

5.0 MANAGEMENT AND APPLICATIONS SERVICES

5.1 MANAGEMENT AND APPLICATIONS-MANDATORY SERVICES

5.1.1 Managed Network Services (MNS) (L.34.1.5.1, M.2.1.4)

Qwest's Networkx Managed Network Services provides a comprehensive, integrated package of products and services that offers complete solutions for managing data, voice, and video networks.

Qwest provides a full-featured Managed Network Services (MNS) offering. Qwest's comprehensive MNS suite provides design, engineering, implementation, Operating System configuration management, fault management, real-time reporting, 24x7x365 monitoring, and total Agency coverage for Simple Network Management Protocol (SNMP) certified Service Enabling Devices (SEDs). Qwest's MNS is protocol and transport agnostic and is available to work in conjunction with all transport network types such as Intrusion Prevention System (IPS), Asynchronous Transfer Mode Service (ATMS), Frame Relay Service (FRS), Private Line Service (PLS), Premises-based IP Virtual Private Network Services (PBIP-VPNS), Network-Based IP VPN Services (NBIP-VPNS), Voice-over-IP (VoIP) Telecommunications Services (VOIPTS), Synchronous Optical Network Services (SONETS), and other services as needed where MNS-certified SEDs and/or Government Furnished Property (GFP) equipments are deployed. Qwest can also provide MNS across multiple carriers. [REDACTED]

[REDACTED] Qwest is committed to delivering reliability, rapid response, and quality restoration with built-in redundancy for all systems and platforms.

Qwest provides skilled MNS engineers to manage the health of the network, including design and engineering, implementation, and network management and maintenance components. Qwest MNS currently supports both domestic and international installations, including commercial and Government customers at the local, state, and federal levels.

**5.1.1.1 Technical Approach to
MNS Delivery (L.34.1.5.1, M.2.1.4 (b))**

Qwest provides a comprehensive, integrated package of services that offers complete solutions for managing SNMP-enabled data, voice, and video networks. Qwest's MNS is backed by a highly skilled team of experts spanning end-to-end functions. MNS provides Agencies with a true Single Point of Contact (SPOC) for all technology management issues concerning an Agency's network. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Qwest's

technical approach is based on established industry principles and standards such as the Open Systems Interconnect model; International Telecommunications Standardization Sector; Telecommunications Management Network; and Fault-Management, Configuration Management Accounting, Performance, and Security. Qwest relies on the Network

Reliability and Interoperability Council (NRIC) for best practices in planning and network management activities.

5.1.1.1.1 Approach to MNS Delivery (L.34.1.5.1 (a))

Qwest's approach to service delivery includes the following foundation: geographically diverse Network Operation Centers (NOCs), state-of-the-art management tools, robust device management capabilities, security compliance, well established processes and procedures, and a highly skilled team.

Geographically Diverse NOCs:

[REDACTED]

Qwest's MNS includes 24x7x365 monitoring and notification. When the Element Management System detects a network fault, the NOC staff will be notified and will take timely remediation steps. [REDACTED]

[REDACTED]

Highly Skilled Team: The Qwest Team has both depth and breadth in designing, monitoring, managing, and troubleshooting networks. Qwest engineering and service support resources have extensive certifications and training to remain in the forefront of technology. Qwest engineers hold

State-of-the-Art Management Tools: Qwest uses a suite of network management tools, as shown in **Figure 5.1.1-2**, to assure network performance that consistently meets Agency expectations.

[illegible]

Qwest's Alarm and Trouble Ticketing Service uses industry-standard alarm thresholds. [REDACTED] If a threshold is violated, [REDACTED] trouble ticket will propagate to the

██████████ depicts additional Qwest's capabilities of MNS management.

[illegible]

5.1.1.1.2 Benefits of MNS Technical Approach (L.34.1.5.1 (b))

From our years of experience managing emerging technologies, Qwest recognizes the value of preventing problems through lab testing, interoperability testing, configuration management, methods, and procedures.

Figure 5.1.1-4 summarizes the benefits of Qwest’s MNS. Qwest delivers MNS efficiently and confidently with considerable experience, skills, and proven processes to assure full Agency satisfaction.

Figure 5.1.1-4 Qwest MNS Features. *Qwest delivers MNS efficiently and confidently with considerable experience, skills, and proven processes to assure full Agency satisfaction.*

Features	Benefits	Substantiation
Assigned Subject Matter Experts (SME) for Each Agency	[REDACTED]	[REDACTED]
Skilled Staff with Engineering Discipline and Bench Strength	[REDACTED]	[REDACTED]
Extensive Agency Experience	[REDACTED]	[REDACTED]
Solution Extensibility	[REDACTED]	[REDACTED]
Proactive Approach to Low-Level Performance Degradation Detection	[REDACTED]	[REDACTED]
Management of Multi-Carrier Networks	[REDACTED]	[REDACTED]
Qwest Control Networkx Portal	[REDACTED]	[REDACTED]

***Total Customer Agency** is a legal document signed by the customer giving Qwest the ability to work on the Agency’s behalf to resolve troubles with other

Federal Enterprise Architecture (FEA) goals and the benefits of the Qwest MNS service are summarized in **Figure 5.1.1-5**.

FEA Goals	The Qwest MNS Service
Improve Utilization of Government Information Resources	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
Enhance Cost Savings and Avoidance	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
Increase Cross-Agency and Inter-Government Collaboration	[REDACTED]
	[REDACTED]

Qwest's approach to MNS was developed with the knowledge that Agencies will have diverse environments that need to be managed under a unified framework. Successful MNS implementations must address the following three categories of problems shown in [REDACTED]

[illegible]

Potential Problem	Solution
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

5.1.1.2 Satisfaction of MNS Performance Requirements (L.34.1.5.2, M.2.1.4 (c))

Qwest meets the thresholds for all Key Performance Indicators (KPIs) with our MNS solution. The following sections further describe how Qwest monitors, measures, and validates performance against the Acceptable Quality Levels (AQLs) required for MNS.

5.1.1.2.1 MNS Quality of Service (L.34.1.5.2 (a))

Qwest's performance is fully compliant with the Government's requirement. **Figure 5.1.1-7** summarizes our support for MNS performance requirements.

Figure 5.1.1-7. Key Performance Indicators and Performance Standards

Key Performance Indicator (KPI)	Service Level	Performance Standard (Threshold)	Acceptable Quality Level (AQL)	Qwest Performance Metrics
Availability (Network End-to-End)	Routine	99.9%	≥ 99.9%	[REDACTED]
Time to Restore (TTR)	Without Dispatch	4 hours	≤ 4 hours	[REDACTED]
	With Dispatch	8 hours	≤ 8 hours	[REDACTED]

The KPIs and Performance Standards are within our current intervals for TTR and Availability. [REDACTED]

[REDACTED]

[REDACTED] The experience of the NOC staff in working with other carriers and network elements and repairing SEDs, along with the knowledge gained from managing the Agency's Network, allows us to reduce the confusion and enhance accountability regardless of the problem.

5.1.1.2.2 Approach for Monitoring and Measuring MNS (L.34.1.5.2 (b))

Implementation Management and Maintenance: Qwest will provide fully integrated management and maintenance for Agencies including access, transport, SEDs, and security management. In the following sub-sections, we described our integrated approach.

Continuous Network Monitoring: Qwest MNS engineers and systems monitor Agency networks 24x7x365 to ensure optimum performance and to quickly detect, isolate, and repair faults using SNMP and device Management Information Base (MIB) data. This information will be available to the Agency as actionable trouble tickets, reports, etc. or as raw trap and polling information. [REDACTED]

[REDACTED] All of this data is correlated, filtered, and analyzed automatically. [REDACTED]

The first step in monitoring Agencies' networks is to collect or capture the management data stored in the devices. The stored data/values are then used in the following ways:

- 1. [REDACTED]
- 2. [REDACTED]
- 3. [REDACTED]
- 4. [REDACTED]
- 5. [REDACTED]
- 6. [REDACTED]
- 7. [REDACTED]

predefined thresholds, a fault condition is assumed. [REDACTED]

[REDACTED]

[REDACTED]

the MNS system. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]
 [REDACTED]
 [REDACTED]

[REDACTED]

[REDACTED]

████████████████████

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Filtering and Correlation: MNS uses filters to look at a single source of Network Management Information (NMI), such as a router, switch, server, or application agent. Filtering rules are applied to check for thresholds, amounts of change, or other factors. [REDACTED]

[REDACTED]

Configuration Management: Configuration Management encompasses the provisioning process and the configuration fault management process. These processes ensure configuration integrity for the Agency. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Qwest will also manage all IP address and schemas across the Agency's network [REDACTED]

[REDACTED]

Qwest will make changes to the configuration on an Agency device as specified by the Agency. The changed configuration will be developed by Qwest based on information provided by the Agency.

