WITS 3

Client's Guide

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verizon

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1.0 Introduction

1.1 Purpose of the Client's Guide

The Verizon WITS 3 Client's Guide has been developed as an informational resource for WITS 3 contract stakeholders. It is a resource to assist WITS 3 stakeholders with:

- Guidance and information to price and order WITS 3 services, features, CPE, and other technical support services
- Verizon WITS 3 Program organization point of contact information
- Instructions and information on ordering and billing systems
- Service intervals tables and information
- Trouble reporting and escalation
- Product and service information overviews procedures
- Dialing Instructions

A Table of Contents, Glossary and Acronyms are included for ease of finding and understanding information contained in the Verizon WITS 3 Client's Guide.

1.1.1 Access to the Client's Guide

The Verizon WITS 3 Client's Guide is provided as a Web-based document that can be downloaded from the Verizon WITS 3 web site at www.verizon.com/wits3. The Verizon WITS 3 Client's Guide is intended to be a living document. As new services, features and other WITS 3 contract changes occur the Verizon WITS 3 Client's Guide will be updated on the Verizon WITS 3 Web site. A summation of the changes that have occurred during the past quarter will be submitted to GSA for review on a quarterly basis.

1.1.2 Verizon WITS 3 Web Site

The Verizon WITS 3 website is designed to disseminate information about Verizon's WITS 3 contract. In addition to the Client's Guide, the WITS 3 web site (www.verizon.com/worldwide/solutions/government/federal/contracts/wits3/) will provide announcements for the addition of new products and services to the contract, pricing changes, training/workshop offerings, and changes in processes, updated forms, and scheduled system outages. The site includes overviews of services, plus technical specifications of popular Customer Premises Equipment (CPE). The site will include a search engine to assist customers in quickly finding Contract Line Item Numbers (CLINs) for pricing, points of contact, and other WITS 3 related information. Customers will be encouraged to sign up for Info by Request, which sends e-mails to subscribers when announcements are posted.

Although Verizon's WITS 3 web site will be open to the general public, links to Service@once, invoice viewer, and to the network monitoring sites will be limited to authorized, pre-defined Government personnel.

1.2 WITS 3 Contract Overview

1.2.1 Contract Objectives

WITS 3 is a four-year base contract with four one-year options and has an estimated value of $1.8 billion over the eight year contract term. The WITS 3 contract includes a broad portfolio of commercial services and products at very competitive prices – including voice, data, video, Customer Premises Equipment (CPE), and Technical Support Services.

Verizon's WITS 3 contract offerings are based on what WITS customers are buying today. WITS 3 customers can expect Verizon to meet the following contact objectives:

- Smooth Transition of Critical Infrastructure - No loss of service functionality or disruption of service during the transition from WITS2001 to WITS 3.
- To help ensure Service Continuity - Verizon offers customers comprehensive products and services currently available and in-demand under WITS2001.
- Provide Full Service Solutions - Verizon makes available a broad array of fully managed end-to-end solutions.
- Alternative Sources for Products - Verizon provides customers with access to multiple competing and complimentary CPE vendors.
- Integrated Modern Support Systems - Verizon's Service@once and Prime Biller Extended Edition (PBEE)incorporate state-of-the-art Web enabled Support Systems.
- Enable Convergence – Verizon's WITS 3 service offerings allow for migration to a converged environment through access to emerging technologies with continuous refreshment.
- Grow Small Business Opportunities – Verizon actively recruits and encourages small business participation.

The WITS 3 contract offers unprecedented flexibility to user agencies. With Web-based service ordering, flexible billing options, and direct access by agencies to the contractor, WITS 3 allows agencies to tailor their use of the contract to their specific ordering and management practices, with support from GSA as needed.

The WITS 3 contract contains specific provisions intended to ensure its ongoing competitive viability. Verizon offers several services with reduced pricing for multiple year term service commitments (Note: services purchased under multiple year term pricing are subject to early disconnect charges). Technology refreshment terms require the contractor to incorporate new products and services into the contract as they become commercially available in the region. A price management mechanism has been incorporated to ensure that the contractor's prices to GSA remain on par with the best available prices in the marketplace.

1.2.2 Fair Opportunity

To ensure that all contractors on the WITS 3 contract receive fair consideration for a service order, Agencies will use the Fair Opportunity Process for the placement of all WITS 3 orders, including initial WITS 3 requirements (i.e., requirements that are transitioning from the WITS 2001 contract to WITS 3). The fair opportunity process is mandated by 41 United States Code

(USC) § 253 and implemented in FAR Section 16.505. The Agency's order placement decision may be based solely on price or some combination of price and non-price related factors.

The WITS 3 Contract is designed to allow Agencies to define their service requirements, select a WITS 3 contractor, and place an order with the selected contractor in accordance with the terms of the contract. The WITS 3 contract offers fixed priced Contract Line Item Numbers (CLINs). Additional CLINs may need to be established to accommodate Agency specific requirements that fall within the scope of the contract. Ordering services off the contract can be accomplished through a standard process that will not require a SOW or a modification of the contract. Agency specific service orders will require a SOW and subsequent modification of the contract. GSA is responsible for implementing the contract modification process. GSA has issued Fair Opportunity Guidelines.

1.2.3 Authorized Users

The WITS 3 contract is for the use of all Federal agencies, authorized Federal contractors, agency-sponsored universities and laboratories and, as authorized by law or regulation, state, local, and tribal Governments, and other organizations. All organizations listed in GSA Order ADM 4800.2E, Eligibility to Use GSA Sources of Supply and Services, January 3, 2000 (as updated) are eligible. The Government has the right to add authorized users at any time during the term of this contract up to the limits specified in Section H.3, Minimum Revenue Guarantee and Maximum Contract Limitation.

1.2.4 Geographic Scope

The WITS 3 service area currently consists of the District of Columbia, the Maryland counties of Montgomery and Prince Georges, the Virginia cities of Alexandria, Manassas, Fairfax, and Falls Church, and the Virginia counties of Arlington, Fairfax, Loudoun, Prince William, and locations sharing a community of interest.

1.3 WITS 3 Agencies

Verizon customers can become a new WITS 3 customer by contacting the GSA Customer Relations Management Center (CRMC) at 202-708-8100 or crmc@gsa.gov. A GSA Customer Account Manager (CAM) will be assigned to assist in exploring how WITS 3 can satisfy an agency's telecommunications needs. Initially, the GSA CAM will establish a new Customer Care Team and schedule a meeting to review technical, business and training needs.

Agencies that choose to become WITS 3 customers will be required to complete a WITS 3 Application Form. Detailed instructions are provided on the form. The GSA CRMC at 202-708-8100 is available for assistance in completing the form. Upon acceptance of the application, a Verizon Customer Service Center (VCSC) representative will contact the agency with a Billing Account Number (BAN) and Location Group (LG).

1.4 Designated Agency Representative Administrators (DARAs) and Designated Agency Representatives (DARs)

In the WITS 3 contract environment, the DARA and the DAR have a very important role in the management of telecommunications products and services for the agency they represent. The DARA and DAR are responsible for all service orders and are the only individuals authorized to sign and approve service orders. DARAs are nominated by their agency and must be appointed by the agency's WITS 3 Contracting Officer. The DARA maintains a list of DARs

authorized to place orders on the WITS 3 contract, the agency Billing Account Code (BAC) against which they can order, types of service(s), dollar limit and any other limits placed on their ordering authority. The DARA is responsible for issuing a letter of appointment to assign each agency DAR. Before authorizing service orders using Service@once, the DAR must complete Service@once training. DARs can register for Service@once training by completing the Service@once Training Request Form available on the Web site and faxing it to the Verizon WITS 3 Training Coordinator at 301-282-6806.

1.5 Order Enterers

In some agencies, the DAR(s) and the Order Enterer(s) are separate users. In such cases, the Order Enterer can submit Service Order Requests but must gain the DAR's signature to authorize funds. A WITS 3 Billing Account Code (BAC) Form must be completed to identify the BAC(s) an Order Enterer may use when placing Service Orders.

Before placing orders using Service@once, Order Enterers must complete Service@once training. They can register for training as noted above, by completing the Service@once Training Request Form available on the web site and faxing to the WITS 3 Training Coordinator at 301-282-6806.

1.6 Billing Account Code (BAC)

The Billing Account Code (BAC) is a number assigned by the General Services Administration to uniquely identify the agency cost center on service orders and invoices. When a new WITS 3 agency is ready to place service orders, the DARA must submit a WITS 3 Application Form to establish a BAC and identify who is authorized to use it.

The WITS 3 Billing Account Code (BAC) Form must be submitted whenever an agency requests additional BACs, disconnects/abolishes BACs, changes a BAC address, or alters who is authorized to use a BAC.

1.7 Mandated Taxes, Surcharges, and Fees

Basic service prices offered on the WITS 3 contract do not contain mandated taxes, surcharges, and fees. The following information is provided to describe and detail the taxes, surcharges, and fees that will be billed to the Government or Government end-user.

1.7.1 Gross Receipts Surcharge

The Gross Receipt Tax Surcharge (GRTS) is classified as a tax. The state of Maryland and the District of Columbia receive an operational fee from all utility companies that covers the cost of doing business in a particular jurisdiction. Local Gross Receipt Surcharge (LGRS) is applied to Arlington County (Virginia) and Montgomery County (Maryland). Arrangements were made that allowed the utility companies to pass this charge along to their customers. Therefore, the Gross Receipt Surcharge is the operational fee collected for your account. The fee is calculated on certain items of the basic local service charges, all value added services, calls completed by the operator and message units. No CLINs assigned, appears as text after each line.

1.7.2 Federal Universal Service Fund Surcharge

Since its inception in the 1930's, the FCC has maintained a policy of promoting affordable telephone service to all Americans.

After the breakup of AT&T in the early 1980's, the FCC established a mechanism to ensure that the rates of local telephone companies would remain affordable to customers. All telephone companies that provide telephone service between states contribute to the Federal Universal Service Fund.

Under a new FCC approved plan, effective July 1, 2000, local telephone companies are allowed to recover the cost of their Federal Universal Service Fund contribution in a competitively neutral manner by billing a monthly line charge.

1.7.3 Subscriber Line Charge

The FCC instituted the monthly line charge, Subscriber Line Charge (SLC), to help pay some of the fixed costs the local phone company incurs in providing long distance companies with access to their local networks. It is intended to cover portions of the interstate costs of providing the local customer with access to the long distance carrier for all classes of customers, which should ultimately lead to lower long distance rates.

1.7.4 Right of Way

In 1996, the Washington, D.C. legislature authorized a Right-of-Way Fee, and legislation that year established the rates that would be charged by the DC Government to utility companies in Washington. The 1996 law reads; "Each public utility company regulated by the Public Service Commission shall recover from its utility customers all lease payments which it pays to the District of Columbia pursuant to this title through a surcharge mechanism applied to each unit of sale and the surcharge amount shall be separately stated on each customer's monthly billing statement." A "unit of sale" refers to a telephone line.

In 1998 the Virginia General Assembly passed the same law authorizing a Right-of-Way Fee.

1.7.5 End User Port Charge

The Line Port Charge applies to DID ISDN BRI and PRI. The charge is for additional equipment that has to be installed in the local network for the signals of the above services to be recognized and transmitted. The FCC required the cost of this new, more advanced equipment for these newer services to be recovered in a separate charge and to be paid by the customer. The FCC did not consider it fair that all telephone users pay for these costs. The shift in cost recovery will also be offset by reductions in the local exchange carriers per minute of use charge to the interstate long distance carriers.

1.7.6 State TDD/USF Fee

The purpose of the surcharge is to provide funding for a Dual Party Relay Service System in Maryland. The surcharge was implemented July 1, 1991. A Dual Party Relay Service System enables hearing and speech impaired people to communicate with those of normal speech and hearing over the telephone by using an attendant relay system.

1.7.7 E911 Assessment

A tax collected for each individual telephone line sold or leased in the District of Columbia to fund the emergency and non-emergency number telephone system.

1.8 Customer Feedback

Customer comments regarding the WITS 3 Client's Guide and/or WITS 3 Web site will be welcome and able to be submitted via an online customer feedback form available at Contract Feedback. Comments received will aid Verizon in their efforts to improve the quality and usefulness of the WITS 3 information presented. When commenting on specific items please provide the URL of the Web page and/or the section title and page number(s) of the Client's Guide.

2.0 Points of Contact

2.1 Verizon Customer Service Center (VCSC)

The Verizon Customer Service Center (VCSC) is the customer's primary point of contact with Verizon for operational issues. The VCSC is located on Verizon's premises and is staffed 24 hours a day, 7 days a week. Customers can access the VCSC by dialing a toll-free number, sending e-mail or accessing the Verizon WITS 3 web site.

WITS 3 - Verizon Customer Service Center (VCSC)
13100 Columbia Pike
Silver Spring, MD 20904

Voice: 1-800-381-3444

Fax: Civilian 301-282-1910

DoD 301-282-1911

E-mail: WITS.3.CSC@verizon.com

WITS 3 customer service representatives are available to users for service planning, feature assignments, service order planning, billing reconciliation, inventory control or trouble resolution. The VCSC will also assist subscribers experiencing difficulty using WITS 3 services, features or equipment.

2.2 Verizon WITS 3 Team

Function	Manager	Office Number
Program Manager	**Jason P Anderson**	**301-288-9415**
Operational Support Systems	Ramon Maclang	301-288-9283
Quality Assurance (QA) Manager	Ramon Maclang	301-288-9283
Proposals	Anita Shannon	703-694-7844
National Security / Emergency Preparedness	Thomas Gann	972-729-4762
Information Services Manager	Ramon Maclang	301-288-9283
Customer Service Manager	Tracey Tittley	301-288-9219
Program Managers:		
Pentagon NCR	Shun Jackson	703-212-6114
Ft. Belvoir	Douglas Songer	703-805-5305
GAO	Elizabeth Greve	202-528-0011
Treasury	Scott Jackson	703 297-0175
DOJ	Joseph Stolmeier	202-441-8914

Operations, Administration and Maintenance (OA&M) Manager	Veronica Rivera	516-659-7623
Customer Care Manager	Jason P Anderson	301-288-9415
Ordering Manager – Civilian & Military	Tracey Tittley	301-288-9219
Ordering Manager – Civilian & Military	Dorothy Jones	301-679-2584
Maintenance & Repair Manager	Julie R, Bright	757-402-2623
Maintenance & Repair Manager	Robin Herr	717-682-1376
Billing Manager	Dorothy Jones	301-679-2584
Network and Information Security Manager	**James Kreutel**	**703-694-8565**
Specialist	Josh Noonan	919-378-3853
Contracts Manager	**Felicia Easton-Taylor**	**202-875-2812**
Small Business Opportunities	Brandilynn Collins Garrison	254-288-8400
Sales VP - Verizon	**Andrea Cohen**	**703-694-4477**
Business Support	Dave Para	703-694-5787
Project Management	Shun Jackson	703-212-6114
Sales Engineering Manager	Yunfei Hao	703-886-3796
Sales Manager	**John Larregui**	**845-240-4389**
Senior Client Executive - GSA	Bo Genner	703-694-7311
Senior Client Executive – GSA	Mike MacDowell	571-512-8587

3.0 Operational Support Systems

3.1 Verizon WITS 3 Support Systems

The Service@once and Prime Biller Extended Edition (PBEE) are the primary systems for the management of Verizon WITS 3 products and services. This solution provides complete ordering, inventory, reporting, billing, and trouble reporting capabilities all in one integrated solution. This is accomplished by using an integrated approach, both from the management of WITS 3 services within Service@once, and the integration of Service@once and the billing system.

Service@once and the billing invoice viewer will be available to authorized Government customers via the public internet and the Verizon WITS 3 website. All information in Service@once is provided in real-time, while the information available on the invoice viewer will include the most recent six months of billing information.

3.2 Service Ordering and Management

Service@once is a Verizon online system for service ordering, configuration management of lines and circuits, facilities management, automated provisioning of Circuit Switched voice services, trouble management, and workforce management. The VCSC staff and agency authorized users have access to Service@once. Service@once access levels available to agencies include authorization (DARs only), order entry, and read only. Only DARs have access for authorizing service orders.

Service@once uses a Windows-based graphical user interface with buttons, tabs, and drop-down menus. It has screens to support user query and find, and it provides online help. It enables users to operate at their own pace and fill information in the different fields at different times as they need. The system is used to support all WITS 3 products and services. The system uses a distributed architecture; and Verizon can readily change the capacity of the system to meet user demand.

Service@once allows users to generate a comprehensive set of reports. Generated reports can be viewed online, printed and/or exported to the user's preferred storage file. Reports include the status of pending, completed, and partially completed service orders; inventory reports organized by agency Billing Account Code (BAC) and reports of billed charges. For a fee, customers may also obtain specialized reports on service performance, network usage, and ad hoc reports.

Access to the Service@once application will be obtained through the new WITS 3 Customer Care Center portal. The portal is accessed via the public internet, without the need for dedicated access. The WITS 3 Customer Care Center portal can be accessed at the following url: http:\\wits3portal.Verizon.com.

Verizon has implemented several layers of firewalls and additional security measures (including user authentication, logging events in the system, and controls in the applications) so that each authorized user (agency user, GSA NCR staff, and Verizon WITS 3 program staff) can perform only specific functions. Firewalls and security measures also control the automated interfaces.

Verizon manages the Service@once access rights of the authorized customers as to the specific functions that they can perform, such as placing a Service Order, tracking the status of an order, or obtaining a report pertaining to the agency.

3.3 Service@once Training

To become a Service@once user, a WITS 3 customer agency must designate its specific Service@once users – DARs, Order Entry and Read Only personnel. Following new user training, the user will be registered and assigned a password to log on to Service@once. DARs will also receive an authorization code.

Verizon offers customers training in Service@once. For DARS already experienced with Service@once, Verizon offers an Experienced OSS course to introduce DARs to the new Verizon portal. Order Entry and Authorization training, a three day hands-on class, is designed for users who are going to input orders, troubles, report requests and, if a DAR, authorize orders in Service@once. Authorization-only training, a half-day class, is designed for DARs who will obligate funds by reviewing and authorizing orders. It does not include order entry training. Read-only training, another half-day class, is designed for users who are going to review orders and reports in Service@once.

3.4 Service Ordering Process

Agencies new to WITS 3 should initially contact the GSA CRMC at 202-708-8100 to arrange to be a WITS 3 Contract user. GSA will assign a *WITS 3 Billing Account Code (BAC*) or existing WITS 2001 BAC numbers can be brought forward as part of the *WITS 3 Application Form*. The application can be found at GSA WITS 3 web site. Additional information is available here: http://www.verizon.com/worldwide/solutions/government/federal/contracts/wits3/. Upon completion, the application should be sent to GSA.

Order Requests can be submitted to Verizon either of 2 ways:

1. Service@once, Verizon's order entry, tracking and inventory system. Agencies can, upon training, obtain access and enter and track many of their own orders directly into Service@once.
2. Forward an Order Request to the WITS 3 CSC via email or fax. A CSC Representative will issue the Service@once order and respond with the Order Number. There is a fee of $25.00 for orders issued by Verizon that qualify for entry by an agency Service@once user. The optional *WITS 3 Service Order Request Form* is available here: WITS 3 Service Order Request Form.

The required elements for all Order Requests include*:

1. Detailed description of the service/equipment requested, locations, contacts, etc. This is often in the form of CLINs or a quotation provided by Verizon Sales.
2. A statement of approval from a recognized WITS 3 DAR.
3. The BAC to be billed for the order.
4. The Obligating Document Number—the number of the agency's internal document that obligates the funds for this order. It may also be known as a "Purchase Order Number", "Job Order Number", "Tracking Number" or "Task Order". The GSA CRMC can provide additional information on this requirement of the WITS 3 contract.

*Effective January 28, 2013, any incomplete orders placed in Service@once that remain in an open status with no associated products/services or without appropriate authorization will be cancelled after 30 days. This effort will help ensure that complete service orders are entered in Service@once in a timely manner. Questions regarding service orders can be directed to the WITS 3 Customer Service Center (CSC) at 1-800-381-3444.

Contacting the WITS Customer Service Center:

Phone: 800-381-3444
General questions: WITS.3.CSC@verizon.com
Order Requests: WITSCivilian@verizon.com or fax 301-282-1910
WITSMilitary@Verizon.com or fax 301-282-1911

3.5 Billing System and Invoices

The WITS billing solution is a uniquely flexible and scalable billing and customer analysis tool for agencies. The billing system provides invoice and billing information to WITS 3 customers. Service@once will feed billing information at the time a service order is closed. All recurring and non-recurring charges will be collected in this manner then aggregated and consolidated on the invoice. The invoice can be provided several ways, based on the agency's preference, including by electronic image via a web invoice viewer, CD, or ASCII file. The Portal Invoice Viewer provides the ability to view and sort the six most recent invoices by bill date and account. The Viewer presents a printer-ready view which includes the ability to search within an invoice (for example, by telephone number, CLIN or BAC), access a table of contents, print all or select pages and download an invoice as an Adobe PDF document.

The billing solution provides many user-friendly capabilities for telecommunications managers to validate and prepare end-user bills.

- Consolidated Billing System - a single, consolidated telecommunications bill for multiple vendors; includes contract, usage, and interexchange carrier (IXC) charges.
- Feature Flexibility - multiple accounts, account hierarchies; accepts various media - including paper, CD-ROM, and/or t electronic file.
- Audit and Verification - customer verification of billing from Service@once records; generates invoices detailing actual usage and other charges, credits, and debits for easier billing reconciliation.
- Online Viewing - available via the internet; enables authorized direct billed customers to view their WITS 3 bills.

3.6 Billing Process

Each agency must complete the WITS 3 Application Form to register as a WITS 3 billing customer. Agencies can choose OPAC (Online Payment and Collection) or non-OPAC billing methods from GSA. Agencies will receive bills no later than the 10th day of the month following the month in which service is provided. Verizon bills WITS 3 customers in arrears on a monthly basis. There are two methods of billing, Direct and Centralized. Although agencies will decide whether they want direct or centralized billing, GSA will notify Verizon of any changes in billing method.

3.6.1 Direct Billing

Verizon invoices direct billed customers and provides them with supporting billing data. Each direct billed customer will verify the invoice and provide payment to Verizon. If any discrepancies,
direct billed customers should submit the billing disputes to witscivilian@verizon.com or witsmilitary@verizon.com .

For Billing Escalations contact the WITS 3 Billing Manager.
Tonetta Spencer Voice: 301-288-9460
E-mail: tonetta.spencer@verizon.com

3.6.2 Centralized Billing

Under centralized billing, Verizon invoices GSA with a monthly consolidated bill, and GSA bills customers. The GSA FSC TOPS Financial Team pays the centralized invoice. The GSA Billing Group provides quality assurance by sampling random monthly accounts for accuracy of billing information and backup payment documentation.

Customers with billing questions or discrepancies can call the Verizon WITS 3 Billing Group at 1-800-381-3444, option 5. The Verizon WITS 3 Billing Group will respond to inquiries and work with the GSA/COR to reconcile billing discrepancies. All resolutions are made jointly with the GSA/COR. Upon resolution, the Verizon WITS 3 Billing Group will notify the customer. Billing adjustments are made by the GSA Billing Group and are shown on a subsequent monthly invoice.

3.6.3 Telecommunication Ordering and Pricing System (TOPS)

Customers can view their invoices via GSA's Telecommunication Ordering and Pricing System (TOPS). The Telecommunications Ordering and Pricing System is an integrated telecommunications on-line ordering, processing, and billing system. It is one of GSA's billing initiatives to improve agency-wide telecommunications inventory management and reduce telecommunications costs for the government and taxpayers.

TOPS can be accessed via the worldwide web at https://topsbill.ftsbilling.gsa.gov. The On-line Customer Billing web page was developed to help customers review their local telecommunications billings and the detailed supporting documentation. The TOPS User Guide assists customers in accessing their billing information through the Internet. Customers should contact GSA's billing group if they have comments/questions concerning the charges in their TOPS bill or its supporting documents.

In order to use TOPS, customers must be registered with GSA. They can gain a TOPS UserID and Password from the home page of the Web Site. Customers are also given the option to access TOPS in a secure (encrypted) environment.

Once customers have logged onto the system successfully, TOPS will verify their access level and allow them to select from the following options:

- About TOPS - learn about TOPS and access frequently asked questions
- User Guide - access the user guide for customer assistance

- Download - extract electronic files for a particular billing month
- View Bill - view a specific customer account monthly bill

3.7 Service Delivery

When products/services are ordered, installation is included up to the Service Delivery Point (SDP) specified on the order. The flexible Service Delivery Point is a combined physical, electrical and service interface which the customer, at certification or installation, designates the physical location.

Table 3.7-1: Service Delivery Point Options

SDP1	SDP2	SDP3	SDP4	SPD5	SPD6
CO	MPOP	BLDG CLST	JACK	ELECTRICAL DEVICE	DESK TOP
POP		CUST CLST		SJ/CSU/DSU	
Associated CLINs	Associated CLINs	Associated CLINs	Associated CLINs	Associated CLINs	Associated CLINs

3.7.1 Service Intervals

A Service Interval defines the time required for completion after receipt of an order. Time intervals vary depending on size and type of service order. Service intervals fall into three different categories: Routine, Expedite, or Emergency. Routine is the typical service interval for completion of an order after receiving the order. For a fee, orders can be expedited by contacting the WITS 3 VCSC at 1-800-381-3444 or by checking the appropriate box on the service order form (negotiation with the WITS 3 VCSC may be necessary). In emergency situations it will be necessary to negotiate service intervals with the WITS 3 VCSC. Table 3.7.1-2 and Table 3.7.1-3 outline service intervals by various access types and by moves, adds and changes, respectively.

Table 3.7.1-2: Service Intervals by Access Type

WITS 3 Service Intervals by Access Type			
ACTION	**REQUIRED COMPLETION TIME AFTER RECEIPT OF ORDER - ALL ACCESS**		
	ROUTINE	**EXPEDITE**	**EMERGENCY**
Install Analog or BRI WITS 3 Lines SVS (Standard Agency Business Location)			
10 or less per BAC per building	5 working days	4 working days	Negotiable
11 to 25 per BAC per building	10 working days	8 working days	Negotiable
26 to 50 per BAC per building	Negotiable	Negotiable	Negotiable
More than 50 per BAC per building	Negotiable	Negotiable	Negotiable

WITS 3 Service Intervals by Access Type			
ACTION	**REQUIRED COMPLETION TIME AFTER RECEIPT OF ORDER - ALL ACCESS**		
	ROUTINE	**EXPEDITE**	**EMERGENCY**
Install Analog or BRI WITS 3 Lines SVS (Residential or Remote Agency Location)	FOA will require up to 4 additional weeks	FOA will require up to 2-3 additional weeks	Negotiable
10 or less per BAC per building	5 working days	4 working days	Negotiable
More than 10 per BAC per building	Negotiable	Negotiable	Negotiable
Install Voice Mail Services/Features			
Any quantity	5 working days	Negotiable	Negotiable
Reset Password on Existing Voice Mailbox			
Any quantity (must be only item on order)	2 working days	1 working day	Negotiable
Install WITS 3 Trunks/DID			
24 or less per BAC per building	6 working days	4-5 working days	Negotiable
25-96 per BAC per building	Negotiable	Negotiable	Negotiable
More than 96 per BAC per building	Negotiable	Negotiable	Negotiable
Install CSDS			
23 or less per BAC per building	6 working days	4-5 working days	Negotiable
24 or more per BAC per building	Negotiable	Negotiable	Negotiable
Install DTS PRI *Note: due date for trunks riding* T1*/PRI must be 2 business days after the Pipe*			
T1 Pipe			
8 or less per BAC per building	9 working days	7-8 working days	Negotiable
9 or more per BAC per building	Negotiable	Negotiable	Negotiable
T1 Digital Hand-Off Dedicated Digital Trunk Service has been retired. **Learn more.**			
8 or less per BAC per building	9 working days	7-8 working days	Negotiable
9 or more per BAC per building	Negotiable	Negotiable	Negotiable
T1 Digital Hand-Off Multiplexed Digital Trunk Service has been retired. **Learn more**.			

WITS 3 Service Intervals by Access Type			
ACTION	**REQUIRED COMPLETION TIME AFTER RECEIPT OF ORDER - ALL ACCESS**		
	ROUTINE	**EXPEDITE**	**EMERGENCY**
8 or less per BAC per building	11 working days	9-10 working days	Negotiable
9 or more per BAC per building	Negotiable	Negotiable	Negotiable
PRI			
8 or less per BAC per building	11 working days	9-10 working days	Negotiable
9 or more per BAC per building	Negotiable	Negotiable	Negotiable
T3			
8 or less per BAC per building	12 working days	10-11 working days	Negotiable
9 or more per BAC per building	Negotiable	Negotiable	Negotiable
Install Synchronous Optical Network (SONET) Services			
Any quantity	Negotiable	Negotiable	Negotiable
Install Dedicated SONET Ring (DSR)			
Any quantity	Negotiable	Negotiable	Negotiable
Install Dedicated DWDM Ring			
Any quantity	Negotiable	Negotiable	Negotiable
VTS			
Reservation (non -recurring teleconference)	30 minutes	Negotiable	Negotiable
ATS			
Reservation (non- recurring teleconference)	30 minutes	Negotiable	Negotiable
FRS Add T1 - Frame Relay has been retired			
4 or less per BAC per building	11 working days	9-10 working days	Negotiable
5 or more per BAC per building	Negotiable	Negotiable	Negotiable
FRS Add T3 – Frame Relay has been retired			
4 or less per BAC per building	14 working days	12-13 working days	Negotiable
5 or more per BAC per building	Negotiable	Negotiable	Negotiable
ATMS – ATM Services have been retired			
Any quantity	Negotiable	Negotiable	Negotiable

WITS 3 Service Intervals by Access Type			
ACTION	**REQUIRED COMPLETION TIME AFTER RECEIPT OF ORDER - ALL ACCESS**		
	ROUTINE	**EXPEDITE**	**EMERGENCY**
Dark Fiber Services			
Any quantity	Negotiable	Negotiable	Negotiable
IAS			
Any quantity	Negotiable	Negotiable	Negotiable
Install Digital Subscriber Line (DSL)			
Any quantity	20 days	15 days	Negotiable
Install Ethernet LAN Service (ELAN)			
Any quantity	Negotiable	Negotiable	Negotiable
VoIP Services			
Any quantity	Negotiable	Negotiable	Negotiable
Custom Redirect Service			
Any quantity	Negotiable	Negotiable	Negotiable
Managed Security Services			
Any quantity	Negotiable	Negotiable	Negotiable
VSAT Services			
Any quantity	Negotiable	Negotiable	Negotiable
Dedicated Hosting Services			
Any quantity	Negotiable	Negotiable	Negotiable
Wireless LAN Services			
Any quantity	Negotiable	Negotiable	Negotiable
Voice Continuity Service			
Any quantity	Negotiable	Negotiable	Negotiable
IP VPN Service			
Any quantity	Negotiable	Negotiable	Negotiable
Premises-based IP VPN			
Any quantity	Negotiable	Negotiable	Negotiable
Managed Network Solutions			
Any quantity	Negotiable	Negotiable	Negotiable

WITS 3 Service Intervals by Access Type			
ACTION	**REQUIRED COMPLETION TIME AFTER RECEIPT OF ORDER - ALL ACCESS**		
	ROUTINE	**EXPEDITE**	**EMERGENCY**
Technical Support Services			
Any quantity	Negotiable	Negotiable	Negotiable
Install TV-1 Video Service (TVS)			
Any quantity	Negotiable	Negotiable	Negotiable

Table 3.7.1-3: Service Intervals for Adds/Moves/Change

Service Internals for Adds/Moves/Change			
ACTION	**REQUIRED COMPLETION TIME AFTER RECEIPT OF ORDER**		
	ROUTINE	**EXPEDITE**	**EMERGENCY**
Add/Move/Remove CPE			
10 or less per BAC per building per due date	5 working days	4 working days	As directed by ordering agent
More than 10 per BAC per building per due date	Negotiable	Negotiable	As directed by ordering agent
Add/Move/Remove Local Area Network Interface			
5 or less per BAC per building per due date	10 working days	8 working days	As directed by ordering agent
6-10 per BAC per building per due date	20 working days	15 working days	As directed by ordering agent
More than 10 per BAC per building per due date	Negotiable	Negotiable	As directed by ordering agent
Add/Move/Remove Attendant Console			
5 or less per BAC per building per due date	10 working days	8 working days	As directed by ordering agent
6-10 per BAC per building per due date	20 working days	15 working days	As directed by ordering agent
More than 10 per BAC per building per due date	Negotiable	Negotiable	As directed by ordering agent
Add/Move/Remove Subscriber Feature or Class of Service	2 working days	1 working day	As directed by ordering agent

3.8 Trouble Reporting and Maintenance Requests

3.8.1 Overview

Verizon will respond to system generated trouble reports that are reported by support systems, switching equipment, and other alarm monitoring equipment. The VCSC will receive trouble reports from customers, operational systems, preventive and remedial maintenance operations, vendors, other contractors, IXCs, LECs, and employees. All maintenance requests will be centralized within WITS 3 VCSC, which will be operational 24 hours a day, 7 days a week. The entire Verizon team will work cooperatively with other contractors, and the government to resolve problems expeditiously. Problems that cannot be resolved at the WITS 3 VCSC will be automatically escalated to the next level of management. Verizon will maintain an audit trail of WITS 3 trouble resolution activity for the duration of the contract.

3.8.2 Details

Trouble reports can be entered into Service@once. (Service@once is available 7:00 AM until 7:00 PM Monday through Friday. Outside of these hours, the systems will be available unless routine maintenance is being performed. Routine maintenance is normally performed during the hours of midnight to 6:00 AM, advance announcements are made at (www.verizon.com/worldwide/solutions/government/federal/contracts/wits3). Troubles from customers or others can also be reported to the WITS 3 VCSC via the toll-free number (1-800-381-3444) or via Email (mailto:witscivilian@verizon.com for civilian customers and mailto:witsmilitary@verizon.com for DoD customers). Information about the nature of the problem will be collected, and a trouble record will be entered into Service@once.

After a report is entered into Service@once, the customer will be contacted if additional information is required to clarify the report, to confirm receipt, and to establish a resolution commitment. If the information is sufficient, then the confirmation receipt will contain a resolution commitment. The WITS 3 VCSC will attempt to resolve the customer's difficulty online whenever possible.

All commitments for routine restoration will be a maximum of the next business day if a site visit is required for a user without service. If a site visit is not required, service will be restored within four hours or by a negotiated clearing time agreed to by the government and Verizon.

WITS 3 customers are not billed for repairs that are found on Verizon's side of the DEMARC/SDP. If no trouble is found or the trouble is found on the customer side of the DMARC/SDP, WITS 3 customers will be charged a service visit charge for technician dispatches during normal business day (NBD) hours (reference CLIN OTH-V00-0248and OTH-V00-0590) or during out of normal business day (ONBD) hours (reference CLIN OTH-V00-0249 and OTH-V00-0591) as applicable. If the customer requests that the technician make the repair(s) the technician will provide notification of the labor and material required to complete the repair and to be billed to the customer once the repair is made. After the repairs are completed, the technician will present a completed WITS 3 Service@once Customer Acceptance Document with a detail listing reflecting the labor and material charges. The form will then need to be signed by the customer and the DAR.

In addition, service visit charges will apply when no one is available to allow entry or when a dispatch date and time are arranged but the customer isn't available to receive a delivery.

3.8.3 Benefits

- The WITS 3 VCSC is operational 24 hours a day, 7 days a week.
- Users can call, fax, or e-mail maintenance requests to the VCSC.
- Users will call one number to receive maintenance on all WITS 3 Products and Services.
- Service@once fully automates the trouble reporting process.
- Service levels are outlined in the contract.
- Experienced technicians understand the technology and customer requirements.
- Emergency Maintenance and Escalation Procedures are defined for the WITS 3 contract.

3.9 Trouble Resolution Intervals

Verizon will resolve troubles on both a routine and emergency basis. The trouble report will specify whether emergency or routine handling is required. Verizon will provide escalation intervals of one hour for emergency service category troubles and two hours for routine service category troubles when the restoration commitment has been missed regardless of the type of service arrangement for both voice and data products and services.

The VCSC will use Verizon network systems to monitor all switching, facilities, and data components of Verizon WITS 3 Network.

Maintenance problems that cannot be resolved by the Verizon team's maintenance forces will be escalated for technical assistance.

The following table provides restoration time intervals for each service category provided under this contract:

Table 3.9-1: Service Restoration Intervals

Service Restoration Intervals	
RESTORATION TIME INTERVALS	**WITS 3 SERVICES**
Routine – dispatch: next business day Routine – non-dispatch: within four hours or by a negotiated clearing time Emergency – within four consecutive hours	Voice Services Circuit Switched Data Service Dedicated Transmission Service Teleconferencing Services Frame Relay Service – Frame Relay has been retired Asynchronous Transfer Mode Service – ATM Service has been retired Dark Fiber Service Internet Access Service Gigabit Ethernet Service

3.9.1 Routine Restoration of WITS 3 Facilities and Services

All commitments for routine restoration will be a maximum of the next business day if a site visit is required for a user without service. If a visit is not required, service will be restored within four hours or by a negotiated clearing time agreed to by the government and Verizon.

3.9.2 Emergency Restoration of WITS 3 Facilities and Services

Verizon understands the mission-critical nature of telecommunications and will meet the needs of agencies. Emergency trouble reports will be acted upon within two hours and will carry a commitment to restore service within four consecutive hours. However, in most situations, response will be immediate with escalation intervals of one hour for emergency service category troubles. Verizon will provide emergency restoration in response to any of the following occurrences:

- Catastrophic failure of single or multiple switching systems
- Catastrophic failure of single or multiple transmission systems
- Switching or building locations isolated due to equipment or facilities failures
- Loss of system access to the Local Exchange Network
- Failure of the mated Signal Transfer Points (STP) or Integrated Services Control Points (ISCP)
- Buildings isolated due to equipment or facilities' failures
- Loss of system access to FTS2001/Networx
- Loss of system access to the Internet
- Disruption of service to users or circuits designated as critical by the government
- Traffic overloads and surges
- Any situation under which an entire service or 20% of the station lines at a single building is disrupted for more than four hours. Verizon will not be responsible for damages or meeting restoration service level commitments in connection with Force Majeure events, which are beyond Verizon's control.

The WITS 3 VCSC will monitor the network to identify outages requiring emergency restoration and begin appropriate remedial action before the actual submission of a trouble report. Verizon will immediately notify the GSA Customer Relations Management Center (CRMC), the affected customer and Verizon management of the emergency and will provide hourly status reports.

Priority Restoration

When outages occur, Verizon will provide prioritized service restoration to station lines designated on the service order as critical by the customer.

Escalation Procedures

Verizon's WITS 3 VCSC Service Representatives are the first point of contact for all customer service orders, trouble calls, queries, and billing issue resolution. The VCSC Service Representatives can be reached at 1-800-381-3444; they are also the daily interface for

government personnel. The VCSC Service Representatives are supervised by their respective (Civilian or DoD) Customer Service Manager, Billing Manager, or Maintenance Manager. The VCSC Managers focus on the supervision of routine and emergency work requests, all system changes and requests, customer assistance, and customer premises equipment (CPE) requests. Problems that cannot be resolved by the Service Representative will be escalated automatically to their respective VCSC Manager. When a VCSC Manager is unable to reach resolution the next points of escalation are the Customer Care Manager or the Operations, Administration & Maintenance (OA&M) Manager. Depending on the nature of the problem, the VCSC Manager will make the decision to escalate to the Customer Care or OA&M Manager.

The Customer Care Manager will be responsible for coordinating resolution of billing inquiries and service order provisioning within the WITS 3 Program Office and with other Verizon service organizations. The Customer Care Manager will be responsible for escalating problems not resolved in the required time frames to the WITS 3 Program Manager.

The OA&M Manager will be responsible for coordinating trouble isolation and repair efforts within Verizon's organization, between other service providers who may be involved in resolving the problem, and the customer. The OA&M Manager will be responsible for escalating all troubles not resolved in the required time frames. The OA&M Manager will stay actively involved with the trouble resolution process from start to completion.

The WITS 3 Program Manager is the single point of contact for the overall contract and will interface directly with the appropriate government counterpart at the program management level. The WITS 3 Program Manager will handle issues that cannot be satisfactorily resolved by the Customer Care Manager and OA&M Manager. The WITS 3 Program Manager has the authority to obtain the necessary corporate resources to provide resolution.

To maintain quality of service and achieve timely trouble resolution, customers are encouraged to utilize these escalation procedures as a first step for resolving issues or concerns. Outside of normal business hours calls should be made to the WITS 3 VCSC, and, if necessary, the duty supervisor will contact the appropriate manager.

If through the escalation process a quality defect is found to be a systemic problem, the Verizon WITS 3 Quality Assurance Manager (QAM) will be contacted and a quality analysis will be conducted. The QAM will work directly with the customer and provide feedback on corrective action and problem resolution.

Table 3.9.2-1: Escalation Contacts

<table>
<tr><th colspan="3">Verizon WITS 3 Escalation Contacts</th></tr>
<tr><td colspan="3">WITS 3 Verizon Customer Service Center (VCSC)</td></tr>
<tr><td colspan="3">1-800-381-3444</td></tr>
<tr><td>Billing</td><td>Service Orders</td><td>Trouble Calls</td></tr>
<tr><td>Billing Manager
Tonetta Spencer
301-288-9460

tonetta.spencer@verizon.com</td><td>Customer Service Manager
Tracey Tittley
301-288-9219
tracey.tittley
@verizon.com</td><td>Maintenance & Repair
Kristal Footman
301-288-9586

kristal.m.footman@verizon.com</td></tr>
<tr><td colspan="2">Customer Care Manager
Jason P Anderson
301-288-9415
Jason.p.anderson@verizon.com</td><td>Operations, Administration & Maintenance Manager
Matt Zeigler410-627-5839
james.m.zeigler@verizon.com</td></tr>
<tr><td colspan="3">Program/Provisioning Management</td></tr>
<tr><td colspan="3">WITS 3 Program Manager
Jason P Anderson
301-288-9415
jason.p.anderson@verizon.com</td></tr>
</table>

Escalation Guidelines

The following chart depicts the guidelines used within Verizon to determine when escalation to the next level should occur for trouble situations. Problems not resolved at their present level of escalation will be referred to the next higher level within 1 hour for emergency troubles and within 2 hours for routine troubles that have missed restoration commitments.

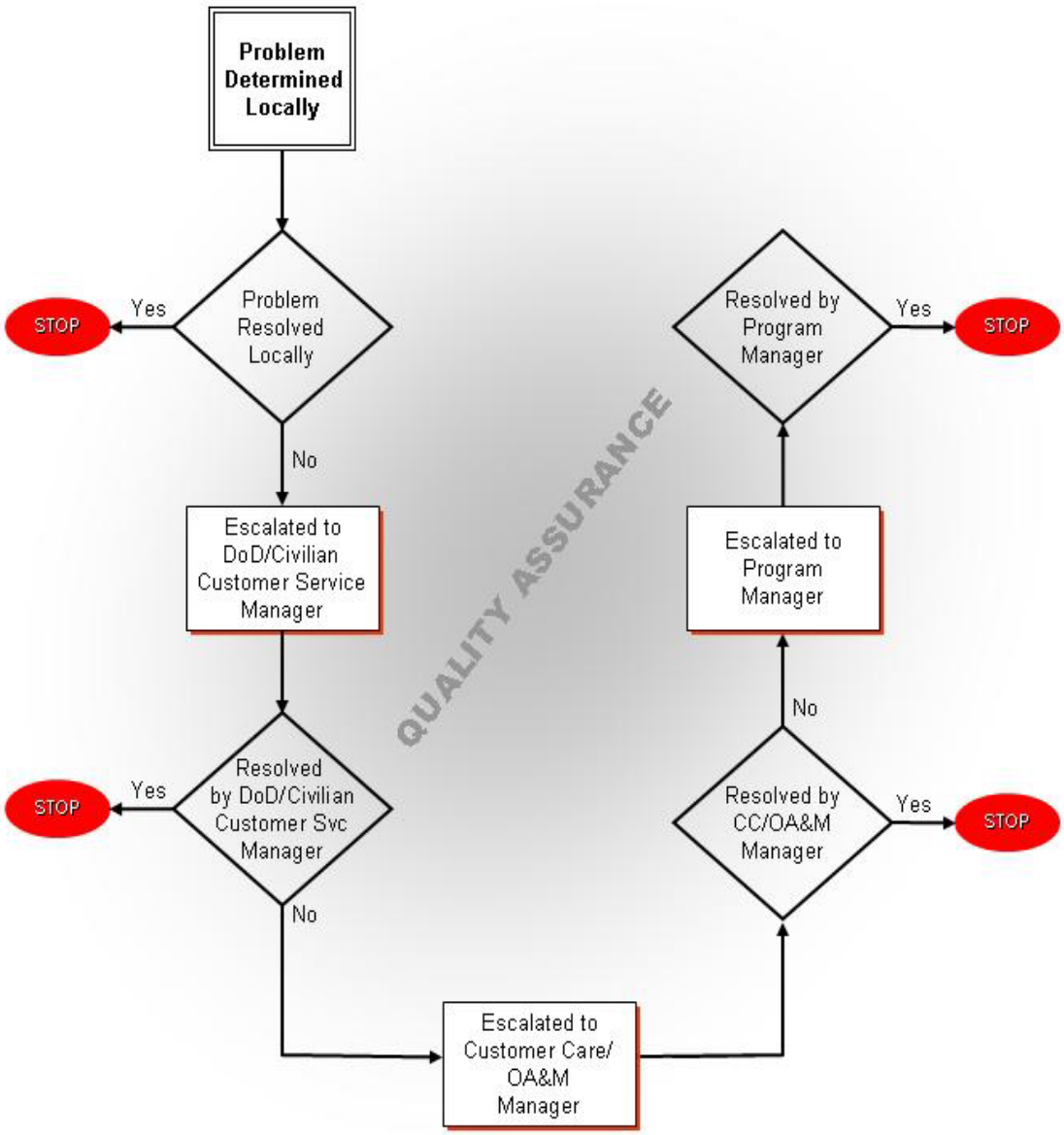

Figure 3.7.2-2: WITS 3 Trouble Reporting Escalation Guidelines

4.0 Verizon WITS 3 Products and Services

4.1 Cloud Services

Verizon Cloud Services offers the WITS 3 customer a set of IT infrastructure services that are scalable, resilient, and managed. Verizon has built an infrastructure that would be difficult to match in terms of reliability and security for all but the largest agencies. The Cloud Services defined in the following sections allow WITS 3 customers to purchase only what they need – and still get the reliability and security that would be practically impossible for agencies on their own.

