Case Study

Showcase Sites Bring Cisco Services to Life

Cisco® IT Case Study /Cisco AVVID Services/ Showcase: This case study describes the Cisco IT showcasing of non-production services, especially Cisco AVVID (Architecture for Voice, Video and Integrated Data) services, within the Cisco global network, a leading-edge enterprise environment that is one of the largest and most complex in the world. Cisco customers can draw on Cisco IT real-world experience in this area to help support similar enterprise needs.

Cisco IT does not always deploy the latest Cisco AVVID technologies in sales offices, a situation that can hamper sales. But a program called *Cisco IT Showcase* has allowed many offices to work with leading Cisco AVVID products, and demonstrate these products to customers. "You can't sell what you don't know. I'd say that being able to showcase Cisco AVVID technologies in our office has definitely closed deals," says Alec McLocklin, a systems engineer from the New York Metro Area Data Center Applications group. "They bring their data experts in, see us perform a demonstration (demo) of Cisco AVVID services on our own phones, and see more than 300 people in our office using the same services, and they're convinced that Cisco AVVID can work and can help them in their own environment in the same ways it helps us."

Challenge

Cisco Systems® develops many enterprise service products, and many of them are globally deployed in the Cisco IT production network. But sometimes Cisco IT decides to wait to deploy a Cisco product within the Cisco production network. Although many enterprises may be able to deploy the product and use it profitably, Cisco IT must wait until later product releases address its concerns—primarily scalability issues but sometimes other reasons.

Waiting does not help the Cisco sales force, though, when they need to sell these very same products to their customers. Now that Cisco AVVID products have moved out of the wiring closet and onto on workers' desks or phones, customers are aware of the products that are available at Cisco sites, and they question whether they should buy products that Cisco IT does not use. Also, Cisco sales people benefit tremendously from their ability to experience and demonstrate the same services they intend to recommend to their customers. "Customers watching us use our own products successfully is valuable in terms of their seeing the products and technologies we talk to them about. It helps convince them that we know what we are talking about," says Jeff Mossman, consulting systems engineer in Headquarters Canada, Toronto. "Moreover, we gain a lot from the productivity benefits of the services—which we also can demonstrate to customers."

In addition, other benefits are missed when Cisco IT does not deploy a product early in its life cycle: benefits to the Cisco internal business unit (product development) groups, the Cisco Global Technical Response Center (GTRC), Cisco IT, Cisco employees, and benefits to Cisco customers.

Cisco business units benefit in many ways. Despite extensive laboratory (lab) and alpha testing, undiscovered issues can still remain with new products. Often an early deployment by Cisco IT either in a pilot or in early production deployment will uncover these issues, and give the business unit sufficient warning to enable it to make changes to later product versions. In the interim, Cisco IT can often develop and document workarounds, user guides, and GTRC support Q&As, and these can all be reworked and used by the business unit to better support customer deployments.

The *GTRC* benefits by being able to develop support Q&As directly with the deployment engineers, and can learn from a very small product deployment the types of problems—and the size of the problems—that they are likely to encounter when the product is deployed throughout Cisco.

Cisco IT benefits by learning from the early showcase deployments how best to install, configure, support, and manage these products in a limited rollout, and can learn from the problems engineers encounter and the workarounds they develop in the limited rollout process. In addition, deploying products in limited showcase sites helps reduce rogue deployments by employees within Cisco.

Cisco employees benefit by reaping the productivity enhancements and cost savings that these new products can provide even in a limited setting. And of course *customers* benefit when they can see, touch, and understand the benefits of these new services, and can buy them and begin taking advantage of the benefits in their own companies. However, none of these benefits can be realized if Cisco IT is unable to deploy the product—and many products are available but are waiting for eventual deployment within the Cisco production network.

The Cisco IT standard practice has always been to deploy a Cisco enterprise product or solution within the production network only when it can scale across all 300+ Cisco sites in every global theater, including the very large and complex corporate headquarters site in San Jose, California. In addition, the Cisco product or solution must be able to integrate into the current Cisco IT network standards of routing (for example, Enhanced Interior Gateway Routing Protocol [EIGRP]), standards of manageability (for example, consistent data provisioning and configuration APIs, consistent directory information and software installation processes, and a common information model), and standard network services support (for example, quality of service [QoS] and multicast)—and these solutions also must provide the security and feature sets required by end users. Cisco IT thoroughly investigates these and other areas before attempting to integrate a new product or service into the current production network. This means that Cisco IT frequently must wait until a product can meet these needs, and sometimes must delay providing the benefits of early adoption to Cisco employees.

Three major obstacles blocked Cisco IT in 2001 from deploying new Cisco products in a nonproduction, “showcase” environment: process, people, and support. No *process* was in place to deploy showcase technology; in fact, the current Cisco IT philosophy of deploying only those products that would scale to the full global network preempted development of such a process. Because of this lack of process, no *people* or other resources were available to devote to deploying showcase technologies in limited sites. And finally, part of the Cisco IT standard “new technology introduction” process was the establishment of thorough and secure management and *support* procedures within the GTRC and other supporting teams. By circumventing standard IT practices, a showcase service would have to be supported in new ways or survive without support entirely, a scenario that would result in a much less reliable service.

Solution

The solution was to establish a Cisco IT Showcase team, develop a process for determining which Cisco services could be deployed in a limited showcase way, and develop a showcase support process to respond to most issues that were likely to arise with deploying a new service outside the traditional Cisco IT scope. This solution was not done at one time, but rather has evolved over time to become the Cisco IT Showcase team and process that exists today.

History

In 2000 Cisco IT began production deployment of a Cisco AVVID network, with a full production deployment of Cisco CallManager and Cisco IP phones. Cisco AVVID technology was a major departure from traditional Cisco routing and switching products, and from the company's traditional voice technology. Sales people found that being able to use their Cisco IP Phone on a daily basis and demonstrate the features and reliability of their Cisco IP telephony tools to customers who visited the Cisco office was extremely helpful in supporting sales of these products.

In 2001 more Cisco IP telephony features and services became available to customers, but for various reasons Cisco IT did not deploy these services internally. Customers found many of the services, such as the Cisco IP SoftPhone, the Cisco Personal Assistant, and Cisco Conference Connection, to be especially desirable, and sales people were eager to be able to get experience with these services and display them to their customers. A small group of Cisco IT engineers were determined to help the Cisco salesforce by deploying a few of these services in a few locations. With the help of local IT engineers, they began by deploying IP SoftPhone, Personal Assistant, and Conference Connection in the New York City sales office. The first showcase products were available in this office on December 8, 2001.

They selected New York City because it was a large sales site with high visibility, and had an Executive Briefing Center (EBC) facility to help employees demonstrate new services to customers. From there they added Herndon, Virginia, and Toronto, Canada, and later other sites in the United States, one in each sales region. Within each sales region they selected high-profile sales sites with EBC facilities to touch the most customers while keeping the nonproduction showcase deployments small.

Later they worked with theater vice presidents to select appropriate locations in the Europe, Middle East, and Africa (EMEA), and Asia Pacific (Asia-Pacific) regions. Some sites were chosen because they were high-profile sites; others, such as Riyadh and Dubai in the Middle East, because they had no preexisting facilities, and installing Cisco AVVID services would save money (see the section, "Showcase Locations"). They also worked hard to choose the right products by selecting the high-profile products that sales people were requesting most. Each theater has a product manager responsible for asking sales customers what they want to see deployed. Also, they were seeking products likely to enhance Cisco employee productivity in the sales offices or to assist in resolving some site-specific problems (see the section, "Showcase Products").