Configuration Fault Management: Qwest protects Agencies against configuration corruption and unwanted/unauthorized configuration changes by routinely backing up device configurations. On a daily basis, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

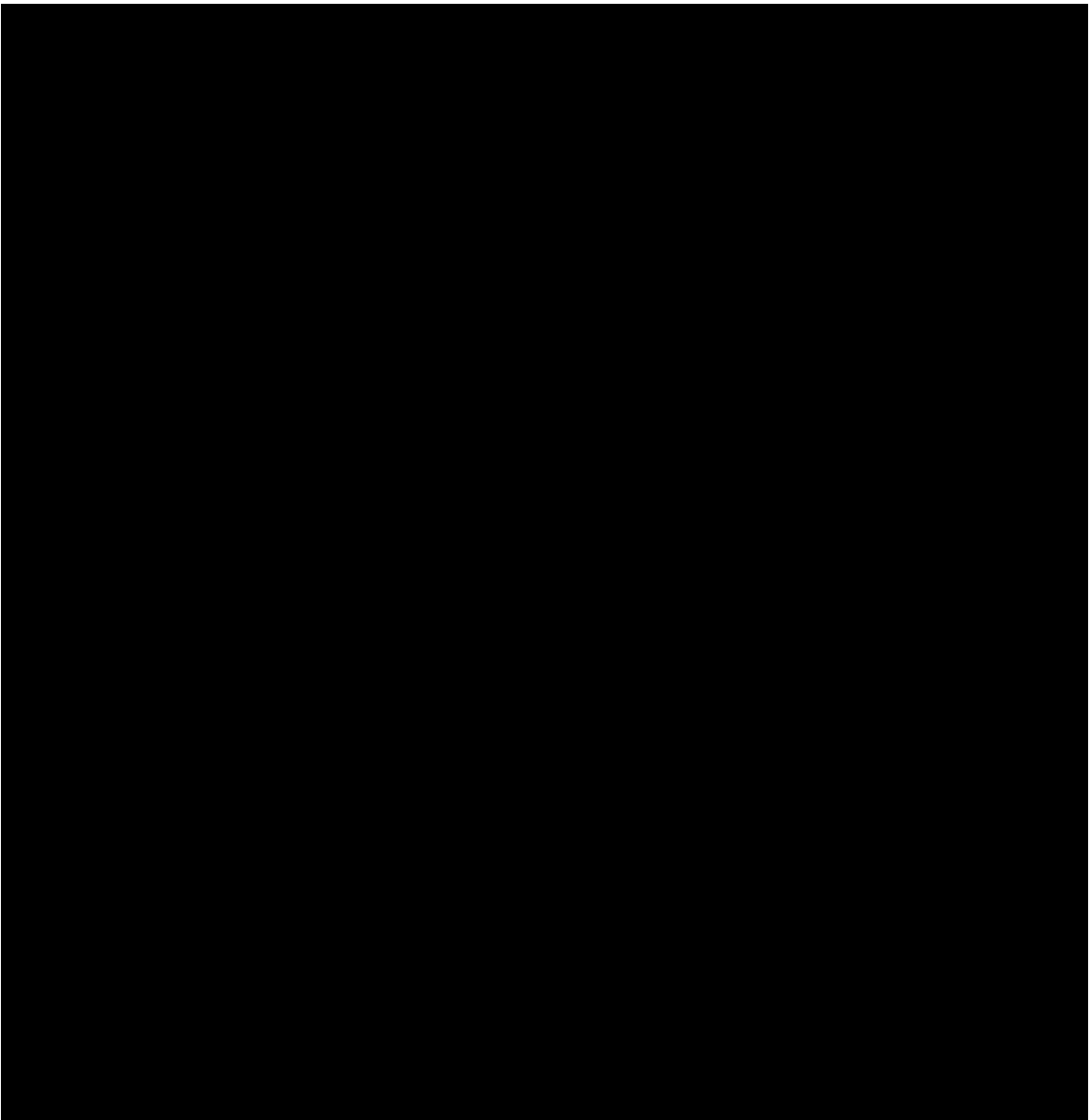
[REDACTED]

[REDACTED] Qwest will identify and alert MNS engineers of any configuration changes. Once a new configuration is validated, it will replace the previously stored configuration.

Qwest will restore previous device configuration states as required. If the current configuration is lost due to hardware failure, we will restore the previous configuration. We always store a copy of the “last known good configuration” for a device.

If a network issue is caused by requested configuration provisioning activities, Qwest will restore the previous configuration to the device. MNS engineers will work with the Agency to analyze the consequences of a requested configuration change.

[REDACTED] details the process used for configuration fault management.



Online Reporting: Qwest provides a full suite of reporting capabilities to Agencies using industry-leading reporting platforms. Network reports are automated and available via the Qwest Control Networx Portal. Qwest MNS engineers also use these reports to evaluate the performance of Agency networks. Reports are organized from a high level view of a network down to the smallest component, thus providing the varied level of detail required by the Agency.

Standard Reports: Qwest will provide real-time access to Networkx

[REDACTED]

[REDACTED] In addition to this information, Qwest will also provide the following standard reports to all Agencies:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[illegible][illegible]

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MNS will comply with all appropriate standards for any underlying Networkx access and transport service.

Network Profiling: The inventory database, topology maps, and drawings are available online and are updated each time there is a change in the network. Changes include adding, moving, or removing a device from MNS; the addition or removal of a connection or protocol (interface or sub-interface); and changes in device or connection information, such as IP addressing, bandwidth, filtering, and traffic prioritization schemes. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5.1.1.2.3 Verification of MNS (L.34.1.5.2 (c))

Data Integrity Analysis: Qwest has procedures in place to ensure that the source data and the repository of source data are protected through restricted access and redundant databases. [REDACTED]

[REDACTED]

[REDACTED]

Root Cause Assessment: Any time a breach of any of the performance levels Qwest measures occurs, Qwest will review and determine

the root cause for the issue and document the findings in a Reason For Outage report. [REDACTED]

[REDACTED] Utilizing our proven carrier grade tools and engineering capabilities, Qwest ensures that performance is restored and proactive preventative actions are taken.

Resolution: Once an alarm has broken an established performance threshold, system initiated tests will be performed to identify where the trouble ticket should be routed (e.g., SED support, Network Support, etc.). [REDACTED]

[REDACTED] Once prioritized, the trouble ticket is sent to an engineer for resolution action. Once we execute on the resolution path and corrective action is completed and performance measures have stabilized and returned to service levels acceptable to the Agency, then the trouble ticket will be closed.

5.1.1.2.4 MNS Performance Level Improvements (L.34.1.5.2 (d))

[REDACTED]

5.1.1.2.5 Additional MNS Performance Metrics (L.34.1.5.2 (e))

[REDACTED]

5.1.1.3 Satisfaction of MNS Specifications (L.34.1.5.3, M.2.1.4 (d))

Qwest's MNS solution is designed to take advantage of the various efficiencies created by the development and implementation of a uniform service delivery approach. Qwest acknowledges that Agencies may require customized elements in the service delivery process to accommodate special considerations of the Agency's network or internal communication needs. The following sections detail Qwest's technical approach to meeting MNS requirements, including our demonstrated ability to offer MNS.

In reference to standards, Qwest MNS service will comply with all applicable standards, as current MNS offerings have been operating across multiple carriers and technologies [REDACTED] providing a comprehensive view on the networks operations.

In reference to connectivity, Qwest MNS will be available on all underlying Networkx offerings, as service is currently provided on all of the listed Networkx offerings in the retail marketplace.

5.1.1.3.1 MNS Service Requirements (L.34.1.5.3 (a))

Qwest's MNS provides a broad range of design, engineering, implementation, monitoring, proactive troubleshooting, and reporting capabilities, including the software tools used to enable the MNS NOC to monitor multi-carrier access, transport components, and CPE. Qwest has provided this service to commercial, state, local, and Federal Government customers [REDACTED] Qwest currently manages customer networks located around the world [REDACTED] The networks managed are multi-carrier, multi-technology, and multi-topology.

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] This is carrier-grade network

management for the Agency.

