Intercompany TelePresence: Offer a Network Service with Exponential Revenue Increases

Abstract

Intercompany telepresence is poised for exponential growth, creating a significant and unique revenue opportunity for network service providers. Cisco® TelePresence enables people in distributed locations to collaborate as if they were in the same room, without the delays and expense of travel. An *intercompany* Cisco TelePresence network service, which enables customers to maintain close contact with their extended supply chain or community of interest, has the potential to transform business:

- Enabling more frequent face-to-face collaboration with customers, partners, suppliers, and others, every time, everywhere
- Facilitating more rapid decision making and problem solving across organizational or geographic boundaries by providing access to subject-matter experts
- Enriching cross-cultural collaboration
- Helping businesses reduce their carbon footprint by substituting an immersive Cisco TelePresence network experience for certain meetings that would otherwise require travel

The accelerated revenue growth opportunity for service providers arises from a well understood phenomenon known as the "network effect." That is, as more people use a network service – telephone, Web 2.0 social networking site, intercompany telepresence, or other – the more valuable the service becomes. Greater value attracts more users, creating a positive feedback loop and continued usage growth. As more companies use intercompany telepresence, its value for service providers multiplies because of the increasingly higher network utilization for a very high-bandwidth service. Metcalfe's law, used to estimate the value of network technologies, predicts that service providers can expect to profit from an *exponential* increase in network utilization when the number of businesses using telepresence reaches a critical mass.

The value of intercompany telepresence – and the network service that makes it possible – can be expected to increase not linearly, but in proportion to the square of the number of users.

Service providers that offer an early intercompany Cisco TelePresence network service can gain first-mover advantages by getting in at the beginning of the network effect. The advantages include an opportunity to increase customer loyalty as well as additional revenues from:

- Significantly upgrading bandwidth and ports used for the current Multiprotocol Label Switching (MPLS) VPN service to support the high bandwidth and quality of service (QoS) needed for telepresence

- Combining the intercompany telepresence network service with the existing MPLS VPN connection service for competitive differentiation and increased average revenue per user (ARPU)
- Offering intercompany calling services, such as closed user groups, meet-me, multipoint, and directory
- Offering managed services, including fully managed end-to-end telepresence, hosting, a video concierge for user assistance, managed unified communications, and application-aware VPN, which makes it possible to assign higher priority to network traffic based on the application

This white paper, intended for service provider executives, explains the business case for offering an intercompany Cisco TelePresence network service.

Intercompany TelePresence Market Opportunity

Cisco TelePresence combines innovative real-time video, audio, and interactive technologies to give people in distributed global locations the experience of sitting across a conference table (Figure 1). It enables new types of collaboration that are transforming business processes. For example, a large consumer-goods manufacturer can use intercompany telepresence to collaborate regularly with its hundreds of suppliers, retailers, and business partners in distributed global locations. The manufacturer can collaborate with retailers on promotions and product placement; advertising partners on branding and ad campaigns; financial partners to expedite mergers and acquisitions; and major vendors to support critical business services. As the manufacturer deploys dozens or even hundreds of telepresence rooms, the service provider will earn revenues from the continually increasing volume of high-bandwidth telepresence traffic.

Figure 1. Cisco TelePresence Simulates Face-to-Face Interaction

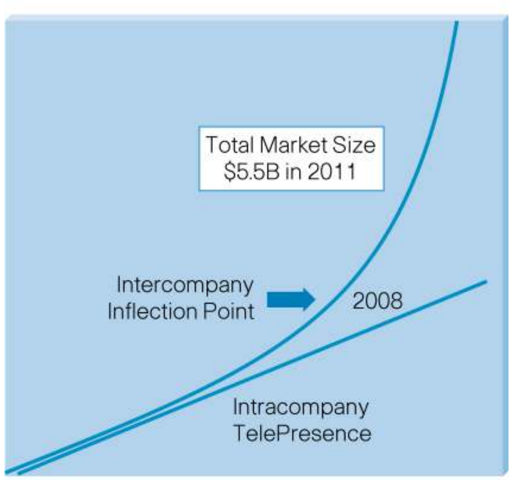
Financial services companies represent another example of the burgeoning intercompany telepresence market opportunity. These companies are taking advantage of intercompany telepresence to collaborate more efficiently and frequently with global clients, including corporations, financial institutions, governments, and individuals. The business value of the telepresence network service includes lower travel costs, the ability to conduct business in new geographic areas, more ready access to subject matter experts, and faster execution of mergers and acquisitions because executives and managers can meet "face to face" more frequently.

Unlike network services that are used only within a customer's network, an intercompany Cisco TelePresence network service can be expected to generate increasingly more revenue, market share, and customer loyalty over time. Why? Network technologies, including telepresence, increase in value as more people and companies adopt them, leading to exponential increase in usage once adoption reaches a critical mass. This phenomenon is known as the network effect, or Metcalfe's law.