Showcase Locations

Over the last two years, the Cisco IT Showcase group has greatly expanded its scope by establishing showcase sites at locations within each of the global theater regions (Table 1).

Table 1 Showcase Locations by Theater

Americas	EMEA	Asia-Pacific	Corporate
Chicago, Illinois	Bellshill, Scotland	Beijing, China	Living Lab, San Jose, California
Herndon, Virginia	Beirut, Lebanon	Singapore	Pleasanton, California
Irving, Texas	Brussels (Pegasus), Belgium	Sydney, Australia	Scotts Valley and Santa Cruz, California
Lexington, Massachusetts	Cairo, Egypt	Tokyo, Japan	
Los Angeles, California	Copenhagen, Denmark		
New York, New York	Dhahran, Saudi Arabia		

Americas	EMEA	Asia-Pacific	Corporate
Toronto, Canada	Dubai, UAE		
Sao Paulo, Brazil	Jeddah, Saudi Arabia		
	Riyadh, Saudi Arabia		

Showcase Products

Within two years, the Cisco IT Showcase group has expanded its initial services offering to include the latest versions of the following:

- Cisco IP SoftPhone
- Cisco Personal Assistant
- Cisco Conference Connection
- Cisco Unity™ Voice Messaging
- Extension Mobility (a feature of Cisco CallManager)
- Cisco IP Phone Services
- Cisco 7935 IP Conference Phone
- Cisco Attendant Console
- Cisco Unity Bridge
- NetIQ VoIP Manager
- CiscoWorks Wireless LAN Solution Engine (WLSE)
- Cisco Catalyst® 6500 Series Network Analysis Module (NAM)
- Cisco Wireless IP Phone 7920
- Cisco 7902, 7905, and 7912 IP Phones

Support

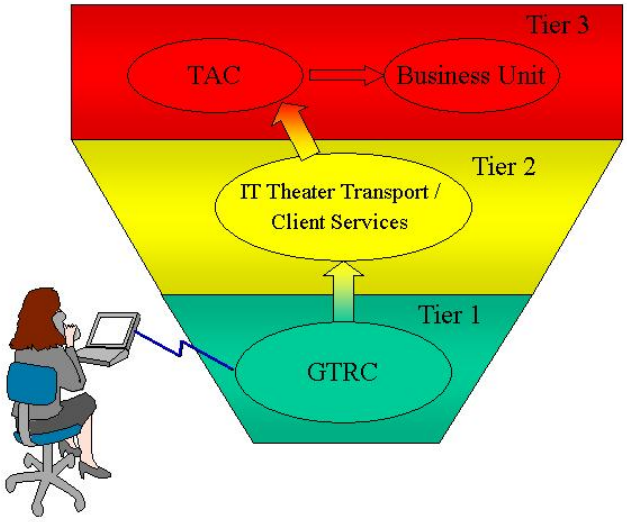
Initially the Cisco IT Showcase team worked with local engineers at each site to support the new showcase services, but this process was extremely burdensome. "We were spending too much time working on the old sites and not enough time expanding showcases to new sites or adding new products," says Jim Robshaw, Cisco IT Showcase manager. "It was not that the services required any fixing, but that we were continually updating code, adding patches, and responding to user questions about how to use the service. We didn't scale very well to handle all that."

Instead, the Cisco IT Showcase team approached the GTRC, the internal Cisco troubleshooting and support team—and GTRC management was receptive to providing support for these newer, nonproduction services. GTRC management was interested in gaining experience in troubleshooting Cisco AVVID products before they became widespread in production. In addition, the Cisco IT Showcase team was willing to work with GTRC management to develop troubleshooting Q&As and GTRC agent training materials, critical to their support process. The showcase team was also willing to be the GTRC's backup when issues arose with these new products that the GTRC was not prepared to handle—although this never happened. And finally, retaining good support staff and keeping them motivated within the GTRC is always a challenge, and this scenario provided their employees with the opportunity to learn about new products.

Several groups support these showcase services (Figure 1). The GTRC provides initial (tier 1) support by providing a single point of contact for IT technical and end-user support problems. The GTRC assists users with resolving simple problems or dispatching cases to the correct queues for further (tier 2) support. The Theater Transport or Client Services teams offer tier 2 support. These teams prioritize and address cases

dispatched by the GTRC. Problems that require further escalation and expertise are dispatched to the Cisco Technical Assistance Center (TAC) for resolution. The Cisco TAC is also responsible for forwarding code issues to the appropriate business unit.

Figure 1 Showcase 3 – Tiered Support Model



Showcase services receive a lower level of support than production services, and showcase users understand the difference. During the Showcase deployment phase, users are provided with "best-effort support." This means that trouble-report cases for showcase services are assigned to a low-priority queue (Priority 5), and resolved as soon as possible after other, higher-priority issues are resolved. However, if the support teams conclude that a problem is "business impacting," the case priority is escalated as appropriate. Support for users who are using nonproduction services and who are not participating in the showcase effort is currently unavailable. And, of course, after these products are migrated into the Cisco IT production network, the GTRC support agreement is expanded to cover all users at all Cisco sites as part of production services.

Results

The results of being able to showcase several Cisco services that Cisco IT was not able to deploy into full production have been significant. Benefits include improved products, improved sales, and improved GTRC support.

Benefits

Sales—The sales benefits have been obvious and immediate. “We get to learn how the technology really works, not how it should work based on PowerPoint slides,” says Paul Leonard, a systems engineer in the New York metropolitan area voice applications department. “We

demonstrated these Cisco AVVID solutions to representatives of a prestigious law firm here in New York—an Avaya shop—during a disaster recovery briefing here in the office. We showed them how versatile a Cisco AVVID solution can be, using Cisco IP SoftPhone and wireless LAN solutions with VPN. Although we had not been welcome previously with that customer, we saw a dramatic change in their representatives' thinking about how Cisco could help with their possible migration.

Another customer—predominately a Nortel shop—watched a demo of Cisco Unity Voice Messaging. The company liked it so well that its representatives invited us to Denver, where the company was in the middle of a voice-mail trial with Nortel. Fortunately, Nortel was having problems tying its voice-mail system into the private branch exchange (PBX). We were able to get Cisco Unity Voice Messaging and Cisco CallManager operational in one day. We showed them how to configure their phones, sent them a Cisco IP Phone 7920, and let them configure that—and at the end the people running the trial recommended Cisco solutions as their platform of the future. They are now creating a return-on-investment (ROI) report with their Cisco sales team to present to their board. This could be a big win for us, and we could not have done it if we had not been familiar with Cisco Unity Voice Messaging and other Cisco AVVID showcase products."

Sometimes the benefit is measurable. "We delivered showcase services into six sites in the Middle East, primarily Cisco Conference Connection," says Sal Pearce, project manager for Cisco IT Technical Architecture in the United Kingdom. "We surveyed the Cisco employees at these sites after eight weeks, and of the 28 people who returned the surveys, 9 of them said that they had either made a sale or helped make a sale as a result of their showcase experience."

Business units—"The biggest benefits outside of sales were in the business units developing these Cisco AVVID products," says Bram van Spaendonk, a project manager in the Cisco IT Showcase group. "We found bugs and other more systematic problems you could only find in real-world deployments—such as a problem with Cisco Personal Assistant being unable to understand regional accents. Another was that when we deployed these services and users asked for training, we found that all the business units had available were manuals with hundreds of pages. No one was ever going to read those manuals. So we worked with the Cisco IT Learning group to create training products—quick overviews with slide shows. They were willing to help us build great training materials, and then provide it to the business unit to package with the product for customer use."