5.1.1.3.1.1 Satisfaction of MNS Capability Requirements (L.34.1.5.3 (a), C.2.9.1.1.4)

Figure 5.1.1-9 identifies all the MNS-required capabilities and Qwest's Technical approach. Qwest fully complies with all mandatory stipulated and narrative capabilities requirements for MNS. The text in Figure 5.1.1-9

provides the technical description required per L.34.1.5.3(a) and does not limit or caveat Qwest's compliance in any way.

Figure 5.1.1-9 MNS Technical Capabilities and Qwest's Approach

ID	Capability	Qwest's Technical Approach
Design & Engineering	1. The contractor shall provide design and engineering services that fully satisfy Agency requirements. Design and engineering services include a review of the current network traffic, performance, transport, hardware and software components, and an overall evaluation of network topology, configuration, addressing, bandwidth, availability, scalability, reliability, and disaster recovery requirements. The contractor shall document the design and engineering services. The contractor shall also review the design and engineering services that have been implemented to ensure that ongoing Agency needs are satisfied.	[REDACTED]
	2. The contractor shall incorporate the Agency's security requirements into the design to ensure that all factors influencing data and circuit integrity are captured. This may include the integration of a security package or individual Networx security services.	[REDACTED]
	3. The contractor shall identify network components and determine protocols, redundancy, traffic filtering, and traffic prioritization requirements. The contractor shall also recommend the appropriate CIRs, PVC levels, and network access speeds, as required.	[REDACTED]

Networx Enterprise Contract
 Managed Network Services (MNS) – QE0777.01E

ID	Capability	Qwest's Technical Approach
		[REDACTED]
	4. The contractor shall provide complete project management including design, implementation, installation, access coordination, provisioning, equipment configuration, hardware testing, and service activation. The contractor shall coordinate installation activities with the Agency in order to minimize the impact on the current networking environment.	[REDACTED]
Implementation, Management & Maintenance	1. The contractor shall provide integrated management of services to the extent needed by the Agency—that includes managing services that are delivered to the Agency by other contractors.	[REDACTED]
	2. The contractor shall develop, implement, and manage comprehensive solutions constructed from components of the Networx services and their enhancements in order to meet Agency-specific requirements. The solutions shall include but not be limited to:	[REDACTED]
	a. Access solutions that use a combination of different services, such as Wireline and Wireless Access Services, for specific Agency locations, and also Satellite Access Arrangements at particular locations to meet Agency performance metrics for availability and disaster recovery 2.b. Transport solutions that distribute traffic over multiple contractor backbone networks to provide redundancy and carrier diversity, and vary the traffic allocation dynamically based on Agency-specified performance requirements	[REDACTED]

Network Enterprise Contract
 Managed Network Services (MNS) – QE0777.01E

ID	Capability	Qwest's Technical Approach
	2.c. Customer premises solutions that provide Agency-specific interfaces, software, and equipment to meet Agency requirements	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>
	2.d. Security Solutions as required by the Agency	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>
	3. The contractor shall supply and manage the hardware, firmware, and related software required by the Agency. Components include but are not limited to routers and switches, ATM devices, CSUs/DSUs, hubs, ISDN adapters, and modems.	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>
	4. The contractor shall manage the network in real-time on a 24x7x365 basis. The contractor shall support remote management capabilities from its operations center, including but not limited to equipment configuration, testing, monitoring, troubleshooting, fault/problem resolution, and maintenance. The contractor shall proactively monitor utilization and packet loss and errors, probing in intervals of at least fifteen minutes to ensure proper equipment/network operation and performance.	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>
	5. The contractor shall support SNMP data feeds that provide the Agency with managed equipment information, as applicable.	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>

Networkx Enterprise Contract
 Managed Network Services (MNS) – QE0777.01E

ID	Capability	Qwest's Technical Approach
	6. The contractor shall perform configuration changes that include but are not limited to the following: a. Adding a protocol b. Adding, moving or removing CPE c. Changing addressing, filtering, and traffic prioritization schemes d. Modifying PVCs e. Optimizing network routes f. Updating equipment software and/or configuration, including but not limited to firewall and VPN security devices g. Upgrading or downgrading bandwidth	[REDACTED]
	7. The contractor shall provide IP Address Management as applicable. The contractor shall supply registered IP addresses to the Agency as required and assist in the translation of non-registered private IP addresses into public addresses for routing purposes.	[REDACTED]
	8. The contractor shall monitor and control access to equipment under its control including limiting access to authorized personnel and implementing passwords and user permissions as directed and approved by the Agency.	[REDACTED]
	9. The contractor shall regularly perform off-site equipment configuration backups in order to ensure the availability of recent configuration data for restoration purposes. The contractor shall provide the Agency secure access to backup logs as needed.	[REDACTED]
	10. The contractor shall perform the necessary hardware and software upgrades, updates, patch deployments, and bug fixes as soon as they become available. The contractor shall implement updates in coordination and mutual agreement with the Agency and test new releases to resolve any security concerns, ensure compatibility with the Agency environment, minimize service disruptions, and maintain equipment functionality.	[REDACTED]

Networx Enterprise Contract
 Managed Network Services (MNS) – QE0777.01E

ID	Capability	Qwest's Technical Approach
	11. The contractor shall proactively detect problems, respond to alerts, and promptly report situations that adversely affect throughput to the impacted Agency. The contractor shall provide notification of alarms, network troubles, and service interruptions via email, pager, telephone, or as directed by the Agency.	<div>[REDACTED]</div>
	12. The contractor shall provide the Agency with real-time access to the following: a. Installation schedule detailing the progress of activities such as the implementation of equipment, access and transport circuits, ports, and PVCs, as applicable. This allows Agencies to track the provisioning process through completion at any time. Near real-time access to the installation schedule is acceptable b. Network statistics and performance information including equipment data, availability, throughput and delay statistics, Class of Service settings, and application-level performance information, as applicable c. Trouble reporting and ticket tracking tools d. Security logs	<div>[REDACTED]</div>

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5.1.1.3.1.2 Satisfaction of MNS Feature Requirements (L.34.1.5.3 (a), C.2.9.1.2)

Figure 5.1.1-10 identifies all the MNS-required features and Qwest's Technical approach. Qwest fully complies with all mandatory stipulated and narrative feature requirements for MNS. The text in Figure 5.1.1-10 provides the technical description required per L.34.1.5.3(a) and does not limit or caveat Qwest's compliance in any way.

Figure 5.1.1-10 MNS Features and Qwest's Approach

ID#	Feature	Qwest's Technical Approach
1	Government Furnished Property (GFP) Maintenance	[REDACTED]
2	Agency-Specific Network Operations Center (NOC)	[REDACTED]
3	Network Testing	[REDACTED]

5.1.1.3.1.3 Satisfaction of MNS Interface Requirements (L.34.1.5.3 (a), C.2.9.1.3)

Figure 5.1.1-11 identifies all the MNS-required interface requirements and Qwest's Technical approach. Qwest fully complies with all mandatory stipulated and narrative interface requirements for MNS. The text in Figure 5.1.1-11 provides the technical description required per L.34.1.5.3(a) and does not limit or caveat Qwest's compliance in any way.

Figure 5.1.1-11 MNS Interface and Qwest's Approach

ID#	UNI Interface Type	Qwest's Technical Approach
1	C.2.3.1 Frame Relay Service [Optional]	[REDACTED]
2	C.2.3.2 Asynchronous Transfer Mode Service [Optional]	[REDACTED]
3	C.2.5.1 Private Line Services [Optional]	[REDACTED]
4	C.2.4.1 Internet Protocol Service [Optional]	[REDACTED]
5	C.2.7.2 Premises-Based IP VPN Services [Optional]	[REDACTED]
6	C.2.7.3 Network-Based IP VPN Services [Optional]	[REDACTED]

5.1.1.3.2 Proposed Enhancements for MNS (L.34.1.5.3 (b))

[REDACTED]

5.1.1.3.3 Network Modifications for MNS Delivery (L.34.1.5.3 (c))

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5.1.1.3.4 Experience Delivering MNS (L.34.1.5.3 (d))

Qwest brings decades of data network management experience—
[REDACTED] providing direct MNS for complex customer
environments—utilizing carrier grade tools, platforms, and expertise. [REDACTED]

[REDACTED] Qwest manages the transport, routers, switches, and
firewalls located at a variety of sites, including a corporate data center,
disaster recovery facility, supplier sites, and field offices. The network
architecture is based on a VPN hub-and-spoke design with full backup
capability for the main data center. Qwest MNS maintains the complete
inventory and network maps for the network, full configuration management,
and 24x7x365 in-band monitoring and fault management. In support of these
services, Qwest MNS provides online documentation, real-time reporting, and
comprehensive monthly reporting of network performance.

