

# Meeting the Enterprise Collaboration Challenge

## *Managed Network Services Can Guarantee Application Performance*

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### Executive Summary

*Effective global collaboration is vital to the success of the distributed organization. Organizations increasingly view applications such as Web, audio, and video conferencing, messaging, and document collaboration as critical components of an effective collaboration strategy. Virtual workers operating from remote locations must easily share information, communicate, and interact unencumbered by technical limitations. By delivering services to optimize the performance, management, and delivery of collaborative applications, managed service providers can uncover new revenue opportunities.*

### The Issue

Nearly 90% of Nemertes research participants say they operate “virtual” organizations, defined as companies that have employees who work remotely from their supervisors and/or workgroups. (Please see Figure 1: The Virtual Workplace, Page 2.) Within these companies, about 30% of the employees work virtually, and in that capacity, they must collaborate with each other, as well as with partners, suppliers and customers operating across multiple offices, regions, or countries. As a result, effective collaboration is no longer a “nice-to-have,” rather it is a critical requirement for success in the modern economy. Research participants say effective collaboration is a prerequisite for establishing an agile organization, one that is able to quickly respond to new opportunities and meet emerging ones.

The changing workplace has led to growth in adoption of collaboration applications and services such as Voice Over IP, unified communications, video conferencing, Web conferencing, and document sharing. Unfortunately, IT organizations are struggling to support these collaboration applications in light of falling IT budgets. Many organizations lack the capabilities, both in staff and equipment, to manage application performance. As a result, growing numbers of enterprises are turning to Managed Services Providers (MSPs) to reduce implementation and operational costs of their collaboration applications. Managed service adoption has grown from 27% to 63% of research participants

from 2006 to 2008 with management of collaboration applications, especially rich-media services, as a key driver for growth. For example, 33% of those using managed services use MSPs for VOIP management, a trend that we expect to grow as adoption of real-time, rich-media collaboration applications continues to grow.

End-users' expectations of application performance are rapidly becoming time, location, and device-independent. No matter where they are, what time of day, or what device, they expect good performance. Expectations are also provider-independent, meaning users expect the same quality of performance regardless of how they connect to a particular service or application, whether at home, in an office, or at a hotel.

Thus, MSPs have the opportunity to create competitive advantage by meeting, and more importantly, exceeding, enterprise management and reporting requirements for collaboration applications. Successful MSPs arm themselves with tools that let them not only prioritize traffic, but manage the performance of specific applications to guarantee the quality of the end-user experience and tie specific applications into customer business processes.