4.1.1 eCloud Federal Edition (ECFE)

ECFE delivers a highly resilient on-demand computing infrastructure that enables Agencies to employ computing resources in the quantities and duration dictated by their needs. ECFE offers an easy-to-use Web-based management interface that provides command and control over a cloud-based resource pool of compute, storage, and network built on a fully clustered enterprise-class computing architecture featuring virtualization technology and housed in Verizon secure data centers. Verizon's ECFE offers agility, performance, productivity, and security.

Service Availability

The ECFE adheres to NIST 800-53 rev.3 control standards and is housed in two secure data centers: the NAP (Network Access Point) of the Americas in Miami, Florida and the NAP of the Capital Region in Culpeper, Virginia. These facilities are the most secure and technologically sophisticated data center facilities in the eastern United States. Physical security is provided 24/7, and manned by personnel with a combination of military, corrections, and police experience. The data centers provide a controlled and managed space with multiple connectivity options to place computing, storage, telecom and application server equipment. Depending on the agency requirements, open racks, cabinets, or customized caged floor spaces are available in a hardened and secure facility designed to withstand major environmental incidents. The temperature and power are continuously monitored to prevent service interruptions.

FedRAMP CERTIFIED

Verizon's Enterprise Cloud Federal Edition has received Federal Risk and Authorization Management Program (FedRAMP) Agency Authority to Operate (A-ATO) from the U.S. Department of Health and Human Services. This certification paves the way for U.S. federal government agencies to easily and securely migrate mission-critical workloads to the cloud while reducing the time, costs, and resources required to evaluate the security of cloud services.

Verizon's commitment to providing current and future federal government customers with Cloud Computing Solutions that meet their stringent requirements for reliability, availability, and security also ensures customers' current infrastructures maintain operability.

4.1.2 Virtual Communications Express (VCE) for Government

Virtual Communications Express for Government is a comprehensive cloud-based Unified Communications solution designed specifically to address the telecommunication and collaboration and needs of government agencies. Ranging from basic voice telephone services to high-definition multipoint video and mobile integration, Virtual Communications Express for Government redefines workplace efficiency in the public sector. Staff can be instantly available via desk phone, PC, tablet or mobile phone, while working from virtually anywhere.

Target Applications

- Replacing aging Centrex services and end-of-life PBXs/Key Systems
  - Eliminating costly maintenance agreements
  - Converging voice into QoS-enabled networks to eliminate standalone voice network infrastructure and expense
  - Implementing a Cap-Ex friendly technology overhaul solution
- Enabling of teleworkers and telework directives
- Vastly simplifying the communications aspects of Continuity of Operations Plans (COOPs)
- Cloud-sourcing to reduce data center space, expense and operational management tasks
- Improving productivity through real-time chat, voice, video and desktop collaboration in a secure environment
- Allowing impromptu workgroup meetings, across multiple locations, without reservations or per minute charges

Built for Government

Virtual Communications Express for Government has been built specifically for governmental agencies and is designed to minimize the obstacles associated with implementing new technology in compliance-bound environments. Several mandates, directives and initiatives were taken into consideration when designing the Virtual Communications Express for Government solution including:

- Federal Risk and Authorization Management Program (FedRAMP)
- Federal Information Security Modernization Act (FISMA)
- Homeland Security Presidential Directive 12 (HSPD-12) – Common Identification Standards

- Federal Data Center Consolidation Initiative (FDCCI)
- Telework Enhancement Act of 2010
- The General Services Administration's Enterprise Infrastructure Solutions contract consolidation initiative
- Section 508 Compliance

Virtual Communications Express for Government can significantly reduce technology evaluation burdens and ease approval processes by considering the above standards and providing compliance transparency to agencies.

PROGRAM MANAGEMENT

- Verizon Program Management applies Project Management Institute (PMI) methods and procedures and is comprehensive, flexible, and adapted to efficiently meet customer needs. Personnel and resources can be provided around the world to manage development programs of any size and deliver metrics-based results with specialized personnel.
- Staffing
- Project Status Reports
- Scope & Change Control Procedures
- Quality Assurance

4.1.3 Content Delivery Network Service (Akamai) Overview

The Internet and communications built on the Internet have made location irrelevant in many ways. Consumers can check and send email or pay bills from virtually anywhere, Federal workers no longer have to be physically present in the office to do their work, and files – or even desktops – can be shared across the country. While the Internet has and continues to be a powerful enabler, it has not changed the basic laws of physics. The reality is it takes content hosted in San Francisco, CA longer to get to Washington than content hosted in Fairfax, VA. The larger and richer that content gets and the more congested the Internet becomes the more impact this reality will have. The Content Delivery Network Service delivered by Akamai overcomes this reality by hosting content in thousands of locations around the world. This means when users are near Fairfax, VA. they access the copy of the content hosted in Fairfax, VA. When users are near San Francisco, CA. they access the copy of the content hosted in San Francisco, CA.

Benefits

- Content gets to constituents faster and more reliably.
- Centrally hosted applications perform better for remote users.
- For public facing sites vulnerability to Denial of Service (DOS) attacks (including distributed attacks) is substantially reduced or eliminated.

4.1.1.1 Dynamic Site Accelerator

Akamai's Dynamic Site Accelerator (DSA) improves the speed, scalability, security and reliability of any Web site that delivers dynamic content and online functionality to consumers. For activities such as search queries, shopping carts, account maintenance, and customer service, DSA ensures that every transaction is completed with optimal performance for each end user. Key features of DSA include:

- **SureRoute, for Performance:** Chooses the most effective route between Akamai edge and origin servers for optimum delivery performance.
- **Prefetching:** Reduces the number of long-haul round trips required to retrieve embedded content, eliminating a major source of latency for page rendering.
- **Transport Protocol Optimization:** Tunes the parameters that govern communications between Akamai servers, as well as between Akamai servers and end users, in order to increase the performance of those connections.
- **Compression:** Compressing content before it is sent to the end-user is especially effective at reducing transfer times for HTML content to users on slower connections; because application pages are often light on graphics, this technique can be particularly effective for improving performance of transactional content.
- **Service Level Agreement:** provides a 50%/20% Global/North America performance improvement and 100% availability.
- **Site and Visitor Intelligence:** Provides more detailed intelligence for the site as well as analytics on the visitors coming to the site like Top Site visitors, unique visitors, top URLs etc.
- **Cache Optimization:** DSA provides a wide range of cache control features that maximize the cacheability of content including setting TTL, modifying headers, path modification and downstream caching. (This does not include the Advanced Cache Optimization module features – see below for details.)
- **Content Availability:** DSA provides controls that increase the availability of content when the origin is unresponsive or Internet issues block connectivity to the origin server. Serve content from cache when origin is unresponsive. The DSA server will serve the requested content from cache even if its' TTL has expired if the origin server is unresponsive.
- **SureRoute for Failover:** If the path between an Akamai server and the origin is blocked, SureRoute for Failover can select a path that routes around the blockage so that the origin can always be reached.
- **Site Security:** Provides rigorous security that protects website infrastructure from attacks.
- **Capacity On-Demand:** Provides customers with ensured capacity as needed. Akamai's network intelligence detects when traffic is increasing and automatically load balances traffic among servers and datacenters that are best suited to service each user.
- **Dynamic Mapping:** Each end user request is dynamically mapped to an Akamai edge server via Akamai's intelligent DNS.

Included Products for the DSA Family

The following products are also included with DSA where delivery of on-demand streaming content is captured in the 200GB/MPV delivery cap with a per GB charge for overage.

- On-Demand Streaming

- Flash
- Windows Media
- Apple QuickTime

The AMD solution is required for these advanced features where delivery of on-demand streaming content is captured in the 200GB/MPV delivery cap with a per GB charge for overage. Please use AMD order form if these advanced features are required.

- Performance Analytics: Site Analyzer (200 site analyzer tokens included)
- NetStorage (5 GB included)

4.1.1.2 Dynamic Site Accelerator – Secure

Dynamic Site Accelerator Secure provides added security to DSA and enables customers to accelerate dynamic, highly interactive Web sites securely making the Internet a reliable and effective channel for conducting business. In addition to all of the Dynamic Site Accelerator features, DSA Secure contains the following:

- **Secure Delivery:** Allows DSA Secure customers to deliver content over Secure Delivery Network as well as our regular Site Delivery network.
- **SSL Network Access:** Including one certificate and annual license.
- **Access Control:** Allows DSA Secure customers to move access control and authentication functionality out to the Edge of the Akamai network rather than requiring these decisions to be made through interaction with the origin. It can also improve interaction with the origin where access is centrally managed.

4.1.1.3 Dynamic Site Delivery

Dynamic Site Delivery is an entry level site acceleration solution that includes a subset of features and optional modules of Dynamic Site Accelerator. This solution is targeted for environments where dynamic content acceleration and advanced features are not needed. DSD provides base features of DSA but does NOT include:

- **Acceleration Features:** SureRoute, TCP Optimization and Prefetching.
- Site and Visitor Intelligence Reports.(Note: these reports can be purchased as a module – see below)

Furthermore, DSD has only the following standard SLA:

- Serve content faster than origin.
- 100% availability.

Dynamic Site Delivery provides customers with the following capabilities and benefits:

- **Capacity On-Demand:** Provides customers with ensured capacity as needed. Akamai's network intelligence detects when traffic is increasing and automatically load balances traffic among servers and datacenters that are best suited to service each user.

- **Cache Optimization:** DSD provides a wide range of cache control features that maximizes the cacheability of content including setting TTL, modifying headers, path modification and downstream caching. (This does not include the Advanced Cache Optimization module features – see below for details.)
- **Content Availability:** DSD provides controls that increase the availability of content when the origin is unresponsive or Internet issues block connectivity to the origin server. Serve content from cache when origin is unresponsive. The DSD server will serve the requested content from cache even if the TTL has expired if the origin server is unresponsive.
- **SureRoute for Failover:** If the path between an Akamai server and the origin is blocked, SureRoute for Failover can select a path that routes around the blockage so that the origin can always be reached.
- **Basic Site Security:** Provides rigorous security that protects website infrastructure from attacks.
- **Compression:** Compressing content before it is sent to the end-user is especially effective at reducing transfer times for HTML content to users on slower connections; because application pages are often light on graphics, this technique can be particularly effective for improving performance of transactional content.
- **Dynamic Mapping:** Each end user request is dynamically mapped to an Akamai edge server via Akamai's intelligent DNS.

Included Products for DSD

The following products are also included with DSD where delivery of on-demand streaming content is captured in the 200GB/MPV delivery cap with a per GB charge for overage.

- On-Demand Streaming
    - Windows Media
    - Apple QuickTime
    - Flash

Note: Advanced Streaming Reporting, Secure Streaming and Live Streaming are not available under DSD. Please use AMD order form if these advanced features are required.

- NetStorage (5 GB included)

Table 4.1.1-1: Dynamic Site Solutions for Verizon WITS 3

Dynamic Site Solutions for Verizon WITS 3		DSA	DSA SECURE	DSD
Core Prod	Site Delivery	✓	✓	✓
	Site Accelerator	✓	✓	
Core Features	SLA	20% NA/50% Global 100% availability	20% NA/50% Global 100% availability	Faster Than Origin 100% availability
	SureRoute, TCP Opt, Pre-Fetching	✓	✓	Not Available

	Cache Optimization	✓	✓	✓
	Content Availability	✓	✓	✓
	Security	✓	✓	✓
	LDS	✓	✓	✓
	Basic Reporting & Monitoring	✓	✓	✓
Adv Feature Module Add Ons	***Site & Visitor Intelligence***	✓	✓	Optional
	Secure Delivery	Not Available	✓	Optional
	DDoS Fee Protection LA	Optional	Optional	Optional
Assoc Products	**On Demand Streaming**	✓	✓	✓
	NetStorage	5 GB	5 GB	5 GB

4.1.1.4 DSA Solution Billing Components and Models

DSA billing consists of a delivery component, an advanced feature module component, and a Site component.

Delivery Component – The standard billing model for the Dynamic Site Solutions is million page views (MPV). For this purpose, Akamai defines a page view as the delivery of a file by Akamai that has Content Type "text/html" but excludes redirects (HTTP response code 301/302) and File Not Found error page (HTTP response code 404). A Content Type is an HTTP response header that describes the file type that follows, which the browser uses to render the content properly. 200GB of delivery is included per MPV committed or usage, whichever is higher. If the customer exceeds this limit, a per-GB overage charge is applied.

95/5 Mbps and GB delivered billing models are also available with PM approval for those accounts for which technically MPV billing is not viable or the prospect does not accept the MPV billing model.

Advanced Feature Module Component – DSA solution advanced feature modules are charged at a flat monthly rate per module.

Site Component – DSA solutions are sold per Site defined as at most one domain and up to 10 hostnames. For example, in the case of www.customer.com and images.customer.com "customer.com" is the domain and "www" and "images" are hostnames. If a customer requires more than 10 hostnames or 1 domain then a second Site must be purchased.

4.1.1.5 Overage Fees

Internet traffic by its nature tends to have peaks and valleys. The nature of federal customers is that they tend to require predictable billing. Verizon and Akamai have worked together to address these conflicting realities. While the prices (both MRC and unit prices) vary, the approach to billing described below is consistent across Akamai's services. Dynamic Site Acceleration (DSA) is used as an example. The service comes as a package that includes:

- 1,500 GB of delivery
- 5 GB of NetStorage

- 200 Site analyzer tokens

The 1,500 GB of delivery is normalized over a year. The service is actually to deliver 1,500 * 12, or 18,000 GB annually. In any given month customers may exceed the 1,500 GB and not be charged an overage fee. In the event traffic over several months clearly indicates a customer will exceed the annual allotment of delivery, the customer can purchase additional GB of delivery at per GB per month prices. For example the customer may choose to purchase an additional 1,000 GB per month. This additional delivery capacity also would be annualized. In this example the customer's total monthly delivery would be 2,500 per month and 30,000 annually. Exceeding 2,500 in any given month would not result in an overage charge unless the total annual delivery allotment (in this case 30,000) was exceeded.

4.1.1.6 DDoS (Distributed Denial-of-Service) Defender

Akamai DDoS Defender is designed to reduce the potential likelihood and impact of many common types of DDoS Attacks by absorbing some DDoS traffic, deflecting attacks, and authenticating valid traffic at the network edge. DDoS Defender includes support services to respond to many types of DDoS events by applying security response mechanisms and standard operating procedures specifically designed to identify and remediate DDoS Attacks, and providing protection from burst charges associated with unexpected or malicious traffic spikes. DDoS Defender is managed by Akamai Global Services and Support, and includes no customer self-service capabilities. DDoS Defender includes DDoS Fee Protection.

4.1.1.7 NetStorage

NetStorage allows customers to store content on Akamai NetStorage facilities for both site failover and general storage and delivery purposes. Net Storage provides redundancy, fault tolerance, and mirroring; automatic failover, content replication, and global traffic management. Customer content is uploaded to a designated directory in the Akamai network and is replicated with copies stored at multiple locations in diversely located storage centers. Content is distributed intelligently, placed close to Web users, monitored for network problems, and routed efficiently by identifying and using optimal paths.

NetStorage is priced monthly based on a Committed Volume of Storage (CVS) Storage usage over the CVS is rounded up to the next whole GB and charged based on the overage CLIN.

4.1.1.8 Enhanced Domain Name Service

Enhanced DNS (EDNS) provides an outsourced secondary Domain Name Service via Akamai's distributed network of DNS servers deployed across multiple networks to ensure improved DNS performance, security and scalability.

DNSSEC. The EDNS add-on DNSSEC provides support for EDNS customers. With Sign and Serve DNSSEC, Akamai signs and serves the zones not DNSSEC signed by the customer. Akamai leverages its proven key management infrastructure to maintain the DNSSEC keys, removing the burden of key management from the customer.

4.1.1.9 Akamai Media Delivery

The Akamai Media Delivery solution enables delivery, storage and reporting for digital media assets such as movies, news clips, and short-form video. Akamai offers both on-demand and live streaming services for all popular media formats including Microsoft Windows Media, Apple QuickTime, and Adobe Flash. Microsoft Smooth Streaming (AdaptiveEdge Streaming) is available for on-demand only. The Secure Streaming advanced feature offering allows customers to secure their streaming links. It helps content providers restrict access to content to authorized users only, and to counter exchange of stolen links. NetStorage is highly recommended as the origin for delivering secure media assets. Depending on security requirements, using a different origin may require additional security services.

4.1.1.10 Support and Professional Services

Professional Services – Standard Integration

Standard Integration (for DSA, EDNS, DNSSEC, and Media Delivery) includes the following:

- Telephone support to
    - conduct a training session for Akamai's online tools for configuration management, reporting, and troubleshooting, and
    - answer specific implementation questions
- E-mail and/or web conferencing support to assist Customer with the activation process
- Standard Integration Services are provided at mutually agreed upon dates and times during normal business hours (i.e., 9:00 am to 5:00 pm Customer local time).

Standard Integration Services do not include in person meetings at Customer's facilities by Akamai personnel.

Professional Services – Managed Integration

Managed integration (for DSA, only) provides support with the complete design and integration of Akamai Service(s) as set forth on the associated Transaction Document. Professional Services assists with planning for the Akamai Service(s) to address specific technology requirements and business processes, and manage all stages of the implementation to ensure success. Managed Integration includes the following:

- Project Management, communication – escalations throughout the integration
- Project Schedule
- Implementation Plan
- Configuration Test Plan
- EdgeControl portal overview

The following Customer responsibilities must be fulfilled to enable Professional Services delivery of Managed Integration:

- Customer agrees to reasonable additional fees for travel and living related expenses for Akamai's technical team.

- Customer shall provide a single point of contact as well as a backup point of contact, authorized and accountable for representing Customer in communicating technical requirements and giving approval for the project milestones and schedule.
- Customer shall provide technical resources to answer any technical questions that Akamai personnel may have regarding the requirements and deliverables in a timely manner.
- Customer will be responsible for coordinating and managing any changes to their infrastructure that may be required for integration as referenced in the applicable Transaction Document.
- Customer will be responsible for conducting functional testing via Akamai for all web properties referenced in the associated Transaction Document prior to going live on the platform.
- Customer agrees only the web properties referenced in the associated Transaction Document are in scope for this Service

Managed Integration Services are provided via phone, email and/or web conferencing at mutually agreed upon dates and times during normal business hours (i.e., 9:00 a.m. to 5:00 p.m. Customer local time). Off-hours support must be requested in advance by Customer no fewer than ten (10) business days prior to the date at which point Akamai will assess the request to determine if the request can be accommodated and if any additional fees are required to fulfill the request.

Managed Integration Services are not available for web properties that require custom user client, other than standard web browsers. During the Term of the applicable Transaction Document, Customer may use any deliverables and work products provided in conjunction with the delivery of Managed Integration Services; provided however, Akamai retains all rights in such deliverables and work products created.

If the scope of Customer's requirements changes during the course of the project, a separate Transaction Document may be required.

Priority Support (all Akamai services)

Akamai will provide:

- Named support team;
- Priority case handling with improved response times above Standard Support;
- Quarterly business reviews;
- Up to 150 Support per year for the Akamai Services. An allocation of additional Support Requests may be obtained under a separate Transaction Document. Unused Support Requests may not be carried over to subsequent years. Customer will not receive credits or refunds for unused Support Requests; and
- Up to two (2) seats per year in instructor-led the Akamai Services training courses as scheduled by Akamai, and located at an Akamai-specified training facility. Seats may be used for attendance in the same course, or separately in different courses. Customer is responsible for all travel and related expenses to attend the training

course. Unused seats may not be carried over to subsequent years, and Customer will not receive credits or refunds for unused seats.

Professional Services, Hourly (all Akamai services)

Akamai will provide additional hours of Professional Services for services agreed upon between customer and Akamai in a Custom Statement of Work

4.2 Voice Services

Verizon WITS 3 Voice Services include analog lines, Centrex lines, ISDN (BRI and multi-point BRI), Analog and Digital PBX trunks and PRI services.

4.2.1 Multilevel Precedence and Pre-emption (MLPP) Overview

Multilevel precedence and preemption is typically utilized in military communications that incorporate a priority scheme (a) for assigning one of several precedence levels to specific calls or messages so that the system handles them in a predetermined order and time frame, (b) for gaining controlled access to network resources in which calls and messages can be preempted only by higher priority calls and messages, (c) that is recognized only within a predefined switch partition, and (d) in which the precedence level of a call outside the predefined switch partition is usually not recognized. These precedence levels, in descending order, are as follows:

- *Flash Override*: cannot be preempted; not enabled on all DoD networks
- *Flash Override*: cannot be preempted in the DSN
- *Flash*: reserved generally for telephone calls pertaining to command and control
- *Immediate*: reserved generally for telephone calls pertaining to situations that gravely affect national security
- *Priority*: reserved generally for telephone calls requiring expeditious action by called parties and/or furnishing essential information for the conduct of government operations
- *Routine*: designation applied to those official government communications that require rapid transmission but do not require preferential handling

MLPP rules basically state that more important calls override less important calls when congestion occurs within a network. Station-based preemption is used when a more important call needs to be placed to either party in an existing call. Trunk-based preemption is used when trunk bandwidth needs to be reallocated to facilitate a higher precedence call over a given path in the network. In both station- and trunk-based preemption scenarios, preempted parties are positively notified, via preemption tone, that their call can no longer be supported. The same preemption tone is always used.

Service Details

MLPP Features – The following MLPP features will be implemented as part of the switch feature upgrades for the WITS DoD serving trunks:

- NSEP-AUTC4RT
    - Abbreviated dialing for DSN

  - Direct station select for DSN
  - Precedence Network In-Dialing (PNID)
  - Main-satellite DSN/AUTOVON compatibility
  - DSN autovon console
  - Business Residential Custom Services (BRCS) adaptation for DSN
  - Precedence and preemption
- NSEP-MLPPSPK
  - MLPP on SS7 – Stage 1
  - MLPP on SS7 – Stage 2
- NSEP-MLPPPRI
  - MLPP on PRI
  - Connection arrangements are supported for the following:
- Analog line to PRI
- BRI to PRI
- PRI to PRI
- PRI to DP/MF trunk
- A MLPP call can be routed over a PRI B-channel or over a DP/MF trunk depending on how the route indices are provisioned
  - The following DSN features are supported using this features:
- Precedence access threshold limits the number of calls at each precedence level that can be offered to the DSN
- Polygrid routing is a robust, redundant trunking scheme, where in the limiting case, all DSN switches are interconnected with each other
- NSEP-DSN4RTU
  - DSN/autovon ISDN attendant console
  - Precedence and preemption ISDN attendant displays
  - Attendant queuing by precedence levels
  - Attendant originating and terminating calls

Benefits

- Use existing JITC certified switches, which allow for a no risk MLPP implementation to all current and future WITS customers
- Utilize existing MLPP test plans and unique requirements associated with the current WITS network

- WITS switch solution allows T1.619a compliant JITC-certified PBX's full MLPP capability with WITS switches and their connectivity to the DSN
- Scalable per switch licensing allows for location-based MLPP needs for DSN MLPP operation

4.2.2 Analog Lines

Overview

Analog lines are often referred to as plain old telephone service (POTS) lines. Analog lines provide a single analog communication circuit between the local end office and the customer's telephone, key system, fax machine, or modem. The Analog line offers a reliable solution for a customer's routine business telecommunications applications.

Features

Analog Centrex line is always provisioned with the following Basic Standard features, which are:

- Call Transfer-All Calls
- Consultation Hold
- Three-Way Calling
- Touch Tone
- Intercom
- Direct Inward and Outward Dialing
- Access Codes

Verizon offers the following features and services with its analog line:

- Voice mail
- Caller ID
- Call waiting
- Speed dialing
- Conference call (six-way calling)

Line Suspension Capabilities

Analog lines can be suspended upon customer request. The following conditions apply:

- Suspending a line disables incoming and outgoing calls.
- Available only for analog and ISDN BRI lines.
- Monthly charges apply at the same rate as active lines.
- Programming in the Verizon switch, cable pairs, etc. remain in place.
- Suspended lines are restored via service order.

- Order processing charges apply for each suspend, restore and disconnect order issued by the WITS Center.
- Suspended status remains indefinitely until an order is issued to restore or disconnect.
- To suspend for a period and then disconnect, one order is requested for the suspend, then a separate order for the disconnect.
- If requests are received by the WITS Center to suspend for a period and then disconnect on the same request, the Center will issue the order(s) to suspend, will establish a follow-up to issue the disconnect order(s) and will email the DAR to advise the date due of the disconnect order(s).
- Once a suspended line has been disconnected, restoration requires a new install order; installation charges and the standard interval apply.

Service Details

The Unbundled Analog Line Port uses a variety of supervisory signaling methods to control call processing. Two-wire interfaces connect to our local switching system via a 2-wire central office distribution frame cross-connect between your 2-wire distributing frame termination and that of the analog port.

Benefits

- Right-sized - Primarily geared toward small- to medium-sized agencies prospects (i.e., less than 99 employees using less than 15 circuits).
- Feature-rich - Verizon offers an impressive array of local features that define and enhance its business line offering.
    - Caller ID
    - Call waiting
    - Speed dialing
- Conference call (three-way calling)
- No oversubscription available - Comprised of one phone number per line (1:1 ratio).
- Connection to multiple telephones - Although there may be several extensions on one line, there can only be one call in progress at any given time.
- Flexible - A small government office wanting basic voice requirements and features, can also have the following Verizon services:
    - Caller ID
    - Call waiting
    - Speed dialing
    - Conference call (three-way calling)
- Practical - A large government office may provision business lines to use as a disaster recovery back up to a local PBX solution.

- Versatile - Using a PBX, customers may provision a business line as personal lines for key executives.
- Customer Service - Verizon is the single point of contact.
- Widespread Availability - Verizon's nationwide footprint provides large service areas.

4.2.3 Analog Trunking

Overview

Analog trunks are supported in the Verizon network at for incoming, outgoing, and two-way traffic and direct inward and outward dialing.

Service Details

The Verizon network supports analog trunks for incoming, outgoing, and two-way traffic and direct inward and outward dialing. Verizon's unbundled analog two-wire and four-wire loops provide four signaling options that are determined by point-of-termination characteristics. A two-wire analog loop will support loop-start, ground-start, loop reverse-battery, or customer-provided in-band signaling. A four-wire analog loop will support loop-start, ground-start, loop reverse-battery, customer-provided in-band, or duplex signaling. Two-wire analog loops support POTS while 4-wire analog loops allow configuration of a variety of circuits in multiple ways.

4.2.3.1 Types of Analog Trunk

Direct inward dialing trunk (DID) trunks can only receive calls. A group of telephone numbers (DID numbers) are associated with a given trunk group; however, there is no one-to-one correspondence between the individual channels and these numbers. The PBX uses the DID number given it by the phone company to route the channel to the correct DID extension within the PBX extension. This allows some or all PBX stations to receive calls directly without going through an attendant (or auto attendant).

Direct outward dialing (DOD) trunks are set up for outbound calling only.

Direct inward/outward dialing (DIOD) trunks are two-way analog central-office trunks offering both inward (trunk-side) and outward (line-side dial tone) calling. DIOD trunks can replace a customer's existing DID and DOD trunks. DIOD trunks will save customers money because they distribute the calling load over fewer actual trunks, have fewer trunk termination requirements, and since basic in-and-out calling can be in one trunk group, analyzing high-volume easier and simpler for the customer to alter PBX trunks to fit their traffic patterns.

Analog trunks are supported in the Verizon network at 4000 Hz bandwidth for incoming, outgoing, and two-way traffic and direct inward and outward dialing. Two-wire and four-wire access circuits are available from Verizon with DP/DTMF. The following signaling/supervision types are available:

- Immediate start
- Ground start
- Loop start
- Wink start

- Delay dial with integrity check
- E&M types II, III, and IV

Benefits

- Two-way calling: DIOD trunks offer inward and outward calling.
- One trunk group: Traffic studies are easier to evaluate in terms of traffic capacity/requirements.
- Direct station dialing: Incoming calls are automatically directed to the station's user without attendant assistance. This feature reduces the requirement for attendant positions, reducing or eliminating attendant labor costs.
- Traffic efficiency: There is only one trunk group needed for in- and out-dialing, so fewer trunks are needed to process the same number of calls. Fewer trunks and less trunk-termination equipment save the customer money.
- Analog trunking: No additional equipment is needed to replace existing DID trunks.

4.2.4 Digital Trunk

Digital Trunk Service has been retired. Learn more.

Overview

Digital Trunks are Verizon advanced product offering that provide connectivity between the local-end office and customer switch.

Digital trunks provide digital connectivity from the local end office to the customer's PBX. Digital trunks are provided via a 1.5 MBPS link. Digital trunks are available as one-way in, one-way out, or two-way.

Service Details

Digital trunks provide extremely powerful and accurate digital transmission speeds of 1.5 Mbps (Megabits per second) and at 45 Mbps at T3 level. High-capacity DS1s and DS3s transmit heavy volumes of digital information and support applications that demand high bandwidth. Customers can also exchange large files and process high-volumes of on-line transactions such as payroll and inventory management. DS1s use high-speed at 1.5 Mbps. DS3s use the high-performance, reliable circuitry of fiber optic transmission facilities to provide the equivalent of 28 T1 channels or 672 regular voice grade channels in a 45 Mbps connection.

Digital trunks are supported at the SDP for incoming, outgoing, and two-way traffic and direct inward an outward dialing. Channelized T1 is supported for 24 separate DS0 channels where the ability to assign telephone numbers to the individual DS0s is available with the T1.

Benefits

- High volumes of information can be transmitted at high speeds
- High-capacity digital data services can be economical alternatives to using multiple lower-speed channels to transmit the same information
- Meetings can be held by videoconferencing, which reduces travel time and expense

- Increased security access reduces unauthorized network access
- Allows 24 voice grade lines to be digitally delivered to the customer premise (the customer only needs one line card in their equipment instead of 24 line cards.

Applications include fax servers and voice messaging services; ISPs will also use digital trunk as a substitute service for ISDN PRI

4.2.5 WITS 3 Lines – ISDN BRI

Overview

ISDN (Integrated Services Digital Network) provides high performance, fully digital access to the worldwide telecommunications network – through standard copper telephone lines. This fast, digital transmission service is available virtually everywhere within the National Capitol Region. From offices, homes, and remote locations, ISDN lets employees tap resources and use new business applications where video images and data flow simultaneously along with fax transmissions and phone conversations.

Features

ISDN BRI lines are always provisioned with the following Basic Standard features, which are:

- Call Transfer-All Calls
- Consultation Hold
- Three-Way Calling
- Touch Tone
- Intercom
- Direct Inward and Outward Dialing
- Access Codes

Verizon offers the following features and services with its ISDN BRI lines:

- Voice mail
- Caller ID
- Call waiting
- Speed dialing
- Conference call (six-way calling)

Line Suspension Capabilities

ISDN BRI lines can be suspended upon customer request. The following conditions apply:

- Suspending a line disables incoming and outgoing calls.
- Available only for analog and ISDN BRI lines.
- Monthly charges apply at the same rate as active lines.

- Programming in the Verizon switch, cable pairs, etc. remain in place.
- Suspended lines are restored via service order.
- Order processing charges apply for each suspend, restore and disconnect order issued by the WITS Center.
- Suspended status remains indefinitely until an order is issued to restore or disconnect.
- To suspend for a period and then disconnect, one order is requested for the suspend, then a separate order for the disconnect.
- If requests are received by the WITS Center to suspend for a period and then disconnect on the same request, the Center will issue the order(s) to suspend, will establish a follow-up to issue the disconnect order(s) and will email the DAR to advise the date due of the disconnect order(s).
- Once a suspended line has been disconnected, restoration requires a new install order; installation charges and the standard interval apply.

Service Details

ISDN BRI (Basic Rate Interface), also known as ISDN Basic, supports a wide range of applications and emerging trends by enabling a seamless exchange of information in any medium – voice, data, or video – at high speeds. Customers will have the support needed to use today's most innovative, fully integrated communications solutions to meet immediate challenges of doing more, faster with fewer resources. Using ISDN enables customers to benefit from new forces shaping the workplace – including a growing number of teleworkers, dispersed project teams, resource sharing, online connectivity, and the need to provide better customer service.

ISDN sends clear digital signals at high speeds over regular phone lines. Without a major network investment, ISDN enables existing phone lines to carry voice, data, and video traffic at speeds over four times faster than a 28.8Kbps (kilobits per second) analog line without compression. With compression, speeds can be even faster. Voice calls can be made more quickly and with superior call quality because ISDN is digital. Combining ISDN with Centrex provides voice systems additional power and improves productivity. Centrex ISDN gives users control over allocating the bandwidth across desktops to take advantage of the classic benefit of Centrex with the enhanced call handling features of ISDN.

Benefits

- Increase productivity using ISDN's higher speeds – ISDN utilizes two separate 64 Kbps channels which can be combined into one 128 Kbps "channel."
- Faster data transmission speeds can result in shorter connection times and lower usage costs.
- Avoid the costs and inflexibility of dedicated lines – the same ISDN line can be used to carry both voice and data so there's no need to wait for a fax to finish before making a call.

- Take advantage of productivity enhancing applications such as remote Local Area Network (LAN) access, videoconferencing, pre-press graphics, postproduction editing, and digital broadcasting that can reduce travel costs and product development time.
- Enjoy clear, digital transmission that results in fewer errors and re-transmissions and greater network reliability – all of which saves time and increases productivity.
- ISDN can also be used to back up overflow dedicated services, such as Frame Relay, to ensure against outages or high volume congestion cost effective insurance for mission critical information.

4.2.6 WITS 3 Access Trunks – ISDN PRI

Overview

ISDN (Integrated Services Digital Network) Primary is a local exchange access service that creates a direct digital connection to a Verizon central office to provide voice, data, image and video services on a single circuit or line.

Service Details

ISDN PRI (Primary Rate Interface), also known as ISDN Primary, provides fast, flexible access to services such as direct inward and outward dialing, Toll-Free Service, and circuit switched data. The Call-by-Call Service Selection and Individual Calling Line Identification capabilities offer a cost-effective, feature-rich method of local access for applications such as PBX trunking, host computer access, LAN-to-LAN connections, and videoconferencing.

ISDN PRI transmits large volumes of data, video and enhanced voice communications requiring higher transmission capabilities such as videoconferencing, imaging, digital audio and CAD/CAM.

ISDN PRI is comprised of a central office trunk port connection via a T1 (1.5 Mbps) facility. Its 24 channels are arranged into twenty-three 64 Kbps B channels for user information and one 64 Kbps D channel for signaling and control functions. "Out of band" signaling from ISDN offers clear 64 Kbps channels for data communications. The 64 Kbps channels can be bundled to provide speeds up to 1.5 Mbps per line.

Benefits

Save the cost of individual dedicated circuits. Enjoy clear, digital transmission for voice and data communications. Gain the flexibility of call-by-call service selection that increases trunking efficiency and the potential for savings. Increase call handling efficiency with calling line identification — a feature available even to PBX users. Protect communications reliability with options for backup configuration. Benefit from planned enhancements like additional telephone number capability and contract pricing. Save travel time with full motion virtual meetings using videoconferencing.

4.2.7 Voice Mail

Overview

Voice Mail service provides customers the ability to use the Voice Mail feature of the WITS 3 Network by leasing individual mailboxes on a monthly basis. WITS 3 Voice Mail service allows users to tailor individual announcements to alert callers when they are not available to answer

their phone. Voice Mail allows callers to leave detailed messages to inform the user of the information that is required by the caller, which increases productivity and eliminates "telephone tag." The service is accessible from any telephone with a standard push button tone pad.

Service Details

Voice Mail service is a communications tool that allows users out of the office, in meetings, or on travel, to interact with their office and customers using a voice networking technology called Voice Mail. Voice Mail can also electronically store documents using the fax feature, which allows users to print faxes at a remote location and does not require users to be in their work locations to receive important documents. Voice Mail allows users to accomplish more in less time.

Benefits

- Work remotely and stay in communications contact with co-workers and customers
- Receive important faxed documents anywhere
- Send important group messages by using the voice broadcast feature
- Increase productivity by eliminating "telephone tag"
- Decrease long distance expenses when traveling by sending messages through the voice mail network
- Provides personalized announcements that notifies callers of absence from the office for travel or vacation

4.2.8 Custom Redirect Service

Overview

Custom Redirect Service (CRS) transfers incoming calls to a predetermined alternate location. The desired number is identified using criteria determined by the customer. Up to three sets of calling criteria can be preprogrammed and the customer may switch between the three criteria by requesting a change with Verizon.

Service Details

By design, CRS suits a variety of customer needs. The key to successful CRS implementation is to understand the objective for redirecting calls and to select the appropriate routing criteria. The selection criteria for routing calls include:

- Time of Day / Day of the Week (TOD/DOW)
  Customers specify how calls are to be handled based on the Time of Day, Day of Week, or Day of Year of the incoming call. One example would be to redirect calls to an answering service after normal hours of operation.
- Percentage Redirection
  Customers manage large call volumes by specifying multiple locations for redirection and the percentage of calls allocated to each destination.

- Incoming Number Identification
  Customers redirect calls to alternate locations based on the telephone numbers of incoming calls. Customers specify how calls are to be handled by identifying individual telephone number(s) or NXXs for groups of telephone numbers.
- Advanced Intelligent Network (AIN)
  AIN is a telephone network architecture that adds advanced computer intelligence to the phone system for processing and tailoring advanced features to customers' needs. CRS uses AIN triggers in the Central Office to intercept calls to identified telephone numbers, and then uses call processing information in the AIN network to determine where the calls should be delivered. The service is placed on telephone numbers, not facilities. There are no restrictions regarding type of service required to order CRS. In fact, with redirecting telephone numbers, a number may be provisioned with CRS yet not have any additional services associated with it.
  - A call is placed to a CRS-provisioned number.
  - The call proceeds to the serving switch within a Central Office (CO). [Note: If the terminating CO is completely out of service or cannot be reached, the call will not be processed for redirection.]
  - "Triggers" in the AIN for calls to a CRS-equipped number signal a query to determine how the call is to be completed.
  - The preprogrammed routing criteria are applied to the number.
  - The call is forwarded to the number(s) specified.

Benefits

- Improved Customer Service - Customers can provide specific telephone numbers to potential callers and then redirect incoming calls to the most effective location for call handling based on criteria such as time of day or incoming telephone number.
- Productivity - Contingency planning, high call volume, and out of hours coverage applications can be managed by allowing priority traffic to get through to the appropriate location.
- Cost Effectiveness of Call Centers - By using time of day routing, customers can provide more effective coverage for busy hours and extended days.

Features

- Special Ordering Requirement
  CRS must be ordered at the agency or office, rather than end-user, level. It requires a custom ordering process.
- Pre-Provisioning Considerations
  Each time lines or options are added to the CRS, an entire "packet" of forms specific to the customer must be submitted, even if there are no changes to many of the forms. It is recommended that each office establish a person/procedure to maintain and manage this service.

- Implementation Process
  This feature is customer activated (at the agency or office, rather than end-user level) and requires intensive customer participation in the information gathering and planning for service deployment. Specific customer information is required for a variety of forms in the "packet," including a Customer Security Worksheet.
- Factors to Consider
  CRS allows redirection of voice and data calls to alternate telephone numbers and alternate locations, on a permanent basis, automatically, or manually in response to a particular need.
- This feature offers three options to redirect calls to as many as three telephone numbers. (If calls are initially sent to the dialed number, that basic redirect is considered as the first of the three options.)
- A group of "main numbers" (subscribers' telephone numbers that have CRS) can be redirected in the same way, at the same time.
- An "option column" of telephone numbers may be treated in uniform manner. (Basic CRS includes three options. Additional options may be purchased.)
- CRS includes the following optional features: auto-attendant redirecting; and redirecting on the basis of number identification, percentage of incoming calls, and time of day or time of week.
- This feature is primarily software based and does not require central office (CO) facilities.
- The customer must have sufficient lines and associated facilities to handle the estimated or actual number of redirected calls without interfering with exchange or toll service.
- Normal telephone usage charges are the responsibility of the CRS customer (e.g., for calls between the CRS-equipped telephone number and the destination telephone number).
- In the event that a CRS user moves to a location served by a different CO, their Custom Redirect information must be transferred to the new CO.
- By its nature, this product requires intensive customer participation in the gathering of information and planning for service deployment.
- If the terminating CO is completely out of service or cannot be reached, the call will not reach the ten-digit trigger for redirection.
- The customer must have sufficient lines and associated facilities to handle the estimated or actual number of calls without interfering with exchange or toll service.

4.2.9 Telecommuting Services

Overview

WITS 3 supports Federal Government telecommuters by providing analog, ISDN, and DSL telecommuting services where available.

Service Details

Customers are reminded to place telecommuting orders through the VCSC as opposed to entering these orders through Service@once. No service order charge will apply to these orders.

DSL services where available requires 20 days for installation; please plan accordingly. To support these installations, DSL, optional CPE, and compatible equipment can be ordered as well.

For DoD customers, only FTS and Networx long distance connectivity will be provided. No DSN connectivity is available for these telecommuting services.

GSA Telecommuting Notice: For installation of telephone lines and equipment in private residences of employees authorized to work at home, the Office of Personnel Management (OPM) requires certification from the head of the department, division, bureau, or office that adequate safeguards against private misuse exist, and that the telecommuting service is necessary for direct support of the agency's mission. (See P.L. 104-52, Title VI, Section 620, 109 Stat. 501, codified at 31 U.S.C. Section 1348 nt.) Prior to placing orders on the WITS 3 contract for telecommuting access services, it is incumbent upon all Designated Agency Representatives (DARs) to ensure compliance with the OPM requirement and obtain appropriate certification in accordance with your agency's telecommuting policy. Personal use of WITS 3 telecommuting access services is prohibited. (Statutory reference is P.L. 104-52, Title VI, Section 620, 109 Stat. 501, codified at 31 U.S.C. Section 1348 nt.)

4.2.10 Voice over Internet Protocol (VoIP)

In addition to traditional Centrex-based hosted voice services, Verizon provides a suite of advanced VoIP services that will meet agencies' evolving needs for convergence at their own pace.

4.2.10.1 VoIP - Hosted IP Centrex

Service Overview

Hosted IP Centrex (HIPC) is Verizon's fully managed VoIP solution. HIPC provides a migration path from traditional solutions, such as Centrex to advanced IP capabilities. HIPC is the service offering for Government agencies that want all the features of a PBX or key system without the associated capital, lease, or maintenance costs. HIPC provides unlimited local calling, domestic long distance calling, and full Internet access, making better use of the Government's resources, controlling costs, and leveraging leading-edge business applications. HIPC uses a standards-based, quality-of-service scheme based on the Institute of Electrical and Electronic Engineers (IEEE) 802.1 p/q standards to ensure a high-quality of service while mitigating call quality issues. Verizon guarantees the quality of service by offering a leading-edge performance Service Level Agreement (SLA). Along with an availability of 99.9 percent, Verizon provides SLA on mean opinion score, jitter, and packet delivery. HIPC also provides Government agencies a number of security safeguards to minimize susceptibility to security threats and to prevent unauthorized access. This includes an Internet dedicated access Denial of Service (DoS) SLA, an authentication scheme between a subscriber's SIP phone, and

Verizon's network-based servers and MPLS-based VPN tunnels. Web-based administrative tools can reduce expenses for moves, changes, and user administration. HIPC is an ideal choice for Government agencies that are moving to or establishing a new location, or simply looking to replace an outdated PBX, key, or TDM Centrex system. As a complete turnkey solution, the HIPC package includes design, installation, and ongoing maintenance. Subscriber can successfully establish and receive telephone calls between on-net locations and establish and receive calls between on-net and off-net locations by interoperating with the Public Switched Telephone Network (PSTN) as required. Verizon's HIPC will bring the Government's voice and data together.

Service Details

Building upon the PSTN-based voice offering and IP trunking for interconnection to the PSTN, Verizon's network based-hosted IP Centrex architecture provides a seamless transition for the Government to both WITS 3 and converged technologies.

Call Processing Services/Application Services*:* Network-based servers provide call processing and call routing and translation policies that ultimately control traffic routing flows among Session Initiation Protocol (SIP) endpoints. These can either be dedicated SIP phones, gateways at the customer-premises, or shared VoIP gateways connected to the PSTN. The SIP Application Server (AS) delivers the enhanced personal, group, and media-based features that comprise HIPC service. The purple cloud shown in the figure represents the secure area of the Verizon IP network that hosts the VoIP communications network. This infrastructure, or VoIP service node, has resilient and secure network connections to the Verizon Multiprotocol Label Switching (MPLS) network.

Network Gateways: The VoIP service node access media gateway (labeled network gateway in the figure) is connected to the Public Switched Telephone Network (PSTN). These network devices provide conversion between VoIP and PSTN signaling protocols (i.e., TDM Pulse Code Modulation (PCM) encoding) for voice call origination or PSTN termination. The service provides the Government with support and interoperability via the following access:

Symmetrical Digital Subscriber Line (SDSL) at the following speeds:

- 384 Kbps
- 768Kbps

Internet Dedicated Access (IDA) at the following speeds:

- T1
- T3
- Shadow (redundant) T1
- Shadow (redundant) T3

Private IP at the following speeds:

- 384 Kbps
- 512 Kbps
- 768 Kbps

- T1
- MLPP/NxT1
- T3

Verizon is developing support for additional HIPC interfaces in the future to allow the Government additional options and flexibility.

Benefits

- Enables the government to take full advantage of their existing investment in telephony equipment and Centrex service capabilities, while also delivering a platform for new productivity enhancing applications hosted by Verizon
- Eliminates the need for infrastructure investments or monthly maintenance costs
- Delivers a high quality, highly reliable, yet easy to manage and use telephony system

Provides telecom managers with a desktop interface (web browser) to manage everyday functions such as Moves, Adds, Changes, and Deletes (MACDs) as well as network applications.

