

5.7 DEDICATED HOSTING SERVICES (DHS)

Qwest's Networx Dedicated Hosting Services provides a secure and highly available environment for Agency applications, which allows Agencies to free up valuable resources.

Qwest's Dedicated Hosting Service (DHS) is layered on top of our Collocated Hosting Service (CHS) to provide Agencies a worry-free, end-to-end hosting solution. With Qwest DHS, Agencies can outsource the entire management of their hosting environment to Qwest's experts and free up valuable Information Technology (IT) resources to focus on other internal priorities. [REDACTED]

[REDACTED] A dedicated server is leased strictly to a single Agency; in addition, other infrastructure—including Internet connectivity—is also dedicated or leased for exclusive use by the Agency.

[REDACTED] Our space, people, and procedures have been certified by several Agencies for sensitive applications.

Qwest has three facilities that are rated at Tier III by the Uptime Institute. We apply Uptime Institute standards in the design and implementation of all new hosting facilities. This means that Agencies can select centers with additional facility redundancy, assuring 100 percent uptime for power and cooling.

Qwest currently provides hosting services to numerous Government customers. [REDACTED]

Figure 5.7-1 provides an easy reference to correlate narrative requirements to our proposal response.

Figure 5.7-1. Responses to Narrative Mandatory Service Requirements

Req_ID	RFP Section	RFP Requirement	Proposal Response
2032	C.2.4.2.2.1 (4)	Application Hosting [Optional]-The contractor (i.e. Application Service Provider [ASP]) shall provide hosted applications including but not limited to: Customer Relationship Management (CRM) for the management of Government's relationship with its constituents.	5.7.3.1.2
2030	C.2.4.2.2.1 (4)	Application Hosting [Optional]- The contractor (i.e. Application Service Provider [ASP]) shall provide hosted applications including but not limited to: Database Systems for management of large-scale, structured sets of data; supporting ad hoc query facilities; and, providing report generation capabilities	5.7.3.1.2
2029	C.2.4.2.2.1 (4)	Application Hosting [Optional]- The contractor (i.e. Application Service Provider [ASP]) shall provide hosted applications including but not limited to: Document Management including library services and management of workflow and collaboration.	5.7.3.1.2
2028	C.2.4.2.2.1 (4)	Application Hosting [Optional]- The contractor (i.e. Application Service Provider [ASP]) shall provide hosted applications including but not limited to: Email/Messaging Leading Email/Messaging software is increasingly the target of malicious programming and unauthorized use.	5.7.3.1.2
2027	C.2.4.2.2.1 (4)	Application Hosting [Optional]- The contractor (i.e. Application Service Provider [ASP]) shall provide hosted applications including but not limited to: Enterprise Resource Planning (ERP) for the management of various functions within a federal Agency, including human resources, finance, procurement, and supply chain.	5.7.3.1.2
2026	C.2.4.2.2.1 (4)	Application Hosting [Optional]- The contractor (i.e. Application Service Provider [ASP]) shall provide hosted applications including but not limited to: Human Resource Applications for the administration of benefits, time and labor, salary, pension, et cetera.	5.7.3.1.2

5.7.1 Technical Approach to Dedicated Hosting Services Delivery (L34.1.5.1)

By using an established, streamlined, routinely used and proven Statement on Auditing Services (SAS) 70 certified process, Qwest is able to provide Agency specific DHS services.

5.7.1.1 Approach to Dedicated Hosting Services Delivery (L.34.1.5.1(a))

With customer needs driving our delivery methods, Qwest has refined our service delivery processes over the last 12 years. The result is fast, reliable delivery and installation of services such as DHS. Our SAS 70 certification ensures that hosting delivery and implementation processes are

well documented, customer-specific, focused, and routinely updated to ensure timeliness and accuracy.

[REDACTED]

[REDACTED] A dedicated server is leased strictly to a single Agency; in addition, other infrastructure—including Internet connectivity—is also dedicated or leased for exclusive use by the Agency.

