

1.5.3 Video Teleconferencing Services (VTS) [C.2.8.1]

Agencies will increase productivity and reduce travel costs through the use of feature-rich Video Teleconferencing Services (VTS) that simulate face-to-face meetings, and enable collaboration among Agency employees. More than [REDACTED] using a mix of ISDN or IP protocols can join a videoconference session.

1.5.3.1 Technical Approach to Management and Applications Service Delivery [L.34.1.5.1]

1.5.3.1.a Approach to Service Delivery [L.34.1.5.1.a]

(a) Analyze the service requirements specified in this solicitation and describe the approaches to service delivery for each service. [L.34.1.5.1.a]

AT&T offers a complete portfolio of conferencing services – audio, video and web. In 2003, Frost & Sullivan presented AT&T with the “Conferencing Service Provider of the Year Award.”

Agencies use Video Teleconferencing Services (VTS) to simulate face-to-face meetings and collaborate in real time. This minimizes travel expenses, increases productivity, improves communications with remote offices, and creates new applications such as distance learning, corporate training, remote interviews, and taking of depositions.

GSA has to cater to the diverse VTS needs of 135 geographically dispersed Agencies with varying requirements, equipment types, protocols (e.g., ISDN, IP), interconnection speeds, and network types.

AT&T will provide the Government high quality VTS that is fully compliant with the requirements contained in the Networx RFP. As shown in **Figure 1.5.3.1-1**, our secure, reliable, and feature-rich VTS will enable participants in different locations, using any mix of IP and ISDN protocols to simulate face-to-face meetings, conduct interactive dialogue, and share various applications and documents in real time.





Figure 1.5.3.1-1: VTS Overview. Agencies using VTS from AT&T benefit from a flexible, reliable, secure, and far-reaching service, enabling them to simulate face-to-face meetings, conduct interactive dialogue, and share various applications and documents in real time.

VTS will have flexible, reservation-based, and reservation-less scheduling options, and support point-to-point and point-to-multi-point conferencing. VTS will meet the diverse needs of Government Agencies and will address both ends of the spectrum - products and services designed for those Agencies who are looking for AT&T to manage their videoconferences, as well as for Agencies who are looking to manage their own videoconferencing needs.

VTS offers a full set of features, including a wide range of speeds, interfaces, protocols, reservation schemes, and reporting options. Document/data conferencing, video format conversion, speed matching, and a range of viewing options are offered.

Scalability, reliability, and high quality are built into the video gateway /bridging equipment as well as AT&T's underlying transport infrastructure. AT&T's approach and its key benefits are summarized in **Table 1.5.3.1-1**.

SERVICE DELIVERY APPROACH	DESCRIPTION
<p>Flexibility</p>	<p>Reservation-less (Video-On-Demand) or reservation-based Videoconferencing modes</p> <ul style="list-style-type: none"> • Video-On-Demand is a fully automated web-based service that allows registered users to self-launch and control ad-hoc video calls. • Reservation-based conferencing provides users with their own easy-to-use scheduling application. <p>Conferencing Viewing Options</p> <ul style="list-style-type: none"> • Voice activation - Used for interactive meetings. All conference participants view the current speaker. • Continuous presence – Allows multiple conference participants to be on-screen at the same time using split-screen technology. • Chairperson control – Control of the conference can be passed from one person to another. An endpoint with chair control can request video control, relinquish control of the conference, select a site as the broadcaster, and drop a site or the entire conference. • Lecture control – This mode allows Agencies to broadcast a single endpoint to all other endpoints in the conference, and as its name implies, is best suited to applications such as distance learning. <p>Three methods of joining a videoconference are offered :</p> <ul style="list-style-type: none"> • Dial-Out – An AT&T conference technician dials out to each location • Meet Me (Dial-In) – Participants dial into the videoconference
<p>Interoperability</p>	<p>Different Protocols</p> <ul style="list-style-type: none"> • Any combination of IP (H.323) or ISDN (H.320) endpoints can join the same videoconference • Sites can use a variety of protocols to access the same video conference, including PSTN, private IP, including IP VPNs, the public Internet, or private lines



SERVICE DELIVERY APPROACH	DESCRIPTION
	Different rates and compression schemes <ul style="list-style-type: none"> Using transcoding, videoconferencing systems with different speeds or bit rates, resolution rates, frame rates, and audio compression schemes can join the same videoconference Any combination of the above can join the same videoconference
Scalability and global reach	<ul style="list-style-type: none"> MCU scalability, allows videoconferences from [REDACTED] sites Infrastructure scalability and capacity management allows capacity to always be available for Agency videoconferencing AT&T's global coverage allows geographic scalability, with VTS available in [REDACTED]
Reliability	Redundancy and resiliency features are provided on multiple levels to maximize overall videoconference reliability [REDACTED]

Table 1.5.3.1-1: AT&T's Approach to Videoconferencing. *Wide range of capabilities enhances the flexibility, interoperability, scalability, and reliability of the service.*

1.5.3.1.a.1 Future Service Direction

VTS equipment and connectivity has traditionally been ISDN-based, using ITU-T H.320. Driven by cost efficiencies and a maturing IP technology, IP-based VTS, using ITU-T H.323 is becoming increasingly popular, replacing legacy ISDN-based equipment. Session Initiation Protocol (SIP) is the next generation signaling protocol and is currently being standardized.