4.2.10.2 VoIP – Internet Protocol Trunking

Service Overview

Verizon's IP trunking technology delivers on the promise of convergence by merging Government agencies' voice and data together onto a single network. Verizon's state-of-the-art approach provides unlimited local calling, domestic long distance calling, and full Internet access making better use of the Government's resources and controlling costs. IP trunking is primarily designed for Government agencies with deployed IP PBX and Session Initiation Protocol (SIP) phones. Service is delivered via a standards-based SIP trunk directly to the agencies IP PBX. This streamlined approach eliminates the need for expensive TDM enterprise gateways or TDM cards and the associated maintenance costs. Locations using the IP trunking service have the benefit of end-to-end network-based Quality of Service (QoS). IP trunking uses Multi-Protocol Label Switching (MPLS) technology to provide a simple network configuration and the ability to prioritize network traffic. IP trunking offers various levels of QoS and provides a single standard IP interface for each location. VoIP traffic is assigned the highest priority class of service with private IP. Through this enhanced traffic management feature of IP trunking, voice traffic has strict priority queuing, bypassing other traffic at times of congestion. Verizon's network availability Service Level Agreement (SLA) provides IP trunking at least 99.9 percent of the time as measured on a monthly basis by trouble ticket time. Verizon's VoIP data centers use industry-leading session border controller technology and follows "best practices" management to ensure Verizon network integrity. For security reasons and customer protection, Verizon does not publish any details pertaining to the IP trunking network design.

Service Details

Through the use of SIP technology and network-based servers, IP trunking provides telephony signaling and real-time transport of a subscriber's voice traffic over Verizon's MPLS networks. IP trunking allows a subscriber to successfully establish and receive telephone calls between

on-net locations and establish/receive calls between on-net and off-net locations by interoperating with the PSTN. It also supports interoperability with Ethernet Local Area Networks (LANs), legacy telephony equipment (e.g., PBXs, key systems, Purchase of Telecommunications Services (POTS) phones, facsimile machines, and modems)) through the use of premises- and network-based gateways. A digital trunk, or enterprise, gateway allows a subscriber's PBX to connect to the IP trunking network, while an analog trunk gateway allows a subscriber's key system, POTS phones, fax machines, and modems to connect to the IP trunking network. IP Trunking has the following access types:

- **Internet Dedicated Access (IDA)** at the following speeds T1, T3, shadow (redundant) T1, and shadow (redundant) T3.
- **Private IP** at the following speed 384 Kbps, 512 Kbps, 768 Kbps, T1, MLPP/NxT1, and T3.

IP trunking uses a standards-based quality-of-service scheme based on the IEEE 802.1 p/q standards to ensure a high-quality of service while mitigating call quality issues. It guarantees the quality of service by offering a leading-edge performance SLA that that includes Mean Opinion Score (MOS), jitter, packet delivery, network availability, and Denial of Service (DoS).

Benefits

- Leverages Verizon's private IP or Internet backbone to route calls to and from the Public Switched Telephone Network (PSTN) via the SIP trunk(s)
- Supports a network-based private dial plan for enterprise on-net calls
- Provides Government agencies with the option to gradually replace TDM voice circuits and fully optimize their converged WAN network
- Retains all the current IP PBX features
- No need to retrain employees on any of the calling features or functions
- No need for equipment changeover or disruption to services

4.2.10.3 VoIP - Managed Internet Protocol Private Branch Exchange Service Overview

Verizon's managed Internet Protocol (IP) PBX service provides Government agencies support and management of their IP communications infrastructure. It is designed for agencies that demand advanced PBX features and are ready to transition to IP facilities at their own pace. Utilizing Verizon as a managed service provider, Government agencies can reduce productivity losses and have guaranteed response times. Managed IP PBX service provides reliability to the Government with the following optional features:

- **Fault management:** detection, correlation, isolation, recovery, and reporting
- **Configuration management:** provision, changes management, backup/restore, and asset
- **Account management:** usage tracking and service cost allocation
- **Performance management:** collection, reporting, analysis, and capacity planning
- **Security management:** access control, policy, audit, and breach detection

When a Government agency purchases managed IP PBX with Verizon's optional Local Area Network (LAN) and Wide Area Network (WAN) management service, the Government receives Service Level Agreements (SLAs) such as 99.50% uptime for network reliability. When additional redundancy is built into the solution, Verizon quickly approaches the reliability found in today's PSTN network. As an optional add-on, security management provides the Government services to prevent intrusion and denial of service attacks on a 24x7 basis. Verizon will help Government agencies evaluate and analyze existing network infrastructure to determine the best approach for successful deployment. Verizon's managed IP PBX service is available to the Government throughout the NCR and communities of interest served by WITS today.

Service Details

Building upon TDM-based voice and IP trunking, Verizon's CPE-based managed IP PBX architecture provides a modular approach to VoIP and will support single and multiple sites. The Government is provided the following services:

- **User Interface.** The user community interfaces to the IP PBX network via IP-phones or soft phones. Traditional analog sets are also supported through analog gateways. Managed IP PBX does not support Basic Rate Interface (BRI) sets.
- **Call Processing Services/Application Services.** Verizon's solution creates a diversely centralized communications system in which Government locations access services from central Customer Premises Equipment (CPE) systems, reducing cost and the expense of bandwidth. Various application services are supported via CPE-based hardware on multiple or shared server platforms. These applications include voicemail, E-911, music-on-hold (MOH), and additional IP-based productivity services and features.
- **PSTN Gateway Services.** Gateways communicate to either the PSTN or third party PBX by converting traditional TDM (analog or digital) signals to IP data. With the exception of SONET interfaces, Verizon supports all required voice interfaces to the PSTN. SONET interfaces may be supported via special design and build where required for termination of STS-1 & OC-1 interfaces. As an alternative, IP trunking offers cost-effective off-network call connectivity using an IP pipe to deliver call traffic for Verizon VoIP services. IP-based calls are handed to Verizon and completed to any local NCR, regional, or global destination via both types of PSTN gateways.
- **Network Management & Security.** Verizon will provide the Government end-to-end support and management of its IP communications infrastructure. Verizon's IP PBX and CPE management is included in the baseline solution. Verizon's LAN and WAN management are additional options to meet end-to-end SLA guarantees. Security management service includes firewalls and intrusion detection/prevention devices.

Technology is migrating towards a converged network. Verizon is leading the advance by evolving its carrier network. Verizon's modular approach allows the Government to migrate at its own pace by allowing for a hybrid environment supporting both TDM and IP technologies.

Benefits

- Managed IP PBX architecture improves system availability and scalability

- Government agencies will benefit from operating efficiencies through one point of accountability – streamlining the number of vendors and points of accountability and potential failure
- Lowering infrastructure cost and the expense of bandwidth
- Provides feature-rich data and voice services such as unified messaging, conferencing, and contact centers interact through open telephony Application Program Interface (API)
- Managed voice Quality of Service (QoS) across links

Automatic diversions to alternate PSTN routes or trunks when WAN bandwidth is not available.

4.2.11 Voice Continuity Overview

Voice Continuity is a feature for voice service that will enable Government agencies to maintain continuity of voice communication when their normal carrier service is interrupted by telecommunication outage, disaster, emergency or evacuation. Verizon Voice Continuity is a patent-pending technology that links the reach and quality of the Public Switched Telephone Network (PSTN) with the flexibility, survivability, and robustness of the Internet to create a unique, seamless, and ubiquitous system for telephone disaster recovery. With Voice Continuity, pre-planning the complete telecom recovery sequence and the ongoing work of maintaining up-to-date telephone trees are no longer necessary. Voice Continuity will link together all operating networks and activated users together within minutes of system activation.

Service Details

For the telecommunications manager, Voice Continuity provides a comprehensive suite of administrative controls and the ability to view Voice Continuity network operations center screens through a secure Internet connection even on a laptop at a remote location. Telecom managers can stay in control of their Voice Continuity network (i.e., Voice Continuity user login and usage information) even under disaster conditions. Managers have the ability to rapidly forward individual lines, groups of lines, or the entire agency or unit through point-and-click administrative screens. Other screens highlight the location of all activated users and maintain records of all telephone metrics.

Subscribers to the Service will have access to the following:

1. **System Log-in.** Each authorized End User will be assigned a Subscriber ID and password which it will utilize for accessing the Service.
2. **Web Activation and Enterprise Management**. Verizon Voice Continuity customers will be provided the URL and/or IP address of the Voice Continuity Web Activation and Enterprise Management Web site, where authorized End Users can (a) activate their Service in the event of an outage, (b) manage and control multiple lines and extensions, and (c) add/change Customer Data for itself.
3. **Telephone Activation.** Each authorized End User will be provided a telephone number(s) that can be used to activate the service over a standard telephone. End Users will be greeted by an automated attendant that will guide them through the

activation and forwarding of their telephone line or extension to another communication device which they have chosen during configuration of their Service.

4. **Enterprise Network Operations Center.** Verizon and a customer Designated Authorized Representative will have Web access to the Network Status for each user line. This real time monitoring tool represents the voice traffic on the Voice Continuity network in near real time, in an interactive graphic format.

Optional Services

The following optional services are proposed to support customers' implementation and use of Voice Continuity:

- Auto Attendant Custom Messaging – Custom messages can be implemented on the system. The scope of the Custom Messaging will need to be determined and priced separately. Custom messages may involve special programming for automated attendant on the covered trunk (e.g., menu tree or dial by name), beyond a standard message such as, "Thank you for calling the Department of Defense. Please enter the number of the person you are trying to reach." Custom Messaging will be quoted on a fixed-fee basis upon request.
- Custom Training – (Note: all customers will be provided, as a standard service at no additional cost, instructions for all necessary account access information to utilize Voice Continuity. This paragraph describes additional custom training that can be purchased as an option.) A customized, one-day, "train the trainer" class of System Administration Training and Certification is offered optionally. (Out of pocket expenses will apply in addition to the daily rate provided in this proposal and will be quoted prior to the training session.) This training will be performed either on site or via the Web. This optional training is not offered for end users, whether in groups or individually.
- Custom Reports - Custom Reports are available upon request and can be developed for Customers or End Users on a fixed rate basis after a scope and description of the report has been agreed to by Verizon and the Customer. Custom Reports will be quoted on a fixed fee basis upon request.

Security

Information security controls, procedures, and countermeasure methods for Verizon Voice Continuity ensure protection of the information assets of both Verizon Voice Continuity and the Customer. As an integral and indispensable part of the service, Verizon Voice Continuity enforces a series of stringent security requirements to protect its voice network and associated customer data. The security methods utilize the most effective, commercially feasible means and generally conform to industry-standard practices for information security. Voice Continuity addresses security concerns through the following specific security mechanisms:

- Authentication and Data Encryption
- Access Control
- Data Integrity and Notarization
- Co-Location Security

Authentication and Data Encryption

The Web-based Service Activation features for Verizon Voice Continuity are protected by 128-bit Secure Socket Layer (SSL) encryption. In order to activate emergency telephone services through the Voice Continuity Web site, the user must provide a valid Login ID and PIN. The same login/PIN protection is used by the Voice Continuity Voice over Internet Protocol (VoIP) softphone to gain access to the Voice Continuity telecommunications network gateways. (A Voice Continuity-approved softphone is provided via the Web site after the user logs into the system.) Individual passwords are further protected via an additional encryption at the database level. No employee of Verizon, its partners, or its subcontractors can gain access to the secure PIN of individual users.

Access Control

Advanced usage parameters, such as telephone numbers, customer site information, billing information, and other system administrative data are protected by a group-based access privilege scheme. This administrative security feature imposes an extra layer of data protection that prevents unauthorized access and abuse of critical user information.

Data Integrity and Notarization

Throughout the entire supply chain of Voice Continuity's survivable telecommunications network, audit trails capture and document customers' voice and Voice Continuity-related data activities. Whether a Web log entry, a database record entry, or an activity log generated by the VoIP softswitch and the router hardware, each customer action is notarized with a date and timestamp, along with the author's unique identifiers (a combination of login ID/PIN, telephone Caller ID, and IP address). These audit trails serve as an irrefutable record of network usage.

Co-Location Security

All collocation facilities are secured with electronic key card access and locked equipment cabinets. Keycard access is limited to certain development and operations personnel. The VoIP gateways are protected physically at each location by building and facility security. Additionally, the VoIP gateways are maintained in physically locked server racks, and devices are equipped with chassis intrusion monitoring to alert the operations center to physical tampering. The VoIP gateways also are protected by stateful inspection firewalls, network compartmentalization, network intrusion detection systems (IDS), host IDS, system anomaly detection, and hardening of system software. Transport Point of Presence / Control Point of Presence. TPOP/CPOP) network communication is conducted through encrypted VPNs or individual encrypted sessions. VoIP client communication with TPOP/CPOPs involves strong authentication and integrity checking of the client device.

Benefits

Voice Continuity is a seamless, low cost, network-level solution that restores incoming telephone service to users within minutes following an event such as a terror attack, PBX failure, fiber cut, fire, flood, building evacuation, or other catastrophic event. Once calls terminate onto the Voice Continuity Network, users can be reached at their existing telephone extensions—via any network, any device, and at any location—as though no service disruption had occurred. Voice Continuity's unique combination of path diversity, network diversity, geographic dispersion, and distributed network architecture effectively reroutes telephone

traffic around network congestion and network points of failure. Government operations can resume within minutes following a communications disruption, minimizing or even eliminating any negative governmental and/or economic impact that would have resulted from the interruption.

Termination liability for Channel Service is 50% of the monthly rates for each month and fraction thereof remaining between the minimum period and the end of the selected term plan/commitment period, FCC#1, Sect 7, Pg #44. Refer to OTH-V00-0037 for billing instructions

Termination liability for Hi-Def. is 100% of the monthly rates for each month and fraction thereof remaining in the balance of the selected term plan/commitment period, FCC#1, Sect 7, Pg #48. Refer to OTH-V00-0037 for billing instructions.

4.2.12 Managed Mobility

The more mobile devices and wireless providers agencies use, the harder it is to maintain control of usage and expenses. Managed Mobility can help agencies simplify this time-consuming and often overwhelming task. Managed Mobility consolidates data from multiple contracts and systems onto a single platform so agencies can view usage, traffic, and spending from all their cellular carriers. With Managed Mobility agencies will be able to:

- Control spending through rate plan and feature optimization, identification of unused devices, and invoice validation
- Track mobile assets and associate devices with end-users
- Assign departmental/command charges and allocate pooled minute access fees based on individual usage
- Automate the logistics of mobile device ordering/provisioning via a single carrier agnostic web portal, including workflow tracking and authorization

Managed Mobility can help agencies take control of their mobile assets and manage them more efficiently. It's also important to deploy effective tools and policies to safeguard agency mobile assets against theft, viruses, and malicious attacks. The portable nature of these devices makes it easy for them to be lost or stolen, putting sensitive data at risk. Since they are increasingly being used in much the same way as desktop computers, they are now susceptible to the same type of threats seen in recent years on PCs. These malicious attacks can not only impair the device, but can potentially breach enterprise security, compromise classified information, and negatively impact regulatory compliance. Verizon offers Mobile Security Shield (MSS) which provides users with protection against mobile Malware and Spyware. MSS offers anti-virus, anti-spam and personal firewall options for all major smartphone device platforms, including BlackBerry, Windows Mobile, WinCE, Symbian and Google Android, and we can tailor a solution to meet an agency's specific needs. A subscription-based service with over-the air registration, the following features are just a download away:

- Flexible, virus-scanning options provide users with Malware detection capabilities to help keep devices clean and protected

- Auto-Update capabilities ensure your Smartphones remain current with the latest anti-virus signatures
- Stateful firewall helps protect a smart phone that is not already equipped with a personal firewall against malicious attacks
- Anti-Spam stops unwanted voice and message communications

Protecting an agency's devices against viruses and theft is an important part of any mobile management strategy, but security can't stop there. Data and information being transmitted in and out of an agency's mobile devices also needs to be secure.

Verizon offers a FIPS 140-2 validated Intelligent Mobile VPN solution (MVPN) for Microsoft OS enabled devices that secure wireless access to data on your network. From command and control to force protection, MVPN can securely extend mission-critical applications to the point of activity, using virtually any type of device or network, including Wi-Fi, 3G (EVDO and HSPA), Satellite, WiMAX, and Ethernet. And because it is completely software based, there is no additional handheld hardware investment needed. So, whether an agency is charged with enabling secure mobile access to information resources for homeland security, military missions, or on-the-road connectivity for emergency response teams, Managed Mobility has a solution to meet an agency's needs.

Mobile Devices play a critical role in the operations of an agency's extended enterprise. To get the most out of the investment, a comprehensive mobility management strategy needs to include solutions for repairing and refreshing mobile assets. To help agencies get the most from their investments, Verizon also offers Mobility Infrastructure & Device Management platform (MIDM), a tool that proactively monitors an entire BlackBerry infrastructure in real time and provides detailed information about system conditions. This can help agencies identify and solve problems, often before they are noticed by the user. A simple online dashboard puts an end to the tedious search for problems by helping to identify the source of the issue. And regardless of whether the end-user is across town, across the country, or on the other side of the world, as long as their Blackberry Smartphone is on the public wireless network or connected via WiFi, a help desk can take remote control of the device and facilitate issue resolution.

4.3 Circuit Switched Data Service

CSDS is offered to WITS 3 users via ISDN BRI, ISDN Primary Rate Interface (PRI), and T1. These services will be delivered directly to the user's terminal equipment including: DTE (e.g., workstation, host computer, PC, Group IV Fax, and other communicating office equipment), digital PBX, or intelligent multiplexer. The ordering of this service may require the use of one or more CLINs to bring the ISDN services beyond the Minimum Point of Penetration (MPOP). This will be determined on an individual case basis as services are required.

ISDN BRI lines in the Verizon PSTN are assigned ten-digit Public Switched Network (PSN) telephone numbers that will allow dial-in access. ISDN BRI service can be leased for a station user located in most of the Verizon COs in the NCR.

4.3.1 CSDS – ISDN BRI

Overview

ISDN (Integrated Services Digital Network) provides high performance, fully digital access to the worldwide telecommunications network – through standard copper telephone lines. This fast, digital transmission service is available virtually everywhere within the National Capitol Region. From offices, homes, and remote locations, ISDN lets employees tap resources and use new business applications where video images and data flow simultaneously along with fax transmissions and phone conversations.

Service Details

ISDN BRI (Basic Rate Interface), also known as ISDN Basic, supports a wide range of applications and emerging trends by enabling a seamless exchange of information in any medium – voice, data, or video – at high speeds. Customers will have the support needed to use today's most innovative, fully integrated communications solutions to meet immediate challenges of doing more, faster with fewer resources. Using ISDN enables customers to benefit from new forces shaping the workplace – including a growing number of teleworkers, dispersed project teams, resource sharing, online connectivity, and the need to provide better customer service.

ISDN sends clear digital signals at high speeds over regular phone lines. Without a major network investment, ISDN enables existing phone lines to carry voice, data, and video traffic at speeds over four times faster than a 28.8Kbps (kilobits per second) analog line without compression. With compression, speeds can be even faster. Voice calls can be made more quickly and with superior call quality because ISDN is digital. Combining ISDN with Centrex provides voice systems additional power and improves productivity. Centrex ISDN gives users control over allocating the bandwidth across desktops to take advantage of the classic benefit of Centrex with the enhanced call handling features of ISDN.

Benefits

- Increase productivity using ISDN's higher speeds – ISDN utilizes two separate 64 Kbps channels which can be combined into one 128 Kbps "channel."
- Faster data transmission speeds can result in shorter connection times and lower usage costs.
- Avoid the costs and inflexibility of dedicated lines – the same ISDN line can be used to carry both voice and data so there's no need to wait for a fax to finish before making a call.
- Take advantage of productivity enhancing applications such as remote Local Area Network (LAN) access, videoconferencing, pre-press graphics, postproduction editing, and digital broadcasting that can reduce travel costs and product development time.
- Enjoy clear, digital transmission that results in fewer errors and re-transmissions and greater network reliability – all of which saves time and increases productivity.
- ISDN can also be used to back up overflow dedicated services, such as Frame Relay, to ensure against outages or high volume congestion cost effective insurance for mission critical information.

4.3.2 CSDS – ISDN PRI

Overview

ISDN (Integrated Services Digital Network) Primary is a local exchange access service that creates a direct digital connection to a Verizon central office to provide voice, data, image and video services on a single circuit or line.

Service Details

ISDN PRI (Primary Rate Interface), also known as ISDN Primary, provides fast, flexible access to services such as direct inward and outward dialing, WATS, Toll-Free Service, and circuit switched data. The Call-by-Call Service Selection and Individual Calling Line Identification capabilities offer a cost-effective, feature-rich method of local access for applications such as PBX trunking, host computer access, LAN-to-LAN connections, and videoconferencing.

ISDN PRI transmits large volumes of data, video and enhanced voice communications requiring higher transmission capabilities such as videoconferencing, imaging, digital audio and CAD/CAM.

ISDN PRI is comprised of a central office trunk port connection via a T1 (1.544 Mbps) facility. Its 24 channels are arranged into twenty-three 64 Kbps B channels for user information and one 64 Kbps D channel for signaling and control functions. "Out of band" signaling from ISDN offers clear 64 Kbps channels for data communications. The 64 Kbps channels can be bundled to provide speeds up to 1.5 Mbps per line.

Benefits

Save the cost of individual dedicated circuits. Enjoy clear, digital transmission for voice and data communications. Gain the flexibility of call-by-call service selection that increases trunking efficiency and the potential for savings. Increase call handling efficiency with calling line identification — a feature available even to PBX users. Protect communications reliability with options for backup configuration. Benefit from planned enhancements like additional telephone number capability and contract pricing. Save travel time with full motion virtual meetings using videoconferencing.

4.3.3 Dedicated Transmission Service

Dedicated Transmission Service (DTS) provides low, medium, and high speed point-to-point or multi-point circuits from alarm circuits, voice grade circuits, data circuits, Digital Data Services (DDS), T1, T3, and SONET-based services OC-3, OC12, OC48 and OC192. Verizon will utilize its technical resources to help customers design service to allow aggregation of bandwidth. Such designs make it possible for voice and data to converge for transmission between two WITS 3 sites using point-to-point circuits.

4.3.3.1 DTS - Digital Data Services

Overview

Verizon's Digital Data services (T1 and T3) provide extremely reliable point-to-point private line service at digital transmission at speeds of 1.544 Mbps (Megabits per second) and at 45 Mbps.

Service Details

High capacity digital data services are designed for transmitting heavy volumes of digital information, and applications that demand high bandwidth such as LAN-to-LAN connectivity and teleconferencing. Transmit high volumes of information at high speeds. Connect directly to

an ISP (Internet Service Provider) for unrestricted access to the Internet and faster download times. Exchange large files and process high volumes of online transactions such as payroll and inventory management.

T1 uses high-speed digital Internetworking to transmit data at 1.544 Mbps. T3 uses the high-performance, reliable circuitry of fiber optic transmission facilities to provide the equivalent of 28 T1 channels or 672 regular voice grade channels in 45 Mbps connection.

Benefits

- High Capacity Digital Data Services can be economical alternatives to using multiple lower-speed channels to transmit the same information.
- Guaranteed transmission capacity that is not subject to network congestion that can cause delays.
- Hold meetings by videoconferencing means less time spent on travel.
- Increased security access is limited to the sites that are linked reducing the possibility of unauthorized access to private networks.

4.3.3.2 DTS – Intellilight Dedicated SONET Service (EDSR)

Overview

Intellilight Dedicated SONET ring is limited to existing customers who already subscribe to this service under WITS2001.

Intellilight Dedicated SONET Ring (DSR) is a customized self-healing SONET ring, configured by Verizon to meet the customer's specific requirements for bandwidth, traffic patterns, service locations and anticipated growth. DSR is a dedicated, high-capacity, private transport network, interconnecting multiple customer locations within the Verizon network. Because it is a self-healing ring solely dedicated to the transfer of a customer's traffic, it provides the customer with the highest possible level of survivability in the event of a facility or SONET-based equipment failure.

Service Details

Dedicated SONET Service gives customers more control over their SONET network. Users can better monitor the health of dedicated SONET connections while enjoying advanced functions such as trouble detection and isolation. DSR provides customers with reliable communications within a community of interest:

- Highest degree of survivability and protection for high bandwidth between multiple sites
- High bandwidth between multiple locations, having typically more than one T3 or equivalent service
- Secure transmission of data, voice or video applications that are highly mission-critical
- Can be combined with IBT for off-ring access
- Can aggregate ATM, Frame Relay, ISDN-PRI and high-cap services such as T1 and T3 to provide protected access to those services.

Competitive Local Exchange Carriers (CLECs) and Inter-exchange Carriers (IXCs) offer private bandwidth services using shared high-speed infrastructure rings as a backbone (as a private network). With IDSR, all fiber and electronics are dedicated to a single customer. This design attribute offers a high level of survivability or security. This distinction is significant, because Verizon's competitors routinely offer private bandwidth solutions as the equal in survivability to IDSR.

DSR is a stand-alone service. The user acquires a private SONET ring that offers end-to-end connectivity and the highest degree of survivability. Where SONET fiber and equipment does not already exist and is not planned, special construction charges may apply.

Service Provisions for Optical Transmission Services is enclosed as Attachment A. This document defines Customer Responsibilities, Service Limitations, Service Level Guarantee Performance and 3 and 5 year pricing arrangements.

Benefits

- Is individually designed to be a self-healing service, based upon the customer's exact specifications
- Ensures the highest level of survivability, reliability and diversity without having to construct a separate network
- As a private, dedicated network, DSR transports only one customer's data, voice or video
- Bandwidth can be allotted as needed, from T1 and higher
- Allows for the use of multiple Interexchange carriers

4.3.3.3 DTS - Dedicated SONET Ring (DSR)

Overview

Dedicated SONET Ring (DSR) is Verizon's standard, next generation SONET service. Like its predecessor, Intellilight Dedicated SONET Ring (DSR), DSR is a customized, dedicated, high-capacity, private transport network, interconnecting multiple customer locations within the Verizon network. Self-healing SONET ring DSR combines the ability to provide traditional SONET interfaces/circuits (both electrical and optical), with point-to-point Ethernet, switched Ethernet and storage interfaces. Some specific point-to-point Ethernet interfaces will be available with fractional levels of bandwidth, as well as the direct delivery of DS1s on OC12 and above rings.

Service Details

DSR is designed with all the survivability attributes of IDSR but with additional flexibility in the type and speed of the interfaces with the SONET transport. DSR service is a perfect fit for the following applications:

Ethernet Interfaces

In addition to the traditional SONET interfaces that are available with IDSR service, EDSR can provide one or more of the following Gigabit Ethernet (GigE) interfaces:

- GigE-1: 1 STS (STS 1)
- GigE-3: 3 STSs (STS 3c)
- GigE-6: 6 STSs (STS 6c)
- GigE-9: 9 STSs (STS 9c)
- GigE-12: 12 STSs (STS 12c)
- GigE-24: 24 STSs (STS 24c)

Direct T1 Access

EDSR will have the ability to provide T1 service directly into a single platform (OC-12, OC-48 or OC-192), without the need for an additional OC-3 SONET node in a Ring on Ring configuration.

EDSR allows for the natural progression from TDM (Time Division Multiplexing) or ATM (Asynchronous Transfer Mode) shops to an IP (Internet Protocol) network model without giving up SONET protection.

EDSR service utilizes the existing SONET based multi-node self-healing ring architecture that exists today via DSR. There is a minimum of 3 nodes required and minimally one node must be in a Verizon Central Office. The EDSR nodes residing on the customer's premise must be in a secured location. The fiber path or links interconnect each premise/POP and wire center node to form a complete ring. This design criterion provides customers with their own dedicated SONET ring that has no single point of failure (excluding the end points of any service riding the ring). The EDSR rings are available at OC12, OC48 and OC192 transmission rates.

Benefits

- Survivability - protection against a single point of failure inherent with SONET ring service
- Increased Bandwidth - GigE and Fractional GigE
- Cost Effective - pricing flexibility to match bandwidth needs
- Scalable (from OC12 to OC192) – no forklift upgrades for increased capacity
- Multi-Service Platform - enables efficient network utilization
- Trans-Multiplexing Capabilities (Planned Future Availability) – provide for network aggregation & performance monitoring

4.3.3.4 DTS – Dedicated Wavelength Ring (DWR)

Overview

Dedicated Wavelength Ring (DWR) is an advanced data networking service that uses Dense Wave Division Multiplexing (DWDM) technology. DWDM uses the properties of refracted light to both combine and separate optical signals based on their wavelengths within the optical spectrum. Therefore, DWDM allows for a more efficient use of existing fiber by providing multiple optical paths along a single pair of fibers.

DWR is the solution for customers who need to:

- Create a disaster avoidance solution
- Aggregate multiple services on a common platform
- Improve ease of management
- Increase use of existing bandwidth

Service Details

Optical networking solutions utilize a ring or point-to-point architecture. DWDM is a Layer 1 transport technology that combines multiple optical data interfaces onto one optical fiber pair, with each signal carried on its own separate light wavelength. DWDM allows for a greater range of protocol transmission better suited than legacy network for data-centric applications, e.g. GigE, ESCON, Fibre Channel, D1 Video, and ISC. Customers can consolidate multiple networks supporting these technologies along with SONET (Synchronous Optical Network) based data networks thereby increasing network efficiency and centralizing network management.

Benefits

DWR was developed to meet customer requirements:

Network security

- Protecting the network
- Maintaining application availability

Scalability

- Offering more bandwidth
- Adding more locations
- Networking more applications

Reliability

- Ensuring application performance
- Providing faster recovery

4.3.3.5 DTS - Ethernet Private Line (EPL)

Overview

Ethernet Private Line (EPL) is a managed point–to-point data transport service delivered over Verizon's shared network infrastructure. The EPL architecture is designed to provide high-quality cost effective intraLATA transport of Ethernet signals between customer premises. EPL is provided where Verizon's fiber optic facilities and equipment with sufficient bandwidth capacity permit. EPL service consists of two components, an On-Net Channel Extension and an On-Net Channel Mileage.

On-Net Channel Extension is the fiber communication path that connects a customer's premises to the Switch Wire Center (SWC). Pricing is fixed (not distance – sensitive). A Channel Extension can be:

- **On Net:** Verizon has placed a Next-Generation Add-Drop Multiplexer on the customer's premises.
- **Protected:** Verizon provides alternate fiber routes with automatic protection switching: Verizon will restore service in less than 60 milliseconds in case of a fiber cut or electronics failure.
- **Unprotected:** Customer requests single fiber route: manual restoration when fiber is cut. Verizon does not guarantee the service will be provisioned over diversely routed facilities.

On-Net Channel Mileage is the total airline mileage between Verizon's Serving Wire Centers (SWC). It is rated both a fixed and per-mile component. All Channel Mileage is defined as Protected, which provides diverse fiber routes and automatic protection switching: Target restoration is less than 60 milliseconds in case of fiber cut or electronics failure.

EPL service transmissions are provided in the following protocols:

Customer Interface	Data Rates
Electrical 10 BASE-T	10 Mb/s
Electrical 100 BASE-TX	50 Mb/s 100 Mb/s
Optical 1000 BASE-SX (MMF) 1000 BASE-LX (SMF)	50 Mb/s 150 Mb/s 300 Mb/s 450 Mb/s 600 Mb/s 1000 Mb/s

Ethernet Private Line (EPL) is well suited for any application that runs over Ethernet. For example, EPL can connect two or more Local Area Networks (LANs) to form a Metropolitan Area Network (MAN) or Wide Area Network (WAN). EPL can be used to provide secure connections between corporate data centers. And EPL can be used for Storage Area Networking (SAN) applications, where customers need to replicate data to a distant location in real time or near-real time.

Service Details

Ethernet Private Line (EPL) is provisioned over Verizon's highly reliable SONET infrastructure. The customer's Ethernet signal is encapsulated in SONET by a Next-Generation SONET multiplexer, and converted back to native Ethernet at the far end by another SONET multiplexer. The customer hand-off to the Verizon network is a familiar Ethernet interface; at Ethernet and Fast Ethernet speeds (10 Mbps and 100 Mbps), the interface is an RJ-45 connector, and for Gigabit Ethernet, the interface is a standard fiber optic connector.

EPL circuits can purchased as either Protected or Unprotected. Protected circuits are provisioned over diverse fiber paths in the local loop portions of the circuit; if either path fails as a result of equipment malfunction or an external event, the customer traffic on that path switches over to the other path, and the circuit stays up and running. Unprotected circuits are provisioned over a single fiber path in the local loop, and are subject to outages in the event of a fiber cut or other external event.

EPL is provided where Verizon's fiber optic facilities and equipment with sufficient bandwidth capacity permit. EPL transport may be subject to distance limitations.

Benefits

Cost-effective compared to dedicated options

- EPL is a shared service, using Verizon's shared infrastructure
- Does not require the purchase of underlying SONET or DWDM platform
- Simplified rate structure that is easy to understand

IntraLATA availability (NCR) National Capital Region

Networks monitored and serviced 24 x 7 x 365

- Reliability and experience of Verizon's operations and field services responsible for more than 10,000 optical networks

EPL's survivability makes it the ideal transport solution for customers that need their circuits to be available at all times.

4.3.3.6 TV-1 Service

Verizon in an effort to provide continuity of service is proposing TV-1 service, which provides for point-to-point circuits used for video transmission.

Service Details

The Government can use the TV-1 service to transmit broadcast quality audio and video between locations. TV-1 service will provide a basic video channel with one-way transmission capability for a standard 525-line/60-field monochrome or National Television Systems Committee color, video signal, and one or two associated 5 or 15 kHz audio signal(s). Video channels will be provided between the customer-designated premises and a Verizon hub. The following two service levels are available:

- TV - 15 Video Basic Service
- TV Video Basic Service

If fiber is already in place, the standard interval for implementing TV-1 service is five business days. If fiber is not in place, a site survey will be required and the interval may be up to 90 business days for fiber implementation.

Interfaces. The termination rate element for TV-1 service will include the use of up to twenty-five feet of coaxial cable from the point of entry into the customer's building to the channel interface. In the event that the customer requests that Verizon extend the location of the channel interface beyond 25 feet, the Inside Wiring and Technical Supports Services portion of

this proposal response will provide for extended channel interfaces. The extended communications path is subject to distance limitations, which are specific to the communications paths being extended. Verizon provides TV-1 service in accordance with F.C.C. Tariff No. 1, Sections 7.2.5 and 7.5.5.

4.3.3.7 Hi Def

Hi-Definition Digital Video Transport Service (Hi-Def DVTS) is a broadband digital video transport channel with one-way transmission capability of 19.39 Mbps high quality video as defined in American National Standard Institute/The Society of Motion Picture and Television Engineers (ANSI/SMPTE) Standard 310M, or uncompressed 1.485 Gbps SMPTE 292M format signals. These standards describe serial digital interfaces for equipment conforming to the SMPTE and Advanced Television Systems Committee (ATSC) digital television standards. This service auto detects the customer input as 19.39 Mbs or 1.485 Gbps and provides the compatible transport of the signal to the corresponding receive channel termination in accordance with SMPTE standards.

Hi-Def DVTS is provided with an electrical interface and operates with a standard broadcast data stream as specified in the appropriate standards. Hi-Def DVTS is provided over digital network facilities between customers designated premises. At the customer's premises, the Company will install fiber optic and/or coaxial cable for the transmission facilities within the building up to the channel interface. The channel interface enables delivery of video channels and/or digital audio signals, which are embedded in the digital transmission. It is the customer's responsibility to embed or de-embed the audio and ancillary data in the digital transmission. The quality of the video signal may be impaired if the distance of the coaxial cable results in transmission parameters which are not within the limits specified in the technical publication set forth below. Where suitable facilities are not available to provide Hi-Def DVTS, Special Construction charges may apply.

4.4 Teleconferencing Service

Verizon Teleconferencing Service (VTS) offers the WITS 3 Customer the ability to conduct a point-to-point (Attendant Assisted) or point-to-multipoint conference using the PSTN, the Customer's Private Intranet or the Public Internet. The WITS 3 customer can use VTS to conference with other users in the NCR, users across the United States, Europe the Middle East & Africa (EMEA) and Asia. Verizon Teleconferencing Service has Conference Host Sites in the US, Europe, and the Asia Pacific providing nearly 100,000 ports available for WITS 3 conferencing. United States sites are located in Ashburn, Virginia; Cedar Rapids, Iowa; Davenport, Iowa and Chicago Illinois. VTS conferences may be scheduled by telephone, Fax or on-line via the Consolidate Conferencing Reservation System (CCRS). CCRS operates on a high-end DEC Alpha computer with full disaster recovery capabilities and currently handles peak loads greater than 3500 reservations per hour and a density greater than 1000 simultaneous users.

VTS Dial-Up analog or ISDN access uses Verizon's reliable PSTN network. IP access to VTS is individually design on a case by case basis. When a WITS 3 user registers IP sites, requesting access to VTS, Verizon will assign an engineering team to design network access from each customer IP Node to a Verizon's VTS Access Point.

4.4.1 Video Conferencing Basic Services and Optional Features

Basic Item Number	Basic TS Services	Optional Feature Item Number	Optional TS Features
1	Point-to-point teleconferencing arrangements	1	Reservation Features
2	Point-to-multipoint teleconferencing arrangements	2	Single point of contact with contractor to schedule reservation-based video teleconferences
3	Two way video	3	Ability to submit reservation requests up to one year in advance by e-mail or fax
4	One way video with interactive voice	4	Ability to store or retrieve predefined conferences
5	Sharing of various types of data files among VTS participants	5	Create printed reports of all location authorized to use the VTS
6	Audio add-on capability	6	Create printed reports of reservation confirmation and cancellation notices.
7	Transmission rates of 128 kb/s	7	Type of teleconference
8	Transmission rates of 384 kb/s	8	Name of person scheduling the teleconference
9	Transmission rates of 768 kb/s	9	Organization of the person scheduling the teleconference
10	Transmission rates of 1 .544Mb/s	10	Telephone number of the person scheduling the teleconference
11	Conference Set-up	11	Name of the alternate conference person
12	Conference Type Meet-Me Conference	12	Telephone number of the alternate contact person
13	Conference Type Attendant-Assisted Conference	13	Name of the contact person at participating locations
14	Audio Bridge Dedicated Port Service (DPS)	14	Telephone number of the people participating in the conference
15	Bridging Capabilities:	15	Telephone number of each conference room (at the user's discretion)
	Point-to-Point	16	Video telephone number of each conference room (if applicable and at the user's discretion)
	Multipoint Voice-activated	17	Organization of each person participating in the teleconference (at the user's discretion)
	Multipoint Chairperson activated	18	Locations of the persons participating in the teleconference (at the user's discretion)
	Multipoint Continuous Presence via reservation	19	Date of teleconference
	Multipoint Continuous Presence by action of the chairperson	20	Time of teleconference
	Multipoint Continuous Presence by scanning all conferees in predetermined order	21	Scheduled length of the teleconference
	Multipoint Continuous Presence by any of the above	22	Data transmission rate for each location
		23	Rate Adaptation

4.4.2 Audio Teleconferencing Services (ATS)

Overview

Under the WITS 3 contract, agencies may purchase Audio Teleconferencing Services (ATS) that allow participants at multiple locations to conduct interactive dialogues and meetings using multi-point teleconferencing arrangements and their own telephone instruments. Through audio teleconferencing, government agencies are able to address issues quickly, involve more people in discussions and decisions, and promote a collaborative team environment.

Transmission services allow connectivity of audio teleconferencing between WITS 3 agencies and other audio teleconferencing users. Transmission services that support audio teleconferencing are the same as those used for normal telephone service.

Audio bridging services allowing individual WITS 3 agencies with normal desktop telephone equipment to participate in audio teleconferencing sessions with multiple users. This is known as a multi-point voice conference. Multi-point conferences allow conferees to hear participants at connected sites, and at the same time be heard by participants at the same connected sites.

Audio reservation services have been established allowing authorized WITS 3 agencies to schedule reservation-based audio teleconference sessions. Authorized users may schedule one or more audio teleconferences by time and day of the week either as a single or recurring event on a daily, weekly, monthly, or other periodic basis.

Benefits

- On-demand and pre-scheduled conferences for end users - daily, weekly, or monthly meetings to cover critical issues for distributed teams or regularly scheduled staff meetings for distributed work groups
- Continued savings for travel budgets, and better information sharing between geographically diverse groups

Audio Teleconference Types

Instant Meeting Service

If an agency wants the flexibility of hosting a meeting at any time, without making a reservation they should choose Instant Meeting Service.

- You are assigned dial-in numbers and passcodes.
- To host a meeting, simply distribute the dial-in numbers and participant passcode to the attendees, along with the date and time of your meeting. No prior reservation with the Verizon Conferencing Center is necessary, and the dial-in numbers and passcode will remain the same for all your future meetings.
- Instant Meeting Service enables the conference leader to control his/her conferences via DTMF commands on a touchtone phone or via the Instant Meeting
- Web Moderator, an online call management tool, which can be accessed via the following Internet link: **http://e-meetings.Verizon.com**

- Complete meeting management tools associated with your Instant Meeting Service subscription include:
    - Conference Continuation
    - Entry/Exit Announce Setting
    - Conference Lock
    - Participant List
    - Conference Mute
    - Roll Call
    - Conference Record/Replay
    - Waiting Room

Choose How Participants Attend Your Virtual Meeting

Dial Out

If an agency needs a personal assistant to remind participants of important calls and a Conference Coordinator to call each participant they should choose Dial Out access. The agency notifies participants of the day and time of the meeting. Prior to the meeting, a Conference Coordinator will call each participant and connect him/her to the conference. Dial Out is available with Premier, Standard, and Instant Meeting Service. The Dial Out capability on Instant Meeting Service is initiated by the conference leader and enabled using the Instant Meeting Web Moderator.

Toll Free Meet Me/Local Freephone

If participants are staying at hotels and paying their phone rates or are participants are clients and you would you like to pick up their call charges choose Toll Free Meet Me/Local Freephone access. When an agency schedules a meeting, they are given a toll-free number and numeric passcode. Provide this number to the participants, and they can join your meeting from locations in the U.S., Canada, Puerto Rico, or the U.S. Virgin Islands. You may request a one-time, toll-free number or a specific toll-free number for a regularly scheduled meeting.

Toll Meet Me/Local Toll

If an agency wants participants to pay for their own long distance charges, they should choose Toll Meet Me/Local Toll access. At the time the agency schedules a meeting, they will be provided a long distance number. Provide the U.S. number to participants and they can join your meeting from locations in the U.S., Canada, Puerto Rico or the U.S. Virgin Islands. Participants are responsible for their own long distance charges.

4.4.3 Video Conferencing Services (VTS) Overview

With the emergence of new technologies, government agencies are no longer restricted to the areas where their employees and taxpayers are located. Today, agencies can be distributed across the globe. Agencies can meet the challenge of communication with Video conferencing Services (VTS).

With VTS, any government body, including civilian agencies, Department of Defense and intelligence agencies can brief employees worldwide and provide live reports to field commanders and staff in Washington. Physicians and medical specialists can even collaborate about techniques and research.

In addition, VTS applications support distance learning in classrooms around the world. Medical students can witness a new surgical procedure without stepping foot into the operating room, and one professor can simultaneously address students in hundreds of classrooms.

Service Details

Multimedia conference rooms range in size from small conference rooms to multi-tiered auditoriums. Unlike the old audio technology, teleconferencing, video conferencing permits non-verbal communication. Users can witness the smile of approval or capture the grimace of confusion. In addition, users can maximize the effectiveness of meetings by including more decision-makers. Visuals like, slides and files can be shared and viewed by all participants. Travel time and budgets are no longer hassles.

Using transmission mediums such as T1 lines, TCP/IP networks and ISDN circuits, Verizon delivers interactive videoconferencing solutions for WITS 3 users in the National Capitol Region. We provide total solutions with complete life-cycle support including:

- Needs Assessment
- Maintenance
- Systems Engineering & Design
- Training

Benefits

- State-of-the-art videoconferencing bridge located at our Customer Service Center and supported 24 hours a day by video technicians
- On-demand and pre-scheduled conferences for end users - daily, weekly, or monthly meetings to cover critical issues for distributed teams or regularly scheduled staff meetings for distributed work groups
- Continued savings for travel budgets, and better information sharing between geographically diverse groups

Video Conference Types

- **"Meet-Me" Conference** - A conference previously scheduled through the TS reservation system, which allows conferees to be connected by dialing into the video system at a predetermined time.
- **Attendant-Assisted Conference** - A conference previously scheduled through the TS reservation system where TS operators set-up or add conferees that are unable to join an existing conference on their own. The requirement for an attendant-assisted conference will be specified when the conference reservation is made.

Video Conference Features

Rate Adaptation. The VTS will have a data rate adaptation feature to allow multiple locations, with different data rate limitations to interconnect for a multi-point video teleconference. This feature identifies the audio compression, video algorithm, and video bandwidth parameters, and performs the necessary translations to insure that each endpoint operates at all of its optimal capabilities.

The requirement for rate adaptation will be specified when a reservation is made.

Sites having point-to-point capabilities that need to conduct a conference with another site, and coding conversion, format conversion, or rate adaptation are needed, will call into the reservation system and be scheduled as a 2-port TS conference. The requirement for rate adaptation IS specified when a reservation is made.

WITS 3 Videoconferencing System (TS) Reservations

Verizon has established a central reservation system in the WITS 3 CSC that allows authorized WITS 3 agencies to schedule reservation-based video teleconference sessions. Authorized users may schedule one or more video teleconferences by time and day of the week either as a single or recurring event on a daily, weekly, monthly or other periodic basis.

Reservation requests may be submitted up to one year in advance by e-mail WITSCivilian@verizon.com or WITSMilitary.verizon.com, by fax, through Service@once or by calling the TS representatives in the WITS 3 VCSC at 1-800-381-3444. Once a reservation is made individual participants will be notified by fax confirming their scheduled time, date, and participating users.

Authorized TS users may schedule a non-recurring videoconferencing session within 30 minutes of making a reservation request, providing the bridging capacity and other required network support functions (e.g., rate adaptation) are available.

When bridging capacity and other required network support functions are available, TS users may request a delay in the scheduled termination time of a video conferencing session already in progress. The request must be made at least 20 minutes before the scheduled termination time of the conference.

Authorized TS users may cancel a video conferencing session up to one day before the scheduled start time of the conference without incurring a cancellation charge.

Video conferencing requires specialized equipment at the user location and may require specialized training in its use. Users desiring to initiate video conferencing are responsible for providing their own video equipment or using conference facilities that already contains video equipment. Video conferencing user systems are available under the WITS 3 contract and can be ordered using the WITS 3 ordering process. The TS CSC is staffed to assist users in determining their video needs and can help determine the type of equipment needed for each user's application. The lead-time for designing, ordering and installation varies with the type of equipment.

Video Conferencing Reservation Process

Agencies can meet the challenge of distant communication with Verizon Video Conferencing, a live, interactive image and voice communication among two or more locations. It provides businesses with all the advantages of face-to-face interaction while helping to save money on

travel expenses. Verizon Video Conferencing allows companies to conduct remote meeting with locations virtually anywhere in the world via state-of-the-art conferencing centers.