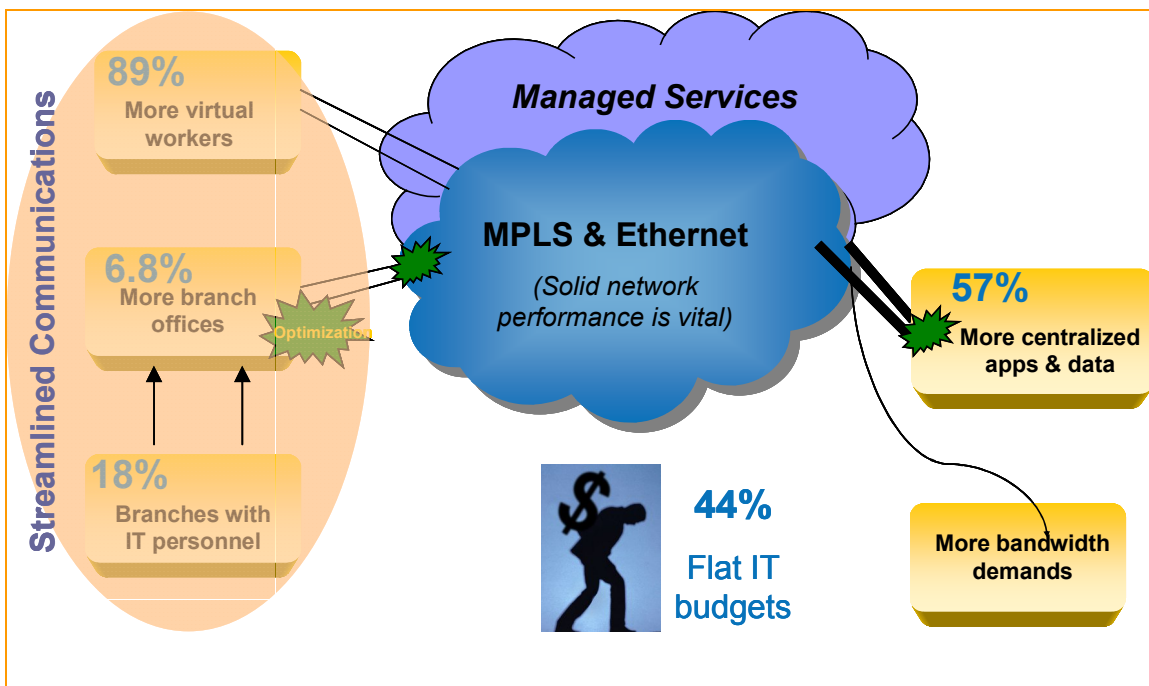
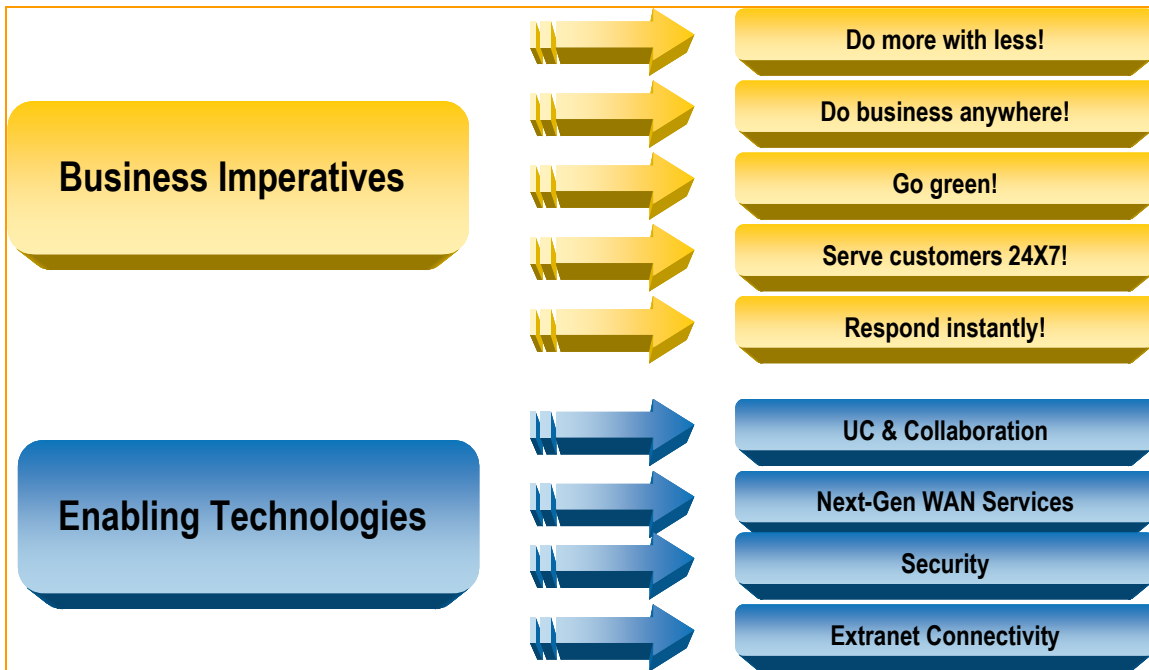


Figure 1: The Virtual Workplace

## Collaboration Strategies

Effective collaboration is all about providing solutions that enable groups to work together, regardless of location or mode. (Please see Figure 2: Business Trends and Enabling Technologies, Page 4.) IT managers striving to deliver an environment that fosters, rather than hinders, collaboration must do so despite organizational challenges such as:

