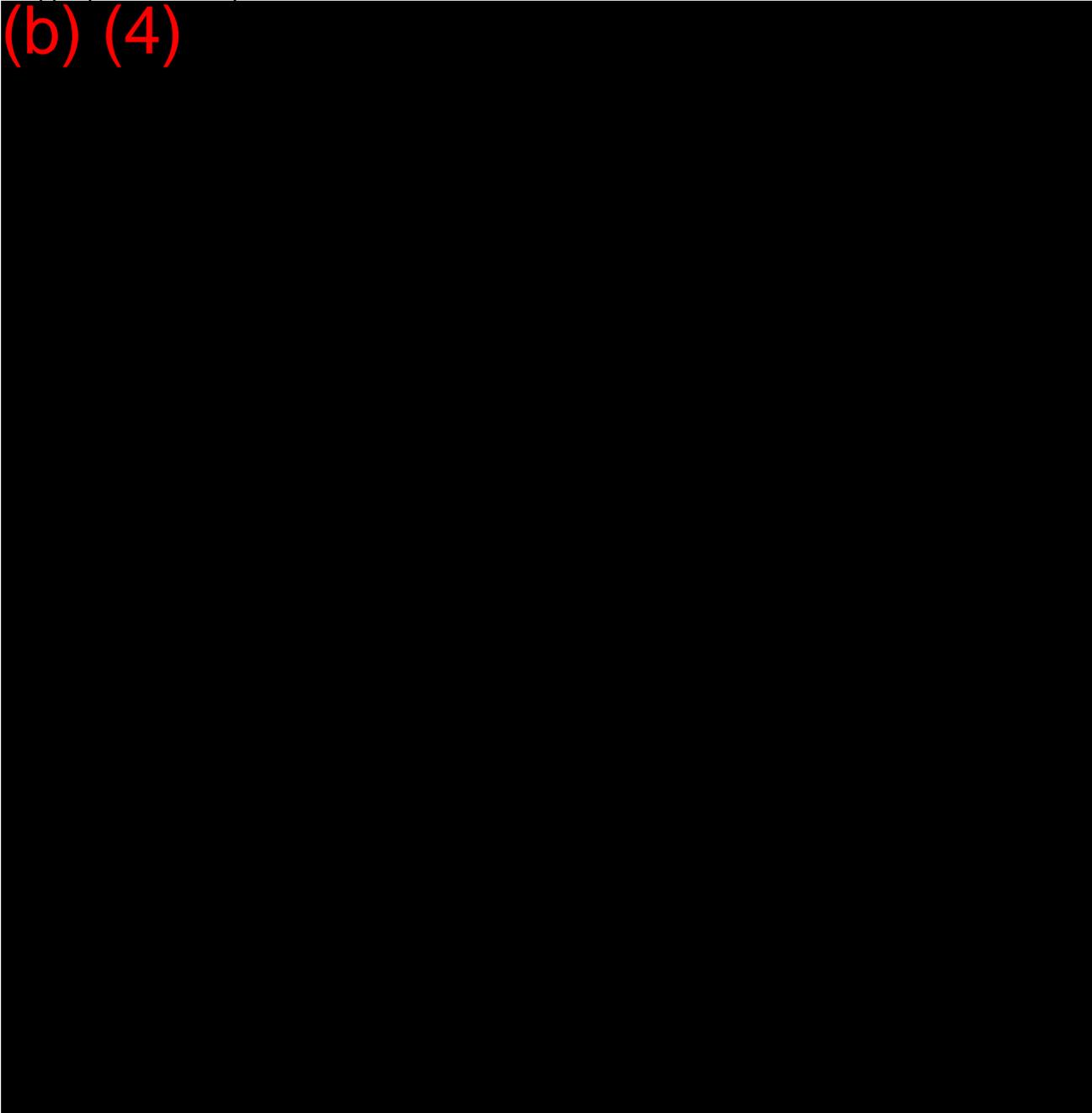
4.a.7.2 Team IBM

Team IBM's breadth of core competencies and leadership positioned across our broad range of services enables us to staff the services requested. IBM places a great deal of value on creating

