5.0 MANAGEMENT AND APPLICATIONS

5.1 VIDEO TELECONFERENCING SERVICES (VTS)

Qwest's Networx VTS is a comprehensive, domestic and global solution to Agency needs, and is supported by multiple network operations centers with maximum reliability and availability.

Qwest's Video Teleconferencing Service (VTS) provides comprehensive end-to-end video solutions and will allow Agencies to schedule and participate in video teleconferences worldwide, simulating face-to-face interaction and increasing their ability to collaborate, regardless of location.

Figure 5.1-1 provides an easy reference to correlate narrative requirements to our proposal response.

Figure 5.1-1 Responses to Narrative Mandatory Service Requirements

Req_ID	RFP Section	RFP Requirement	Proposal Response
4909	C.2.8.1. 1.4 (5)	'The following Video Teleconferencing Services capabilities are mandatory unless indicated otherwise: 5. The contractor shall supply gateways, gatekeepers, multipoint bridges, or other interfaces to enable for VTS between dissimilar interfaces or networks.	5.1.1.1.3
4908	C.2.8.1. 1.4 (6)	'The following Video Teleconferencing Services capabilities are mandatory unless indicated otherwise: 6. The contractor shall provide teleconferencing bridge capabilities including providing Internet Protocol (IP) packet switched bridging services for multiple IP VTS devices.	5.1.1.1.4
4884	C.2.8.1. 1.4 (13) (f)	'The following Video Teleconferencing Services capabilities are mandatory unless indicated otherwise: 13. The contractor's reservation system shall provide the following capabilities: f. The contractor shall describe the maximum conferencing capacity for VTS. This includes the contractor's total overall VTS conferencing capability and the maximum number of endpoints that can participate in a single VTS multipoint conference operating at 384 Kbps.	5.1.1.1.1

Req_ID	RFP Section	RFP Requirement	Proposal Response
4863	C.2.8.1. 1.4 (17)	'The following Video Teleconferencing Services capabilities are mandatory unless indicated otherwise: 17. The contractor shall verify with the Agency that the Agency firewall is compatible with this service.	5.1.1.1.5
4862	C.2.8.1. 1.4 (18)	'The following Video Teleconferencing Services capabilities are mandatory unless indicated otherwise: 18. The contractor shall also make available any reports that are available to its commercial customer base.	5.1.2.2.1
4851	C.2.8.1. 2.1 (2)	'The following Video Teleconferencing Services features in section C.2.8.1.2.1 are mandatory unless marked optional:2. Certification - The contractor shall provide pre-testing, registration, and certification that Agency owned equipment operates and is compatible with the contractor's VTS.	5.1.1.1.2

5.1.1 Technical Approach to VTS Delivery (L.34.1.5.1)

Qwest will provide comprehensive, domestic and global VTS to Agencies. The basis of our fully featured VTS offering includes multiple Network Operation Centers (NOCs) with redundant connections to provide maximum reliability and availability. Each NOC supporting VTS is equipped with state-of-the-art video and audio bridges from leading vendors to enable us to provide the widest possible range of VTS services and features to Agencies. Qwest's VTS is fully compatible and will integrate with all transport network services and protocols, such as Internet Protocol (IP), Asynchronous Transfer Mode (ATM), Frame Relay (FR), Private Line (PL), Premises-Based IP Virtual Private Network (PBIP-VPN), Network-Based IPVPN (NBIP-VPN), Voice over IP (VoIP), Broadband Wireless and Synchronous Optical Network PL (SONET/PL) services currently supporting Agency telecommunications needs.

5.1.1.1 Approach to VTS Delivery (L.34.1.5.1(a))

Qwest's VTS architecture appears in [redacted] and indicates how our network structure fosters extensive, redundant connectivity to optimize our VTS quality and reliability. [redacted]

[redacted]

[redacted] The fact that each VTS NOC is equipped with state-of-the-art video and audio bridges from leading vendors enables us to provide Agencies the widest possible range of services and features. [redacted]

Qwest will use proven network architecture assets to deliver reliable and easy-to-use, end-to-end global video teleconferencing solutions that provide superior value by combining the right people, processes, and technology. With more than nine years' experience in providing video teleconferencing products and specializing in video teleconferencing service delivery, the Qwest Team is recognized as a global leader in the industry. We provide our services globally by addressing three key areas of VTS:

1. Design and Provision – We will work with Agencies to design and provision the appropriate solutions that meet their requirements for using VTS.
2. Management – Qwest will manage our own infrastructure to ensure availability of ample capacity and redundancy for Government customer Agencies using the Qwest public bridging infrastructure 24x7x365. Qwest offers the Agencies great flexibility in that the tools used to manage our own networks and infrastructure are the same tools which would be used to manage video infrastructure placed in the network cloud, or even on Agency premises. This also ensures that the Agencies can develop a short, medium, and long term video strategy, while at the same time providing users the same experience throughout. The same tools used to manage our own networks and infrastructure can be leveraged by Agencies. [redacted] This provides

Agencies with seamless back-up and disaster recovery from our public infrastructure.

3. Ongoing Service Delivery – The third key area for VTS is delivering quality conferencing services 24x7x365. Agencies can leverage the best video teleconferencing technicians in the industry today to manage their daily global conferences.

These three key areas are managed by the industry's only true global enterprise video service delivery management application. This application will be used by the Qwest service delivery teams and can be easily accessed via the Qwest Control Networx Portal. [redacted]

Qwest also offers Agencies a robust spectrum of VTS Service Enabling Devices (SEDs) from leading vendors [redacted] Qwest will provide installation services, maintenance, training, remote equipment monitoring, and call launch video services, on customer owned or Qwest Multipoint Control Units (MCUs). Agencies will be able to register their video sites individually or amass their end users. As video sites are registered, certification tests will be performed to ensure good connectivity with each location. More detailed certification tests will occur with IP-capable video sites, as well as sites being remotely monitored.

Qwest will train Agencies on how to schedule VTS meetings online, as well as via our scheduling desk. We will also train Agencies on how to access online reports, including an overview of the VTS and other services available to them.

Once training and certifications are complete, Agencies will be able to start making video reservations as needed, either one-time or recurring

reservations. Once a reservation is made, the requestor will receive an electronic confirmation of all the details. Depending on the amount of set-up time selected by the requestor, the attendant will: begin connecting the call at the start of set-up time; verify connections are stable; perform any troubleshooting as needed; and provide a “meet and greet” if the requestor has chosen that feature. Technical support numbers will be left by the attendant with as many end users as are available during the set-up period. Users simply call back in to us if they need any assistance during their meeting.

5.1.1.1.1 Reservation System Capabilities (Req_ ID 4884; C.2.8.1.1.4 (13) (f))

[redacted]

From a practical perspective, large calls are managed as an “event call” where they are subjected to specific processes to ensure that the call is properly managed and executed. Call Producers will work with Agencies to decide the most effective way in which to run a call, the order to connect sites, and any special requirements such as a choreographed question and answer session. [redacted]

In addition, where the type of large call includes a one way trade of information to the viewers, video calls can also be streamed to the worldwide-

Web. This offers a line of alternative features and capabilities, as well as a very cost effective method of reaching literally hundreds of thousands of users.

5.1.1.1.2 Certification (Req_ ID 4851; C.2.8.1.2.1 (2))

Agency video systems will be registered, pre-tested, and certified compatible with our VTS service.

Qwest will provide pre-testing, registration, and certification for all Agency equipment to ensure compatibility with VTS and successful video conferences. Sites can be registered in one of three ways: via Web-based form, via the Customer Support Office (CSO), or through the sales team. Once a site has been registered, it will automatically be scheduled for certification. Upon successful certification it is noted as certified in the database, and a notification of successful testing is forwarded to the customer contact. If the certification is unsuccessful, Qwest will troubleshoot with the customer until a successful certification occurs.

5.1.1.1.3 Dissimilar Interfaces or Networks (Req_ ID 4909; C.2.8.1.1.4(5))

Agencies with varying networks [redacted] and dissimilar equipment, including older legacy video units, will be supported by Qwest's VTS. Using a variety of gateways [redacted] gatekeepers [redacted], and MCUs, Qwest will coordinate and launch video teleconferences between the Agency's dissimilar equipment, allowing them to successfully meet and collaborate when needed.

5.1.1.1.4 Bridge Capabilities and Services (Req_ ID 4908; C.2.8.1.1.4(6))

Agencies will be supported by Qwest's four fully redundant VTS NOCs that are equipped with MCUs [redacted] These NOCs are also designed to remotely support and

manage Agency-owned IP equipment and networks if they elect to use our managed services.