AT&T will continue to support H.320 for the installed legacy ISDN base, while also supporting H.323 for newer, IP-based equipment. In addition, we will support SIP once implemented and fully standardized and commercially available. This approach provides Agencies a clear migration path to future technology advancements while preserving their investments in their existing videoconferencing equipment.

1.5.3.1.b Benefits to Technical Approach [L.34.1.5.1.b]

(b) Describe the expected benefits of the offeror's technical approach, to include how the services offered will facilitate Federal Enterprise Architecture objectives (see <http://www.whitehouse.gov/omb/egov/a-1-fea.html>). [L.34.1.5.1.b]

AT&T's Networx services and VTS services, in particular, support the Government's vision of transformation through the use of the Federal

Enterprise Architecture (FEA) by providing the technologies that contribute to the Agency’s mission objectives. **Table 1.5.3.1-2** describes each service in relation to FEA, summarizes its contribution, and/or provides an example of how it facilitates FEA implementation.

SERVICE DELIVERY APPROACH	BENEFITS	FEA FACILITATION
Flexibility	<ul style="list-style-type: none"> Offering reservation-based as well as video-on-demand conferencing allows Agencies to select the appropriate method to match their individual needs on a case-by-case basis. Conferencing viewing options enable more productive videoconference sessions by selecting the right viewing options for each type of videoconference. Dial options give Agencies using a variety of methods to stage a videoconference. They can dial into a conference or arrange for VTS to dial out to their number, or a mixture of dial-In/dial-out. 	Flexible, convenient VTS stimulate usage among Agency employees, allowing increased cross-Agency and inter-Government collaboration , a key objective of FEA.
Interoperability	<ul style="list-style-type: none"> Agencies can use their existing videoconferencing equipment, regardless of whether it is IP or ISDN-based to connect via AT&T’s VTS. Rate adaptation allows all Agency videoconferencing sites to operate at their best possible performance levels without each site having to “throttle down” to the lowest common denominator feature. 	Interoperability enables improved utilization of Government information , a key FEA objective.
Scalability & Global Reach	<ul style="list-style-type: none"> Network and MCU scalability allow videoconferencing sessions to interconnect more than 200 sites. Geographic scalability: Wide global coverage means that Agency locations throughout the U.S. and in over 60 countries around the world can seamlessly interact via videoconferencing. 	Scalability reduces the total cost of operation for using videoconferencing, providing cost savings and cost avoidance , a key objective of FEA.
Reliability	<ul style="list-style-type: none"> Network availability of 99.999% provides Agencies unprecedented service VTS offers 99% completed service requests, allowing Agencies to conduct conferences whenever their needs dictate 	Reliable VTS stimulate usage by Agency employees, allowing increased cross-Agency and inter-Government collaboration , a key objective of FEA.

Table 1.5.3.1-2: Agency Benefits and FEA Facilitation. Agencies can receive products and services components that are easily integrated, commonly manageable, and aligned to support FEA objectives and meet FEA guidelines.

AT&T’s development of net-centric technologies supports solutions based on service-oriented architecture (SOA), which uses standardized, web-adapted components. Our approach ensures that the criteria listed below are followed:

- Technical Reference Model capabilities are fully met and linked to the Service Component Reference Model (SRM) and Data Reference Model (DRM).



- These links are structured to support Business Reference Model (BRM) functions and provide line-of-sight linkage to mission performance and ultimate accomplishment per the Performance Reference Model (PRM)
- AT&T operates as an innovative partner through Networx to help achieve the vision of the FEA to enhance mission performance.

In addition to the benefits and FEA facilitations cited earlier, AT&T can assist specific departments and Agencies to meet mission and business objectives through a comprehensive VTS offering.

1.5.3.1.c Major Issue to Service Delivery [L.34.1.5.1.c]

(c) Describe the problems that could be encountered in meeting individual service requirements, and propose solutions to any foreseen problems. [L.34.1.5.1.c]

In transitioning to any new service delivery model, whether it be task-based or fully outsourced, unforeseen issues can always arise. Therefore, it is important that GSA selects a service provider that brings the depth and background to minimize an Agency’s risk during transition. Our experience has enabled us to develop proven methods, processes, and procedures applicable to the simplest or the most complex projects.

Table 1.5.3.1-3 lists the top six service delivery risks and our mitigation strategy. As with all large projects, we enter each of these risks and others (after identification and characterization) into our risk-tracking database, and immediately take steps to mitigate them before they become an issue. Because risk management is more effective when all stakeholders are active in the process, AT&T engages the GSA, the client Agency, and other Government solution partners for success with risk mitigation.

