

VOLUME 1, SECTION 3.3:
VOICE OVER INTERNET
PROTOCOL TRANSPORT SERVICE



3.3 VOICE OVER INTERNET PROTOCOL TRANSPORT SERVICE (VOIPTS) [C.2.7.8, M.2.1.2]

The Level 3 Voice over Internet Protocol Transport Service (VOIPTS) meets or exceeds the Government's requirements for real time transmission of voice communications as data packets on a contractor's managed IP network and interoperability with the Public Switched Telephone Network (PSTN), as defined in Section C.2.7.8 of the RFP. A description of the Level 3 VOIPTS offering is provided below. The solution is illustrated in Figure 3.3-1 Responses to specific requirements listed in RFP Sections L.34.1.4.1 through L.34.1.4.5 are included.

The Level 3 VOIPTS solution will allow Government agencies to migrate existing PBX-based voice infrastructure to our core [REDACTED] IP network enabling on-net transport of voice traffic. [REDACTED]

[REDACTED]

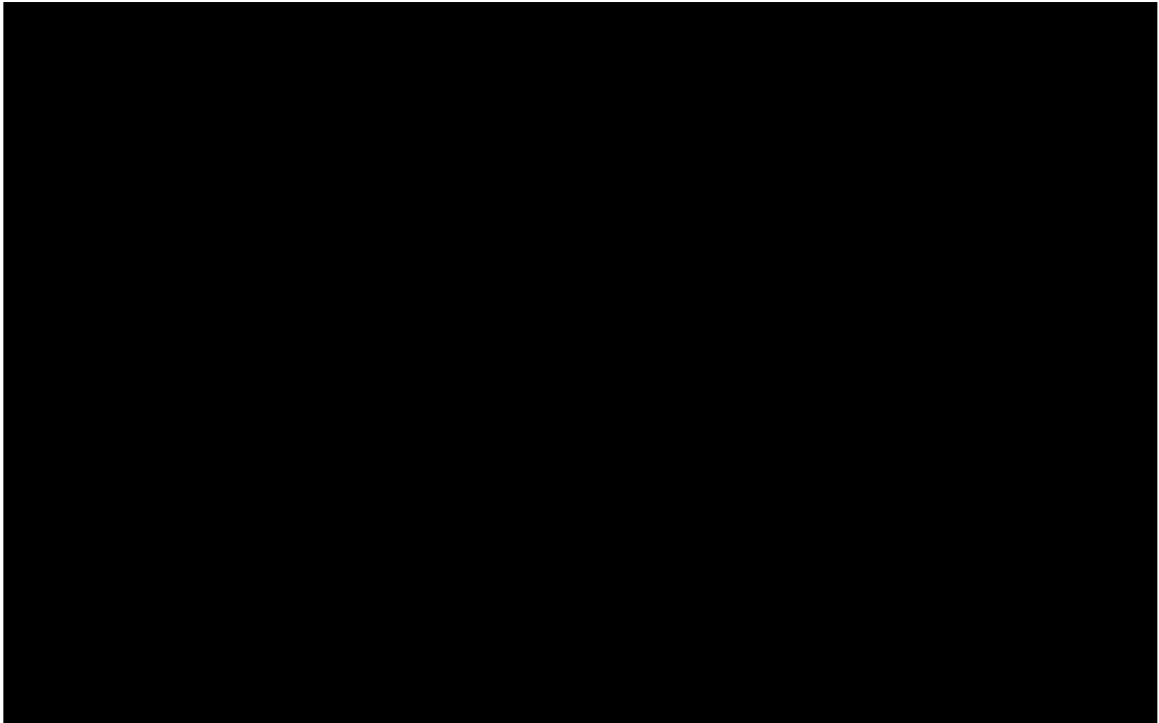
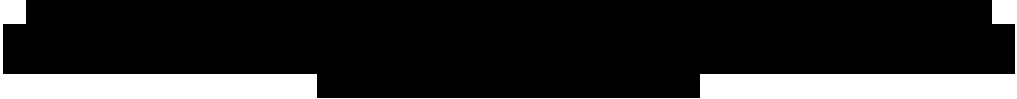
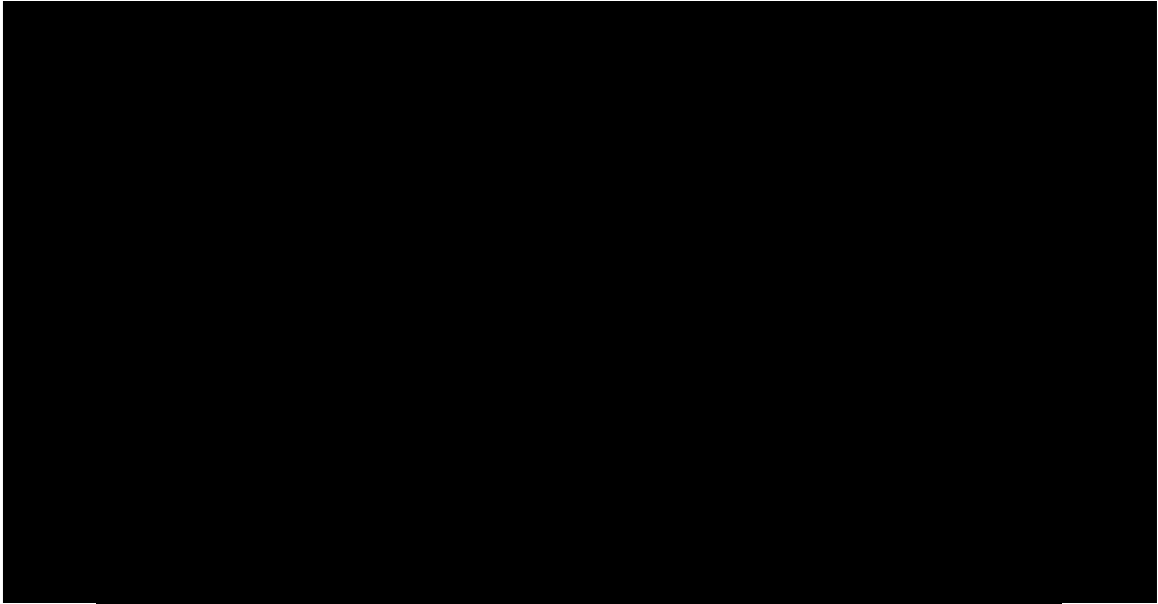
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]





