

VOLUME 1, SECTION 4.0 MANAGEMENT AND APPLICATION SERVICES



4.0 MANAGEMENT AND APPLICATION SERVICES

The Level 3 Team will offer GSA and Government agencies management and design services to support agency networks. Our offering comprises Managed Network Services (MNS) and Customer-Specific Design and Engineering Services (CSDDES) enabling agencies to obtain a tightly integrated complement of services including implementation, management, and maintenance as well as design and engineering services. The Level 3 business operations model delivers highly optimized and efficient operational processes between Level 3 and our customers, partners, and vendors. These efficiencies enable scalable ongoing operations support, reduced operational costs and tightly integrated managed services.

Continuous quality improvements in operations and maintenance services will be accomplished by Level 3 through strict adherence to an [REDACTED]

[REDACTED] This model is embraced by all Level 3 employees and follows a continuous improvement cycle [REDACTED]

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

Inherent to Level 3's management services is our delivery framework, which incorporates innovative approaches to customer support with incentive-based service delivery mechanisms. [REDACTED]

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

In addition to MNS and CSDED, this section of the proposal describes several optional Management and Applications Services offered by the Level 3 Team:

- Collocated Hosting (CHS)
- Audio Conferencing (ACS)
- Web Conferencing (WCS)
- Storage (SS)

VOLUME 1, SECTION 4.1

MANAGED NETWORK SERVICES



4.1 MANAGED NETWORK SERVICES (MNS) [C.2.9.1]

This section of our proposal addresses the Level 3 Team's offering to provide Managed Network Services (MNS) to Government agency customers through the [REDACTED]. Our service meets or exceeds the requirements for MNS as defined in Section C.2.9.1 of the RFP.

A description of our MNS is provided below, followed by responses to the requirements outlined in RFP Sections L.34.1.5.1 through L.34.1.5.3 as they apply to this service.

The Level 3 Team understands that Managed Network Services (MNS) under [REDACTED]

[REDACTED]

[REDACTED] The Level 3 Team offers a unique set of capabilities to provide Government agency customers with end-to-end IP-based solutions.

The Level 3 Team MNS service will support the portfolio of Transport//IP/Optical services offered by Level 3's Enterprise Network contract.. MNS will include, but not be limited to:

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

[Redacted text block]

This diverse and extensive set of services will allow GSA Network customers to tailor task orders to meet their specific needs and requirements in a cost effective manner.

Under MNS, the Level 3 Team provides a single point of contact (SPOC) overseeing the proper functioning an agency's network infrastructure. This SPOC provides the required services for end-to-end connectivity and support.

[Redacted text block]

4.1.1 Management and Applications Service Delivery

This section discusses the proposed approach for delivering MNS to Government agency customers along with potential problems and possible solutions.

4.1.1.1 TECHNICAL APPROACH FOR SERVICE DELIVERY

Section 3.1.1.1 of this volume of the proposal discusses the general service ordering and delivery process for [Redacted] MNS will follow the same process to the extent applicable.

When managing network services, the Level 3 Team addresses customer needs to assure effective quality network services are matched to emerging business needs and user requirements. The Level 3 Team provides service based on its experienced staff and toolsets, as well as business processes, which promote a quality approach to achieving business effectiveness and efficiency. The Level 3 Team implements processes so that they underpin,

but do not dictate, the business processes of an organization. The result is a highly effective network organization with the following components:

Architecture: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Design: The Level 3 team has extensive experience combining base products such as IPS, NBIP-VPN, PBIP-VPN, OWS, DFS, PLS, SONETS and VOIPTS into customized solutions for the Government. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

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

Implementation: The implementation phase includes full project management responsibility for installation of site networks to fulfill the requirements of an individual site's design of all network structures and

components. Post-implementation quality assurance processes ensure design integrity.

Network Operation: [REDACTED]

[REDACTED]

Performance Measurements: Required Service Delivery standards are identified along with respective performance indicators. [REDACTED]

[REDACTED]

SLA Compliance: Service Level Agreements (SLAs) are contractual network performance goals. As actual verifiable outcomes of Service Delivery, all Level 3 Team management and staff define and prioritize their individual efforts to meet service levels.

Network Management: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

By designing, implementing, and maintaining a redundant and resilient Network Management Solution, the Level 3 Team is able to provide robust MNS. Through the application of [Redacted] components of the FCAPS standard, as illustrated in Table 4.1-1.

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

[REDACTED]

4.1.1.2 FEDERAL AGENCY ENTERPRISE ARCHITECTURE OBJECTIVES

Section 3.1.1.2 of this volume of our proposal discusses the Level 3 Team’s approach for addressing Federal Agency Enterprise Architecture (FEA) for all Networx services and task orders.