5.1.1.1.5 Agency Firewall Compatibility (Req_ ID 4863; C.2.8.1.1.4(17))

It is understandable that many Agencies will have firewalls in place to help them regulate and secure their video conferencing environments. Qwest will work with each individual Agency to identify a solution that will allow us to provide service to the Agency regardless of its firewalls. [redacted]

5.1.1.2 Benefits of VTS Technical Approach (L.34.1.51 b)

By leveraging Qwest's experience in deploying VTS technology and related networks and services, Agencies will benefit from immediate and increased use of the technology and realize a rise in productivity and reduction in costs associated with travel among their users. Qwest's approach to assisting an Agency to deploy video or improve existing technology will allow them to stay focused on mission-critical Government activities, as opposed to being involved in the daily operation of video teleconferencing.

Using our Qwest Control Networx Portal, Agencies can easily schedule, request support, and interface with video technology services. As a SED supported component, Qwest provides Remote Equipment Monitoring (REM) allowing endpoints to be monitored [redacted]

The pro-active nature of REM will enhance Qwest's ability to facilitate the

determination of issues and their resolution before the call producers attempt to bring a unit into a conference. This will allow:

- Greater endpoint "availability" or uptime.
- The ability to move participants to alternate rooms in advance of conference time when an endpoint is down and requires parts replacement to bring it back online.
- Higher conference success rates stemming from awareness of the endpoint status 24x7x365.

[redacted]

Figure 5.1.1-2 provides a features and benefits summary of Qwest's VTS and how the capabilities of this service will meet the needs of Agencies.

Figure 5.1.1-2 VTS Features. *The full scope of Qwest VTS operating features will be available to Agencies on a global basis.*

Feature	Benefit	Substantiation
Flexible Conference Services	Agencies can continue to leverage equipment while expanding footprint with new transport services and SEDs.	The Qwest Team operates mixed-protocol VTS configurations including IP, private line and ISDN based terminations 24x7x365.
Web-enabled VTS Management	All Agency data will be managed using one Web-exposed global application.	Qwest provides Agency access to this data through Qwest Control Networx Portal.
Remote Equipment Monitoring (REM)	Assured Service	The Qwest Team proactively monitors the technology elements that support videoconferencing to determine when devices become inoperable or incapable of supporting the application.

Qwest understands and recognizes the goals of Federal Enterprise Architecture (FEA). Each of the proposed management and applications services will foster technical and performance efficiencies consistent with the Government's focus on optimizing the utilization of its existing and future

telecommunications and Information Technology assets. ***Figure 5.1.1-3*** summarizes our approach to FEA support and cooperation.

Figure 5.1.1-3 Complementing FEA Objectives. *The Qwest Team's VTS design, assures compliant or superior performance features for the Networx.*

FEA Objective	How Qwest VTS Supports the Objective
Improve utilization of Government information resources to focus on core Agency mission and service delivery to citizens by using the FEA.	By providing our video network and equipment monitoring solutions coupled with our online tools, Agencies will be able to seamlessly schedule their video meetings without having to worry about the technology working in the background – allowing them to focus on their core business and mission when using the technology.
Enhance cost savings and cost avoidance through a mature FEA Government-wide.	By utilizing video teleconferencing successfully, Agency end users will be able to reduce travel, increase collaboration, and, ultimately, reduce costs associated with travel and lost productivity time.
Increase cross-Agency and inter-Government collaboration.	VTS is designed to allow easy cross-Agency and inter-Government collaboration. With all Agency data being centrally managed with Web tools, Agencies will be able to easily schedule and meet across Agencies.

5.1.1.3 Solutions to VTS Problems (L.34.1.5.1(c))

The Qwest Team has and continues to successfully implement VTS to meet the needs of our customers in both the commercial and Government marketplaces. This includes both generic and customer-tailored VTS configurations that optimize service, installation, and usage costs.

Qwest will use our proven delivery processes to anticipate, manage, and resolve problems associated with VTS. Problem isolation is a key element of Qwest's rapid and effective problem resolution process. Should problems arise during an Agency's VTS implementation, Qwest will resolve most problems transparently. [redacted]

Qwest will provide the highest level of Agency support, resulting in an industry-leading video teleconferencing success rate.