Other problems were also found with the early showcase deployments, and fixed. "The biggest problem we encountered with a showcase product was with the way Cisco Personal Assistant handled LDAP updates", (described in detail in the Personal Assistant section of this case study) said Brad Cooper, network engineer in the IT Showcase group.. "IT was shutting down production LDAP servers in Cisco. We worked with the Business Unit to come up with a workable solution that wouldn't impact LDAP servers. Other than that we haven't encountered many major bugs – but we have worked with many of the BU's to provide them with suggestions for product improvements based on our sales teams' experience with the products. We've also been able to help with user documentation. The Unity user guide is about 800 pages long, and we provided them with our much shorter quick start guides and top 10 FAQs that we've provided to our end users. We continue to make these user guides available to the BU's for their use."

GTRC—Showcasing products that were not yet available in production provided the GTRC with experience in troubleshooting Cisco AVVID products before they went into production.

> "Along with my management, I strongly believe early exposure for the GTRC increases our visibility and allows for proper support planning.
>
> By engaging the GTRC in the early field trial (EFT) for the Cisco IP SoftPhone, we were able to gain an in-depth understanding of its capability as well as identify potential issues or questions the clients might have during initial

deployment. By the time Cisco IP SoftPhone was introduced to our client base, the GTRC was fully engaged, and aware of the capability, troubleshooting, and escalation paths to ensure faster case resolution," says Scott Curtis, IT project manager for the GTRC. And there were additional benefits of improved motivation and employee retention.

Scott continued, "Giving them access to new showcase products helped keep the GTRC analysts motivated by exposing them to new products and new product issues. Our analysts are extremely eager to work with "new toys." Allowing us to experiment with these new technologies gave us a sense of pride and involvement in Cisco's new technology solutions. Sometimes our analysts feel their presence is overlooked, and if I had to identify the added value in this showcase engagement, I would say that getting involved in showcase support has increased morale, and it makes our analysts think they can make a difference."

Cisco IT—Showcasing new Cisco products also helps Cisco IT. Cisco has learned from early showcase deployments how best to install, configure, support, and manage these products in a limited rollout environment, and the company has learned from the problems encountered and the workarounds developed in the limited rollout process.

"We are able to construct best-practice installations and project management processes, enabling the IT teams to learn for future deployments and promoting a greater awareness of the activities that are required for rollout. These showcase sites are a great way to let IT teams experience these technologies in a contained, live environment prior to further site implementation, in addition to normal testing," says Sal Pearce, Cisco IT showcase project manager in EMEA.

"In addition, when we did a limited showcase of the Cisco SoftPhone, we compiled client Q&As, technical documentation, installation procedures, and workarounds. This put the foundation in place for implementation teams to pilot and deploy to the field much faster, because they had a better foundation of knowledge. We were able to test these solutions before taking them to showcase sites, hence assisting IT in mitigating technical errors and misconfigurations and allowing us to use our robust, proven communications to the client base. Again, this contributes to the overall package that showcase can present to deployment teams."

"The showcase deployments are always on the bleeding edge, and we're always finding new bugs, and trying out new features that no one in IT had ever encountered, even some that the Business Units hadn't documented or put in design guides," said Brad Cooper, network engineer in the IT Showcase group. "Initially we made mistakes and had to go back and redesign and rearchitect these deployments, and eventually found better ways of deploying these new features and new technologies. We continually provide given feedback to the IT AVVID group and other groups in IT, and communicate the issues and workarounds we'd discovered in showcase in showcase. Our hope is that maybe they can take this information and modify it to meet production needs."

Cisco employees—Showcasing new products often enables Cisco employees to benefit from the productivity enhancements and cost savings that make these products so attractive to customers. For example, by deploying Cisco Conference Connection in the Middle East, employees were able to meet more easily when they knew their public-switched-telephone-network (PSTN) charges were being significantly reduced, because they could use local Cisco Conference Connection server bridges rather than remote MeetingPlace servers.

In Toronto, similar cost savings prompted Cisco IT to provide toll-free access to the Toronto Cisco Conference Connection bridges for all 10 Canadian sites, enhancing their ability to set up meetings with each other across the country. Another example was in Europe. "We showcased Cisco CallManager Attendant Console in Copenhagen, Denmark, and in Scotland to give greater capabilities to the receptionists at those sites. Previously, their only receptionist solution was a standalone IP phone with no advanced call-handling capabilities," says Sal Pearce. These and other employee benefits of showcase services are described in the following sections.

Showcase Services Overview

The following six services are common to many of the showcase sites. A description of each of the six Cisco services follows, including the reason Cisco IT had not initially deployed that service within the production network. Then the advantages gained from a limited deployment at some of the showcase sites are described, followed by a list of showcase locations at which the service is currently available. Table 2 shows the current deployment of these and other services.

1. Cisco IP SoftPhone 1.3
2. Cisco Personal Assistant
3. Cisco Conference Connection
4. Cisco Unity Voice Messaging
5. Extension Mobility (a feature of Cisco CallManager)
6. IP Phone Services (made possible by Cisco CallManager)

Figure 2 Cisco IP SoftPhone Screenshot and USB Phone

1. Cisco IP SoftPhone 1.3

Cisco IP SoftPhone Description

Cisco IP SoftPhone is a Windows-based application for the PC that allows employees to use their laptop PCs as an IP phone (see Figure 2). It can be used as a standalone IP phone or integrated with the employee's current hardware IP phone. On its own, the Cisco IP SoftPhone allows users to take their phone extension with them and send or receive calls whenever and wherever they can carry their laptop and can connect to the corporate network, usually using a VPN connection over the Internet. Users with a laptop running Cisco IP SoftPhone and the Cisco VPN Client can send or receive calls from any point in the world where they can get an Internet connection—their home office, a hotel, or even a coffee shop. They must have a link with upload capabilities of 13 kbps because the Cisco IP SoftPhone link running G.729 (the recommended compression algorithm) requires 8 kbps for voice and about 5 kbps for IP signaling. But standard dialup connections can be used. Also, voice quality is reduced if the link is used for data transfer at the same time, unless proper QoS handling is provided.

Cisco IT is currently performing trials of home-office VPN connections that support QoS features to protect voice quality during simultaneous data transfer. Cisco IP SoftPhone is integrated with the corporate Lightweight Directory Access Protocol 3 (LDAP3) directories, so users can place or transfer calls by searching for people by name or e-mail address in corporate and public directories; a personal address book is included with Cisco IP SoftPhone. One feature advantage of using Cisco IP SoftPhone is that users can drag and drop phone numbers from e-mail messages or other Windows programs. Another is that conference calls can be set up by dragging and dropping directory entries onto the Cisco IP SoftPhone user interface to create a virtual conference room. Cisco IP SoftPhone also integrates with Microsoft's NetMeeting, and allows users to share applications running on their desktops with all participants by selecting them from a list or dragging associated documents onto the virtual conference room. Cisco IP SoftPhone, however, does not replace the desktop IP phone. Its voice quality is not equal to that of the desktop Cisco IP Phone 7960, and it offers no emergency location (911) support.

Reasons for Not Deploying Cisco IP SoftPhone 1.3 in the Cisco IT Production Network

Cisco IP SoftPhone Versions 1.2(3) and 1.3 were thoroughly evaluated by Cisco IT in 2002. The major concern with deploying Cisco IP SoftPhone was its use of computer telephony integration (CTI) to interact with the Cisco CallManager, instead of the Skinny Protocol used by the hardware phone. CTI puts a greater memory and processing load on the Cisco CallManager, estimated at between four and five times that of a hardware phone.

