



## Frequently Asked Questions about the Telepresence *interExchange* Network

### What is TEN?

The Telepresence *interExchange* Network (“TEN,” also known as the “Exchange”) is a video meeting point where businesses may connect with other businesses and public communities in a simple and secure manner.

The Exchange provides secure, high-quality, global access for IP video connections, and is:

- Simple, easy-to-use 10 digit phone number-based dial plan format
- Network (carrier) neutral
- Technology agnostic (supporting all standards-based video and telepresence technologies)
- Offers interoperability for non-standards-based technologies

The Exchange establishes IP network connections that deliver secure, high-bandwidth, high-quality capabilities between two or more private or public networks to support Telepresence and HD Video Conferencing business-to-business (“B2B”) calls.

### Is TEN a product or a service?

TEN is a service that provides a secure way to connect and transport high-quality video traffic over private and public network environments, based on common connection points, with full quality of service (QoS) and bandwidth.


### How does TEN work?

TEN provides a global video meeting exchange for a community of registered businesses, users, and public room environments by offering high-quality bandwidth (purposed for video traffic) that is managed for uninterrupted, secure, B2B video and telepresence calling between private networks.

Any company or video user that registers with TEN achieves a greater business presence. This service includes unlimited calling among all registered (video systems / rooms) through several means of connecting:

#### 1. Directly Connecting and Registering

- a. Overlay Network Service – for a dedicated managed IP network video connection with QoS and strict SLAs. Includes unique features supporting ease of use and access to others on the Exchange as well as, Public Internet users, ISDN connected systems, and public room communities.
- b. Enterprise Connect – to connect the Enterprise WAN directly to the Exchange by bringing a connection (or peering) to the closest exchange access point of presence (PoP) with security provided with a Polycom VBP or other common session border controller technology.

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- c. Public Internet Connect – for Exchange registration and connectivity that does not require QoS or guaranteed bandwidth (typically non mission-critical video use).

## 2. Indirectly Connecting and Registering

- a. Carrier Connection - a peering arrangement is established with a carrier that can support registrations for one or more enterprises. This enables carriers to easily extend their Exchange capabilities to their customers – and to extend their global footprint.

An Enterprise can register as many video endpoints as required. Exchange membership consists of a flat monthly fee based on three components: i) connection type ii) bandwidth iii) number of endpoints. Additional fees may apply when calling non-TEN registered endpoints.

Once connected and registered, TEN members are able to connect with other TEN members or public communities (available on the Exchange) to make ad hoc or on-demand business-to-business (B2B) video calls. Each TEN endpoint registrant receives a standard telephone number (based upon the ITU-T E.164 standard), which is used for the global dial-plan management.

**Note** – For private network interconnects, simultaneous calls may be limited by the size of the bandwidth connection between an enterprise and the Exchange.

### **Does TEN support legacy and HD video conferencing systems – as well as Telepresence?**

Yes. Today the Exchange fully supports standards-based telepresence and video conferencing systems, and any connection between such systems.

### **Why can't I simply dial the other video endpoints I want to communicate with today? I can dial other video endpoints inside my enterprise.**

The only available common connection point today for two private networks to communicate is the public Internet, which does not provide security, guaranteed bandwidth, or quality of service (QoS) support.

Enterprises typically deploy firewalls for data security between their private network environments and the public Internet, which block the flow of video conferencing traffic.

TEN overcomes these challenges by providing QoS supported transport and a connected signaling infrastructure to allow direct E.164 (ten-digit telephone number) dialing between Exchange members in the same way that telephone (voice) calls can be accomplished between companies. As a result, TEN overcomes the challenges which have created “islands of video,” and TEN provides a common video fabric which can be leveraged by all networks.

### **Why can't I simply use the public Internet to connect via video conferencing with other businesses?**

The public Internet can be used for video transport in some cases where quality is less of a concern and inconsistent or poor quality is tolerated. Some video conferencing users have relied



on the Internet since H.323 standards became available in video endpoints. However, as projections for use of peer to peer (P2P) file sharing and one way Internet video (YouTube) dramatically increase, the Internet will likely be 400 times the size it was in 2000 thus limiting the overall bandwidth availability.