RISK AREAS	RISK DESCRIPTION	RISK MITIGATION
Service continuity	Service Interruption and lack of "like-for-like" features are the key risks, when migrating from FTS2001 to Networx contract vehicle for Videoconferencing.	<ul style="list-style-type: none"> • Leverage the experience of providing videoconferencing solutions since 1984 and help Agencies with AT&T’s in-house expertise to migrate gracefully from Crossover contract vehicle to Networx • Offer Agencies the same feature sets and functionality as offered by AT&T for Crossover.

RISK AREAS	RISK DESCRIPTION	RISK MITIGATION
		<ul style="list-style-type: none"> • Provide 24x7 customer support. Video specialists enable AT&T to address most potential issues, often before any impact to Agencies
Business disruption	In our experience, all Agencies are concerned about business disruption when moving to a new service. Adequate planning can minimize this risk.	<ul style="list-style-type: none"> • Develop engineering design that considers equipment replacement, concurrent operations, and brake-in period • Lab test all service delivery processes and procedures • Possess detailed backout procedures • Conduct delivery activities during no-business hours, as directed by Agency site point-of-contact (POC).
Performance and reliability	VTS that do not offer high performance and redundancy on every level can negatively impact the ability of the Agencies to effectively collaborate remotely	<ul style="list-style-type: none"> • Use state-of-the-art video bridging and gateway equipment, also known as MCUs, from Avaya and Polycom to provide hundreds of public bridge ports, with the ability to scale up to more than 200 sites on a single videoconference. • Provide redundancy on many levels, including videoconferencing center, equipment and power redundancy. • Leverage AT&T's IP/MPLS network, when used as the underlying infrastructure for access to VTS, to offer the lowest latencies in the industry and to provide high reliability end-to-end on our IP network.
Security	Access by unauthorized parties, and eavesdropping can seriously compromise Agency missions	<ul style="list-style-type: none"> • House MCUs in central offices with secured entry • Provide user ID and password protection for the web conference scheduling interface • Leverage the security features provided on AT&T's IP/MPLS infrastructure, which is protected by many security features such as traffic separation, automated perimeter security tools, and intrusion detection and prevention (IDP). • For Agencies that require additional security, VTS optionally offers Sensitive but Classified (SBU) communications
Requirements Changes	Requirements changes (before and after service delivery) contribute to budget overruns, schedule slips, and missed expectations.	<ul style="list-style-type: none"> • Obtain pre-project understanding of requirements through detailed analysis • Establish strong change management processes • Conduct continuous communications with GSA and Agencies
Complete and Accurate Location Information	Often, location information is not accurate and site POCs are no longer valid.	Review and verify location information with Agency Program Management Office (PMO) and site POC.

Table 1.5.3.1-3: AT&T Service Delivery Lessons Learned and Risk Mitigation Strategies. Agencies benefit from lessons learned and experience implementing VTS, which ultimately minimize service delivery risks.

AT&T has taken steps to identify risk and provide risk mitigation associated with delivering VTS. AT&T is committed to service excellence and will work with the Agency to identify and resolve potential problems that might occur during service delivery.

1.5.3.2 Satisfaction of Management and Applications Performance Requirements [L.34.1.5.2]

1.5.3.2.a Service Quality and Performance [L.34.1.5.2.a]

(a) Describe the quality of the services with respect to the performance metrics specified in Section C.2 Technical Requirements for each service. [L.34.1.5.2.a]

AT&T’s videoconferencing solutions are designed with reliability, scalability, and interoperability in mind and offer Agencies performance metrics that endorse these design principles.

Performance metrics requested by GSA for VTS and how AT&T’s performance compares to these metrics are shown in **Table 1.5.3.2-1**.

KEY PERFORMANCE INDICATOR (KPI)	USER TYPE	NETWORX AQL	PROPOSED SERVICE QUALITY LEVEL
Availability	All	99.5%	██████
Time to Restore	Without Dispatch	4 hours	██████
	With Dispatch	8 hours	██████
Grade of Service (Completed Service Requests)	Routine	95% of VTS conference requests met	██████

Table 1.5.3.2-1: VTS Key Performance Indicators. AT&T meets or exceeds GSA Networkx requirements.

Focusing on an Agency’s service experience produces a high-quality solution, and service experience must be measured quantitatively through the KPIs. However, high quality is not necessarily attained through exceptional performance of a single KPI. For example, an inferior response to the Agencies’ maintenance and support needs can quickly erase the benefits of exceptional network latency performance. Agencies will receive high-quality service through the combination of the six network and service attributes that ultimately directly affect the quality delivered to the end user: scale, global footprint, high availability, and data delivery, low packet latencies, and quick service restoration.

1.5.3.2.b Approach to Monitoring and Measuring Performance [L.34.1.5.2.b]

(b) Describe the approach for monitoring and measuring the Key Performance Indicators (KPIs) and Acceptable Quality Levels (AQLs) that will ensure the services delivered are meeting the performance requirements. [L.34.1.5.2.b]

Of equal importance to identifying the KPIs for a service is the method by which the KPIs are captured, measured, and monitored. Agencies will receive

the most accurate assessment of the service when the KPI measurement and monitoring methodology replicates the real performance that Agency personnel experience. AT&T's Central Reservation and Reporting System, shown in **Figure 1.5.3.2-1**, accurately tracks and records detailed statistics on videoconferencing service parameters.