Other drawbacks are primarily with a lack of feature parity between CTI Cisco IP SoftPhones and existing hardware phones. The PC running Cisco IP SoftPhone cannot support voice-quality QoS within the Cisco IT infrastructure, as the hardware phone can, for the following reasons:

- The Cisco IT LAN re-marks all QoS information from PCs.
- Cisco IP SoftPhone Version 1.3 cannot interoperate with Survivable Remote Site Telephony (SRST) if the WAN link fails.
- It fails to support Extensible Markup Language (XML)-based user services and applications.

Still, the primary issue for Cisco IT was the high load that Cisco IP SoftPhone 1.3 places on the Cisco CallManager.

Cisco IT knew that under the Cisco CallManager architecture existing in 2002, with Cisco CallManagers dedicated to almost all Cisco locations, Cisco IP SoftPhone could probably be supported at all except the largest sites. But there were still three issues to consider: 1) Cisco IT could not deploy the IP SoftPhone to the largest sites without the risk of overwhelming the CallManager servers; 2) Cisco IT was planning to migrate to a new CallManager architecture based on Centralized Call Processing with SRST, which would remove CallManagers from most locations and replace them with large CallManager clusters in the regional hubs. This would force Cisco IT to remove IP SoftPhone support at the local sites; and 3) Engineers anticipate that a Skinny Protocol-based IP SoftPhone (Cisco IP Communicator) will be significantly more scalable and sustainable. Based on these factors, Cisco IT decided to deploy Cisco IP SoftPhone 1.3 only in limited areas and numbers.

Results of Cisco IP SoftPhone Use in Showcase Sites

The primary benefit that Cisco IP SoftPhone offers is its ability to allow employees to move from one office to other offices, remote home offices, or hotels and still keep their IP telephony access. This setup allows them to call customers, retrieve and respond to voice mail, and stay connected with their office from just about anywhere.

Employees are much more productive in their jobs, and much more flexible in where they can continue to do business. “Practically all our sales people have broadband VPN service using DSL or cable at home, and many of us are using the Cisco IP SoftPhone at home—primarily for internal calls. We can see the phone ring, see who calls, use voice mail, and retrieve voice messaging with caller ID on the SoftPhone screen to see who has called,” says Jeff Mossman, customer service engineer (CSE) in the Toronto showcase site. “One challenge is quality of service: only a few people are on the hardware VPN trial. Another problem is that people connect to the VPN gateway in Boxborough, Massachusetts, which is a long way from Toronto, causing some delay problems.” When asked about demonstrating Cisco IP SoftPhone access to customers, Jeff says, “Mostly we demo it at our location rather than at customer sites. Very few customers have their corporate firewall set up to allow us to make a VPN connection back to our Cisco CallManager—but when their setup does allow it, the onsite demo is interesting.”

Being able to create a more usable home office is a big plus for employees. “I really like being able to use the Cisco IP SoftPhone at home,” says Ginger Lee, a project manager in San Jose, California. “It lets me work from home a lot easier than before. I can get my voice mail, and call long distance for business without having to bill it back to Cisco. It lets me conduct business from home as easily as from my desk.” Asked about quality issues, she replied, “It’s a lot better than I expected. I’ve never had any voice quality problems, and I expected to.”

The product manager for Cisco IP SoftPhone, Gerardo Chaves, remarked on how showcasing the IP SoftPhone has helped sales as well as provided good product direction.

> "Cisco IP SoftPhone is one of the clearest examples of how IP telephony makes users more productive. All I need to show skeptical customers is my laptop PC connected by using 802.11b and running Cisco IP SoftPhone taking a call that they dialed on their cell phone using my office number. I mention that at the airport a few hours prior I was doing exactly the same thing (using a Cisco VPN Client) and they always 'get it.' The showcase team has not only helped us make sales, but it has also been very helpful in providing feedback and helping us design new versions—so much so that now we can just let the Cisco IP SoftPhone development engineers talk directly to the IT team that administers Cisco IP SoftPhone to help make design decisions on provisioning and installation."

The Cisco IP SoftPhone is currently available at showcase sites in:

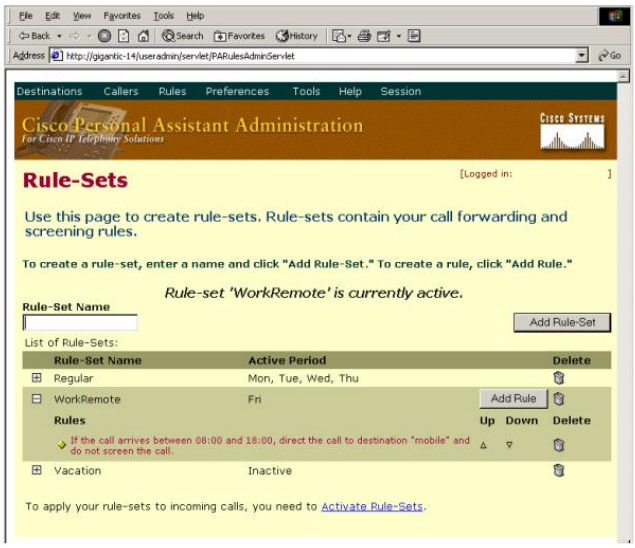
Americas: Chicago, Illinois; Herndon, Virginia; Irving, Texas; Lexington, Massachusetts; Los Angeles, California; New York, New York; Toronto, Canada; and Sao Paulo, Brazil

EMEA: Brussels (Pegasus), Belgium

Asia-Pacific: Beijing, China; Singapore; and Sydney, Australia

Corporate: Living Lab, San Jose, California; Pleasanton, California; and Scotts Valley and Santa Cruz, California

Figure 3 Cisco Personal Assistant Screenshot



2. Cisco Personal Assistant

Cisco Personal Assistant Description

Cisco Personal Assistant allows users to customize rules on their IP phone to act as their own personal administrative assistant (see Figure 3). It allows them to craft rules that redirect calls to, for example, other telephone numbers, e-mail-capable pagers or voice messaging based on caller ID, time of day or day of week, and can easily be modified to respond to changing circumstances. The Web-based and telephone user administration interfaces allow users to forward and screen calls in advance or in real time. The speech-recognition interface allows users to access voice mail, dial by name, and make conference calls from any telephone by speaking to it, or by using the telephone keypad. Users can also check e-mail, voice mail, calendar, and personal contact information using the interactive soft keys on the Cisco IP Phone.

Reasons for Not Deploying Cisco Personal Assistant in the Cisco IT Production Network

Cisco IT has done and continues to do significant testing of successive releases of Cisco Personal Assistant. The review of Cisco Personal Assistant 1.3(1) revealed significant risks of toll fraud—users could potentially gain access to make expensive long distance calls anonymously, and Cisco IT could not bill back for the calls. This problem was mitigated in the next release, 1.3(2).

Another problem was that the Cisco Personal Assistant server requires nightly LDAP batch user reads (to create a "grammar file" used by its automatic speech recognition [ASR] engine) and many Personal Assistant servers doing simultaneous LDAP batch reads could overwhelm the corporate directory service. This problem was addressed with Cisco Personal Assistant 1.4; now the Personal Assistant server can support LDAP Interchange Format [LDIF] files instead of directly performing LDAP directory reads.