5.1.2 Satisfaction of VTS Performance Requirements (L.34.1.5.2)

The Qwest Team monitors all mandatory VTS Key Performance Indicators (KPIs). To substantiate our performance, Agencies will have 24x7x365 access to online reporting via the Qwest Control Networx Portal.

5.1.2.1 VTS Quality of Service (L.34.1.5.2(a))

Figure 5.1.2-1. Qwest Video Teleconferencing Service AQLs

Key Performance Indicator	User Type	Performance Standard (Threshold)	Acceptable Quality Level (AQL)	
Availability	Routine	99.5%	≥ 99.5%	
Time to Restore	Without Dispatch	4 hours	≤ 4 hours	
	With Dispatch	8 hours	≤ 8 hours	
Grade of Service (Completed Service Requests)	Routine	95% of VTS conference requests met	≥ 95%	

5.1.2.2 Approach for Monitoring and Measuring VTS (L.34.1.5.2(b))

Qwest monitors and measures the KPIs and AQLs via automated network systems. Grade of Service metrics are captured by our VTS

management application and reported to management for assessment. TTR and [redacted]

5.1.2.2.1 Reports Available to Commercial Customer Base (Req_ ID 4862; C.2.8.1.1.4(18))

Agencies will have access to Qwest's extensive online reporting package. These reports allow Agencies to do everything from track orders, open help desk tickets, track trouble tickets from open to close, track video teleconference activity, analyze usage trends to maximize system Return On Investment (ROI), view detailed site directory, and measure overall video teleconferencing performance. Agencies can dynamically generate online reports based on their own date range for the data that will be returned. [redacted]

[redacted]

5.1.2.3 Verification of VTS (L.34.1.5.2(c))

Qwest will supply Agencies with video site profile forms that will gather all necessary information for them to certify the Agency's individual locations. Once we have the information, we will register and provision the video sites in our database and schedule a certification test for the sites. We perform the test by dialing out to the video site and reviewing the diagnostics reported by the system to our bridge, noting in our operating system all capabilities of the end point. If successful, we mark the site as certified in our system. If not, we notify the administrative and/or technical contacts at the Agency location. The Qwest Team then schedule additional tests until we can successfully certify the site.

Agencies will have access to online reporting [redacted] that will provide them with service performance data, video teleconferencing usage, trouble ticket reporting, and other information. [redacted] The

Qwest Team's proactive approach is monitored, managed, and audited against Customer Satisfaction surveys on a monthly basis. [redacted]

5.1.2.4 VTS Performance Level Improvements (L.34.1.5.2(d))

[redacted]

5.1.2.5 Additional VTS Performance Metrics (L34.1.5.2e)

[redacted]

5.1.3 Satisfaction of VTS Specifications (L.34.1.5.3)

Qwest's VTS offering provides a robust offering of capabilities, features, and interfaces to Agencies ([redacted]

5.1.3.1 Satisfaction of VTS Requirements (L.34.1.5.3(a))

5.1.3.1.1 Satisfaction of VTS Capability Requirements (L.34.1.5.3(a), C.2.8.1.1.4)

Figure 5.1.3-2 summarizes the capabilities requirements of Qwest's VTS service. Qwest fully complies with all mandatory stipulated and narrative features, capabilities, and interface requirements for VTS. [redacted]

Figure 5.1.3-2. VTS Capabilities. *Qwest's VTS capabilities simplify user access and ensure compliant or better performance for Agencies.*

Name of Capability	Description	[redacted]
Point-to-point and point-to-multipoint video teleconferencing	The contractor shall allow participants at different physical locations to simulate in person meetings and conduct interactive dialogue using point-to-point and point-to-multipoint video teleconferencing arrangements.	[redacted]

Name of Capability	Description	[redacted]
		[redacted]
Two way video, one way video with interactive voice, and/or the instant sharing	The contractor shall support two way video, one way video with interactive voice, and/or the instant sharing of various types of documents/data files among VTS participants as an adjunct to the video teleconferencing session.	[redacted]
Document sharing	The contractor shall support document sharing (data conferencing), which enables conference participants to interactively view, edit, and share or transfer data files and documents.	[redacted]
Audio conference add-on capability	The contractor shall provide an audio conference add-on capability to support non video conference participants in a VTS call.	[redacted]
Different types of videoconferencing equipment and networks	Agencies may require videoconferencing capabilities between different types of videoconferencing equipment and networks (e.g. circuit switched, IP packet-switched, and private line). The contractor shall supply gateways, gatekeepers, multipoint bridges, or other interfaces to enable for VTS between dissimilar interfaces or networks.	[redacted]
Bridging	The contractor shall provide teleconferencing bridge capabilities, including providing IP packet-switched bridging services for multiple IP VTS devices.	[redacted]