Figure 1.5.3.2-1: VTS Central Reservation and Reporting System. Agencies can obtain a wide range of online records and statistics about their VTS allowing them to have full visibility into service parameters, and performance. These statistics are converted into user-friendly reports that are available online for authorized Agency personnel.

Table 1.5.3.2-2 outlines the methods used to measure the various VTS key performance indicators.



KPI	MONITORING & MEASURING APPROACH
Availability	The AT&T Central Reservation and Reporting System compiles detailed statistics that are automatically recorded for service outages on a daily basis. This system is replicated at AT&T's three Videoconference Service Centers in Colorado, Pennsylvania, and the UK for redundancy. Detailed statistics are maintained for Service Availability on a daily basis on this system.
Time To Restore	All customer-affecting incidents are recorded and trouble tickets opened whether or not there is a customer-affecting service disruption. Trouble tickets are analyzed on a regular basis to meet or exceed Time To Restore KPIs.
Grade of Service (Completed Service Requests)	The AT&T Central Reservation and Reporting System compiles detailed statistics that are automatically recorded for [REDACTED] on a daily basis. Detailed statistics are maintained [REDACTED] on a daily basis on this system.

Table 1.5.3.2-2: Approach for Monitoring & Measuring KPIs for VTS. Extensive measurements, reporting, and statistical analysis provide VTS that consistently meet and exceed KPIs.

The monitoring and measurement approach outlined above will make up-to-the-minute KPI information available to authorized Agency and AT&T personnel for verification, trouble resolution, and planning purposes. This approach has helped to achieve and maintain the current high standards for availability, time-to-restore, and completed service requests.

1.5.3.2.c Approach to Perform Service Delivery Verification
[L.34.1.5.2.c]

(c) Describe the offeror's approach to perform verification of individual services delivered under the contract, in particular the testing procedures to verify acceptable performance and Key Performance Indicator (KPI)/Acceptable Quality Level (AQL) compliance. [L.34.1.5.2.c]

The first time the service is provided through the Networx contract, the service performance must be verified; KPIs will be monitored to certify that the service performance complies with the AQL. **Table 1.5.3.2-3** summarizes the verification and testing procedures for VTS KPIs.

KPI	VERIFICATION APPROACH	VERIFICATION & TESTING PROCEDURES
Availability	[REDACTED]	[REDACTED]
Time to Restore	[REDACTED]	[REDACTED]



KPI	VERIFICATION APPROACH	VERIFICATION & TESTING PROCEDURES
Grade of Service (Completed Service Requests)	[REDACTED]	[REDACTED]

Table 1.5.3.2-3: Verification of Acceptable Performance for. [REDACTED]

Through a comprehensive verification process, Agencies and the GSA will receive concrete data that demonstrates the readiness of VTS. AT&T follows detailed procedures to verify VTS by comparing the KPI data against the stated AQLs, as described in the Verification Test Plan.

1.5.3.2.d Performance Level Improvements [L.34.1.5.2.d]

(d) If the offeror proposes to exceed the Acceptable Quality Levels (AQLs) in the Key Performance Indicators (KPIs) required by the RFP, describe the performance improvements. [L.34.1.5.2.d]

Agencies will benefit from enhanced service performance when the KPI performance thresholds are [REDACTED]. **Table 1.5.3.2-4** summarizes the proposed improvements to the KPI performance thresholds and the benefits that Agencies will experience through the higher service performance. [REDACTED]

[REDACTED]

[REDACTED]

KPI	NETWORX AQL THRESHOLD	AT&T PROPOSED AQL THRESHOLD	IMPROVEMENT PERCENTAGE
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Table 1.5.3.2-4: VTS Key Performance Indicators. Agencies gain almost two days of additional service uptime and over four percent more completed service requests than asked for in the Networx RFP.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

1.5.3.2.e Approach and Benefits for Additional Performance Metrics [L.34.1.5.2.e]

(e) Describe the benefits of, and measurement approach for any additional performance metrics proposed. [L.34.1.5.2.e]

The KPIs defined by the Government for the VTS will provide a comprehensive assessment for service verification and service performance monitoring. Therefore, AT&T does not propose additional KPIs for VTS.

1.5.3.3 Satisfaction of Management and Applications Service Specifications [L.34.1.5.3]

1.5.3.3.a Service Requirements Description [L.34.1.5.3.a]

(a) Provide a technical description of how the service requirements (e.g., capabilities, features, interfaces) are satisfied. [L.34.1.5.3.a]

VTS offers a suite of high-quality, secure, and reliable VTS to meet the diverse needs of the Agencies, as shown in **Figure 1.5.3.1-1**. These services are offered in the U.S. and in over [REDACTED] around the globe.

VTS supports assisted as well as on-demand conference calls and will bridge over [REDACTED] into a single videoconference, using ISDN or IP at varying speeds.