DHS services are offered in Qwest CyberCenters, which are specially designed to provide state-of-the-art hosting for mission-critical applications and services. Qwest CyberCenters provide a secure, scalable, and reliable foundation for success, as shown in [REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

Qwest's DHS Service Delivery Process: Qwest initiates the delivery process by assigning a dedicated Sales Engineer (SE) to respond to Agency requests for DHS. The Qwest SE will meet and work with the Agency's IT and telecommunications engineers to identify the detailed technical requirements

of the DHS deliverable. With DHS requirements accepted by an Agency, the SE will develop [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Plan scope and coverage can vary depending upon the Agency's needs and the complexity of the deliverable.

Qwest will provide a Customer Service Manager (CSM) who ensures a quality hosting experience for each customer by focusing on daily operations, implementation and support tasks, and strategic initiatives according to Agency requirements. The CSM coordinates all support activities and collaboratively schedules additional resources for implementation projects, change management, and on-going support activities. The CSM's responsibilities include:

Implementation

- Follow Managed Services Implementation Methodology
- Prepare Implementation Discovery Reports, Project Plans, and revisions
- Prepare Implementation Acceptance Signoff Checklists
- Prepare the Technical Operations Manual
- Ensure the availability of all resources for a timely and accurate implementation
- Serve as a focal point for project status, communications, and all other relevant information
- Leverage all required Qwest resources and groups to the utmost to ensure timely and accurate delivery

Emergent issues, issue resolution, escalation/crisis

- Manage the escalation process

- For high priority issues, provide status updates on remediation efforts to client hourly until issues are resolved
- Document all technical and operational issues and resolution

Ongoing

- Act as Single Point of Contact for Agency communications
- Direct all support activities
- Work through all relevant Qwest organizations to resolve and document any open issues
- Provide Agency with status updates for all activities performed on the infrastructure impacting the customer
- Control changes to the Agency environment and direct implementation of changes (in accordance with agreed-upon Change Management Procedures)
- Ensure that all documentation is kept current
- Prepare and deliver regular status reports to Agency (weekly, monthly)
- Participate in Agency conference calls (daily, weekly, monthly, as needed)
- Review monthly Qwest based ticket and Portal information that is available and perform trend analysis using the monthly status report
- Work with Agency and appropriate Qwest resources to coordinate contractual changes as needed
- Coordinate activities with other Agency vendors

CSM Levels

This individual uses documented requirement set, including the design and site plan, as a baseline for all engineering and configuration management activities.

5.7.1.2 Benefits of Dedicated Hosting Services Technical Approach (L.34.1.5.1(b))

With client equipment is hosted in a Qwest facility, Agencies can be ensured that their hosted environment will always be secured and available. **Figure 5.7.1-2** shows the benefits of Qwest’s DHS solution. **Figure 5.7.1-3** illustrates how Qwest’s DHS approach achieves the Federal Enterprise Architecture (FEA) objectives.

Figure 5.7.1-2. Benefits of Qwest’s DHS Solution

Feature	[Redacted]	[Redacted]
Dedicated Support Team	[Redacted]	[Redacted]
SAS 70 Certified	[Redacted]	[Redacted]
Tier III facilities in Columbus, OH, Highlands Ranch, CO, and Sterling, VA	[Redacted]	[Redacted]
Special Federal-only space	[Redacted]	[Redacted]

Qwest’s DHS supports the FEA Objectives by providing cost-effective connectivity using standardized, replicable solutions for IT infrastructure to connect applications, Agency employees, and citizens.

Figure 5.7.1-3. Qwest’s DHS Solutions Meets the FEA Objectives

Core FEA Objective	QWEST Team Approach to Achieving FEA Objectives
Improve use of Government information resources to focus on core Agency mission and service delivery to citizens by using the FEA	Qwest’s DHS enables Agencies to focus their scarce IT resources on applications related to the core mission rather than operations and support functions embedded in the service.
Enhance cost savings and cost avoidance	DHS provides highly cost-effective operations and resource leverage to reduce Agency overhead.
Increase cross-Agency and inter-Government collaboration	Web-enabled hosted applications in DHS facilities are available to authorized inter-Agency working groups providing enhanced opportunities for collaboration.