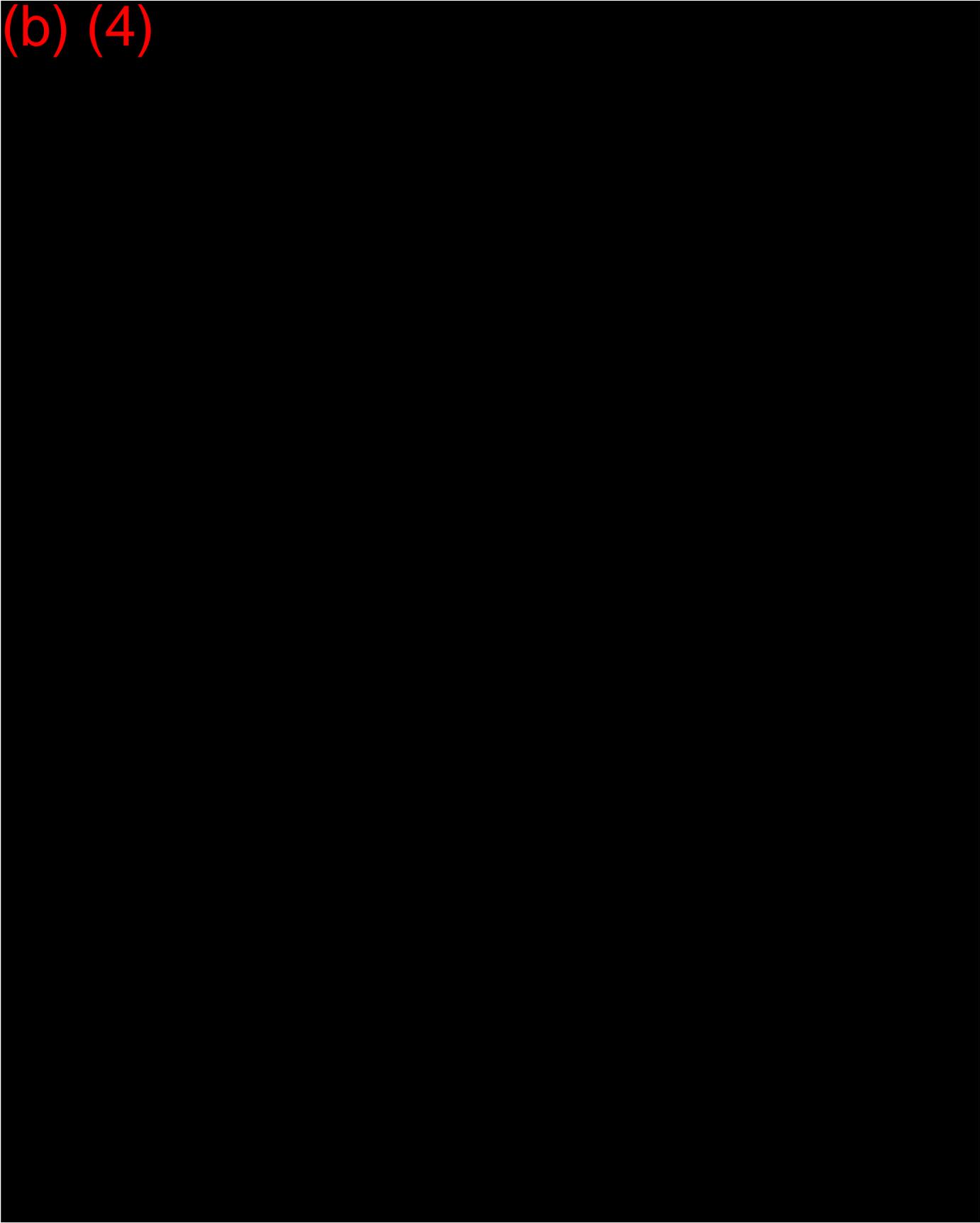


high-performing relationships with our subcontractors. Included in Team IBM are several Small Business teammates with unique skills, experience and knowledge of DOI processes and culture, enabling us to improve our performance and lower risk to the Government. Our ability to leverage the best resources, maximize our organizational efficiency, and deliver continuous improvement depends directly on the teammates we choose to perform with us on a contract. In addition, IBM believes in helping to foster the growth of our Small Business partners and are committed to meeting DOI's goals for including small and disadvantaged businesses in FCHS. The following sections introduce IBM's Day 1 subcontractors for the FCHS program. As DOI awards task orders to Team IBM, we review our team's composition and will make changes as appropriate to best perform on the individual contracts.

(b) (4)



(b) (4)



(b) (4)

4.a.7.3 TO Management Process and Tools

(b) (4)

Flexible and Disciplined Planning

- ✓ Extensive SDLC/SELC experience across more than 30 current IDIQ contracts
- ✓ Repeatable methods/tools, complementary and tailorable for user SDLCs/SELCs
- ✓ Powerful suite of certified or compliant management practices (including CMMI, ISO, ITIL, and EVMS) and tools

Status Reporting Approaches: The Status report will be used to confirm that the expenditure of resources is consistent with and supports the completion of tasks within projected cost and schedule limitations. (b) (4)

4.a.8 Resource Planning

In this section, Team IBM demonstrates how its approach to resource planning supports DOI's changing needs for service in the cloud environment. (b) (4)

(b) (4)

Operational Monitoring. To support daily operational monitoring, Team IBM provides integrated visualization of information from monitoring from a variety of infrastructure tools. We provide the Tivoli Integrated Portal (TIP) Dashboard, which is used to display accurate, targeted, historical, and real-time metrics from:

- OS-level monitoring and management
- Event monitoring
- Application transaction monitoring
- Performance monitoring, including historical
- Network monitoring and management

Team IBM brings DOI a wealth of experience in enterprise operational monitoring. As a corporation, IBM had more than 4,000 successful cloud engagements in 2011 with 1 million enterprise application users working on the IBM cloud. Our support to the U.S. Federal Government includes clients such as the U.S. Forest Service, the U.S. Department of Housing and Urban Development, the U.S. Army, the U.S. Navy, and the Veteran's Administration.

4.a.8.1 Operations Management Framework

IBM's Management Framework recognizes that the resource planning processes and procedures required to manage ongoing services operations are fundamentally different from standard industry models used to achieve desired performance standards. IBM grounds its approach to Operations Management in ITIL[®] version 3. Team IBM's framework meets the changing needs of the environment.

Continual Service Improvement: IBM creates processes and tools for driving improvement in service quality. IBM defines key metrics and then uses a series of proactive methods for identifying opportunities for service improvement. We analyze Service Desk data and customer satisfaction input to identify and implement opportunities for improving efficiency and effectiveness of operations and for providing DOI with insight into areas for enterprise improvement.

4.a.8.2 Control Mechanisms

(b) (4)

Proof Points

- ✓ IBM's Federal Hosting Experiences:
 - Air Force – EIS Private Cloud
 - Go Army Ed
 - Army HQ AES
 - Army ME FST
 - Navy JTF-CAPMED
 - Joint Pathology Center
 - Navy MWR
 - NAVSEA 04Xi
 - NOAA NCDC CDMP
 - FEMA WSSRD and DMARTS
 - NRC DPC(and ADAMS)
 - NARA ERA
 - CMS HIGLAS
 - VA Agent Orange
 - GSA TMS
 - 9/11 VCF
 - HUD HIFMIP
 - IRS – Net Insight
- ✓ **Benefits to DOI:** IBM has the resources and expertise to deliver the highest quality services with predictable and consistent results.

Proof Points

- ✓ Nina Rose Hatfield, the FBMS Project Sponsor for DOI, said, *The Financial and Business Management System is the foundation of DOI's plans for establishing a world-class financial management organization, with standard business processes and strong internal controls. We selected IBM because they bring the requisite SAP and business transformation experience to enable us to succeed.*
- ✓ IBM has built and maintained dozens of enterprise level applications and systems across the U.S. Federal Government, including U.S. Department of Defense (DoD), FDIC, TSA, FEMA, OPM and Centers for Medicare & Medicaid Services (CMS)
- ✓ IBM has significant experience with Application Development using .NET and SQL Server for multiple U.S. Federal agencies including another HHS Agency – SAMHSA as part of the Application Support Services contract

(b) (4)

[Redacted content]

4.b Usability and Functionality

4.b.1 Community Cloud Service Offerings' Features, Functionality, Capabilities, and Usability

DOI is looking for a vendor capable of delivering the cloud services constituting of seven different technical service lines with cloud capabilities that are easy to use and functional while meeting service level requirements. IBM brings its experience in cloud provisioning, cloud orchestration, service management, application management and service delivery to support DOI's vision and expectations. The following section explains about our capabilities and our approach to addressing DOI's requirements.

IBM's Infrastructure-as-a-Service (IaaS) is designed to provide rapid access to security-rich, enterprise-class virtual server environments, well suited for production, as sand-box environments for testing and development applications and other dynamic workloads. The IBM cloud provides necessary hooks to support upper layers of the cloud stack such as Database-as-a-Service, Storage services, Web hosting, High-performance computing and alike. IBM SmartCloud for Government reference architecture is developed to support provision computing capabilities such as server time, storage for consumers enabling unilateral and automatically request resources in the cloud through a self-service portal. **Table 4.b.1-2** provides information on how IBM's cloud solution capabilities addresses DOI usability and functional requirements for the service offerings.

Table 4.b.1-1: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.5.1.1	(b) (4)



SOW Section	Team IBM's Approach
C.5.1.2	
C.5.1.3	
C.5.1.4	
C.5.1.5	
C.5.2.1.1	
C.5.2.1.2	
C.5.2.1.3	
C.5.2.1.4	
C.5.2.2	
C.5.2.3	

SOW Section	Team IBM's Approach
C.5.2.6	
C.6.1	
C.6.1.1	
C.6.1.2	
C.6.1.3	
C.6.1.3.1	
C.6.1.3.2	