1.5.3.3.a.1 Capabilities

Agencies benefit from a wide range of capabilities and options offered by VTS, as described in **Table 1.5.3.3-1**.

SERVICE CAPABILITIES	DESCRIPTION	BENEFITS TO AGENCY
Core conferencing capabilities	The following core capabilities are offered: <ul style="list-style-type: none"> Bridging and gateway service to interconnect any mix of IP (H.323) and ISDN (H.320) endpoints Document sharing (data conferencing) 	<ul style="list-style-type: none"> Agencies can leverage existing base of diverse video equipment, without modifications, to conduct videoconferencing Rich array of features allows easy

SERVICE CAPABILITIES	DESCRIPTION	BENEFITS TO AGENCY
	<ul style="list-style-type: none"> • Audio conference add-on • Operator assistance • Lip synchronization • Secure, web based, reservation system • Video format conversion • Interoperation with/through Agency firewalls • Extensive monitoring and reporting capabilities 	<p>video, audio, and document conferencing</p> <ul style="list-style-type: none"> • High quality, secure service promotes collaboration while protecting Agency information
Conference Viewing Options	<p>Agencies can select the conferencing viewing options described below, and shown in Figure 1.5.3.3-3.</p> <ul style="list-style-type: none"> • Voice activation – All conference participants view the current speaker, and the speaker views the previous speaker. • Continuous presence – This mode allows multiple conference participants to be on-screen at the same time using split-screen technology. • Chairperson control – This mode is best suited for meetings where participants from several endpoints are each scheduled to give an extended talk. • Lecture Control – This mode is best suited for classroom training and instructional meetings where there is one primary speaker and limited interaction from the other participants, such as distance learning applications and single site briefings 	<p>Conference viewing options offers Agencies great flexibility in videoconferencing. Examples:</p> <ul style="list-style-type: none"> • Voice activation allows interactive meetings where most of the participants are expected to share information • Continuous presence mode enables all parties to observe each other at the same time • Chairperson control allows Agencies to select and broadcast a specific endpoint's video to all other H.243-standard endpoints in the conference. • Lecture control mode allows Agencies to broadcast a single endpoint to all other endpoints in the conference.
Dial Options	<p>Agency locations can join a videoconference using the following methods:</p> <ul style="list-style-type: none"> • Dial-Out – An AT&T conference technician will dial-out to each location during a designated set-up time. • Meet Me (Dial-In) – Participants will be assigned a dial-in number prior to the conference. They are responsible for initiating a call to AT&T's bridge at the designated time. 	<p>Agency personnel can select the most suitable option depending on their needs. Examples:</p> <ul style="list-style-type: none"> • Dial-out for convenience and fixed locations • Meet me (Dial-In) for maximum mobility, e.g. when Agency personnel are traveling • Mixed Dial for maximum convenience

Table 1.5.3.3-1: Capabilities. Agencies benefit from a wide range of capabilities, including bridging and gateway service, conference viewing, and dial options

1.5.3.3.a.2 Features

The features offered by VTS and their benefits are described in

Table 1.5.3.3-2.

SERVICE FEATURES	DESCRIPTION	BENEFITS TO AGENCY
On-demand, and reservation-based Videoconferences	<p>Agencies have access to two convenient web-based reservation systems, as described below. Note that both options are available regardless of whether or not transcoding is requested by the</p>	<p>Wide range of features allows Agencies to select the best options to suit individual videoconferencing scenarios. Examples:</p>

SERVICE FEATURES	DESCRIPTION	BENEFITS TO AGENCY
	Agency. <ul style="list-style-type: none"> • Assisted Conferences (reservation-based) – VTS provides users with their own, easy-to-use web-based scheduling application • On-Demand Conferences (reservation-less) – VTS offers a fully automated web-based, "reservation-less" service that allows a registered user to self-launch and control ad-hoc video calls. 	<ul style="list-style-type: none"> • Assisted Conferences best suited to regularly scheduled events, such as staff meetings • On-Demand conferencing, best suited to unscheduled, often last-minute meetings
Certification	<ul style="list-style-type: none"> • Certification ensures compatibility between the endpoint video equipment and AT&T's service • The Certification process consists of a series of test calls between each registered endpoint and AT&T's bridge • Test calls may consist of dial-in and dial-out, and include any speeds that are planned for use in future video conference calls • Test calls may be scheduled in advance by calling a toll free number • Upon completion of successful test calls, the endpoint will receive "Certified" status and is then ready to participate in future videoconference calls 	Correct operation is verified, <i>prior</i> to any live conferences, ensuring high videoconference availability for Agencies
Interoperability, Coding Conversion, and Rate Adaptation	<ul style="list-style-type: none"> • Agency sites with different speeds, protocols (IP, ISDN), and access networks (PSTN, private IP including IP VPNs, the public Internet, private lines) are able to join in a videoconference call. • MCUs provide gateway, gatekeeper, and bridge functionality to connect disparate protocols. Any mix of ISDN and IP sites can be accommodated • Coding Conversion (Transcoding) allows interoperability between codecs that use the National Television Standards Committee (NTSC) video format but may or may not support FTR 1080 recommendation • Rate Adaptation allows videoconferencing systems with different speeds or bit rates, resolution rates, frame rates, and audio compression schemes to conference together without requiring all systems to drop to the lowest common denominator 	<ul style="list-style-type: none"> • Agencies can leverage their existing video equipment or upgrade to newer equipment with the confidence that these would interoperate among their sites – without costly modifications or configuration changes • All video equipment can perform at its highest performance level without "ratcheting down" to the lowest common denominator
Security	<div style="background-color: black; width: 100%; height: 40px;"></div>	<ul style="list-style-type: none"> • Prevents unauthorized access and eavesdropping • Offers Agencies greater security for sensitive operations