Name of Capability	Description	[redacted]
Dial Out Mode, Meet Me Mode, and Mixed Dial Mode	The contractor shall support the following modes of operation: a. The contractor shall support Dial Out mode: A centralized arrangement where the conference bridge operator initiates a call and dials each participant at least 15 minutes prior to the conference start time. b. The contractor shall support Meet Me (Dial In) mode: Each participant is responsible for individually initiating a call and dialing into the conference bridge. c. The contractor shall support Mixed Dial mode: Providing the capability of supporting a combination or mix of both dial out and meet me (dial in) callers.	[redacted]
Operator Assistance	The contractor shall provide the capability for VTS users to request operator assistance to resolve technical issues.	[redacted]
Synchronization between audio and video signals	The VTS shall maintain synchronization between the audio and video signals within + 2 video frames to the extent poss ble with the video frame rate employed in the video teleconference.	[redacted]

Name of Capability	Description	[redacted]
Point-to-point VTS on demand without reservation	The contractor shall allow users to establish a point-to-point VTS on demand without a reservation. Point-to-point VTS shall include full-duplex video, audio, and ancillary data transmission between participating locations.	
Multipoint with Reservation	The contractor shall provide VTS multipoint arrangements in conjunction with the contractor's VTS reservation system. The multipoint arrangement shall have the capability of simultaneously providing VTS to users of a different Networx contractor's network and to users of public or other private networks. During a multipoint conference, the addition of a party to, or the deletion of a party from, the conference shall be indicated by a tone or by a verbal or visual announcement.	
Multi-Point with Voice Activation, Continuous Presence, Chairperson Control, and Lecture Control	The contractor shall provide multipoint arrangements with the following capabilities: a. Voice Activation. The video signal transmitted to all VTS conference call locations is automatically switched by voice activation when the speaker's audio signal exceeds a preset level for a specified amount of time. b. Continuous Presence. Multiple VTS locations may be viewed simultaneously on the same video screen. If the number of locations participating in the video conference exceeds the number being viewed via continuous presence, the selection of the video from a participating location that is displayed would be coordinated among the contractor and the participants. c. Chairperson Control. The chairperson in control of the VTS sends his or her own video or selects a return video from one of the participating locations to be sent to all participating locations. The chairperson has the capability	

Name of Capability	Description	[redacted]
	of transferring control of the video teleconference to another presenter at his or her location. d. Lecture Control (Broadcast Video with Audio Return). The video from the lecturer's location is transmitted to all VTS participants. Audio, but no video, is returned to the lecturer's location from all other participating locations. The lecturer can select one or all of the audio signals for transmission to all participants.	
Access to Secure Central Reservation System	The contractor shall provide access to a secure central reservation system to permit authorized VTS users to schedule multipoint video teleconferences. For point-to-point conferences, reservations shall be required only when coding conversion, format conversion, or rate adaptation features are needed, or for locations on a private network without off-net connectivity. The contractor's reservation system shall provide the following capabilities: a. Schedule a multipoint or point-to-point VTS conference within 30 minutes after the advance reservation request, and to schedule a VTS conference up to one year in advance by voice, fax, or electronic means. b. The contractor shall permit VTS users to cancel a video teleconference prior to the scheduled start time of the video teleconference. c. Based on availability of bridging capacity and required network functions, request a delay in the scheduled termination time of a VTS conference, which is already in progress, shall be granted if the request is made at least 20 minutes before the scheduled terminating time of the VTS. d. The contractor shall provide the ability for VTS authorized users to schedule one or more video teleconferences by time and day of week either as a single event or recurring event on a daily, weekly, monthly or other periodic basis. e. The contractor shall allow users with operating at different (disparate) data rates/speeds to connect and conference at their	[redacted]