5.1.1.3.5 MNS Approach (L.34.1.5.3 (e))

MNS is provided by the dedicated Federal NOCs [REDACTED]
[REDACTED] which meet all Networkx security and disaster recovery
requirements. Refer to Figure 5.1.1-9, which includes the disaster recovery
out-of-band access requirements.

Design and Engineering: [REDACTED]

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

[illegible]

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facilitate the order tracking and subsequent order status monitoring with the designated contact(s) within the Agency. [REDACTED]

[REDACTED]

Management and Maintenance: Subsequent to the SOCN, the MNS NOC will closely monitor the network for fine tuning and modifications that might not have been detected within the previous network management framework. [REDACTED]

[REDACTED]

[REDACTED]

Networkx Enterprise Contract
Managed Network Services (MNS) – QE0777.01E

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Networkx Enterprise Contract
Managed Network Services (MNS) – QE0777.01E

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

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[illegible]

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

Age Group	Percentage Vaccinated
18-24	95%
25-34	90%
35-44	92%
45-54	88%
55-64	85%
65+	65%

[REDACTED]

Response	Percentage
Yes, the current administration is responsible	85%
No, the current administration is not responsible	15%

[REDACTED]

Response	Percentage
Yes, the current system is the best	85%
No, the current system is not the best	15%

[REDACTED]
 [REDACTED]
 [REDACTED]

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

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

Age Group	Gender	Percentage Vaccinated
18-24	Male	~15%
18-24	Female	~10%
25-34	Male	~25%
25-34	Female	~20%
35-44	Male	~35%
35-44	Female	~30%
45-54	Male	~45%
45-54	Female	~40%
55-64	Male	~55%
55-64	Female	~50%
65+	Male	~65%
65+	Female	~60%

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

Duration Category	Percentage of Respondents
0-1 years	95%
1-2 years	92%
2-3 years	88%
3-4 years	100%
4-5 years	85%
5-6 years	82%
6-7 years	98%

Age Group	Gender	Percentage Vaccinated
18-24	Male	~15%
	Female	~10%
25-34	Male	~25%
	Female	~20%
35-44	Male	~35%
	Female	~30%
45-54	Male	~45%
	Female	~40%
55-64	Male	~55%
	Female	~50%
65+	Male	~65%
	Female	~60%

Table 5.1.1.4-1 Table of ICB CLINs and Case Numbers

[illegible]

October 24, 2016

995

996 GS00T07NSD0040 October 24, 2016
Data contained on this page is subject to the restrictions on the title page of this contract.

997

998 GS00T07NSD0040 October 24, 2016
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5.1.1.5 Department of State Managed Network and Engineering (MNS) –

Category	Percentage
1. Very much	100%
2. Fairly much	100%
3. Fairly little	100%
4. Very little	100%
5. Not at all	100%
6. Not applicable	100%
7. Not applicable	100%
8. Not applicable	100%
9. Not applicable	100%
10. Not applicable	100%
11. Not applicable	100%
12. Not applicable	100%
13. Not applicable	100%
14. Not applicable	100%
15. Not applicable	100%
16. Not applicable	100%
17. Not applicable	100%
18. Not applicable	100%
19. Not applicable	100%
20. Not applicable	100%
21. Not applicable	100%
22. Not applicable	100%
23. Not applicable	100%
24. Not applicable	100%
25. Not applicable	100%
26. Not applicable	100%
27. Not applicable	100%
28. Not applicable	100%
29. Not applicable	100%
30. Not applicable	100%
31. Not applicable	100%
32. Not applicable	100%
33. Not applicable	100%
34. Not applicable	100%
35. Not applicable	100%
36. Not applicable	100%
37. Not applicable	100%
38. Not applicable	100%
39. Not applicable	100%
40. Not applicable	100%
41. Not applicable	100%
42. Not applicable	100%
43. Not applicable	100%
44. Not applicable	100%
45. Not applicable	100%
46. Not applicable	100%
47. Not applicable	100%
48. Not applicable	100%
49. Not applicable	100%
50. Not applicable	100%
51. Not applicable	100%
52. Not applicable	100%
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89. Not applicable	100%
90. Not applicable	100%
91. Not applicable	100%
92. Not applicable	100%
93. Not applicable	100%
94. Not applicable	100%
95. Not applicable	100%
96. Not applicable	100%
97. Not applicable	100%
98. Not applicable	100%
99. Not applicable	100%
100. Not applicable	100%

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

Age Group	Percentage
18-24	10%
25-34	90%
35-44	100%
45-54	98%
55-64	95%
65-74	99%
75-84	99%
85-94	99%
95-104	65%

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

Response	Percentage
Yes, the U.S. should take action to address climate change	95%
No, the U.S. should not take action to address climate change	5%

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

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5.1.1.8.1 GSA Region 8 Managed VoIP MNS - LAN Management Activities

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Networkx Enterprise Contract
Managed Network Services (MNS) – QE0777.01E

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5.1.1.8.1-2 GSA Region 8 Managed VoIP MNS - Managed LAN Service

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

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[REDACTED]

Networkx Enterprise Contract
Managed Network Services (MNS) – QE0777.01E

[REDACTED]

[REDACTED]

5.1.1.8.2-2 GSA Region 8 Managed VoIP MNS – Managed LAN

[REDACTED]

[REDACTED]

[REDACTED]

5.1.1.8.2-3 GSA Region 8 Managed VoIP MNS – Managed LAN

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5.1.1.8.3-1 GSA Region 8 Managed VoIP MNS – Managed LAN

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5.1.1.8.3-2 GSA Region 8 Managed VoIP MNS – Managed LAN

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5.1.1.8.3-3 GSA Region 8 Managed VoIP MNS – Managed LAN

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

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[REDACTED]

5.1.1.8.4-2 GSA Region 8 Managed VoIP MNS – Managed LAN

[REDACTED]

[REDACTED]

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[REDACTED]

5.1.1.8.4-3 GSA Region 8 Managed VoIP MNS – Managed LAN

[REDACTED]

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[REDACTED]

[REDACTED]

5.1.1.8.5-1 GSA Region 8 Managed VoIP MNS – Managed LAN

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5.1.1.8.5-2 GSA Region 8 Managed VoIP MNS – Managed LAN

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5.1.1.8.5-3 GSA Region 8 Managed VoIP MNS – Managed LAN

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5.1.1.9 Department of State Managed Network Services (MNS) –

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Additionally, Virtual environment will be upgraded from Citrix XenServer 5.0 to 6.1 (advanced support also provided). [REDACTED]

[REDACTED]

[REDACTED]

5.1.1.0 Department of State (DoS) Managed Network Services

(MNS) – IP Switch Upgrade - [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[illegible]

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- **Virtual Seat (Case Number 856652)**

Virtual Seat does not include a handset and is inclusive of the following features: Call waiting, call park/pick-up, calling line ID, unified messaging, and user toolbar.

- **Premium Seat Phone Ordered Separately (Case Number 17795301)**

Premium Seat is a seat type that includes advanced IP phone features but the actual phone is ordered separately as a SED to allow the customer to choose the specific SED type. This Premium Seat is inclusive of the following features: Call waiting, call park/pick-up, calling line ID, unified messaging, and user toolbar.

- **Admin Seat Phone Ordered Separately (Case Number 18652003)**

The Admin Seat is available for Agency end users who manage multiple simultaneous telephone calls on a daily basis. The Admin Seat offers the same features as the Premium Seat with the added support of up to one expansion module/side car (ordered separately as a SED choice). This expansion module extends the functionality of other IP Phones that would be ordered separately as a SED and provides multifunctional line keys that can be setup as line registrations, call appearances, speed dials, direct station select or busy lamp field keys. This seat type also includes advanced IP phone features but the actual phone is ordered separately as a SED to allow the customer to choose the specific SED type. This Admin Seat differs from the Premium Seat by having an additional SED choice that could include the Expansion Module SED. The Admin Seat is inclusive of the following features: Call waiting, call park/pick-up, calling line ID, unified messaging, and user toolbar.

Managed Hosted VoIP Included Features (Premium, Virtual, and Admin Seats):

Call Waiting

This feature allows a user to answer a call while already engaged in another call. When a second call is received while a user is engaged in a call, the user is informed via a call waiting tone. To answer the waiting call, the user presses the flash hook. The user connects with the waiting party and holds

the original party. By pressing the flash hook, the user reconnects to the original party and holds the waiting party. The feature completes when any party hangs up.