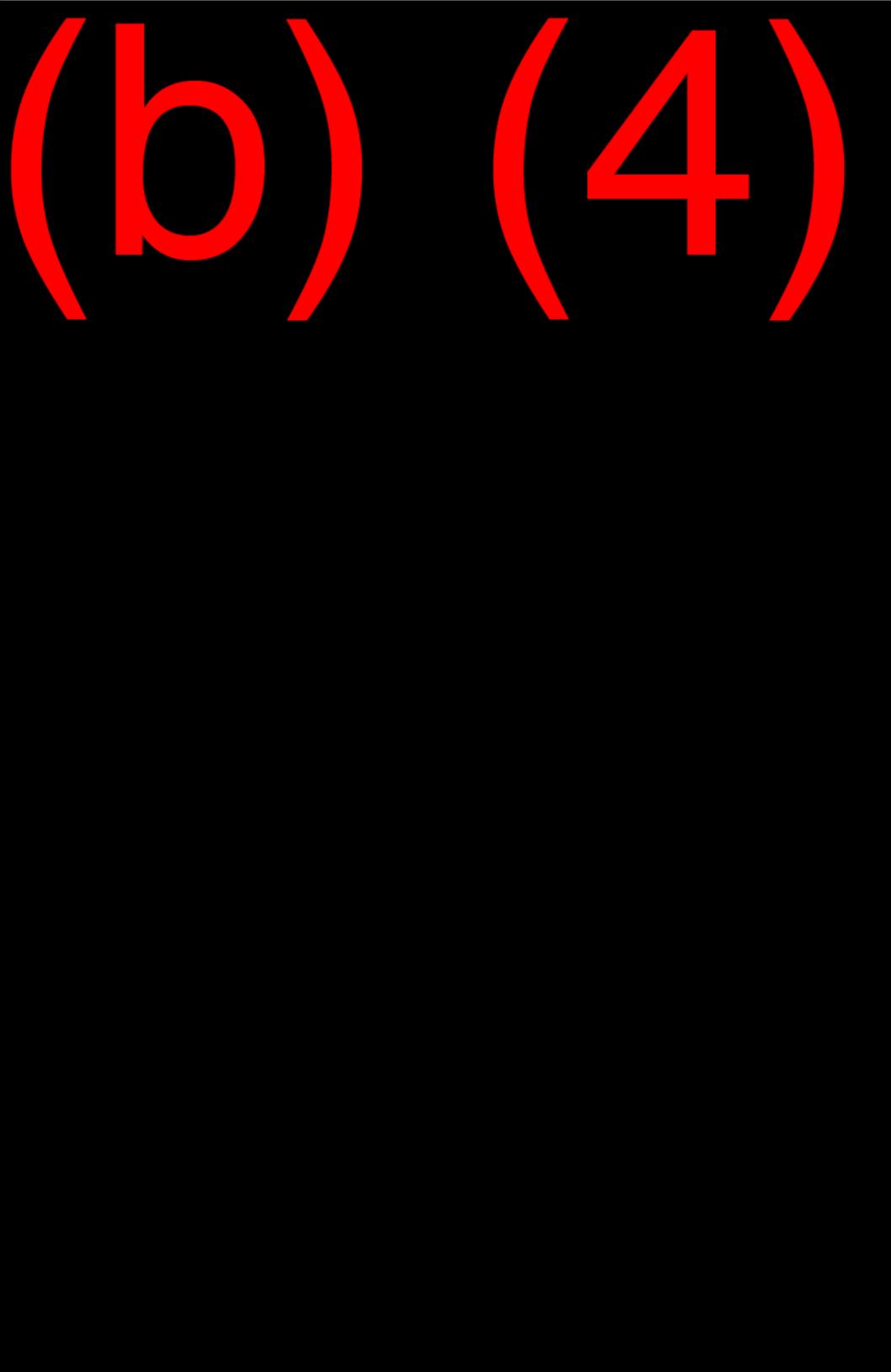


SOW Section	Team IBM's Approach
C.6.1.3.3 Operations	
C.6.1.3.7	
C.6.1.4	
C.6.1.4.1	
C.6.1.4.2.1	
C.6.1.4.2.2	
C.6.1.4.2.3	
C.6.1.4.2.4	
C.6.1.4.2.5	
C.6.2.1	



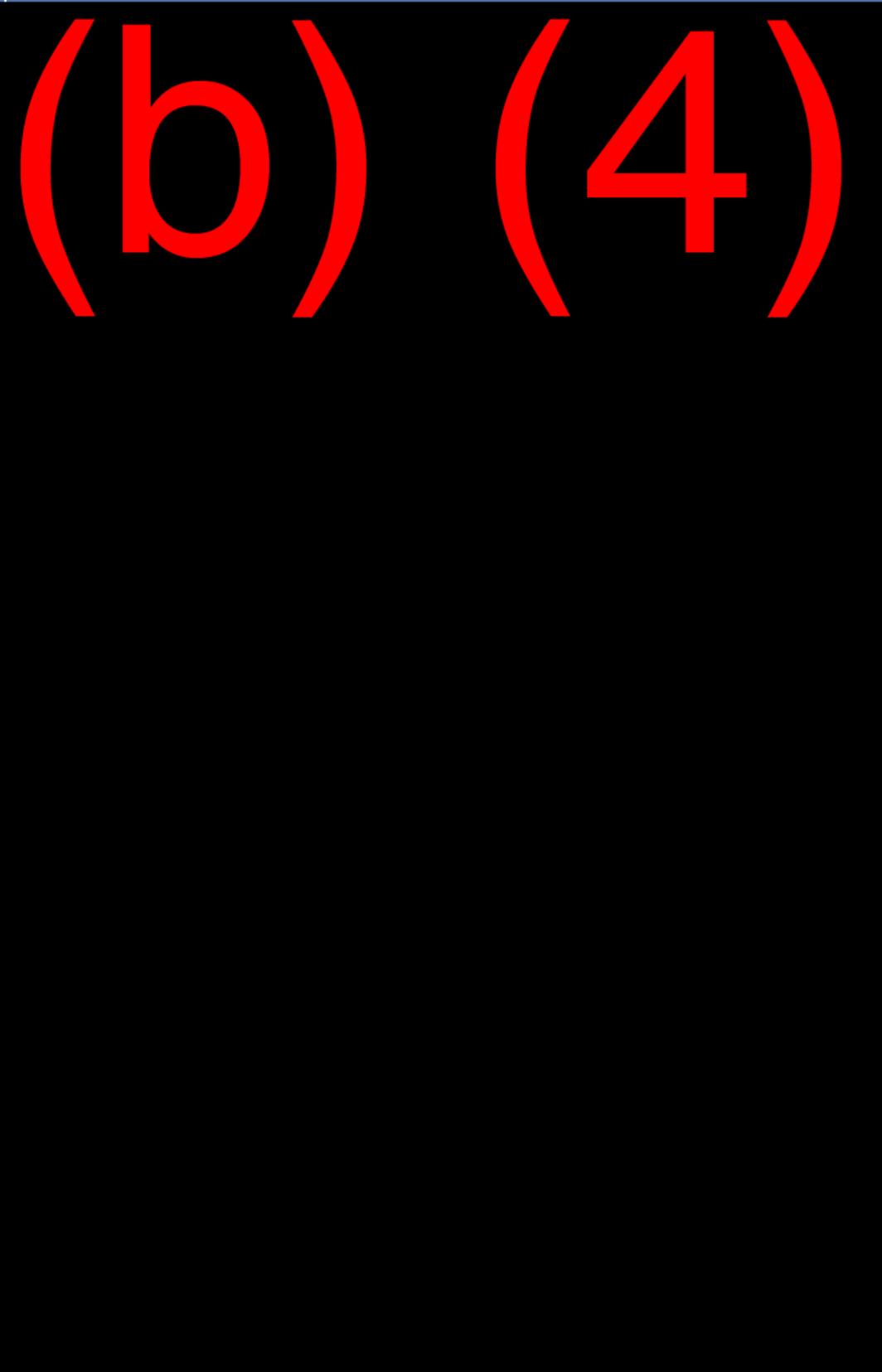
SOW Section	Team IBM's Approach
C.6.2.1.2	
C.6.2.1.3	
C.6.2.1.4	
C.6.2.1.5	