Formulated by Robert Metcalfe, the co-inventor of Ethernet, Metcalfe's law explains the rate of adoption of new network technologies and services, from faxing and Web browsing to social networking and telepresence. The law states that after the number of users reaches a critical mass, the value of the communications technology increases exponentially – not linearly (Figure 2). The number of unique connections in a network can be calculated using the expression $n * (n - 1) / 2$, where n is the number of nodes. In a network with 50 Cisco TelePresence nodes, the number of connections is 1225. With 500 nodes, the number of connections increases to 124,750, and with 5000 nodes it proliferates to more than 12.5 million.

What does Metcalfe's law mean to service providers? The law shows that as telepresence endpoints become more ubiquitous, network utilization can be expected to increase exponentially. And so will usage-based service revenues. The phenomenon has already been seen with Web 2.0 applications, such as video sharing and social networking, whose usage burgeoned once the user population reached a critical mass. By combining an intercompany telepresence service with an MPLS VPN connection service, providers can help accelerate adoption of telepresence so that network utilization and revenues begin increasing more rapidly. The revenue growth opportunity from intercompany telepresence network services is especially promising for early market entrants, because the first customers will bring with them the other companies in their community of interest.

Figure 2. The Network Effect for Intercompany TelePresence



Market Size

Cisco projects that the worldwide revenue opportunity for telepresence and related services will reach US$5 billion by the fifth year of the offering. Network and service revenue annuities in the first five years are estimated at $3.8 billion, representing the largest portion of the total telepresence revenue opportunity. Of the $3.8 billion, approximately $1.5 billion, or 45 percent, will be for services, and approximately $2.3 billion, or 55 percent, will be for connectivity.

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Based on analyses from IDC and Cisco, the compound annual growth rates (CAGRs) for the intercompany telepresence network service and multipoint telepresence network service are 209 percent and 154 percent, respectively.

Customer Interest Estimates

In a November 2006 survey of 106 enterprises by Sage Research, 74 percent of respondents said that they expect to use telepresence to collaborate with outside entities. Almost as many, 70 percent, said they would strongly consider a business-to-business connection service. One of the major benefits respondents gave for adopting network services was the improved reliability of the underlying service provider network, backed by service-level agreements (SLAs) that map to the QoS required for telepresence. Therefore, service providers that offer SLAs for QoS position themselves to capture early market share.

Forty-two percent of customers surveyed said they would be strongly interested in value-added services on the Cisco roadmap, such as:

- Hosted TelePresence Service: The service provider hosts and manages the entire suite of Cisco TelePresence services at a public location.
- Managed TelePresence Endpoint and Scheduling: The service provider manages the endpoints, provides reporting services, and provides an easy-to-use meeting-scheduling service.
- TelePresence Virtual Concierge: End users can obtain video-based assistance, including moderated meetings and adding meeting participants who are not using telepresence endpoints.
- Multipoint TelePresence Connections: The service provider facilitates secure calls between multiple locations.
- Application-Aware VPN: The service provider network assigns higher priority to Cisco TelePresence traffic, and optionally to traffic from other specified applications.

Initial concerns that telepresence was too expensive for all but the largest global companies are diminishing. Analyses by Wainhouse Research show that the cost-per-hour of usage is about the same as for traditional video telephony systems, because of much higher adoption resulting from the immersive experience. Over several months in 2007, telepresence usage averaged 4 to 6 hours daily (33 to 132 hours monthly), compared to one-half to 1 hour daily (8 to 12 hours monthly) for video conferencing.[1]

Intercompany TelePresence Service Description

To enable intercompany Cisco TelePresence, Cisco is introducing a solution architecture that service providers can use to introduce a commercial offering that includes value-added services. Table 1 shows the basic solution features:

Table 1. Intercompany Cisco TelePresence Service Features

Solution Feature	Examples
Network	TelePresence-aware MPLS VPN connection service QoS
Control	Call services Closed user groups Policy
Security	Privacy Controlled isolation Protection from network attacks
Management	Service provisioning Fault monitoring Billing Service-level agreements

Service providers can differentiate their intercompany Cisco TelePresence network service by offering fully managed services, including end-to-end telepresence, hosting, multipoint, meet-me, a video concierge for user assistance, managed unified communications, and application-aware VPN. The solution is the first of several from Cisco that will enable service providers to build Cisco TelePresence "dial tone," comprising global public TelePresence networks and partner-provided TelePresence rooms that small businesses and consumers can use by the hour or day.

Intercompany Cisco TelePresence represents an entirely new revenue stream, and does not siphon revenues from existing services. Revenue growth results from increased network utilization from each customer as telepresence endpoints become more ubiquitous, as well as from the addition of new customers as large companies encourage or require their business partners to use telepresence for collaboration.

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[1] Reasons that survey respondents gave for low utilization of videoconferencing systems included difficulty of scheduling, inability to connect, and unreliable network services. A Cisco TelePresence Connection Service overcomes these problems.