Users can activate/deactivate the Call Waiting service for all incoming calls via the End User Portal. Users also have the option of canceling their Call Waiting on a per-call basis by dialing the respective feature access code for Cancel Call Waiting per Call before making the call, or after a switch-hook flash during the call. Once the call is over, Calling Waiting is restored.

Call Park and Recall

The Call Park service allows a “parking” user to park a call against a “parked against” extension. To park a call, a user presses the flash hook and dials the call park feature access code. The “parked” user is placed on hold until a user retrieves the parked call. If the call is not retrieved within the provisioned recall time, then the parked call is reverted and presented to the “recall” user. The Retrieve feature is used to pick-up a parked call from another device.

Call Park and Recall Enhancements

This activity adds the following enhancements to the Call Park and Recall feature:

- Provides an audio and visual indication to the “recall” user to distinguish between a reverted and new call
- Provides a visual indication to the target that a call is parked against the extension
- Provides additional call routing and handling options for reverted calls when the receptionist is unavailable or busy.
- A timer exists that automatically returns the call to the user following expiration.

External Calling Line ID Delivery

The External Calling Line ID Delivery service allows you to view the caller identification of a caller from an external group.

Internal Calling Line ID Delivery

The Internal Calling Line ID Delivery service allows you to view the caller identification of a caller from within your group.

Unified Messaging

Unified Messaging is the integration of email service with the voicemail system. A user’s voice mail message is packaged into an email and sent to

the end user email box. By selecting the deletion option in the email message this will turn-off the message waiting indicator and the message from your end user device and End User Portal.

Toolbar

The Toolbar is a software package the end user may download from the End User Portal. Once the software is installed a toolbar will be installed on Microsoft Outlook version 2007, Internet Explorer, and Firefox.

This toolbar performs some features for the end user through their Microsoft Outlook application. Features include:

- Click to dial (including Outlook contacts)
- Enable forwarding, DND, simultaneous ring, anywhere, etc.
- Review call history
- Manage remote office feature
- Access personal and group directories

When receiving a call, a pop-button will appear on desktop to allow user to answer call to their handset.

Find Me

There is a section of the Customer Portal that offers the “Find Me” type of features at no additional charge. These are not required to be ordered, they are simply available to the Agency to use as needed, and at no additional charge:

Call Forwarding Not Reachable

Automatically forwards your calls to another phone number if you are not reachable.

Call Forwarding Always

Automatically forwards all of your calls to another phone number.

Call Forwarding Busy

Automatically forwards your calls to another phone number if your line is busy.

Call Forwarding No Answer

Automatically forwards your calls to another phone number if you do not answer your phone after a determined number of rings. Note: The number of rings you set needs to be less than the number of rings it takes before it rolls to your voicemail. If voicemail picks up after 3 rings, the “Number of rings before forwarding” setting needs to be 2 or less.

Call Forwarding Selective

Automatically forward your incoming calls to a different phone number when pre-defined criteria, such as the phone number, time of day or day of week, are met.

Call Notify

Send an email with the caller's name and number to a specified email address when pre-defined criteria, such as phone number, time of day or day of week, are met.

Do Not Disturb

Automatically forwards your calls to your voice messaging service, if configured, otherwise the caller hears a busy tone. The Play Ring reminder when a call is blocked check box will cause your phone to have a short audible ring when receiving a call, this is a good way to prevent from forgetting your phone is in Do Not Disturb mode for long periods of time. When Do Not Disturb is activated, the icon next to your extension will appear with an “X”, which is a visual that your phone is in Do Not Disturb mode. When Do Not Disturb is deactivated, the “X” will be replaced with a phone icon.

Simultaneous Ring

Simultaneous Ring allows you to list up to 10 phone numbers or SIP-URI addresses you would like to ring in addition to your primary phone when you receive a call. This feature is helpful when you are not at your phone but you would like your cell phone to ring if you receive a call. You can also turn off Simultaneous Ring when you are at your desk on a call. The criteria for each Simultaneous Ring entry can be a list of up to 12 phone numbers or digit patterns, a specified time schedule, and a specified holiday schedule. All criteria for an entry

must be satisfied for the call to enter Simultaneous Ring (phone number and day of week and time of day). If the criteria do not match, the call continues as if this service was not turned on.

Sequential Ring

Sequential Ring allows you to sequentially ring up to 5 devices or locations in addition to the base location for a specified number of rings. The 5 locations can be either a phone number or a SIP-URI. The feature applies to calls matching your pre-defined criteria. Use this service to ring calls from your manager, a family member, or an important customer on your cell phone, alternate business phone, or home phone. The criteria for each Sequential Ring entry can be a list of up to 12 phone numbers or digit patterns, a specified time schedule, and a specified holiday schedule. All criteria for an entry must be satisfied for the call to enter Sequential Ring (phone number and day of week and time of day). If the criteria do not match, the call continues as if this service was not turned on.

Several services take precedence over the Sequential Ring service. Some of these services are:

- • Call Forwarding Always
- • Call Forwarding Selective
- • Selective Acceptance
- • Selective Rejection

Additional Managed Hosted VoIP Seat Types:

- **Basic Seat Phone Ordered Separately (Case Number 18652001)**

Basic Seat is a seat type that could be used by the Agency as a phone for a lobby, break room, or cafeteria area. This Seat Type does not include voicemail capabilities and it cannot be added on as a feature. It does not include the advanced IP phone features that are offered in the Premium seat, but does include shared call appearances (up to five), domestic calling, CenturyLink supported/certified softphone client, and 3-way calling. This Case Number for the basic seat is designed to have the actual phone ordered separately as a SED to allow the customer to choose the specific SED type.

- **Standard Seat Phone Ordered Separately (Case Number 18652002)**

Standard Seat is a seat type that could be used by Agency personnel with standard calling service needs. This Seat Type does not include the advanced IP phone features that are offered in the Premium seat, but does include shared call appearances (up to ten), unified messaging feature package, domestic calling, CenturyLink supported/certified softphone client, and conferencing with up to 15 additional parties. This Case Number for the standard seat is designed to have the actual phone ordered separately as a SED to allow the customer to choose the specific SED type.

Additional A la Carte Managed Hosted VoIP Features:

There are Additional Managed Hosted VoIP A la Carte Features that can be ordered to enhance the Managed Hosted VoIP Service. These additional features are listed and described in detail in 5.2.4.32 Managed Network Services (MNS) – Hosted VoIP and IQ SIP Additional Features

5.1.1.12 Managed Network Services (MNS) – IQ SIP Trunking NRC CLIN 280290 / MRC CLIN 280390 Case Numbers 9772101- 9772107

CenturyLink IQ SIP Trunking is a new product being powered by the BroadWorks feature server, provided by BroadSoft. It provides an expanded set of features to the existing Hosted VoIP solution on BroadWorks and the current SIP Trunking solution through SONUS. CenturyLink IQ SIP Trunk is being offered as an a la carte solution. Customers can have as few as one Telephone Number/Session and grow to as many as 10,000 telephone numbers per location.

Please note that the CenturyLink engineering team will work with the Agency on this solution. The engineering team will work to find the best fit for the Agency in terms of Seat type and a la carte features to add on to meet the

Agency's requirements. Also, SBCs/Routers and IP PBXs are a required components for CenturyLink IQ SIP Trunk. IQ SIP Trunk is certified to work with a number of different SBCs, PBXs and UC platforms to allow for maximum flexibility at the customer level. The Agency can provide their own CPE, including handsets. Centurylink can work with the Agency and will provide certified items as SEDs.

IQ SIP Trunking offers Sessions and Seats to set up the IQ SIP Trunking service and then can be enhanced with several a la carte features listed in 5.2.4.32:

IQ SIP Trunking Enterprise Session (MRC CLIN 280390 Case Number 9772101)

The Agency will order the IQ SIP Enterprise Session as the baseline of their IQ SIP Service. This Case Number 9772101 is ordered for each Session required by the Agency.

IQ SIP Trunking Seat Choices:

The “seat” is perhaps better thought of as a “Telephone Number” also referred to as “TN” by CenturyLink. Based on the type of Telephone Numbers required, the Agency can select the quantity of Telephone Numbers (or Seats) required by the Agency.

- **Standard Seat (MRC CLIN 280390 Case Number 9772102)**

This seat provides Agency users with standard IP phone features. Please note as a “standard” seat that there are advanced features that will not be supported. Web Console and Mobility (also known as Anywhere) will not work with the Standard Seat.