SOW Section	Team IBM's Approach
C.6.2.1.6	
C.6.2.2.1	
C.6.2.2.2	
C.6.2.2.3	
C.6.2.2.4	
C.6.2.2.6	



SOW Section	Team IBM's Approach
	
C.6.2.2.7	
C.6.2.2.8	
C.6.2.2.9	
C.6.2.2.10	

SOW Section	Team IBM's Approach
C.7.1.3	
C.7.10	
C.8.1	
C.8.2	
C.8.8	
C.8.9	

SOW Section	Team IBM's Approach
C.8.10	
C.8.11	
C.8.12	
C.9	

Table 4.b.1-2: IBM Cloud Usability and Functionality Features

IBM's IaaS is designed to provide security-rich, enterprise-class cloud environments.

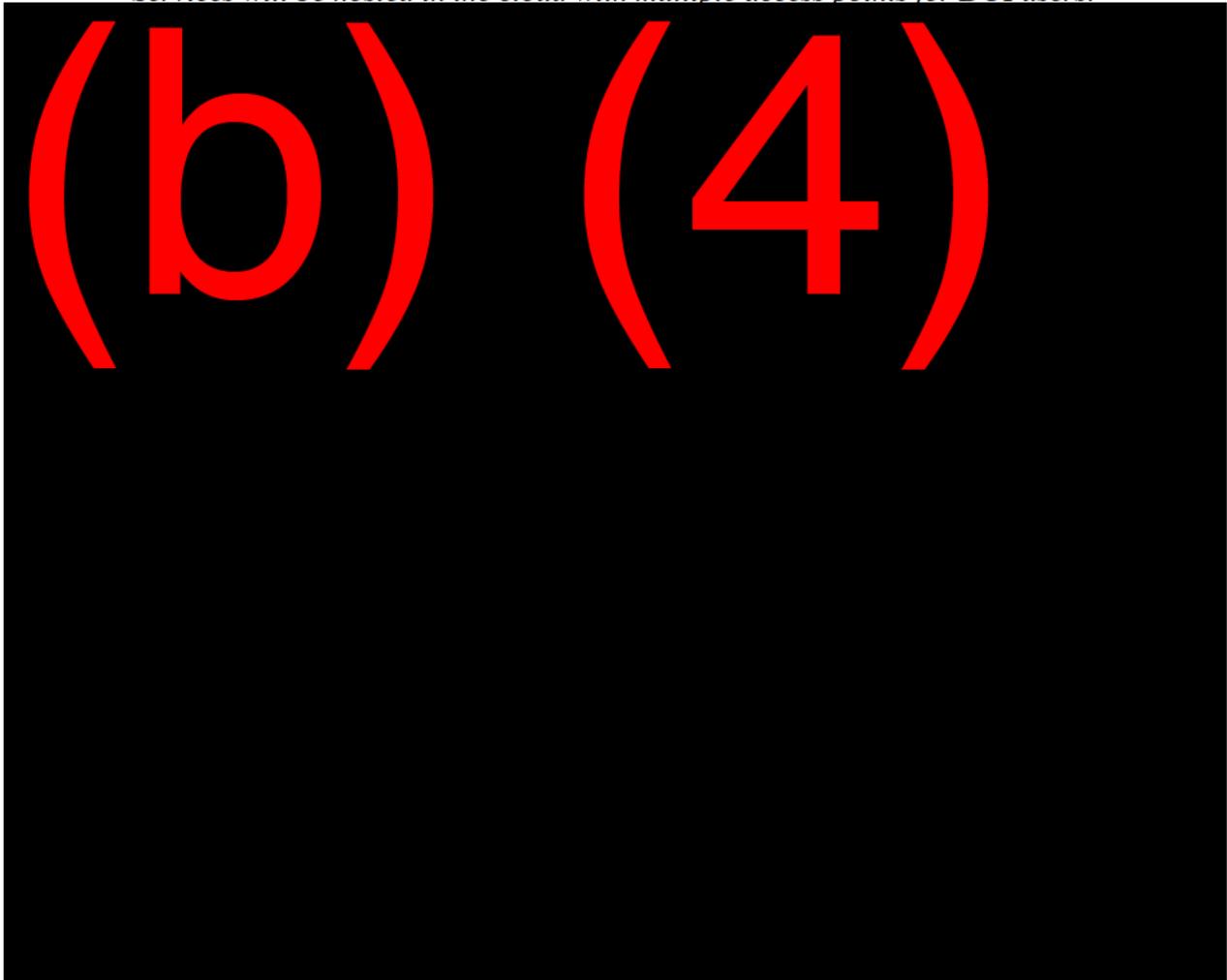
DOI Needs	IBM Cloud
The Need	IBM Solution
Overall User Experience	
Ease of Use	
Required training to gain proficiency	
User Authorization Workflows	
Set up Authorized Users	
Resource and Service Level Templates	

DOI Needs	IBM Cloud
The Need	IBM Solution
Scalability of Virtual Machines and Storage	
Alerts and Alarms	
Role-based Reporting and Filters	
Usage and Cost Monitoring Reports	
Incident Management Reports	
Demonstration Site Information	

Figure 4.b.1-1 shows the overall solution that IBM is providing to DOI to satisfy the FCHS requirements. The techline services will be hosted in the cloud with multiple access points for DOI users to the infrastructure. DOI users access the IBM cloud through VPN, site-to-site connections, DOI LAN through trusted internet connections.

Figure 4.b.1-1: DOI Solution Overview

Services will be hosted in the cloud with multiple access points for DOI users.



