Advisory Report

Telepresence Evolution Alerts Market Players to Challenges Ahead

Brian Washburn
Research Director, Network Services

September 28, 2009

Summary

In 2008-2009, telepresence services captured the attention and dollars of more large, global enterprises. These companies look toward the packaged service to reduce their travel costs, and to save on time spent out of the office by busy executives. In the months following Current Analysis' initial roundup coverage (see Global Telepresence Service Provider Roundup, May 6, 2009), carriers continue to work on expanding their geographic reach, value-adds, and service options.

Current Perspective

The telepresence market is easy to describe in broad terms. Global enterprises are interested in these services because they can save executives' travel time and associated costs. Carriers differentiate these services from other forms of video conferencing through the "fully immersive" experience of sitting face-to-face with remote attendees, and they augment basic equipment and connectivity with concierge services, online tools, and applications integration to make it easy for non-technical executives to set up and use these services. Global carriers are interested in telepresence services, because they tend to be bought by multinational enterprise customers, which can afford to pay for the large amount of premium-class bandwidth these services use. Finally, the major carriers are working out how to interconnect the islands of telepresence customers that each carrier has managed to sign to date; if it can be done simply and without high extra costs, inter-carrier (and inter-platform) telepresence will raise the value of these services for all industry players.

The above top-level trends set the basic groundwork for telepresence services. However, behind the top-level trends, there are competing conceptual models as well as additional technology and business challenges that carriers need to address. These additional observed trends are outlined below.

* **Latency Breaks the Immersive Experience:** Telepresence is being employed in global

Current Analysis
Outsmart your competitors

applications, meaning that multi-point conferences commonly stretch between the Americas, Europe, and/or Asia. The voice world has established that telephone conversation becomes more difficult when one-way latency exceeds 170-200ms (340-400ms roundtrip delay), because delays become too long to react to speakers' natural pauses. Some industry observers noted that early Cisco TelePresence System models would fail to start large, far-flung telepresence sessions where latency was excessive (this issue has been corrected). Even though platforms support high-latency sessions, shorter delays let participants interact more naturally with one another, making for a more immersive experience. Large global carriers usually have the most direct available routes and high-performance infrastructure. One latency issue that carriers can avoid is multipoint route tromboning, for example, by having a telepresence exchange within Europe to support multipoint telepresence sessions within the region, and between Europe and Asia, instead of sending all video traffic to North America for handling.

* **Dedicated vs. Multi-tenant Exchanges:** There are three primary models for service providers that sell managed video exchange services: a dedicated telepresence multipoint control unit (MCU) managed from the customers' premises; a dedicated MCU hosted inside the carriers' network as part of an exchange; and a network-hosted, multi-tenant exchange. AT&T has spearheaded the multi-tenant model with its AT&T Business Exchange. AT&T's exchange behaves as one logical unit, and setting up inter-company telepresence sessions is basically the same as intra-company sessions. BT Conferencing is furthest along with feature development for network-hosted, dedicated MCUs with its exchange. The carrier describes its enterprise customers as large enough to justify dedicated gear; BT's Global Video Exchange handles connections between customers' dedicated MCUs to set up inter-company conferences (both unmanaged and managed), via automated tools and/or concierge services. The dedicated, CPE-managed model is offered by carriers including BT Conferencing. This model lets the customer place the MCU inside its own network at a location that benefits it most, instead of connecting to a remote telepresence video exchange. However, depending on the network's architecture, it can be harder, even impossible, to connect the CPE-based MCU to a carrier's remote, network-hosted exchange for inter-company/off-network conferencing.