A problem specific to EMEA is that Cisco Personal Assistant relies heavily upon a standard dial plan and calling line identification (CLI), and within EMEA these both vary greatly across different operators in different countries, making defining Personal Assistant dialing rules very difficult. Although the effect of these problems was small when Personal Assistant was deployed in limited showcase locations outside EMEA,

Cisco IT decided that the risk of toll fraud and burden on the directory would prevent users from efficiently using the product now (although workarounds are available, they require significant manual interaction from the users), and that these limitations are sufficient to limit deployment of Personal Assistant on the production network.

Cisco Personal Assistant 1.3(4) addresses Active Directory compatibility issues, but still burdens administrators with scheduling bulk queries at locations where a large number of Cisco Personal Assistant servers would need to be deployed, so that the corporate directory infrastructure is not overwhelmed by concurrent bulk queries. This concern, and some other lesser concerns about the architecture for Personal Assistant to use WAN bandwidth efficiently in a centralized call-processing environment and with billback problems, has slowed Cisco IT's deployment of Personal Assistant. Cisco IT is waiting for further improvements of the product and product integration before it is globally deployed.

Results of Cisco Personal Assistant Use in Showcase Sites

Most sales people at showcase sites do not find all the Cisco Personal Assistant features that useful. Routing calls based on rule sets is almost impossible in EMEA, where the calling numbers can vary beyond the handling capability of Personal Assistant. But even in the United States and Canada, call routing has not been popular.

What is popular and widely used is the voice-recognition-interface feature of Cisco Personal Assistant, and how it enables access to voice messaging and other features such as online directory. "Not many people in Toronto use rules-based call routing, but many of us use it for voice-recognition access to Cisco Unity Voice Messaging—on the cell phone or headset in the car. The ability to call into Cisco Unity Voice Messaging to read, delete, or forward voice messages or perform a directory lookup using voice recognition is a definite productivity benefit and a safety issue," says Jeff Mossman, CSE in the Toronto showcase site.

Showcasing Cisco Personal Assistant has also helped Cisco improve the product. "The IT showcase of Cisco Personal Assistant gave us valuable product feedback in a live test site for our newest Cisco Personal Assistant releases. Showcasing helped us demonstrate how the Personal Assistant can offload internal operator calls to the Cisco Personal Assistant Auto Attendant, and tested a variety of features, including integration with Microsoft Active Directory, with host-based intrusion detection systems (HIDSs), and with McAfee and NetIQ products in a real-world environment.

"IT initiated the push for Cisco Personal Assistant to support LDIF, which we built into Cisco Personal Assistant 1.4, and has provided us with numerous other good product requirements for future development. IT has helped in many other ways as well, but the previous list provides a comprehensive overview. We couldn't have been successful without IT's help, and I look forward to working with them more in the future," says Bret Cullivan, product manager for Personal Assistant.

Cisco Personal Assistant is currently available at showcase sites in:

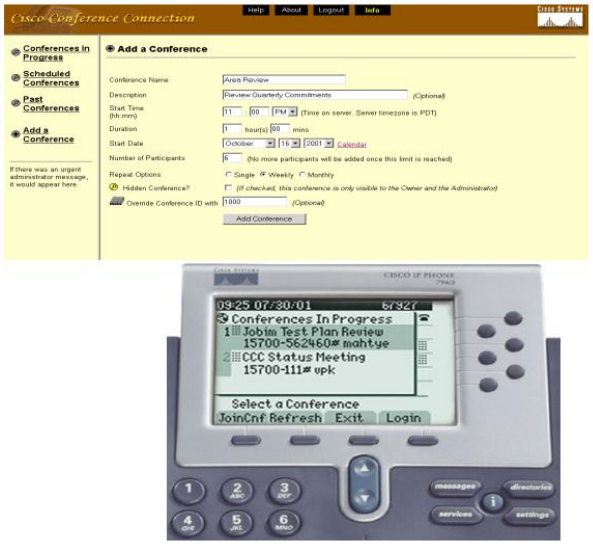
Americas: Chicago, Illinois; Herndon, Virginia; Irving, Texas; Lexington, Massachusetts; Los Angeles, California; New York, New York; Toronto, Canada; and Sao Paulo, Brazil

EMEA: Brussels (Pegasus), Belgium; and Dubai, UAE

Asia-Pacific: Sydney, Australia

Corporate: Living Lab, San Jose, California; Pleasanton, California; and Scotts Valley and Santa Cruz, California

Figure 4 Cisco Conference Connection Screenshot and Cisco IP Phone Screen Image



3. Cisco Conference Connection

Cisco Conference Connection Description

Cisco Conference Connection is a meet-me audioconference server that provides integrated operation with Cisco CallManager. Users can schedule conferences in the future or create them right away, using a simple Web interface (see Figure 4). They can make changes or delete scheduled conferences, and view other planned or current or previous conferences online, and can run searches on the conference information. Users can secure conferences by setting up passwords and hiding them from the Web interface.

Conference participants call in to a central number or use the Services menu on their IP phones that support Cisco IP Phone Services, enter a meeting identification, and are then placed into the conference. At the discretion of the conference organizer, conference participants using a Cisco IP Phone can join meetings at the touch of a button, with no need to remember conference IDs. Because Cisco IP Telephony solutions interoperate with IP networks and the PSTN, conference participants can join regardless of location.

Reasons for Not Deploying Cisco Conference Connection in the Cisco IT Production Network

Cisco Conference Connection is not available at most Cisco IT sites because it does not yet scale well enough for larger campus deployments, nor does it support server failover. Each standalone Cisco Conference Connection server supports only 100 ports (100 simultaneous users), and it is impossible today to pool multiple Conference Connection servers together to form a larger conference service suitable for larger locations. In addition, Conference Connection servers do not yet fail over to another server, so if one server fails, all the calls supported by that server will fail.

Cisco IT has some other concerns about the lack of a standardized Simple Object Access Protocol (SOAP) or XML interface for network management and the lack of a few helpful features such as user mute, and user entry and exit announcements (so people know who joined or left the bridge). These concerns keep Cisco IT from deploying Cisco Conference Connection in an extended production network service, but

for smaller showcase sites with dedicated Cisco CallManagers, these drawbacks are far less important than the advantage of allowing Cisco sales people to use and display the features of Conference Connection and other showcased services.

Cisco IT in Asia-Pacific did not have the same concerns regarding scalability with Cisco Conference Connection, but the inability to mute made it difficult for users (most of whom call in from cell phones) to use Conference Connection, and the inability to hear user entry and exit announcements was also a critical drawback.

Cisco IT supports Cisco Conference Connection in India (with servers in Bangalore and Mumbai) to reduce conferencing costs, but Conference Connection is not supported outside of showcase sites. However, Cisco IT is very involved in Conference Connection upgrade planning and plans to participate in an EFT of a new Conference Connection version late in 2003.

Results of the Use of Cisco Conference Connection in Showcase Sites

Cisco IT has been showcasing Cisco Conference Connection at 13 locations worldwide for more than a year. In April 2003, a toll-free number for Conference Connection was added in Toronto, making it easier for remote callers and clients to use Conference Connection and resulting in a dramatic increase in adoption. Over the last four months, the finance controller in Toronto, while tracking conference calling costs and usage, discovered that while conference usage was increasing, conference costs were being reduced by more than 70 percent.

"We were paying on average $38 for each conference hosted by our conference calling vendor in Canada," says Dominic Gnanapragasam, IT project manager in Toronto. "This is pretty high, especially when compared with the average of less than $2 per conference when using Cisco Conference Connection." Over the last four months the average cost savings for audio conferencing at the Canadian Cisco Offices has been about $10,000 per month.