Name of Capability	Description	[redacted]
	preferred speed. f. The contractor shall describe the maximum conferencing capacity for VTS. This includes the contractor's total overall VTS conferencing capability and the maximum number of endpoints that can participate in a single VTS multipoint conference operating at 384 Kbps. g. The contractor shall provide the ability to add participants or join a conference. h. The contractor shall provide the ability for the VTS users to schedule a “meet-me” reservation-based video teleconference. i. The contractor shall provide the ability to obtain reservation information only for their specific account, including all available unscheduled time slots by day, week, and month. j. The contractor shall provide the ability to retrieve VTS reports and account information.	[redacted]

Name of Capability	Description	[redacted]
		[redacted]
Video Formatting	14. The contractor shall provide a video format conversion capability that permits operation between the following: a. CODECs that operate in the National Television Standards Committee (NTSC) video format and CODECs that operate in the Phase PAL video format. b. CODECs that operate in the NTSC video format and CODECs that operate in the Système Electronique Couleur Avec Memoire (SECAM) video format. This is applicable when the contractor is providing the CODEC functionality.	[redacted]
Digital Performance	15. The contractor shall deliver the following digital performance: a. When the contractor furnishes only a reservation, coding conversion, format conversion, and/or rate adaptation feature(s), the encoded audio, video, and ancillary data signals that the contractor delivers as part of VTS shall be in conformance with the signals required by the user's CODEC.	[redacted]

Name of Capability	Description	[redacted]
	b. When the contractor furnishes the encoding/decoding function, the digital performance shall be in conformance with FTR 1080 performance at the data rate employed in the VTS.	[redacted]
Providing VTS to service delivery points	16. The contractor shall provide VTS to any of the following service delivery points: a. When the VTS uses dedicated private line access (Optional), the service shall be delivered directly to one of the following: (i) Government-furnished inverse multiplexer. (ii) Government-furnished CODEC. The contractor shall provide the service to the CODEC with or without the inverse multiplexing function according to the UNI specified. (iii) Government-furnished audio, video, and ancillary data source(s), inputs and outputs (e.g., cameras, speakers, microphones, and data ports) of the CODEC that interface with the video teleconferencing equipment. The contractor shall provide the encoding/decoding function with or without the inverse multiplexing function according to the UNI specified. b. When the VTS uses circuit-switched ISDN or a private line, service shall be delivered directly to one of the following: (i) Government-furnished CODEC. (ii) Government-furnished audio, video, and ancillary data source(s), inputs and outputs of the CODEC that interface with the video teleconferencing equipment. The contractor shall provide the encoding decoding function. (iii) Contractor-furnished teleconferencing equipment and CODEC. c. When the VTS uses IP communications, it shall support video communications devices that use the following protocols: (i) ITU-T H.323 signaling protocol. (ii) SIP (Session Initiation Protocol) IETF RFC 3261 for IP based multimedia communications with specific media control extensions to the SIP protocol when available commercially.(Optional)	[redacted]

Name of Capability	Description	[redacted]
	d. VTS for a desktop configuration shall support computer systems operating under Microsoft Windows 2K/NT or higher operating systems, including the most current commercially available MS operating system.	[redacted]
Interoperate with customer's firewalls and security	17. The VTS shall have the capability to traverse and successfully interoperate with Agency firewalls and security layers. The contractor shall verify with the Agency that the Agency firewall is compatible with this service.	[redacted]
Summary and Usage Reporting	18. At a minimum, the contractor shall provide VTS summary and usage reports as described below. The contractor shall also make available any reports that are available to its commercial customer base. a. Number and identification of video teleconferences scheduled using the reservation feature for the calendar month. b. Number and identification of video teleconferences per month that did not start at the scheduled time, the cause of which was attributable to the contractor's actions. c. Number and identification of video teleconferences per month which were started, but failed or suffered degraded quality due to the fault of the VTS contractor. d. A directory of all locations authorized to use the VTS reservation system. e. A history of reservation confirmation and cancellation notices within the reporting period. f. Report on cause of unexpected VTS disconnects or non-connects.	[redacted]

5.1.3.1.2 Satisfaction of VTS Features Requirements (L.34.1.5.3(a), C.2.8.1.2)

Figure 5.1.3-3 provides a comprehensive overview of Qwest's VTS features and technical advantages. Qwest fully complies with all mandatory stipulated and narrative features, capabilities, and interface requirements for VTS. [redacted]

Figure 5.1.3-3 Qwest's VTS Features

	Name of Feature	Description	[redacted]
1	Attended Service	Contractor will provide call monitoring, roll call, and coordination for a VTS conference. The contractor will greet and introduce each VTS participant. The contractor will verify proper conference operations prior to and during the conference to help ensure a successful VTS session.	
2	Certification	The contractor will provide pre-testing, registration, and certification that Agency-owned equipment operates and is compatible with the contractor's VTS. In the event that the equipment is not certified, the contractor will notify the Agency of the deficiency and required changes to be operable with VTS.	