To Subscribe to Video Conferencing or to make a Reservation for Your Next Conference:

1. Dial WITS 3 Conferencing Reservations - Toll Free 1-800-308-5238
2. Provide Authorization Code
3. Provide your Billing Agency Code (BAC)

Note – If you do not know your Authorization Code or Billing Code, please refer to your Designated Agency Representative (DAR).

For your convenience conferencing resources are provided below.

Verizon Conferencing Contacts

Conferencing Customer Relations: Manage all customer service inquiries.
1-800-475-0600 or customerrelations@mymeetings.com

Conferencing Product Help Desk: Manage all product related questions.
1-800-857-8777 or chicago-phd@verizon.com

Conferencing On-Line Technical Support: Manage all on-line technical related issues; such as password resets.
1-866-449-0701 or nettech@verizon.com

Conferencing Reservations: Available if you need to schedule an operator assisted call or if you need to cancel or modify an existing call or IM subscription.
1-800-308-5238 or vzn-conf@verizon.com

If you have additional questions or are ready to get started with Video Conferencing, please contact Conferencing Customer Relations at 1-800-475-0600 or customerrelations@mymeetings.com.

Audio and Net Conferencing Reservation Process

Audio Conferencing

Instant Meeting is the recommended audio conferencing tool. Instant Meeting is a reservationless audio conferencing service ideal for small staff meetings, spontaneous events such as crisis management, or to pull teams together for rapid decision-making. This service is available 24 hours a day, 7 days a week, 365 days a year.

Net Conferencing

With Net Conferencing from Verizon, you can create an efficient and engaging online experience to vastly improve the effectiveness of your meetings. Train remote employees, conduct online seminars, demonstrate software, tour web sites, and manage cross-functional projects all with the use of your PC and an internet connection.

Verizon Conferencing offers several flavors of Net Conferencing services. Please visit our Customer Resource Center at http://www.mymeetings.com, where you will find a variety of

information on all our services. We invite you to register for a free training session, view one of our many "how-to" tutorials, or download a user guide.

To Subscribe to Instant Meeting, Net Conferencing or to make a Reservation for Your Next Conference:

1. Dial WITS 3 Conferencing Reservations - Toll Free 1-800-308-5238
2. Provide Authorization Code
3. Provide your Billing Agency Code (BAC)

Note – If you do not know your Authorization Code or Billing Code, please refer to your Designated Agency Representative (DAR).

For high visibility calls that require operator assistance or advanced conference features you can also use Verizon's:

- Premier Level Service - ideal for high-level meetings, focus groups, press conferences, public announcements, presentations to large groups, or other events that require a dedicated meeting manager to handle your call from start to finish.
- Standard Level Service - ideal for medium-sized group meetings, such as staff and committee reviews, training sessions, and program meetings.

Verizon Conferencing provides a comprehensive product offering that combines best-of-class technologies, ease of use and meeting planning expertise -- all to provide you with a productive, convenient, and effective web conferencing experience.

For your convenience conferencing resources are provided below.

Verizon Conferencing Contacts

Conferencing Customer Relations: Manage all customer service inquiries.
1-800-475-0600 or customerrelations@mymeetings.com

Conferencing Product HelpDesk: Manage all product related questions.
1-800-857-8777 or chicago-phd@verizon.com

Conferencing On-Line Technical Support: Manage all on-line technical related issues; such as password resets.
1-866-449-0701 or nettech@verizon.com

Conferencing Reservations: Available if you need to schedule an operator assisted call or if you need to cancel or modify an existing call or IM subscription.
1-800-308-5238 or vzn-conf@verizon.com

If you have additional questions or are ready to get started with Audio or Net Conferencing, please contact Conferencing Customer Relations at 1-800-475-0600 or customerrelations@mymeetings.com.

4.4.4 Net Conferencing Service

Verizon Netconferencing provides a multipoint Web-based service that allows a WITS 3 Customer to conduct a document conference call allowing text, documents, data or images (collectively "data") to be transmitted via the Internet either with a reserved session or on demand. Web conferencing may be used to provide data on a one-way, one-to-many, view-only basis or on a multipoint, many-to-many, collaborative basis. To initiate a session, a Net conferencing leader and participants must have browser access to the Internet. The Net conferencing leader and participants may also access an accompanying audio conferencing call. Each participant is allotted an individual server connection on the Net conferencing server. Verizon provides Net conferencing powered by either Microsoft Live Meeting or WebEx Meeting Center platforms.

Verizon Net conferencing offers the following four options, which will allow agencies to choose the right solution for its needs:

1. Reserved Net Conference is an interactive Internet-based service used to connect widely-dispersed individuals or groups to view information and/or edit documents while holding a simultaneous discussion. Reserved Net conference offers operator-assisted support to help leaders troubleshoot, join, or conduct formal Q&A sessions and collaborate on documents in real time. Reserved Net conference, powered by Live Meeting Professional, is perfect for large or small highly-visible events.

Net Replay, a feature of Reserved Net Conference, can be ordered at the time the conference is reserved. During the presentation, Verizon will record and synchronize both the data and audio portions of the call. Verizon will host the Net Replay. Those who missed the live event can still get the full impact of the presentation from their PCs. Additionally, time is saved because the presentation does not have to be repeated for those who missed it. To view the Net Replay, simply enter a Web address and pass code. To access Net Replay, participants will need the following:

- Internet access
- Audio sound card and speakers
- Microsoft Windows Media Player 9.0 or later
- 128 Kbps connection or faster

WITS 3 customers can set up Net Replays in 30-day increments for up to 360 days. Net Replays can be extended in additional 30 day increments for up to one year. Web conferencing leaders may also choose to have a copy of the Net Replay by adding the FTP Download feature to the meeting.

2. Instant Net Conference is a subscription-based service that allows leaders to create Web conferences within seconds to be used as a personal, on-demand meeting place. Each Instant Net conference subscription provides a consistent, personal meeting ID and password, which leaders are able to communicate to participants at a moment's notice. Leaders may select either Microsoft Live Meeting or WebEx Meeting Center platforms.

3. Customized Net Conference provides customers with a full spectrum of scheduling and registration tools at a unique Web site branded with their name and logo. A customer can

further customize the offering by disabling certain features such as desktop sharing. Customized Net conference can utilize either Microsoft Live Meeting or WebEx Meeting Center platforms.

4. Advanced Net Conference offers customers an easy and effective way to communicate and collaborate over the Internet. Advanced Net conference enables organizations to work more productively in nearly every aspect of their business by providing them with the option to choose from two conferencing platforms – Microsoft Live Meeting and WebEx. By utilizing these popular platform features, customers can benefit from virtually all native vendor features including audio and Outlook integration.

The majority of Verizon web conferencing customers combine Web conferencing with Verizon audio conference to deliver a complete communications solution. In these cases, no Web conferencing network bandwidth is consumed by the audio conference. The audio portion of the call is conducted over the existing telephone network.

Net Conferencing Security

Conference ID names for Net conferences are randomly assigned. Pass codes can be randomly assigned or the leader can choose the pass code. The leader pass code for a reserved net conference has a limit of 16 alphanumeric characters. The participant pass code for a reserved net conference is the same as the audio conferencing pass code, which has a limit of 12 alphanumeric characters.

All reserved net conferences offer enhanced security, which encrypts slides while they are on the server. The slide presentation is encrypted using strong-128-bit Advanced Encryption Standard (AES) encryption protocol and transmitted as encrypted Portable Network Graphics (ePNG) files to each participant. This security encrypts the host's presentation as it is uploaded and distributed. It offers additional layers of security for Net conferencing and helps protect the user's content. For additional security, a leader may use Secure Socket Layer (SSL) encryption as well. SSL encryption is an industry standard security protocol that is used by the financial and government sectors, as well as all sectors requiring secure environments to conduct virtual meetings. SSL may be used over a customer's secure VPN. SSL encryption is available at no additional charge.

Benefits

- WITS 3 customers can use existing Internet access (LAN, dial-up, Verizon DSL, etc.) and view shared information without specific software and customers do not have to budget for high capital outlay. Available 24x7.
- Collaboration allows real-time editing and replaces document distribution, editing, collection, integration, and redistribution. It saves tedium, time, and resources.
- Maintains document security and privacy through multiple levels of password access for Web conference leaders and Web conference participants. Recurring meetings can be scheduled using the same meeting information and passwords.
- Provides easy access for WITS 3 users. It improves efficiency and productivity, facilitates decision making by promoting all team member contributions and experts can be consulted easily.

- Reduces processing costs by eliminating courier costs and overnight delivery service through on screen document creation, editing and delivery.
- Web conference leaders can coordinate participation in meetings or events quickly and easily.
- Web conference leader can better gauge meeting or event attendance by collecting and viewing participant information on line and for 30 days after the event.

4.4.5 Cisco WebEx web conferencing and Hosted Collaboration Solution (HCS) for Government –

Service Details:

Highly secure, compliant, cloud-based collaboration

The Federal Risk and Authorization Management Program (FedRAMP) provides standardization on security assessment and authorization. It also offers continuous monitoring for cloud products and services. FedRAMP helps US government agencies and contractors cut costs, build confidence in security, and speed adoption of cloud technologies.

Cisco offers two FedRAMP-authorized collaboration solutions, Cisco WebEx web conferencing and Hosted Collaboration Solution (HCS) for Government. Together they're a complete, highly secure solution built to meet the stringent requirements of US government-level security. Both are hosted in the Cisco Collaboration Cloud, managed by us and sold by our partners.

Cisco WebEx, a FedRAMP-authorized service, is a cloud-based web-conferencing solution for US government agencies and contractors. Agencies and organizations can create and join meetings from computers or mobile devices, invite participants to share content in real time, and much more, all in a highly secure environment. Audio options include direct, WebEx-provided voice over IP (VOIP) or PSTN, or integrated third-party audio service with Cisco WebEx Cloud Connected Audio Service Provider (CCA-SP).

4.5 Frame Relay Service

Frame Relay Service has been retired. Learn more.

Verizon Frame Relay Service is a fast-packet technology that sends data over the public switched network in variable-length blocks, called frames. Speeds range from 56 Kbps to 45 Mbps, and is primarily used to send data between geographically dispersed sites. Frame Relay Service transmits data over the public network, which offers organizations a number of competitive advantages — including an easy migration to Asynchronous Transfer Mode (ATM).

Frame Relay Service provides high-speed data transmission for bursty LAN interconnection applications and is particularly well suited to handle distributed processing applications, such as client/server computing, peer-to-peer connections, and Internet access. Frame Relay Service handles data-intensive jobs accurately, quickly and far more economically than private dedicated lines. Frame Relay is the ideal technology to establish LAN-to-LAN connections and distributed client/server networks. Applications include sending X-rays from a military hospital

to a cardiac specialist, layouts to a printer, and financial data from Office of Management and Budget (OMB) to other agencies or inventory reorders to contractors and vendors. With Frame Relay, LANs at one or more locations can have access to information that resides on mainframes or servers that are not co-located.

Customers who will benefit from Frame Relay include those with:

- High speed requirements
- Interactive or bursty traffic
- Dedicated connections to multiple sites
- Geographically dispersed sites
- Multi-vendor, multi-protocol environment
- Strategic relationships (including outsourcing)
- Legacy IBM infrastructure

Service Details

Frames are variable-length packets of data that are created when a stream of information from an end user's device (a PC, terminal, or LAN) is sent to frame-relay specific equipment and divided into smaller parts. Each frame includes the data plus the network address and error detection information.

Frame Relay Service is delivered on a fully meshed backbone with redundant paths, offering resiliency and eliminating a single point of failure. Frame Relay Service uses the public network to give you multiple Permanent Virtual Connections (PVCs) which are pre-established paths through the frame relay network. These PVCs provide multiple-site connectivity all through the same access line. Customers can obtain network management information about the customer's Frame Relay connections—such as port and PVC status and PVC address assignments—and they are provided real-time alarms if a problem occurs on the network.

Frame Relay Service offer features and flexibility to manage the evolving business needs. Verizon Frame Relay Service consists of Port/User-to-Network Interfaces (UNIs) with:

- **Port Speed:** Narrowband Access at 56 Kbps; Wideband Access at 1.5 Mbps; and Broadband Access at rates up to 45 Mbps
- **Committed Information Rate (CIR):** Maximum for Narrowband or Wideband is 75% of the lower of the FRS two port speeds; and for Broadband the maximum CIR is 50% the lower of the two FRS port speeds

Benefits

- **Bandwidth-on-Demand:** Wide range of access speeds, from 56 Kbps to 45 Mbps, allows for greater flexibility and increased availability of bandwidth for data-intensive applications.
- **Efficient:** Requires less expenditure on physical lines because Frame Relay allows meshing.

- **Scalable:** Provides a migration route to Private IP and IP VPN as your network needs evolve.
- **Reliable:** Frame Relay is delivered on a fully meshed backbone with redundant paths, offering resiliency and reducing the risk of a single point of failure.
- **Manageable:** A single point of contact for your entire Frame Relay network, 24 hours a day, seven days a week so that you can focus on your agency's mission.

4.6 Asynchronous Transfer Mode Service

Asynchronous Transfer Mode Service has been retired. Learn more.

Overview

Asynchronous Transfer Mode (ATM) Service is a cell-based transport and switching technology. ATM Service delivers high-capacity transmission at speeds from 1.544 Mbps to 622 Mbps — supporting simultaneous compressed and/or packetized voice, data, video, and VPN applications.

ATM is ideal for user applications that require high bandwidth, scalability and low latency. It is designed to support constant bit-rate (CBR) traffic suitable for full-motion video and voice — where delays and cell loss cannot be tolerated. The service also supports variable bit-rate (VBR) applications which are ideal for LAN traffic and large file transfers — where variable delays can be tolerated. ATM offers the additional benefit of complete Internetworking with Frame Relay and SMDS.

Service Details

ATM establishes permanent virtual connections over the Verizon public ATM network that is shared by many users. The virtual connections in ATM are bi-directional and full duplex. Information can travel in both directions (bi-directional) of the connection at the same time (full duplex) without bumping into each other. However, the bandwidth properties of the connection must be uniquely defined for each direction.

The virtual connections in an ATM network can be predefined and left in place all the time, as in the case of a permanent virtual circuit (PVC). Or, they can be set up at the instant information needs to be sent between communications endpoints and then taken down after the transmission is finished, as in the case of switched virtual circuits (SVC).

Benefits

- Enjoy flat-rate/unlimited-usage terms
- Increase bandwidth utilization
- Reduce administrative expenses
- Expand and enhance the network easily as traffic increases
- Enhance network security and reliability
- Increase bandwidth on the UNI, as required

4.7 Dark Fiber Service

Verizon's DFS solution will accommodate evolution in service requirements, advances in technology, and changes in the regulatory environment. Dark fiber (fiber optics) provides large bandwidth capabilities, exceeding wireless, copper, and microwave in terms of traffic growth potential. By adjusting the equipment's size and speed capabilities, the Government can take advantage of bandwidth with dark fiber. In addition, Verizon can install and provide multiple numbers of fibers for use.

Benefits

Verizon has agreed to team with several leading Dark Fiber Service providers in the NCR, which will provide a wide-range of diverse dark fiber networks in the area. The Verizon Partners, in conjunction with the Verizon WITS 3 PMO supports DFS.

- Cost-effective, scalable, high-quality fiber-optic networks
- Network designs based on individual or group agency requirements
- Diversely-routed, dedicated fiber ensures security and survivability of transport
- Wide variety of standard service options including: custom network engineering and design, network construction, fiber maintenance, 24x7 fiber monitoring, and emergency restoration

4.8 Internet Access Service

Verizon provides a wide range of internet access options to meet your speed and connectivity requirements, from Dedicated Internet Access to DSL.

4.8.1 Dedicated Internet Access Service

Overview

Dedicated Internet Access Service (IAS) allows customers to communicate with millions of Internet users and countless information resources around the world. Dedicated IAS is seamlessly integrated into the customer's LAN environment, and is delivered by experienced and professional network operations, field service, and technical support staff. Available access methods include dedicated fractional T3, multi-T1, ATM, Frame Relay and Private Line with speeds ranging from 128kbps to 500Mbps.

Dedicated IAS provides the foundation for additional layered services (i.e. Virtual Private Network (VPN) and Managed Security) that will provide the WITS 3 customer with the ability to move toward communications convergence, where voice, data and internet communication will converge on the IP platform that serves as the Internet connection of today.

Service Details

Design of the Dedicated IAS network provides redundant connections to multiple Tier 1 ISPs that connect to the Internet. The Dedicated IAS network consists of a mesh of regionally constructed high-speed backbone circuits that connect various regional Verizon IP points of presence together. The mesh design allows multiple paths for traffic to flow; ensuring traffic will get to its ultimate destination - the Internet. In addition, DIAS can be integrated with a host of complementary technologies, also available on the WITS 3 Contract.

Higher speed access, 100 to 500 Mbps, must be custom-designed on a per customer basis, because of the dependencies of customer location and proximity to Verizon's network, special construction requirements, access capabilities and equipment at any given POP (Point of Presence) and ever-evolving technologies used for a high-speed transport and access.

Benefits

- Dedicated connections are available 24 hours per day, 365 days per year
- Appropriate connectivity speed to support LAN/WAN requirements
- Efficient communications configuration dynamically allocating bandwidth among all applications
- Verizon has the capability to assess your requirements and propose the most cost effective methodology to meet your needs.

4.8.2 DSL (Digital Subscriber Line)

Overview

DSL is a flat-rated transmission service that turns ordinary copper phone lines into high-speed data connections. Because DSL operates in the bandwidth above that which is used for regular voice communications, users keep all the functionality of existing telephone features while enjoying a dedicated, high-speed connection to agency LANs and the Internet.

DSL technology provides high-speed data service, including access to the Internet, and provides an excellent base for telework applications. The DSL connection provides continuous access, eliminating the need to dial in and wait for connection or encounter busy signals. The DSL service "rides" on an existing Plain Old Telephone Service (POTS) line.

All DSL service offered by Verizon today is Asymmetric DSL (ADSL), which maximizes bandwidth by providing a faster speed downstream (from the CO to the customer) than upstream (from the customer to the CO). Verizon provides this DSL service to WITS 3 customers via POTS lines ordered through WITS 3. [No service will be installed on private residential service].

DSL is an ideal solution for Internet access and remote access teleworking. Under WITS 3, the following types of DSL service are available:

- VOS Single-User DSL Internet Access serves individual users who have a WITS 3 analog line and who meet DSL service qualifications (distance limitations and loop make-up). If a user's line does not qualify for DSL, an Internet access connection will be offered using ISDN or analog dial-up service. A range of installation and support options is available to the Government via existing WITS 3 CLINs for professional engineering and installation services. The WITS 3 CPE table includes most of the common equipment that individual end-users may need to complete their DSL installation. The VCSC is ready to assist agencies in meeting their requirements and ordering the appropriate CLINs. [Please note that Verizon will not provide equipment inventory at residential locations.]
- VOS Virtual Private Network (VPN), which facilitates connection of an agency and its teleworkers, includes ISDN and analog dial-up support for users that cannot utilize the

DSL VPN service (due to distance limitations or loop qualifications). Verizon will custom design and engineer solutions according to specific agency requests. Based on the loop qualifications and the customized solution requirements, the Federal agency will select the appropriate service(s), and then select the appropriate CLINs to provide the CPE for the service selected.

- Business DSL Static Speed - For organizations that rely heavily on the Internet, a static IP address can make certain internal and external electronic communications more efficient. A static IP address is a numeric address that identifies your organization's server online. Select a static IP option for:
    - Web site hosting, e-mail or FTP service
    - Allowing employees remote access through a VPN
    - Connecting multiple LANs or office locations
    - Conducting e-commerce on your Web site
    - Prefer domain name e-mail addresses (name@myagency.gov)
    - Otherwise, a dynamic IP address should fulfill your organization's needs.
- Business DSL Dynamic Speed – A dynamic IP address changes each time the user accesses the Internet. Dynamic IP addresses are good for customers who will use DSL for telecommuting and do not plan to run any type of Internet server applications.

Service Details

DSL service works on copper wire loop, without amplifiers or repeaters along the Outside Plant Cable Route, and is distance sensitive (for service; not for price). DSL service will not work on Digital Loop Carrier (DLC). Loop qualifications will determine if DSL service is available and at which speed it can operate.

Verizon offers a full range of service options to support the needs of WITS 3 end users for Internet access and telework applications utilizing DSL, ISDN, and analog service.

When ordering DSL through the WITS 3 contract, a WITS 3 analog line must be ordered as well, to be used for the DSL service, if one is not already in place.

- VOS Single-User DSL Internet Access: The analog line will be checked to verify if DSL is available. (Loop qualifications determine if DSL service is available with an installed WITS 3 line and at which speed it can operate. Note: DSL service will not work on Digital Loop Carrier [DLC]). If the loop qualifies and the requested DSL service is available, the order will be processed. If the requested speed is not available, the order will be returned to the WITS 3 VCSC, which will contact the customer to negotiate an alternative service such as a lower-speed DSL service, ISDN or analog dial-up.
- VOS VPN: Verizon's Enterprise Solutions Group will work with the WITS 3 customer to establish DSL (and, where required, ISDN and analog) service to meet the agency's specific VPN needs. This will entail additional CLINs, for engineering design services and security services, to support creation of the IPSec VOS VPN connection that will securely connect DSL, ISDN and analog dial-up traffic to the agency location.

Verizon asks that agencies thinking about DSL service contact us early due to the demand for service and the provisioning that is required for implementation. Engineering and delivery of DSL service may take up to forty (40) business days. If a new WITS 3 analog line is being installed, an additional six (6) business days are needed for the analog line to be installed and entered into Verizon's Host Bill Interface (HBI), the DSL requirement verification tool.

While DSL provides a robust, economical telework solution for many of our Federal clients, several minor disadvantages are associated with this service:

- Some customers in pocket areas might not qualify due to distance limitations and line qualification restrictions. (Footage requirements from DSLAM are 15,000 feet for DSL at 640 Kbps and 13,500 feet for 1.6 Mbps. DSL service is not available in all of the Verizon service areas, because of these distance limitations.)
- Because DSL service connects to the Internet, Internet-related security issues could be experienced by some customers.
- This service provision does not include inventory of residence-based equipment.
- Performance of residential security systems may be degraded (unlikely if new line and wiring is installed, as it would be under this service provision).

Benefits

DSL allows a single twisted-pair copper phone line from the serving Central Office (CO) to operate as a true multi-tasking tool. DSL enables a customer to use a telephone or fax machine while using the DSL modem to connect to their agency's LAN to work, surf the Internet, or communicate by e-mail.

VOS Single-User DSL Internet Access service utilizes a different transmission mode than the analog and ISDN-based Internet access services currently on the WITS 3 contract. ADSL service provides greater downstream speed than analog and ISDN dial-up connections. DSL relies on packet switching to provide data connections, which can be more efficient for applications such as Web browsing. Analog and ISDN services utilize circuit switching, which requires a constant end-to-end connection to provide service.

VOS VPN service allows WITS 3 users to employ a cost-effective approach for the outsourcing of agency telework applications. Under WITS 3, usage charges are eliminated, since DSL service is flat rated and all analog and ISDN calls are part of the WITS 3 network. With VOS VPN service, the Government maximizes Federal employee productivity by outsourcing non-core activities such as telework design, implementation, and support, and engages Verizon service to exercise leadership toward reducing pollution from commuting, as set forth in the 1990 Clean Air Act.

Additional benefits teleworking solutions provide include:

- Reductions in capital and real estate costs
- Increased employee productivity and retention
- Reductions in absenteeism and healthcare-related costs

4.8.3 Web Hosting

Overview

Verizon's Web Hosting offerings provide businesses and government with worldwide hosting services backed by the technical support of leaders in the communications industry.

Verizon provides a range of Web Hosting services that provide the government with high-performance, high-bandwidth, and scalable Web hosting to meet current needs and accommodate future growth.

These total Web Hosting solutions include server hardware and software, high-speed redundant Internet connections, and operation management and reporting services. Verizon services feature state-of-the-art Data Centers strategically located at key network exchange points with high performance, secure, highly available computer and network support environment.

Features and Support

- Fully dedicated servers support robust Web sites featuring electronic commerce, Java script, streaming media, including audio and video
- Personalized services and custom database applications
- Remote administration, for content management
- More stringent security measures and control of custom applications
- High bandwidth network capacity
- VCSC connected to Data Service Centers
- Maintenance and upgrades of all of the Verizon servers and software
- 24 x 7 technical support for monitoring server and Internet connections
- Installation support and architecture consultation (server and network)
- Network and server monitoring

Applications

- Allows for easy communication of information to taxpayers and clients detailing an agency's mission
- Provides an easy way to collect information from citizens on critical issues that impact an agency's mission
- Provides opportunities to market and sell government produced products (e.g., coins, stamps)
- Allows agencies easier and faster ways to purchase resources to meet their missions

Benefits

- Allows citizens and government workers remote access to government information
- Promotes citizenship and participation in our democratic institutions

- Reduces cost of providing information for the government to all citizens
- Educates citizens on the services provided by the Federal government
- Saves resources and tax money spent for traditional ways of disseminating and collecting information

4.8.4 Web Based Directory Service

Overview

Web-based Directory Services (WBDS) is a browser-based application that provides customers with a Web-based Directory Assistance (DA) mechanism. This service is available to retrieve directory assisted information via Verizon's frame relay, ATM, and IP data services. As a Web-based application, WBDS is more dynamic than traditional telephony-based directory assistance services. Verizon WBDS performs comprehensive searches to retrieve business and residential names, phone numbers, and addresses by providing a Web-based service interface to access Verizon's high-quality DA information.

Additionally, WBDS provides its directory assistance service at a lower cost than any competitor's standard dial-up connections. Customers who typically dial long distance (XXX) 555-1212 or 411 on a local connection to access national listings from AT&T, Sprint, or the regional bells can have a less expensive and more intuitive interface alternative via a Verizon data network connection to the WBDS capabilities.

Verizon also offers a Web services interface to the WBDS database. Verizon's Directory Assistance Web Services (DAWS) provides programmatic access through the use of a standards-based Extensible Markup Language (XML)/Simple Object Access Protocol (SOAP) interface. With this service, once a customer completes the existing registration process for Web-based directory assistance, they receive an additional access method to integrate applications to the WBDS data.

Service Details

Customers connect to WBDS by utilizing Verizon's Internet Protocol (IP) and Frame Relay (FR) data services. If the customer uses (Asynchronous Transfer Mode) ATM, this connection is established with a FRASI interface to convert the ATM service into frame relay Private Virtual Circuits (PVC). The correct PVC size can be determined by using the bandwidth calculator provided by Verizon.

Although, WBDS is an application and does not actually require equipment, it does require the customer to order a bi-directional PVC for their frame port. In addition, WBDS requires the customer to have a browser-based environment to connect with the WBDS servers. The customer's intranet is connected through their data services to Verizon. Since the customers' intranet interfaces with a public network, an IP router and server table controls are required to assure that the customers' connectivity is private. An extensive firewall implemented at both the Verizon and customer premises guarantees this privacy.

Any customization work needed to interface existing directory services or databases will be done through Verizon professional service, Customized Engineering and Design Service, base on mutual agreed Statement of Work (SOW).

Benefits

WBDS will provide customers the following benefits:

- Reduce the cost on directory assistance
- Improve productivity by integrating directory information database and improving data consistency and accuracy
- Reduce the maintenance cost by integrating various databases

4.9 Gigabit Ethernet Service (GES)

Overview

Gigabit Ethernet Service (GES), formerly known as Transparent LAN Service (TLS), is a fiber-based access, switching and transport services that utilize a shared backbone to provide customers with Ethernet LAN Interconnection among multiple sites within a LATA at native Ethernet LAN speeds. GES offers customers three access rates: Basic Ethernet (10Mbps), Fast Ethernet (100Mbps) and Gigabit Ethernet (1Gbps).

Service Details

GES provisions customers' Ethernet access lines into "Closed User Groups" (CUGs). The CUGs, also known as Virtual LANs (VLANs), are used to provide traffic separation, privacy and security between customers on the shared switch and backbone. Users in a group can only access their own data. GES allows customers to communicate among LANs. Using GES, users at one site can quickly access information and online services located at another site. By choosing GES over other alternatives, customers can save time and money. With GES, customers do not have to purchase additional CPE or manage the inter-LAN connections.

Customer LANs are extended over a dedicated fiber loop into their local Verizon wire center, where Central Office (CO) based switches provide switching to circuits from other locations, or access to a shared backbone for transport to other local wire centers if necessary. The network interface is the LAN interface on the GES equipment at the customer's premise. GES provides the interface and transport to the customer's remote LAN locations within a metropolitan area, which allow customers the needed inter-connectivity of their LANs to create a unified network for their organization. GES is transparent to all users on the network including when they are working from remote locations.

Through the use of port-based VLANs, each customer sees a "private" network or closed user group; and therefore can't communicate with other customer groups, referred to as domains.

Virtual networking is the ability to create logical workgroups of users in their own private and secure network. Each GES customer is assigned to a separate VLAN group (aka domain).

The following pricing note applies to 3- and 5-year pricing arrangements for GES service: In the event this plan is disconnected early 25% of the MRC for the remaining months of the plan is the formula that shall be applied. Refer to Section 3.0 of the pricing instructions for billing information.

Benefits

- Provides high-speed LAN interconnectivity between remote locations
- Link multiple locations to create a seamless WAN environment

- The GES interface to your LAN is compatible with Ethernet (802.3), Fast Ethernet (802.3u) and Gigabit Ethernet (802.3z)
- Allows for easy exchange of information, files, and data across the entire network
- Provides access to internal e-mail applications for all users
- Enhances the sharing of common databases on a centralized server
- Allows database duplication for disaster recovery at remote sites
- Makes it easy to add new locations to the network - expandable
- Provides higher bandwidth for applications that require greater than T-1 access
- Requires minimal customer training since they are familiar with the technology
- Requires minimal customer premises equipment (CPE)
- Provides turn-key service via WITS 3
- Provides network monitoring 24 hours a day, 7 days a week
- Utilizes a single point of contact
- GES will benefit any customer who needs to communicate (LAN-to-LAN) within a metropolitan area, and has 10M, 100M or 1000M (GigE) LAN service. GES can provide customers with a simple, cost-effective alternative to maintaining CPE and managing inter-LAN connections themselves.

Features

Customers can obtain the exact amount of bandwidth they need in each class of service for a given EVC, using the options listed below:

Gigabit Ethernet Service Product Speeds	
Low speed	1 to 9 Mbps, in 1 Mbps steps
Medium speed	10 to 90 Mbps, in 10 Mbps steps
High speed	100 to 1000 Mbps, in 100 Mbps

4.10 Inside Wiring

Overview

When the Government requires an analog VS or BRI SDP to be located on customer premises at a point other than the MPOP the WITS 3 contract has established CLINs for the inside wiring, assuming the existing inside wiring is unsatisfactory but there is a satisfactory access from the MPOP to the SDP. Otherwise, inside wiring shall be priced on an individual case basis.

Vertical Inside Wiring (VIW) pertains to the vertical wiring from the MPOP to the Intermediate Distribution Frame (IDF), including the MPOP frames, cross-connects, and terminations; and Horizontal Inside Wiring (HIW) pertains to the horizontal wiring from the IDF to the SDP, including IDF frames, cross-connects, and terminations.

4.11 Training

Overview

Verizon will deliver WITS 3 training through its WITS 3 Program Management Organization (PMO). Verizon has the authority to draw on corporate and partner resources as required to ensure effective delivery of all training. A critical resource for WITS 3 is the training staff from the current Verizon WITS2001 organization. As the WITS 3 training program evolves, this staff will ensure the fast start-up of ordering and delivery of required WITS 3 training.

The WITS 3 training staff will serve as the direct interface between Verizon and the government user community regarding WITS 3 training. They will administer the training, deliver courses, collect evaluation data, and provide status reporting to both the WITS 3 Program Manager and the Government.

To ensure the professional quality of the WITS 3 training and to have the depth of resources required to deliver a large number of courses in a short period of time. Verizon will have access to resources from its corporate and partner training organizations.

- For DAR and COR training, Verizon will provide ordering and billing trained personnel. These trainers have extensive experience and knowledge of the capabilities of the support systems.
- For End User / Government Trainers / Executive Level Training, Verizon will enlist the support of internal and vendor subject matter experts, who work with the customer when a WITS 3 service or feature is provided, introduced, upgraded, or implemented.

- For other training courses, the primary corporate source of training expertise and personnel for WITS 3 is Verizon's Customer Training and Documentation (CTD) organization. Customer Training and Documentation (CTD) is an ISO-9001-certified training organization committed to providing the best possible training for Verizon customers. CTD deals directly with customers while supporting the marketing and development organizations. The training delivery methods are primarily on-demand or web-based, and occasionally classes are instructor-led. The CTD staff creates and delivers training for Verizon products using a wide variety of state-of-the-art training solutions.

Training Materials

Verizon will develop specific training materials to meet each requirement—from hands-on classroom instruction to video- or computer-based training to self-paced printed materials. Lessons will be supplemented with charts, view-graphs, and supervised practice sessions. Other supplemental resources will be available such as desktop reference guides, Internet-based instruction, relevant magazine articles, and other media that expands and broadens the students' understanding and skill level.

Verizon will provide training manuals that include the following:

- Appropriate levels of instructions for completing each task
- Hands-on activities to review the course content
- Extra practice activities for use after class
- Concepts, screens, and procedures illustrated with figures and graphics.

Course Scheduling, Registration and Cancellation

Verizon will manage the registration of attendees and provide information on available training classes, as well as guidance on and assistance with registration and cancellation.

The Verizon WITS 3 web site will provide users with course selection and date and location options. Users can submit service orders to register for training. Confirmation of registration for classroom training will be by phone or email.

Verizon will work with the COTRs and CORS to accommodate requests for additional or makeup training.

Course Completion Policy:

Successful course completion requires the student's 100 percent attendance. Full tuition will be charged whether or not the student completes the course.

Cancellation/No-Show Policy:

Verizon may cancel a class within fifteen business days without incurring penalties if the minimum number of student enrollees is not maintained.

A registered student may cancel enrollment, without charge, up to fifteen business days prior to the scheduled class. Student substitution is permissible, to maintain the minimum number of participants.

In the event that a registered student fails to attend the class, the customer will be charged the full cost of the student's attendance unless Verizon has been notified of the student's cancellation in accordance with the policies stated above. This charge is not refundable.

Evaluation and Feedback

Student feedback and response are essential components of the training process. Trainers provide students with course evaluation forms on which they can indicate the degree of their satisfaction with the sessions and suggest improvements and modifications. Verizon provides the students' completed evaluation feedback forms to the government to determine whether the training sessions are achieving the desired results.

Courses Offered

As described in this section, Verizon will provide customer training to the following groups:

- Contracting Officer's Technical Representatives (COTRs) and Contracting Officer's Representatives (CORs)
- Designated Agency Representatives (DARs)
- End-users of WITS 3 services
- Government trainers
- Government executives.

In general, all course curriculums will be designed to familiarize participants with the key elements and architecture of WITS 3. Training will be provided as part of the basic service when a WITS 3 service or feature is being provided to a site for the first time, when a new service is being introduced, or when a major upgrade is being implemented.

Service@once Training Requirements

All WITS 3 Service@once users are required to attend training. A schedule of classes and the Service@once Training Request Form are available on the Web Site. Users can register for training by completing the request form and faxing to the WITS 3 Service@once Training Coordinator at 301-282-6806.

To access Service@once, all DAR workstations must have the following configuration, at a minimum:

- Windows XP Operating System (or higher)
- Citrix Online Plug-in 12.3 (or version compatible with Windows)
- Windows Internet Explorer 6 (or higher)
- 1-GHz 32-bit (x86) processor or 1-GHz 64-bit (x64) processor
- 1 GB of RAM
- 1 GB of free disk space
- Broadband Internet connection

4.12 NS/EP

National Security Emergency Preparedness (NS/EP) Telecommunications Programs are those services used to maintain a state of readiness or respond to and manage an event or crisis (local, national, or international) that:

- Causes or could cause injury or harm to the population
- Damages or results in loss of property
- Degrades or threatens the NS/EP posture of the United States.

Planning and coordination of NS/EP Programs to support crises and disasters are managed by the National Communications System (NCS) and administered by the Office of Priority Telecommunications (OPT), a branch of the NCS within the Department of Defense (DoD).

4.12.1 The Telecommunications Service Priority (TSP) Program

Overview

The Telecommunications Service Priority (TSP) Program is a Federal Communications Commission (FCC) program used to identify and prioritize telecommunications services that support NS/EP missions. The TSP Program is the regulatory, administrative, and operational framework for priority restoration and provisioning of any qualified NS/EP telecommunications service.

Program Details

The TSP Program has two components: restoration and provisioning. A restoration priority is applied to new or existing telecommunication services to ensure their restoration before any non-TSP services. Priority restoration is necessary for a TSP service because interruptions may have a serious adverse effect on the supported NS/EP function. TSP restoration priorities must be requested and assigned before a service outage occurs.

Only services that support NS/EP missions are eligible for TSP assignments. Users must request a TSP assignment from the Office of Priority Telecommunications (OPT). If approved, a TSP Authorization Code is assigned.

When TSP is assigned to identified NS/EP services, they will fall into two specific categories, Emergency and Essential, and are assigned priority levels. Users can then order TSP service from Verizon upon presentation of their TSP Authorization Code.

Verizon and other telecommunications service vendors are both authorized and required, when necessary, to provision and restore those telecommunications services with TSP assignments before services without such assignments. Verizon's crisis-management objective is to strive to manage and control all aspects of a disaster or crisis event as they relate to its network services by appropriately responding to the crisis and restoring the network, recovering any lost data, and mitigating the situation.

For information about pricing and ordering TSP when a request for service has been approved, contact your GSA or Verizon Account Manager. To gain additional information about TSP or request a TSP assignment, see www.dhs.gov/tsp.

4.13 Technical Support and Professional Services

Overview

Verizon provides the WITS 3 customer the opportunity to order technical support and professional services. Highly skilled support can be assigned to your location to accommodate your telecommunications needs on an hourly, monthly or yearly basis. Service visits may be requested to implement incidental equipment, such as telephones, workstations, and other CPE; integrate legacy equipment and systems with the WITS 3 network; assist the customer with service ordering, adds/moves/changes, billing verification, number/address administration, inventory management, security management; or other operations support requirements.

Service Details

Orders must be placed by a Designated Agency Representative (DAR) through Service@once or faxed to the VCSC, with as much advance notice as possible. Orders should describe in detail the tasks to be performed by the technician. This description will help ensure the expertise level of the technician meets the customer's needs. Particular requirements should be placed in the "remarks" section.

Customers may request specific technicians by name. Upon order receipt, the WITS 3 VCSC representative will contact the technician's supervisor to confirm availability. The Verizon supervisor will contact the customer to acknowledge a specific technician's availability. Verizon cannot always guarantee availability of specifically named technicians. The Senior Telecommunications Technician must be ordered for all qualified Verizon technician requests, for example, for hourly requests. The Telecommunications Technician is used for pre-identified special projects and may not be a qualified Verizon technician.

Technicians ordered on a periodic basis have a base of hours available to the customer during normal business hours (7:00am – 7:00pm

Monday through Friday) or as negotiated with the customer.

- Monthly: 157 hours
- Annual: 1,880 hours

When the customer requests a variance from Normal Business Day (NBD) work hours and Verizon agrees to their request, the customer should submit the WITS 3 Dedicated Technician Exception Form for Working Hours with the customer understanding that any hours worked in conjunction with the adjusted start time will be counted towards the contractual obligation to provide 1,880 annual hours of technician time.

VSO Federal Field Operations
WITS 3 Dedicated Technician Exception Form for Working Hours

I understand that Verizon provides annual technicians under the WITS 3 Contract to report to the assigned Government locations during the established 7 a.m. to 7 p.m. Normal Business Day (NBD) work hours. The Government requests a variance from the NBD, and Verizon agrees to this request. The Government understands that any hours worked in conjunction with the adjusted start time will be counted in meeting the contractual obligation to provide 1,880 annual hours of technician time.			
Contract:	Agency:	Service Order No:	Contract Code:
Dedicated Technician's Name:			
Type of Permission: (Check one)		Change NBD Hours	
		Permission to work Weekend(s)	
		Permission to work Customer Holiday(s)	
Date(s) of Requested Change:	From:	To:	
Normal Start Time (HH:MM)		Requested Start Time (HH:MM)	
Normal Stop Time (HH:MM)		Requested Stop Time (HH:MM)	
Comments:			
Authorized Customer's Name (printed):			
Authorized Customer's Signature & Date:			
Customer's Telephone Number:			
Verizon Manager Representative's Name (printed):			
Verizon Manager Representative's Signature & Date:			

Any technician requirements outside normal business hours (7:00pm – 7:00am weekdays; and anytime on weekends and Federal holidays) require a separate service order using designated CLINs.

Federal Holidays (dates observed):

New Year's Day	1st of January
Martin Luther King, Jr. Day	3rd Monday in January
President's Day	3rd Monday in February
Memorial Day	Last Monday in May
Independence Day	4th of July

Labor Day	1st Monday in September
Columbus Day	2nd Monday in October
Veterans Day	11th of November
Thanksgiving Day	4th Thursday in November
Christmas Day	25th of December

Backfill for Annual Labor CLINs

All Annual Labor CLINs ordered by the Government shall require the contractor to complete 1,880 hours of work. If the contractor fails to complete the 1,880 hours of work, then a credit to the customer applies unless the customer refuses the services as provided under these CLINs. If the customer refuses backfill services provided by the contractor, the customer will be asked to sign a Dedicated Technician Backfill Refusal form.

VSO Federal Field Operations Customer Excused Time Input Form			
Contract:	Agency:	Service Order Nr:	Contract Code:
Dedicated Technician's Name:			
Alternate Technician's Name:			
Date(s) for Excused Time:			
Excused Time Start (HH:MM):			
Excused Time End (HH:MM):			
Excused Time Reason: (check only one reason)		Weather	
		Early Closure	
		Late Opening	
		Work Done – Dismissed	
		Agency Shutdown	
		Dismissed – Customer OKAY	
		Standby – Customer OKAY	
		Backfill Refusal**	
**Offered Technician's Name:			
Service Order Report Location:			
Comments:			
Authorized Customer's Name (printed):			
Authorized Customer's Signature & Date:			
Customer's Telephone Number:			
Verizon Manager Representative Name (printed):			
Verizon Manager Representative Signature & Date:			

Professional Courtesy

While reporting directly to the customer's location, on-site technicians remain employees of Verizon. Each technician reports to a Verizon supervisor, who maintains internal attendance records, vacation schedules, time reporting and other administrative duties. The Verizon supervisor will contact the customer to review vacation and personal leave selections. The typical Senior Technician is allowed from 3 to 5 weeks' vacation and 5 personal leave days, depending on their years of service.

Verizon supervisors are responsible for the whereabouts of the technicians at any given time during working hours. In the event of injury or illness while assigned to a customer's location, the technician must contact the supervisor immediately. If the technician is incapacitated, the customer must contact the supervisor or the WITS 3 VCSC. In the event an on-site Verizon technician is absent for any reason, the reporting supervisor will negotiate any replacement needs with the customer.

Verizon may require on-site technicians to attend Verizon meetings, training, or recognition events throughout the year. Should the need arise to excuse a technician for a short period of time to attend one of these events; the supervisor will contact the customer to ensure the workload will not be affected. Where work activities permit, Verizon respectfully requests the customer to be sensitive in these matters. Any absence without backfill will not be billed.

Verizon technicians are not authorized to discuss regulatory matters involving Verizon. In the event of any issues involving Verizon technicians, the technician's supervisor or the WITS 3 VCSC should be contacted immediately.

- WITS 3 VCSC Telephone Number: 1-800-381-3444
- WITS 3 VCSC Fax Number (Civilian Agencies): 301-282-1910
- WITS 3 VCSC Fax Number (DoD Agencies): 301-282-1911

4.13.1 Labor Categories and Qualifications

Labor Categories and Qualifications	
Category	**LAN/WAN Integrator**
Qualifications	A Bachelor's degree in Electrical Engineering, Computer Science, or Information Science from accredited college or university and a minimum of four (4) years' experience in the planning, design, installation, maintenance, and architecture management of LANs/WANs.
Duties	Responsible for overall integration of WITS 3 service delivery arrangements involving LANs and WANs including: the planning, design, installation, maintenance, management and coordination of agency LAN/WAN interfaces with the WITS 3 network (may include local, metropolitan, and wide area networks). Has responsibility for technical architecture and recommendations related to customer LANs/WANs. Maintains technical currency and studies vendor products to determine those which best meet agency needs. Presents information to management which may result in purchase and installation of hardware, software, and telecommunication equipment. Contributes technically to complex problems in the area of local and wide area networking, communications, and related hardware/software (e.g., bridges, gateways, routers, multiplexers, hubs). Recommends network security procedures and policies. Works with many network topologies and protocols (e.g., IP, MPLS, Frame Relay) as well as with multiple operating system environments (e.g., Desktop, Server, NOS).
Category	**Senior Database/Analyst Programmer**
Qualifications	Must have a Bachelor of Science degree in Math, Computer Science, or Information Systems from an accredited college or university and have a minimum of six (6) years' experience in the design, implementation, and maintenance of databases.
Duties	Under general direction, designs, implements, and maintains complex databases, access methods, device allocations, validation checks, organization, protection and security, documentation, guidelines, and statistical methods. Includes maintenance of database dictionaries, overall monitoring of standards and procedures, and integration of systems through database design. Works at the highest level of all phases of database management.
Category	**Database/Analyst Programmer**
Qualifications	Must have a Bachelor of Science degree in Math, Computer Science, or Information Science from an accredited college or university and have a minimum of four (4) years' experience in the design, implementation, and maintenance of database.
Duties	Under general supervision, design, implement, and maintain moderately complex databases, access methods, device allocations, validation checks, organization, protection and security, documentation, guidelines, and statistical methods. Includes maintenance of database dictionaries and integration of systems through database design. Work will be performed in most phases of database management
Category	**Senior Applications Systems Analyst**
Qualifications	A Bachelor's degree in Math or Computer Science from an accredited college or university and a minimum of nine (9) years' experience in the design and development of complex ADP systems. Broad knowledge of database, data communications, and networking theory and concepts as applied to mainframe, minicomputer, and microcomputer platforms. Must be capable of conversing with technical and managerial personnel to determine applicable programs, agency plans, and other factors affecting systems design requirements.