- ⊕ Growing branch offices, with a broadening of the definition of a branch office to include anything from a fixed satellite location to a knowledge-worker working from home or a shared office space with variable performance and/or security capabilities.
- ⊕ Green initiatives, designed to reduce carbon emissions, cut energy usage, and save money. The desire to be more environmentally friendly has led to travel restrictions and growing support for telecommuting.
- ⊕ The need to do more with less. Nearly 100% of Nemertes' 2009 research participants say they are under pressure to cut IT spending.
- ⊕ Increasing demand for rich-media collaboration applications that integrate voice, video, and application sharing. Rich-media applications increase network demands, requiring adequate bandwidth with minimal delay and jitter.
- ⊕ The need for speed, with the current economic recession requiring fast reaction to market opportunities and threats. IT must be an enabler to meeting market requirements.
- ⊕ The need to meet ROI requirements for new technology investments, often with payback required in as little as six to nine months.



**Figure 2: Business Trends and Enabling Technologies**

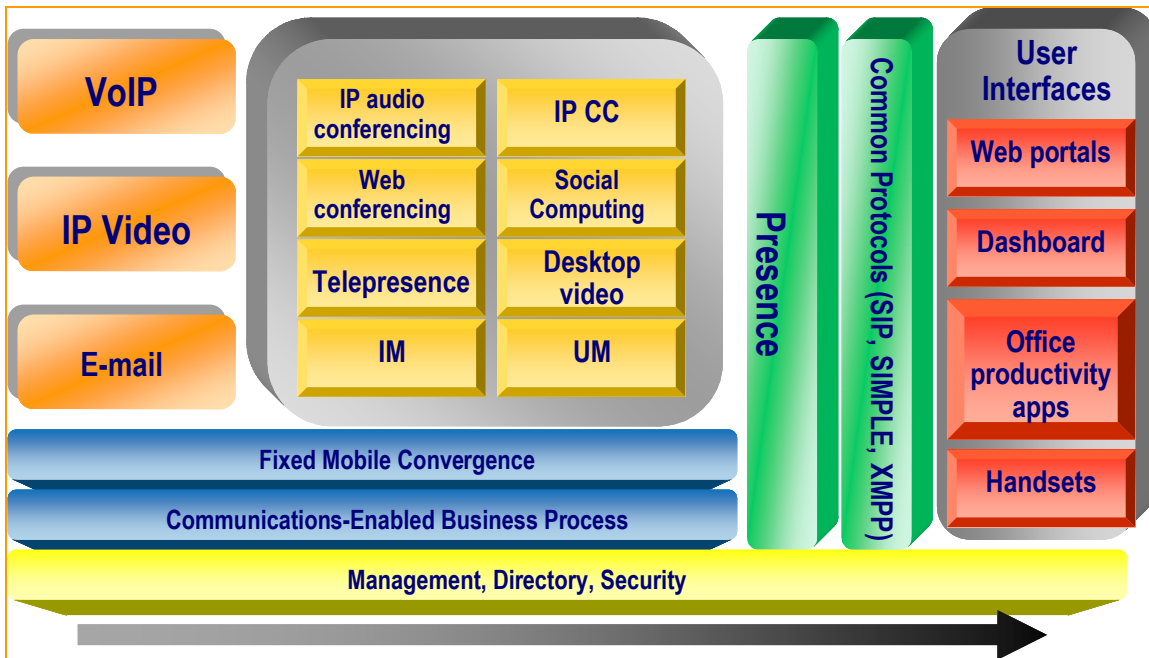
### Collaboration Applications

Collaboration applications have proliferated across the enterprise market. These include non-real time (or asynchronous) applications, such as shared document repositories, wikis, blogs, and of course e-mail. Real-time (or synchronous) applications, including audio/video/web conferencing, instant messaging, and increasingly, social messaging, such as short-message-service (SMS) chat and micro-blogging are also becoming more popular. (Please see Table 1: Collaboration Applications, Page 5.) Not only have the number of tools grown, but also the types of access methods, including desktop, mobile, and virtual (or thin) clients.