4.b.1.1 Virtual Application and Virtual Desktop Support

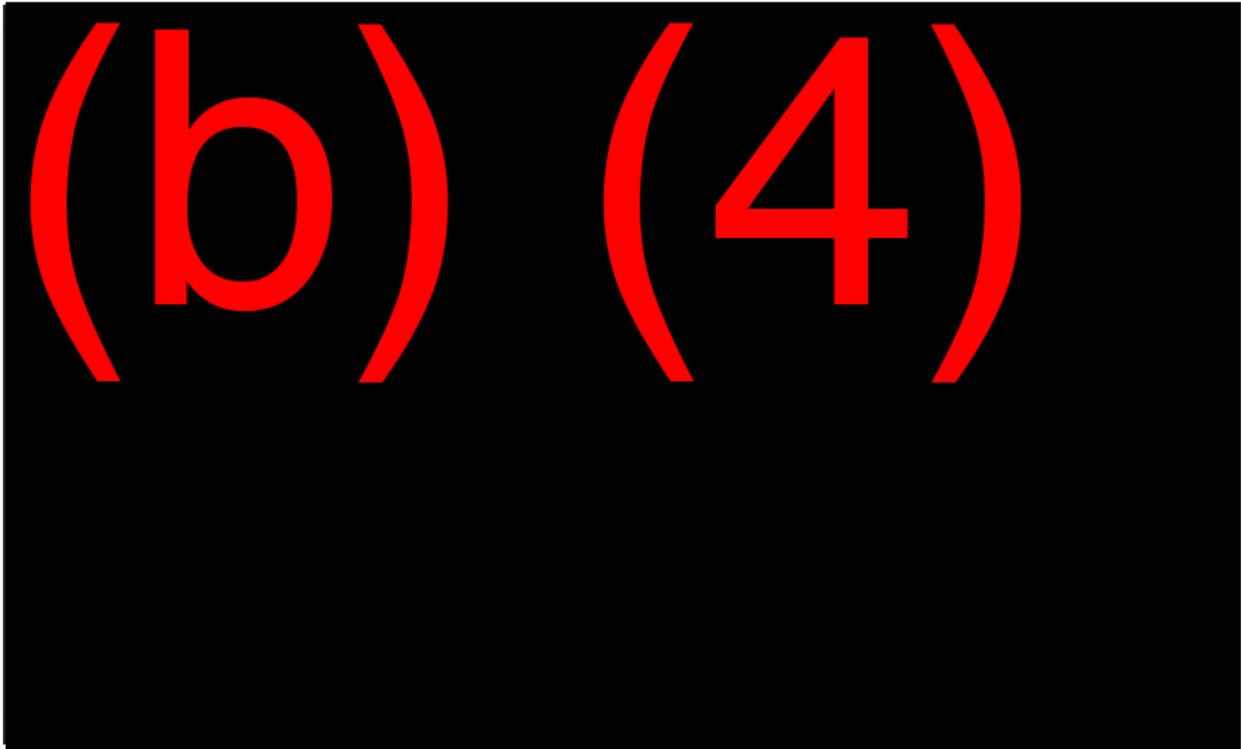
The architecture that IBM is planning to implement to service Virtual Desktops for Government Customers includes a cluster, console, and branch office. This architecture is shown in

Figure 4.b.1-2. (b) (4)



Figure 4.b.1-2: Virtual Desktop Infrastructure Solution

This VDI architecture can support a large number of users with high levels of service.



4.b.1.2 Geographic Information Services

Geospatial software from ESRI is a key component of DOI's installed software base and supports mission areas across the department including wildland fire, natural resource management, and recreation. Team IBM, including team members ESRI and Xentity have worked with DOI to recommend and implement geospatial capabilities. The full integration of these teammates and IBM's longstanding relationship with ESRI which extends software and hardware offerings further enhances our interoperability with the DOI's installed base.

(b) (4)

[Redacted content]

(b) (4)

4.b.2 Interoperability with the Government's Installed Base

IBM's proposed service offering is interoperable with the Government's installed base of standard software and hardware, including mobile devices.

Table 4.b.2-1: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.5.2.5	(b) (4)

4.b.2.1 Overall Interoperability

The completeness of IBM's solution allows for interoperability with the DOI's installed base. IBM has a virtually unparalleled scope and reach of services and partners in the Information Technology industry. We are able to support almost all resource requirements requested by DOI (see Section 3.2.a Establish and Meet Resource Requirements, and **Table 4.b.2-2 Solution Support for Interoperability**). (b) (4)

(b) (4)

Table 4.b.2-2: Solution Support for Interoperability

The completeness of IBM's solution allows for interoperability with the DOI's installed base.

Installed Base Component	IBM Interoperability Strategy
(b) (4)	(b) (4)

Installed Base Component

IBM Interoperability Strategy

(b) (4)

4.b.2.2 Mobile Interoperability

The Department's mobile devices are composed of a mix of laptop computers, smart phones (BlackBerry, iPhone, Android) and tablets (iPad, Android, others). The flexibility and breadth of our offering is a key feature in enabling capability with an install base. IBM also recognizes that mobile devices are creating a unique opportunity to connect with and interact with employees, customers and partners, real-time data, information and expertise can drive intelligent decisions and actions. Complicating this is the variety of devices used, employees who increasingly wish to use their own devices at work, application level and device management, cost controls, and security concerns. To address this IBM provides an extensive set of mobile capabilities across technology and business to help organizations deliver mobile solutions to increase efficiencies and gain business agility.

Through our business partners, such as MIR3, IBM can extend the event management capabilities of Tivoli's Enterprise Console (TEC) to mobile devices. TEC provides an infrastructure overview and sophisticated, automated problem diagnosis and resolution. The MIR3 inEnterprise SaaS offering extends bi-direction management of TEC events to mobile devices in a secure fashion. MIR3 inEnterprise is a secure, role-based notification platform, which integrates into an organization's communication infrastructure, bringing intelligent notification to a variety of platforms – including mobile.

IBM's experience with enterprise mobile devices spans mobile application development, mobile device management (MDM), mobile application management (MAM), and even modernization of legacy environments to support mobile technologies. DOI has many legacy applications, such as its Automated Fluid Minerals Support System (AFMSS), which will undergo modernization



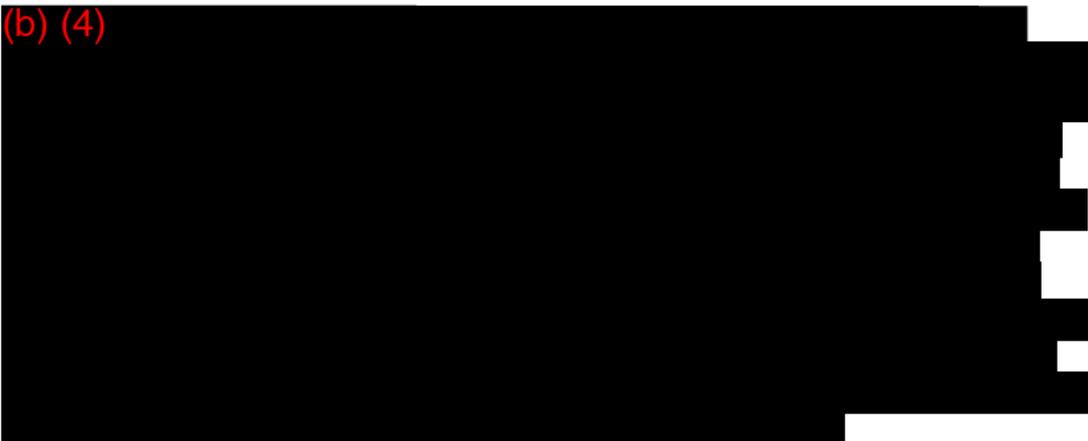
to better support mobile device. IBM is well-positioned to provide mobile development environments, testing environments, and support services to enable this modernization including our own offering in this space – Worklight. IBM Worklight provides an open, robust, and advanced mobile application platform for smart phones and tablets. These products would help DOI to efficiently develop, run and manage HTML-5, hybrid and native applications, using standards-based technologies and tools, mobile-optimized middleware, a variety of security mechanisms, with integrated management and analytics capabilities. IBM Worklight enables the creation of rich, cross-platform apps without the use of code translation, proprietary interpreters or unpopular scripting languages, while reducing the time-to-implement, cost and complexity of development, and enabling a better user experience across a variety of mobile devices. This cross-platform approach allows IBM to support the development and deployment of a mix of smartphones representative of the DOI’s installed base of mobile devices.