4.1.1.3 POTENTIAL PROBLEMS AND SOLUTIONS

There are many potential problems that could be encountered when managing network installations and services. Most can be avoided through rigorous analysis of the operational environment and the customer’s functional requirements. [REDACTED] problems that the Level 3 team anticipates in fulfilling the Networx proposal requirements are described below. Each includes a solution.

- 1. Problem:** [REDACTED]
[REDACTED]

Solution: [Redacted]
[Redacted]

2. **Problem:** [Redacted]
[Redacted]
[Redacted]

Solution: [Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]

3. **Problem:** [Redacted]
[Redacted]

Solution: [Redacted]
[Redacted]
[Redacted]
[Redacted]

4. **Problem:** [Redacted]
[Redacted]

Solution: [Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]

4.1.2 Satisfaction of Service Performance Requirements

This section discusses the requirements from RFP Sections C.2.9.1.4 and L.34.1.5.2. The topics discussed are providing quality service, monitoring and measuring service, and our approach for verifying individual services.

4.1.2.1 SERVICE QUALITY

The Level 3 Team will provide well documented solutions for customer access, transport of data, premises solutions specific to the customer and their location, and security suites that satisfy departmental standards and customer operational needs.

[REDACTED]

[REDACTED]

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

[REDACTED]

4.1.2.2 MONITORING AND MEASURING KPIS AND AQLS

Section 3.1.2.2 of this proposal volume discusses how quality will be monitored for [REDACTED]. Any quality measures specific to MNS will be determined on a case-by-case per task order along with identification of appropriate monitoring.

4.1.2.3 VERIFICATION OF INDIVIDUAL SERVICES

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED] The subject of the test was a new network device availability SLA, which had recently been tentatively agreed to by a customer and the program [REDACTED] contractor. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

4.1.2.4 PROPOSED PERFORMANCE IMPROVEMENTS

Level 3 does not intend to exceed the required Acceptable Quality Levels (AQLs) in the KPIs at this time but would like to reserve the ability to propose additional KPIs and AQLs on a work order basis. Level 3 believes in continuous improvement and will always strive to provide the highest quality services available.

4.1.2.5 PROPOSED PERFORMANCE METRICS [C.2.9.1.4.1]

Level 3 does not propose AQLs that exceed the AQLs in the KPIs at this time but would like to reserve the ability to do so with performance

improvements that may be attained through the introduction of new technology. Level 3 believes in continuous improvement and will always strive to provide the highest quality, available services.

4.1.3 Satisfaction of Service Specifications

This section of the proposal addresses the following topics from RFP Section L.34.5.3: Technical Description of How the Scope of Work Will Be Met, Past Experience Delivering MNS, and Our Approach for a Representative Task.

4.1.3.1 SERVICE REQUIREMENTS

The Level 3 Managed Network Services offering fulfills the Mandatory Service Requirements for MNS contained in RFP Section C.2.9.1.1. This section demonstrates our capabilities in the following areas:

- Standards
- Connectivity
- Technical Capabilities
- Features
- Interfaces

4.1.3.1.1 Standards [C.2.9.1.1.2]

Level 3 anticipates compliance with the various standards related to supporting specific agency task orders. Level 3 Team members are active in numerous industry forums and working groups, which demonstrates our commitment to implementing present and future standards as technologies are developed and standards are defined and become commercially available. Our memberships include:

- Internet Engineering Task Force (IETF)

- North American Network Operators Group (NANOG)
- American Institute of Electrical Engineers (IEEE)
- Network Reliability and Interoperability Council (NRIC)
- National Institute of Standards and Technology (NIST)
- National Information Assurance Partnership (NIAP)

4.1.3.1.2 Connectivity [C.2.9.1.1.3]

In compliance with RFP Section C.2.9.1.1.3, Level 3 will work with underlying Network offerings to ensure seamless connectivity to agency networking environments.

4.1.3.1.3 Technical Capabilities [C.2.9.1.1.4]

The Level 3 MNS offering meets the requirements for both Design and Engineering Services and Implementation, Maintenance and Management, as defined in RFP Section C.2.9.1.1.4. Details follow.

Design and Engineering Services:

The Level 3 Team will deliver Design and Engineering services based on the Network customer requirements and the Network specifications.

[Redacted content]



[Redacted text block]

The Level 3 Team pays special attention to assessing and addressing security concerns including [Redacted]

[Redacted text block]

Both the Level 3 Team and the Government agency review performance and compliance data. The Level 3 Team uses [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Implementation, Management, and Maintenance:

The Level 3 Team will provide implementation, maintenance, and management depending upon services the customer orders. Each of the above functions requires customer input to ensure that expectations are met. Services can be ordered individually or in combination with one or all of the others. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[Redacted text block]

[Redacted text block]

[Redacted text block]

These tasks are performed [Redacted]
[Redacted] In the case of a



[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]



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[REDACTED]

4.1.3.1.4 Features [C.2.9.1.2]

The Level 3 Team’s MNS offering supports the three mandatory features specified in Section C.2.9.1.2 of the Networx RFP.