Cisco sales people are finding it difficult to resist using a fully Cisco solution for their audioconferencing instead of another vendor's solution. "In June of this year (2003), Cisco Conference Connection supported 451 audioconferences—85 percent of their audioconferences—while our current vendor's usage dropped below 100 conferences for the first time in more than a year. These 451 Conference Connection conferences cost Cisco only $680, and this cost is now based entirely on the toll-free calling costs, because Conference Connection runs on a separate Cisco Media Convergence Server and requires no additional third-party equipment or resources. And the cost of the server was paid for with the first month's cost savings," says Brad Cooper, the IT engineer responsible for setting up Conference Connection in Toronto. In fact, the service has become so popular that all nine sites in Canada are using the Toronto-based showcase service (Montreal, Vancouver, Calgary, Ottawa, Regina, Edmonton, Winnipeg, Quebec City, and Halifax).

Cisco Conference Connection is also used regularly in other locations. "We prefer to use the Cisco Conference Connection over the corporate Meeting Place bridge system", said Alec McLocklin, SE. "Meeting Place is an outside vendor that provides the service, but I gather it is pretty expensive. The Conference Connection service does not provide an attendant, but we have never really needed that. Mostly we just want to talk together in a group, to get the right people all on the call at the same time—and we don't need extra features. There are no announcements when people join or drop the call, but that feature will be upgraded in a later release."

Cisco Conference Connection is currently available at showcase sites in:

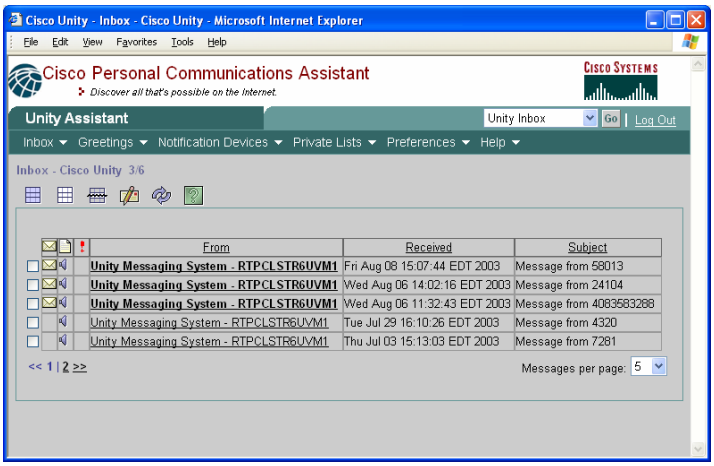
Americas: Chicago, Illinois; Herndon, Virginia; Irving, Texas; Lexington, Massachusetts; Los Angeles, California; New York, New York; Toronto, Canada; and Sao Paulo, Brazil

EMEA: Beirut, Lebanon; Brussels (Pegasus), Belgium; Cairo, Egypt; Dhahran, Saudi Arabia; Dubai, UAE; Jeddah, Saudi Arabia; and Riyadh, Saudi Arabia

Asia-Pacific: Beijing, China; Singapore; Sydney, Australia; and Tokyo, Japan

Corporate: Living Lab, San Jose, California; Pleasanton, California; and Scotts Valley and Santa Cruz, California

Figure 5 Cisco Unity Voice Messaging Screenshot



4. Cisco Unity Voice Messaging

Cisco Unity Voice Messaging Description

Cisco Unity Voice Messaging leverages our IP Phone and web technologies to deliver integrated voice messaging. Unity subscribers have the flexibility to manage their voice messages from their Cisco IP phone, or from a dedicated Unity interface on their desktop. Users can configure Unity to send them an e-mail notification message to their mailbox. Using the 'Unity Inbox' , subscribers can then review, reply to, forward or delete messages from a web interface. This feature allows users to quickly identify urgent or important messages at a glance. Voice messages can be played back through the PC audio system, or through the IP Phone. Integrated Voice Messaging is a step towards 'Unified Messaging' - an advanced Unity solution that combines voice, email and fax messages in a single application, typically Microsoft Outlook or Lotus Notes.

Reasons for Not Deploying Cisco Unity Voice Messaging in the Cisco IT Production Network

Cisco IT was initially planning a migration to a Cisco Unity Unified Messaging-based solution rather than just a Voice Messaging-only solution. However, unified messaging relies on a stable global Exchange deployment before it can be successfully deployed. In the process of rolling out Microsoft Exchange 2000 (E2K) in Europe, Cisco IT encountered numerous problems relating to reliability and scalability of e-mail servers running E2K, especially running Exchange traffic across smaller WAN links and low-bandwidth remote-access users. Although the E2K rollout is continuing in EMEA, for now all plans for E2K deployments in the Americas, Asia, and Corporate are on hold for at least a year, waiting for upgrades to the Exchange platform (expected for Microsoft Exchange 2003) and the Outlook mail client (expected for Outlook 11).

Further Exchange for e-mail deployments outside of the EMEA theater are not planned for fiscal year 2004. Still, Cisco cannot wait to replace its current voice messaging solution. Replacing Avaya's Octel networked voice messaging systems with a network of Cisco Unity Voice Messaging systems is too important a business goal to wait for continued Exchange deployments, because Cisco is, in effect, paying Avaya (a Cisco competitor) at least $7 million annually. So Cisco is planning to proceed with Cisco Unity Voice Messaging deployment—but it is a significant task that has already taken a lot of planning time.

A global deployment of Cisco Unity Voice Messaging as a unified messaging solution or a voice messaging solution has two technical prerequisites. First, the Microsoft AD forest must be configured with all the required extensions to support Cisco Unity Voice Messaging. Cisco IT has determined that by building a separate Microsoft AD forest from the existing corporate production AD environment, Cisco can accelerate the Cisco Unity Voice Messaging deployment because the company will not need to have program schedule dependencies based on other IT projects relating to the production AD forest.

Second, within this separate AD forest there will be a single Microsoft Exchange organization for all voice message storage and routing. Having a dedicated Exchange organization in the production voice messaging environment allows quicker deployment of Cisco Unity Voice Messaging because Cisco will not have to manage e-mail migration, training, or other technical issues that have been experienced with the EMEA deployment of Exchange. Cisco IT has already deployed Cisco Unity Voice Messaging in a few sites in addition to the showcase sites, and is working on a plan to expand this migration for the rest of Cisco worldwide.

Cisco IT will deploy a separate AD forest and a Microsoft E2K organization supporting voice messaging only. E-mail client access to this environment will not be permitted because it would introduce the possibility of security and reliability (virus attacks) problems as well as adversely affect the program goal of replacing a competitor's product as soon as possible. Cisco Unity Voice Messaging architecture has been developed for production deployment with a clear migration path to full unified messaging when the Exchange e-mail deployment plans have been resolved.

Results of Cisco Unity Voice Messaging Use in Showcase Sites

Cisco Unity Voice Messaging is only a small part of the entire unified messaging services suite, and by itself it is meant to be a replacement for other voice messaging systems rather than a major improvement to them. What makes Cisco Unity Voice Messaging special is that it is part of a much larger suite of Cisco AVVID IP-based services, and these services interact with Cisco Unity Voice Messaging in many ways.