[REDACTED]

[REDACTED] his comprehensive process ensures that implemented DHS configurations fulfill Agency functional requirements and perform to Acceptable Quality Levels (AQLs).

5.7.1.3 Solutions to Dedicated Hosting Services Problems (L34.1.5.1(c))

Potential problems associated with meeting DHS service requirements and deliverables include facilities limitations that prevent customization, server hardware and maintenance, lead times on needed materials, overall installation complexity, or planning for and working from un-validated requirements. With substantial experience and success in on-time deliveries of numerous Government and commercial DHS installations, Qwest is adept at recognizing developing problems such as those cited above and implementing measures to minimize impact on delivery schedules or costs.

[REDACTED]

[REDACTED]

[Redacted Table]

5.7.2 Satisfaction of Dedicated Hosting Services Performance Requirements (L34.1.5.2)

Qwest's DHS is layered over our CHS offering. Collocation services that provide superior power availability, Internet connectivity, maintenance of temperature/humidity standards, and installation time also apply to our Networx DHS. DHS processes, procedures, tools, and methodologies have been tested and improved [Redacted]. Implemented by the many Qwest systems management experts who support the management of operating systems (OSs), applications, and databases, these processes will assure Agencies that their hosted environments are available whenever needed.

At the heart of our DHS offering are the Qwest data centers. These are state-of-the-art facilities built to rigorous standards and designed to withstand hazards common to their region of the country, such as hurricanes and earthquakes. Qwest maintains a CyberCentral enterprise support operations facility featuring the most current 24x7x365 network control and proactive monitoring capabilities. System application and network professionals are on duty to interactively manage the Agency environment.

5.7.2.1 Dedicated Hosting Services Quality of Service (L34.1.5.2(a))

Qwest meets the Networx Quality of Service (QoS) standards shown in **Figure 5.7.2-1.**

Figure 5.7.2-1 Qwest Meets or Exceeds the Networx QoS Goals

Key Performance Indicator (KPI)	Service Level	Performance Standard (Threshold)	Acceptable Quality Level (AQL)	
Availability (Internet Connection)	All	99.99 %	≥ 99.99 %	
Availability (Website)	Routine	99.7%	≥ 99.7 %	
Time to Restore (TTR)	Without Dispatch	4 hours	≤ 4 hours	
TTR	With Dispatch	8 hours	≤ 8 hours	

Qwest addresses each as follows:

Availability – Internet Connection: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Availability – Web Site: Qwest’s knowledge and experience in the following Networx relevant areas ensures our ability to manage entire customer server environments at a 99.7+ percent service level. Qwest’s IT resources actively manage DHS configurations including: hardware, such as servers, routers, and switches; software, such as firewalls and load balancers; and OSs, such as Unix, Windows, and Linux to achieve acceptable Website availability. Qwest maintains an up-to-date standard operating environment that enables us to manage multiple Agency configurations. While each Agency may have unique characteristics, Qwest

manages uniformly across a broad range of customer configurations because all components are based on the same standard operating principles.

Time to Restore: Qwest has processes and procedures in place to ensure that the TTR from a power or Internet connectivity outage will be less than the four-hour goal stipulated in RFP C.2.4.3.4.1. This benefit and associated resources will be available to Agencies.

5.7.2.2 Approach for Monitoring and Measuring Dedicated Hosting Services (L34.1.5.2(b))

Qwest will ensure that all tools, systems (ticketing, ordering, change management), and portals supporting Networx are maintained at or above industry standards. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] With staff on-site 24x7x365 and emergency contracts with subcontractors, Qwest is able to provide Agencies with the stated service levels.