- **Premium Seat (MRC CLIN 280390 Case Number 9772103)**

This seat provides Agency users with advanced IP phone features like “Find Me” as well as premium phone and soft client access. The Web Console add-on feature and Mobility (also known as Anywhere) will only work with a Premium Seat.

Find Me

There is a section of the Customer Portal that offers the “Find Me” type of features at no additional charge. These are not required to be ordered, they are simply available to the Agency to use as needed, and at no additional charge:

Call Forwarding Not Reachable

Automatically forwards your calls to another phone number if you are not reachable.

Call Forwarding Always

Automatically forwards all of your calls to another phone number.

Call Forwarding Busy

Automatically forwards your calls to another phone number if your line is busy.

Call Forwarding No Answer

Automatically forwards your calls to another phone number if you do not answer your phone after a determined number of rings. Note: The number of rings you set needs to be less than the number of rings it takes before it rolls to your voicemail. If voicemail picks up after 3 rings, the “Number of rings before forwarding” setting needs to be 2 or less.

Call Forwarding Selective

Automatically forward your incoming calls to a different phone number when pre-defined criteria, such as the phone number, time of day or day of week, are met.

Call Notify

Send an email with the caller's name and number to a specified email address when pre-defined criteria, such as phone number, time of day or day of week, are met.

Do Not Disturb

Automatically forwards your calls to your voice messaging service, if configured, otherwise the caller hears a busy tone. The Play Ring reminder when a call is blocked check box will cause your phone to have a short audible ring when receiving a call, this is a good way to prevent from forgetting your phone is in Do Not Disturb mode for long periods of time. When Do Not Disturb is activated, the icon next to your extension will appear with an “X”, which is a visual that your phone is in Do Not Disturb mode. When Do Not Disturb is deactivated, the “X” will be replaced with a phone icon.

Simultaneous Ring

Simultaneous Ring allows you to list up to 10 phone numbers or SIP-URI addresses you would like to ring in addition to your primary phone when you receive a call. This feature is helpful when you are

not at your phone but you would like your cell phone to ring if you receive a call. You can also turn off Simultaneous Ring when you are at your desk on a call. The criteria for each Simultaneous Ring entry can be a list of up to 12 phone numbers or digit patterns, a specified time schedule, and a specified holiday schedule. All criteria for an entry must be satisfied for the call to enter Simultaneous Ring (phone number and day of week and time of day). If the criteria do not match, the call continues as if this service was not turned on.

Sequential Ring

Sequential Ring allows you to sequentially ring up to 5 devices or locations in addition to the base location for a specified number of rings. The 5 locations can be either a phone number or a SIP-URI. The feature applies to calls matching your pre-defined criteria. Use this service to ring calls from your manager, a family member, or an important customer on your cell phone, alternate business phone, or home phone. The criteria for each Sequential Ring entry can be a list of up to 12 phone numbers or digit patterns, a specified time schedule, and a specified holiday schedule. All criteria for an entry must be satisfied for the call to enter Sequential Ring (phone number and day of week and time of day). If the criteria do not match, the call continues as if this service was not turned on.

Several services take precedence over the Sequential Ring service. Some of these services are:

- • Call Forwarding Always
- • Call Forwarding Selective
- • Selective Acceptance
- • Selective Rejection

○ **Mobility Seat (Anywhere) (MRC CLIN 280390 Case Number 9772104)**

This seat is a Premium Seat except that it does not offer voice mail. Callers dial one number and can reach you on any phone the user chooses. This is set up in the End User Portal so that an alternate desk phone, cell phone, and/or a soft phone can ring simultaneously. Users with this service can add multiple phone numbers in the portal to ring during inbound calls which performs a simultaneous ring feature to the selected devices.

The Agency user can use the end user portal to list all telephone numbers, and allow these numbers to ring when calls are received.

In addition, Anywhere adds the functionality of placing outbound calls from external devices such as mobile phones. The end user will use a configured

device that has its phone number entered in the portal then dial the Anywhere TN that is configured per group. Once they dial the Anywhere TN from their pre-configured device, the user is then prompted to enter the phone number they wish to call, which will then show their Outbound Caller ID as though they are calling from their office phone.

Users are also able to use the retrieve FAC code *11 to move a call from the remote device (i.e. mobile phone) back to their primary device once at that location. For example, if a user is on a conference call and wants to go downstairs to grab some coffee, they can call into the Anywhere TN from their mobile phone and then dial *11, the call will then be moved to their mobile device. When they get back to their desk they can pick up their desk phone and dial *11 again and it will pull the call back to their desk phone.

Agencies must order the anywhere group feature and an additional TN to use to configure the Anywhere TN per group. This shared number will allow users to dial from remote devices to engage the system for outbound dialing.

- **Voicemail Only Seat (MRC CLIN 280390 Case Number 9772105)**

This seat is designed as a standalone voicemail box for the support of calls that are not directed to a specific user's voicemail. For example, this can be a shared group only mailbox or a user that doesn't have device. Required are the following for each Voice Messaging Only Seat:

- DID TN
- Unified Messaging

Be aware that 911 calls cannot be made from a voice mail only seat. This customer will not have access to the End User Portal. They will be limited to the telephone user interface (TUI) through the Voice Mail designated pilot number for the enterprise. They will have to enter the voicemail number and associated access code to get access.

- **Virtual Seat (MRC CLIN 280390 Case Number 9772106)**

Virtual Seat does not include a handset and is inclusive of the following features: Call waiting, call park/pick-up, calling line ID, unified messaging, and user toolbar.

- **Long Distance Overage (NRC CLIN 280290 Case Number 9772107)**

10,000 long distance minutes are included with the Enterprise Session. This case number will allow CenturyLink to charge the Agency for long distance used over the 10,000 minutes each month. The CLIN and Case number will be used to charge per minute over the 10,000 minutes used each month.

5.1.1.13 Managed Network Services (MNS) – Hosted VoIP and IQ SIP

Additional Features NRC CLIN 280290 / MRC CLIN 280390 Case

Numbers 9772108- 9772122

A la Carte IQ SIP and Managed Hosted VoIP Features:

There are several a la carte features that can be added to CenturyLinks IQ SIP or Managed Hosted VoIP service. The Agency should work with the Centurylink account team engineer to define the Agency's requirements and then a complete solution can be put together to possibly include these features listed below:

Directory Assistance (NRC CLIN 280290 Case Number 9772108)

Allows Agency end-users to dial toll free to access directory assistance. The charge is an NRC per instance that the directory assistance is dialed.

Hunt Groups (NRC CLIN 280290 / MRC CLIN 280390 - Case Number 9772109)

Allows users within a group be added to a specified sub-group to handle incoming calls received by an assigned Hunt Group's phone number. Up to 1,000 users can be assigned to a Hunt Group. Administrators can choose from any of the following "hunt" schemes, each of which rings the specified phones in a different manner:

- Circular – sends calls in a fixed order. The call is sent to the first available person on the list, beginning where the last call left off
- Regular – sends calls to users in the order listed by an administrator. Incoming calls go to the first available person on the list, always starting with the first person on the list
- Simultaneous – rings all of the users in the group simultaneously; the first user to pick up the ringing phone is connected
- Uniform – as a call is completed, the user moves to the bottom of the call queue in a shuffling fashion. The next incoming call goes to the user who has been idle the longest. If a user receives a call that was not directed to them through the Hunt Group, the call is not included in the receiving order for uniform calls.

If all idle numbers have been visited once without answer, there are two options for handling the call: forward call to an external number, or give the call a Temporarily Unavailable treatment, which can trigger a service such as a hunt group voice mail box.

Voice Mail for Hunt Groups (MRC CLIN 280390 - Case Number 9772110)

This is an option that can be set up by the Agency as an additional feature. An Agency would order this if they want the ability for calls to go to a voice mail box. This would occur if all idle numbers in a hunt group have been visited once without answer. At this point, it could be established to give the call a Temporarily Unavailable treatment, which can trigger a service such as a hunt group voice mail box.

Receptionist Web Console (MRC CLIN 280390 - Case Number 9772111

Receptionist Console is a web-based attendant console for use by receptionists or telephone attendants who manage and screen inbound calls for enterprises. Receptionist users can perform basic functions quickly and easily, such as call transfer, view line status and pick-up calls for monitored personnel. Receptionist add-on requires a premium seat to go along with it.