<b>Collaboration Models</b>		
	<b>Characteristics</b>	<b>Examples</b>
<b>Asynchronous</b>	<b>Non-Real-Time</b>	<ul style="list-style-type: none"> <li>⊕ E-mail</li> <li>⊕ Message Boards</li> <li>⊕ Blogs</li> <li>⊕ Wikis</li> <li>⊕ Shared Workspaces</li> </ul>
<b>Synchronous</b>	<b>Real-Time</b>	<ul style="list-style-type: none"> <li>⊕ Voice</li> <li>⊕ Video</li> <li>⊕ Instant Messaging</li> <li>⊕ Social Messaging</li> <li>⊕ Web Conferencing</li> </ul>

**Table 1: Collaboration Applications**

Adoption of collaboration tools continues to grow. More than half of Nemertes research participants are deploying applications, such as Web conferencing and instant messaging, to meet their collaboration requirements. More than 75% are deploying or planning to deploy video-conferencing solutions, ranging from desktop to high-definition and telepresence platforms. (Please see Figure 4: Video Conferencing Plans, Page 7.) Enterprises increasingly are integrating these disparate applications under the umbrella of “unified communications,” enabling sharing of presence information across applications, in addition to the ability to easily shift modes of collaboration. (Please see Figure 3: Unified Communications Development Architecture, Page 6.)