	Name of Feature	Description	[redacted]
3	Coding Conversion (Transcoding)	The contractor shall provide transcoding that is compliant with FTR 1080 formats. [Optional] The contractor shall provide a coding conversion capability that permits operation between CODECs, all of which use the NTSC video format, but none of which support the FTR 1080 standard and none of which use the same encoding/decoding algorithm(s). At a minimum, the contractor shall support the following compression algorithms as needed by the Agency: SG3/SG4, CTX, and CTX+. [Optional] The contractor shall provide a coding conversion capability that permits operation between CODECs, all of which use the NTSC video format, in which one or more of the CODECs support the FTR 1080 and in which one or more of the CODECs do not support the FTR 1080. At a minimum, the contractor shall support the following compression algorithms as needed by the Agency: SG3/SG4, CTX, and CTX+.	[redacted]
4	Rate Adaptation	The contractor will provide a data rate adaptation capability to ensure that all VTS locations participating in a video teleconference can interconnect with each at dissimilar data rates.	[redacted]
5	Security – Sensitive but Unclassified (SBU)	The contractor will provide transparent and secure VTS communications paths to support (SBU) video communications. The security capabilities are described in the FTR1080 recommendation.	[redacted]

[redacted]

5.1.3.1.3 Satisfaction of VTS Interfaces Requirements (L.34.1.5.3(a), C.2.8.1.3)

[redacted] provides an overview of the various interfaces Qwest's VTS requires for access and use by Agencies. These interfaces are

standards based, and thus are compatible with a wide range of current, emerging, and legacy systems assets in-place throughout the Government. Qwest fully complies with all mandatory stipulated and narrative features, capabilities, and interface requirements for VTS. [redacted]

Figure 5.1.3-4. VTS Interfaces. *By meeting both domestic and international physical and electrical interface standards, Qwest's VTS simplifies user access and assures compliant or better performance for Agencies.*

UNI Type	Interface Type and Standard	Payload Data Rate or Bandwidth	Signaling Type	[redacted]
1	Digital Line: ISDN (BRI) S and T Reference Point (Std: (ANSI) T1.607 and 610)	Up to 128 (Kbps) (2x64 Kbps) and multi-rate DS-0's (px64)	(ITU-TSS) Q.931	
2	Digital Trunk: (T1) (Std: Telcordia SR-TSV-002275 and ANSI T1.102/107/403)	Up to 1.536 (Mbps)	T1 Robbed-Bit Signaling	
3	Digital Trunk: ISDN (PRI) T Reference Point (Std: ANSI T1.607 and 610)	Up to 1.536 Mbps	ITU-TSS Q.931	
4 (Non Domestic/ (OCONUS)	Digital Trunk: E-1 Channelized (Std: ITU-TSS G.702)	Up to 1.92 Mbps	SS7, E1 Signaling	
5	All (IEEE) 802.3 cable and connector types	Up to 100 Mbps	IEEE 802.3. IPv4. (IPv6 when and where available commercially from contractor)	
6	If the Agency provides the CODEC and the inverse multiplexer and the contractor provides only reservation, coding conversion, and/or format conversion		ITU-TSS V.35 (EIA) RS-449 EIA RS-530 RJ-x (e.g., RJ-45) EIA RS-232	[redacted]

[redacted]

5.1.3.3 Network Modifications Required for VTS Delivery (L.34.1.5.3(c))

Qwest's VTS will not require network modifications to achieve RFP compliant functions, features, and operational performance levels.

5.1.3.4 Experience with VTS Delivery (L.34.1.5.3(d))

The Qwest Team provides bridging and technical support for more than [redacted], and is a preeminent provider of

such services. [redacted] Leading VTS equipment vendors often come to the Qwest Team to evaluate and test their new equipment and software releases prior to the availability of such products in the marketplace.