Table 1.5.3.3-2: VTS Features. Flexible reservation schemes, certification, interoperability, and extensive security options allow Agencies with diverse requirements and equipment types to take advantage of the benefits of videoconferencing

1.5.3.3.a.2.1 Assisted Conferences (Reservation-based)

VTS provides users with their own, easy-to-use web-based scheduling application— AT&T Video Meeting Center. This application centralizes an organization's entire inventory of conference room facilities. Agency staff may

cooperatively reserve video rooms and view reservations. The application automatically reserves and confirms bridging services. Also, confirmations are e-mailed to the requester at time of reservation or status change. Site equipment information and site contact information is viewable by simply clicking on a specific site. A sample screen shot from the Video Meeting Center is shown in **Figure 1.5.3.3-1**. Video-conferences can be scheduled as single or periodically recurring events.

Figure 1.5.3.3-1: Reservation-Based Conferences. Agencies can use [redacted] reservation system to conveniently reserve videoconferences [redacted]

1.5.3.3.a.2.2 On-Demand Conferences (Reservation-less)

VTS offers a fully automated web-based, "reservation-less" service, that allows a registered user to self-launch and control ad hoc video calls. Upon registering video rooms with AT&T, each authorized user will receive a log-in username and password.

After log-in, the user simply selects video sites from their directory and any audio participants by entering telephone or cell phone numbers. Next, a single mouse click launches the conference and connects all sites and

participants at once. In the case of multipoint calls, AT&T's bridge dials out to each video site and audio participant.

A sample screen shot from Video-On-Demand, AT&T's fully automated web-based, "reservation-less" service is shown in **Figure 1.5.3.3-2**.

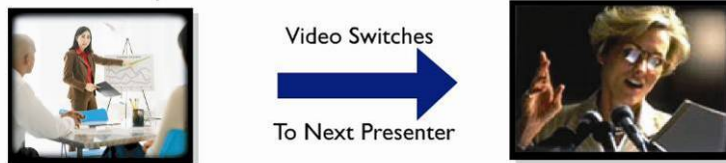
Figure 1.5.3.3-2: Video On-Demand Conferences. *Reservation-less conferencing allows Agencies, flexible, ad hoc videoconference capabilities.*

1.5.3.3.a.2.3 Conference Viewing Options

VTS conferencing viewing options are shown in **Figure 1.5.3.3-3** below.

These include Voice Activation and Presentation Modes (consisting of Continuous Presence, Chairperson Control, and Lecture Control) as described previously in Table 1.5.3.3-1.

- *Voice Activated Switching (default)* – for interactive meetings between multiple sites



- *Presentation Mode* – for distance learning or corporate training applications



AT&T uses advanced technology that allows for more natural viewing by granting the current speaker the right to be the video broadcaster until he or she stops speaking.

Figure 1.5.3.3-3: Conference Viewing Options. Agencies can select the viewing mode to match their precise requirements for each videoconference session.

1.5.3.3.a.3 Interfaces and Speeds

VTS fully supports all the interfaces and speeds requested by Networx, as shown in **Table 1.5.3.3-3** below.

INTERFACE TYPE AND STANDARD	PAYLOAD DATA RATE OR BANDWIDTH	SIGNALING TYPE
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 (nx64)	ITU-TSS Q.931
Digital Trunk: T1 (Std: Telcordia SR-TSV-002275 and ANSI T1.102/107/403)	Up to 1.536 Mbps	T1 Robbed-Bit Signaling
Digital Trunk: ISDN PRI T Reference Point (Std: ANSI T1.607 and 610)	Up to 1.536 Mbps	ITU-TSS Q.931
Digital Trunk: E-1 Channelized (Std: ITU-TSS G.702)	Up to 1.92 Mbps	SS7, E1 Signaling
All IEEE 802.3 cable and connector types	Up to 100 Mbps	IEEE 802.3. IPv4. (IPv6 when and where available commercially)

Table 1.5.3.3-3 Speeds and Interfaces. VTS fully supports all interfaces and speeds requested by Networx

The technical description above outlines the key capabilities, features, and interfaces supported by VTS. These capabilities will ensure that Agencies will have easy access to robust, flexible, and scalable videoconferencing solutions to successfully complete their missions in the U.S., and around the globe.