"Cisco Unity Voice Messaging is a lot like the voice messaging system we had before. Although many of the features are the same as our previous voice messaging system, what makes it significantly better is the ways you can get to your voice messages. I can get my messages through voice recognition from Cisco Personal Assistant, or access them from my PC using Viewmail for Outlook or the Web interface. When I am in my home office, I use the PC-based interface to get outcall notification on my pager—when I am not using Cisco IP SoftPhone—or if I already have Outlook open I can see messages dropping in, and can hear them by clicking on them through Cisco Unity Voice Messaging, and reply to them through the same interface," says Jeff Mossman, CSE in the Toronto showcase site.

Cisco Unity Voice Messaging is currently available at showcase sites in:

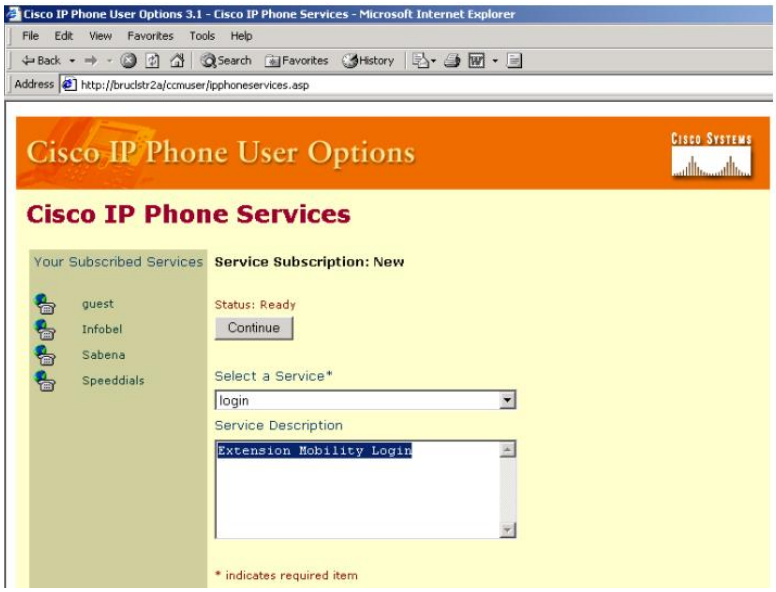
Americas: Chicago, Illinois; Herndon, Virginia; Irving, Texas; Lexington, Massachusetts; Los Angeles, California; New York, New York; Toronto, Canada; and Sao Paulo, Brazil

EMEA: Brussels (Pegasus), Belgium; Dubai, UAE; and Riyadh, Saudi Arabia

Asia-Pacific: None

Corporate: Living Lab, San Jose, California; Pleasanton, California; and Scotts Valley and Santa Cruz, California

Figure 6 Extension Mobility Screenshot



5. Cisco CallManager Extension Mobility

Cisco CallManager Extension Mobility Description

Extension Mobility is a feature of Cisco CallManager that allows users to configure any IP phone as their own, on a temporary basis, by logging in to that phone (see Figure 6). This setup fosters an approach to organizing work environments in such a way that workspaces, including offices, cubes, and desks, are not permanently assigned to individuals, either because space is scarce and must be shared, or because employees do not stay long in the office. Instead of having a single cube or workspace assigned to each employee, employees share a single space (called a “hotelling” space or cube in Cisco), and work there briefly before going off to customer sites or working from their home office. Employees “check into” the IP phone in their hotel cube upon arrival by performing a login process at the telephone where they will receive their calls. Their assigned direct telephone number, with all of its characteristics (ring type, speed dial, chargeback information, etc.), will now be associated with that telephone.

Reasons for Not Deploying Cisco CallManager Extension Mobility Throughout the Cisco IT Production Network

Cisco CallManager Extension Mobility is deployed to all sites throughout EMEA as a replacement for the Virtual Desk Tool for a Desk Hotelling solution, and is also being deployed in Asia-Pacific in Beijing and Shanghai to support the New World Workplace (WPR) initiative. In addition, Extension Mobility has been installed at several Americas sites on an "as-needed" basis.

Currently Extension Mobility offers no multicluster solution, and for some time San Jose had seven Cisco CallManager clusters. This resulted in people assigned to one CallManager cluster being unable to log into an Extension Mobility hotelling phone on another cluster. In mid-2002 San Jose moved to a single “super-cluster,” and there is currently no barrier to the deployment of Extension Mobility throughout Cisco. But there is no lack of space in San Jose now, so there is no need for hotelling cubes and little demand for Extension Mobility in San Jose.

Results of Cisco CallManager Extension Mobility Use in Showcase Sites

Cisco CallManager Extension Mobility is popular among customers who have more people than they have office space. Instead of putting multiple phones in each office or cube, customers install a single IP phone in the cube, and allow employees to take the most convenient work space and turn it into their personal work area with their personal phone extension. Beyond that, it allows more flexibility for employees to move about their buildings and set up an office space just about anywhere.

"In New York the whole office was using hotelling, because we had hired so many people that we had outgrown our office space, and everyone was sharing a cube. Phones were everywhere—in bookcases, with people's names on them so they could get their phone when they came into the office and plug it in. It was great for everyone to have their own phone extension in the office even through we were sharing phones—and most people were never in the office for a whole day anyway, so there was rarely any contention for empty cubes. Now that we are smaller, it's a lot less important to use Extension Mobility—but many times I end up working in a conference room after a meeting, and I can still log into the phone and have my extension ring where I am working. And it's still great to be able to demo it to customers in the office," says Alec McLocklin, systems engineer in New York City.

Extension Mobility is currently available at showcase sites in:

Americas: Chicago, Illinois; Herndon, Virginia; Irving, Texas; Lexington, Massachusetts; Los Angeles, California; New York, New York; Toronto, Canada; and Sao Paulo, Brazil

EMEA: Bellshill, Scotland; Beirut, Lebanon; Brussels (Pegasus), Belgium; Cairo, Egypt; Copenhagen, Denmark; Dhahran, Saudi Arabia; Dubai, UAE; Jeddah, Saudi Arabia; and Riyadh, Saudi Arabia
Asia-Pacific: Beijing, China; Singapore; Sydney, Australia; and Tokyo, Japan

Corporate: Living Lab, San Jose, California; Pleasanton, California; and Scotts Valley and Santa Cruz, California

Figure 7 IP Phone Services Screen on Cisco IP Phone

6. Cisco IP Phone Services

Cisco IP Phone Services Description

The Cisco IP Phone can use XML over HTTP to communicate with Web servers, allowing users to retrieve and enter data using the keypad or using the softkeys on the screen of the IP phone. This setup enables users to interact with the Web through their phone (see Figure 7), allowing developers to create an unlimited number of features that turn the user's IP phone into an information processing and voice machine. Currently there are not many applications developed to exploit this capability; however, any number of applications can be built on any Web server and the IP phone, acting as a browser, can interact with these applications.

One application within the suite of Cisco IP Phone Services allows people using the Cisco IP Phone to join meetings at the touch of a button. The Service menu on the Cisco IP Phone allows users to list all public conferences and join by pressing the join button (or requires them to enter a valid conference password before joining). Another allows the user to configure additional speed dials. Other features allow users to get information directly from various databases. For example, users can query the Cisco Employee Connection Website for news headlines from Cisco.com, employee directory lookup, or the corporate calendar for listings of Cisco paydays or holidays. It also allows users to browse external Websites and get stock quotes, phone book white pages and yellow pages lookups, weather report lookups, or track Federal Express (FedEx) packages by their tracking number. It also functions as a desk calendar and desk calculator.