Qwest uses data from these systems in several ways:

- We compare performance results to the performance thresholds that we set to trigger alarms.
- Results can create auto-generated trouble tickets in our trouble ticketing system based on defined alarm thresholds.
- Results are calculated and displayed on the network scorecard. Required KPIs can be viewed in the Qwest Control Networx Portal.

Qwest monitors all DHS elements on a 24x7x365 basis. Based upon the concept of Agency “choice-driven solutions,” Qwest will put the Agency in the driver’s seat by assembling the best solution to meet their needs. Utilizing Managed Service Building Blocks (blocks represent every one of Qwest’s

functional capabilities), our Project Engineers assemble hardened, reliable, technically superior solutions uniquely catered to Agency needs.

Every Networkx DHS solution will provide the Agency with full visibility into operational and management data, as shown in [REDACTED]. Every time an instance of OS, application, or database monitoring or management is ordered, Agencies will also receive access to the Qwest Control Networkx Portal for real-time viewing of their hosted environment.

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

The Qwest Control Networkx Portal provides five standard reports specific to the applications and databases present on the server. Current alarms and 30 days' worth of historical alarms are viewable in the portal in the My Alerts tab. Charts for CPU, Memory, Disk, and File System utilization are included for the monitored servers. For each OS and specific monitored application or database, an additional tab is provided that shows CPU and Memory utilization for critical processes.

The description in the Monitoring Sections to follow for each OS, Application, and Database lists the metrics monitored, which will appear in the Portal and consist of:

- [REDACTED]
- [REDACTED]
- [REDACTED]

The following describes how DHS faults are detected and communicated to an Agency:

[Redacted]

For Agencies who request phone or text pager notification, the following describes how an Agency is notified:

[Redacted]

[Redacted text block]

5.7.2.3 Verification of Dedicated Hosting Services (L34.1.5.2(c))

The Qwest’s Networx Services Verification Test Plan details the standard test procedures that are used by the Agency to verify that the services delivered under the contract meet the KPI/AQL thresholds for the ordered service as specified in Section C.2, Technical Requirements, prior to delivering the ordered service to the Agency. Qwest is further proposing standard commercial acceptance testing procedures and thresholds to verify acceptable performance and KPI/AQL compliance.

The Networx Services Verification Test Plan describes the process and procedures for verification testing of individual services ordered under the contract and the change procedures for adding service-specific test plan attachments. Qwest proposes to notify the General Services Administration (GSA) Program Management Office of any changes to its Networx

Verification Test Plan, such as the addition of a service-specific test plan and how we plan to request and receive approval from GSA.

DHS performance integrity will be verified through our online Qwest Control Networx Portal, as shown in [REDACTED]

In addition, our well proven, proactive monitoring and management processes ensure fulfillment of the TTR AQL. In addition to tracking TTR compliance, Qwest has implemented a continuous feedback loop that is applied to problem resolution. Whenever a key or critical DHS Networx-required performance level is breached, Qwest conducts a thorough review of the issue from two points of view:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[Redacted text block]

5.7.2.4 Dedicated Hosting Services Performance Level Improvements (L34.1.5.2(d))

Qwest proposes to meet all KPIs and AQLs for DHS. In the event an Agency has a specific business need or application problem, Qwest is willing to discuss service enhancements. Qwest will operate in good faith to engineer a DHS solution to serve unique Agency needs. Qwest is able to leverage our vast DHS product portfolio, which includes a variety of Service Enabling Device providers and specific DHS solutions. Through a special combination of vendor solutions and talented engineering capabilities, Qwest is able to serve a wide range of Agency business needs.