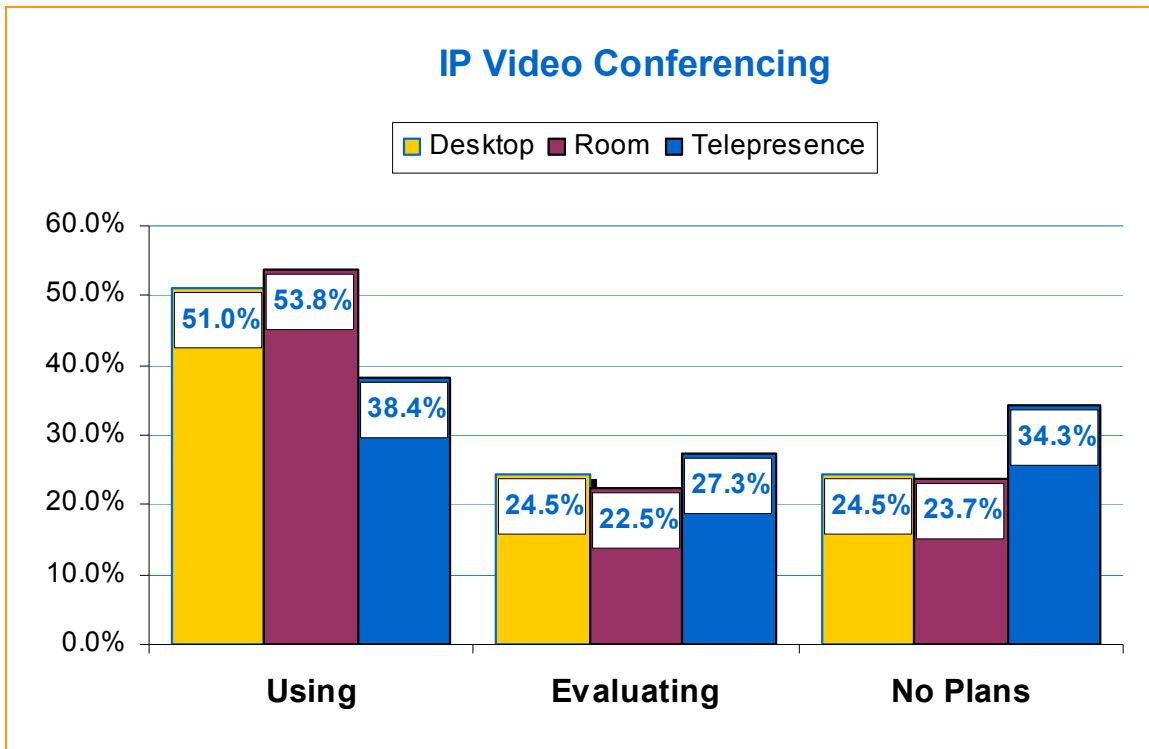


**Figure 3: Unified Communications Development Architecture**

About half of research participants plan to integrate communications and collaboration applications with enterprise resource planning or other business-process platforms, further underscoring the criticality of these applications and the need for consistent and reliable performance. Sixty-five percent of companies have adopted WAN optimization, driven in part by the need to support real-time collaborative apps.

About 37% of research participants have adopted policies to promote the use of real-time collaboration applications such as video and Web conferencing, typically to reduce travel for financial or green concerns.

Growth in IP video-conferencing adoption creates significant challenges for IT organizations and opportunities for MSPs. Video conferencing demands not only low-latency and reliable network performance, but also large amounts of bandwidth, especially to support high-definition and telepresence platforms. Most research participants lack any sort of capability for end-to-end video quality management, meaning they lack the capability to respond to help-desk inquiries such as “the video conference was choppy” or “voice was out of sync with video.” Participants in Nemertes Spring 2009 benchmark say they are increasingly looking to MSPs to deliver guaranteed bandwidth for IP video, IP-video management, and on-site support for remote locations.



**Figure 4: Video Conferencing Plans**

Research participants increasingly are quantifying the value to the organization of their investments in collaboration. Although many still rely on the vague “improved productivity” to gauge the success of their efforts, a small but growing number of companies are developing quantifiable metrics including:

- ✦ Hard savings from travel reductions. Typically these include the use of video or Web conferencing as an alternative to in-person meetings, thus eliminating travel costs and saving time otherwise spent traveling between locations. Collaboration tools are increasingly important for telecommuters to participate in meetings, share documents, and access corporate information resources.
- ✦ Reduced project times as a result of improved external collaboration, leveraging inter-company services to shorten production cycles, better manage supply lines, and improve project and customer management.
- ✦ Increased business close rate as a result of implementing a Just-in-Time-Fetch-the-Expert approach using collaboration tools such as VOIP, presence, conferencing, and instant messaging. JITFTE capabilities let customer-facing workers quickly access subject matter experts for a particular challenge. (Please see Table 2: Just In Time Fetch The Expert Business Case, Page 8.) Nemertes finds that JITFTE helps organizations improve on additional business management

metrics such as field sales revenue, call-center throughput, and customer satisfaction.

- ⊕ Reduced long-distance charges by using IP-based collaboration applications, such as chat and Web conferencing as an alternative to costly phone calls (especially for international workers).

Consulting Projects							
Average Project Size	Typical Project Margin	Typical Close Rate	Number of Projects Bid Per Year	Bottom-Line Value of New Projects To Consulting Firm	Incremental Impact of Increasing Close Rate by 1%	Incremental Impact of Increasing Close Rate by 2.5%	Incremental Impact of Increasing Close Rate by 5%
\$250,000	60%	75%	75	\$8,437,500	\$8,550,000	\$8,718,750	\$9,000,000
<b>Marginal Improvement</b>					<b>\$112,500</b>	<b>\$281,250</b>	<b>\$562,500</b>

