

VOLUME 1, SECTION 4.2:
CUSTOMER-SPECIFIC DESIGN
AND ENGINEERING SERVICES



4.2 CUSTOMER-SPECIFIC DESIGN AND ENGINEERING SERVICES (CSDS) [C.2.11.9, M.2.1.4]

This section of our proposal addresses the Level 3 Team offering to provide Customer-Specific Design and Engineering Services (CSDS) to Government agency customers through the (3)Enterprise Program. Our service meets or exceeds the requirements for CSDS as defined in Section C.2.11.9 of the RFP.

A description of our CSDS is provided below, followed by responses to the requirements 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 CSDS as any or all of the following on a single or multiple sites:

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

Drawing on the expertise of Team [REDACTED] [REDACTED] Level 3 will provide engineering and design support on various transport technologies for task orders ranging [REDACTED] [REDACTED]

© 2007 Level 3 Communications, Inc. All rights reserved. Use or disclosure of data contained on this sheet is subject to the restrictions on the title page of this proposal.

4.2.1 Management and Applications Service Delivery

This section discusses the proposed approach for delivering CSDS to Government agency customers. We also address potential problems and possible solutions.

4.2.1.1 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 Networx. The [REDACTED] CSDS will follow the same process to the extent applicable.

The Level 3 Team will provide CSDS for all Networx Enterprise services proposed by Level 3. The CSDS will include, but will not be limited to:

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

Agencies will be able to [REDACTED] to meet specific needs and requirements in a cost-effective manner.

Our team will deliver CSDES by drawing on [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]

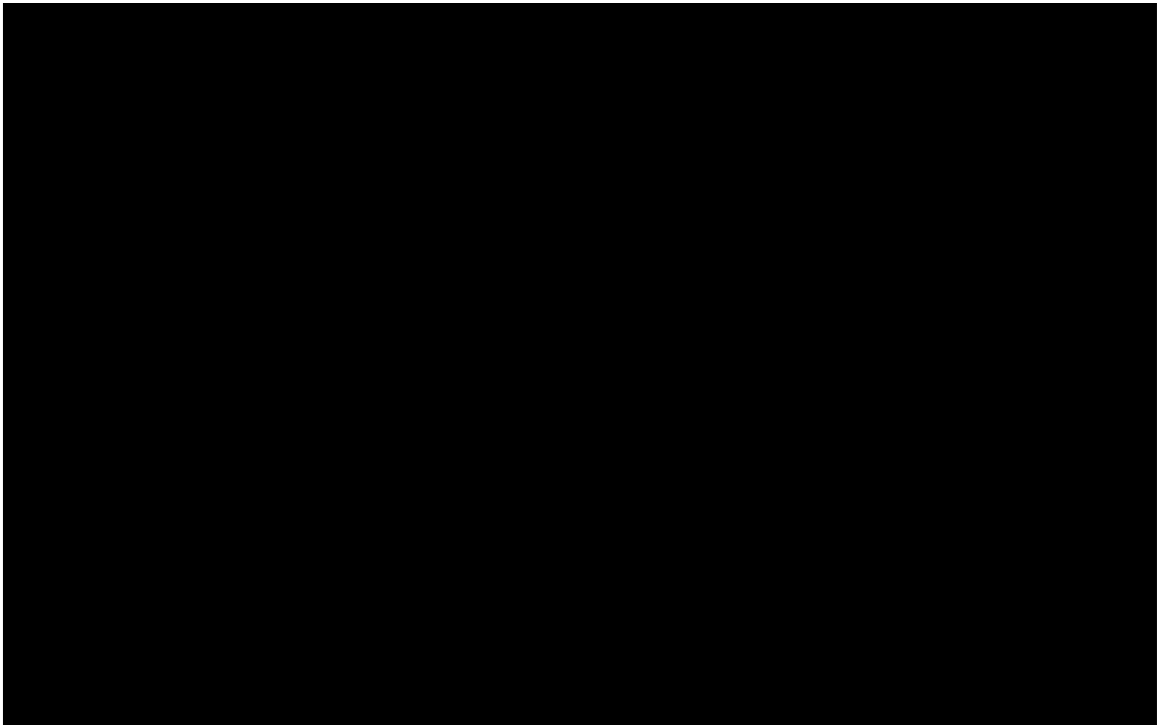
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]





Using a comprehensive approach and repeatable processes for CSDES, the Level 3 Team provides an unparalleled, all-inclusive set of deliverables that are consistent with industry standards and commercial best practices.

4.2.1.2 FEDERAL AGENCY ENTERPRISE ARCHITECTURE (FEA)

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

4.2.1.3 POTENTIAL PROBLEMS AND SOLUTIONS

We have identified  potential problems that can occur in delivering CSDES to Government agencies: 



© 2007 Level 3 Communications, Inc. All rights reserved. Use or disclosure of data contained on this sheet is subject to the restrictions on the title page of this proposal.