5.7.2.5 Additional Dedicated Hosting Services Performance Metrics (L.34.1.5.2(e))

In addition to the quality of service goals described in C.2.4.2.4, Qwest also measures performance for the following in each Qwest Cyber Center:

[Redacted text block]

[REDACTED]

5.7.3 Satisfaction of Dedicated Hosting Services Specifications (L.34.1.5.3)

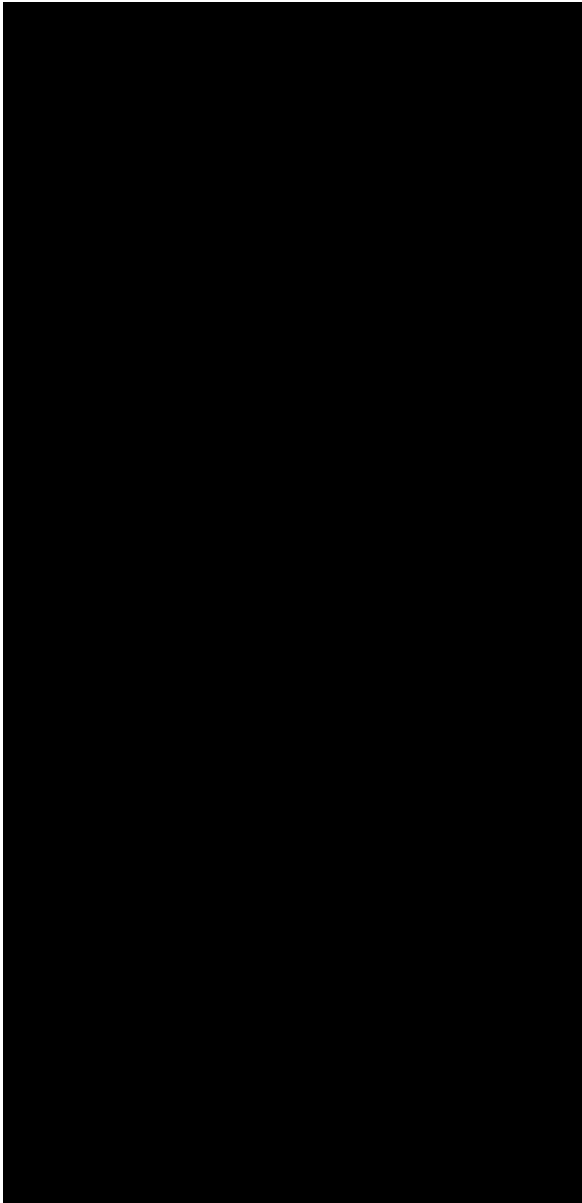
Qwest routinely uses technical account management, senior-level technicians, and certified processes to provide 24x7x365 customer-centric managed services in a Qwest CyberCenter facility. The CyberCenters offer a modern, leading-edge, clean, and highly-managed DHS and telecommunications environment. [REDACTED]

[REDACTED]

5.7.3.1 Satisfaction of Dedicated Hosting Service Requirements (L34.1.5.3(a))

[REDACTED] how Qwest meets the Networx service requirements. DHS provides management of the hardware, OS, and Web server software on dedicated servers. Collocated hosting service provides the groundwork solution for dedicated hosting and offers the fundamental elements of space, power, and connectivity. This service also includes 24x7x365 call management and escalation procedures.

Qwest fully complies with all mandatory stipulated and narrative capabilities, features, and interface requirements for DHS. The following sections 5.7.3.1.1, 5.7.3.1.2, and 5.7.3.1.3 and Figure 5.7.3-3 summarize



Qwest's response to the DHS capabilities listed in RFP C.2.4.2.1.4, features of RFP C.2.4.2.2, and interfaces of RFP C.2.4.2.3. These subsections are intended to provide the technical description required per L.34.1.6.3(a) and do not limit or caveat Qwest's compliance in any way.

5.7.3.1.1 Satisfaction of DHS Capabilities Requirements (L34.1.5.3(a), C.2.3.1.1.4)

Configuration: Qwest will install, configure, and maintain DHS hardware and OSs of all hosted systems for single server, multi-server, and cluster configurations. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Qwest will ensure that a consistent baseline of OSs is established and maintained. In addition, Qwest will manage version control for the OSs and implement back-up and restore procedures in accordance with established procedures. For system upgrades, Qwest will perform regularly scheduled capacity planning assessments to determine a need for hardware or software

upgrades. We will present the assessment findings to each Agency on a regular basis.