IBM’s experience with strategic outsourcing (SO) services for our clients has given us hands-on experience with the installation, configuration, operations, and trouble shooting of the complete range of DOI’s install base. As the current systems integrator for DOI’s FBMS SAP implementation and current disaster recovery services provider for NBC, we have intimate knowledge of your enterprise systems. This intimate hands-on knowledge of your infrastructure further enhances our ability to provide services interoperable with your installed base.

Table 4.b.2-2 summarizes key elements of IBM’s proposed offering in addressing the challenges of the DOI’s diverse installed base.

4.b.3 Recommended Elements for Pre-Award and Post-Award Testing and Operational Capability Demonstrations

At the Government’s discretion, IBM demonstrates the capabilities and performance of our solution after being identified as an apparent awardee. IBM recommends demonstrating the features of our solution that provide the best examples of how we satisfy the Government’s key requirements for usability and functionality requirements and comply with the Government’s objective areas of usability, flexibility, extensibility, and performance. Thus, the elements for Team IBM’s pre-award and/or post-award testing and demonstration of operational capability include the following:

1. (b) (4) 





3. (b) (4) [Redacted]

Upon notification of selection as an apparent awardee and as requested to demonstrate our solution’s capabilities, Team IBM works with the Government to prioritize and refine test scenarios we have organized into a five-step demonstration process. The following sections describe these steps and provide an effective demonstration of Team IBM’s capability to deliver a positive user experience and greater productivity to DOI. In the description of each step, we list the features demonstrated, the requirements addressed, and the benefits provided to the DOI users. We also provide a brief explanation of the approach used to conduct the demonstration. On contract award, IBM develops a high-level plan for the post-award demonstration of our SCG solution working with DOI procurement to coordinate the logistics for the demonstration.

4.c IT Security and Regulatory Compliance Approach

4.c.1 Community Cloud Security and Regulatory Compliance Requirements

The IBM Community Cloud, hosted at the IBM Federal Data Centers (FDCs) in Raleigh, NC and Boulder, CO, is FISMA-compliant and verifies that DOI data remain within the sole jurisdiction of the U.S. Government. The FDCs, which meet the Tier III data center classification, are 1695 miles apart and will serve as alternate sites for each other. The IBM FDC includes hosting of hardware and software; an integrated suite of systems management and monitoring tools; the consolidation of redundant functions; green technology; virtualization and cloud services technology; and a Content Delivery Network (CDN) for cached content to reduce hardware requirements. It uses commercially available technology and IT processes that mitigate the risk of “lock-in” and disentanglement issues. We deliver services through proven skills and ITIL v3-aligned processes, practices, and tools. The FDC SmartCloud for Government is a secure, private multi-tenant cloud for Federal agencies only. FDC SmartCloud for Government is FISMA-compliant at the Moderate level and planned enhancements for High level compliance are expected in the near future.

Table 4.c.1-1: SOW Requirements Fulfillment

SOW Section	Team IBM’s Approach
C.5.3	
C.5.3.1	

SOW Section	Team IBM's Approach
C.5.3.2	
C.5.3.4.1	
C.5.3.4.2	
C.5.3.4.3	
C.5.3.4.4	
C.5.3.4.5	
C.5.3.4.6	
C.5.3.4.7	
C.5.3.4.8	
C.5.3.4.9	
C.5.3.4.10	
C.5.3.4.11	
C.5.3.4.12	
C.5.3.4.13	
C.5.3.4.14	
C.5.3.4.15	
C.5.3.4.16	
C.5.3.4.17	

4.c.1.1 Trusted Cloud

IBM SmartCloud for Government is composed of a thorough set of advanced security technologies for virtualized environments collectively known as Trusted Cloud. Trusted Cloud provides a layered Defense in Depth with robust Mandatory Access Control and advanced Trusted Computing technology and Integrated Encryption at multiple levels. (b) (4)



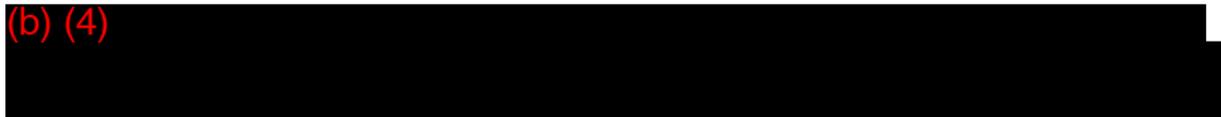
4.c.1.2 Network Operations Center (NOC) and Security Operations Center (SOC)

(b) (4)



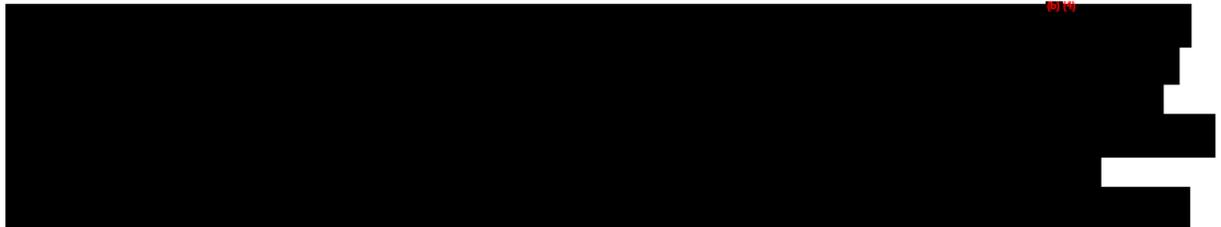
4.c.1.3 Personnel Security

(b) (4)



4.c.1.4 Incident Response

(b) (4)



4.c.1.5 Configuration Management

(b) (4)



4.c.1.6 Contingency Planning

(b) (4)



(b) (4) [Redacted]

[Redacted]

[Redacted]

4.c.1.7 Cloud Security

(b) (4) [Redacted]

4.c.1.8 User Authentication

(b) (4) [Redacted]

4.c.1.9 Integration with DOI IdAAM

(b) (4) [Redacted]

(b) (4)

[Redacted content]

4.c.1.10 Secure Connections

The IBM FDC will provide secure connections via DOI Trusted Internet Connection (TIC) and Trusted Internet Connection Access Provider (TICAP) by routing traffic across VPN through the DOI TIC. (b) (4)

[Redacted content]

4.c.1.11 Continuous Monitoring

(b) (4)

[Redacted content]

The FDC Performance Monitoring Server gathers availability and performance data from dedicated agents running on the monitored information systems and feeds data and events to the web portal. Selected Monitoring Functions and Services are identified in **Table 4.c.1-2**.

Table 4.c.1-2: Monitoring Functions and Services

Monitoring Services Functions	Data Collection Services	Agent-Based monitoring (Logging Services)	Automated Monitoring and Trending (24/7) Varies by OS
(b) (4)			

Monitoring Services Functions	Data Collection Services	Agent-Based monitoring (Logging Services)	Automated Monitoring and Trending (24/7) Varies by OS
(b) (4)			

4.c.1.12 Maintenance

Maintenance for environment infrastructure components (network components, shared servers, etc.) will be performed in accordance with the following schedule:

- Thursday following the second Tuesday, 3:00 p.m. – 9:00 p.m. MT
- Saturday following the second Tuesday, 6:00 a.m. – 12:00 p.m. MT
- 2nd Saturday following first patch Saturday, 6:00 a.m. – 12:00 p.m. MT

Maintenance window for DOI servers will be arranged between DOI and the FDC.