Further, while the Internet is today's common public medium for many IP applications, it has no means to differentiate quality or class of service for different applications. Interactive video (video conferencing or telepresence) traffic is real time communications and requires priority over most – if not all – applications relying on an IP network. Additionally, Internet traffic will be impacted further by areas of contention and data bursts, causing a poor interactive video experience for users.

In summary, due to the fact that the overall Internet traffic can interfere with video quality and QoS cannot be offered, the Internet is not recommended for business grade telepresence and video communications.

### **Can I connect to TEN through my existing managed service provider? Is the Exchange really necessary... can't I just use a managed service bridge to connect my calls to other endpoints?**

Some B2B calls may be possible using a managed service bridge to connect them. However, guaranteed, secure bandwidth and QoS will only be available if there is a direct connection between each enterprise and the managed service provider (MSP). Connections must either be established by the MSP or by using special dialing instructions for each call.

TEN ensures that high quality connections are in place for QoS transport and provides a simple dialing methodology that is consistent from call to call and from one company to another, just like the typical telephone system (pbx or key system) does today.

### **Does TEN include managed services support?**

No, however there are a number of managed service vendors who are connected and provide managed service support, thus providing an open marketplace for these capabilities.

### **Does TEN include multi-point conferencing (bridging) capabilities?**

Multi-point conferencing (also known as bridging) is not a direct feature of TEN – but rather a service that is provided by managed service providers connected to TEN.

As such, if a managed services provider is currently a member of the Exchange, their bridging service can be accessed through the Exchange. Alternatively, if an enterprise is registered to the Exchange and maintains a direct connection to a managed services provider, B2B bridging is supported over a TEN connection.

### **Is this a competitive offer to the video services offered by other IP network carriers?**

There are currently some competing services that offer some element of B2B calling, however TEN is unique in that it is not a network offering, but rather a service that connects the various carriers IP networks to enable B2B video calling.



TEN brings together regional and global IP network carriers, who simply require an interconnect to enable the services. There is no fee for these providers to join, or peer with TEN, outside of any costs related to meeting at a common connection point, such as a “carrier hotel”. TEN’s B2B services features are also unique, offering standard telephone number dialing plans, directory services, QOS, secure connection options and guaranteed bandwidth.

### **Does TEN include interoperability services between H.323 systems and Cisco systems?**

Yes, there are Cisco Interoperability Gateway capabilities inherent in TEN.

### **When will TEN be available?**

TEN is available today and operating with over 650 customers and thousands of video endpoints and public room communities are already connected and actively using its services.

### **How is the peering with TEN accomplished?**

Secure peering is accomplished with a high bandwidth connection in a telecommunications collocation facility (global access POP) where the carrier (or Enterprise WAN service provider) and the Exchange meet.

The peering is secured using a scalable Session Border Controller (SBC). The SBC provides a security perimeter, demarcation point to provide IPv4 (RFC1918 or other) translation, secure video termination and origination to TEN, security rule enforcement, and optional video signaling translation.

Enterprises can also choose to peer on an individual basis utilizing their carrier, whose connection to TEN includes higher capacity for supporting multiple enterprises.

### **Does TEN have a connection location in my geography?**

TEN has access Points of Presence (PoPs) in North America, EMEA, and APAC, essentially providing no geographic limitations for TEN members. Further, since these PoPs are already connected to a host of carriers worldwide, it is not necessary for the enterprise to be physically located close to one of these PoPs.

### **How does TEN ensure my network data security?**

Network Security within TEN’s core infrastructure is addressed with a layered approach using Session Border Controllers (SBCs), Firewalls, Intrusion Detection Systems (IDS) and continual security analysis of security events.