Labor Categories and Qualifications	
Duties	Formulates and defines system scope and objectives. Devises or modifies procedures to solve complex problems involving computer equipment capacity and limitations, operating time, and form of desired results. Prepares detailed specifications from which programs will be written. Analyzes and revise existing system logic difficulties and documentation as necessary. Has full technical knowledge of all phases of applications systems analysis. Also has duties instructing, directing, and checking the work of other systems analysis personnel. Responsible for quality assurance review. Functions as project leader. Communicates with technical and managerial personnel to determine applicable programs, agency plans, and other factors affecting systems design requirements.
Category	**Applications Systems Analyst**
Qualifications	Must have a Bachelor's degree in Math or Computer Science from an accredited college or university and a minimum of six (6) to eight (8) years of progressively more difficult analytical and/or technical experience performing systems analysis on telecommunications systems. Must possess substantive knowledge of analytical techniques, be skilled in collecting and manipulating data from various sources, and be skilled in using structured analytical methods. In addition, the Applications Systems Analyst must possess a knowledge of telecommunications technologies and of computer-based modeling tools.
Duties	Under general direction, formulates and defines system scope and objectives. Devises or modify procedures to solve complex problems involving computer equipment capacity and limitations, operating time, and form of desired results. Prepares detailed specifications from which programs will be written. Analyze and revise existing system logic problems as required and document as necessary. Works at the highest technical level of all phases of applications systems analysis activities. Works with various telecommunications technologies and computer-based modeling tools.
Category	**Systems Engineer**
Qualifications	A bachelor's degree from an accredited college or university in engineering, computer science, or information systems. Must have at least seven years of experience in design, development, optimization, or implementation of software, hardware, and business systems. Must have experience in designing, implementing, or operating network management systems that support telecommunications operations. The breadth of experience must include information technology assessment and optimization, and business process analyses that cross organizational boundaries. Must be current in information technology and information structures to support organizational goals. Must have experience working at the corporate level in the development of strategic and enterprise plans.
Duties	Performs engineering functions which include studies, analyses, and implementation. Identify, evaluate, and implement information technology to integrate organizations systems and interface with customers and suppliers; enable users to access and manipulate information across a wide variety of technology platforms and organizational boundaries. Evaluates functions from an enterprise and strategic perspective. Designs, implements, and operates network management systems that support telecommunications operations. Works at the corporate level in the development of strategic and enterprise plans.
Category	**Voice Communications Specialist – Planning and Implementation**
Qualifications	Must be a high school graduate with a minimum of eight (8) years' experience in software/hardware voice network design and analysis.

Labor Categories and Qualifications	
Duties	Ensures that adequate and appropriate planning is provided for hardware and communications facilities. Develops and implement methodologies for analysis, installation and support of voice communications systems. Provides coordination in the analysis, acquisition, and installation of hardware and software. Interfaces with internal/external customers and vendors to determine system needs. Manages the training and activities of a staff responsible for system and network planning and analysis activities. Performs tasks involving billing/chargeback as required.
Category	**Data Communications Specialist – Planning and Implementation**
Qualifications	Must be a high school graduate with a minimum of eight (8) years' experience in software/hardware LAN and WAN network design and analysis.
Duties	Ensures that adequate and appropriate planning is provided for hardware and communications facilities to develop and implement methodologies for analysis, installation and support of distributed processing systems. Provides coordination in the analysis, acquisition, and installation of hardware, software, and facilities. Manages the training and efforts of a staff engaged in system and network planning, analysis, and monitoring activities.
Category	**Organizational Development Manager**
Qualifications	A Master's degree with a concentration in organizational development, and at least five (5) years' experience in organization development, including analysis of organizational functions, development of performance criteria and measurements, designing training plans and curriculums, and conducting training. At least two (2) years of this experience shall have been spent in the telecommunications field. In addition, the Organization Development Manager shall have two (2) years' experience managing an organization development function in an organization of five hundred (500) or more people.
Duties	Responsible for assisting agencies in organizing and managing their telecommunications and other related services in a multi-vendor environment. Duties include directing tasks related to organization analysis, performance criteria and measurements, task analysis, and development and presentation of training curricula for large organizations.
Category	**Organizational Development Specialist**
Qualifications	A Bachelor's degree with a concentration in organizational development. In addition, at least three (3) years' experience in the analysis of organizational functions, development of operating procedures, development of performance criteria and measurements, developing training curriculums and conducting training. At least one (1) years of this experience shall have been spent in the telecommunications field.
Duties	Supports tasks related to organization analysis, development of operating procedures, and training. Analyzes organizational functions, develops operating procedures, develops performance criteria and measurements, develops training curricula and conducts training in a telecommunications organization.
Category	**Communications Analyst**
Qualifications	Must be a high school graduate with a minimum of five (5) years' experience in telecommunications, with emphasis in network design, traffic engineering, equipment, and telecommunications carrier practices and procedures. Knowledge of traffic flow and client requirements, operating procedures, and traffic study techniques are essential. Desirable to have experience in performing technical and economic studies of existing telephone systems. Must be capable of conversing with technical and managerial personnel to determine applicable programs, agency plans, and other factors affecting telecommunications systems design requirements.

Labor Categories and Qualifications	
Duties	Under general direction, assists in the planning, design, and implementation of communications networks. Responsible primarily for the assessment and optimization of network design through review and assessment of user needs, conduct feasibility studies for large projects, develop requests for proposals, evaluate vendor products, and make recommendations on selection. Analyzes traffic flow, client requirements, operating procedures, and traffic study techniques. Performs technical and economic studies of existing telephone systems. Communicates with technical and managerial personnel to determine applicable programs, agency plans, and other factors affecting telecommunications systems design requirements.
Category	**Senior Communications Analyst**
Qualifications	Must be a high school graduate and have a minimum of eight (8) years' experience in installation, repair, and maintenance of electronic computer based systems with four (4) years' experience in the areas of voice and/or data transmission facilities. Must have direct work experience with various transmission media including two and four wire transmission, microwave, fiber optics, satellite, and other. Four (4) years of the required experience must be in the direct testing, evaluation, and quality assurance of voice or data networks.
Duties	This position is similar to a senior telecommunications technician in that the Senior Communications Analyst must be familiar with all aspects of voice and data telecommunications services. This individual will interact with end users and determine the most appropriate way to resolve their telecommunications issues. Specific functions include processing service requests and inquiries; negotiating service orders, assigning and tracking telephone numbers; verification of programming and cable facilities, building voice mail boxes/application; tracking and preparing billing media, and dispatching technicians. The Senior communications Analyst will also perform test, analysis, and record-correction functions; prepare cut sheets and floor plans; and provide end user training.
Category	**Cable Installer**
Qualifications	Must be a high school graduate and have at least four (4) years' experience in installing, modifying, and troubleshooting aerial and underground copper and fiber optic cable.
Duties	Performs installation of telephone, coaxial, and fiber optic cables, including vertical and horizontal cable pairs to the desktop. Locates and diagnoses signal transmission defects using various test equipment and visual inspection. Uses tools and related test equipment, ground power equipment, and pressure equipment. Prepares necessary written reports. Communicates effectively with technical and management personnel, as required.
Category	**Cable Splicer**
Qualifications	Must be a high school graduate and certified for splicing of copper and fiber optic cable. Must have at least four (4) years' experience in splicing, installing, modifying, and troubleshooting aerial and underground copper and fiber optic cable.
Duties	Performs splicing, inspecting, maintaining, overhauling, repairing, and installing splice cases for telephone, coaxial, fiber optic, and outside plant cable. Locates and diagnoses signal transmission defects using various test equipment and visual inspection. Uses cable splicing and lineman's tools and related test equipment, ground power equipment, and pressure equipment. Communicates effectively with technical and management personnel, as required.
Category	**Training Specialist**
Qualifications	This position requires a minimum of five (5) years' experience, two (2) years of which must be specialized. Specialized experience includes experience in developing and providing end-user training on voice/data telecommunications services and/or hardware and system operation.

Labor Categories and Qualifications	
Duties	Using course material provides training to customers as specified in the task order. Develops and provide end-user training on voice/data telecommunications services and/or hardware and system operation. Prepares student materials, including handouts, completion certificates, and course critique forms. Conducts formal classroom courses, workshops, and seminars, as needed.
Category	**Technical Draftsman**
Qualifications	Must be a high school graduate and have at least two (2) additional years of education or technical training, to include computer-aided drafting. Must have a minimum of four (4) years' experience in technical drafting, with an emphasis on telecommunications wiring documentation and outside plant facilities. Must be knowledgeable, capable, and experienced in the use of computer based drafting tools.
Duties	Provides drafting support, both manual and computer aided, for other skill categories in documenting current or existing systems, proposed systems, technical job drawings, etc., as required, with an emphasis on telecommunications documentation and outside plant facilities wiring. Communicates effectively in writing and orally with all levels of technical and management personnel.
Category	**Technical Writer/Editor**
Qualifications	Must have a Bachelor's degree from an accredited college or university and at least three (3) years of technical writing and editing support in system development, automated office support systems, telecommunications documentation, and other technical material as required. A minimum of one (1) year editing experience in the technical publication field involving engineering, scientific or academic discipline is required.
Duties	Prepares and edits telecommunications documentation incorporating information provided by the client, specialists, analysts, engineers, and operations personnel. Documentation emphasizes telecommunications and data systems and associated terminology. Duties include the writing, editing, and graphic presentation of technical information for both technical and non-technical personnel. Interprets technical documentation standards and prepares documentation according to defined standards. Communicates effectively in writing and orally with all levels of technical and management personnel, as required.
Category	**Data Entry Operator**
Qualifications	Must be a high school graduate and have at least one (1) year experience in data entry and verification using contemporary data entry devices.
Duties	Applies experience and judgment in selecting procedures to be followed and in searching for, interpreting, selecting, and coding items to be entered into a machine-readable format from a variety of source documents.
Category	**Telecommunications Technician**
Qualifications	Must be a high school graduate and have a minimum of four (4) years' experience in installation, repair, and maintenance of electronic computer based systems and four (4) years' experience in the areas of voice and/or data transmission facilities. Must have direct work experience with various transmission media including two and four wire transmission, microwave, fiber optics, satellite, and other. Two (2) years of the required experience must be in the direct testing, evaluation, and quality assurance of voice or data networks.

Labor Categories and Qualifications	
Duties	Monitors vendors' installation of equipment, and performing system testing and evaluation activities. Inspects and review hardware installation, wiring, power, grounding, system database validation, and other activities to ensure quality installation of services for the client. Performs adjunct installation, deinstallation, and relocation activities including, but not limited to, site preparation and installation and/or removal of cabling and wiring systems, terminal equipment, automated data processing services, and associated hardware and software. Tests quality assurance of voice and data switching equipment. Installs and/or maintain LAN/WAN equipment or networks of LANs/WANs. Communicates effectively in writing and verbally with all levels of technical and management personnel, as required. Performs network testing, analysis, and optimization. Applies transmission engineering principles to existing networks to ensure receipt of quality voice and data telecommunications services.
Category	**Senior Telecommunications Technician**
Qualifications	Must be a high school graduate and have a minimum of eight (8) years' experience in installation, repair, and maintenance of electronic computer based systems with four (4) years' experience in the areas of voice and/or data transmission facilities. Must have direct work experience with various transmission media including two and four wire transmission, microwave, fiber optics, satellite, and other. Four (4) years of the required experience must be in the direct testing, evaluation, and quality assurance of voice or data networks.
Duties	Provides in-depth analysis of trouble conditions and facilitate repair efforts. Works independently or coordinate a team of technicians as necessary. Monitors vendors' installation of equipment, and perform/coordinate system testing and evaluation activities. Inspects and reviews hardware installation, wiring, power, grounding, system database validation, and other activities to ensure quality installation of services for the client. May perform adjunct installation, deinstallation, and relocation activities including, but not limited to, site preparation and installation and/or removal of cabling and wiring systems, terminal equipment, automated data processing services, and associated hardware and software. May be assigned to tasks requiring quality assurance testing of voice and data switching equipment. May install and/or maintain LAN/WAN equipment or networks of LANs/WANs. Is expected to communicate effectively in writing and verbally with all levels of technical, engineering, and management personnel, as required. Coordinates the repair of large or complex troubles. Performs in the area of network testing, analysis, and optimization. Able to apply transmission-engineering principles to existing networks to ensure receipt of quality voice and data telecommunications services.
Category	**Program Manager**
Qualifications	Must have a minimum of ten (10) years of general telecommunications experience and a bachelor's degree in a technical discipline relating to the required service, with at least eight (8) years specialized experience in the management of voice and data telecommunications systems. Specialized experience includes: substantial telecommunications project development and management from inception of deployment; proven expertise in the management and control of funds and resources; and demonstrated capability in managing multiple tasks in telecommunications support.
Duties	Responsible for all phases of contract management, work flow, and resource management; and for the quality of the program and deliverables, timeliness, minimization of problems, risk assessment and program performance.
Category	**Project Manager**
Qualifications	Bachelor's degree required. One year of relevant professional experience may be substituted for each year of college education required (4). Must have a minimum of eight (8) years business experience in the fields of computer systems, communications or systems integration related fields. A minimum of three (3) years Project Management experience is required.

Labor Categories and Qualifications	
Duties	Overall responsibility for company performance on specific programs or projects. Functions as the leader, manager, and coordinator of all contributing disciplines and resources in the completion of projects or management of the program. Engage in: assigning tasks; establishing and maintaining task schedules; maintaining liaison between appropriate engineering personnel and the customer to ensure effective coordination of all projects or program efforts; preparing and adhering to project cost and staffing plans; preparing plans, proposals, and briefings. Also provide management of contract negotiations and company representation with customers and subcontractors as required.
Category	**Senior Developer**
Qualifications	The Senior Developer is a seasoned professional with a thorough and well-rounded knowledge of advanced html, java scripting, site and database architecture and integration and modification of Active Server Page scripts. The Senior Developer will also have a basic understanding of graphic design, including Macromedia Flash and multimedia integration. He/she will also have project management/team supervision skills, be well-versed in content writing and Internet communications strategy and have sufficient programming knowledge to supervise senior programmers.
Duties	Responsible for the design and engineering of the Web site and be the customer interface for all technical Web development issues.
Category	**Senior Programmer**
Qualifications	He/she has advanced-level knowledge of Active Server Page, visual basic and cgi programming. The Senior Programmer will have the ability to program in C++ and Visual Interdev and to write javascripts and java applets.
Duties	Perform all advanced programming associated with the development or modification of a Web page and will also be responsible for database development and management (SQL and MS Access) as it applies to the Internet.
Category	**Applications Project Manager**
Qualifications	He/she is a professional project manager with expertise in software and web-authoring type projects.
Duties	Coordinate all tasks associated with the Web-authoring project and will ensure that all tasks are completed on time and meet the customer requirements.
Category	**Senior Graphic Designer**
Qualifications	The Graphic designer is a unique individual with advanced level knowledge and considerable talent/flair in graphic design. He/she will be efficient in the use of Adobe PhotoShop, Illustrator and various desktop publishing and draw programs. He/she will be advanced in the production of animations, both through gifs and Macromedia Flash. The Graphic Designer will be proficiency in optimizing graphic file size for quick download. This person will also be proficient in HTML.
Duties	Efficient in the use of Adobe PhotoShop, Illustrator and various desktop publishing and draw programs. Advanced in the production of animations, both through gifs and Macromedia Flash. Proficient in HTML and optimizing graphic file size for quick download.
Category	**Mid-Level Developer**
Qualifications	The Mid-Level Developer will possess a Bachelor of Arts degree or have five years applicable experience. The Mid-level programmer will have a strong knowledge of HTML and the broad functionality and capabilities of data driven, dynamic content sites and of database structure and management. He/she will have the ability to customize ASP pages and java scripts, basic level proficiency in graphic design and possess good supervisory and training skills in working with junior developers.
Duties	Customize ASP pages and java scripts, basic level proficiency in graphic design and possess good supervisory and training skills in working with junior developers.

Labor Categories and Qualifications	
Category	**Junior Developer**
Qualifications	The Junior Developer is an entry-level developer who has good overall computer literacy. Junior Developers work under the supervision of the Mid- level Developer to ensure the quality of their work. He/she must have some basic knowledge of html, theory and structure of websites, ability to upload and download using FTP without error, and the ability to use web-based forms.
Duties	The Junior Developer is an entry-level developer who has good overall computer literacy. Junior Developers work under the supervision of the Mid-Level Developer to ensure the quality of their work.
Category	**Asbestos Hazardous Materials Systems Technician**
Qualifications	• State certified • Trained and equipped to perform all installation and maintenance in connection with potentially Hazardous Environments, such as working in ceilings with asbestos wrapped pipes or Lead painted walls • Equipped with the consumables needed to work in this environment, but are not equipped with vehicles. • Is required by OSHA to have Class III certification for competent persons, where the potential for less than 25 square feet of ACM may be disturbed. Is trained to manage his/her actions so as not to disturb asbestos. Is not trained to abate, handle, wear breathing mask, or come in contact with asbestos in any way. If asbestos is detected in the air, he/she is required to leave the area until abatement is completed (by another vendor) and the air quality proves to be clean by the air particle monitor tests (performed by the abatement organization).
Duties	Works on Customer Premises on the customer's side of the Rate Demarcation Point. Performs work in connection with placement, rearrangement, and removal of wire and cable, and associated equipment in or on customers' buildings. In connection with these duties: • Connects wire and cable to terminals and attaches various kinds of hardware to wires, cables or buildings. • Performs verification tests for basic line status. • Erects and removes framework. • Transports, uncrates and inventories equipment. • Provides assistance to other personnel as they perform their required tasks. • State certified. • Trained and equipped to perform all installation and maintenance in connection with potentially Hazardous Environments, such as working in ceilings with asbestos wrapped pipes or Lead painted walls. • Equipped with the consumables needed to work in this environment, but are not equipped with vehicles. • Installs, erects and removes framework, conduit, tubing, core drills and makes penetrations within an environment where he may disturb asbestos containing materials (ACM). • Performs work including installation, rearrangement, and maintenance for products and services such as copper, fiber optics, broadband video services and CAT 5.
Category	**Senior Asbestos Hazardous Materials Systems Technician**

Labor Categories and Qualifications	
Qualifications	In addition to the qualifications described in the Asbestos Hazardous Materials Systems Technician Job Description, Senior Asbestos Hazardous Materials Systems Technicians are— Trained and equipped to perform all activities needed for the installation and maintenance of basic analog and digital services on customer premises or in the Network, with the following exceptions: • Protocol Analysis of digital facilities • Services that require end-to-end measurement and adjustment of transmission levels • Multiplexed installation and maintenance, copper or fiber optic based • Installation, rearrangement, or maintenance on common equipment associated with key or electronic key equipment The Senior Asbestos Hazardous Materials Systems Technicians are qualified to work aloft in Outside Plant and drive vehicles; the CLIN rates include the services of the technician and the use of a vehicle. Technicians are equipped with common tools and test equipment routinely required for the installation and maintenance of basic telephone service on customer premises when over copper facilities.
Duties	In addition to the duties described in the Asbestos Hazardous Materials Systems Technician Job Description, Senior Asbestos Hazardous Materials Systems Technicians are trained and equipped to perform all activities needed for the installation and maintenance of basic analog and digital services on customer premises or in the Network, with the following exceptions: • Protocol Analysis of digital facilities. • Services that require end-to-end measurement and adjustment of transmission levels. • Multiplexed installation and maintenance, copper or fiber optic based. • Installation, rearrangement, or maintenance on common equipment associated with key or electronic key equipment.
Category	**Documentation Specialist**
Qualifications	• 3–5 years minimum as a technical and/or technical training documentation writer. • Has thorough understanding of configuration management practices. • Has thorough knowledge of desktop publishing software package(s).
Duties	Responsible for the creation and maintenance updating of required technical documentation (both hardware and software) and technical training materials. Works with project and staff managers and engineers on content and format of documentation. Works with little guidance. Provides documentation project planning and direction. Reports to Project Manager.
Category	**Senior Network Systems Engineer**
Qualifications	• Bachelor's degree required. • Certified Network Engineer for one or more network systems. • Five (5) years minimum experience in network engineering field.
Duties	Participates in engineering projects and network implementations involving the extension and application of highly advanced engineering and networking principles and concepts. Capable of networking design implementation. Performs work that may include a variety of complex features and requires multi- or interdisciplinary approaches. Conducts advanced and state-of-the-art assignments under general supervision. Provides technical information for, and final technical editing of, all documents and proposals. Provides diagnosis of, and resolution for, complex networking and engineering problems.
Category	**Senior Special Applications Systems Engineer**

Labor Categories and Qualifications	
Qualifications	• Install system hardware, maintenance and administration terminals, modems and any associated PC ancillary equipment. • Connect all equipment requiring power to power source provided. • Run cables to main distributing frame or cross-connect field. Connect modems for remote access by offsite engineers. • Assemble and install specially designed furniture as required to support the application, including but not limited to other adjunct devices such as remote recorders, telephone jacks, hand/headsets, clocks, special button strips, radio circuit interface equipment, etc. • Perform system translations and administrative tasks, coordinating with customers or responsible project managers. • Test and troubleshoot using remote engineering support, product developers and designers prior to cutover to ensure equipment and design integrity. • Provide support during cutover. • Perform software and hardware upgrades. • Must have a Bachelor's degree in Math or Computer Science from an accredited college or university and a minimum of six (6) to eight (8) years of progressively more difficult analytical and/or technical experience performing systems analysis on telecommunications systems. Must possess substantive knowledge of analytical techniques, be skilled in collecting and manipulating data from various sources, and be skilled in using structured analytical methods. In addition, the Special Applications Systems Engineer must possess a knowledge of telecommunications technologies.
Duties	Communicates during installation with TIER III and IV engineers and product designers as well as with customers to coordinate administration and troubleshooting of systems being installed. Responsible for test of all installed equipment and is capable of operating and understanding test devices such as frequency and data signal generators, oscilloscopes, transmission measuring equipment, volt-ohm meters. Responsible for documenting installation work activities and coordinating those activities with customers. • Installs system hardware, maintenance and administration terminals, • Modems and any associated PC ancillary equipment. • Connects all equipment requiring power-to-power source provided. • Runs cables to main distributing frame or cross-connect field. Connect modems for remote access by offsite engineers. • Assembles and installs specially designed furniture as required to support the application, including but not limited to other adjunct devices such as remote recorders telephone jacks, hand/headsets, clocks, special button strips, radio circuit interface equipment, etc. • Performs system translations and administrative tasks, coordinating with customers or responsible project managers. • Tests and troubleshoots using remote engineering support, product developers and designers prior to cutover to ensure equipment and design integrity. • Provides support during cutover. • Performs software and hardware upgrades.
Category	**Engineering Assistant**

Labor Categories and Qualifications	
Qualifications	• Normally assigned daytime hours but must accommodate exceptions to meet customer needs. Overtime may be required. May be assigned to work extended tours (one week or more) away from home. • Ability to present technical subject matter in English, both orally and in writing. • Ability and willingness to spend the day in outdoor activities, traverse rough terrain on foot, carry range rods, drive stakes, and occasionally use a brush axe in rural areas. (Outside Plant only). • Willingness to work primarily in an office environment. • Where driving is required, a valid state driver's license with a satisfactory driving record is required. Must have ability to drive vehicle with manual gearshift.
Duties	Uses standard design techniques (including computerized tools), planning documents and other records to perform work (other than that of a clerical nature) required to: • Analyze service and trunk orders. • Design and layout trunk and special service circuits (including the calculation of transmission levels and the specification of equipment settings). Prepares or directs the preparation of Circuit Orders and Circuit Layout Records for field forces. Provides technical consultation with field forces in connection with trunk and special circuit design matters. May use computer terminal to obtain records information. Uses standard design techniques (including computerized tools), planning documents and other records and self-prepared field notes to perform work (other than that of a clerical nature) required to design and prepare complete outside plant engineering work plans and to prepare data (including detail and facing sheets and memoranda) for approval by management in connection with cost estimates for specific estimates and work orders. Negotiates and coordinates on outside plant engineering matters, including rights of way, with field forces, private owners, customers and third party representatives in the building industry, other utilities and government agencies. May use computer terminal to obtain records information.
Category	**Call Center Project Manager**
Qualifications	• Minimum of 5 years of experience supporting complex and critical applications, preferably in the telecommunications or computer industry • Project management experience and proven team leadership skills • Strong communication and customer interaction skills • Education in TCP/IP with a general knowledge of LAN and WAN architecture implementing applications across TCP/IP networks • Education in UNIX and Windows Client/Server operating systems, PC applications (design and integration), with an understanding of relational databases • Knowledge of ISDN, POTS, and T1 network services as well as PBX, IVR, and ACD or voicemail systems
Duties	Provides project management services to oversee the entire call center implementation. • Oversees all project tasks • Provides and maintain a master plan • Coordinates efforts with customer and vendor project managers and personnel
Category	**Call Center Field Engineer**

Labor Categories and Qualifications	
Qualifications	• AS, BS or equivalent technical experience and three or more years of experience in a customer support role supporting complex and critical applications • Education in TCP/IP with a general knowledge of LAN and WAN architecture implementing applications across TCP/IP networks • Education in UNIX and Windows Client/Server operating systems, PC applications (design and integration), and have an understanding of relational databases. Able to perform installation of Operating Systems and databases • Knowledge of ISDN, POTS, and T1 network services as well as PBX, IVR, and ACD or Voicemail systems
Duties	Installs call center applications, including on-site pre-installation planning; remote pre-installation support (telecommunications service coordination, etc.) on-site support for installation, and on-site support for system cutover, as follows: • Cut over remote agents and supervisors • Create or configure new agents, nodes, applications, views and skill groups • Build or load normal, holiday, or emergency routing • Add or move agents or major components such as a server, supervisor station, or contact server • Perform upgrades, moves, changes, and adds • Create customized reports • Provide recommendations on back-up procedures
Category	**Call Center Application Design Engineer**
Qualifications	• BA/BS degree or equivalent experience in Engineering or Computer Science • One to three years of telecommunications and software industry experience • Web Development – Java, HTML • C, C++, Windows NT, Visual Basic, relational databases • ACD, IVR and CTI experience desired • Strong customer interaction skills • Excellent communication skills
Duties	Designs, integrates, and supports comprehensive communications solutions featuring voice, data, and mixed-media applications. Documents the requirements and the functional design specification. Defines acceptance criteria for implementation. Develops, tests and installs the solution.
Category	**Wire Technician**
Qualifications	High school graduate or GED with a minimum of 3 years' experience in installation of cable and wire systems. Certification with Cat 5 and/or CAT 6 cabling systems.
Duties	Performs installation of various telephone, coaxial, and fiber optic cables, which may include vertical and horizontal cables. Performs installation, deinstallation, and relocation activities including but not limited to site preparation and installation and/or remove of cable and wire systems. Performs installation of voice and LAN cabling to meet specific requirements of the manufacturer and BICSI with regard to the requirements of category 5 and 6 voice and LAN cable. Uses complex test equipment to perform quality assurance of voice and LAN wire to meet BICSI specifications. Keeps and provides detailed records and drawings of cable and wiring plants. Communicates effectively in writing and verbally with all levels of technical and management personnel, as required.
Category	**Repair Service Clerk**
Qualifications	Minimum of 2 years of experience in telecommunications. Experienced using personal computers and the Microsoft Office Suite products.

Labor Categories and Qualifications	
Duties	Under general direction, receives service problems from customers and/or computer systems and then refers them to the appropriate work groups. Analyzes telecommunications troubles, test line conditions and advises customers of status of the trouble report. Maintains thorough computer systems line records. Interacts with other service centers to resolve troubles. Operates computer terminals and other office machines such duplicating equipment.
Category	**Voice Mail Administrator**
Qualifications	Have certification in administration and maintenance of the Octel platforms. Have excellent customer service skills. Experienced using personal computers and the Microsoft Office Suite products.
Duties	Under general direction, receives and processes requests for Octel Voice Mail services. Performs analysis on troubles to accomplish resolution. Maintains database and hardware on the Octel 350 platform systems. Demonstrates good oral communications with the customer and other work groups involved in providing telecommunications services. Maintains thorough computer systems line records. Interacts with other service centers to resolve troubles. Operates computer terminals and other office machines such as duplicating equipment.
Category	**Voice Mail Clerk**
Qualifications	Minimum of 3 years' experience in Octel voice messaging system or certification in the Octel platforms. Excellent customer service skills. Experienced using personal computers and the Microsoft Office Suite products.
Duties	Under general direction, receives and processes requests for Octel Voice Mail services. Performs analysis on troubles to accomplish resolution. Demonstrates good oral communications with the customer and other work groups involved in providing telecommunications services. Maintains thorough computer systems line records. Interacts with other service centers to resolve troubles. Operates computer terminals and other office machines such duplicating equipment.
Category	**Special Clerk**
Qualifications	High School graduate or equivalent. Eight (8) years minimum business experience in clerical fields, desirable. Must be literate in personal computers to include Microsoft Word, Excel, Power Point and other data base systems.
Duties	Under general direction prepares reports with emphasis on accuracy; analyze and summarize data. Has the experience to operate various office machines such as computer terminals and reproducing machines. Is proficient in the use of Microsoft Word, Microsoft Excel, Microsoft Power Point and other related office suite products. Can communicate with customers and outside business firms to accomplish job tasks.
Category	**Repair Center Team Leader**
Qualifications	Business experience in telecommunications field. Must be literate in personal computers to include Microsoft Word, Excel, Power Point and other database systems.
Duties	This is a management supervisory position. The Team Leader is responsible for the "single point of contact" center that receives trouble reports from customers, receives and dispatched orders from the customer and functions as central point for customer issues. The team leader is responsible for the repair clerks, maintenance administrators, voice mail clerks and the voice mail administrator. The team leader may also function as the project manager for customer projects.
Category	**Central Office Technician**

Labor Categories and Qualifications	
Qualifications	Excellent customer service skills. Certification in routine and maintenance of switching systems, Lucent 5E or DMS200. Experienced using personal computers and the Microsoft Office Suite products. Able to complete 6 or more weeks of classroom training.
Duties	Under general direction, monitors, analyzes, and repairs switching related equipment. Assists with or performs system and equipment installations, acceptance testing, and initialization. Extracts routine system and customer reports as required. Maintains accurate and complete records. Performs distribution frame wiring as required. Performs testing, analyzes data, and interprets manuals and wiring diagram to locate and clear trouble conditions in switching equipment, computer systems, data networks, and associated peripherals. Demonstrates good oral communications with the customer and other work groups involved in providing telecommunications services. Maintains thorough computer systems line records. Interacts with other service centers to resolve troubles. Operates computer terminals and other office machines such as duplicating equipment.
Category	**Storekeeper**
Qualifications	Minimum 5 years' experience in storeroom administration and operations is desirable. Experience using personal computers and the Microsoft Office Suite products are desirable.
Duties	Under general direction, orders, receives, and takes inventory of supplies, cable, materials, and tools. Selects, addresses (labels), and stages supplies for distribution. Performs general office functions, including verifying shipments for accuracy, documenting discrepancies, and issuing claims. Communicates clearly and effectively with suppliers and customers.
Category	**Maintenance Administrator**
Qualifications	High School graduate or equivalent. Knowledge and experience in telecommunications functions. Strong communications skills. Able to overlap functions. Ability to negotiate with customers and interact with other work groups. Experienced using personal computers and the Microsoft Office Suite products.
Duties	Receives trouble reports via computer terminals or directly from customers. Screens and tests customer reported problems to facilitate repair efforts. Contacts customers to negotiate dates and times; accesses arrangements as necessary to facilitate trouble resolution. Maintains customer records, prepares technician dispatch activity logs, functions as the customer's representative to other work groups. Monitors repair and installation workloads to meet commitment times.
Category	**Service Visit Personnel**
Qualifications	Qualifications will vary depending on the nature of the customer's request/service visit. Must have the appropriate education, training, and direct work experience needed to coincide with the work to be performed for each visit.
Duties	In response to a customer's request, will be assigned tasks that are not part of the basic service (go beyond the service delivery point) and dispatched to the customer's premises. Tasks include but are not limited to wire repair work not covered by a maintenance plan; customer-caused damage repairs to CPE or wire under a maintenance plan; specific troubles or uncoordinated immediate requests that are not part of a planned project or conversion; and end-user on-site digital subscriber line support. Is expected to communicate effectively in writing and verbally with all levels of technical, engineering, and management personnel, as required. Will be expected to work independently or coordinate a team as necessary. This labor category permits the contractor to recover costs in the event the contractor responds to a customer requested trouble call and no problems are found or when no one is available to allow entry or when a dispatch date and time are arranged but the customer isn't available to receive a delivery.

Labor Categories and Qulifications	
Category	**Field Communications Analyst**
Qualifications	Four year experience in sales and direct customer contact. Previous experience in telecommunications.
Duties	The Analyst is responsible for handling servicing activities on all sales, when required. This includes, but is not limited to pre-sale contract preparation, usage review, station reviews, presentation of recommendations, preparation of proposals, and sales implementation. The Analyst assists with pre-sale functions and post-sale implementation activities associated with complex sales, under the direction of a management salesperson. Responds to client sales and service demands in cases assigned. Provides pre- and post-sales support. Provides post-installation servicing support activity on marketing assigned accounts. Routinely interfaces with client premises. Responsible for ensuring client satisfaction for the provision of data, networking, and voice communications systems.
Category	**Avaya Project Manager**
Qualifications	• Avaya Certified Associate Communications Networking (ACACN) Certification • Master's Certificate in Project Management • Completion of Analyze the Design and Plan the Implementation Avaya University Course and Assessment (AVA00111AEN) • Completion of MultiVantage Overview Course and Assessment (BTT153W2A).
Duties	• Coordinates the installation of Avaya products and/or systems at customer sites • Schedules and may perform pre-installation site review/evaluation for adequate infrastructure • Ensures that the proper materials and manpower arrive at the customer site on a timely basis for the installation of Avaya equipment • Manages installation problem resolution with assigned customer accounts • Coordinates interactions between the customer, systems engineering, field process engineering, field service engineering, manufacturing, logistics and third-party vendors • If necessary, escalates installation issues to the appropriate organization • Provides solutions to a diverse range of moderately complex problems.
Category	**Avaya Program Manager**
Qualifications	• ACACN Certification • Project Management Professional (PMP) Certification (Awarded by Project Management Institute) • Avaya Certified Specialist Communications Implementation (ACSCI) Certification • Master's Certificate in Project Management • Completion of Analyze the Design and Plan the Implementation Avaya University Course & Assessment (AVA00111AEN) • Completion of MultiVantage Overview Course & Assessment (BTT153W2A) • One other industry recognized certification, i.e. Microsoft, Cisco, Nortel, etc.

Labor Categories and Qulifications	
Duties	• Oversees very large and complex provisioning projects including installations or systems additions • Provides total project leadership and is directly accountable for the project team's performance • Defines milestones, reserves resources, coordinates with multiple vendors/services providers • Coordinates project activities, resource scheduling, contractual compliance, customer satisfaction • Maximizes profitability of project.
Category	**Avaya Software Associate**
Qualifications	• ACACN Certification • Completion of MultiVantage Overview Assessment (BTT153W2A) • Completion of MultiVantage Advanced Admin for SIS assessment (BTP068A) and supporting courses • Completion of Modular Messaging Overview assessment and course (AVA00029WEN) • Completion of Modular Messaging for System Admin assessment and course (AVA00032WEN).
Duties	• Assists with providing on-site and remote implementation support of software, systems, subsystems and/or applications for customers or field personnel utilizing telephone and remote diagnostic capabilities • Supports Software Specialist with end-user installations, configurations, upgrades and migrations through problem isolation, verification, resolution and documentation.
Category	**Avaya Software Specialist**
Qualifications	• ACACN Certification • ACSCI Certification • Avaya Certified Specialist Communications Design (ACSCD) Certification • One other industry recognized certification, i.e. Microsoft, Cisco, Nortel, etc. • Completion of MultiVantage Overview Assessment (BTT153W2A) • Completion of MultiVantage Basic Admin for SIS assessment (BTP060W2A) and supporting courses • Completion of MultiVantage Intermediate Admin for SIS assessment (BTP069A) and supporting courses • Completion of MultiVantage Advanced Admin for SIS assessment (BTP068A) and supporting courses • Completion of MultiVantage Expert Admin for SIS Assessment (BTP070A) and supporting courses • Completion of Modular Messaging Overview assessment and course (AVA00029WEN) • Completion of Modular Messaging for System Admin assessment and course (AVA00032WEN).
Duties	• Responsible for and manages the on-site and remote implementation support of software, systems, subsystems and/or applications for customers or field personnel utilizing telephone and remote diagnostic capabilities • Supports the highly complex end-user installations, configurations, upgrades and migrations through problem isolation, verification, resolution and documentation.
Category	**Avaya Call Center Consultant**

Labor Categories and Qulifications	
Qualifications	• ACACN Certification; Completion of CMS Supervisor Administration with EAS BTC155H (or equivalent) • Completion of CMS Supervisor Administration BTC447M (or equivalent) • Completion of Definity BCMS View BTT331H2-C (or equivalent) • Completion of CMS Administration BTC112H (or equivalent) • Completion of Definity System Administration for Call Centers BTC188W2 (or equivalent) • Completion of Definity System Call Vectoring BTC197H2 (or equivalent) • Completion of MultiVantage Basic Admin for SIS assessment (BTP060W2A) and supporting courses (or equivalent).
Duties	• Integrates MultiVantage Call Center Software (Deluxe and Elite), CMS, CMS Supervisor, and BCMR • Consults with the customer to understand the needs of the business, customers and associates • Works with the customer to design a contact center that utilizes the Avaya technology to best meet those needs • Provides administrator and supervisor training in the use of Avaya reporting.
Category	**Avaya Network Integration Technical Consultant**
Qualifications	• ACACN Certification • ACSCI Certification • ACSCD Certification • ACE Certification • One other industry recognized certification, i.e. Microsoft, Cisco, Nortel, etc. • Completion of MultiVantage Overview Assessment (BTT153W2A) • Completion of MultiVantage Basic Admin for SIS Assessment (BTP060W2A) and supporting courses • Completion of MultiVantage Intermediate Admin for SIS assessment (BTP069A) and supporting courses • Completion of MultiVantage Advanced Admin for SIS assessment (BTP068A) and supporting courses • Completion of MultiVantage Expert Admin for SIS assessment (BTP070A) and supporting courses • Completion of Modular Messaging Overview assessment and course (AVA00029WEN) • Completion of Modular Messaging for System Admin Assessment and course (AVA00032WEN).
Duties	• Designs, develops, and implements networking solutions for customers or field personnel utilizing telephone and remote diagnostic capabilities • Supports end-user installations, configurations, upgrades and migrations through problem isolation, verification, resolution and documentation • Participates/is a member on Avaya Core Team Labs, R&D.
Category	**Avaya Senior Call Center Consultant**

Labor Categories and Qulifications	
Qualifications	• ACACN Certification • Completion of CMS Supervisor Administration with EAS BTC155H (or equivalent) • Completion of CMS Supervisor Administration BTC447M (or equivalent) • Completion of Definity BCMS View BTT331H2-C (or equivalent) • Completion of CMS Administration BTC112H (or equivalent) • Completion of Definity System Administration for Call Centers BTC188W2 (or equivalent) • Completion of Definity System Call Vectoring BTC197H2 (or equivalent) • Completion of MultiVantage Basic Admin for SIS assessment (BTP060W2A) and supporting courses (or equivalent) • Completion of MultiVantage Intermediate Admin for SIS assessment (BTP069A) and supporting courses (or equivalent) • Completion of Avaya Business Advocate/Dynamic Advocate BTH100H2 (or equivalent) • Completion of Avaya Virtual Routing BTH102H2 (or equivalent) • Completion of CentreVu Reports Designer BTC202H (or equivalent) • Completion of CentreVu CMS Custom Reports BTC115H (or equivalent) • Completion of CentreVu CMS Design and Configuration BSG217R2 (or equivalent) • Completion of Computer Telephony Integration I and M BTE019H2 (or equivalent).
Duties	• Integrates Avaya Business Advocate, Avaya Virtual Routing, Avaya Network Routing and complex multisite contact centers • Consults with the customer to understand the needs of the business, customers and associates • Works with the customer to design a contact center that utilizes the Avaya technology to best meet those needs • Provides consultative administrator and supervisor training in the use of Avaya reporting (BCMS, BCMR, CMS, Avaya Supervisor).
Category	**Avaya Technician**
Qualifications	• ACACN Certification • Completion of Avaya MultiVantage Solutions Overview (BTT153W2) • Completion of Media Gateways, Cabinets, Chassis and Circuit Packs (BTT155W2) • Completion of Avaya MultiVantage Maintenance Strategy and Procedures (BTT157W2) • Completion of Voice Terminal and Attendant Console Installation (BTT154W2) • Completion of IP Telephony Installation and Configuration (BTT156W2) • Completion of MultiVantage Software Administration (BTC273W2) • Completion of Introduction to Avaya S8700 Media Server Configuration (BTT168W2) • Completion of Avaya S8300 Media Server Configurations and installation (BTT 163W2) • Completion of Avaya S8700 Media Server for Multi-Connect Configurations (BTT169W2) • Completion of Avaya S8700 Media Server for IP-Connect Configurations (BTT170W2) • Completion of S8300 and/or S8700 Hands On training (BTT321A/BTT322A).
Duties	• Installs customer premises PBX, IP Telephony, call center, messaging and data equipment • Troubleshoots problems on the customer site using vast experience in telecommunications/data equipment • Installs new equipment for customer and also installs replacement parts when required.
Category	**Avaya Training Instructor End User**
Qualifications	• Completion of MultiVantage Overview assessment (BTT153W2A) • Completion of Modular Messaging Overview assessment and course (AVA00029WEN) • Completion of Modular Messaging for System Admin assessment and course (AVA00032WEN).

Labor Categories and Qulifications	
Duties	• Prepares syllabus and handouts for end user training • Schedules end user training • Delivers knowledge transfer of products and services depending on set products.
Category	**Avaya Network Integration Design Consultant**
Qualifications	• ACACN Certification • Completion of MultiVantage Overview Assessment (BTT153W2A) • Completion of Modular Messaging Overview assessment and course (AVA00029WEN).
Duties	• Assists in remote implementation support and design of Avaya networking products and solutions • Ensures customer satisfaction by advising customers on preventive maintenance and configurations that may impact product performance.
Category	**Avaya Network Integration Engineer**
Qualifications	• ACACN Certification • ACSCI Certification • ACSCD Certification • One other industry recognized certification, i.e. Microsoft, Cisco, Nortel, etc. • Completion of MultiVantage Overview Assessment (BTT153W2A) • Completion of MultiVantage Basic Admin for SIS assessment (BTP060W2A) and supporting courses • Completion of MultiVantage Intermediate Admin for SIS assessment (BTP069A) and supporting courses • Completion of MultiVantage Advanced Admin for SIS assessment (BTP068A) and supporting courses • Completion of MultiVantage Expert Admin for SIS assessment (BTP070A) and supporting courses • Completion of Modular Messaging Overview assessment and course (AVA00029WEN) • Completion of Modular Messaging for System Admin assessment and course (AVA00032WEN).
Duties	• Responsible for providing remote implementation support of networking solutions for customers or field personnel utilizing telephone and remote diagnostic capabilities • Supports end-user installations, configurations, upgrades and migrations through problem isolation, verification, resolution and documentation • Provides solutions to a diverse range of moderately complex problems.
Category	**Avaya Provisioning Engineer**
Qualifications	• ACACN Certification • ACSCI Certification • ACSCD Certification • One other industry recognized certification, i.e. SUN Microsystems • Completion of MultiVantage Overview Assessment (BTT153W2A) • Completion of MultiVantage Basic Admin for SIS assessment (BTP060W2A) and supporting courses.
Duties	• Responsible for providing remote implementation support of hardware systems, sub-systems and/or applications for customers or field personnel utilizing telephone and remote diagnostic capabilities • Supports end-user installations, configurations, upgrades and migrations through problem isolation, verification, resolution and documentation • Participates/is a member on Avaya Core Team Labs, R&D.

Labor Categories and Qulifications	
Category	**Call Center Operator**
Qualifications	High school graduate or equivalency. Experienced in fundamental telephone techniques and etiquette. Experienced and skilled in the use of the following equipment, as required: personal computers, facsimile machines, specialized equipment for audio teleconferencing bridges, telecommunications devices for the deaf (TDD), ISDN telephone instruments. Able to type using word processing software. Experienced in using reference tools such as telephone directories, personnel locator files, and organization charts. Able to read, understand, and speak the English language with clear, understandable enunciation. Courteous, professional, and knowledgeable of job-specific information requirements; when required, shows empathy with the callers' concerns.
Duties	Duties may require telephone, voice paging, electronic signal, information and trouble reporting, and ordering services. Responsibilities are not limited to and may include the following: • Serves as sole operator on a workstation. Handles incoming and outgoing calls, including long distance and conference calls, in a prompt, courteous manner. • Obtains proper billing information for toll calls, and rejects unauthorized calls or refers caller to prescribed authorizing official. • Adheres to directives given by Supervisors and Program Manager regarding handling heavy volume of traffic pertaining to Government and other related agencies, restricted lines, and other procedures. • Obtains information by utilizing a teledirectory network and personal computer. Responds to calls from the public by directing them to the appropriate agency office. • May be required to respond to calls that relate to a potential or actual agency-related emergency by connecting them to the appropriate party, as designated by standard operating procedures. • May be required to serve as an Information Operator for a Government agency, supplying numbers, extensions, names, etc., and performing locator services as required. In complex situations, questions callers as necessary to determine the appropriate organizational referral. • May be required to operate call center equipment, personal computers, facsimile machines, specialized equipment for audio teleconferencing bridges, telecommunications devices for the deaf (TDD), ISDN telephone instruments, and office furniture necessary for performance of the position. • May be required to perform directory and record keeping, including forms, logs, and other records necessary to perform the call center services. May be required to update call center and backup console telephone directory databases. May be required to maintain logs and records of communication activities in accordance with call center standard operating procedures.
Category	**Call Center Lead Operator**
Qualifications	High school graduate or equivalency. Minimum 2 to 5 years' experience as an Operator. Experienced in fundamental telephone techniques and etiquette. Experienced and skilled in the use of the following equipment, as required: personal computers, facsimile machines, specialized equipment for audio teleconferencing bridges, telecommunications devices for the deaf (TDD), ISDN telephone instruments. Able to type using word processing software. Experienced in using reference tools such as telephone directories, personnel locator files, and organization charts. Good communication skills; able to read, understand, and speak English with clear, understandable enunciation. Courteous, professional, and knowledgeable of job-specific information requirements; when required, shows empathy with the caller's concern(s). The Lead Operator will be capable of supervising the Call Center as required and serving as the primary point of contact for scheduling and establishing call center conference calls.