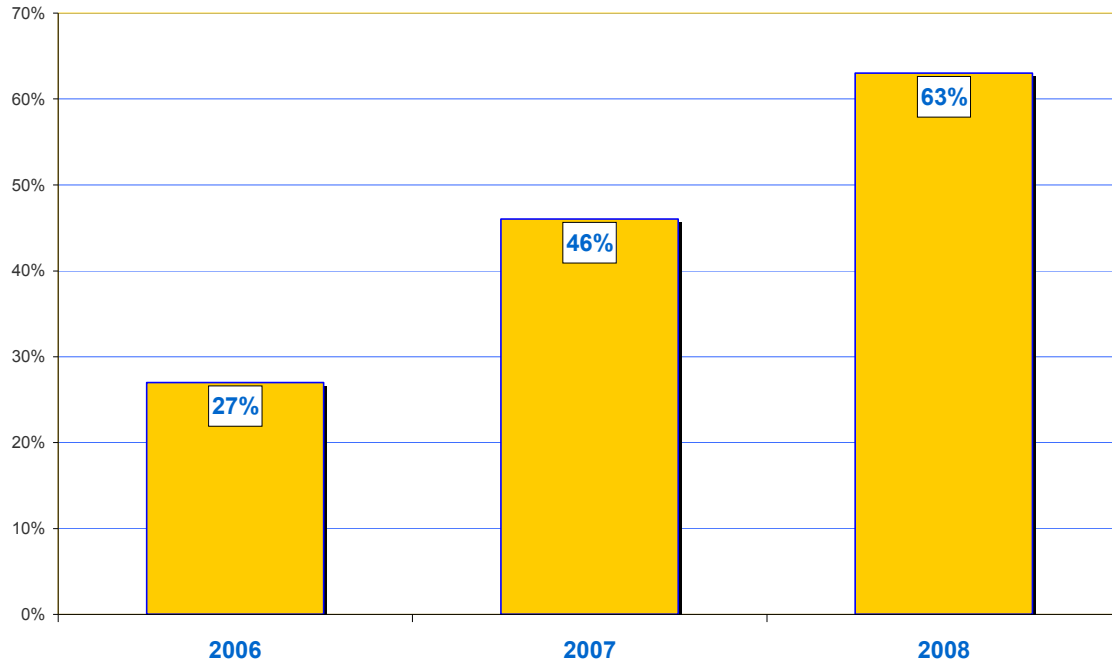
**Table 2: Just In Time Fetch The Expert Business Case**

### Managed Service Requirements and Adoption Trends

Effectively monitoring and managing collaboration applications requires the following approach:

- ⊕ Possess the monitoring and management tools to identify and measure the performance of collaborative applications across the network.
- ⊕ Possess IT personnel trained on the technology and with the time to provide adequate monitoring and management.
- ⊕ Determine metrics for collaboration management.

### Managed Services Adoption



**Figure 5: Managed Services Adoption**

Increasingly, enterprises leverage MSPs to support some or all aspects of application and/or branch network management. Managed services offer predictable spending, potentially coupled with reduced costs and increased system reliability. Organizations that would not have considered managed services a year ago are now evaluating, and those who do use managed services are extending them or adding additional services, such as application performance management.

We expect this upward trend to continue for a few reasons. Most relevant is the need to augment the IT and telecom staffs because of conservative budgets, but also, the aforementioned criticality of delivering reliable collaboration services regardless of location.