1.5.3.3.b Attributes and Values of Service Enhancements [L.34.1.5.3.b]

(b) If the offeror proposes to exceed the specified service requirements (e.g., capabilities, features, interfaces), describe the attributes and value of the proposed service enhancements. [L.34.1.5.3.b]



In addition to the standard services, Agencies can enhance their VTS with Remote Endpoint Monitoring Service (Table 1.5.3.3-4) [REDACTED]

ADDITIONAL CAPABILITY OFFERED	DESCRIPTION	BENEFIT TO AGENCIES
[REDACTED]	[REDACTED]	[REDACTED]

Table 1.5.3.3-4: Service Enhancements. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] This provides Agencies even greater service availability.

1.5.3.3.c Service Delivery Network Modifications [L.34.1.5.3.c]

(c) Describe any modifications required to the network for delivery of the services. Assess the risk implications of these modifications. [L.34.1.5.3.c]

Agencies receive a low-risk solution through AT&T’s ability to offer VTS upon contract award without modifications to network or operational support systems.

1.5.3.3.d Management and Applications Services Experience [L.34.1.5.3.d]

(d) Describe the offeror’s experience (including major subcontractors) with delivering the mandatory Management and Applications Services described in Section C.2 Technical Requirements. [L.34.1.5.3.d]

AT&T has been offering a wide range of videoconferencing solutions since 1984. [REDACTED]

[REDACTED] We deliver hundreds of multipoint domestic and international videoconferences each month.

Client Need	Solution	Created Value
[REDACTED]	[REDACTED]	[REDACTED]

Table 1.5.3.3-5: Experience Delivering VTS. Success is measured by the ability to deliver solutions to Agencies that create value to their business.

AT&T Networkx Team offers Agencies extensive experience providing services that create value to our Government and commercial customers. This experience has given us the ability to engineer and deliver VTS that fully address Agencies' diverse requirements.

1.5.3.3.e Approach to Network Infrastructure Management [L.34.1.5.3.e]

(e) For Managed Network Services (MNS), describe the approach, process, and considerations for managing a network infrastructure (e.g., FRS, ATMS, IPS, IP-VPNs, CPE) supporting approximately 2000 users, at 25 locations across the United States. Based on the offeror's experience with similar projects, provide a discussion of how the offeror would investigate the requirements, design the solution, implement the plan, and deliver service that meets the Agency's performance requirements. [L.34.1.5.3.e]

Please refer to MNS Section 1.5.6.

1.5.3.4 Narrative Requirements [L.34.1.5.4.b]

(b) Narrative responses to the requirements in Table J.9.1.1.3 (b) Technical Narrative Requirements for Optional IP-based Services.

1.5.3.4.1 Dissimilar Interfaces [C.2.8.1.1.4 (5)]

The following Video Conferencing Services capabilities are mandatory unless indicated otherwise:
5. The contractor shall supply gateways, gatekeepers, multi-point bridges, or other interfaces to enable for VTS between dissimilar interfaces or networks.

Sites with different speeds, protocols (IP, ISDN), and access networks (including PSTN, private IP, and IP VPNs, the public Internet, private lines, Frame Relay, and ATM) are able to join in a videoconference. MCUs provide gateway, gatekeeper, and multipoint bridge functionality to connect disparate protocols. Any mix of ISDN and IP sites can be accommodated.

Agencies benefit by being able to interconnect sites around the globe for a videoconference regardless of their existing equipment and access method.

The videoconferencing elements used for VTS and their functions are summarized in **Table 1.5.3.4-1**.

VIDEOCONFERENCING ELEMENTS	FUNCTION/ROLE
Gateways	AT&T's videoconferencing Gateways make it possible for systems on an IP network to connect to systems using ISDN. The Gateway functionality will allow Agencies using IP for internal communications to communicate with other external Agencies or enterprises that are using ISDN. Gateways are also used when an Agency is migrating from ISDN to an IP environment or uses a combination of ISDN and IP internally. Agencies will require gateway services when and if they choose to leverage an existing IP network to make calls via ISDN.
Gatekeepers	Gatekeepers provide device authentication, control bandwidth utilization, and support manual and automatic registration of end points. In so doing, gatekeepers allow videoconferencing administrators to configure, monitor, and manage the activities of registered endpoints, set policies, and control network resources. Our network-based gateway is equipped with gatekeepers to offer these features to our clients.
Multipoint bridges	Multipoint bridges enable the interconnection of multiple ISDN (H.320) or IP (H.323) endpoints at speeds from 128 Kbps to T-1 speed (1.5MG). A mixture of H.320 and H.323 necessitates the use of Gateways detailed above. These gateways are contained in the actual bridges themselves. Audio participants would be able to join a video conference by using that feature available at our bridge. Many additional user options and features are available (e.g., transcoding and speed matching. AT&T presently maintains [redacted] bridging centers: [redacted]. Each bridging center [redacted] offers Agencies a greater degree of service availability.

Table 1.5.3.4-1 VTS Elements. Agencies receive great flexibility with AT&T's enabling features to make videoconferencing available to sites using dissimilar speeds, interfaces, and protocols.