The SBC terminates each network so that no IP routing is occurring between networks. The SBC acts as an application layer gateway to identify the video and audio streams and then passes them between networks. The SBC also provides address translation and QoS mapping between the connected networks. Security for customer calling is private between subscribers as video traffic traverses the private TEN backbone. TEN will also support native endpoint H.235 encryption for true end-to-end security.



### **Can any member of the TEN Exchange call my endpoints at any time?**

Enterprises have a choice for privacy of their networks to inbound and outbound dialing (just like a telephone). A policy is established by the enterprise that determines which endpoints are permitted to dial-out to the Exchange, and which endpoints (if any) are allowed to accept inbound calls from the Exchange.

The Exchange has a policy manager that compares each call request to the policy of each enterprise involved in the call and only establishes the call if all policies are met. To ensure the highest degree of security, TEN certifies each system registered and ensures configurations are properly set (such as the auto-answer configuration to be disabled\*).

*\*This will not impact your managed service provider's ability to auto-launch calls that have been pre-scheduled.*

### **How do I schedule a business-to-business call using the TEN Exchange?**

Most calls through the Exchange will not require any scheduling at all. If an Enterprise member of the Exchange allows inbound dialing, another TEN registered party may just dial the appropriate video E.164 number and the call will be successful when answered by the receiving party.

If an external MCU (bridge) is required, the bridge resource is scheduled with a Managed Service Provider (MSP) that offers bridging support for anyone registered to the Exchange. Calls through the Exchange can then be placed by the MSP dialing to the enterprise endpoints, or enterprise users can dial the provided E.164 address of the bridge resource.

TEN is also developing a user portal that can be used to set calling privileges and provide contact information for other registered enterprises.

### **Does TEN provide QoS support for video traffic?**

Yes. TEN provides the same QoS for every video call as the specification for video is consistent across all current standards. TEN uses best practice core network configurations that optimize all network switching and routing elements. As a call traverses different networks, it will maintain the QoS marking from end-to-end. TEN also proactively monitors end-to-end jitter, latency, and packet loss statistics with SLA monitoring tools across the TEN backbone.

For Networks that connect to TEN, the QoS demarcation is at the entry-point to TEN. TEN provides end-to-end testing, when needed, to validate QoS performance across end-to-end networks. Additionally, proactive SLA monitoring can be extended from TEN to each connected enterprise network for idle path visibility to mitigate end to end QoS issues prior to meeting time.

### **Does TEN provide a directory of other business video numbers?**

Yes. Enterprises have a choice about whether their video E.164 addresses are publicly listed in the directory, or only registered into private "communities". For those that are publicly listed, other Exchange members will be able to look up on a user portal the E.164 number for a desired destination endpoint – very similar to the white/yellow pages.



### **How is the cost of Exchange membership structured?**

Exchange membership is based on a flat monthly fee associated with the type of connection and associated number of registered endpoints. Registrations are a flat, fixed fee and connection costs are dependent on the required bandwidth and location in the world.

For interconnections to private networks, the purchase of an SBC to support the interface between the enterprise and the Exchange may be required.

An Exchange member can place as many ad-hoc calls to other registered video endpoints with no additional fees.

### **How much does a business-to-business call cost?**

Exchange membership fees are based on flat monthly fees for registrations and connection type. Typically, there is no cost for each individual call from TEN registered users to other TEN registered users. However, there may be incremental costs for calls with ISDN video endpoints and for calls with video endpoints on the public internet and Public Room communities that are not registered with the Exchange.

### **If my business-to-business call is not working who do I call?**

7x24 global support is available to help users with connection questions and support. The Exchange operator can be reached through video by dialing '000' from a TEN registered endpoint, by telephone or via web portal help support.

### **How is Polycom working with Glowpoint to provide TEN services?**

Polycom is promoting and co-marketing TEN for their business customers, as TEN directly addresses the growing interest of businesses to communicate beyond their internal environment in a simple and seamless manner. While TEN is currently offered directly by Glowpoint, combining the service with Polycom's telepresence and video conferencing equipment brings significant value to existing and prospective Polycom customers, as they will now have advanced inter-company capabilities unmatched by any other service in the market.