1. Government Furnished Property Maintenance [C.2.9.1.2 (1)]

Level 3 will maintain and repair Government Furnished Property, if not maintained under a SED monthly maintenance charge.

2. Agency-Specific Network Operations Center [C.2.9.1.2.1 (2)]

For [REDACTED] Level 3 will support the Government with an agency-dedicated help desk and our Network Operations Center (NOC).

Agency Dedicated Help Desk Service. The Level 3 Team provides a state-of-the-art business methodology for handling trouble issues and complaints using automated management systems that leverage Level 3’s

[REDACTED]



[REDACTED]

[REDACTED]

Trouble Detection and Reporting System: Level 3 [REDACTED] will perform dedicated [REDACTED] functions in support of the Government. These functions include [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

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[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Proactive Monitoring and Opening of Trouble Tickets: Proactive monitoring means that network problems will be discovered by the Help Desk staff before a user is aware of the problem or before the problem becomes significant and affects users. The Level 3 Team's concept of [Redacted] [Redacted] with the Help Desk to provide seamless coverage and end-to-end management of all critical network elements. This proactive approach also facilitates the timely update of event status. Level 3 statuses tickets every [Redacted]

[Redacted]

[Redacted text block]

Event Notification: Level 3's approach to Event Notification includes the following components.

[Redacted text block]

[Redacted text block]

[Redacted text block]

[REDACTED]

Subscribing agencies can use the [REDACTED]

[REDACTED]

3. Network Testing [C.2.9.1.2.1 (3)]

For those services proposed by Level 3 under the Networx Enterprise contract, the Level 3 Team will support Agency-specific development services that address the Agency's potential need to test equipment, software and applications on the Level 3 network prior to purchase and deployment. In compliance with this requirement, testing will be performed at the Agency's discretion and structured in collaboration with Level 3.

4.1.3.2 SERVICE ENHANCEMENTS

The Level 3 Team is not proposing service enhancements at this time associated with our MNS offering.

4.1.3.3 NETWORK MODIFICATIONS

The Level 3 Team does not foresee any necessary network modifications for delivery of MNS.

4.1.3.4 EXPERIENCE DELIVERING MNS

The Level 3 Team's performance measurement experience for dedicated networks covers a national footprint for Government organizations which have similar Service Level Agreement (SLA) requirements to those of GSA Networkx. Among our current responsibilities is the operation of [REDACTED]

[REDACTED]

Team [REDACTED] more than [REDACTED] experience in meeting network problem resolution SLAs on a large, geographically dispersed Government project. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

These SLAs prescribe stringent performance thresholds for each [REDACTED] levels of service, [REDACTED]

[REDACTED]


Through our domain expertise in the design and management of one of the world's largest private global IP networks, the Team brings inherent understanding and relevant experience in the [REDACTED]

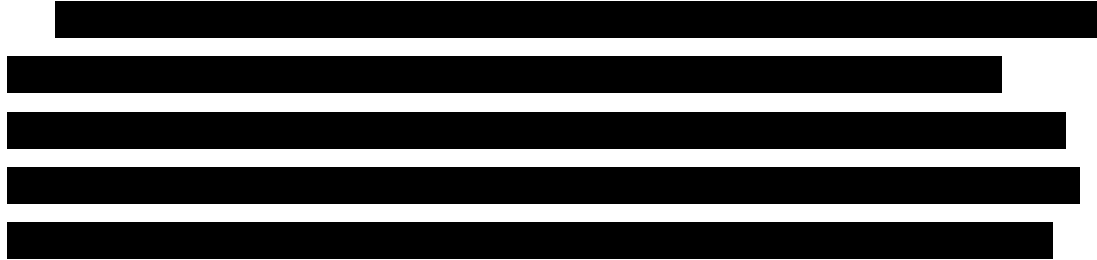
[REDACTED]

[REDACTED]



4.1.3.5 MNS APPROACH AND PROCESS

The Level 3 MNS will promote an enhanced and reliable network environment for Networx users. Through use of , agencies will receive the benefits of industry standard state-of-the-art network architecture, requirements designed into the system from the top down, and a proactive network performance monitoring with rapid trouble ticket dispatch system.



[Redacted text block]

[Redacted text block]

A summary of our approach is presented below.

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[Redacted text block]

[Redacted text block]

[Redacted text block]



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