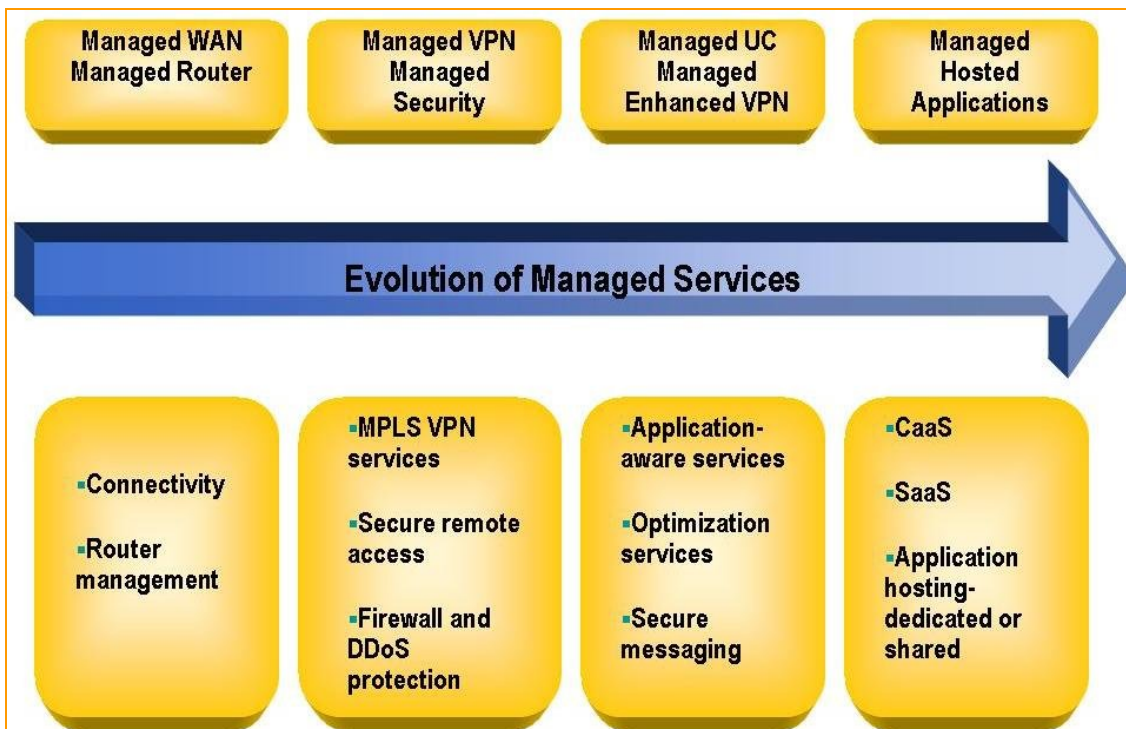
<b>Managed-Services Triggers</b>	
Reduction in Staff	Reduction in Budget
Application Complexity	New Technology
Increased Number of Virtual Workers	Change in Management
New Business Initiative	Hardware End of Life
Merger or Acquisition	Increased Regulatory Requirements

**Table 3: Managed Services Triggers**

### Managed Network Services for Collaboration

Implementation of unified-communications and collaboration technologies is a common trigger for the use of managed services. (Please see Table 3: Managed Services Triggers, Page 10.) As adoption of collaboration applications grows, so do the management challenges. For example, it typically takes one to four times longer to isolate and resolve problems for IP telephony than for TDM systems. Organizations relying on video often lack the capabilities for network management and optimization necessary to measure and monitor end-to-end application performance.

Providers that offer expertise in multiple disciplines, including voice, security, LAN/WAN networking, and application performance, are best-positioned to perform advanced management and troubleshooting for the most complex rich-media collaboration rollouts. Successful MSPs leverage capabilities embedded into the network devices they are already delivering to provide management service with minimal additional investment.



**Figure 6: Evolution of Managed Services**

An evolution of managed services has occurred. (Please see Figure 6: Evolution of Managed Services, Page 11.) Initially, providers just delivered connectivity between locations, offering basic router and network management. As the virtual workplace increased, providers began to offer secured, remote Internet access and VPN services. More recently, with the increased adoption of real-time, rich-media collaboration applications, providers evolved to offer network- and application-specific optimization, security and performance management. Typically included in these services are SLAs measuring jitter, latency, and other performance metrics.

Now, as MSPs build an enhanced-services portfolio, some are moving beyond traditional performance metrics to offer business-level SLAs that will elevate the MSP SLA from simple connectivity to more business-aligned objectives. Bundling network- and application-optimization with reliable and secure application delivery enables MSPs to deliver communication or collaboration as a service (CaaS).