4.c.1.13 RFP Attachment J-1 Compliance

IBM FDC SmartCloud for Government complies with DOI Security Controls standards identified in RFP Attachment J-1, except as indicated in RFP Attachment J-16 Section c.5.3 (see **Table 4.c.1-2**, above). Baseline NIST controls have been implemented and validated by third-party evaluators as evidenced by current ATO documents. The SmartCloud for Government is validated at the Moderate level. IBM continues to enhance the security controls to achieve a rating for a High level. DOI Mandatory Enhancements are addressed in RFP Attachment J-5.

4.c.1.14 RFP Attachment J-2 Compliance

Security and Information Assurance requirements identified in RFP Attachment J-2 are listed in **Table 4.c.1-3**, with compliance status indicated. 89.5 percent of these controls are implemented and verified by third-party evaluators.

Table 4.c.1-3: RFP Attachment J-2 Security/IA Requirements

Requirement	J-2 Reference	Compliant Status	Comment
Encryption of data in transit	Sec 11.6, p 20	Compliant	(b) (4)
Encryption of data at rest	Sec 11.6, p 20	Non-Compliant	

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Requirement	J-2 Reference	Compliant Status	Comment
Dedicated storage infrastructure (logical and physical)	Sec 11.6, p 20	Non-Compliant	(b) (4)
Data in U.S. only	Sec 11.6, p 20	Compliant	
Annual penetration testing	Sec 11.6, p 20	Compliant	
Two redundant hosting facilities at least 250 miles apart	Sec 11.6, p 20	Compliant	
CP Reconstitution within 24 hours	Sec 11.6, p 20	Compliant	
Integrate with DOI IdAAM	Sec 11.6, p 20	Compliant	
Data Loss Prevention	Sec 11.6, p 21	Non-Compliant	
FDCC and USGCB compliant	Sec 11.6, p 21	N/A	
DNS Security Reference Architecture compliant	Sec 11.6, p 21	Compliant	
FedRAMP evaluation (3PAO)	Sec 11.6.1.2(1), p 22	Compliant	
Community or private cloud	Sec 11.6.1.2(2), p 23	Compliant	
Cooperate with external audits	Sec 11.6.1.2(3)(a), p 23	Compliant	
IR integrate with DOI CIRC and DOI ASOC	Sec 11.6.1.2(3)(b), p 23	Compliant	
IR cooperate with investigations	Sec 11.6.1.2(3)(c), p 23	Compliant	
Identify policies and procedures for privileged users	Sec 11.6.1.2(3)(d), p 23	Compliant	
Use strong authentication tokens (FICAM, HSPD-12, NIST PIV)	Sec 11.6.1.2(4), p 24	Compliant	
Dedicated VLAN segments	Sec 11.6.1.2(5), p 24	Compliant	
Secure connections via DOI Trusted Internet Connection (TIC) and Trusted Internet Connection Access Provider (TICAP), Route traffic through DOI TIC	Sec 11.6.1.2(5), p 24	Compliant	
Document data deletion upon request	Sec 11.6.1.2(6), p 24	N/A	
Data Recovery-back up, archiving, recovery	Sec 11.6.1.2(7), p 24	Compliant	



Requirement	J-2 Reference	Compliant Status	Comment
CP/DR	Sec 11.6.1.2(8), p 24	Compliant	(b) (4)
NO Acceptable Use policies	Sec 11.6.1.2(9), p 25	Compliant	
Proper SW licensing as required	Sec 11.6.1.2(10), p 25	Compliant	
Patch Management	Sec 11.6.1.2(11), p 25	Compliant	
Include Maintenance Plan in SLA	Sec 11.6.1.2(11), p 25	Compliant	
E-Discovery capability to support litigation freezes, and preservation orders of data and meta-data	Sec 11.6.1.2(12), p 25	Non-Compliant	
SaaS Low, Mod, and High	Sec 11.6.1.2(1), p 25	Compliant	
SaaS encryption	Sec 11.6.1.2(2), p 25	N/A	
IaaS VM protections with virtual firewalls, virtual IDS/IPS, network segmentation	Sec 11.6.1.2(1), p 26 and (7) p 27	Compliant	
A limited set of DOI approved and authorized trained/trusted users (from the agency) alone are provided administrative access to rented computing resources in the form of virtual machines or physical servers	Sec 11.6.1.2(2), p 26	Compliant	
A documented strategy for future migration of Virtual Machines and their associated storage among alternate cloud providers	Sec 11.6.1.2(3), p 26	Compliant	
Comply with NIST Guide to Security for Full Virtualization Technologies SP 800-125	Sec 11.6.1.2(4), p 26	Compliant	
Provide DOI visibility into authentication and access control mechanisms and tools	Sec 11.6.1.2(5), p 26	Compliant	
Provide DOI visibility into the operating services that affect a specific agency subscriber's data or operations on that data	Sec 11.6.1.2(6), p 27	Compliant	
Gov't Internet logon banner	Sec 11.6.3, p 27	Compliant	
Gov't warning banner	Sec 11.6.4, p 28	Compliant	
Software and hardware shall be free of malicious code	Sec 11.6.5, p 28	Compliant	

4.c.1.15 RFP Attachment J-3 Compliance

Team IBM will comply with requirements outlined in applicable Office of Management and Budget (OMB) Memoranda, NIST Special Publications and the DOI Privacy Mitigation Strategy. The IBM FDC is FISMA Moderate, which permits usage of Personally Identifiable



Information (PII) to control DOI data such that it remains within the sole jurisdiction of the United States Federal Government. (b) (4)

[Redacted content]

4.c.1.16 RFP Attachment J-4 Compliance

The IBM FDC is fully compliant with DOI 375 DM 19, the Plan of Actions and Milestones Process Standard and the DOI Role-based Security Training Standard. Currently, the IBM FDC has partially implemented the DNS Security Reference Architecture and is prepared to complete implementation. The Electronic Mail Gateway Security Reference Architecture is not applicable to this Cloud hosting.

4.c.1.17 RFP Attachment J-5 Compliance

The IBM response in RFP Attachment J-5 demonstrates 96.33 percent of FedRAMP baseline controls are implemented and verified by third-party evaluators and that 75 percent of DOI Mandatory Enhancements are implemented and verified by third-party evaluators. Non-compliant controls are identified in the J-5 RFP Attachment. Risk factors for non compliant controls, including compensating controls and mitigations, are Low.

4.c.2 Assessment and Authorization Experience

IBM has extensive experience in Security Assessment and Authorization (A&A) using NIST, DIACAP, COBIT, and other standards for a wide variety of Government Agencies such as the Department of Health and Human Services (DHS), the National Science Foundation, U.S. Customs and Border Protection, and the DoD. For example, IBM performed A&A of the DoD Unclassified but Sensitive Internet Protocol Router Network (NIPRNet). In accordance with requirements, IBM will provide DOI with a System Security Plan and other documentation, such as a Plan of Actions and Milestones (POA&M) necessary for security accreditation purposes. The FDC reviews and updates POA&Ms quarterly.