Labor Categories and Qulifications	
Duties	Duties may require telephone, voice paging, electronic signal and information, trouble reporting, and ordering services. Assists the Operator Supervisor in administrative and monitoring tasks. Possesses the skills to perform Supervisory functions whenever necessary. May be the primary point of contact for scheduling and establishing call center conference calls in addition to performing telephone operator functions. Actively performs the duties of a telephone operator. Responsibilities are not limited to and may include the following: • Serves as sole operator on a workstation. Handles incoming and outgoing calls, including long distance and conference calls, in a prompt courteous manner. Responsible for obtaining billing information for toll calls, and rejects unauthorized calls or refer caller to prescribed authorizing official. • Responsible for operating any of the positions assigned to an Operator, including answering all incoming calls and processing outgoing calls on a teledirectory network communication telephone console system. Follows instructions given by Supervisors and Program Manager regarding handling heavy volume of traffic pertaining to government and other related agencies, restricted lines and other procedures. • Ensures that staff is able to log on and off the scheduling system. Ensure shift schedules are properly staffed and maintains strict adherence to scheduling requirements including holidays. Responds to calls from the public by directing them to the appropriate agency office. • May be required to respond to calls that relate to a potential or actual agency-related emergency) by connecting them to the appropriate party, as designated by standard operating procedures. • May be required to serve as an Information Operator for a Government agency, supplying numbers, extensions, names, etc., and performing locator services as required. In complex situations, questions callers as necessary to determine the appropriate organizational referral. • May be required to operate call center equipment, personal computers, facsimile machines, specialized equipment for audio teleconferencing bridges, telecommunications devices for the deaf (TDD), ISDN telephone instruments, and office furniture necessary for performance of the position. • May be required to perform directory and record keeping, including forms, logs, and other records necessary to perform the call center services. May be required to update call center and backup console telephone directory databases. May be required to maintain logs and records of communication activities in accordance with call center standard operating procedures.
Category	**Call Center Operator Supervisor**
Qualifications	High School Diploma or equivalency. Minimum 1 to 2 years' experience in a Lead Operator position. Thorough understanding of call center management operations. Qualified to supervise the Call Center and to serve as the primary point of contact for scheduling and establishing call center conference calls. Courteous, professional, and experienced in fundamental telephone techniques and etiquette; when required, shows empathy with the callers' or staff's concerns. Good verbal and written communication skills; including good command of English with clear, understandable enunciation. Experienced and skilled in the use of the following equipment, as required: facsimile machines, specialized equipment for audio teleconferencing bridges, telecommunications devices for the deaf (TDD), ISDN telephone instruments. Thorough knowledge of personal computer operations and word processing or desktop publishing software package(s). Able to type using word processing software, and experienced in the use of desktop publishing software if required. Experienced in using reference tools such as telephone directories, personnel locator files, and organization charts.

Duties	Responsible for managing day-to-day operations of the call center during his or her shift. Manages the Operators' weekly work schedules and communicates and trains to any changes in policies and procedures that impact the Operators' duties and tasks. Coaches, trains, and monitors the Operators and is instrumental in building morale and promoting a winning team spirit. Supervisors maintain expertise of all operator functions. The Call Center Site Supervisor is both a working supervisor and actively performs the duties of a telephone operator when necessary in order to meet performance metrics. The Operator Supervisor generally is designated the primary point of contact for scheduling and establishing call center conference calls in addition to performing telephone operator functions. Generally is required to perform supervision and conference attendant duties during high volume traffic periods or as otherwise required. May be required to participate in development, production, distribution, and maintenance of call center standard operating procedures (SOPs). May be required to perform periodic review of the SOPs with staff members as a refresher and when there are changes to the SOPs. May be required to establish work schedules, oversee staffing requirements, monitor the call center environment, and participate in staff training activities. May be required to work with the Project Manager to ensure that the call center is in a constant state of readiness in accordance with facility availability requirements and that telecommunications are maintained in an operable mode. Promptly reports equipment malfunctions to the Project Manager. Provides weekly status report, as required, summarizing operational status, staffing levels, and unusual events (i.e., equipment outages and emergencies). In the event of an emergency, may be required to execute emergency closing procedures for the center, in accordance with standard operating procedure and Emergency Evacuation Procedures. May be required to notify all operators at the call center if they are to report to a backup call center location. The Call Center Operator Supervisor's responsibilities are not limited to and may include the following: • *Weekly Schedules:* Coordinates weekly schedules with the Program Manager and keeps the Program Manager apprised of any alteration made to the schedule to accommodate vacations, doctor appointments, or shift trades. Ensures shift schedules are properly staffed, and maintains strict adherence to scheduling requirements, including holidays. Assures that staff is able to clock on and off of the scheduling system. • *Attendance Records:* Keeps track of all absences and tardiness. Responsible for issuing all verbal and written warnings for any attendance issues. • *Training:* May be required to train operators for various functions such as teledirectory, signal page, conferencing, telegrams, and facsimiles. Administers tests and coordinates with the Program Manager regarding trainees' progress; issues written evaluations on trainees' progress. Recommends ongoing refresher training as needed, and schedules accordingly. Assures that operators are adhering to the client-required Call Statistic Performance Metrics. • *Monitoring, Counseling and Evaluations:* Monitors operator performance and assures that Operators are adhering to all procedures on a daily basis; records any counseling that may be required. Determines which Operators require additional training and provides training if an operator is weak in an area. Issues yearly evaluations for all actively scheduled operators. • *Seating Arrangements:* Provides seating arrangements on a daily basis and monitors the floor to assure that all consoles are appropriately staffed at all times in accordance with the seating arrangements. Reschedules lunches and breaks as required to maintain necessary coverage. • *Faxes, Telegrams, Conference Calls, Signal Pages, etc.:* Monitors all requirements related to conference calls, faxes, and telegrams.

Labor Categories and Qulifications	
	• *Customer Complaints and Trouble Reports:* Handles any grievances encountered during the esssshifshift. Provides a written report of any incident and requests a written report from any employee concerned.
	shift. Provides a written report of any incident and requests a written report from any employee concerned.
Category	**Nortel Technician**
Qualifications	Must have successfully completed Nortel Product training for technicians and have a minimum of 1 year experience in installation, repair, and maintenance of electronic computer-based systems, and 1 year experience in the areas of voice and/or data transmission facilities. Must have direct work experience with various transmission media including two- and four-wire transmission, microwave, fiber optics, satellite, and others, dependent on services ordered by the customer. One year of the required experience must be in the direct testing, evaluation, and quality assurance or installation of voice or data networks.
Duties	Will be tasked to monitor vendors' installation of Nortel equipment, and perform system testing and evaluation activities. Will inspect and review hardware installation, wiring, power, grounding, system database validation, and perform other activities to ensure quality installation of services for the customer. May be tasked to perform adjunct installation, de-installation, and relocation activities including, but not limited to, site preparation and installation and/or removal of cabling and wiring systems, terminal equipment, automated data processing services, and associated hardware and software. May be assigned to tasks requiring quality assurance testing of voice and data switching equipment. Is expected to communicate effectively in writing and verbally with all levels of technical and management personnel, as required. Will perform in the area of network testing, analysis, and optimization. Must be able to apply transmission-engineering principles to existing networks to ensure receipt of quality voice and data telecommunications services.
Category	**Senior Nortel Technician**
Qualifications	Must have successfully completed Nortel Product training for technicians and have a minimum of 3 years' experience in installation, repair, and maintenance of electronic computer based systems with 2 years' experience in the areas of voice and/or data transmission facilities. Must have direct work experience with various transmission media including two- and four-wire transmission, microwave, fiber optics, satellite, and others, depended on services ordered by the customer. Two years of the required experience must be in the direct testing, evaluation, and quality assurance or installation of voice or data networks.
Duties	Provide in-depth analysis of trouble conditions and facilitate repair efforts. Work independently or coordinate a team of Nortel technicians as necessary. Will be tasked to monitor vendors' installation of Nortel equipment, and perform/coordinate system testing and evaluation activities. Will inspect and review hardware installation, wiring, power, grounding, system database validation, and perform other activities to ensure quality installation of services for the customer. May be tasked to perform adjunct installation, de-installation, and relocation activities including, but not limited to, site preparation and installation and/or removal of cabling and wiring systems, terminal equipment, automated data processing services, and associated hardware and software. May be assigned to tasks requiring quality assurance testing of voice and data switching equipment. Is expected to communicate effectively in writing and verbally with all levels of technical, engineering, and management personnel, as required. Will be expected to coordinate the repair of large or complex troubles. Will perform in the area of network testing, analysis, and optimization. Must be able to apply transmission-engineering principles to existing networks to ensure receipt of quality voice and data telecommunications services.
Category	**Technical Consultant On Site**

Labor Categories and Qulifications	
Qualifications	A Bachelor's degree in engineering or telecommunications preferable, but not necessary. At the minimum, must be a high school graduate with a minimum of 4 years' experience in installation, repair and maintenance of electronic computer based systems and 4 years' experience in the areas of voice and/or data transmission facilities. Experience as a Central Office Technician is helpful. Must have direct work experience with various transmission media including two- and four-wire transmission, microwave, fiber optics, satellite, etc. Experience in the area of direct testing, evaluation, and quality assurance of voice/data networks is a plus.
Duties	In response to customer request, will be assigned tasks that are not part of the basic service (which go beyond the service delivery point) and dispatched to the customer's premises. In addition to some uses noted in Section C.3.3.3, tasks include but are not limited to wire repair work not covered by a maintenance plan; repairs of customer-caused damage to CPE or wire under a maintenance plan; specific troubles or uncoordinated immediate requests that are not part of a planned project or conversion; and end-user on-site digital subscriber line support. Is expected to communicate effectively in writing and verbally with all levels of technical, engineering, and management personnel, as required. Will be expected to work independently or coordinate a team as necessary. This labor category permits the contractor to recover costs in the event the contractor responds to a customer requested trouble call and no problems are found or when no one is available to allow entry or when a dispatch date and time are arranged but the customer isn't available to receive a delivery.
Category	**Client Financial Management Associate Partner**
Qualifications	Client Financial Management Associate Partners possess at least 10 years of experience in the administrative and financial management of client engagements and may possess a security clearance. Minimum Education: Bachelor's Degree.
Duties	Client Financial Management Associate Partners oversee the administrative and financial management of client engagements. A Client Financial Management Associate Partner is qualified to perform such tasks as: Provide expert counsel to Client Financial Management teams in the areas of work management activities, financial management, human resources management, contract management and facilities management for one or more client engagements Conduct Client Financial Management reviews and recommend specific improvement strategies Recognize internal and external trends, and adjust Client Financial Management strategies accordingly Oversee the management of one or more Client Financial Management teams.
Category	Client Financial Management Senior Manager
Qualifications	Client Financial Management Senior Managers possess at least 7 years of experience in the administrative and financial management of client engagements and may possess a security clearance. Minimum Education: Bachelor's Degree or 3 years related experience.
Category	Client Financial Management Assistant
Qualifications	Client Financial Management Assistants possess up to 1 year of experience in the administrative and financial management of client engagements and may possess a security clearance. Minimum Education: High School Diploma.

Labor Categories and Qulifications	
Duties	Client Financial Management Assistants support project personnel in the administrative and financial management of client engagements. A Client Financial Management Assistant is qualified to perform such tasks as: • Assist in maintaining and reconciling an engagement's work management records • Assist in financial tracking and reporting • Assist in an engagement's human resources management activities, such as performance evaluation tracking and team member scheduling • Assist in facilities management for an engagement
Category	**Business Integration Partner**
Qualifications	At least 12 years of experience in information systems implementation, change management efforts or business process redesign. Minimum education is a Bachelor's degree
Duties	Has overall accountability for business solution programs. Responsible for product delivery and financial management of client engagements. Performs independent quality assurance reviews of program performance and deliverables to ensure that contractual obligations are being met. Is a recognized experts in the areas of business process redesign, technical architecture, organizational change or specific industries. Lends thought leadership to engagement teams in developing creative solutions to client business problems
Category	**Business Continuity Architect**
Qualifications	Bachelor's degree or equivalent relevant technical experience, plus five years of technical experience in information technology recovery or technology disaster recovery planning. Technically proficient in several of the following disciplines with certifications in at least two; security, virtualization, networking, application performance optimization, Storage solution design, business continuity or process improvement. Three years or more experience specifically in developing solutions to Recovery Time Objective (RTO) and Recovery Point (RPO) requirements to ensure data integrity and continuity of operations. Demonstrated business proficiency in technical writing and process documentation. Experienced in risk assessment/management, and contingency plan development and execution.
Duties	Develops technical and procedural solutions to meet customer requirements for continuity of operations. Provides support in the development of a government agency's information technology emergency management and recovery plans; leads information technology network risk assessments; reviews and develops network and system recovery strategies; drafts procedures for identifying system failures and involving contingency plans; creates response procedures; communicates with various response teams during testing and actual execution of system and/or network recovery procedures. Leads the design, development, installation, implementation, and administration of backup solutions.
Category	**Managed Solutions Architect**
Qualifications	Bachelor's degree or equivalent relevant technical experience, plus five years general experience in computing technologies. Proficient in several of the following disciplines with certifications in at least two: security, virtualization, networking, application performance optimization, storage solution design, business continuity, and process improvement. Three years or more experience designing high availability solutions.
Duties	Focuses on full lifecycle solutions including assessment, design, implementation, capacity planning, and optimization of all aspects of delivering fully integrated application solutions in a managed hosting environment. Performs as architect for integration strategies and initiatives, with a strong background in networking, servers, operating systems, storage, applications, and virtualization.
Category	**Cloud Solutions Architect I**

Labor Categories and Qulifications	
Qualifications	Bachelor's degree or equivalent relevant technical experience, plus four years of general experience in computing technologies. Proficient in several of the following disciplines with certifications in at least two: security, virtualization, networking, application performance optimization, storage solution design, business continuity, and process improvement. Two years or more experience designing integrated solutions in a virtualized environment with specific experience in application performance analysis.
Duties	Focuses on full lifecycle solutions including assessment, design, implementation, capacity planning, and optimization of all aspects of delivering fully integrated application solutions in a cloud environment. Performs as architect for integration strategies and initiatives, with a strong background in networking, servers, operating systems, storage, applications, and virtualization.
Category	**Cloud Solutions Architect II**
Qualifications	Bachelor's degree or equivalent relevant technical experience, plus six years of general experience in computing technologies. Proficient in several of the following disciplines with certifications in at least two: security, virtualization, networking, application performance optimization, storage solution design, business continuity or process improvement. Three years or more experience designing integrated solutions in a virtualized environment with specific experience in application performance analysis and large data warehouses.
Duties	Focuses on full lifecycle solutions including assessment, design, implementation, capacity planning, and optimization of all aspects of delivering fully integrated application solutions in a cloud environment. Performs as architect for integration strategies and initiatives, with a strong background in networking, servers, operating systems, storage, applications, and virtualization.
Category	**Security Solutions Engineer**
Qualifications	Bachelor's degree or equivalent relevant technical experience, plus six years general experience in security technologies. Proficient in the following disciplines with certifications in at least two; network security, application security, unified identity management, security policy development, and risk assessment. Three years or more experience specifically in deployment of perimeter solutions such as firewalls, Intrusion Prevention System (IPS), Intrusion Detection System (IDS), Public Key Infrastructure (PKI) authentication, and use of "white hat" strategies for risk mitigation and vulnerability assessment.
Duties	Focuses on the holistic security of the solution architecture to ensure physical and logical control policies are in place and technical methods are employed to mitigate risk, detect and respond to threats, and analyze threats for deployment of preventative counter measures.
Category	**Advanced Solutions Architect**
Qualifications	Bachelor's degree required, MBA is desired. 5+ years' experience in one of the following: data center redesign, sever virtualization, virtual desktop deployment or voice communications. In depth understanding of server virtualization architecture, desktop virtualization or IP Telephony. Demonstrated experience in multiple of these disciplines: application redesign, physical to virtual migration, virtual to cloud migration, virtual desktop architecture, Desktop as a Service, Infrastructure as a Service, Software as a Service, Platform as a Service, SIP multi model contact centers, interactive voice response, predictive dialing, data networking, voice messaging, conferencing, and video. Experience with third party products from one or more telecommunication, IP communication or cloud based service providers.

Labor Categories and Qulifications	
Duties	Performs and oversees the technical design of complex IT-based projects. Leads technical contributions on projects requiring multi-vendor technologies and large complex integrations. Provides directions and resolutions to a diverse range of complex technical problems including but not limited to: • Telephony • Messaging; • Conferencing. • Networking • Call Center Applications (IVR, Outbound dialing, reporting, call center routing, etc.) • Virtual Desktop • Server Virtualization • IT Cloud Deployment •
Category	**Applications Solutions Consultant**
Qualifications	Bachelor's degree required, MBA is desired. 5+ years' experience in voice communications including in depth understanding of IP Telephony. Demonstrated experience in multiple of these disciplines: SIP multi model contact centers, interactive voice response, predictive dialing, data networking, voice messaging, conferencing and video. Experience with Avaya, Genesys, Nice, Verint, Nortel, Siemens, and Cisco VOIP communications platforms and Microsoft or IBM communications applications..
Duties	Responsible for formulating and defining system scope and objectives. Develops detailed technical specifications for enterprise level contact center and unified communications applications including but not limited to the following: • Interaction Center and CTI applications • Interactive Response, Voice Portal, and Speech applications. • Contact Center reporting products (CMS, IQ, BCMR) • Proactive Contact (Outbound Dialer) application. • Modular Messaging. • Meeting Exchange. Designs, codes, tests, debugs, and documents CC and UC applications.
Category	**Call Center Consultant**
Qualifications	Bachelor's degree, preferably in Industrial Engineering or equivalent experience. ACACN Certification. Completion of various contact center technology courses including but not limited to: • CMS Supervisor Administration. • System Administration for Call Center and System Call Vectoring courses.
Duties	Responsible for the design, and development of basic, complex and advance contact center environments. Provides resolutions to a diverse range of technical problems covering call flow (call center) optimization, call center reporting, vector designs, agent skills, etc. Provides Contact Center Training consisting of Basic to Advanced Contact Center implementation, end user reporting analysis and consultation, as well as Agent Application training.
Category	**CIS Regional Services Engineer**
Qualifications	Bachelor's degree required, MBA is desired. 5+ years' experience in voice communications including in depth understanding of IP Telephony. Demonstrated experience in multiple of these disciplines: SIP multi model contact centers, interactive voice response.
Duties	Supports the Implementation and Maintenance of complex IT-based projects. Provides directions, design, validation, consultation and resolutions to a diverse range of complex technical installations and maintenance including but not limited to : • Telephony, Messaging • Conferencing, Networking • Call Center Applications (IVR Outbound dialing, reporting, call center routing, etc)

Labor Categories and Qulifications	
Category	**Communications Manager (CM)**
Qualifications	Bachelor's degree in Engineering or Computer Science or equivalent experience. ACACN Certification, ACSCI Certification. Certified Specialist. Communications Design certification. (ACSCD). Other Industry recognized certifications.
Duties	Responsible for remote integration support of Communication Manager product. Supports the highly complex end user installations, configurations, upgrades and migrations through system configuration and set up, problem isolation, verification, resolution and documentation. Conducts System Hand Off review post installation.
Category	**Implementation Services Instructor**
Qualifications	Bachelor's degree in Engineering or Computer Science or equivalent experience. ACACN Certification. ACSCI Certification. Avaya Certified Specialist. Communications Design certification. (ACSCD). Other Industry recognized certifications.
Duties	Responsible for providing customers product and application knowledge via instructor-led sessions, computer-based training or Web instruction.
Category	**Implementation Services Remote Upgrade Engineer**
Qualifications	Bachelor's degree in Engineering, Computer Science, or equivalent experience. ACACN Certification, ACSCI Certification, Certified Specialist Communications Design Certification (ACSCD), Other Industry recognized certifications as required (i.e. Microsoft).
Duties	Responsible for remote integration support of Communications Manager products. Remotely support upgrades and migrations through system configuration, set up, and testing.
Category	**Implementation Services Software Associate**
Qualifications	Bachelor's degree in Engineering or Computer Science or equivalent experience. ACACN Certification. ACSCI Certification. Certified Specialist. Communications Design certification. (ACSCD). Other Industry recognized certifications.
Duties	Responsible for the configuration of station configuration and features. Supports the installation and programming of sets and set features. Conducts data gathering and station reviews as required.
Category	**Implementation Services Technician**
Qualifications	Bachelor's degree in Engineering, Computer Science, or equivalent experience. ACACN Certification, ACSCI Certification, Certified Specialist Communications Design Certification (ACSCD), Other Industry recognized certifications as required (i.e. Microsoft).
Duties	Responsible for the complete onsite physical hardware and/or software installation of a new or upgraded solution, as well as the placement, testing, and verification of system operation.
Category	**Integrated Management Consultant**
Qualifications	BS degree in Engineering or equivalent experience. Requires industry standard certifications.
Duties	Responsible for providing deployment and integration support of virtualized server platforms, desktop virtualization environment, IT cloud integration, converged voice and/or data networks. Support includes the problem isolation, verification, resolution of complex end-user and data center installations, configurations, and upgrades/migrations. The consultant supports the following enterprise level products including but not limited to: • Integrated Manager • SSG, VPN, CCS, IP Telephony • Server/desktop/application virtualization • Migration to cloud based platforms Experience with third party products from one or more telecommunication, IP communication or cloud based service providers. •
Category	**Mid-Market Contact Center Consultant**

Labor Categories and Qulifications	
Qualifications	Bachelor's degree in Engineering or Computer Science or equivalent experience, ACACN Certification.
Duties	Responsible for the design, implementation, and support of mid-market contact center products. This position will also provide customer training on how to use and troubleshoot the equipment.
Category	**Senior Program Manager Tier II**
Qualifications	Bachelor's degree in Business or equivalent experience preferred. Completion of basic technical courses supporting the type of technology to be managed. Project Management (PMP) Certification (Awarded by the Project Mgt Institute - PMI)
Duties	Oversees GLOBAL and complex integration projects including installations or systems additions. Provides total project leadership and is directly accountable for the project team's performance. Responsible for the planning activities to define milestones, reserve resources, coordination with multiple vendors/services providers, coordinating project activities, resource scheduling, contractual compliance, and customer satisfaction.
Category	**Strategic Communications Consultant**
Qualifications	Bachelor's degree required, MBA is highly desired. At least 7 years of experience with specific responsibilities in one of the following areas: • Senior level telecommunications or call center consulting experience with a major consulting firm or IT vendor. • Experience in leading projects with Fortune 500 corporations in the areas of cost takeout, contact center optimization, carrier negotiation, telecom expense management, or business process optimization • Deployed and managed Cisco, Avaya, or Nortel IP Telephony • Previously accountable for the productivity of the call center or business unit served by the contact center • Demonstrated thought leadership in the area of business processes, contact centers, or communications
Duties	Provides business operations and/or analytical support required to define a technology solution and implementation strategies that meet a business need.
Category	**Technical Project Manager Tier II- NBD**
Qualifications	Certified Associate (ACA) Certification in Communications Networking and Implementation. Master's Certificate in Project Management. Preferred: Project Management Professional (PMP) Certification (Awarded by Project Management Institute - PMI). Completion of basic technical courses supporting the type of technology to be managed including design analysis and implementation planning for IP Telephony and related messaging and Call Center Adjuncts.
Duties	Responsible for the overall project plan, budget, structure, schedule and staffing requirements. Manages the integration of company products and/or systems at customer sites including but not limited to: Contact Center products. Unified Communications Products. Mid-Market Products.
Category	**Technical Systems Integrator**
Qualifications	Masters in Science desired, Bachelor's degree preferred in CS or Engineering. Avaya and industry certifications are required.

Labor Categories and Qulifications	
Duties	Evaluates and analyzes network performance to propose design and configuration requirements to meet the performance requirements of a converged network. Responsible for the remote or onsite implementation and integration support of vendor products including but not limited to the following: Interaction Center and CTI applications. Interactive Response, Voice Portal, and Speech applications. Contact Center reporting products (CMS, IQ, BCMR). Proactive Contact (Outbound Dialer). Meeting Exchange. Applications Enablement Services (AES).
Category	**Mobility Principal/Security Consultant**
Qualifications	Requires fifteen (15) years in the field or related area. Requires a Master Degree, or its equivalent.
Duties	Recognized within the industry as a strategic thought leader in Mobility solutions and is proficient in relevant principles and practices including strategy, design and architecture. Applies experience, skills, and expert knowledge as a strategic thought leader for Mobility services at customer engagements. Delivers solutions by utilizing state-of-the-art mobile and machine to machine (M2M) technologies within the rapidly changing mobile landscape. Delivers mobility and machine to machine services and acts as trusted advisor for clients, providing both strategic guidance and technical delivery for consulting engagements.
Category	**Mobility Senior Consultant/Project Manager**
Qualifications	Requires ten (10) years in the field or related area. Requires Bachelor's Degree, or its equivalent.
Duties	Recognized within the industry as a strategic thought leader in Mobility solutions and is proficient in relevant principles and practices including strategy, design and architecture. Applies experience, skills, and expert knowledge as a strategic thought leader for Mobility services at customer engagements. Leads professional engagements and deliverables for mobile and machine to machine (M2M) technologies. Acts as trusted advisor for clients, providing both strategic guidance and technical delivery for consulting engagements. Delivers quality services and timely deliverables to customers. Serves as a major contributor to planning process and for providing project management and guidance.

Additional Labor Categories

Business Integration Business Continuity Management	
Category	**Business Continuity Planner I**
Qualifications	Requires five (5) to ten (10) years' experience in the field or related area. Requires a Bachelor's degree, applicable certificates, or its equivalent.
Duties	Functional Responsibility: Position covers all areas of the business continuity planning cycle. Works with high-level organizational personnel and provides analysis and recommendations to organizations to ensure the continuation of core, mission-essential functions should personnel, facilities, inventory, IT/communications and/or infrastructure experience a natural or man-made debilitative event. Maintains schedules to meet all deadlines and objectives. Designs and administers programs that include policies, standards, guidelines, training programs, and quality assurance processes for viable continuity planning. Oversees the development of Continuity of Operations (COOP) plans. Provides leadership to other business continuity professionals.

Business Integration Business Continuity Management	
Category	**Business Continuity Planner II**
Qualifications	Requires two (2) to five (5) years' experience in the field or related area. Requires an Associates or Bachelor's degree, applicable certificates, or its equivalent.
Duties	Position covers all areas of the business continuity planning cycle. Under minimal supervision, provides research and analysis to organizations to ensure the continuation of core, mission-essential functions should personnel, facilities, inventory, IT/communications and/or infrastructure experience a natural or man-made debilitative event. Participates in the design and administration of programs which include, but are not limited to, policies, standards, guidelines, training, and quality assurance processes for viable continuity planning. Participates in the development of Continuity of Operations (COOP) plans.
Category	**Business Continuity Planner III**
Qualifications	Requires zero (0) to two (2) years' experience in the field or related area. Requires an Associates degree, applicable certificates, or its equivalent.
Duties	Position covers all areas of the business continuity planning cycle. Using established procedures and under close supervision, helps support an organizations continuation of core, mission-essential functions should personnel, facilities, inventory, IT/communications and/or infrastructure experience a natural or man-made debilitative event. Conducts the research and analysis necessary for the design and administration of programs which include, but are not limited to, policies, standards, guidelines, training, and quality assurance processes for viable continuity planning. Supports the development of Continuity of Operations (COOP) plans.
Category	**Subject Matter Specialist I**
Qualifications	Requires fifteen (15) years in the field or related area. Requires a PhD, or its equivalent.
Duties	Recognized at the industry level in a technical field or specialized engineering or technology area and is proficient in relevant engineering principles and practices. Applies experience, skills, and expert knowledge within an engineering discipline to complex assignments. Generates unique concepts as evidenced by synthesis of new products or processes. Creates or uses engineering/scientific tools to solve technical problems. Utilizes and develops tools, techniques, processes and/or facilities such as state-of-the-art simulation environments, laboratories, and test facilities. Provides leadership for engineering activities in a specialized engineering or technology subject area. Serves as a major contributor to technical planning process and for providing technical management and guidance.
Category	**Subject Matter Specialist II**
Qualifications	Requires ten (10) years in the field or related area. Requires Master's Degree, or its equivalent.
Duties	Recognized at the industry level in a technical field or specialized engineering or technology area and is proficient in relevant engineering principles and practices. Applies experience, skills, and expert knowledge within an engineering discipline to complex assignments. Generates unique concepts as evidenced by synthesis of new products or processes. Creates or uses engineering/scientific tools to solve technical problems. Utilizes and develops tools, techniques, processes and/or facilities such as state-of-the-art simulation environments, laboratories, and test facilities. Provides leadership for engineering activities in a specialized engineering or technology subject area. Serves as a major contributor to technical planning process and for providing technical management and guidance.

Security and Internet/Intranet Management	
Category	**Senior Security Engineer**

Security and Internet/Intranet Management	
Qualifications	Two years applied experience in security engineering and two years' experience in a project management or team leadership position. Skills shall include three or more of the areas, above. Bachelor's degree in a technical field of study or demonstrable equivalent job experience.
Duties	• Ability to lead a team of engineers and technicians in the design, implementation, and installation of network security solutions, including but not limited to filtering policies, access control lists, virtual private networks, and secure access and authentication mechanisms. • Ability to review compiled and/or interpreted code for conditions that could generate security vulnerabilities. • Broad knowledge and integration of commercially available and public domain security products and solutions. • Detailed understanding of network protocols and communications. • Custom design and implementation of network and system security solutions appropriate to the customer's needs and culture. • Translation of customer requirements into a system architecture that meets security and functional requirements. • Ability to coordinate with customer engineers or administrators to integrate industry standard security engineering principles and practices with the customer's engineering and development processes. • Execution of projects using defined system engineering methodologies and ability to guide engineers and technicians in those methodologies.
Category	**Senior Security Analyst**
Qualifications	Two years' experience in project management or team leadership position required; plus two years applied security engineering experience with degree, or six or more years applied experience without degree, in at least three of the functional responsibility areas, above. Bachelor's degree in a technical field of study, or six or more years applied experience in at least three of the functional responsibility areas.
Duties	• Ability to lead team of analysts and engineers in security assessment of developmental or operational networks and systems for a variety of government or commercial clients. • Ability to apply defined security analysis methodologies to a variety of government or commercial client networks. • Ability to work with customer personnel to develop mission, functional and security requirements, security policies, architecture, and operational procedures. • Analysis of existing functional and security requirements, security policies, architecture, and operational procedures for security flaws. • Ability to identify countermeasure options and support customers in choosing best options to satisfy cost, functional, security, and other critical requirements. • Working knowledge of industry standard government and commercial security evaluation criteria.
Category	**Security Engineer**
Qualifications	Two years of applied experience are required in at least three of the above functional areas. Bachelor's degree in a technical field of study or demonstrable equivalent job experience.

Security and Internet/Intranet Management	
Duties	• Broad understanding of network and communication protocols. • Broad knowledge of commercially available and public domain security solutions. • Ability to integrate commercial or custom security products and solutions into the customer's network architecture using industry standard system engineering methodologies. • Ability to work in team environment with the customer's engineers or administrators to integrate security engineering principles and practices into the customer's engineering and development processes. • Design or implementation of filtering policies, access control lists, virtual private network solutions, secure access, strong authentication, and other security mechanisms.
Category	**Security Analyst**
Qualifications	Two years applied experience in at least three of the above skills. Bachelor's degree in a technical field of study or demonstrable equivalent job experience.
Duties	• Ability to apply defined security analysis methodologies to government or commercial networks or systems. • Ability to develop customer security requirements, functional requirements, mission, operations, architecture, and policies and then analyze for security flaws. • Ability to identify countermeasure options and support customers in choosing the best solution to satisfy budget, functional, security, and other critical requirements. • Working knowledge of widely accepted security evaluation criteria.
Category	**Security Policy Developer**
Qualifications	At least two years applied experience in at least three of the above skills. Bachelor's degree in a technical field or equivalent job experience.
Duties	• Broad familiarity with government or commercial security regulations and evaluation criteria. • Broad familiarity with government certification and accreditation processes. • Working knowledge of industry standard network and system security policy statements and requirements, including, but not limited to, network security, host security, procedural security, physical security, and personnel security. • Ability to tailor security policies to fit the organization's individual needs and culture as well as to address the organization's threat profile. • Ability to develop and implement detailed processes to implement approved security policies.
Category	**Network Penetration Engineer**
Qualifications	Two years or more applied experience in network vulnerability discovery and exploitation. Skills shall include the areas, above. Bachelor's degree in computer science (or computer- or network-related studies) or demonstrable job experience.

Security and Internet/Intranet Management	
Duties	• Ability to apply known exploits to customer networks to identify weaknesses and vulnerabilities. • "Command-line" ability to manipulate and apply exploits to customer networks. • Programming skills to modify known network attacks for application to customer network architectures and applications when necessary. • Ability to install, configure, and apply third-party vulnerability discovery tools. • Detailed understanding of network protocols, network devices, and operating systems. • Detailed understanding of common network topologies and advanced network management methodologies. • Excellent analytical and problem solving skills for network discovery and analysis. • Understanding of current security technologies for use as countermeasures to vulnerabilities.
Category	**Security Specialist**
Qualifications	Three years minimum and general experience analyzing and defining Network and/or application security requirements. Bachelor's degree in Computer Science, Information Systems, Engineering or Business or equivalent experience.
Duties	Performs risk analyses which also includes risk assessment and intrusion testing. Must be able to communicate effectively in writing and orally with all levels of technical and management personnel, as required. Designs, develops, engineers, implements operates and maintains the systems that meet desired protection. Develops and implements solutions in support of Presidential Directive PDD-63 Gathers and organizes technical information about an agencies mission goals and needs, existing security products, and ongoing programs in the Multilevel Security (MLS) arena.
Category	**Internet/Intranet Webmaster**
Qualifications	Three years' experience in providing oversight for all web activities that include managing, designing and implementing web enable capabilities and resources. Bachelor's degree in Computer Science, Information Systems, or Engineering or equivalent experience.
Duties	Identifies skills and complexity of development efforts. Provides oversight and quality assurance for adherence to standards, style guides, and web security and administration documentation. Develops and delivers technical briefings to senior management. Directly interfaces with external and internal customers to refine requirements and establishes timelines and milestones.
Category	**Internet/Intranet Security Specialist**
Qualifications	Three years in providing technical expertise for the design and protection of data that traverses Internet and/or Intranet connections. Bachelor's degree in Computer Science, Information Systems, or Engineering and experience in Network Security Management.
Duties	Develops security measures that enforces and/or enhances security goals and policy. Manages systems that include Firewalls, virus protection, email relays and Domain Name Servers. Develops measurements of quality of service standards and delivers technical briefings to senior management.
Category	**New Media Specialist**
Qualifications	One year experience in deploying Internet / Intranet content to meet established style guides and quality procedures. Has skill sets that include the incorporation of graphics into text based documents. Has HyperText Mark-up Language (HTML) integration and conversion skills. Bachelor's degree in Communication, Information Systems, or Business, and experience with various HTML Editors and web utilities, Adobe illustrators, and various Window platforms.
Duties	Develops HyperText links to associated content pages that enhance the information presented.
Category	**Senior Media Specialist**

Security and Internet/Intranet Management	
Qualifications	Two years minimum experience deploying complex Internet / Intranet content to meet established style guides and quality procedures. Has skill sets that include the incorporation of graphics into text based documents. Has strong HyperText Mark-up Language (HTML) integration and conversion skills. Bachelor's degree in Communication, Information Systems, or Business, and experience with various HTML Editors and web utilities, Adobe illustrators, and various Window platforms.
Duties	Provides oversight to New Media Specialists and Graphics designers in conversion and development of HyperText links for integrating graphics generated with automated tools.
Category	**TIER II SECURITY TECHNICIAN**
Qualifications	Completion of a technical school program or Security Technology Institute certification in security and surveillance systems or experience as an electrician's helper or equivalent job with rudimentary knowledge of basic electric theory or minimum of twenty-four months basic construction experience. Tier II technicians shall have at least two years' experience and be able to obtain and maintain required security clearances.
Duties	Performs support services to include periodic maintenance, installations and remedial maintenance.
Category	**Tier III Security Technician**
Qualifications	Completion of a technical school program or Security Technology Institute certification in security and surveillance systems or experience as an electrician's helper or equivalent job with rudimentary knowledge of basic electric theory or minimum of thirty-six months basic construction experience. Tier III technicians shall have at least five years' experience and be able to obtain and maintain required security clearances.
Duties	Provides support services to include periodic maintenance, installations and remedial maintenance. Advanced understanding of computer concepts, applications and configuration; electronic and computer equipment hardware and software and operation of telecommunications broadcasting, switching and control.
Category	**Security Access Engineer**
Qualifications	The Security Access Engineer shall have at least 5 years' experience and be able to obtain and maintain required security clearances.
Duties	Performs engineering services to include design, installation, upgrade, consultation and implementation for Electronic Security System (ESS), Secure Access, Intrusion Detection Systems and base/building infrastructure.
Category	**Senior Access Security Systems Administrator**
Qualifications	System Administrators shall have at least five years' experience and possess a secret clearance.
Duties	Manages and administers alarm and access control systems including system updates to all access security clients/servers, update all other Windows based Access Security systems, synchronize and ensure all data bases are replicating, load correct versions of latest security software. Perform routing backups, provide trouble shooting of access security system and generate reports as required.
Category	**Access Security System Administrator**
Qualifications	System Administrators shall have at least three years' experience and obtain and maintain required security clearances.
Duties	Administers alarm and access control systems including system updates to all access security clients/servers, update all other Windows based Access Security systems, synchronize and ensure all data bases are replicating, load correct versions of latest security software. Perform routing backups, provide trouble shooting of access security system and generate reports as required.
Category	**Security Program Manager**

Security and Internet/Intranet Management	
Qualifications	Experience in the management of large and small security projects for various government and commercial clients. Minimum Education: Bachelor's degree in a management or technical field of study, or demonstrate equivalent job experience. Ability to obtain and maintain required security clearances.
Duties	Provides project/program oversight and communications with security action officer through detailed monthly project reports detailing preventative maintenance services, remedial maintenance services, schedules/milestones, budget analysis, staffing and trouble ticket resolution.
Category	**Internet/Intranet Web Architect**
Qualifications	Two years' experience in developing technical solutions for interactive resources that are implemented on a web based architecture. Bachelor's degree in Computer Science, Information Systems, or Engineering, Business and experience with various web servers, or equivalent experience.
Duties	Evaluates and recommends leading marketplace technologies to enhance delivery and quality of web based content. Audits adherence of style guides and standards that include data dictionary libraries. Updates workflow plans and web documentation. Evaluates usage statistics to assure design layouts are optimized for customers.
Category	**VoIP Premium Support Specialist**
Qualifications	Requires ten (10) years in the field or related area. Requires Bachelor's Degree, or its equivalent.
Duties	Subject matter expert and technically competent in the Verizon Hosted IP Centrex (VoIP) Service, Technology, Systems, and Transitional Services. Broad range of competencies, including skills and expertise from voice and data networking. Recognized at the industry level in a technical field or specialized engineering or technology area and are proficient in relevant engineering principles and practices. Applies experience, skills, and expert knowledge within an engineering discipline to complex assignments. Generates unique concepts as evidenced by synthesis of new products or processes. Creates or uses engineering/scientific tools to solve technical problems. Utilizes and develops tools, techniques, processes and/or facilities such as state-of-the-art simulation environments, laboratories, and test facilities. Provides leadership for engineering and incident management activities in relations to the design and installation of VoIP and associated VoIP equipment. Serves as a major contributor to technical planning process and for providing technical management and guidance.

(OTH-V00-0679)

Category	Business Process Consultant – Junior (NBD)
Qualifications	Understands fundamental concepts to business process design and reengineering. Has an understanding of common tools and software packages. Understands business system objectives for user needs.
Duties	Analyzes process and re-engineering with an understanding of technical and functional solutions that relate to the current and future business environment. Documents current and future state process designs. Documents business system objectives and scope.

(OTH-V00-0680)

Category	Business Process Consultant – Mid-Level (NBD)
Qualifications	Understands industry best practices and methodologies to facilitate business process design projects. Has experience using common tools and software package. Has experience defining business scope and objectives. Has and understanding of organizational design concepts.
Duties	Analyzes process and re-engineering with an understanding of technical and functional solutions that relate to the current and future business environment. Facilitates and reviews current and future state process designs. Recommends design updates and changes. Facilitates business objectives and scope with clients.

(OTH-V00-0681)

Category	Business Process Consultant – Senior (NBD)
Qualifications	Has domain technical knowledge of business process reengineering methodologies. Has experience leading projects and is able to interact and converse with clients and stakeholders. Has experience leading small teams defining business scope, objectives, organization design and system requirements.
Duties	Analyzes process and re-engineering with an understanding of technical and functional solutions that relate to the current and future business environment. Facilitates and reviews current and future state process designs. Recommends design updates and changes. Leads project teams that define business scope, objectives, organizational design and system requirements.

(OTH-V00-0682)

Category	Business Process Consultant – Manager (NBD)
Qualifications	Has domain and exert technical knowledge of business process reengineering methodologies, including business system requirements, objectives and organizational design. Has experience leading complex projects and is able to interact and converse with multiple clients and stakeholders. Has experience managing project schedules, resources and budgets.
Duties	Leads teams with business process redesign, organizational design, business system scope and objectives. Facilitates reviews and makes recommendations to all client deliverables. Facilitates and reviews deliverables with clients.

(OTH-V00-0679)

Category	Business Process Consultant – Junior (NBD)
Qualifications	Understands fundamental concepts to business process design and reengineering. Has an understanding of common tools and software packages. Understands business system objectives for user needs.
Duties	Analyzes process and re-engineering with an understanding of technical and functional solutions that relate to the current and future business environment. Documents current and future state process designs. Documents business system objectives and scope.

(OTH-V00-0680)

Category	Business Process Consultant – Mid-Level (NBD)
Qualifications	Understands industry best practices and methodologies to facilitate business process design projects. Has experience using common tools and software package. Has experience defining business scope and objectives. Has and understanding of organizational design concepts.
Duties	Analyzes process and re-engineering with an understanding of technical and functional solutions that relate to the current and future business environment. Facilitates and reviews current and future state process designs. Recommends design updates and changes. Facilitates business objectives and scope with clients.

(OTH-V00-0681)

Category	Business Process Consultant – Senior (NBD)
Qualifications	Has domain technical knowledge of business process reengineering methodologies. Has experience leading projects and is able to interact and converse with clients and stakeholders. Has experience leading small teams defining business scope, objectives, organization design and system requirements.
Duties	Analyzes process and re-engineering with an understanding of technical and functional solutions that relate to the current and future business environment. Facilitates and reviews current and future state process designs. Recommends design updates and changes. Leads project teams that define business scope, objectives, organizational design and system requirements.

(OTH-V00-0682)

Category	Business Process Consultant – Manager (NBD)
Qualifications	Has domain and exert technical knowledge of business process reengineering methodologies, including business system requirements, objectives and organizational design. Has experience leading complex projects and is able to interact and converse with multiple clients and stakeholders. Has experience managing project schedules, resources and budgets.
Duties	Leads teams with business process redesign, organizational design, business system scope and objectives. Facilitates reviews and makes recommendations to all client deliverables. Facilitates and reviews deliverables with clients.

4.14 Other Direct Costs

Customers may also procure products and services that are within the scope of the WITS 3 contract, but may not be available as a specific CLIN on the contract by utilizing the ODC clause of the contract. Verizon must provide products and services that are within the scope of this contract but are not identified in the price tables. Charges for these products and services shall be considered "Other Direct Costs" (ODCs) and shall be established on an individual-case basis. Examples of ODCs include provision of labor and materials to prepare sites for WITS 3 products and services, or unique applications that may be required to provide WITS 3 customers with fully integrated solutions to meet their agency's mission. Repeated use of an ODC for similar products or services may lead to a contract modification and the establishment of a new CLIN.

5.0 Verizon WITS 3 Dialing Instructions

5.1 Civilian Network

5.1.1 Civilian Dialing Plan

Table 5.1.1-1: Civilian Network Dialing Plan

Civilian Network Dialing Plan									
		LEVELS OF SERVICE							
Type of Originating Call	**Digits Dialed**	**GS1**	**GS2**	**GS3**	**GS4**	**GS5**	**GS6**	**GS7**	**Description**
Intra-Switch	7 Digit (7D)	X	X	X	X	X	X	X	Caller can call any 7D WITS 3 number served by the same switch.
Inter WITS 3 Switches	7 Digit (7D)	X	X	X	X	X	X	X	Any WITS 3 user assigned to any of the dedicated WITS NXX's will be allowed to call one another via 7-digit dialing. NXX's are: 305, 306, 308, 605, 208, 219, 273, 565, 418, 501,693, 606, 564, 482, 694, 502, 205, 260, 358, 401, 619, 690, 720, 708, 692, 268, 691, 734, 457, 504, 713, 415
Intra-WITS 3	9+7D/10D		X	X	X	X	X	X	Any 7D or 10D that are served by, and are part of the WITS 3 Network can call any WITS 3 user by the commercial dialing rules; "N0" message units apply.
Non-WITS 3 Government Numbers	9+7D/10D		X	X	X	X	X	X	This dialing sequence will access any non-WITS 3 Government numbers called, message units will apply.
Local Commercial Dialing	9+7D/10D			X	X	X	X	X	Calls via the Local PSN, message units apply.
Local Operator Assistance	9+0						X	X	This dialing sequence will provide local operator assistance.
Directory Assistance	9+411			X	X	X	X	X	This dialing sequence will provide local operator directory assistance.
Emergency Services	9+911	X	X	X	X	X	X	X	This dialing sequence will provide direct emergency assistance for fire, police, and ambulance.
FTS2001 & Other Carriers Long Distant Domestic Dialing	9+1+10D				X	X	X	X	This dialing sequence allows for any long distance calls within the continental US.
FTS2001 & Other Carriers International Dialing	9+011+Int'l #							X	Routes International calls to Agency selected International Service provider.
Time	9+844+2424			X	X	X	X	X	To reach the Verizon Time Announcement Service
Weather	9+936+1212			X	X	X	X	X	To reach the Verizon Weather Announcement Service
8XX Service	9+1+8XX+7D			X	X	X	X	X	Free direct dialed calls to 8XX numbers.