Auto-Attendant (NRC CLIN 280290 / MRC CLIN 280390 - Case Number 9772112)

The Auto Attendant serves as an automated receptionist that answers the phone and provides a personalized message to callers with options for connecting to the operator, dialing by name or extension, or connecting to up to nine configurable extensions (for example, 1 = Marketing, 2 = Sales, and so on). Configuration via the Administrator Portal also allows for hours of operation to be modified, with different options available for hours that the company is open or closed. Administrators use their voice portal to record auto attendant greetings. For example, a message can be left remotely to indicate that the office has been closed due to inclement weather. In addition, users have the ability to record their name for playback when a caller dials by name or extension.

A group can have multiple Auto Attendants configured, either individually (for example, customer service with separate business hours) or integrated into a multi-level Auto

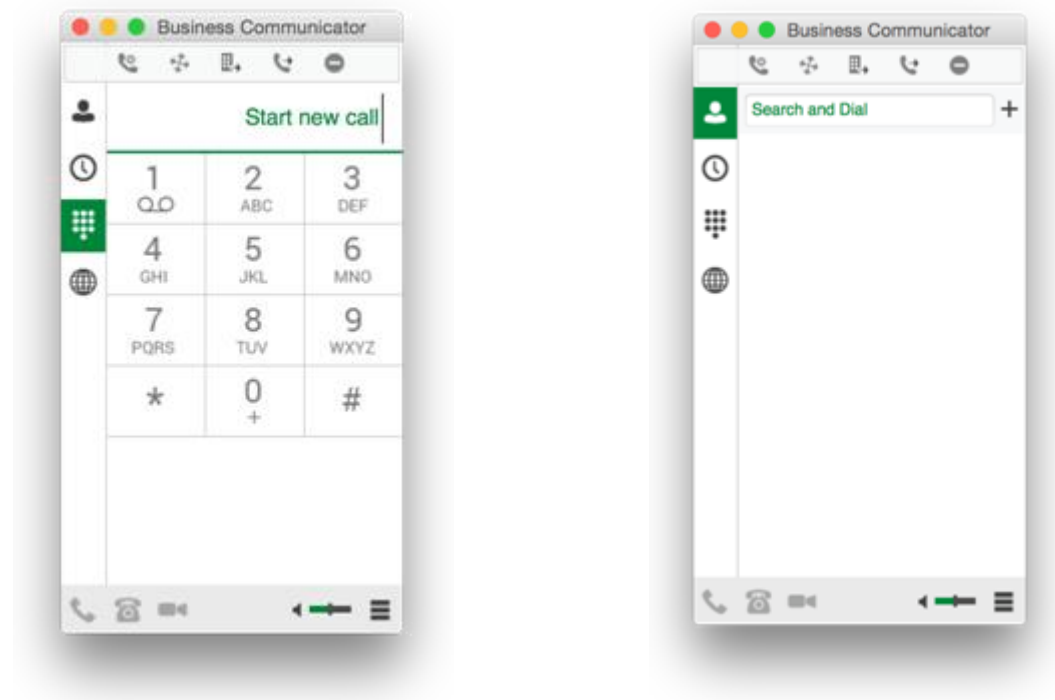
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Attendant (for example, enterprise's main Auto Attendant is configured to seamlessly route to the Auto Attendant of a particular department or location).

CenturyLink Business Communicator (MRC CLIN 280390 - Case Number 9772113)

CenturyLink ICommunicator provides end-users with a unified communications experience across mainstream mobile and desktop platforms including Windows, Mac, iOS and Android. By seamlessly integrating with BroadWorks and BroadCloud - ICommunicator completes the overall UC solution by allowing operators to easily deploy a single application to access voice, and video, with instant messaging and presence applications. Operators will appreciate how easy it is to deploy ICommunicator by leveraging server side provisioning and licensing on BroadWorks. End-users will enjoy the freedom to access their services from the device of their choice.

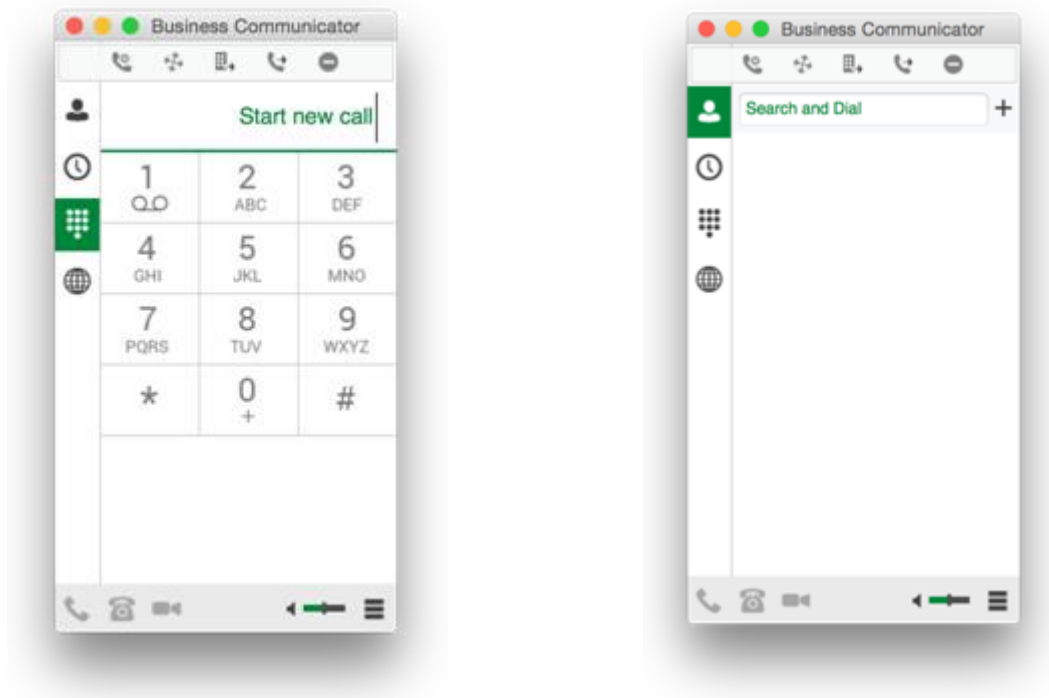
Note Case Number 9772113 offers this feature for Voice and Video Calling only. Use Case Number 9772114 if the desire is to also have IM and Presence. This feature is a Soft Phone for PC with Windows or MAC, iOS or Android tablets or mobile devices) (per Business Communicator) – Voice and Video Calling only



CenturyLink Business Communicator with IM & Presence (MRC CLIN 280390 - Case Number 9772114)

CenturyLink ICommunicator provides end-users with a unified communications experience across mainstream mobile and desktop platforms including Windows, Mac, iOS and Android. By seamlessly integrating with BroadWorks and BroadCloud - ICommunicator completes the overall UC solution by allowing operators to easily deploy a single application to access voice, and video, with instant messaging and presence applications. Operators will appreciate how easy it is to deploy ICommunicator by leveraging server side provisioning and licensing on BroadWorks. End-users will enjoy the freedom to access their services from the device of their choice.

Note Case Number 9772114 offers this feature for Voice and Video Calling with IM & Presence. Use Case Number 9772113 if the desire is to only have Voice and Video Calling. This feature is a Soft Phone for PC with Windows or MAC, iOS or Android tablets or mobile devices) (per Business Communicator) – Voice/Video Calling with IM & Presence



Voice Mail Only Seat - Feature (MRC CLIN 280390 - Case Number 9772116)

This feature is included in the a la carte features area to ensure if the Agency chooses a Premium Seat, they can also add on this Voice Mail Only Seat as a feature. This seat is designed as a standalone voicemail box for the support of calls that are not directed to a specific user's voicemail. For example, this can be a shared group only mailbox or a user that doesn't have device. Required are the following for each Voice Messaging Only Seat:

- ☐ DID TN

☐ Unified Messaging

Be aware that 911 calls cannot be made from a voice mail only seat. This customer will not have access to the End User Portal. They will be limited to the telephone user interface (TUI) through the Voice Mail designated pilot number for the enterprise. They will have to enter the voicemail number and associated access code to get access.

Available Telephone Number (TN) - Feature (MRC CLIN 280390 - Case Number 9772117)

This feature is for new and ported telephone numbers beyond the seats selected by the Agency.

Anywhere Telephone Number (TN) - Feature (NRC CLIN 280290/ MRC CLIN 280390 - Case Number 9772118)

This feature is included as an a la carte feature to add onto a Premium Seat as a feature. Callers dial one number and can reach you on any phone the user chooses. This is set up in the End User Portal so that an alternate desk phone, cell phone, and/or a soft phone can ring simultaneously. Users with this service can add multiple phone numbers in the portal to ring during inbound calls which performs a simultaneous ring feature to the selected devices. The Agency user can use the end user portal to list all telephone numbers, and allow these numbers to ring when calls are received.