* **Platform and Carrier Telepresence Interoperability:** Among the three large telepresence platform vendors, TANDBERG and Polycom systems are interoperable, but Cisco's TelePresence System does not yet interoperate in an immersive fashion with its primary platform rivals. Currently, Cisco does support lower-quality, H.320/H.323-based connections to third-party video systems through its CUVC (Cisco Unified Video Conferencing) functionality. While H.320 and H.323 via CUVC make inter-platform video possible, it is not a high-quality immersive experience. Differences in conference room design between TANDBERG, Polycom, and Cisco further break any illusion of immersion. When it comes to improving the quality of inter-platform telepresence, carriers are reliant on the equipment vendors. The service providers can (and are), however, working on inter-carrier telepresence interoperability. Cisco Systems, in particular, has worked to foster cooperation between carriers. In June/July 2009, AT&T, BT, Tata, and Orange Business Services met to collaborate on multi-carrier telepresence using Cisco's TelePresence System. As part of the proceedings, the companies demonstrated a proof-of-concept, connecting AT&T facilities in Bedminster and Morristown, NJ and Chicago, IL; a BT facility in Colorado Springs, CO; Tata's public rooms in Boston, MA and London; and a Cisco site in San Francisco, CA. Individually, these telepresence service providers have confirmed that the dialogue is ongoing. Interconnecting the networks may be the simple part. It could be much harder to automate the end-to-end inter-carrier experience, and to find billing arrangements for the interconnect

portion that are acceptable to all customers and carriers involved.

* **Public Room Expansion:** Tata Communications is a smaller carrier relative to the world's largest global competitors. The carrier introduced public telepresence rooms throughout India, in Boston, and in the UK to make its services available to smaller enterprises: for example, businesses that work with suppliers in south Asia. Tata Communications also has a deal with Starwood Hotels to add 10 public telepresence rooms worldwide by year-end 2009, with expansion planned in 2010. In the same time frame, AT&T announced that it had teamed with Marriott to build public rooms in 25 cities worldwide, starting in October 2009 (see Tata Communications Taps Starwood to Spread Public TelePresence Rooms in the World's Hub Cities, July 2, 2009 and AT&T Expands Global Telepresence Locations by Launching Public Rooms with Marriott, July 2, 2009). Both of these carrier/hotel partnerships were pre-empted by Cable & Wireless' teaming with office space specialist Regus, with plans to equip 14 locations worldwide with telepresence rooms using Polycom equipment. Presently, public telepresence rooms can only connect to other telepresence facilities operated by the same carrier. However, if carriers manage to interconnect their telepresence services at reasonable premiums, the number of endpoints these public rooms can reach would spike. This would in turn lift public room usage and generate more value from them overall.

* **Smaller Players in the Fray:** AT&T, BT Conferencing, Orange Business Services, Tata Communications, and Verizon Business have been getting much of the attention when it comes to telepresence services. However, other international carriers including NTT Communications, Telefonica, Cable & Wireless, SingTel, Telstra, and Telmex have all launched services. Sprint and XO have qualified their networks to offer services; Masergy and Easynet are global service providers that also offer telepresence services. The list extends beyond carrier business models as well. Glowpoint and Nortel offer their own telepresence exchanges and managed services. HP and Dimension Data are global IT services providers that offer the equipment, installation, service, and/or support for enterprises that want to deploy telepresence solutions. As the universe of companies that support telepresence services expands, customers interested in reaching beyond the walls of their own enterprise ought to exert greater pressure on service providers to provide not just inter-company conferencing support, but to interconnect and provide reasonably priced inter-carrier support.

* **Financing Builds:** Whether the catalyst is high energy prices, a down economy and global credit crunch, or "green" issues, large global enterprises have a solid mix of incentives to use telepresence to save executives' time and reduce travel budgets. However, the economic downturn has prompted enterprises to avoid high upfront capital costs; telepresence equipment can carry a six-figure price tag per location, before adding the costs of building the conference room space. Ideally, enterprises would like to sign one contract that wraps the cost of equipment into the monthly recurring service costs. Still, carriers and platform vendors do not want to end up financing the high capital costs, either. Here, Cisco can succeed as both platform vendor and in-house financier, through Cisco Capital Finance, which has a specific TelePresence Financing Solution package. TANDBERG also has a financing program, however, through financier partner TAMCO; and Polycom's financial services are offered through an agreement with GE Capital. As long as capital and credit remain tight for enterprises, carriers/vendors that can defray upfront capital costs are not just providing a differentiation point, they are service enablers.