Administration: Qwest will implement an integrated, heavily refined best practices approach for DHS systems. We will ensure that there is a single point of accountability for diagnosing and resolving potential or existing problems to minimize impact. Qwest will apply the same management, monitoring, and security principles to each DHS platform and will have customized procedures for each Agency's environment.

Qwest will manage Agency resources, including server configurations, disk space usage, directory management, shared resource management, and directory services. We will establish a baseline for server usage, including shared resources, disk space management, and server management. We will also initiate trending of these parameters to establish historical performance management data and use this data to determine future server requirements. We will also manage user account profiles and verify the accuracy of data contained within them and the directory service entries. Qwest will monitor disk space usage for all servers and implement procedures for preserving disk space for optimal efficiency and availability. We will provide a comprehensive OS patching service subject to Qwest's change management process.

[REDACTED]

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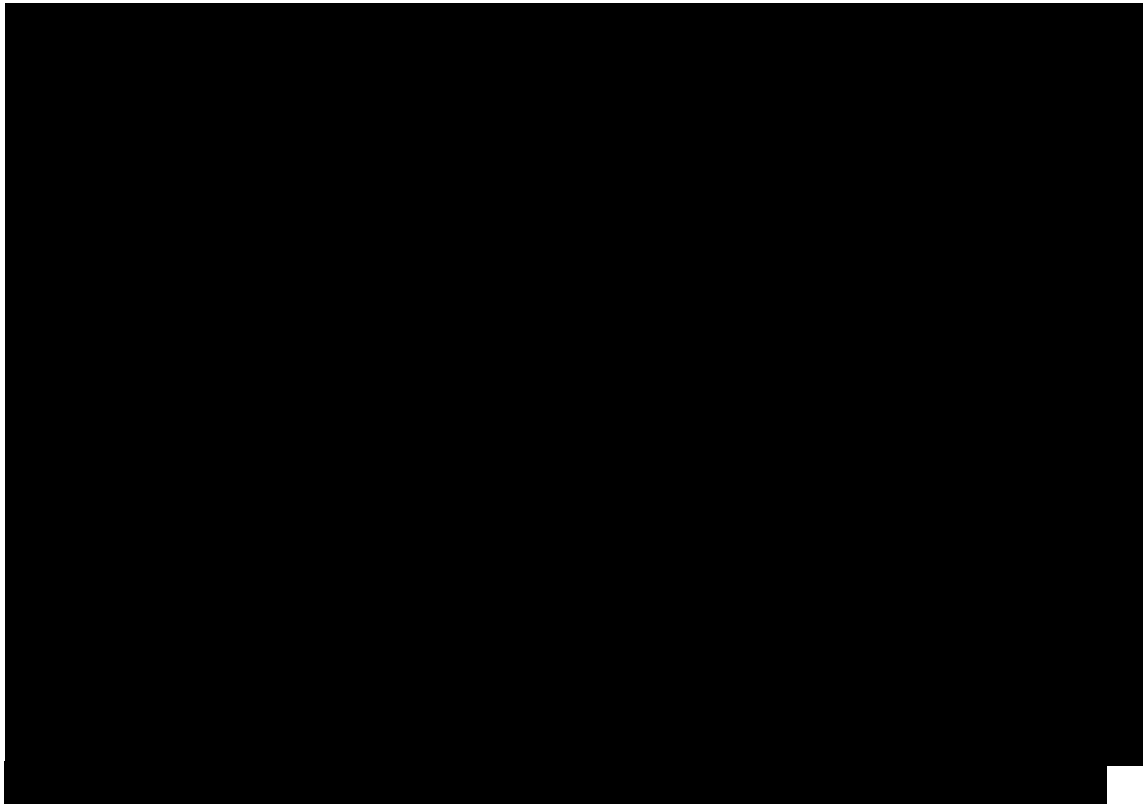
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[REDACTED]