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The Level 3 VOIPTS offering provides the following benefits to the Government for the Networx Program:

[REDACTED]

3.3.1 Technical Approach to Service Delivery

This section addresses the requirements contained in RFP Section L.34.1.4.1 for our VOIPTS offering. The topics covered include the Level 3 Team’s approach for service delivery, our approach regarding Federal Enterprise Architecture (FEA) objectives, any foreseen problems and solutions related to our offering, and our synchronization network architecture.

3.3.1.1 SERVICE DELIVERY

The Level 3 service delivery objective is to provide Government agency customers with rapid and responsive service delivery for our VOIPTS offering. Networx customers order VOIPTS using the [REDACTED] for all the

Level 3 Team services proposed. Section 3.1.1.1 of this volume of the proposal describes the (3)Enterprise ordering process in detail.

3.3.1.2 FEDERAL ENTERPRISE ARCHITECTURE

The method for addressing the FEA objectives for our agency customers under the Networx Program is independent of the service being procured. Section 3.1.1.2 of this volume of the proposal contains a detailed discussion of the Level 3 Team’s proposed approach for FEA.

3.3.1.3 FORESEEN PROBLEMS AND SOLUTIONS

[Redacted text block]

[Redacted text block]

[Redacted text block]

- [Redacted list item]

[REDACTED]

Evolution and Interoperability: During the ten-year Networkx deployment period, Voice over Internet Protocol and related technologies will evolve at a rapid pace. The Government will embrace a new suite of application delivery technologies, which will need to interoperate with the underlying network architecture. Interoperability testing and carefully managed implementation of new elements will be critical. Level 3 has demonstrated competence for introducing new elements into a mission-critical network architecture.

3.3.1.4 SYNCHRONIZATION

[REDACTED]

3.3.2 Satisfaction of Performance Requirements [C.2.7.8.4]

This section of the proposal volume addresses the requirements in Section L.34.1.4.2 of the RFP. The topics covered are quality of the services with respect to performance metrics; the approach for monitoring and measuring key performance indicators (KPI) and acceptable quality levels (AQL); proposed performance improvements; and benefits, rationale, and measurement of performance improvements.

3.3.2.1 QUALITY OF SERVICE

Level 3 will deliver a VOIPTS service option that is compliant with the performance metrics specified in Section C.2.7.8.4.1 of the RFP. To ensure highest possible voice quality and security management, our VOIPTS offering is transported over the Level 3 [REDACTED] infrastructure. [REDACTED]



[Redacted text block]

[Redacted text block]

3.3.2.2 MONITORING AND MEASURING KPIS AND AQLS

[Redacted text block]




Level 3 performs quality measurements through on-net to on-net and off-net (agency location) to on-net mechanisms. On-net quality is measured using [Redacted text]

[Redacted text block]

3.3.2.3 PROPOSED PERFORMANCE IMPROVEMENTS

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.