[Redacted text block]

4.2.1.3.1

[Redacted text]

[Redacted text block]

4.2.1.3.2

[Redacted text]

[Redacted text block]



[REDACTED]

[REDACTED]

4.2.2 Satisfaction of Performance Requirements [C.2.11.9.4]

This section addresses the requirements from RFP Section L.34.1.5.2.

The topics discussed include providing quality service, monitoring and measuring service, and our approach to verifying individual services:

4.2.2.1 SERVICE QUALITY

The RFP does not contain any specific performance metrics for CSDES. Therefore, this section is not applicable.

4.2.2.2 MONITORING AND MEASURING KEY PERFORMANCE INDICATORS (KPIs) AND ACCEPTABLE QUALITY LEVELS (AQLs)

Section 3.1.2.2 of this proposal volume discusses how quality will be monitored for the [REDACTED]

[REDACTED]

To ensure that Acceptable Quality Levels (AQLs) are appropriate to agency requirements, all technical documentation is processed through a quality review by a [REDACTED] and then by a [REDACTED] Using

[REDACTED]

4.2.2.3 VERIFICATION OF INDIVIDUAL SERVICES

Should an agency determine in the requirements that certain Key Performance Indicators (KPIs) or Service Level Agreements (SLAs) within CSDDES must be met, the information will be captured under the overall requirement. During the [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

4.2.2.4 EXCEEDING KPIs AND AQLs

The RFP does not contain any KPIs or AQLs for CSDDES; therefore, this requirement is not applicable.

4.2.2.5 ADDITIONAL PERFORMANCE METRICS

Level 3 does not propose AQLs that exceed those in the KPIs at this time but would like to reserve the ability to do so if performance improvements are attained through the introduction of new technology. Level 3 believes in

continuous improvement and will always strive to provide the highest quality of service available.

4.2.3 Satisfaction of Service Specifications

This section demonstrates the ability of the [REDACTED] solution to satisfy the service requirements for CSDDES as well as our experience delivering CSDDES.

4.2.3.1 SERVICE REQUIREMENTS

The [REDACTED] CSDDES offering fulfills the Mandatory Service Requirements for CSDDES contained in RFP Section C.2.11.9.1. This section demonstrates our capabilities in the following areas:

- Standards
- Connectivity
- Technical Capabilities
- Features
- Interfaces

4.2.3.1.1 Standards [C.2.9.11.1.2]

As a task presents itself, Level 3 will work with the agency to define a [REDACTED] that includes all the required standards. The Level 3 Team continuously strives to comply with the latest industry standards, such as those from:

- National Institute of Standards and Technology (NIST)
- Health Insurance Portability and Accountability Act (HIPPA)
- International Organization for Standardization (ISO)

- Internet Engineering Task Force (IETF)
- International Telecommunication Union (ITU)

4.2.3.1.2 Connectivity [C.2.9.11.1.3]

As a task presents itself, Level 3 will work with an agency to define a [REDACTED] that includes all the required connectivity. [REDACTED]
[REDACTED]
[REDACTED]

4.2.3.1.3 Technical Capabilities [C.2.9.11.1.4]

The [REDACTED] CSDDES offering meets the requirements for mandatory capabilities defined in RFP Section C.2.11.9.1.4. Level 3 will work as an extension of an agency IT staff, keeping agency staff informed and in control of strategic decisions. At the same time, our capabilities to [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

4.2.3.1.3.1 Network architecture design services

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

4.2.3.1.3.2 Requirements gathering, definition, and analysis

[Redacted text block containing multiple paragraphs of obscured content]



[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

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

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

4.2.3.1.3.2.1 Development of specifications

[Redacted text block containing multiple lines of blacked-out content]

4.2.3.1.3.2.2 Development of alternative technical approaches and computer modeling

[Redacted text block containing multiple lines of blacked-out content]



[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

4.2.3.1.3.2.3 Network design recommendations

Level 3 will prepare a draft management plan for how the network will be maintained and managed once any design changes are implemented. [Redacted]

[Redacted]

[Redacted]

[Redacted] Agencies will be given the opportunity to review the plan to ensure compliance with their requirements for reporting, performance, maintenance, and other technical services.

4.2.3.1.4 Identification of cost and performance tradeoffs

[Redacted]

[Redacted]

[Redacted]

[Redacted text block]

4.2.3.1.4.1 Feasibility and Capacity Analysis

[Redacted text block]

4.2.3.1.4.1.1 Preliminary planning

Our engineering team will create a comprehensive project plan. Listed below are activities and deliverables associated with our preliminary planning efforts.