### Creating a Competitive MSP Advantage

MSPs have created a number of different architectural models to deliver application-optimization services. For years, many large network service providers have delivered value-added CSU/DSU platforms to the customer premise, enabling fine-tuned application support. As CSU/DSU functions have moved into the edge router, providers have relied on a variety of approaches including dedicated

optimization and management platforms external to edge routers and switches, and monitoring of router/switch traffic through various reporting protocols. More recently, many edge-router vendors have introduced capabilities for application-performance management directly in their devices. Service providers can now consolidate multiple edge devices into one, with reduced management complexity. They also have taken advantage of client-based capabilities for optimizing performance of remote workers who use public-network facilities.

Coupling application-optimization capabilities with the growing need for reliable and secure collaboration-application delivery lets MSPs deliver CaaS. With a CaaS approach, MSPs can deliver optimization and management services designed for specific customer's collaboration requirements, whether they are the customer's own applications, part of a hosted application offering, or some combination of the two. The goal of CaaS is to let MSPs deliver guarantees for specific applications. But CaaS goes beyond typical measurements such as jitter and latency, tying application-performance monitoring into business process service-level guarantees. This approach lets an organization easily understand the direct business effect of a performance issue.

A successful CaaS offering requires MSPs to promote (and bundle) network services optimized to support communications and collaboration applications. Providers should highlight enhanced solutions by including detailed metric reporting and tying SLAs to business processes.

It is important to note that applications ultimately must become central to performance management, a trend that already has begun with user perception emerging as a key performance metric. Perception of performance is tied to applications *as users experience them*, without respect to how the applications are provisioned on the back end.

Looking specifically at managed UC and collaboration services, it's easy to see why this would be relevant. MSPs should not offer management for applications such as video or Web conferencing without wrapping in other critical services, such as network and application optimization, security, and even VPNs. Trying to do so would mean a service provider is forced to guarantee performance for piece-parts of the service. To an angry user, the explanation that "we don't control that part of the application" is likely to fall on deaf ears.

For MSPs offering CaaS, going beyond traditional performance metrics to offer business-level SLAs will elevate the MSP SLA from simple connectivity to more business-aligned objectives. Remember that enhanced productivity is the goal for most organizations implementing UC and collaboration.

As a differentiator, and more importantly to build customer loyalty, service providers should offer not only network- and application-performance SLAs, but business-process SLAs, as well. These would be client-specific, looking at areas they deem important. Performance requirements tied to business processes are specified as key performance indicators (KPIs), with target values to be achieved. An SLA may be tied to any KPI that can be quantified, such as quality, speed, availability, capacity, or customer satisfaction.

SLAs tied to business processes recognize the goal of deploying UC and collaboration-increased productivity. SLAs move beyond jitter and latency and might extend to availability, response time, throughput, and mean time to repair. For example, an organization that relies on UC to support critical customer-facing services may require an SLA that provides compensation for lost sales rather than just crediting the services bill for excessive downtime.

Another example is an SLA tied to delays of specific projects. If an organization relies on Web conferencing to support a critical project, MSPs may offer SLAs based on delay to the project if the conferencing solution does not provide pre-determined acceptable uptime, or if the expected quality of the experience is not met.

To provide such SLAs, providers must have the right tool set, most likely a combination including an MSP platform, a router or aggregate solution, technology for optimization/acceleration, and management and monitoring tools. They must model how customer applications relate to business processes and tie specific services into specific customer activities.

A successful SLA clearly defines the performance required of the service and puts in place measurement mechanisms whereby actual performance against targets can be monitored.

## Conclusions and Recommendations

Communication and collaboration applications are an increasingly critical component of successful business operations because of the increasing virtual nature of the workforce and the need to increase collaboration effectiveness amidst falling travel budgets. These applications require careful management and performance guarantees to enable their use in support of organizational requirements, business processes, and goals. As a result of the economic environment, coupled with the complexity of managing distributed real-time applications, organizations are increasingly taking advantage of MSP offerings to ensure reliability, security, and performance of the collaborative applications. MSPs that can rapidly expand their service offerings to meet this need by integrating application optimization capabilities with existing services are best positioned to take advantage of the growing market opportunity to support collaboration and communications as a service.

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