3.3.2.4 PROPOSED PERFORMANCE METRICS

The Government's VOIPTS performance metrics discussed in Section 3.3.2.2 of this proposal volume will be used to assess the underlying   infrastructure and its suitability for voice transport. Level 3 proposes additional performance metrics to help assess voice application performance and in order to improve end user experience. Level 3 may, at its discretion and without the contractual obligation, make the following 
















[REDACTED]

3.3.3 Satisfaction of Service Specifications

This section addresses the requirements contained in Section L.34.1.4.3 of the RFP. The topics addressed in this section include a technical description of how the service requirements are met, proposed service enhancements, necessary, network modifications, and experience providing the service.

3.3.3.1 TECHNICAL DESCRIPTION OF VOIPTS

This section presents a technical description that demonstrates how the Level 3 VOIPTS solution satisfies the Government's requirements (e.g., capabilities, features, interfaces) for VOIPTS. The response is organized to address the requirements for standards, connectivity, capabilities, features, and interfaces in Section C.2.7.8 of the RFP.

3.3.3.1.1 Standards [C.2.7.8.1]

Level 3 has assessed our deployment of the VOIPTS standards listed in Section C.2.7.8.1.2 of the RFP in our service offering. Adherence to these standards enables agencies to pursue FEA quality, interoperability and overall architecture objectives. Level 3 implements elements of each listed

standard with the following exceptions, for which we are open to discussing with the Government a path forward toward meeting these goals:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

3.3.3.1.2 Connectivity [C.2.7.8.1.3]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

3.3.3.1.3 Technical Capabilities [C.2.7.8.1.4]

There are [REDACTED] required capabilities in the RFP for VOIPTS. The Level 3 VOIPTS solution provides [REDACTED] capabilities. Our VOIPTS capabilities are described in detail in the same order as the RFP.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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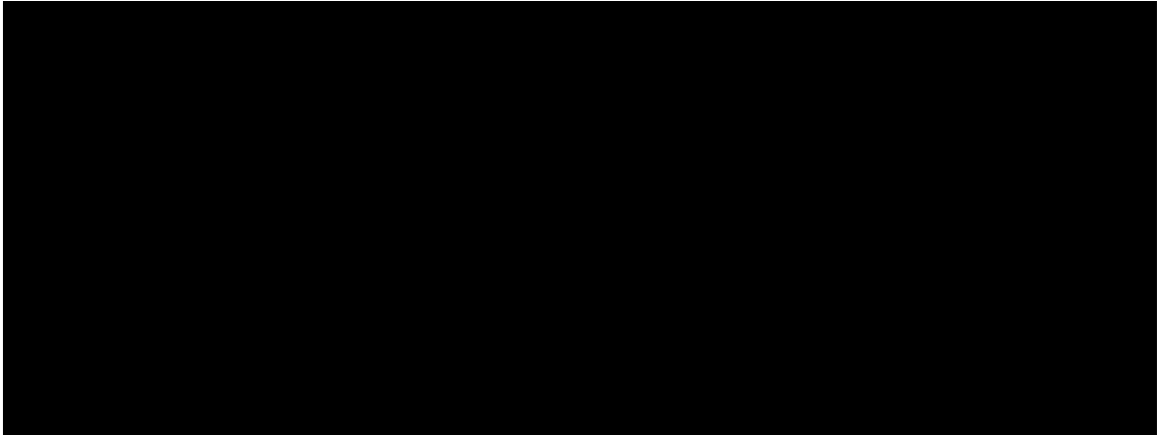
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[Redacted]

[Redacted]

[Redacted]

The following VOIPTS minimum capabilities from the RFP are provided:

Transport of voice, facsimile and TDD traffic: [Redacted]

[REDACTED]

Real time transport and delivery of Caller ID (ANI): [REDACTED]

Interoperability with public network dial plans: [REDACTED]

[REDACTED]

3.3.3.1.6 VOIPTS Gateway Interoperability

The following describes the Level 3 gateways for interoperability with its VOIPTS and the PSTN or agency UNIs.

[REDACTED]



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[Redacted text block]

[Redacted text block]

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[Redacted text block]



[Redacted text block]



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[REDACTED]

The RFP did not identify any mandatory features for VOIPTS.

3.3.3.1.14 Network Interfaces

[REDACTED]

3.3.3.2 PROPOSED SERVICE ENHANCEMENTS

Level 3 does not propose to exceed the specified service requirements until such time that more advanced technology is commercially available.

3.3.3.3 NETWORK MODIFICATIONS

No modifications are required to Level 3 core network technology or services. We will pursue typical customer driven implementation and configuration actions. The Level 3 VOIPTS offering will provide real time transport of an agency's voice communications over the Level 3 [REDACTED] and [REDACTED]



[Redacted text block]

Looking at the network as a whole, we are able to provide access onto our voice network through these geographically independent/diverse elements.

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3.3.4.3 ACCESS, RESILIENCY, AND GROWTH

Section 3.1.4.3 of this proposal volume addresses this topic in detail.

3.3.5 Optimization and Interoperability

This section addresses the requirements of section L.34.1.4.5 of the RFP.

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