[Redacted text block]

[Redacted text block]

4.2.3.1.4.2 Network and Related Systems Design Validation

[Redacted text block]

4.2.3.1.4.2.1 Network strengths, weaknesses, and vulnerabilities

[Redacted text block]

4.2.3.1.4.2.2 Capacity and traffic pattern analysis

Level 3 will ensure that the design is capable of handling the expected traffic loads and real-time traffic flows throughout the community of interests. The design will be reviewed by security experts to ensure the proper security levels are met. Any issues will be flagged and presented with alternatives and recommendations.

If historical trending information is available, the information can be brought into a database and compiled into a reportable format to determine current traffic patterns. If it is not available, probes can be placed in the network to collect historical data and determine current traffic patterns and make future projections.

4.2.3.1.4.2.3 Network performance and availability

[Redacted content]

data, reviewing, and refining will occur throughout the life of the customer

[Redacted]

4.2.3.1.4.2.4 Network optimization, simplification, or cost reduction

[Redacted]

4.2.3.1.4.2.5 Critical applications, protocols and vital data

[Redacted]

The Level 3 assessment process is heavily dependent on face-to-face or over-the-phone interviews with agency IT staff to understand the critical applications, protocols, and vital data impacting the network. In addition, as

much pertinent documentation as possible is collected via an electronic or hardcopy format.

4.2.3.1.4.2.6 Network discovery

[Redacted]

4.2.3.1.4.2.7 Strategies to improve reliability, availability, and security

[Redacted]

4.2.3.1.4.2.8 Current infrastructure drawings/schematics and service interoperability

A complete set of infrastructure drawings will be created and validated as part of a final deliverable documentation package. Special care will be taken to ensure that [Redacted]

[Redacted]

4.2.3.1.4.3 Network Technology Approaches and Alternatives

It has never been more important to understand all the technological alternatives and approaches before ordering services or products. Our team

believes in customer advocacy and will work with agencies to help them understand the alternatives and make the correct design decisions. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

4.2.3.1.4.4 Modeling and Simulation of Applications and Network Services

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

4.2.3.1.4.5 Verification and Evaluation of the Suitability and Compatibility of New Services

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Level 3 has established an elaborate test facility at our [REDACTED] [REDACTED] Sections 2.3.3 and 2.3.4 discuss in detail the Level 3 development and testing process prior to deploying new services and enhancements.

4.2.3.1.4.6 Transition of Services

Level 3 will provide technical support to facilitate the transition of services into a [REDACTED] that operates on agency networks. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Our Team brings relevant experience in the transition from legacy to new network infrastructure under the [REDACTED]
[REDACTED]
[REDACTED]

4.2.3.1.4.7 Design and Engineering for Engineering Prototypes

The Level 3 Team includes a skilled set of certified network engineers [REDACTED] who are capable of installing network hardware and software. [REDACTED]
[REDACTED]
[REDACTED]

We also offer the products and services necessary to deliver structured wiring solutions per agency-specific SOWs. These solutions are [REDACTED] [REDACTED] and scalable to meet agency needs. Our team of Registered Communications Distribution Designers (RCDD®) will [REDACTED]

© 2007 Level 3 Communications, Inc. All rights reserved. Use or disclosure of data contained on this sheet is subject to the restrictions on the title page of this proposal.

[REDACTED] The Level 3 structured wiring project management and implementation team is responsible for [REDACTED]

[REDACTED]

4.2.3.1.4.8 Reliable Delivery

[REDACTED]

4.2.3.1.4 Features [C.2.9.11.2]

According to RFP Section C.2.11.9.2, features are not applicable to CSDDES.

4.2.3.1.5 Interfaces [C.2.9.11.3]

RFP Section C.2.11.9.3 states that specific User-to-Network Interfaces (UTNIs) at the Service Delivery Point (SDP) shall be identified in the agency SOW. Therefore, this section is not applicable.

4.2.3.2 Service Enhancements

Level 3 does not propose any service enhancements at this time associated with our CSDDES offering.

© 2007 Level 3 Communications, Inc. All rights reserved. Use or disclosure of data contained on this sheet is subject to the restrictions on the title page of this proposal.

4.2.3.3 Network Modifications

Level 3 does not foresee any need to perform modification to our network-to-delivery CSDS under Network requirements.

4.2.3.4 Experience Delivering CSDS

The Level 3 Team brings industry-leading experience in executing Performance-Based Network Service (PBNS) contracts. Members of our team have designed, built, and managed enterprise networks and infrastructure for Government agencies such as [REDACTED]

[REDACTED] We have assisted these customers in attaining optimum network performance while minimizing operational risks. Our engineering teams are experienced in meeting SLAs and related metrics to achieve Government objectives.

Our technology-certified and cleared personnel have delivered high-performance networks under [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted content]