Among the above trends, carrier and platform telepresence interoperability above all can change the landscape; cross-network access could shorten routes between endpoints, give customers a choice of video exchanges with the most suitable architecture and features for a session, greatly expand access to public rooms, and let competitors of all sizes benefit from each others' local, regional, and global reach. However, enterprises shopping around for telepresence should take a conservative stance and expect interconnection to be complex and expensive once it becomes available. Still, for enterprises, the technology itself appears to be a solid long-term investment, as high-quality video interoperability exists today between TANDBERG and Polycom platforms, and a similar level of interoperability with Cisco's TelePresence System appears to be in progress.

Recommended Actions

Recommended Vendor Actions

• If telepresence is as growing and successful as service providers report, demand will build among enterprises to connect beyond the walls of their own business, to reach partners and suppliers. For now, inter-company telepresence support lets businesses reach partners that are served by the same telecom service provider. Inter-carrier telepresence NNIs seem inevitable, and carriers will need to solve how to keep prices reasonable when carrier network boundaries must be crossed.

• There are two additional wrinkles to inter-carrier telepresence that will be challenges to resolve. The first is a common directory of end-user facilities plus easy-to-use inter-carrier scheduling between locations that are on different networks. The second lies in extending telepresence support not just across carriers, but also across platforms, so that the universe of TANDBERG and Polycom (and potentially other system) conference rooms can connect to their counterparts using Cisco TelePresence System, even if advanced feature support is not seamless.

• Carriers that are in the process of building video exchanges for telepresence, which includes Tata Communications and Orange Business Services, need to look at geographic location for the exchange. They need to ensure that the site is geographically located en route between as many of their current and expected users as possible, so that as few multipoint sessions as possible have endpoints that must route between regions unnecessarily. These carriers can build exchanges in other regions as telepresence uptake grows.

• Competitors should be cautious about adopting a telepresence public room strategy. Public rooms could be key to expanding telepresence use beyond large global enterprises. However, service providers made similar attempts in the past with public video conferencing facilities, which mostly failed. The best possible solution for smaller telepresence players may be to interconnect with another carrier such as Tata or AT&T, which has (or will soon have) made the investments to build out public telepresence rooms in major cities.

• Finally, financing is key. Any telepresence service provider needs to have a neat and complete answer to how a customer can add these services without having to put up a big bundle of cash. By defraying the cost of the equipment over the lifetime of a contract – ideally with just one contract and signature – it becomes easier for the client to adopt these new services, probably with fewer internal approval roadblocks.

Recommended User Actions

• Potential telepresence customers should look around at what service providers and platforms their partners, peers, and affiliates are using. Inter-carrier support is likely to happen relatively soon and Cisco inter-platform telepresence is an eventuality. However, there will almost certainly be extra complexity and cost, service quality may be lower, and some features may not be fully supported. Therefore, prospects need to look beyond price, features, and financing, investigating what customers each carrier has signed and what platforms their clients use.

• Telepresence customers can also eye service providers' public room strategies, and see whether their public room expansion plans line up with where smaller partners, suppliers, and affiliates might be located. The smaller businesses may not afford a telepresence solution of their own, but in a pinch they could use a public room in a nearby metro as a rapid response alternative to flying executives back and forth across continents.

• Telepresence customers also need to map the location of their prospective telepresence service providers' video NOC(s) against the major business locations where they expect to deploy the solution, and where they expect to hold conferences. Generally, the video exchange will not need to align between every set of endpoints, since point-to-point conferences can connect directly. However, for multipoint conferences, customers should avoid situations where all participants must connect through an exchange located on another continent, or on the other side of a continent.

• When it comes to the current state of inter-carrier conferencing, BT Conferencing holds an edge with its Global Video Exchange. BT Conferencing connects both to BT Global Services and Masergy, and it has experience operating inter-carrier telepresence sessions for clients established on a custom basis. The company also supports Cisco, TANDBERG, and Polycom platforms, though Cisco is leading the expansion of telepresence popularity.

• In terms of integration and advanced feature support, AT&T has an edge. The carrier has an arrangement whereby it gets early access to new Cisco TelePresence System releases. Its AT&T Business Exchange is particularly well-suited for clients to set up inter-company telepresence sessions, and its scheduling tools can integrate directly into customers' Microsoft Outlook/Lotus Notes enterprise calendaring software instead of requiring a dedicated online scheduling tool for telepresence.