Benefits to the Service Provider

Significant Incremental Revenue Potential

Intercompany Cisco TelePresence network services increase the return on investment from the service provider's IP next-generation network (NGN), creating an immediate and expanding revenue opportunity. Each customer that subscribes to an intercompany Cisco TelePresence network service brings in additional subscribers from its supply chain or community of interest. A large, multinational consumer goods manufacturer, for example, might have tens of thousands of customers, suppliers, and partners, including advertising agencies. All of these become potential subscribers to the intercompany telepresence network service.

Fast Time to Market and Low Turn-Up Costs

The intercompany Cisco TelePresence solution integrates into the service provider's existing MPLS VPN architecture with nominal effort. Unlike traditional extranets and other manufacturers' Session Border Control solutions, the Cisco architecture does not require an overlay to either the service provider network or the business customer's network. This reduces capital expense, increases simplicity, and accelerates deployment.

Exposure at Highest Levels of Customer Organizations

The decision to adopt Cisco TelePresence is made by enterprise executive teams concerned with strategic initiatives such as enhancing collaboration with the extended supply chain and adopting environmentally friendly business practices. Therefore, offering an intercompany Cisco TelePresence network service gives the service provider an opportunity to engage at a strategic level within the enterprise, increasing its relevance to the business. A stronger customer relationship can help the service provider upsell other value-added services and managed services, increasing ARPU.

Opportunity to Attract New Types of Customers

In the future, service providers or their partners can establish public telepresence rooms that are available to smaller companies and individuals for an hourly or daily fee. Companies can reserve time in public meeting rooms for their high-value customers – for example, those who are ordering a custom private jet or purchasing a business franchise. The opportunity to enter new market segments further increases the service provider's return on investment from its IP NGN.

Benefits to Enterprise Customers

Service provider sales teams can sell the intercompany Cisco TelePresence network services to their enterprise customers as a strategic tool for business transformation:

- Facilitating collaboration and trust between geographically distributed companies
- Accelerating decision making by eliminating travel delays and making it practical to meet more frequently
- Solving problems quickly by providing more efficient access to subject matter experts
- Supporting environmentally responsible business practices by reducing carbon emissions from automobile and air travel
- Accelerating time to market for new products and services, increasing lifetime revenue
- Reducing travel costs

Cisco's own experience demonstrates the business value of an intercompany Cisco TelePresence network service to a large manufacturer. Cisco has deployed 174 TelePresence rooms globally, creating more than 10,000 unique connections for use by employees, customers, and partners. Utilization is increasing faster than room deployment, as predicted by Metcalfe's law. As of January 2008, Cisco had conducted more than 67,000 TelePresence meetings, increasing its network utilization by 47 percent during a 10-hour business day.

Requirements for Offering an Intercompany TelePresence Network Service

The Cisco solution architecture for intercompany TelePresence provides the consistent performance, security, and reliability needed to deliver a life-size, high-quality video image of each remote participant, with fluid motion and ultrahigh resolution. The intercompany Cisco TelePresence network service builds on the Cisco TelePresence connection service, augmenting it with additional security, authentication, scheduling, and call-management capabilities. Cisco provides these capabilities with its Cisco Session Border Control technology, which provides interworked, policed, intercompany call routing. The Cisco solution meets the business and technical requirements for secure intercompany telepresence, including:

- Filtering malicious traffic
- Providing call admission control
- Preventing attacks that overload the network devices
- Hiding the network topology for each subscriber
- Encrypting traffic between Cisco TelePresence System endpoints, for privacy
- Enabling SLAs for throughput, availability, delay, jitter, and packet loss
- Facilitating connections with other companies' TelePresence meeting rooms
- Providing premium concierge services, for assistance
- Generating call statistics and reports

Intercompany Cisco TelePresence network services can be part of a complete offering, including assessment services, TelePresence equipment, remote monitoring, and high-touch assistance.

Conclusion

By offering an intercompany Cisco TelePresence network service now, providers can enter the market at the beginning of a projected US$5 billion revenue opportunity. Early market entry is especially advantageous for this service because early adopters are likely to be large, multinational companies, who will encourage or require their dozens or even hundreds of business partners to also adopt Cisco TelePresence. Customer surveys demonstrate that customers are already strongly interested in the managed service, and Metcalfe's law predicts that adoption – and network utilization – will increase exponentially as telepresence endpoints become more ubiquitous. Intercompany Cisco TelePresence network services can be introduced rapidly, accelerating revenue realization, because Cisco's architectural approach is a fully integrated NGN solution and does not requires overlays to the service provider's or business customer's network.

For More Information

For more information on building intercompany Cisco TelePresence network services, contact your Cisco account representative.

For more information on the Cisco TelePresence service roadmap, or to read brochures and white papers or listen to podcasts about Cisco TelePresence, visit http://cisco.com/en/US/netsol/ns672/networking_solutions_sub_solution.html.

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