Cisco TelePresence over Satellite Networks Solution

Overview of the Cisco TelePresence over Satellite Networks Solution

The Cisco TelePresence® over Satellite Networks solution extends the reach of TelePresence to remote, tactical locations where terrestrial bandwidth is not available. This solution enables government and military customers to exercise command, control, and communications between field commands and headquarters staff, and it allows enterprise customers such as oil and gas exploration companies and construction firms to give field personnel direct access to subject-matter experts. The solution offers the superior quality of Cisco TelePresence video and audio for remote, tactical locations where this level of immersive communications has never before been possible.

Features and benefits of the Cisco TelePresence over Satellite Networks solution follow:

- Relaxed latency, jitter, and packet-loss thresholds allow the Cisco TelePresence meeting application to function effectively over poor, high-delay, real-world satellite networks.
- Qualification and testing of Type 1 encryption devices with the Cisco TelePresence application enable military-grade security for TelePresence calls.
- New network and environment recommendations provide guidance for remote, tactical, and even mobile deployments of TelePresence.

Q. What is the Cisco TelePresence over Satellite Networks solution?

A. This solution incorporates existing TelePresence endpoint and infrastructure products with new software releases designed to function more effectively on poor, high-delay networks.

Q. What Cisco TelePresence endpoint models will work with the satellite solution?

A. The Cisco TelePresence System 1000 and Cisco TelePresence System 500 endpoint models are supported as the remote endpoint on the far end of a satellite link. Other endpoint models (Cisco TelePresence System 3000 and Cisco TelePresence System 3200) have not been qualified to work on the remote side of a satellite link because the bandwidth needed for these three-screen systems quickly becomes cost-prohibitive to run over satellite networks. Any Cisco TelePresence endpoint or mix of endpoints (for a multipoint call) can be used on the terrestrial side of the satellite link.

Q. What software release will I need to run the Cisco TelePresence over Satellite Networks solution?

A. You will need software Version 1.5 or later on all Cisco TelePresence endpoints, Cisco TelePresence Multipoint Switches, and Cisco TelePresence Managers within your network to participate in a satellite call.

Q. What type of a satellite network and how much bandwidth will I need?

A. You will need a minimum of 3-MB bandwidth (at 720p, good motion handling) in a single-channel-per-carrier (SCPC) configuration over a single-hop satellite link.

Q. Does it still deliver a Cisco TelePresence experience?

A. Yes, with a few minor caveats. Because the TelePresence video and audio are traveling up to the satellite and back down to an earth station, significant (500 ms or more) latency is

introduced into the signal. The result is noticable delay in the conversation. In addition, atmospheric conditions or other interferrence may impact satellite-link performance and introduce jitter or packet loss into the call. The result may be noticable degradation of the video quality. It is very important to note, however, that customers with remote, isolated sites are already comfortable dealing with delay and unexpected changes to network quality. The Cisco TelePresence application can still offer a communications experience that is far better than any existing means of communication over a satellite network.

Q. How does the TelePresence system deal with the satellite network quality?

A. The new Cisco TelePresence System Software Version 1.5 has a satellite deployment configuration that significantly raises the thresholds for network warning messages and call termination. When a satellite endpoint joins a call (point-to-point or -multipoint), all other endpoints in the call negotiate the new threshold setting, so no one in the call gets warning messages or gets dropped just because a satellite-based endpoint joins the call.

Q. My customers have terrestrial network connectivity, but they do much of their networking over satellite instead. Can they use their satellite connection for TelePresence?

A. If your customers have access to a terrestrial network, we should almost always recommend that they use that instead of satellite connectivity for TelePresence. Remember that the uplink and downlink transmission time introduces 500 ms or more of latency, and it will be noticeable during a TelePresence call. Also remember that when your customers consider costs for the bandwidth required for TelePresence, they will likely find that the satellite costs outweigh the difficulties of getting a terrestrial network connection for TelePresence.

Q. Does the Cisco TelePresence over Satellite Networks solution work with Cisco TelePresence multipoint calls?

A. Yes. However, during a multipoint call, only one of the TelePresence endpoints on that specific call can be satellite-based.

Q. Does the Cisco TelePresence over Satellite Networks solution work with the Cisco TelePresence Interoperability solution?

A. No, not at this time, but this capability is on the roadmap. Additional work is necessary in order to assess the effect of adding the interoperable video and audio streams to the satellite network.

Q. Can I deploy the Cisco TelePresence over Satellite Networks solution in a mobile environment such as the Cisco® Network Emergency Response Vehicle (NERV) truck?

A. Yes. With a combination of the Cisco TelePresence over Satellite Networks solution and the compact form factor of the Cisco TelePresence System 500, it is possible to deploy the Cisco TelePresence application in mobile, tactical environments. The environmental recommendations for the Cisco TelePresence System 500 are less strict than for other full TelePresence conference room solutions. With some considerations for ambient noise, air conditioning, and lighting, it is certainly possible to deploy the application in many more environments. We expect to have some guidelines and recommendations for deploying the application in mobile or tactical environments in the near future.

Q. Is the Cisco TelePresence over Satellite Networks solution secure?

A. Absolutely. Natively, the Cisco TelePresence application supports Transport Layer Security (TLS) and Secure Real-Time Transport Protocol (SRTP) encryption for signaling and media paths. This native security is also supported with the Cisco TelePresence over Satellite

Networks solution. In addition, this solution has tested and qualified various Type 1 military-grade encryption devices to work with TelePresence with no effect on the quality of the experience.

Q. How do I get the Cisco TelePresence over Satellite Networks solution?

A. This solution uses your existing Cisco TelePresence endpoint, Cisco TelePresence Multipoint Switch (for multipoint calls), and Cisco TelePresence Manager (for scheduling) hardware. You must upgrade all of these TelePresence components to software Version 1.5. This upgrade is available for free download from the Cisco Software Center. You also must order and install a license keycode to enable the satellite solution on your Cisco TelePresence endpoint. To obtain this license key, order part number CTS-SATELLITE= for physical delivery or L-CTS-SATELLITE= for electronic delivery.

Q. Why do I need to order a license key?

A. The separate part numbers ensure that satellite solution orders are identified so that network and room (environmental) readiness assessments can be treated correctly. In addition, we do not want typical terrestrial customers to try to treat their endpoints like satellite-based ones. The new network warning message thresholds, icons, and jitter-buffer settings are designed for the satellite experience and will negatively affect a typical terrestrial TelePresence call.

Q. How do I get and use the license key?

A. The license key uses the same process already in place for Cisco Unified Call Manager and other Cisco Unified Communications products. When you order the part number for the satellite license key, you will receive a Product Activation Key (PAK). Follow the instructions and go to the Cisco.com licensing page to enter your PAK and the MAC address for your Cisco TelePresence endpoint. This process will generate and send you a license key in an email message. Enter this license key into Cisco Unified Communication Manager and it will download along with the Cisco TelePresence endpoint configuration file from Cisco Unified Communication Manager to the Cisco TelePresence endpoint.

More Information

For more information about the Cisco TelePresence over Satellite Networks solution, please visit: http://www.cisco.com/go/telepresence.

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