Civilian Network Dialing Plan									
		LEVELS OF SERVICE							
Type of Originating Call	Digits Dialed	GS1	GS2	GS3	GS4	GS5	GS6	GS7	Description
Government Calling Card	9+0+10D+CC #						X	X	Allows a Government credit card call to be direct dialed. The call will route to the Agency Selected Long Distant Carrier.
Canada & Caribbean	9+1+10D						X	X	Direct dialing for LD calls to Canada & Caribbean via PIC
IXC Operator	9+00							X	Operator assisted, National and International

Notes:

- NPA Codes 432, 900 & 976 are blocked for all Class of Services in all central offices.
- All Siemens EWSD switches will only be provided with 2 digit Speed Call lists (20-79), LN, MV, SP, and FC.
- Government Emergency Telephone Service (GETS) is allowed by GS4-7, by dialing 9+1+10D via FTS2001/Networx.
- NPA 700 is allowed for LCC GS4-GS7 & GD4-7.
- To forward numbers outside Centrex (CFBL, CFDA, CFV, etc.), *9 must be entered before the directory number.
- Other Line Class Codes assignments are GD1-GD7 for Data lines and GP1-GP7 for Packet.
- Centrex groups in the 5ESS switches include 2301 for analog, 2301D for ISDN, and 2301S for software numbers.
- Dial Internet service via NPA 500 will be allowed for GS6 and GS7 only.
- Commercial dialing rules may require user to dial 9+1+10D. Users within the WITS dialing area will not incur toll charges.

5.1.2 Civilian Feature Access Codes

Table 5.1.2-1: Civilian Feature Access Codes

WITS 3 Dialing Plan – Civilian Feature Access Codes	
Feature	**Code**
FTS long distance access	9
Local access	9
Call Forwarding – Feature Button on Set	
Call Forward Variable program/change Directory Number^	*723
Call Forward Variable activate	*722
Call Forward Variable deactivate	*732
Call Forward Busy program/change Directory Number^	*763

WITS 3 Dialing Plan – Civilian Feature Access Codes	
Feature	**Code**
Call Forward Busy activate	*762
Call Forward Busy deactivate	*772
Call Forward No Answer program/change Directory Number^	*765
Call Forward No Answer activate	*764
Call Forward No Answer deactivate	*774
Call Forwarding – Without Feature Button on Set	
Call Forward Variable program/change Directory Number^ and activate	*721
Call Forward Variable deactivate	*731
Call Forward Busy program/change Directory Number^ and activate	*760
Call Forward No Answer program/change Directory Number^ and activate	*761
Note: Once Call Forward Busy and Call Forward No Answer are programmed/activated, the feature cannot be deactivated. However, the programmed Directory Number can be changed.	
^ To program an off-network Directory Number, dial *9 before dialing the Directory Number	
Group Call Pickup	*79
Direct Call Pickup	*71
Change Speed Call 6-Number List	*74
Speed Call Codes 6-Number List	2-7#
Change Speed Call 80-Number List (or 30-Number List)	*75
Speed Call Codes 80-Number List (or 30-Number List)	00-79# (or 20-49#)
Note: Dialing # (pound key – lower right button) after the Speed Call Code quickens the process by alerting the switch that you've finished dialing.	
Automatic Callback activate ("repeat call")	*66
Automatic Callback deactivate (cancel "repeat call")	*86
Return Call activate	*69
Return Call deactivate	*89
Six-Way Conferencing	100
Message Waiting Light deactivate	*53
Manual Exclusion	Future
Block Caller ID on shared call appearance activate	*726
Block Caller ID on shared call appearance deactivate	*736
Call Trace	*57
** Asterisk (star key) is the lower left button on the touch-tone pad.*	

5.2 Department of Defense Network

5.2.1 Department of Defense Dialing Plan

Table 5.2.1-1: Department of Defense Network Dialing Plan

Department of Defense Network Dialing Plan								
		LEVELS OF SERVICE						
Type of Originating Call	Digits Dialed	TP1	TP2	TP3	TP4	TP5	TP6	Description
DoD Operator Toll Denied	0	X	X	X	X			DoD Operator will provide directory assistance
DoD Operator Toll Allowed	0					X	X	DoD Operator will provide directory assistance, place operator assisted calls, connect to outside operator, place calling card calls, verify busy numbers and place interrupt calls for the end user.
DoD Intra-System (on-network)	7D	X	X	X	X	X	X	DoD intra-system calls dialing a uniform 7-digits will complete to all other on-net users telephone numbers.
Public Switched Network (PSN) Local-Commercial (off-network)	99+7D/10D/11D		X	X	X	X	X	This dialing sequence will access the PSN for local calling, including calls to other non-DoD local government numbers
PSN Local Operator Assistance (off-network)	99+0				X	X	X	This dialing sequence will provide local operator assistance.
PSN Local Directory Assistance (off-network)	99+411				X	X	X	This dialing sequence will provide local operator directory assistance.
PSN Local Emergency Services (off-network)	99+911	X	X	X	X	X	X	This dialing sequence will provide direct emergency assistance for fire, police, and ambulance.
Direct Dial Long Distance (DDLD)	99+1+10D					X	X	This dialing sequence will allow for any long distance calls within the continental US, Alaska, Hawaii, Guam, Puerto Rico, and US Virgin Islands. First choice routing is FTS-XXXX for supported codes with overflow routing by Primary Interexchange Carrier (PIC).
PSN Toll	99+1+10D				X			This dialing sequence will allow direct dialing for any long distance calling within NANP via PIC. Reserved for Concessionaires.
Long Distance Directory Assistance (LDDA)	99+1+NPA +555-1212					X	X	This dialing sequence will provide long distance operator directory assistance via FTS-XXXX.
LDDA via PIC (800/888/877)	99+00				X	X	X	This dialing sequence will provide long distance operator directory assistance from the user's preferred

Department of Defense Network Dialing Plan								
		LEVELS OF SERVICE						
Type of Originating Call	Digits Dialed	TP1	TP2	TP3	TP4	TP5	TP6	Description
								Interexchange Carrier, based on predefined line translations.
Toll-free Service (800/888/877)	99+1+8XX+7D		X	X	X	X	X	This dialing sequence will allow free direct dialed calls to 800/888/877 numbers.
FTS Credit Card	99+0+10D +Credit Card #					X	X	This dialing sequence will allow an FTS-XXX Credit Card call to be direct dialed. The call will route to the DoD authorized PIC which is currently VERIZON.
DSN Flash Override Precedence	90+7D/10D							Reserved for future MLPP Access. DSN Route Codes will be allowed as defined in DCEC R610-001. Reserve (80-89) & (95-98) for future use-per DCEC R610-001.
DSN Flash Precedence	91+7D/10D							
DSN Immediate Precedence	92+7D/10D							
DSN Priority Precedence	93+7D/10D							
DSN Routine Precedence	94+ "0"/7D/10D			X			X	This dialing sequence will allow DoD users to access the DSN for completion of on-net and off-net calls.
Canada & Caribbean	99+1+10D				X	X	X	This dialing sequence will allow direct dialing for LD calls to Canada & Caribbean via PIC.
IDDD International	99+011+				X	X	X	This dialing sequence will route international calls to current authorized PIC for international calls.
IDDD International Operator	99+01+				X	X	X	This dialing sequence will reach the PIC operator who will obtain the international operator.
Personal Interexchange Carrier Credit Card	99+(10XXXXX) +0+10D +Credit Card #		X	X	X	X	X	This dialing sequence will allow direct dialed Credit Card and operator assisted personal calls to be placed using either DTS-W's authorized or personal Interexchange Carriers. Note: XXXXX in the dialing sequence refers to IC specified digits.
Interexchange Carrier Operator Assistance	99+(10XXXXX) +0+10D		X	X	X	X	X	
Personal "950" Interexchange Carrier Credit Card	99+950+4D		X	X	X	X	X	This dialing sequence will allow direct dialed Credit Card and operator assisted personal calls to be placed using either DTS-W's authorized or personal Interexchange Carriers.
"950" Interexchange Carrier Operator Assistance	99+950+4D		X	X	X	X	X	

Notes: NPA Codes 432, 900 & 976 are blocked for all Levels of Service

5.2.2 Department of Defense Feature Access Codes

Table 5.2.2-1: Department of Defense Feature Access Codes

WITS 3 Dialing Plan – Department of Defense Feature Access Codes	
Feature	**Code**
Local (off-network) access	99
DSN access	94
Call Forwarding – Feature Button on Set	
Call Forward Variable program/change Directory Number^	*722
Call Forward Variable activate	*723
Call Forward Variable deactivate	*733
Call Forward Busy program/change Directory Number^	*724
Call Forward Busy activate	*725
Call Forward Busy deactivate	*735
Call Forward Don't Answer program/change Directory Number^	*726
Call Forward Don't Answer activate	*727
Call Forward Don't Answer deactivate	*737
Call Forwarding – Without Feature Button on Set	
Call Forward Variable program/change Directory Number^ and activate	*721
Call Forward Variable deactivate	*731
Note: Call Forward Busy and Call Forward Don't Answer can be programmed/changed, activated, and deactivated in the switch via a Service Order request.	
^ To program an off-network Directory Number, dial 99 before dialing the Directory Number.	
Group Call Pickup	*79
Direct Call Pickup	*71
Change Speed Call 6-Number List	*74
Speed Call Codes 6-Number List	2-7#
Note: Dialing # (pound key – lower right button) after the Speed Call Code quickens the process by alerting the switch that you've finished dialing.	
Change Speed Call 30-Number List	*75
Speed Call Codes 30-Number List	*20-49
Repeat Call activated	*66
Repeat Call deactivated	*86
Return Call activated	*69
Return Call deactivated	*89
Six-Way Conferencing	*100
** Asterisk (star key) is the lower left button on the touch-tone pad.*	

5.3 Hosted IP Centrex Dialing Plan and Feature Access Codes

Hosted IP Centrex fully supports the North American Numbering Plan, which uses dial 7 or 10 for outbound calling depending on the local dialing plan for their area. Intercom Calls can be set up by the administrator and can include 4-digit dialing within the system.

The system comes with the three system interface tools, the first two allow the designated Systems Administrator to control the dialing plans and feature access codes. The third is the actual end-user telephone, which provides some level of control to the end-user. Below is a brief overview of these three interfaces.

Administrator Web Dashboard (Verizon Customer Center Enterprise Dashboard)

The Administrative Web Dashboard provides administrators extensive self-administrative functionality to view and manage their end-user accounts in tandem with the associated equipment. Although the capabilities are extensive, the tool is intuitive and easy to use. Customers should experience reduced operational cost and improved organizational efficiencies over the traditional methods of telecom management. For example, customers with a PBX in a remote site would need to dispatch a technician to make a change or add an end user. The administrative interface reduces the amount of manual intervention required to move or set up a new end-user.

Below is a list that provides examples of some Hosted IP Centrex components that can be managed through the Administrative Web Dashboard. Additional details can be found within the Administrator User Guides.

- Authorize features to an end-user or group
- Manage feature packages
- Manage end-users
- Access reports including reports on outbound usage, use of remote office, etc.
- Configuring location features like auto attendants, set business hours, etc.
- Manage accounting and authorization codes
- Manage calling plans

Communication Manager

Communication Manager is a web-based interface that enables end-users to use and manage most of their features associated with the Hosted IP Centrex service. The tool is accessed from the Verizon Customer Center (http://customercenter.verizon.com).

There are 6 major sections to the interface.

1. **Profile:** This section allows end-users to set personal time schedules that effect features such as selective call forward and selective call rejection. Also contained within this section is the management of an end-users voice mail box.
2. **Incoming Calls:** The section enables end-users to configure how they may want to handle incoming calls by activating or deactivating subscriber services. An example would be anonymous call rejection or priority alert.
3. **Outgoing Calls:** In this section, the subscriber determines how outgoing calls are handled by setting preferences for subscriber services. The end-user is able to establish speed dial, turn on auto callback, and define a personal phone list.

4. **Call Control:** The call control section provides an area for additional features associated with call control to be turned on and off. A couple of examples include call waiting, customer originated trace, etc.
5. **My Preferences:** A smaller section than the others, the My Preferences section allows end-users to load or modify a personalized name for the auto-attendant and voice mail. If not set, the system will spell it out to the caller.
6. **Utilities:** Contained within this section is the ability to display feature access codes for the end-users features and to prevent the phone from receiving calls.

See the Verizon VoIP Subscriber User Guide for additional details on the Communication Manager.

Phones

The third user interface to the Hosted IP Centrex service will be the most frequently used by end-users, the phone. It is highly recommended that customers use Polycom IP phones to realize the most value from the service. However, other IP phones are available and agencies could use traditional phones connected to an integrated access device. End-users can do the obvious with their phones, make and receive calls, but also manage a number of their features through access codes and menus on the phones. Additional information is provided within each phones user guide.

IP Trunking Dialing Plan and Feature Access Codes

IP Trunking fully supports the North American Numbering Plan, which uses dial 7 or 10 for outbound calling depending on the local dialing plan for their area. As with traditional PBXs, end-users that are connected to the WITS 3 Network behind a VoIP Switch need to contact their VoIP Switch hardware provider for their Dialing Plans and Feature Access Codes, some of which are outlined in Table 5.3-1.

Table 5.3-1 Hosted IP Centrex Feature Codes

Code	Feature
#8	Automatic Callback Deactivation
*72	Call Forwarding Always Activation
*73	Call Forwarding Always Deactivation
*90	Call Forwarding Busy Activation
*91	Call Forwarding Busy Deactivation
*92	Call Forwarding No Answer Activation
*93	Call Forwarding No Answer Deactivation
*67	Calling Line ID Delivery Blocking Per Call
*65	Calling Line ID Delivery Per Call
*68	Call Park
*88	Call Park Retrieve
*98	Call Pickup
*69	Call Return

*70	Cancel Call Waiting
*57	Customer Originated Trace
*97	Directed Call Pickup
*33	Directed Call Pickup with Barge-in
*78	Do Not Disturb Activation
*79	Do Not Disturb Deactivation
*22	Flash Call Hold
*66	Last Number Redial
*60	Music on Hold Per-Call Deactivation
*71	Per Call Account Code
*75	Speed Dial 100
*47	Sustained Authorization Code Activation (Calls Unlocking)
*37	Sustained Authorization Code Deactivation (Call Locking)

5.4 Security Procedures For Malicious/Threatening Calls

The following are the necessary steps to be taken in the event that a WITS 3 user receives a malicious call, a telephone bomb threat, or any other life-threatening calls. These instructions apply to all users of WITS 3 and the GSA Centrex systems in the National Capital Region (NCR).

Note: These procedures must be followed immediately – before another call comes in on the same line.

1. Write down the time and telephone number to which the call was made.
2. At the conclusion of the call, press the switch hook (hang up) for only a few seconds, then release the switch hook (pick up the receiver again).
3. On the *same* line that the call came in on, perform the following:

If you have a multi-button phone, press the line button for the same line that received the threatening call.

If your agency/location is served by a key system behind WITS 3, you must seize the same line which received the threatening call by first pressing the RECALL button; then dialing the appropriate call trace code.

Listen for a dial tone.
Dial the special Call Trace code for your telephone system
(DO NOT DIAL 9 FIRST)
Touch Tone: *57
Rotary: 1157

4. Listen to the confirmation announcement, which should advise you that an automatic line trace has been activated in WITS 3 and should direct you to contract the Federal Protective Service (FPS) immediately on 202-708-1111.

DO NOT DIAL 9 FIRST

In some cases, the recording may state that an automatic trace cannot be activated on your line. This is because, in some local and national areas, some telephone switches are not yet equipped to transmit the originating caller's number to the receiving switch to activate call trace. In this event, call the FPS and advise them that you heard this particular recording so that a manual trace may be implemented.

5. Hang up the phone. Write down the time and date that you initiated the call trace.
6. Contact the Federal Protective Service (FPS) on 202-708-1111 (AGAIN, DO NOT DIAL 9 FIRST) and advise them of the threatening telephone call. Provide them the date, time, your name, your telephone number, and a description of the call. They will follow up with the proper officials. If you already called the FPS to advise them that you needed to request a manual trace (Step 4), you will not need to call them again.

NOTE: Your agency may elect to have its employees report such calls to your own Security Center in addition to reporting calls to the FPS. This would ensure that your Security officials are kept fully informed of all security matters occurring in your agency.

7. At this point, only Security personnel and Verizon will be involved in following up on the call. No further action is required of you unless you are contacted by Security.

Please emphasize to your employees that these procedures are meant to be used ONLY in life-threatening situations. There is no charge for the trace from a WITS 3 line.

6.0 WITS 3 Glossary

6.1 Definition of Terms

Term	Definition
3G	Abbreviation for high bandwidth third generation wireless technology.
311 Service	A non-emergency service whereby a caller dials a common telephone number – 311 – for assistance.
5ESS Electronic Switching System	An advanced multifunctional end-to-end digital network designed with fully modular architecture. 5E6 and 5E8 are software release packages associated with the 5ESS.
911 Service	An emergency reporting system whereby a caller dials a common telephone number – 911 – for all emergency service.
ACB	Agency Clustered Building – Agencies located in a group of buildings that may share common structural, utility or management facilities, are co-located and encompass commonly known boundaries (e.g., National Institute of Health, Bethesda, and Agricultural Research Complex, Beltsville.)
Access circuit	The access facilities provided between the Service Delivery Point (SDP) and the Interexchange Carrier's (IXC's) Point of Presence (POP) and/or the Local Exchange Carrier's (LEC's) central office.
Account code	A code that identifies the caller so that the cost of the call can be billed to the appropriate party.
ACO	Administrative Contracting Officer – The person responsible for managing all contract issues.
Action	The ordering action requested (i.e., install, move, change, etc.)
Additional directory number	A feature that provides multiple numbers within a single, main directory listing.
AE	Account Executive – A person whose primary charge is to handle the design and recommendation of telecommunications solutions for a client.
Agency	An agency authorized to purchase WITS 3 products and services (includes: all federal agencies, authorized federal contractors, agency-sponsored universities and labs, and when authorized by law or regulation, state, local and tribal governments)
Agency Billing Code	A government-provided code that identifies a specific billing account for an agency allowed to order WITS 3 services.
Agency Bureau Code	A code established by the government to identify every bureau in every federal Agency. Refer to GSA directive COM4240.1 for a listing.
Agency Hierarchy Code	An agency-provide code that identifies how billing data shall be grouped; e.g., by agency, Billing Accounting Code, Location Code, service, and SDP. Each level of the hierarchy shall contain the aggregate information pertaining to the lower levels.

Term	Definition
Alphanumeric	A term pertaining to a character set that contains letters, digits, and sometimes other characters, such as punctuation marks.
Alternate call directory listings	A feature that allows alternate numbers to be indicated under a directory listing.
AMA	Automatic Message Accounting – An accumulation of bill data including called number, date, time and call duration for processing of customer's bills.
AMS	AMS Automated Management System – This system enables the WITS 3 project team and the System Quality Assurance Center (SQAC) to directly access real-time system management and operations information.
Analog	In telephone transmission, the signal being transmitted–voice, video, or image–is "similar to" the original. In telecommunications, analog means telephone transmission and/or a switch that is not digital.
Analog Data	Data represented by a physical quantity that is considered to be continuously variable and whose magnitude is made directly proportional to the data or to a suitable function of the data.
Analog Line	Analog lines are often referred to as plain old telephone service (POTS) lines. Analog lines provide a single analog communication circuit between the local end office (Class 5 switch) and the customer's telephone, key system, fax machine, or modem
Analog Trunk	Analog trunks are supported in the Verizon network at 4000 Hz bandwidth for incoming, outgoing, and two-way traffic and direct inward and outward dialing.
Annual True-Up	Performed at the end of the contract year, based on average local usage minutes per line for each applicable service under contract, will determine if the maximum threshold has been exceeded, and the amount of applicable overage charges.
ANP	Area Numbering Plan – Area code
ANSI	American National Standards Institute- An organization that coordinates and facilitates the development of US standards for ISDN.
ASCII	American Standard Code of Information Interchange. A 7-bit code for providing as many as 128 different characters. An eighth bit can be added as a parity check for error purposes.
Asymmetric Digital Subscriber Loop (ADSL)	A developing technology that allows for the transmission of data at a T1 rate (or higher) downstream and 64 kb/s (or higher) upstream over a single copper pair.
Asynchronous transmission	Data transmission in which the instant each character or block of characters starts is arbitrary.
Authorization Code	A code that, once entered, can permit the user to gain access to a system or service.
Authorization Date	In Service@once, a system generated date when an order was successfully authorized.

Term	Definition
Automatic Call Back	Allows a user to place a call back on a busy line. When the called station goes on-hook, the originating station is rung and, when answered, the original call is automatically placed.
Automatic Number Identification	A service feature that provides the automatic identification of the calling station's billing number.
Automatic Route Selection (ARS)	A process for routing calls automatically, based on the area code (NPA) and exchange code (NXX) of the called number.
Availability	The proportion of total time that the service was available for use during the reporting period, which is usually one month. For purposes of the WITS 3 contract, the operational availability is defined as follows: Availability = $\frac{\text{Total Uptime x 100}}{\text{Total Uptime + Total Downtime}}$. Total uptime is the total amount of time the service is available within the reporting period. Total downtime is the total amount of time that the service is unavailable. Total downtime includes scheduled maintenance downtime if the service is unavailable for use.
AWT	Actual Work Time – The period of time covering start to completion of work.
B	Byte – a sequence of eight adjacent binary digits usually treated as a unit.
B Channel	A 64 kbps bi-directional digital equivalent of two analog lines.
b/s	Bits per second
BAC	Billing Account Code
Backup of Shared-D Channel	Shared-D channel backup/redundancy, for ISDN PRIs with a 24B+0D configuration, which is available when the primary PRI with 23B+D is inoperative.
BAN	Billing Account Number – The numerical identifier assigned to agency accounts for billing purposes.
Bandwidth	(a) The bandwidth of a device is the difference between the limiting frequencies within which performance with respect to some characteristic falls. (b) The difference between the limiting frequencies of a continuous frequency band.
Base price	The price for providing service with no features.
Basic capability	A basic capability is a service function that is included in the base price of the service.
Basic rate	The transmission speed supported by the basic interface structure of an ISDN system that is composed of two B (64 kb/s) and one D (16 kb/s) channels, as defined in CCITT I-412.
Billing Account Codes (BAC)	A number that is assigned by Verizon to uniquely identify the agency cost center on the service order and the invoice (exception: DTS-W assigns BACs for DoD customers).

Term	Definition
Billing/billed	The process of creating an invoice or a bill.
Binary digit (bit)	The binary notation of either of the characters 0 or 1.
Bit (b)	Binary digit
BLF	Busy Lamp Field – A visual indicator alerting the user to busy line conditions.
Blocking	The process of denying access to, or use of, a facility, system, or component.
Blocking caller-paid information phone numbers	The capability to block caller-paid calls from a station to an "information" number or Directory Assistance (e.g., 411 or 202-555-1212).
Blocking of selected numbers	The capability to block calls incoming from pre-determined numbers.
BRCS	Business and Residence Customer Service – A service that ensures that existing business and residence features function with ISDN-supported station sets so that users experience equivalent, similar or expanded circuit switched voice and data services.
BTN	Button – The component of a telephone set used for various programming functions.
Bulk Maintenance	The process by which maintenance for all eligible equipment may be ordered electronically without the need to input individual serial numbers.
Byte	A sequence of eight adjacent binary digits usually treated as a unit.
Cable	Any communications channel having a bandwidth greater than a voice-grade telecommunications channel.
Call	Any demand to set up a connection. A unit of traffic measurement.
Call blocking	The capability to block unwanted incoming calls based on user-specified numbers.
Call consultation	A feature that allows a user to alternate between a party on hold and an existing conversation.
Call Detail Record (CDR)	A record of certain characteristics of a telephone call, including the time and duration of the call, the called number, the calling number (if available), and the charge.
Call54	Automated reverse directory assistance service. It allows a user to obtain listing information for telephone numbers published by Verizon.
Call forward – busy line	A feature that permits calls attempting to terminate to a busy station line to be redirected to a predetermined line when the called station is in use.
Call forward – don't answer	A feature that provides for forwarding of incoming calls to a predetermined line when the called station line does not answer within a prescribed time.
Call forward – variable	A feature that allows a user to choose to reroute incoming calls to another specified telephone number.
Call forwarding (CF)- off-net	A feature that allows all calls destined to a station to be routed to another off-net station, designated during activation, regardless of the busy or idle state of the called station. This feature can be activated or canceled by the station user or by the attendant.

Term	Definition
Call hold	A feature that allows a station user to "hold" any call in progress by flashing and then dialing a "hold" code, thus freeing the line for the purpose of originating another call or returning to a previously held call.
Call hunting	See hunting.
Call park	The capability to allow a call to be parked at a directory number for retrieval by another line or trunk.
Call pickup	A feature that allows a station user to answer any calls directed to another station line within his own preset pickup group by dialing a pickup code from an idle or busy station. If more than one station line in the pickup group is ringing, the individual call to be answered will be selected by the system.
Call trace	A feature that allows the user, on any line, to lock an existing connection and initiate identification of the calling party by entering a code into the DTMF pad.
Call transfer	A feature that allows a station user to transfer any call in progress to another station within the same system without the assistance of the attendant.
Call waiting	A feature that allows a call to a busy station line to be held waiting while a tone signal is directed towards the busy station user. (Only the called station user hears this tone.)
Caller ID	A basic capability that provides the calling number to the terminating station.
Caller or calling party	A person, program, or item of equipment that originates a call.
Calling number suppression	A feature that provides the capability to the originating user to block the station number from being passed to the terminating station.
Cancel	A type of service order that removes items from service and terminates billing before the items have been accepted. Compare with "disconnect."
Category	A general grouping of products that can be ordered through TOPS. The categories are lines, features, special services and directory listings.
CCITT	Consultative Committee on International Telephone and Telegraph – The CCITT consists of 15 study groups with responsibility for data communications standards. Technical questions are reviewed and acted upon, and the results are presented for approval as recommended standards.
CDMA	Code Division Multiple Access. Digital transmission technology, CDMA separates communications by code. Voice is broken into digitized bits, and groups of bits are tagged with a code. Each code is associated with a single call in the network. Groups of bits from one call are randomly transmitted along with those of other calls, which are reassembled in the correct order to complete the conversation. Implemented in 800 and 1900 MHz systems.

Term	Definition
Centrex	A Central Office Exchange – service that provides, from a telephone company central office switch or a functionally equivalent switch that is not part of the WITS 3 network, basic capabilities and features comparable to those of a WITS 3 line or provided by a PBX.
Centrex service group	A group of affiliated users within a common Centrex configuration.
Centrex-like line	A central switched-based service that provides a subscriber with a single, voice-grade telephonic communications channel that is directly connected to a contractor-owned or –leased serving office. A Centrex-like line can be used to place or receive one call at a time.
Channel	A connection between the initiating and terminating nodes of a circuit. A path along which signals can be sent; e.g., data channel, output channel.
CKT – Circuit	A two-way communication path.
Class of Service (COS)	A designation assigned to describe the service treatment and privileges given to a particular terminal.
Class of service display	A feature which provides attendants with an alphabetic or numeric code display representing the class of service of the calling WITS 3 station line seeking attendant assistance.
Classmark	Designator used to describe the service privileges and restrictions for lines accessing a switch; e.g. precedence level, conference privilege/security level, zone restrictions.
Clear channel	A full 64 kb/s channel for transferring user information. Signaling is communicated over a separate channel. Contrast with a 56 kb/s channel in which signaling is communicated over the same channel (in-band signaling).
Clear channel capability	A channel able to provide full 64 kb/s for user information transfer.
Client	Intended audience of the WITS 3 contract – current/new/potential customers, GSA & Verizon personnel, contractors and vendors.
CLIN	A Contract Line Item Number (CLIN) is a service, feature, or item of equipment for which a price has previously been established in Section B of the contract. Contrast with items priced as "ODCs" or "Other Direct Costs".
CO	Central Office – A telephone switching center.
Commit	Customers commit an order to TOPS when they are satisfied that the order is correct and should be processed.
Communications Software	Commercial software systems that provide communication over a modem between a terminal and a host computer.
COR	Contracting Officers Representative –Persons with the designated responsibility for providing contractual direction under the WITS 3contract.

Term	Definition
COTR	Contracting Officers Technical Representative –Persons with the responsibility for providing technical direction under the WITS 3 contract.
Codec	An assembly consisting of a coder and a decoder in the same equipment used to convert analog signals to a digital format for transmission over a digital communication channel and for reconverting the quasi-digital signal to an analog signal. Contrast with modem.
Collocated	In the same room of the same customer location.
Commercially available	The service, or service-related feature, as applied to a telecommunications service in a geographic area, that is currently provided by one or more entities who are providers of telecommunications services to one or more other entities, independent from the service provider, for their own legal commercial purposes.
Committed Information Rate (CIR)	The maximum rate at which the service provider agrees to transfer data during normal network conditions on a cell- or packet-switched circuit.
Compatibility	A property of systems that allows the exchange of necessary information directly and in usable form. *Note*: Implies use of identical or compatible protocols.
Competitive Procurement Management System (CPMS)	An inventory billing database
Conclude	An ATM or customer may conclude a committed order after reviewing and, if necessary, changing the order.
Conference calling	A feature that allows a station user to establish a multiparty conference connection.
Confidentiality	The concept of holding sensitive data in confidence, limited to an appropriate set of individuals or organizations.
Constant Bit Rate	CBR is used to support applications, such as voice and video, where a steady flow of information required because variable delays would negatively impact the information content.
Customer	A representative of an authorized agency who purchases WITS 3 products and/or services.
Customer Account	A file in TOPS that maintains a record of all the equipment or service items that are assigned to a customer at a certain station (telephone number).
Customer Account Managers	GSA managers who serve as the points of contact for individual government agencies.
Customer Agency	An agency authorized to order for itself only.
Customer Ordering Official	An official authorized to place orders for other customer accounts.
Customer Premises Equipment (CPE)	Equipment owned, leased, or under the control of the government and physically located at the government's premises.
Customer Relations Management Center	GSA department that assists customers with planning, implementing and maintaining services.
Customer Service Center	WITS 3 center that is the GSA customers' primary point of contact with Verizon for operational issues.

Term	Definition
Cutover	The physical changing of circuits or lines at a telecommunications location from one configuration to another.
Data	The representation of facts, concepts, or instructions in a formalized manner suitable for communication, interpretation, or processing by humans or by automatic means.
Data Call Setup	Provides three methods to set up a data call: 1) data terminal (keyboard) dialing; 2) voice terminal dialing; and 3) dedicated line.
Data line privacy	A feature that protects analog data calls from being interrupted by any of the system's overriding or ringing features.
Data Terminal Equipment (DTE)	Digital end instruments that convert the user information into data signals for transmission or reconvert the received data signals into user information.
Dedicated Transmission Service (DTS)	The private-line transmission of voice, data, or video signals.
Default Dialing	Enhances data terminal (keyboard) dialing by allowing a data terminal user to place a data call to a preadministered destination by simply entering a carriage return at the "Dial" prompt.
Delay	The interval of time between origination and receipt of a signal.
Demarcation point	The point where the service provider brings in the wiring that connects to the customer's telecommunications system.
Designated Agency Representative (DAR)	The DAR is responsible for all service orders and is the only individual authorized to sign and approve WITS 3 service orders (see Section 1).
Dial access code	The digit or digits entered by a user using a switching vehicle to gain access to the WITS 3 network.
Dial pulse	A direct current pulse produced by a telephone instrument interrupting a steady current at a sequence and rate determined by an operator-selected digit and the operating characteristic of the instrument.
Dial Tone Denial	Used in conjunction with Priority Treatment (see Section C.6.1.1), enables critical personnel to make outgoing calls during conditions of severe system overload.
DID/DOD Trunks	Direct Inward Dialing (DID)/Direct Outward Dialing (DOD) trunks connect the customer's WITS 3 with the WITS 3 switch or LEC central office, are associated with a specific block of telephone numbers, and carry the customer's on-net and off-net traffic.
Digit display	A feature that provides the capability of displaying digits at the station.
Digital data	Data represented by discrete values or conditions, as opposed to analog data.
Digital form	A discrete representation of a quantized value of a variable.

Term	Definition
Digital format	The voice or data signals represented by discrete values or conditions.
Digital Signal 0 (DS0)	A digital signal rate of 64 kb/s. The worldwide standard speed for digitizing one voice conversation using Pulse Code Modulation (PCM).
Digital Signal 1 (T1)	A digital signal rate of 1.544 Mb/s.
Digital Signal 3 (T3)	A digital signal rate of 44.736 Mb/s.
Direct Inward Dialing (DID)	The capability of dialing a call from an external party directly to a station without the assistance of an attendant.
Direct Outward Dialing (DOD)	The capability allowing an internal user to place a call to an outside party without the assistance of an attendant.
Digital Trunk	High-capacity channels that carry voice grade local exchange and channel service between the customer's serving central office and the customer's compatible premises equipment.
Directory Assistance	A service that provides the subscriber with access to commercial Directory Assistance services (e.g., 411). Directory Assistance charges are differentiated based on the request for local or national number assistance.
Disconnect	A type of service order that removes items from service and terminates billing even though the items have been accepted. Compare with "cancel."
Disks/Diskettes	A memory system based on rotating disks coated with a magnetic recording medium.
Distinctive call-waiting tones	A feature providing the capability of distinguishing between internal or DID calls based on the call-waiting tones.
Distinctive ringing	A feature providing the capability of distinguishing between internal or DID calls based on the station ringing pattern.
DS0	A North American term for a digital carrier facility that transmits a digital signal at 56 kb/s (in-band signaling) or 64 kb/s (clear channel).
T1	A North American term for a digital carrier facility that transmits a digital signal at 1.536 megabits per second (Mb/s) information rate. A T1 trunk can carry 24 DS0 channels.
T3	A North American term for a digital carrier facility that transmits a digital signal at 43.008 megabits per second (Mb/s) information rate. A T3 trunk can carry 28 T1 channels.
Dual service	A feature providing the capability of temporarily terminating calls to a second line as well as to the primary line.
Dual-Tone Multi-Frequency (DTMF) signaling	A telephone signaling method employing standard combinations of two specific voice band frequencies, one from a group of four low frequencies and the other from a group of four higher frequencies.
Dumb terminals	Have no memory of their own.

Term	Definition
E&M signaling	An arrangement whereby communication between a portion of a circuit and a separate signaling unit is accomplished over two leads: the "E" (or "Ear") lead which receives open or ground signals from the signaling unit, and the "M" (or "Mouth") lead which transmits battery or ground signals to the signaling units.
Effective Authorization Date	A query field in Service@once.
Effective Billing Date	The date on which WITS 3 billing begins and service order closes.
Electronic access	The capability to access information via online access (dedicated or dial-up), E-mail, or facsimile.
Electronics Industries Associations (EIA)	A Washington, DC trade organization of manufacturers which sets standards for manufacture of electronics equipment.
Encryption	A process to convert plain text into an unintelligible form by means of a cryptosystem.
End date	The date on which a recurring service ends.
End-to-end	Telecommunications service from the originating user's terminal to the destination user's terminal.
Enterprise Internetworking	Enterprise internetworking is defined as the ability to communicate electronically from person-to-person, group-to-group, department-to-department, agency-to-agency, or government-to-government as the need arises. See internetworking.
Erlang	A measurement of telephone traffic. One Erlang is equal to one full hour of use, or 60x60=3600 seconds of phone conversation. Traffic measured in 100 call seconds (CCS) can be converted into Erlangs by multiplying by 100 and then dividing by 3600.
Erlang B	A probability distribution to estimate the number of telephone trunks needed to carry a given amount of traffic. Erlang B assumes that, when a call arriving at random finds all trunks busy, it is not immediately retried (the blocked calls cleared assumption).
Exclusive Use trunks	The trunks which connect a customer's WITS 3 with a WITS 3 switch and only carry the customer's external on-net traffic (i.e., traffic to and from other users served by WITS 3), thereby exempting users at that WITS 3 location from usage charges on calls routed over that trunk group.
Extended local calling	The local phone company sometimes offers rate plans to cover an area wider than the local calling area. The rate plans are usually more expensive than the local calling plan but less than the applicable long distance plans.
Extended Superframe Format (ESF)	A T1 or T1 framing standard used in Wide Area Networks (WAN) whereby 24 frames, rather than 12, are grouped together.
Extranet	Connection between Intranets.
Facilities	The transmission, switching, and other network assets used to provide telecommunications services. A facilities-based service provider owns these assets; a reseller does not.

Term	Definition
Feature	A feature is a service function that may be priced separately from the basic price of the service, such as call waiting, call forwarding, etc.
Feature Group D	Also referred to as "equal access," Feature Group D provides trunk-side Local Access and Transport Area (LATA) access, affording call supervision to an Interexchange Carrier and a uniform access code (10XXX).
Federal Communications Commission (FCC)	The FCC is a Federal regulatory agency that was created by the Communications Act of 1934. It regulates the provision of interstate telecommunications services within the United States.
Fiber Distributed Data Interface (FDDI) Network Service (FNS)	A Local Area Network (LAN) service available from the Local Exchange Carrier in several formats, including Ethernet and Token Ring. Access to the LAN is provided through an FDDI interface. Predecessor to Transparent LAN Service (TLS).
Fiber optics	A technology that uses light as a digital information carrier.
Field	A block of information on a computer screen, usually accompanied by a label. Some fields are display-only while other fields will accept new data or changes.
Field Office	An office located at various sites other than an agency's headquarters.
Flexible disconnect, both/either party	The capability to disconnect a call when either or both parties hang up.
Foreign Exchange (FX) Service	A service which enables a subscriber to receive a dial tone from a central office that is outside the subscriber's exchange area.
Four-wire circuit	A transmission circuit that consists of two pairs of two-wire circuits. One pair is used to transmit and the other to receive. A four-wire circuit costs more than a two-wire circuit but provides better reception. All long distance trunks are four-wire circuits. Subscribers can request and pay more to get a four-wire local access connection.
Frame relay	A data communications transmission protocol, similar to packet switching, that is optimized for reliable transport facilities (such as fiber optic transport) that transmit at a low bit-error rate.
FTS	The Federal Technology Service, administered by the General Services Administration, provides domestic and international telecommunications services to government agencies.
FTS2001	The FTS Program comprises many contracts and acquisition activities, of which the Federal Telecommunications System 2001 (FTS2001) is one. The FTS2001 program will provide international telecommunications services using one or more service providers.

Term	Definition
Full-duplex operation	A mode of operation in which simultaneous communication in both directions may occur between two terminals. Contrast with half duplex or simplex operation in which communications occur in only one direction at a time.
Function Key	Any of several keys on the computer keyboard that have been programmed to perform a specific function when pressed. These keys are usually across the top of the keyboard and labeled F1, F2, etc.
Gateway	A network node in a communication network equipped for interfacing with a network using different protocols.
Government Metropolitan Area Network (GMAN)	The Government Metropolitan Area Network operated by GSA using an OC-48 SONET ring that provides voice, video, and data transport services to Federal agencies in the National Capital Region.
Government Service Information Infrastructure	The Government Service Information Infrastructure is a term coined by the National Partnership for Reinventing Government that describes the combined telecommunications, computer, and human resources that support the government's information resources.
Grade of service (GOS)	The probability of a call being blocked during a call attempt, expressed as a decimal fraction, during the busy hour.
Grandfathered	Something that has a right to be a thing or own a thing by reason of it being or owning that thing before laws or rules were introduced to formalize the process.
Ground start	A supervisory signal from a terminal to a switch in which one side of the line is temporarily grounded.
Group dialing plan	A feature that provides the capability to customize the dialing plan (e.g., one- or two-digit dialing) for a defined group of stations within the system.
Hard change	Charge for dispatched labor on an order to move service.
Hard copy	In telecommunications systems, a permanent reproduction of any part of the data transmitted through the system. The reproduction may be generated by equipment such as teletypewriter pages, facsimile pages, or computer printouts.
Host Computer	The computer in the GSA Zone Office where the TOPS system resides.
Hot Line	Provides for the automatic nondial placement of a call to an endpoint when the originator goes off-hook.
Hunting	The capability to route incoming calls through a series of stations. If the first station is busy, the calls will be routed to the second station in the series, and so on.
Identification	The process that enables recognition of an entity by a system, generally by the use of unique machine-readable user names.
Information Resources Management Services – IRMS	A segment of GSA responsible for information technology.
Immediate Start	A form of trunk signaling where pulsing is required to be received about 120 milliseconds after receipt of the connected signal.

Term	Definition
Implementation	The process of adding new services or changing existing services.
In writing	The term "in writing" refers to a printed, hard-copy form or to a form that is electronically-accessible via online messaging and/or a database. Verbal communication alone is not to be considered "in writing."
Integrated Services Digital Network (ISDN)	A network that provides end-to-end digital connectivity to support a wide range of services, including voice and nonvoice services, to which users have access by a limited set of standard multipurpose user network interfaces, as defined in the CCITT I series. See Basic Rate and Primary Rate.
Integrated Voice Data – IVD	A terminal capable simultaneous voice/data transmission to separate and distinct terminating location.
Integrity	The assurance that the received data has not been altered in an unauthorized manner from the original transmission.
Intercept	The process by which calls which cannot reach their destination are diverted to a station attendant or a recording.
Intercom	The capability to reach another station within an intercom group by dialing one or two digits.
Interconnection	The linking together of systems, which are not necessarily interoperable.
Interexchange Carrier (IXC)	Any service provider offering inter-Local Access and Transport Area (inter-LATA) telecommunications services.
Interlata	Communication between Local Access and Transport Areas (LATAs).
Intermediate Distribution Frame (IDF)	A rack designed to connect cables, usually located in an equipment room or closet, that provides the connection between inter-building cabling and the intra-building cabling; i.e., between the Main Distribution Frame (MDF) and individual terminal wiring.
Internet	A network of networks.
Internet	The combined internets of the world.
Internet Service Provider (ISP)	Internet Service Providers (ISPs) are companies that complete the dial-up connection between your computer's modem and the Internet so that you can "surf" or browse the Web, read newsgroups and send/receive e-mail. The relationship between the customer's ISP and the customer's computer is like the one between the long distance company and the telephone: a customer needs both to connect to the rest of the world.
Internetworking	The process of interconnecting a number of individual networks to provide a path from a terminal or a host on one network to a terminal or a host on another network. The networks involved may be of the same type or they may be of different types. However, each network is distinct, with its own addresses, internal protocols, access methods, and administration.

Term	Definition
Interoperability	The ability of each service provider to effectively and efficiently transfer all information and control data within its own network and between its network and those of other service providers so that a given service offering operates transparently and without performance degradation for users.
Intralata	Communication within a Local Access and Transport Area (LATA).
Intranet	A private network.
Invoice	A due and payable itemized list of goods and services from a contractor which states quantities, prices, charges, and other supporting data needed to verify these charges.
Invoicing	The process of preparing and forwarding a list of charges to the government for services rendered by the contractor.
Item	Anything that can be ordered through the TOPS system.
Jack	A telephone plug designed for use in a fixed location, to which wires of a circuit may be attached.
kB	Kilobyte
kb/s	Kilobits per second
Key Telephone System (KTS)	The terminals and equipment in a customer environment that provide access to a variety of telephone services without attendant assistance.
kHz	Kilohertz
Kilobyte (kB)	The term designating 1000 bytes.
Last number redial	The capability of redialing the last number dialed by pressing a feature code or button.
Lease to Ownership Plan – LTOP	A method of purchasing equipment on a month-to-month basis with the option to buy.
Line	A telephone path associated with a unique telephone number.
Line Hunting	See Hunting.
Link level	The conceptual level of control in data transmission or data processing logic existing in the station that is responsible for maintaining control of the data link.
Local Access and Transport Area (LATA)	The geographical area, under the terms of the Modified Final Judgment, within which a Regional Bell Operating Company is permitted to provide exchange telecommunications services.
Local access connection	The service provided from the subscriber's Service Delivery Point (SDP) to the service provider's central office. It also includes any service provided by the contractor's central office as part of the monthly port service.
Local Area Network (LAN)	A data communications system that (a) lies within a limited spatial area, (b) has a specific user group, (c) has a specific topology, and (d) is not part of the Public Switched Network but may be connected to it.
Local Exchange Carrier (LEC)	A carrier authorized by the state Public Utilities Commission to provide local telecommunications service within a Local Access and Transport Area (LATA). See also LATA and local service.

Term	Definition
Local service	The telecommunications services rendered within a Local Access and Transport Area (LATA).
Location	The physical location within a work site such as a floor number, room number department area, etc.
Location Code	The Location Code (LC) uniquely identifies a building. Also known as Location Group (LG).
Logon	The procedure that is followed by a user in beginning a period of online terminal operation.
Long distance service	The telecommunications services rendered between Local Access and Transport Areas (LATAs).
Loop start	A supervisory signal given by a telephone or WITS 3 after the loop path to the central office is completed.
Maintenance	A service provided by the WITS contract to retain equipment in serviceable condition or to restore it to serviceability. It includes inspection, testing, servicing, and classification as to serviceability, repairs, rebuilding and reclamation.
Maximum Burst Size	Maximum Burst Size is the maximum number of cells that can be passed to the service provider's network in a single burst at a rate that exceeds the Sustained Cell Rate but does not exceed the Peak Cell Rate assigned to the Variable Bit Rate connection.
Megabyte (MB)	The term for 1,048,576 (2^{20}) bytes.
Message Unit	A unit of measure for charging usage, based on parameters such as the length of a call, typically a charge per unit time (e.g., per second, per minute).
Message Waiting Indication	A visual or aural indication at a station that a message is waiting.
Metropolitan Area Acquisition (MAA) program	The MAA is a government program for acquiring and providing local telecommunications services to authorized users in localities where there is significant competition in the provision of local telecommunications services.
Microwave	A term applied to radio frequency wavelengths less than 30 centimeters long, corresponding to a frequency of one GHz or greater.
Migration	The process of planning for and transferring services from an existing non-WITS network to WITS 3.
Mileage	The distance in miles between the two end points of a circuit.
Minimum Point of Penetration (MPOP)	The point, normally at the Main Distribution Frame or MDF of a building, where the Local Exchange Carrier's entrance cable is terminated and cross-connected to the inside wiring that serves the building.
Modem	The acronym for Modulator-Demodulator. Modems are used for converting digital signals into quasi-analog signals for transmission over analog communication channels and for reconverting the quasi-analog signals into digital signals. Contrast with codec.