Intrusion Detection Services—Monitoring, real-time alerting, and reporting 24 hours a day, 7 days a week: [REDACTED]

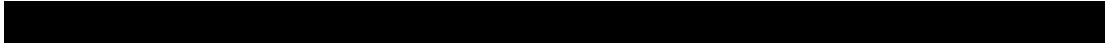
[REDACTED]

As shown [REDACTED] Qwest offers SAS 70, multi-certified, Tier III and IV hosting facilities with total network and critical systems redundancy,



Internet Connectivity Benefiting DHS:

The Qwest DHS delivers direct Internet connectivity from our CyberCenters that provides high availability and scalability. CyberCenter Redundancy includes:



Qwest provides Internet bandwidth as needed by the Agency. Qwest offers the Agency burstable bandwidth that automatically scales from the

Committed Information Rate up to either the full capacity of the interface or the Available Information Rate as agreed on by the Agency.

[REDACTED]

In addition, Qwest's other data services for Networx including Network Based Internet Protocol VPN, Layer 2 Virtual Private Network Service, Private Line Service, Synchronous Optical Network Services, Asynchronous Transfer Mode Service, and Frame Relay Service are available at the CyberCenters for DHS. This enables Agencies to not only build their publicly facing front-end systems, but also provide the back-end connection to their department's or Agency's Wide Area Network environment.

Physical Security Benefiting DHS: [REDACTED]

[REDACTED]

[Redacted content]

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[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]

[REDACTED]

[REDACTED]

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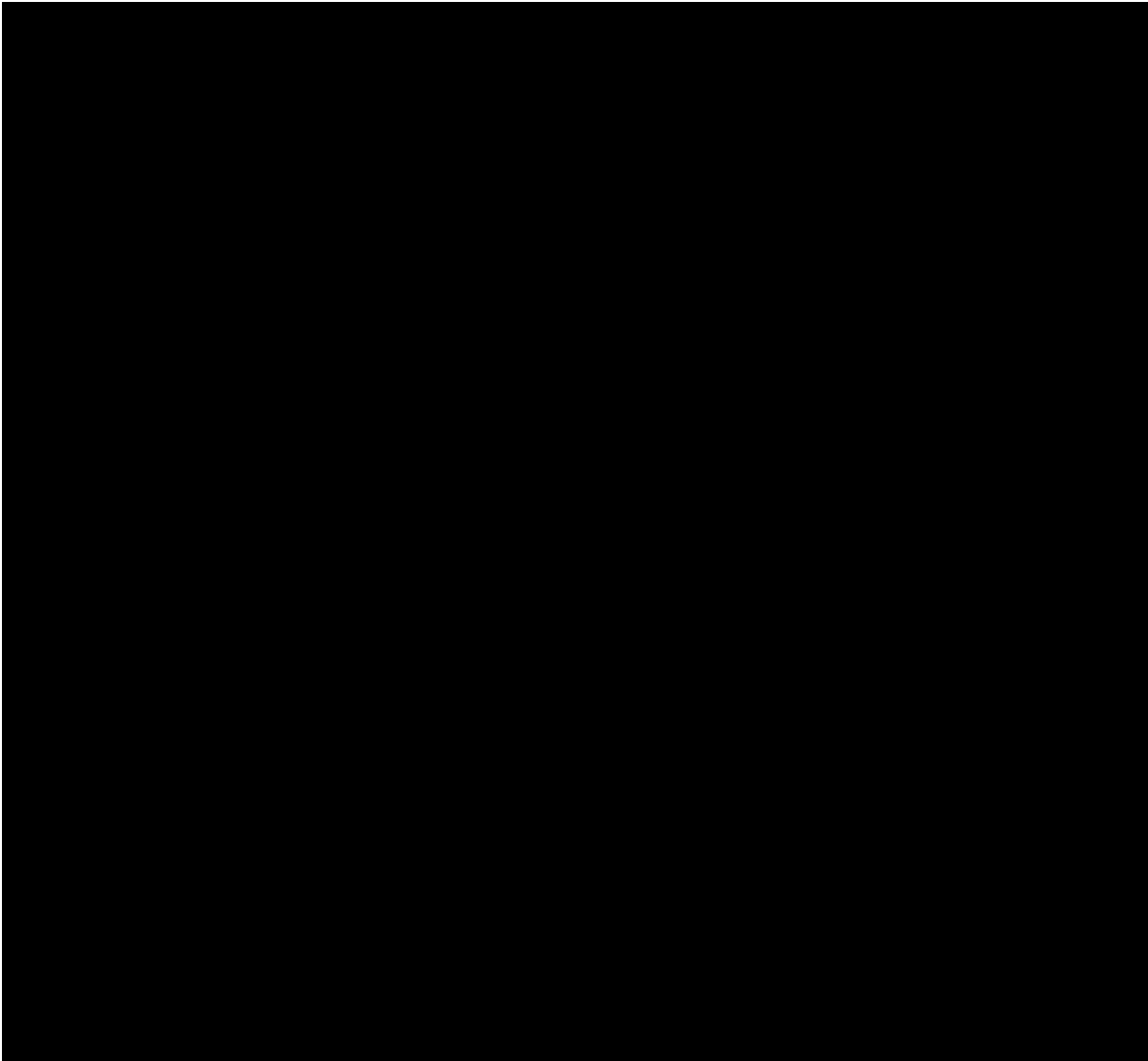
[REDACTED]