Reasons for Not Deploying Cisco IP Phone Services Globally Within the Cisco IT Production Network

Some subset of Cisco IP Phone Services has been enabled at almost every site within the Cisco IT production network. However, these applications have been deployed primarily as additional applications running on the local Cisco CallManager server, or as applications added to a Web server at or near that location. The Cisco IT Global IP Telephony Applications Infrastructure team is proposing an architecture to enable global access, deployment, and management of IP telephony applications.

Results of IP Phone Services Use in Showcase Sites

Cisco IP Phone Services is often only as good as the information it delivers, and many users do not see that Cisco has found the most important applications to support with XML access. Others find that the new way of accessing information from the phone provides an advantage over other methods.

Some users find Cisco IP Phone Services to be a real time saver. "I have access to the Cisco Technical Response Center (TRC) with one touch of a button on my phone. In the past I had to listen to a menu, select an option, listen to the next menu, select the next option—it took a long time. Now I can just push a button and I'm connected. It's a lot less frustrating this way," says Ginger Lee, project manager in San Jose, California.

"I use it all the time" says Dave Evans, manager in Cisco IT. "I used the GTRC menu yesterday, and it eliminated having to go though the voice menus. I use stock quotes and many others such as Yahoo news and information." When asked about using the phone instead of the PC to access this information, Dave replied: "Even on the PC, the GTRC menus are very time-consuming, and it is much faster to click one button and get connected to the right GTRC analyst rather than go through the menus on the Web interface. I think the PC menu would be useful if I was reporting that my phone was broken, but my phone is working, so I use that. Also, I can get stock quotes on Yahoo from my PC, but again I can get them from my phone with just one button. And I can get them in places I don't have my PC—such as conference rooms or the break room. I would like to see more applications."

Other users find the Cisco IP Phone Services less helpful. "I hardly ever use it. If I'm sitting in front of the PC I hardly ever need to get access to information any other way, and if I'm near my IP phone I'm also right next to my PC. Also, the applications all seem to be United States-centered. I can get weather reports for any place in the United States, but not for Canada. And I can track FedEx packages in the United States as well. So far there has been no focus on relevant applications for outside the United States, and that makes it hard for me to showcase to customers. Still, I think that there's a lot of potential if we can find the right applications," says Jeff Mossman, CSE in Toronto.

Cisco IP Phone Services are currently available at all showcase sites:

Americas: Chicago, Illinois; Herndon, Virginia; Irving, Texas; Lexington, Massachusetts; Los Angeles, California; New York, New York; Toronto, Canada; Sao Paulo, Brazil—and almost all Americas sites

EMEA: Bellshill, Scotland; Beirut, Lebanon; Brussels (Pegasus), Belgium; Cairo, Egypt; Copenhagen, Denmark; Dhahran, Saudi Arabia; Dubai, UAE; Jeddah, Saudi Arabia; and Riyadh, Saudi Arabia

Asia-Pacific: Beijing, China; Singapore; Sydney, Australia; and Tokyo, Japan

Corporate: Living Lab, San Jose, California; Pleasanton, California; and Scotts Valley and Santa Cruz, California

Table 1. Showcase Services and Locations

	Cisco IP SoftPhone	Cisco Personal Assistant	Cisco Conference Connection	Cisco Unity Voice Messaging	Cisco CallManager Extension Mobility	Cisco IP Phone Services	Other
Americas							
Chicago, Illinois	✓	✓	✓	✓	✓		Cisco 7935 IP Conference Phone
Herndon, Virginia	✓	✓	✓	✓	✓		Cisco 7935 IP Conference Phone
Irving, Texas	✓	✓	✓	✓	✓		Cisco 7935 IP Conference Phone
Lexington, Massachusetts	✓	✓	✓	✓	✓		Cisco 7935 IP Conference Phone
Los Angeles, California	✓	✓	✓	✓	✓		
New York, New York	✓	✓	✓	✓	✓		Cisco Unity Bridge, Cisco 7935 IP Conference Phone, Cisco 7920 Wireless IP Phone, NetIQ VoIP Monitor, CiscoWorks WLSE, Cisco Catalyst 6500 Series NAM
Sao Paulo, Brazil	✓	✓	✓	✓	✓		
Toronto, Canada	✓	✓	✓	✓	✓		Cisco 7935 IP Conference Phone
EMEA							
Beirut, Lebanon			✓		✓		
Bellshill, Scotland					✓		Cisco CallManager Attendant Console
Brussels (Pegasus), Belgium	✓	✓	✓	✓	✓		
Cairo, Egypt			✓		✓		
Copenhagen, Denmark					✓		Cisco CallManager Attendant Console
Dhahran, Saudi Arabia			✓		✓		
Dubai, UAE		✓	✓	✓	✓		
Jeddah, Saudi Arabia			✓		✓		
Riyadh, Saudi Arabia			✓	✓	✓		
Asia-Pacific							

	Cisco IP SoftPhone	Cisco Personal Assistant	Cisco Conference Connection	Cisco Unity Voice Messaging	Cisco CallManager Extension Mobility	Cisco IP Phone Services	Other
Beijing, China	✓		✓				
Singapore	✓		✓				
Sydney, Australia	✓	✓	✓				
Tokyo, Japan			✓				
Corporate							
Living Lab, San Jose, California	✓	✓	✓	✓	✓		
Pleasanton, California	✓	✓	✓	✓	✓		
Scotts Valley and Santa Cruz, California	✓	✓	✓	✓	✓		

Next Steps

"Our next steps revolve around upgrading the current Cisco AVVID showcase services, and adding new versions of Cisco CallManager, Cisco IP SoftPhone, and Cisco Personal Assistant at current sites rather than expanding to new sites. We have been adding some network management services in New York City to help win a major request for proposal (RFP) with a large financial firm—NAM blades in the Cisco Catalyst 6500 Series, CiscoWorks WLSE, and NetIQ and Prognosis products—and we're researching whether there is a demand for this in other showcase sites," says Jim Robshaw, Cisco IT Showcase manager. "We're also considering deploying Cisco 7920 wireless phones, the color Cisco 7990 phones, the new video IP Phone, the new version of Cisco Conference Connection, and security products such as Cisco Secure Agent and the Cisco 831 and 837 Routers with VPN tunneling for home networking.

We also are asking our clients at showcase sites for a list of wireless, IP telephony, and security products that they want to see. We're also building centralized call processing in the New York City region to extend Cisco AVVID showcase services to more locations in that region, and to support the Cisco CallManager Extension Mobility feature across multiple sites in that region."

"We're also looking at video and security for next year," added Brad Cooper, network engineer in the Cisco IT showcase group. "Video could be the biggest thing for us. The new video capabilities coming out with Cisco CallManager 4.x are impressive, and could make video conferencing as easy as a voice phone call. We'll be tying that together with PC-based video cameras and later 7980 and 7990 IP video phones. In addition customers are interested in new Cisco security capabilities, and we'll be deploying Cisco Secure Agent at some of our showcase sties. Still, much of our work will be to continue to upgrade code sets for all of the currently provided showcase services, and look forward to the day that they will be part of the Cisco IT production network, and we can move on to more new products to showcase."

In addition, the showcase team is working on expanding the use of its Website. Initially the showcase Website was designed to support showcase clients by helping them use their new products and keeping them informed about what product versions were deployed at each site, and expanded to helping standardize the configurations and installation procedures for each new product. They are building a third area of the Website to help the rest of Cisco understand the showcase concept and profit from the lessons learned at each showcase site. It will contain

configurations, architectural diagrams, and lessons learned, so that sales people who are not at showcase sites can still share with their customers at least part of the experience of living and working with leading-edge Cisco products.