In addition, Anywhere adds the functionality of placing outbound calls from external devices such as mobile phones. The end user will use a configured device that has its phone number entered in the portal then dial the Anywhere TN that is configured per group. Once they dial the Anywhere TN from their pre-configured device, the user is then prompted to enter the phone number they wish to call, which will then show their Outbound Caller ID as though they are calling from their office phone.

Users are also able to use the retrieve FAC code *11 to move a call from the remote device (i.e. mobile phone) back to their primary device once at that location. For example, if a user is on a conference call and wants to go downstairs to grab some coffee, they can call into the Anywhere TN from their mobile phone and then dial *11, the call will then be moved to their mobile device. When they get back to their desk they can pick up their desk phone and dial *11 again and it will pull the call back to their desk phone.

Agencies must order the anywhere group feature and an additional TN to use to configure the Anywhere TN per group. This shared number will allow users to dial from remote devices to engage the system for outbound dialing.

Enhanced E911 service) - Feature (MRC CLIN 280390 - Case Number 9772119)

Enhanced 911 is an advanced 911 service that associates an address with the incoming call to a public safety answering point (PSAP). This allows emergency services to locate the caller without the caller having to verbally provide that information. Emergency 911 dialing provided with CenturyLink IP Voice products is

not traditional 911 emergency dialing. IQ SIP allows the end user to update their 911 address via the portal anytime a day. After phone number set up and porting on the original order, or MACD, CenturyLink provisions 9-1-1 information based on precise “geo-coded” based coordinates. Administrators and users are required to update location information when a temporary move occurs. Updates can be done in the end user portal and, if approved, will update under 15 minutes. Nomadic or V911 is provided to every phone numbers provisioned with the service. Handsets can be moved to a temporary location (a V911 covered location other than the original location where the service was installed) for a *maximum of 6 months* due to taxing rules.

Enhanced 911 service provided with IQ SIP Trunk is associated with the main business TN at each customer location and not with the actual End User location. If the customer wants additional TN’s registered with a different E911 address, there will be an associated MRC with each TN. IQ SIP Trunk will also allow Alien TN 911 calls, which will have an associated NRC for each call.

Alien Telephone Number 911 service) - Feature (NRC CLIN 280290 - Case Number 9772120)

An Alien TN is any number that has not been ported to CenturyLink or registered with BroadSoft. A customer can configure their PBX to use any outbound caller ID they specify, and CenturyLink will allow that call to complete using the Alien TN feature. BroadSoft is using the trunk group’s Pilot TN for registration, and displays only what the customer specifies as the caller ID. A customer must turn on their Alien TN feature in the Admin Portal for each trunk group they would like this feature enabled with. Calls dialed with an Alien TN will be considered an LD call.

E911: The main number for all locations is registered for 911 at no additional cost. If a user tries to dial 911 from a number other than the main number, our system will change the outbound caller ID for that call to outpulse the main number so it goes to the PSAP registered for that number. If a user tries to make a call to something other than 911, their TN will be outpulsed as long as the PBX sends us their TN. Users wanting to register individual users for 911 can update the address associated with their TN in the portal, there is an MRC associated with that for e911.

Enhanced 911 service provided with IQ SIP Trunk is associated with the main business TN at each customer location and not with the actual End User location. If the customer wants additional TN’s registered with a different E911 address, there will be an associated MRC with each TN. IQ SIP Trunk will also allow Alien TN 911 calls, which will have an associated NRC for each call.

PAC/vPAC per Product Account - Feature (NRC CLIN 280290 - Case Number 9772121)

PAC/vPAC (Project Account Codes and Verified Project Account Codes).

CenturyLink will assign the PAC/VPAC at the VoIP site level which is designated as a group. This service is restricted to only offer one option per group (i.e. there could be multiple sites (groups) associated with one circuit). The administration portal will be used to add, update and modify the PAC/VPAC codes. There is a charge to add this feature.

PAC – Project Account Codes

This feature allows the tracking of calls made to outside of the group by prompting users for an account code. This service does not validate the codes entered (see Authorization Codes), so calls are not blocked. Account codes are managed by the administrator and can be two to 14 digits long.

VPAC – Verified Project Account Codes

Performs a verified authorization of calls made outside of the group by prompting users for an authorization code. Calls are not connected unless a valid code is entered. Authorization codes are managed by the administrator and can be of two to 14 digits in length.

Business White Page Listing - Feature (MRC CLIN 280390 - Case Number 9772122)

The Agency will be charged the MRC for each white page listing. When an Agency orders Case Number 9772122 for a white page listing, they will also receive a yellow page listing at no additional charge for Qwest Corporation, d/b/a CenturyLink QC In-Region/in-franchise locations only. "In-Region" means CenturyLink QC's 14-state local service territory.

▪ **5.1.1.14 Consumer Financial Protection Board (CFPB)**

Managed Network Services (MNS) - Network Testing Certification and Accreditation (C&A) – NRC CLIN 289004 Case Numbers 86185001

▪ CenturyLink (CTL) will provide Certification and Accreditation (C&A) Services which provides WAN services to the Consumer Finance Protection Bureau (CFPB). CenturyLink will deliver highly effective security assessment services. CenturyLink understands the requirements to provide C&A support for CFPB applications and identify any vulnerability that could impact the confidentiality, integrity, and availability of the system in accordance with NIST guidance.

Preparation and Project Kick-off Meeting

CenturyLink will ensure all proper protocols are followed for supporting the project management and execution of the engagement. Our understanding of CFPB's C&A processes allows CTL to efficiently and effectively support the opportunity throughout the project lifecycle and ensure all project deliverables are completed within expectations. CenturyLink team to ensure all key stakeholders are aware of all project progress and any potential issues or risks.

Risk Management Framework Approach

CenturyLink has past performance and experience with developing and implementing Risk Management Frameworks (RMF). Our approach aligns with the emergence of the NIST Risk Management Framework outlined in NIST SP 800-37 revision 1 and provides a mechanism for our customers to implement an efficient and effective program for managing risk to the enterprise. This risk management approach will be formally captured within a Risk Management Strategy that will include an emphasis on Security Authorization and Continuous Monitoring [REDACTED]

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Perform Security Testing

CenturyLink will perform Security Assessment services in accordance with NIST SP 800-42, 800-53 revision 4, and 800-115. [REDACTED]

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5.1.1.15 National Labor Relations Board (NLRB) Managed Network Services (MNS) – Unified Communications (UC) - NRC CLIN 289093 – MRC CLIN 289087 Case Number 67182001

(NRC) UC Service - universal voice and unified communication (UC) platform services in accordance with NLRB requirements for Lync UC services, includes:

- Microsoft Architecting Services

- Microsoft Core Lync
- Microsoft Conferencing
- Microsoft Enterprise Voice
- Microsoft Custom Services
- Microsoft Unified Messaging
- Collaboration Management
- ICOM Monitoring (Nectar Monitoring Platform) Implementation One-Time Fee

(MRC) UC Service - universal services for voice and unified communication (UC) includes:

- ICON Annual Monitoring Fee (\$1.50 perm user per month)
- Lync Plus Support 24x7

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▪ **5.1.1.16 National Labor Relations Board (NLRB) Managed Network Services (MNS) – Unified Communications (UC) - NRC CLIN 289094 – MRC CLIN 289088 Case Number 67182001**

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(NRC) UC Hosting -universal hosted platform for Voice and unified communication (UC) Services includes:

- Data Center 1-12 UC Virtual Machines and 1 Private VLAN
- Data Center 2 -12 UC Virtual Machines and 1 Private VLAN
- Data Center 1- Cloud Colo and Hosting
- Data Center 2 - Cloud Colo and Hosting

(MRC) UC Hosting -universal hosted platform for Voice and unified communication (UC) Services includes:

- Data Center 1-12 UC Virtual Machines and 1 Private VLAN
- Data Center 2 -12 UC Virtual Machines and 1 Private VLAN
- Data Center 1- Cloud Colo and Hosting
- Data Center 2 - Cloud Colo and Hosting

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5.1.1.18 Security Exchange Commission (SEC) Managed Network Services (MNS) – Managed Limelight Enterprise Video Solution – NRC CLIN 289290, MRC CLIN 289390 Case Numbers 19547401, 19547402, 19547403, 19547404, and 19547405

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Network Enterprise Contract
Managed Network Services (MNS) – QE0777.01E

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