Term	Definition
Monthly Recurring Charge	The amount of money a customer will be charged every month For a line, feature, or directory listing. This includes the cost of the item and any associated overhead.
Move	A move is a change in the customer's terminal location within the same building.
Multi-line Hunt Group (MLHG)	A group of terminals assigned to a particular hunt group and routed by the switch to idle terminals.
Multi-point	Multiple users on the same physical single loop terminal equipment (maximum of eight).
Multi-Protocol Label Switching (MPLS)	Evolving standard for speeding up IP-based data communications over ATM networks.
Multiple Appearance Directory Numbers	A directory number that is assigned more than once to one or more telephone sets.
Multiple Appearance Preselection and Preference	Provides multi-line appearance voice terminal users with options for placing or answering calls on selected appearance.
Multiplexing	The division of a transmission facility into two or more channels by: (1) splitting the frequency band transmitted by the channel into narrower bands, each of which constitutes a distinct channel (frequency-division multiplexing); (2) by allotting this common channel to several different information channels, one at a time (time-division multiplexing); or (3) simultaneously sharing the frequency and time slots using "orthogonal" digital signals (code division multiplexing).
Narrowband	A data stream, as in narrowband data, narrowband switched services, or narrowband signal, whose digital signal representation has an essential spectral content that is limited to that which can be contained within a voice channel of nominal four-kHz bandwidth.
National Capital Region (NCR)	The NCR includes the District of Columbia; the Maryland counties of Montgomery and Prince Georges; the Virginia cities of Alexandria, Manassas, Fairfax, and Falls Church; and the Virginia counties of Arlington, Fairfax, Loudoun, and Prince William.
National Security/Emergency Preparedness (NS/EP) requirements	The features, as used in this document, that maintain a state of readiness or respond to and manage an event or crisis (local, national, or international) that causes or could cause injury or harm to the population, damage to or loss of property, or degrade or threaten the security of the United States.
NBD additional price	The additional-period price (i.e., the price that applies to a call after the duration exceeds the "initial" period) of a usage-sensitive call made during the Normal Business Day, as defined in Section B.1.3.
NBD initial price	The initial-period price of a usage-sensitive call made during the Normal Business Day, as defined in Section B.
Network	An interconnection of three or more communicating entities and three or more nodes.

Term	Definition
Network Interface Device (MPOP)	A physical point of demarcation between the customer's equipment and the network as defined by the FCC and the Public Utility Commission (PUC).
Networx	The FTS Program comprises many contracts and acquisition activities, of which Networx is one. The Networx program will provide international telecommunications services using one or more service providers.
Night Service	After-hour calls directed to an attendant will be automatically routed to predetermined station numbers.
Non-online Payment and Collection	The payment process available to agencies requiring manual payment processing.
North American Numbering Plan (NANP)	A numbering plan that allows all stations conforming to the 10-digit dialing pattern of the Public Switched Network to be accessed. The pattern is of the form NPA-XXX where NPA equals Numbering Plan Area (Area Code); N = 2-9; P = 0-9; A = 0-9; and X = 0-9.
NPA-NXX	The NPA is the Numbering Plan Area, also known as the area code, and NXX is the designator for the first three digits of a seven-digit local telephone number, known as the Exchange Code, that identifies the serving central office.
NPA-NXX group	A group of NPA-NXXs that are at the same location for distance-sensitive billing purposes.
NT1 – Network Termination	The conversion interface for transmission of a customer's wiring to the network.
NTSC standard	The North American Television Standards Committee standard for the generation, transmission, and reception of television communications where a 525-line picture is the standard vs. the European Phase Alternation Line (PAL) and Systeme Electronique Couleur Avec Memoir (SECAM) systems, which use more lines to form the picture.
Number Portability	A feature enabling the subscriber to keep the same phone number when the telephone service provider changes.
OC-n	Optical Carrier - Type n. For example, OC-1 operates at a line payload rate of 51.840 Mb/s; OC-3 at 155.520 Mb/s; OC-12 at 594.432 Mb/s; and OC-48 at 2.488 Gb/s.
Off-hook time out	The capability of a switch to detect and react to an off-hook condition over a period of time before reception of dialing information or after call disconnect.
Off-net call	A call between two or more stations, at least one of which is connected to a WITS 3 SDP and at least one of which is not.
Off-net location	A location for which WITS 3 services are not being provided as a WITS 3 subscriber.
On Demand	A feature which sets up and terminates packet switching connections.
Online	The electronic availability on demand from a computer-based system without mounting removable media such as magnetic tape or disks.

Term	Definition
Online Payment and Collection (OPAC)	A database system of automatic funds transfer maintained by the U.S. Treasury. OPAC establishes a standardized interagency billing and adjustment procedure via a telecommunications network.
On-net call	A call between two or more stations, each of which is connected to a WITS 3 SDP.
On-net location	A home or office location for which WITS 3 services are being provided to a WITS 3 subscriber.
One-time charge	The amount of money a customer will be charged for on-time (non recurring) service such as labor for installation.
Operator assistance	The live or mechanical assistance by the service provider's operator center for calls completed or billed.
Operator assistance busy line verification	A feature that allows an operator to determine whether a busy line is in use.
Operator assistance busy line verification with interrupt	A feature that allows an operator to break into an existing conversation and converse with one or both parties.
Optical Carrier	A sinusoidal waveform that operates at optical frequencies and is modulated by voice, video, or data signals.
Optically Remote Module (ORM)	An extension of the host switch that is connected by an optical fiber and replicates the line-control functions of the host switch at a remote location.
Other Direct Costs (ODC)	The costs associated with services that are within the scope of the contract but are not priced under the pricing structures provided in Section B.
Outage	A telecommunication service condition wherein a user is deprived of service because of a malfunction of the communication system.
Outside Normal Business Day (ONBD) additional price	The additional period price of usage-sensitive calls made Outside the Normal Business Day (ONBD), as defined in Section B.1.3.
Outside Normal Business Day (ONBD) initial price	The initial-period price of a usage-sensitive call made Outside the Normal Business Day (ONBD), as defined in Section B.1.3.
Overage Charge	Usage charge to be applied if usage exceeds pre-determined monthly thresholds.
Packet	A grouping of a sequence of binary digits in data communication, including data and control signals, that is transmitted and switched as a composite whole. The data control signals, and possibly error control information, are arranged in a specific format. The packet can be of fixed or variable length.
Packet mode	A packet switched operational mode for transferring (transporting and switching) user information through a network without establishing a connection. The packets do not necessarily arrive at their destination in the order they were sent, unlike the circuit mode of transmission.
Packet switching	A system in which messages are broken down into smaller units called packets, which are then individually addressed and routed through the network.

Term	Definition
Paging	Access to radio and multi-zone paging systems by dialing separate access codes from an individual station.
Peak Cell Rate	Peak Cell Rate is the highest available rate of information transfer on a Variable Bit Rate connection, and the continuous cell rate allowed for a Constant Bit Rate connection.
Permanent Virtual Circuit (PVC)	A permanent connection between two CPE devices.
Personal Communications Services (PCS)	Collective term for US mobile telephone services in the 1900 MHz frequency band.
POTS	Plain Old Telephone Service
Point of Presence (POP)	An Interexchange Carrier's point of interface with a Local Exchange Carrier.
Point-to-point	One terminal per ISDN loop.
Post dialing delay	The time from the dialing of the last digit to the moment the phone rings at the receiving location.
Price	The charge for the associated price element.
Price element	The service component to be priced. An offeror may propose more than one price element for each service type/price combination. See the list of eligible price elements listed with the associated prices.
Price per mile	The price per each mile specified in the mileage field.
Primary directory listing	A listing in the telephone directory published by the dominant Local Exchange Carrier in the customer's exchange area of the station number which is designated as the customer's main billing number. It contains the name of the customer, or the name under which a business is regularly conducted, as well as the address and telephone number of the customer.
Primary Directory Number (PDN)	The main telephone number assignment of an ISDN set.
Primary Inter-exchange Carrier (PIC)	The government specified Networx/FTS2001 Primary Inter-Exchange Carrier that will be accessed via the Public Switched Network by dialing 1+.
Primary rate	The transmission rate supported by the ISDN primary rate interface, defined on CCITT I.412 as 1,536 kb/s and composed of 23 B (64 kb/s) and one D (64 kb/s) channels.
Privacy	A feature that provides the capability for a user to prevent others from entering into a connection on a multi-appearance line.
Private Branch Exchange (PBX) [WITS 3]	Telephone switching equipment that conforms to the Electronics Industries Association (EIA) standards RS-464 and RS-464-1 and meets FCC registration requirements for interconnection to the Public Switched Network.
Procomm Plus	A commercial software system that provides communication over a modem between a terminal and a host computer.
Protocol	A set of procedures for establishing and controlling communications transmissions.
Provisioning	The act of supplying telecommunications service to a user, including all associated transmission, switching, equipment, software, wiring, value-added services, and support systems.

Term	Definition
Public Switched Network (PSN)	Any common carrier network that provides circuit switched services to public users.
Purchase Order Number (PON)	A number the agency uses to authorize payment for services rendered.
Recertification	The method used to cover equipment for maintenance after a lapse in eligibility has occurred.
Redacted	For purposes of this RFP, edited to remove sensitive material from a document that is provided to the public.
Release	An ATM releases an order and sends the order to a vendor to be filled.
Remote Call Forwarding	Remote Call Forwarding (RCF) is a Central Office (CO) based exchange service. All calls dialed to that number are automatically forwarded to a designated telephone at the customer's actual location. The Central Office Address is always used as the Service Address.
Replaced date	The date on which a quoted price is replaced.
Right-to-Use	The WITS contract states that under certain conditions the government has the indefinite right to use fiber and copper distribution cable, inside wiring, and certain proprietary Verizon and Lucent Technologies, Inc. software.
Robbed-bit signaling	A T1 or T1 signaling mechanism. Bit robbing is the technique to steal bits from the speech path for in-band signaling and use the rest of the bits to create the original electrical analog signal; i.e., the original sound.
Robustness	The WITS 3 network shall be "robust;" i.e., in the event of failure of any system or component, the network will continue to function and will process critical calls. The WITS 3 network shall be sufficiently robust that failure of any single system or component will not cause loss of service to more than 20% of WITS 3 subscribers.
Rotary Dialing	A service that permits rotary pulse dialing rather than push button dialing.
Scalability	The scalability of the WITS 3 network is a measure of the extent it can serve traffic volumes far in excess of those projected in the government's *Bid Model* that appears in Section J.2.
Scroll	The process of scanning through a list of items, lines, customers, etc. when the data is longer than the screen space available to display it. A user can scroll up the list by pressing the UP key and down the list by pressing the DOWN key.
Service@once	Verizon's online system for service ordering; configuration, facilities, trouble and workforce management; and provisioning under WITS 3.
Service Delivery Point (SDP)	The point at which a service is delivered by the contractor to the user. The SDP is the interface point for the physical or logical delivery of a service, is one of the points at which performance parameters are measured to determine compliance with the contract, and the point used by the contractor to identify the charges for services rendered.

Term	Definition
Service due date	The date when the contractor commits that the service order will be completed.
Service functionality	A service functionality is a basic capability or a feature.
Service order	The means by which GSA Contracting Officer's Representatives (CORs) and agency CORs order, change, cancel, or disconnect WITS 3 services and equipment.
Service-based approach	In a service-based approach, the government delegates responsibility for transmission, switching, and support service functions to a service provider. In a facilities-based approach, the government owns the required network assets or "facilities" and uses them to provided required telecommunications services.
Shared Directory Number	A secondary or analog number shared by two or more terminals.
Shared ISDN PRI D Channel	A PRI configuration in which the D channel is shared (e.g., several PRIs having a 24B+ 0D configuration share a D channel).
Short Message Service (SMS)	Mobile-to-mobile text messaging.
Signaling	The information exchange concerning establishment and control of a connection and management of the network, in contrast to user information transfer.
Signaling System Number 7	An out-of-band digital signaling system used by common carriers for call control.
Signaling Transfer Point (STP)	The STP in a common-channel signaling network is a packet switch that provides for the transfer of signaling messages from one signaling link to another.
Simultaneous Voice/Data	The transmitting, switching ad/or receiving of voice and data over the same lines.
Smart terminals	Contain internal computer memory. An independent PC is a smart terminal.
SONET	A Synchronous Optical Network (SONET) is a fiber optic communication network that transports both asynchronous and synchronous digital signals using the Synchronous Transport Signal (STS) format.
Specification	A document intended primarily for use in a procurement that clearly and accurately describes the essential technical requirements for items, materials, or services, including the procedure by which it will be determined that the requirements have been met.
Speed calling	A feature that allows a station user to reach any of a preselected group of stations by dialing single-digit codes.
Start date	The date on which a service becomes effective and billing begins.
Station	A data terminal or voice terminal used to access a network.
Station Equipment	The telephone set and all associated telephone equipment located at the site.
Station Message Detail Record	A tracking mechanism for tolls, message units and services.

Term	Definition
Station-to-station dialing	A feature that allows a station user to directly dial other stations within the same system without the assistance of the attendant.
Subscriber	One that uses telecommunications service (see User).
Sustained Cell Rate	Sustained Cell Rate is the maximum rate at which Variable Bit Rate cells may be constantly transmitted with a high assurance that no cells will be lost.
Switch Module (SM)	A basic growth application system interface converting signals of external lines and trunks into digital format.
Switched Voice Circuit (SVC)	A connection established only for the duration of the call.
Synchronous transmission	Digital transmission in which the time interval between any two similar significant instants in the overall bit stream is always an integral number of unit intervals.
System Quality Assurance Center (SQAC)	The SQAC, located at the Headquarters of the GSA's National Capital Region, is used by the government to oversee the WITS contractor's compliance with contractual requirements.
T1	The digital service that provides transmission between two stations at an aggregate data rate of 1.544 Mb/s. Also known as T1 service.
T3	The digital service that provides transmission between two stations at an aggregate data rate of 44.736 Mb/s. Also known as T3 service.
Tandem switch	A switch that is capable of interconnecting WITS 3s, end offices, or serving offices.
Telecommunications	Any process that permits the passage of information from a sender to one or more receivers in any usable form by means of any electromagnetic system.
Telecommunications Device for the Deaf (TDD)	Telecommunications equipment adapted for the needs of the hearing impaired (see Text Telephone).
Telecommunications Ordering and Pricing System (TOPS)	TOPS is an integrated telecommunications on-line ordering, processing, and billing system. It is one of GSA's billing initiatives to improve agency-wide telecommunications inventory management.
TOPS Order Number	A unique, sequentially generated number that identifies a customer order entered into TOPS. First three characters – 3-digit telephone system ID Next three characters – 3-digit customer ID Next two characters – fiscal year Last five characters – system-generated sequential number
TOPS VON (vendor order number)	A unique identifier assigned by TOPS to a vendor order.
Teleconferencing	A conference between persons remote from one another but linked by a telecommunications system.
Telephone Inventory Account System (TIAS)	The monthly accounting record of the agencies inventories.
Telephone System	A collection of integrated equipment and services tied together by one or more local switches that are used by many agencies. A telephone system is procured by GSA to provide less expensive service to many customer agencies and may be procured by tariff or contract.

Term	Definition
Text Telephone (TTY)	TTY's are also called teletypewriters. A TTY is a telecommunications device equipped with a typewriter keyboard and a text screen. A TTY allows persons with hearing and/or speech loss to make or receive telephone calls by typing their conversations, via two-way text. The conversation is read on a lighted display screen and/or a paper printout in the TTY.
Terminal/Workstation	A computer terminal is any input/output device (monitor screen and keyboard) use for transmitting information to a host computer.
Three-way conference calling	See conference calling.
Tie trunk	A dedicated circuit linking two WITS 3s.
Traffic	The information moved over a communications channel. A quantitative measurement of the total messages and their length, expressed in calls, Erlangs, one hundred call seconds (CCSs), or other units, during a specified period of time.
Transition	The process of planning for and transferring services from the WITS2001 network to the WITS 3 network.
Transmission Control Protocol/Internet Protocol (TCP/IP)	The language used to exchange data on the internet, usually abbreviated IP.
Transmission facility	The physical wires, amplifiers, and other equipment used to transmit an electrical signal.
Transparent LAN Service (TLS)	High-speed data service using a shared fiber network to allow for the interconnection of Local Area Networks (LANs) across selected metropolitan areas. Formerly offered as FDDI/FNS.
Trouble	Failure of a system or circuit or item of equipment or software to perform to specification.
TSP Level Change	The change from one to another of five Telecommunications Service Priority (TSP) levels.
TSP Provisioning	The priority installation of a new circuit.
TSP Restoration	A term which establishes and maintains a restoration priority for a circuit.
Two-Wire Circuit	A transmission circuit composed of two wires - signal and ground - used to both send and receive information. SVS local access connections are generally two-wire circuits.
Type D Set	An AT&T ISDN-type terminal with management function performed by the switch. Also includes directory numbers.
Usage Charge	The contractor may assess usage charges for specified WITS 3 services and features. In some cases, a charge per unit time (e.g., per six seconds, one minute, 15 minutes) is allowed, this charge may be higher for the Initial Period than for each Additional Period. In other cases, only a charge per call is allowed.

Term	Definition
User	One that uses telecommunications service (see Subscriber).
Value-Added Service	A service that extends the basic service, such as Video Teleconferencing Service over Asynchronous Transfer Mode Service or Frame Relay Service over Dedicated Transmission Service.
Vanity number	A directory number that can be dialed using a meaningful alphanumeric representation.
Variable Bit Rate	A Variable Bit Rate is a flow of information that is bursty. Used to support applications such as e-mail where a Constant Bit Rate is not required.
Vendor	A private company in the business of supplying products and services to the government and/or to private industry.
Virtual circuit	A communication arrangement in which data from a source user may be passed to a destination user over various real circuit configurations during a single period of communication.
Virtual Local Area Network	An internetworking arrangement in which a logically separate Local Area Network functions as though it were part of the client's Local Area Network.
Voice mail	A voice messaging system.
Voice over Internet Protocol (VoIP)	Technology for transmitting voice calls over IP-based networks. Also called IP telephony.
Wink start	A short-duration off-hook signal.
Wireless Application Protocol (WAP)	Protocol that enables Internet services to be delivered to mobile devices.
WITS contract	The prior Washington Interagency Telecommunications System (WITS) contract was awarded to Chesapeake and Potomac Telephone Company (now Verizon) by GSA on January 12, 1989 and expired on January 11, 1999. The contract provided specified local telecommunication products and services to authorized customers in the National Capital Region.
WITS program	The Washington Interagency Telecommunications System (WITS) program provides voice, video and data telecommunications services to Federal agencies in the National Capital Region.
WITS 3 contract	The contract superseding the WITS2001 contract. Information regarding the WITS 3 contract is available on the World Wide Web at http://www.verizon.com/wits3.
WITS 3 line	The service which provides a WITS 3 subscriber with a single, voice-grade telephonic communications channel. The functional requirements of a WITS 3 line and a Centrex-like line are similar.
Work Site	The physical location where work takes place such as product installation.
Workstation	The physical location where work takes place such as product installation.

Term	Definition
X.25	The ITU recommendation that specifies the interface between user data terminal equipment and packet-switched data terminating equipment.
xDSL	A generic name for a Digital Subscriber Loop (DSL), a form of transmission over a local access connection whereby the bit rate to the subscriber is much higher than the bit rate from the subscriber. See also ADSL.

6.2 Acronyms

3G	Abbreviation for Third Generation Wireless
5ESS	Electronic Switching System Number 5
AAA	Authentication, Authorization, and Accounting
ABC	Agency Bureau Code
AC	Access Concentrator
ACB	Agency Clustered Building
ACD	Automatic Call Distribution
ACO	Administrative Contracting Officer
ADM	Add/Drop Multiplexer
ADSL	Asymmetric Digital Subscriber Loop
AE	Account Executive
AIN	Advanced Intelligent Network
AIU	Access Interface Unit
ALS	Advanced Logic System
AM	Account Manager
AM	Administrative Module
AMA	Automatic Message Accounting
AM	Account Manager
AMCU	Audio Multipoint Control Unit
AMS	Automated Management System
ANI	Automatic Numbering Identification
ANSI	American National Standards Institute
AOMS	Automated Order Management System
ARS	Automatic Route Selection

AS	Autonomous System
ASCII	American Standard Code of Information Interchange
ASP	Aggregated System Procurement
ATDNet	Defense Advanced Research Projects Agency's Advanced Technology Demonstration Network
ATIS	Alliance for Telecommunications Industry Solutions
ATM	Asynchronous Transfer Mode
ATMF	Asynchronous Transfer Mode Forum
ATMS	Asynchronous Transfer Mode Services
ATP	Acceptance Test Plan
ATS	Audio Teleconferencing Services
ATSC	Advanced Television Systems Committee
AU	Access Unit
AWG	American Wire Gauge
AWT	Actual Work Time
B@o	Bill at Once
B Channel	A 64 kb/s bi-directional digital equivalent of two analog lines.
BAC	Billing Account Code
BAN	Billing Account Number
BECN	Backward Explicit Congestion Notification
BGP	Border Gateway Protocol
BICI	Broadband Interconnection Interface
BICSI	Building Industry Consulting Service International
BISDN	Broadband Integrated Services Digital Network
BLF	Busy Lamp Field
BOAC	Billing Office Accounting Code
BRCS	Business and Residence Customer Service
BRI	Basic Rate Interface
BSS	Business Support Service
BTN	Button
BWM	Broadcast Warning Message
CH EKTS	Call Handling Electronic Key Telephone system

CAD/CAM	Computer Aided Design/Computer Aided Manufacturing
CAM	Customer Account Manager
CAT3	Category 3
CAT5	Category 5
CBR	Constant Bit Rate
CBS	Contract Billing System
CCI	Customer Care Index
CCITT	Consultative Committee on International Telephone and Telegraph
CCS	Hundred Call Seconds
CDMA	Code Division Multiple Access
CD/ROM	Compact Disc, Read Only Memory
CDPD	Cellular Digit Packet Data
CDQ	Customer Driven Quality
CDR	Call Detail Report
CDRL	Contract Data Requirements List
CDVT	Cell Delay Variation Tolerance
Centrex	Tariffed Telephone Service
CF	Call Forwarding
CGI	Common Gateway Interface
CIA	Central Intelligence Agency
CIC	Carrier Identification Code
CID	Caller ID
CIR	Committed Information Rate
CIX	Commercial Internet Exchange
CKT	Circuit
CLEC	Competitive Local Exchange Carrier
CLIN	Contract Line Item Number
CLST	Closet
CM	Communication Module
CM	Contract Manager
CNE	Customer Network Engineering
CNI	Common Network Interface

COAPS	Contract Accounts Processing System
CO	Central Office
Codec	Coder/DECoder
COOP	Continuity of Operations Planning
COR	Contracting Officer's Representative
COS	Class of Service
COTR	Contracting Officer's Technical Representative
CPE	Customer Premises Equipment
CPMS	Competitive Procurement Management System
CRC	Cyclic Redundancy Check
CR	Communications Representative
CRMC	Customer Relations Management Center
CSC	Customer Service Center
CS	Consultative Services
CSD	Circuit Switched Data
CSDS	Circuit Switched Data Services
CSR	Customer Service Record
CSU	Channel Service Unit
CSV	Circuit Switched Voice
CTX	Centrex
DAR	Designated Agency Representative
DARPA	Defense Advance Research and Planning Agency
DC	District of Columbia
DCE	Data Communications Equipment
DCP	Digital Communications Protocol
DCR	Dynamically controlled routing
DCS	Digital Cross—connect System
DCTN	Defense Consolidated Telecommunications Network
DDD	Direct Distance Dialing
DDS	Digital Data Services
DFS	Dark Fiber Service
DID	Direct Inward Dialing

DISA	Defense Information Systems Agency
DISN	Defense Information Systems Network
DIU	Digital Interface Unit
DIX	Digital Internet Exchange
DLC	Digital Loop Carrier
DLCI	Digital Link Control Identifier
DNS	Domain Name Service
DoD	Department of Defense
DOD	Direct Outward Dialing
DOID	Delivery Order Identification Code
DOJ	Department of Justice
DOSS	Delivery Order Support System
DOTTS	Department of Treasury Telecommunications Services
DP/ DTMF	Dial Pulse/Dual Tone MultiFrequency
DPA	Delegation of Procurement Authority
DP	Dial Pulse
DQDB	Distributed Queue Dual Bus
DRAL	Disaster Recovery Access Line
DS0	Digital Signal Level 0
T1	Digital Signal Level 1 (2,3 for a digital carrier system)
DSC	Data Services Center
DSL	Digital Subscriber Line
DSN	Defense Switched Network
DSS	Direct Station Select
DSU	Data Service Unit
DSX	Digital System Cross-Connect
DTE	Data Terminal Equipment
DTE	Dedicated Transmission Equipment
DTMF	Dual Tone Multi—Frequency
DTS	Dedicated Transmission Services
DTS-W	Defense Telecommunications Service -Washington
DWDM	Dense Wave Division Multiplexing

E2S2	End to End Single Source
EADAS	Engineering and Administration Data Acquisition System
EAIU	Expansion Access Interface Unit
ECP	Engineering Change Proposal
ECS	Enterprise Communications Service
EDI	Electronic Data Interchange
EDS	Electronic Data Systems
EDS	Electronic Directory Services
EIA	Electronic Industries Association
EO	Executive Order
EPA	Environmental Protection Agency
EPL	Ethernet Private Line
ESF	Extended Super Frame
ESP	Essential Service Protection
ESS	Electronic Switching System
ESS	Electronic Switching System
EXNet	Energy Sciences Network
FAR	Federal Acquisition Regulation
FCC	Federal Communications Commission
FDDI	Fiber Distributed Data Interface
FECN	Forward Explicit Congestion Notification
FIPS	Federal Information Processing Standards
FIRMR PBX	Federal Information Resources Management Regulation Private Branch Exchange
FIRMR	Federal Information Resources Management Regulation
FISFC	Federal Information Systems Forecast Conference
FNS	FDDI Network Services
FNW	FDDI Network Service
FOA	First Office Application
FRACAS	Failure Reporting and Corrective Action System
FRAD	Frame Relay Access Device
FR-F	Frame Relay Forum

FRS	Frame Relay Service
FSO	Free Space Optical
FTP	File Transfer Protocol
FTR	Federal Telecommunications Recommendation
FTS	Federal Technology Service
FTS 2001	Federal Telecommunications System 2001
FWTS	Federal Wireless Telecommunications Service
FX	Foreign Exchange
Gb/s	Gigabits per second
GD	Government Data Services (Class of Service)
GDIXC	Government Designated Interexchange Carrier
GDR	GSA Designated Representative
GES	Gigabit Ethernet Service
GETS	Government Emergency Telephone Service
GMAN	Government Metropolitan Area Network
GPS	Global Positioning System
GS	Government Services (Class of Service)
GSA	General Services Administration
GSM	Global System for Mobile communication
GUI	Graphical User Interface
HDSL	High-bit-rate Digital Subscriber Line
HRF	Human Relations Factors
HTML	Hyper Text Markup Language
HTTP	Hyper Text Transfer Protocol
HUD	Housing and Urban Development
HVAC	Heating Ventilation Air Conditioning
IAB	Internet Activities Board
IAC	Intelligent Application Center
IAS	Internet Access Services
IBM	International Business Machines
IBT	Intellilight Broadband Transport
IC	InterLATA Carriers

ICB	Intelligent Channel Bank
IDF	Intermediate Distributing Frame
IDIQ	Indefinite Delivery, Indefinite Quantity
IDP	Individual Dialing Plans
IDSR	Intellilight Dedicated SONET Ring
IETF	Internet Engineering Task Force
IMA	Intelligent Messaging Architecture
IMAP	Internet Messaging Access Protocol
IMTC	International Multimedia Teleconferencing Consortium
INC	International Carriers
IOF	Interoffice Facilities
IOP	Input/Output Processor
IOS	Interoperability Standard
IP	Internet Protocol
IPM	Inside Plant Module
IPR	In Progress Review
IPT	Integrated Product Team
IPSec	Internet Protocol security
ISCP	Integrated Services Control Point
ISD	Instructional System Design
ISDM	Instructional System Design Model
ISDN	Integrated Services Digital Network
ISP	Internet Services Provider
IT	Information Technology
ITD	Internet Standards
ITU	International Telecommunications Union
IVR	Interactive Voice Response
IXC	Interexchange Carrier
kb/s	Kilobits per second, also Kbps
LAN	Local Area Network
LASS	Local Area Signaling Services
LATA	Local Access Transport Area

LC	Location Code
LCM	Line Configuration Module
LDAP	Lightweight Directory Access Protocol
LEC	Local Exchange Carrier
LFACS	Loop Facility Assignment Control System
LG	Line Group
LG	Location Group
LOC	Location
LP	Location Portability
LRQA	Lloyd's Register for quality Assurance
LTOP	Lease To Ownership Plan
MAE	Metropolitan Area Exchange
MAN	Metropolitan Area Network
MAT	Maintenance Administration Terminal
MB	Megabits
MBS	Maximum Burst Size
Mb/s	Megabits per second, also Mbps
VERIZONAS	Multi-Channel Intelligent Announcement System
MCU	Multipoint Control Unit
MDF	Main Distribution Frame
MDW	Marketing Data Warehouse
MEM	Managed Electronic Messaging
MFOS	Multifunctional Operating System
MIB	Management Information Base
MIME	Multipurpose Internet mail Extension
ML	Messaging Lines
MLHG	Multi-Line Hunt Group
MMF	Multimode Fiber
MMI	Man-Machine interface
MOA	Memorandum of Agreement
MOU	Minutes of Use
MOSMS	Mobile Originated Short Messaging Service

MPC	Multi-Point Control Unit
MPLS	Multi-Protocol Label Switching
MPN	Manufacturer's Part Number
MPOP	Minimum Point of Penetration
MS	Main Station
ms	milliseconds
MSA	Metropolitan Statistical Area
MSG	Message Switch
MSM	MultiServices Module
MTBF	Mean Time Between Failure
MTTR	Mean Time To Repair
MUX	Multiplexer
MWI	Message Waiting Indication
MX	Mail Exchange
NAC	Network Administration Center
NANP	North American Numbering Plan
NAP	Network Access Point
NASA	National Aeronautical and Space Administration
NAVICP	Naval Inventory Control Point
NAVSEA	Naval Sea Systems Command
NCR	National Capital Region
NCS	National Communications System
NCT	Network Control and Timing Link
NE	Network Element
NEAR	National Electronic Accounting and Reporting System.
NEBS	National Electrical Building Standards
NECA	National Electrical Contractor Association
NIC	Network Interface Card
NID	Network Interface Device
NISPOM	National Industry Security Program Operating Manual
NIST	National Institute of Standards and Technology
NIUF	North American ISDN Users Forum

NMA	Network Management Architecture
NMF	Network Management Forum
NMS	NetCare Messaging Services
NNTP	Network News Transfer Protocol
NOC	Network Operations Center
Non-OPAC	Non-Online Payment and Collection (manual payment)
NPA	Number Planning Area
NSAC	Network Service Assurance Center
NS/EP	National Security/Emergency Preparedness
NSPMP	Network Switching Performance Measurement Plan
NTMOS	Network Traffic Management Operating System
NTMS	National Telecommunications Management Structure
NUWC	Naval Undersea Warfare Center
NXX	Central Office Prefix
OA&M	Operations, Administration and Maintenance
OASIS	Office Automation System and Information Service
OC1	Optical Carrier 1 (3, 12, 48 etc.)
OC	Optical Carrier
ODC	Other Direct Cost
ODD	Operator Distance Dialing
ODLC	Optical Digital Loop Carrier
OEM	Original Equipment Manufacturer
OIR	Online Insertion and Removal
OLTM	Optical Line Terminating Multiplexer
OMB	Office of Management & Budget
OPAC	Online Payment and Collection
OPM	Outside Plant Module
OPT	Office of Priority Telecommunications
ORM	Optical Remote Module
OSHA	Federal Occupational Safety and Health Agency
OSI	Open System Interconnection
OSP	Outside Plant

OSS	Operational Support System
PBS	Public Building Services
PBX	Private Branch Exchanges
PC	Personal Computer
PCI	Peripheral Component Interconnect
PCVERIZONA	Personal Computer Memory Card International Association
PCR	Peak Cell Rate
PCS	Personal Communications System
PDN	Primary Directory Number
PHONES	Powerful Hints One Needs for Excellent Service
PHS	Public Health Services
PMI	Preventive Maintenance Inspection
PMO	Program Management Office
PMSS	Program Management Support System
PNS	Private Network Service
POC	Point of Contact
PON	Purchase Order Number
POP	Point of Presence
POP3	Post Office Protocol v3
POTS	Plain Old Telephone Service
POTS	Purchase of Telecommunications Services
PPP	Point-to-Point Protocol
pps	Packets per Second
PRI	Primary Rate Interface
PSN	Public Switched Network
PSTN	Public Switched Telephone Network
PU	Peripheral Unit
PUBS	Publications
PVC	Permanent Virtual Circuit
QAM	Quality Assurance Manager
QAP	Quality Assurance Plan
QoS	Quality of Service

RCDD	Registered Communication Distribution Designer
RDBMS	Relational Database Management System
RFC	Request for Comments
RFDO	Request for Delivery Order
RFP	Request for Proposal
R-G	Robbins-Gioia
ROI	Return on Investment
RSVP	Resource Reservation Protocol
S@o	Service at Once
SABT	SONET Access Broadband Transport
SALT	SONET Access Loop Termination
SAR	Systems Analysis Report
SCM	Service Center Management
SCR	Sustained Cell Rate
SCR	System Change Report
SC	Solutions Center
SDLC	Subscriber Digital Loop Carrier
SDN	Shared Directory Number
SDP	Service Delivery Point
SIC	Service Initiation Charge
SJ	Smart Jack
SLC96	Subscriber Loop Carrier-96
SLG	Service Level Guarantee
SM	Switching Module
SM	System Manager
SMDR	Station Message Detail Record
SMDS	Switched Multimegabit Services
SME	Subject Matter Expert
SMILE	Successfully Managing Irate Callers with Lasting Effects
SMP	Switching Module Processor
SMS	Short Messaging Service
SMS-C	Short Message Service Center

SMTP	Simple Mail Transport Protocol
SNA	System Network Architecture
SNAL	Subscriber Network Access Line
SNMP	Single Network Management Protocol
SOM	Service Order Menu
SONET	Synchronous Optical Network
SOW	Statement of Work
SPID	Service profile Identifier and Directory
SPOC	Single Point of Contact
SPP	Service Provider Portability
SQAC	System Quality Assurance Center
SS7	Signaling System 7
STD	Specifications of Internet Standards
STP	Signal Transfer Point
STS	Synchronous Transport Signal
SURVIVIR	Surveillance and Visual (V) Reporting system
SVC	Switched Virtual Circuit
SVC	Switched Voice Circuit
SVS	Switched Voice Service
T&M	Time and Materials
TCIF	Telecommunications Industry Forum
TCM	Trunk Capacity Management
TCP	Transmission Control Protocol
TCP/IP	Transmission Control Protocol/Internet Protocol
TDD	Telecommunications Device for the Deaf
TDM	Time Division Multiplexing
TEA	Technical Engineering Analysis
TESP	Telecommunications Electric Service Priority
THIS	Trouble Handling Information Systems
TIA	Telecommunications Industry Association
TIAS	Telephone Inventory Account System
TIP	Telecommunications Improvement Project

TIRKS	Trunk Integrated Record Keeping System
TLS	Transparent LAN Service
TNM	Telecommunications Network Management
TOPS	Telecommunications Ordering and Pricing System
TQM	Total Quality Management
TS	Teleconferencing Services
TSB	Technical Systems Bulletin
TSC	Technical Subcommittee
TSI	Time Slot Interchanger
TSIU	Time Slot Interchange Unit
TSP	Tactical Sales Plans
TSP	Telecommunications Service Priority
TSPS	Traffic Service Position system
TSS	Telecommunications Services Sector
TTS	Text to Speech
UAWG	Universal ADSL Working Group
UBR	Unspecified Bit Rate
UBS	Unclassified but Sensitive
UDP	User Datagram Protocol
UL	Underwriters Laboratories
UGMT	User Group Management Terminal
UGTM	User Group Telecommunications Managers
UNI	User-to-Network Interface
USA	User Security Access
USDA	United States Department of Agriculture
USOC	Universal Service Order Code
UTP	Unshielded Twisted Pair
VBR	Variable Bit Rate
VCC	Virtual Channel Connection
VCI	Virtual Channel Identifier
VCS	Virtual Circuit Switch
VCSC	Verizon Customer Service Center

VDSL	Very-high-rate Digital Subscriber Loop
VDT	Video Display Terminal
VoIP	Voice over Internet Protocol
VP	Vice President
VPC	Virtual Path Connection
VPI	Virtual Path Identifier
VPN	Virtual Private Network
VS	Voice Services
VTC	Video Teleconferencing
VtoA	Voice Telephony over ATM
VTS	Video Teleconferencing Services
VTS	Voice Teleconferencing Services
WAH	Work at Home
WAM	WITS 3 Account Manager
WAN	Wide Area Network
WAP	Wireless Application Protocol
WASP	Washington Area Switch Procurement Program
WATS	Wide Area Telecommunication Service
WDM	Wave Division Multiplexing
WIC	Wide-Area Network Interface Card
WITS	Washington Interagency Telecommunications System
WITS2001	Washington Interagency Telecommunications System 2001
WITS 3	Washington Interagency Telecommunications System 3
WTIC	Washington Telecommunications Interagency Committee
WWW	World Wide Web
X.25 Packet	Protocol allowing multiple users simultaneous host access
xDSL	(any) Digital Subscriber Loop
XIWT	Cross Industry Working Team

Attachment A:
Additions to Clients Guide

SERVICE PROVISIONS FOR OPTICAL TRANSMISSION SERVICES

1. Customer Responsibilities.

1.1 With respect to each Customer-designated location, Customer is responsible for taking all steps necessary to interconnect the Service at such location, including the payment of associated interconnection costs and those associated with Customer personnel, the securing of rights-of-way, and the furnishing of electrical power, heating, ventilating and cooling. The selection of AC or DC power must be mutually agreed to by Customer and Verizon.

1.2 Customer also undertakes (without limitation) to, obtain, install and maintain all equipment, materials and supplies necessary to interconnect terminal equipment or communications system of the Customer, or any third party acting as its agent ("Customer Equipment"), to the Service, as well as fulfillment of the following: (a) secure all licenses, permits, and other arrangements necessary for interconnection; (b) make necessary arrangements in order that Verizon will have access to such locations at reasonable times for installing, testing, repairing or removing the Service; (c) protect the privacy of any communications carried over Verizon's or its affiliate's facilities; (d) ensure that Customer Equipment is properly interfaced with the Service and that emit signals that: (i) are of the proper mode, bandwidth, power, data speed and signal level for the intended use of the Customer; (ii) are fully compliant with the generally accepted minimum protective standards of the telecommunications industry as endorsed by the FCC; and (iii) do not damage Verizon or its affiliates' facilities, injure their personnel or degrade service to other Verizon customers or that of its affiliates.

1.3 If Customer (or its agent, contractor, or user) fails to maintain and operate Customer Equipment properly, with resulting imminent harm to Verizon's network, Verizon personnel or other Verizon services, Verizon may, upon written notice, require the use of protective interface equipment at Customer's expense. If this action fails to produce satisfactory quality and safety results, Verizon may, immediately upon written notice, suspend the Service without liability. During any such period of suspension, any credit allowance for Service interruptions set forth herein does not apply. Customer shall also reimburse Verizon for damages to Verizon facilities caused by the negligence or willful act of Customer, resulting from Customer's improper use of the Customer Equipment or the Service.

1.4 The Services may be connected with the services or facilities of other carriers. Verizon may, when authorized by Customer and agreed to by Verizon, act as Customer's agent for ordering facilities provided by other carriers to allow such connection of Customer's locations to Verizon's network or to the network of an underlying carrier or service. Customer is responsible for all charges billed by other carriers in connection with the use of Service. Any special equipment or facilities necessary to achieve compatibility between carriers are the sole responsibility of Customer.

1.5 Customer must notify Verizon of any interruption of Service. Before giving such notice, Customer shall ascertain that the trouble is not being caused by any action or omission of Customer and is not in the Customer Equipment.

1.6 Customer is solely responsible for the selection, implementation and maintenance of security features for protection against unauthorized or fraudulent use of Services.

1.7 Neither Customer nor it agents, subcontractors, third parties or users may rearrange, disconnect, move, remove, modify, or attempt to repair any facilities or Service provided by Verizon, other than by connection or disconnection to any interface means used, without the prior written consent of Verizon.

1.8 Customer is responsible to perform any error detection and error correction of data generated by Customer Equipment. Verizon assumes no responsibility for the quality of the signal generated by the Customer or any Customer Equipment and will deliver the signal to the receiving location in the same format and condition as generated by Customer.

1.9 Facilities: Additional charges may be required if suitable facilities are not available to provide optical products at any location, or if any additional work, services, or quantities of optical products are provided. In the event installation of additional network facilities is required to provide optical products, Verizon will inform Customer of such additional charges, and Verizon will install such facilities only upon mutual written agreement of the parties to such additional charges. If Customer does not agree to pay such charges, then the optical products will not be provided.

1.10 Interstate Certification: Customer warrants and represents that more than ten percent (10%) of the traffic transported over the optical products service provided herein is interstate in nature.

2. Service Limitations.

2.1 The Service may not be used for any unlawful purpose.

2.2 The facilities used to provide the Service will be exclusively of Verizon's choosing. Verizon may at any time substitute facilities used to provide the Service, or it may substitute comparable service for the Service being provided to Customer. Verizon facilities and equipment placed on Customer premises that are utilized by Verizon to provide Service remain the property of Verizon. Such facilities must be returned to Verizon by the Customer, whenever requested, within a reasonable period following the request in as good condition as reasonable wear will permit.

2.3 Verizon's provision of Service is subject to authorization to operate in the jurisdiction(s) where the Services are provided. The obligation of Verizon to provide Service is dependent upon its ability to procure, construct, and maintain facilities that are required to meet Customer's order for service. Verizon will make all commercially reasonable efforts to secure the necessary facilities, providing such Service will not adversely affect Verizon's services.

2.4 Verizon reserves the right to perform network upgrades as required to maintain the Service performance. Verizon will make reasonably commercial efforts to perform these upgrades during the hours of 11 PM and 7 AM local time and to provide notice to Customer.

Verizon reserves the right to perform maintenance at any time, at its discretion, when it believes such unscheduled maintenance is necessary to maintain Service or network performance.

2.5 Common carrier interstate services that may be used with the Service will be provided pursuant to tariff rates, terms, and conditions of applicable tariffs or WITS 3 Contract.

2.6 No license (other than the limited license to use) is granted by Verizon nor may any be implied or arise by estoppel, with respect to the service.

2.7 The use and restoration of Service during emergency conditions will be performed consistent with Section C.6 of WITS 3 Contract.

3.2.1.1.1 Service Level Guarantee Performance

An optical service is interrupted when Customer's data traffic cannot be transmitted or received over the contractor's network solely because of a failure of a facility provided by the contractor to furnish the optical service ("Service Interruption"). A Service Interruption period starts when the Customer reports the interruption to the contractor personnel. Customer shall be eligible for a credit of 100 percent (100%) of the MRC for each affected facility for a Service Interruption period that exceeds one minute. Customer must request such credit from the contractor in writing within 30 days following such Service Interruption in accordance with the instructions of the contractor. Only one such credit per affected facility is allowed in a single month's billing period.

No credits will be granted for:

1. Service Interruptions caused by the negligence of the Customer or a third party.
2. Service Interruptions caused by the failure of power, equipment, systems, facilities or Services not provided by the contractor.
3. The period of time during a Service Interruption when the contractor or its representatives are not afforded access to the premises where the optical service is terminated.
4. The period of time during a Service Interruption when the Customer has released the optical service to the contractor or its representative for maintenance, optical service rearrangement, or the implementation of a Customer service order for a change in the optical service during the time that was negotiated with the Customer prior to the release of that such service. Thereafter, a credit allowance applies as set forth above.
5. The period of time during a Service Interruption when the Customer has chosen not to release the optical service for testing and/or repair.
6. A Service Interruption which continues because the Customer has failed to authorize replacement of any element of new construction following the receipt of written notification by the contractor of the need for such replacement. The period for which no credit allowance is made begins on the seventh day after the customer receives the contractor's written notification of the need for such replacement and ends on the day after receipt by the contractor of the Customer's written authorization for such replacement.

7. A Service Interruption caused by a force majeure event.

Provisioning and installation of optical facilities will not begin until the Customer and Verizon mutually agree on the service design and configuration. The Customer is responsible to identify and disclose to Verizon any conditions (including but not limited to, the need for conduit construction on Customer's property and additional site preparation work on Customer's property) that might be affected by or might affect the installation of the optical service.

The following pricing note applies to 3- and 5-year pricing arrangements for DSR service:

In the event this plan is disconnected within the first 24 months, 100% of the MRC for the unused portion of the first 24 months and 25% of the MRC for the remaining months of the plan is the formula that shall be applied. If plan is disconnected after the first 24 months, 25% of the MRC for the remaining months of the plan is the formula that shall be applied. Refer to Section 3.0 of the pricing instructions for billing information.

Attachment B:

SPECIAL CONDITIONS APPLICABLE TO E911 SOLUTIONS

E911 software is a cloud-based solution that enables customers to register end user telephony device locations in a remotely hosted computer so that Emergency 911 calls from a particular device can be routed to the correct Public Service Answering Point (PSAP) for dispatch of emergency assistance to the device's precise location. Verizon may offer similar solutions from various suppliers under WITS 3 to accommodate customer choices and preferences for this commercially available software solution.

1. Regardless of supplier the E911 solution is subject to the following conditions:

1.1 It is the customer's responsibility to understand and comply with 911 emergency calling laws.

1.2 This solution enables 911 calling from telephones connected to the customer's existing PBX equipment and from IP telephony devices that remotely connect to the customer's network using client software provided as part of this solution.

1.3 End Users may not use their IP telephony devices for 911 calling from a location that is different from the registered device location.

1.4 IP-enabled 911 calling from a wireless device is prohibited. Native 911 calling from the wireless device is required.

1.5 Customer is responsible for instructing End Users on the various restrictions of this solution.

1.6 Customer is responsible for accuracy of location information registered using this solution.

1.7 Customer assumes all risks, including injury and death for it or its end users' failure to comply with the various restrictions of this service offering.

1.8 Customer assumes all risk for failure to comply with operational requirements of this service offering.

1.9 Verizon will only be liable for loss of customer data resulting from Verizon's willful misconduct or gross negligence.

1.10 Verizon will be liable for any direct damages resulting from its solution functioning improperly, with such direct damages not exceeding the contract price of the solution. In no event will Verizon be liable for any consequential, special or incidental damages, including lost savings, arising under or related to this solution, even if Verizon has been advised of the possibility of such damages.