Table 4.c.2-1: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.5.3.3	(b) (4)
C.5.3.4	

IBM cooperates with external audits. Recent successful FDC audits, evaluations, and authorizations include NIST-based security assessments by Federal agencies, as well as A-123 and FISCAM audits. FDC successfully passed evaluations and The Departments of Housing and

Urban Development (HUD), Justice (DOJ), and the Environmental Protection Agency (EPA) each issued an ATO at the Moderate level. The EPA ATO was issued in January 2012 after review of the FDC infrastructure and SmartCloud for Government collaboration software. The DOJ 9/11 Victims Compensation Fund ATO was issued for the SmartCloud for Government solution in December 2011. HUD completed its reauthorization evaluation for renewal of the ATO of a financial system in August 2012.

Moreover, IBM has a distinctive understanding of FedRAMP security requirements. In late 2009, IBM initiated a Task Force of relevant technical, legal, and policy experts across IBM to respond to GSA feedback requests and maintain a dialogue with the Government as FedRAMP was being developed. Consultants from IBM's Public Sector Cybersecurity and Privacy Service Area have also served as trusted advisors to and representatives of the DoD and DHS Joint Authorization Board, directly contributing to the development of the FedRAMP controls. In that capacity, IBM also participated in FedRAMP stakeholder working groups, such as the Cloud Computing Security Working Group and the CIO Council's Information Security and Identity Management Committee (ISIMC).

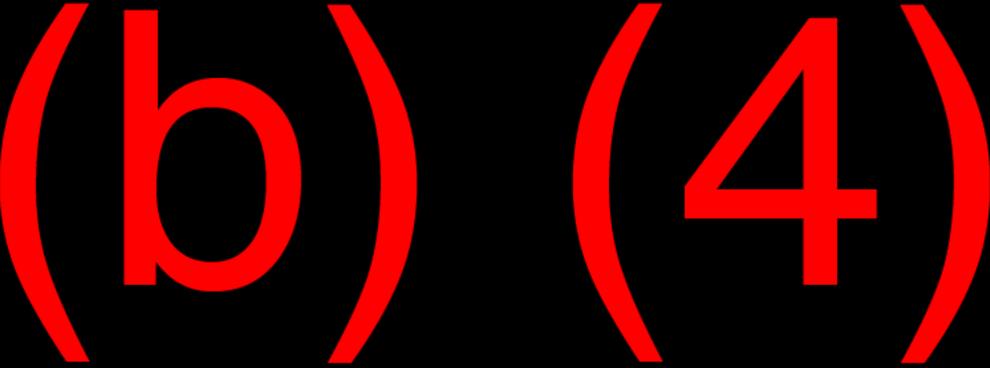
IBM has completed submission of a request for FedRAMP evaluation. On June 8, 2012, the Federal Risk and Authorization Management Program (FedRAMP) Program Management Office (PMO) confirmed receipt of the IBM FedRAMP Application Request Form for the IBM SmartCloud for Government. The IBM SmartCloud for Government system's FedRAMP assessment package number is F 1206081363. IBM is in the process of selecting a FedRAMP approved 3PAO vendor for the evaluation, which is anticipated to be scheduled before the end of 2012. IBM will provide DOI, in a timely manner, with a Security Assessment Plan (SAP) and the resulting Security Assessment Report (SAR).

4.c.3 Information Security Service Level Agreements (SLAs)

IBM will document Service Level Objectives (SLOs) and definition of responsibilities in a Service Level Agreement (SLA) with DOI. The SLA will include a Maintenance Plan and DOI assumption of responsibility for DOI user understanding and compliance with system rules of behavior. The latter obviates the need for IBM to require individual DOI users to sign the FDC Acceptable Use Policy.

Security related SLOs are summarized in **Table 4.c.3-1**. Other SLA issues are addressed in Section 4.b. of this document.

Table 4.c.3-1: Security-Related Service Level Objectives

Item	Description	Metric
		

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4.c.4 Security and Regulatory Compliance Strategies and Tactics

In 2010, *SC Magazine* named IBM as the “Best Security Company”. The award recognizes IBM’s leadership in IT and its outstanding security solutions. For nearly 50 years, IBM has helped businesses and Governments secure their critical infrastructures with solutions that go beyond just collections of niche products. IBM’s customers rely on the most extensive security solutions and services addressing compliance mandates, applications, data, identity and access management, networks, threat prevention, systems security, email, encryption, virtualization and Cloud security.

Team IBM employs confirmed methodologies and proven resources to address both the process and management of security and information assurance. The IBM multi-phase System Information Security Matrix Process (SISMP™) methodology facilitates modeling of security processes and policies into a governing compliance matrix. It includes a Management Reference Model, Technical Reference Model, and Privacy Workflow Framework. SISMP™ is

benchmarked on FISMA compliance and maps to the System Life Cycle, guided by NIST SP 800-37 *Applying the Risk Management Framework to Federal Information Systems: A Security Life Cycle Approach*. This enables our team to define, develop, verify, and validate the system. The IBM Assured Design Methodology incorporates security criteria into each phase of the system development life cycle, including operations and maintenance. Unmitigated exposures and findings are enrolled as new requirements into future sub-spirals.

Team IBM’s approach allows for the timely selection, testing, deployment, and monitoring of appropriate and cost-effective controls. Team IBM’s Enterprise Security Compliance (ESC) reference models and framework provide a FISMA-compliant, quantifiable and repeatable means of measuring and maintaining security preparedness and production readiness. Post-accreditation, the system is continuously monitored to preserve the security profile. Risk is effectively identified, managed, and monitored throughout the process.

As part of its security efforts, IBM will maintain a System Security Plan, Continuous Monitoring Plan, Contingency Plan, Security Assessment Plan and Report, and a Plan of Actions and Milestones (POA&M).

4.c.5 Risk Mitigation Strategies

IBM has developed a Data Security & Privacy (DS&P) program which supports projects through the implementation and sustainment of security and privacy controls that protect client systems and information from improper and unauthorized use. The DS&P program is a risk management control framework, compliant with NIST SP 800-30, and applied throughout each phase of a project’s life cycle, intended to minimized risk to IBM and our clients. These controls include DS&P foundational controls and those defined by the client stakeholders.

(b) (4)

 **Proof Points**

IBM’s security expertise includes:

- IBM software and services manage more than seven billion security events daily.
- IBM software and services manage more than seven billion security events daily.
- The IBM X-Force® research and development database tracks more than 48,000 vulnerabilities and advises clients on how to respond to emerging and critical threats.
- 15,000 IBM researchers, developers and subject matter experts are committed to security initiatives globally.
- IBM monitors and manages the security infrastructures of more than 4,000 customers at IBM Security Operations Centers around the world.
- IBM holds more than 3,000 patented inventions that enable clients to secure their business information and processes.

(b) (4)

[Redacted content]

IBM Cybersecurity and Privacy Service consultants follow a consistent and proven methodology supported by a unique combination of expertise, resources, and solutions. This methodology is based on the integration of IBM Security Framework, IBM's DS&P program, and Federal information security framework. This framework is designed to manage and protect the confidentiality, availability and integrity of our clients' and IBM's data.

Table 4.c.5-1: SOW Requirements Fulfillment

SOW Section	Team IBM's Approach
C.8.5	(b) (4)

4.c.6 Public Cloud IT Security and Regulatory Compliance Approach

(b) (4)

[Redacted content]

DS&P Controls Framework

- (b) (4) [Redacted]
- [Redacted]

Figure 4.c.6-1: IBM Data Security and Privacy Framework

The IBM DS&P program has a framework of controls compliant with NIST SP 800-30.