1.5.3.4.2 Bridge Capabilities [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.

VTS provides bridging and gateway capabilities between any mix of IP and ISDN endpoints as shown in

Figure 1.5.3.4-1.

Transcoding allows videoconferencing between endpoints using different speeds

Figure 1.5.3.4-1: VTS Bridging and Gateway Capabilities. VTS provides videoconferencing flexibility to Agencies by supporting any mix of IP and ISDN endpoints.

or bit rates, resolution rates, frame rates, and audio compression schemes.



This means all participants can conference without requiring all systems to drop to the lowest common denominator, enabling systems to perform at their highest capabilities without compromising quality.

In addition, flexible dial options are provided to the Agencies, including dial-in, dial-out, and mixed dial.

1.5.3.4.3 VTS Conferencing Capacity [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 multi-point conference operating at 384 Kbps.

Agencies benefit from high-capacity videoconferencing solutions from AT&T, as outlined in **Table 1.5.3.4-2** below:

CAPACITY CRITERION	AT&T'S OFFERING	BENEFIT TO AGENCIES
Videoconferencing equipment opacity	AT&T uses state-of-the-art Multipoint Control Units (MCUs) from Avaya and Polycom, providing hundreds of public bridge ports and scaling [REDACTED] enabling AT&T to provide sufficient capacity at short notice.	<ul style="list-style-type: none"> Greater collaboration among Government Agencies Surges in demand for videoconferences are easily met High availability
Network capacity	AT&T's IP/MPLS network used for access to VTS offers a high-bandwidth network : [REDACTED]	<ul style="list-style-type: none"> High availability Increased reliability: sufficient bandwidth is available for rerouting of videoconferences around failure points
Geographic capacity (coverage)	AT&T currently has [REDACTED] further expands the coverage and flexibility for Agencies.	Agencies can currently collaborate from anywhere in the U.S and over 60 countries using IP, or in over 120 countries using ISDN for access

Table 1.5.3.4-2: VTS Capacity. Abundant videoconferencing equipment and network capacity, along with wide geographic coverage, ensure that Agencies can conduct large-scale videoconferences reliably and without encountering busy signals.

1.5.3.4.4 Firewall Compatibility [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.

[REDACTED]

Figure 1.5.3.4-2:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Figure 1.5.3.4-2: [REDACTED] with [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

1.5.3.4.5 Commercial Reports Availability [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.

Agencies will have on-line access, as shown in **Figure 1.5.3.4-3** to the same reports that AT&T currently makes available to commercial customers. All online applications have been developed to replicate a Microsoft Windows XP

environment. This provides Agency personnel a familiar “look-and-feel” while making reservations, and obtaining reports, and, unlike competing services, Agency personnel to not have to learn new proprietary interfaces.

Figure 1.5.3.4-3: [Redacted] to [Redacted]

Reports may be requested in Excel, HTML, or PDF formats. **Table 1.5.3.4-3** summarizes the reports that are made available on-line to the Agencies.

REPORT TYPE	PURPOSE	CONTENTS
Site Directory	Downloads the most up-to-date inventory of Agency video sites registered with AT&T.	<ul style="list-style-type: none"> • Site name • Site contact information • Video equipment information • Access/Network information (i.e. - ISDN Video Dial Numbers) • Certified transmission speeds • Dates when sites were registered and certified with AT&T • A directory of all locations authorized to use the VTS reservation system
Usage Reports	Reports on usage within a user-specified period	Reports categorized as follows: <ul style="list-style-type: none"> • By site • By conference (then details per site) • By site (then details per conference) • By requestor • By allocation • Audio usage (when used in conjunction with a videoconference)
Video-conference Activity	Downloads the most up-to-date list of video-conferencing activity	Number and identification of video teleconferences scheduled using the reservation feature for the calendar month



REPORT TYPE	PURPOSE	CONTENTS
Trouble Ticket Reporting	Examine Trouble Ticket details	<ul style="list-style-type: none">• Daily Open Trouble Ticket Summary• Daily Open Trouble Ticket Detail<ul style="list-style-type: none">• Number and identification of videoconferences per month that did not start at the scheduled time• Number and identification of video teleconferences per month which were started but then failed or suffered degraded quality• Report on cause of unexpected VTS disconnects or non-connects• Open Trouble Ticket Summary• Open Trouble Ticket Detail

Table 1.5.3.4.5-1: VTS Reports. Agencies will have full visibility into their videoconferencing activities, enabling them to control costs, plan, and organize effectively.

1.5.3.4.6 Pre-Testing, Registration, and Certification [C.2.8.1.2 (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.

Agencies follow three easy steps to register, pre-test, and certify their video conference rooms or endpoints. After this process is completed, only a single step is required to start their videoconference sessions.

1.5.3.4.6.1 Step 1: Registration

[Redacted content]



1.5.3.4.6.2 Step 2: Pre-Testing

[Redacted text block]

1.5.3.4.6.3 Step 3: Certification

[Redacted text block]

1.5.3.5 Stipulated Deviations

AT&T takes neither deviation nor exception to the stipulated requirements.