[REDACTED]

[REDACTED]

Managed Services offerings provide Agencies with access to flexible, reliable, and cost-effective solutions that are custom-tailored by professionals experienced in industry-leading business processes and technology solutions. As a result, Agencies are able to realize recurring value quickly and dramatically while reducing cost and mitigating risk.

The diagram in [REDACTED] depicts the layers of service that are necessary to provide a fully Managed Services platform—from maintaining



the operating platform and basic network interfaces to managing the systems and application software that affect daily business decisions. These services are required in some form, regardless of the specific applications being supported.

This approach may involve multiple entities with different skill sets acting in concert. Typically, the dividing line between the hosting environment and the applications management environment is at the database (DB) layer. While this hand-off point is seamless to the end customer, Qwest's teammate

Bearing Point typically handles the applications database administration or the database administration components upwards. Qwest provides the operational DBA component downwards. This includes all backup and recovery, database scripting, and tuning that go along with the work database type management. This division of labor and concentration on core competencies helps to ensure optimum application availability and proactively detect and respond to potential problems at both the operating and the application layer. The general services included in this offering are:

- Program Management and Tracking
- Functional Application Support
- Application and Database Management
- Help Desk Services (Level 1, 2, and 3)
- Performance Measurement - SLAs
- Patch and Service Pack Updates
- Application Monitoring

5.7.3.1.3 Satisfaction of DHS Interface Requirements (L34.1.5.3(a), C.2.4.2.1.3)

Qwest provides Internet connectivity at each DHS facility.

5.7.3.2 Proposed Enhancements for Dedicated Hosting Services (L34.1.5.3(b))



5.7.3.3 Network Modifications Required for Dedicated Hosting Services Delivery (L34.1.5.3(c))

No network modifications are necessary to install and implement Qwest DHS services for compatibility and interoperability with in-place Agency network systems. The Qwest network has been architected to deliver optimal performance for customers. Additionally, Qwest data centers have been built in accordance with applicable IEEE standards and other applicable industry and international telecommunications standards.

5.7.3.4 Experience with Dedicated Hosting Services Delivery (L34.1.5.3(d))

[Redacted content]

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