

How New Unified Communications Deployment Raises Productivity for Cisco Sales

Early deployment of Unified Communications gives Cisco employees more time for customers, plus greater flexibility and collaboration.

Cisco IT Case Study/Unified Communications/Early Benefits: An early field trial of unified communications tools set new benchmarks for productivity and flexibility. This case study describes

“I find that my phone rings less and I have fewer voicemail messages, even less email, because I handle most issues in a single call.”

Randy Sorensen, Regional Sales Manager, Enterprise Voice, Cisco

Cisco® IT's internal deployment of the Network-Enhanced Workspace (NEW), a parallel global production network containing the latest Cisco Unified Communications solutions (early field trial and first commercially available versions), as well as interoperable partner solutions, for use by more than 3500 employees worldwide, primarily in Cisco Sales. Customers can draw on Cisco IT's real-world experience in this area to help support similar enterprise needs.

CHALLENGE

Cisco equips its employees with the best communications and collaboration tools available to help them succeed in their work. However, today's globalized marketplace and emerging technology trends are changing the nature of business communications and the demands on employees worldwide. These changes include:

- Heightened emphasis on workplace productivity
- Greater need for workplace collaboration, often occurring spontaneously
- Use of communications tools to replace travel
- Higher customer expectations for responsiveness
- More flexible work schedules to be productive outside “regular” office hours

Cisco has more than 90,000 employees and contractors working together at 300 sites worldwide. These workers have 90,000 IP phones, 45,000 software IP phones, 40,000 mobile phones, and 70,000 voicemail boxes. Employees use instant messaging; desktop video and Cisco TelePresence®; Cisco Unified MeetingPlace®; WebEx® and WebEx Connect; and third-party web tools such as wikis; as well as file-share servers and email to collaborate and share information.

What all of these sophisticated communications tools, and the employees who use them, could benefit from is more integration to allow users to move efficiently from one tool to the next, or use several tools at once with minimal effort. They could also benefit from a capability known as **presence**, which gives users awareness of each other's availability, for instance, whether a coworker is currently on another call or available to join a conference. Along with presence, increased integration of unified communications tools and other collaborative applications could help Cisco employees address new workplace challenges, leading to significant productivity gains.

A recent Cisco IT survey revealed the following:

- The average Cisco employee spends approximately 15 minutes per day “playing phone tag” with customers and business colleagues.
- The same employee spends 13 minutes per day calling multiple devices to locate an individual.
- After employees have reached each other, they spend an average of 12 minutes setting up meetings and conference calls each day.

SOLUTION

To help address these challenges, Cisco IT partnered with Cisco sales and the Cisco Voice Technology Group to lay the foundation for the NEW. The plan’s goals include:

- Provide early unified communications support to members of the Cisco ecosystem who do the most communicating; that is, sales people, to enable them to collaborate effectively with the most sophisticated unified communications tools, anytime, anywhere, and on any device.
- Furnish sales teams with unified communications products so that they can experience the business benefits first-hand, and share that experience with customers.
- Determine the best way to use the network as the platform to transform the way that users communicate and collaborate.
- Act as an early reference and experienced advocate for Cisco Unified Communications within Cisco.

Network-Enhanced Workspace

An early deployment of services within the Cisco production network, NEW provides a reference point for sales, improves solution quality through internal feedback to the business units, and accelerates internal solution deployments through early exposure to support and training issues. The initial focus of NEW in 2008 is the deployment of unified communications solutions, taking advantage of the strong partnership between IT and the Cisco Voice Technology Group (VTG). The IT project team began general deployment in November 2007, deploying the NEW capabilities to more than 3500 sales people worldwide over four months.

Cisco IT’s plan is to closely follow the VTG’s deployments of unified communications services and apply them globally for the Cisco sales force, giving the field an opportunity to “use what they sell and sell what they use.”

According to Ahmed El-Gabalawy, NEW program manager, NEW serves as a link between the company’s alpha and production environments, allowing users to fully incorporate the unified communications experience into their daily work lives. “We walk the line of trying to get the latest technology out to the users, while factoring in the stability of the network and being careful not to throw users into an environment that’s set up to fail,” says Kelly McCoy, lead IT engineer in Cisco’s Alpha Solutions Group. “Our work with NEW has definitely benefited the VTG Business Unit and other groups at Cisco to find different issues or enhancements to the system that might not have been identified in an alpha or lab environment.”

A recent survey of NEW users indicates that these tools are already transforming the way that Cisco employees, and particularly the sales force, do business. The more than 800 responses show that early exposure and use of the Cisco Unified Communications solutions that are available through NEW are ultimately helping employees to unify their workspaces (regardless of operating system, location, application, or device) to save time and increase productivity.

RESULTS

The results of the NEW deployment in all areas have been positive, and Cisco IT is on track to deliver these tools across the enterprise. User feedback in the Cisco IT survey illustrates how unified communications can immediately

translate into business productivity. Within the first three months of usage, 80 percent of the survey respondents had overwhelmingly positive comments about the NEW capabilities (“I can see a real benefit here”), and 22 percent said their overall personal productivity increased (“It has made my daily work experience much better or more efficient”).

Based on these limited and early survey results on productivity improvements, projections for unified communications deployment to the entire Cisco field show an estimated annual benefit of more than 1 million hours within the Cisco sales force. (The projection for annual impact assumes that only 50 percent of operational efficiencies are converted to productive use.) In monetary terms, this projected productivity impact translates to an annual benefit of US\$63 million to US\$80 million. (Results projected to 15,000 sales people were based on responses of 792 full-survey participants.)

The results of the NEW early field trial were so positive that Cisco IT has already successfully deployed the presence and Cisco Unified Personal Communicator capabilities in the company’s production network, and as of September 2008, mobility-related solutions will be deployed in production shortly.

“Unified Communications makes my borderless office and borderless home a reality,” says Randy Sorensen, a regional sales manager for Enterprise Voice. “Getting all your calls the first time, and resolving issues with the first call, eliminates telephone tag, which is a productivity killer. I find that my phone rings less, and I have fewer voicemails, even less email, because I handle most issues in a single call. Customers don’t have to call back; they can reach me right away.”

Mobility: Communicating in the Mobile Workspace

Cisco Unified Communications mobility products include Cisco Unified Mobile Communicator software and the Cisco Unified Mobility Advantage server, along with updates to Cisco Unified Communications Manager, to support single-number reach and dual-mode capabilities. These products played a key role in improving productivity in the NEW early field trial.

Cisco Unified Mobility, the single-number reach feature, allows employees to be reached on any of their telephones, including desk phones, mobiles, home phones, etc., using a single phone number. This capability gives users the flexibility to take calls wherever they are, and in so doing, increase both their personal freedom and their work productivity. Many users said that they felt “untethered” from the office phone, and that they could afford to do other things while waiting for an important call. In addition, the ability to reach Cisco employees with one call can influence the customer experience in positive ways.

Rob Paris, a Cisco systems engineer in Pittsburgh, Pennsylvania, learned firsthand how single-number reach can be invaluable in a business-critical situation. One Saturday morning, a law firm that he supports had a pipe burst above an equipment rack in a remote location. The water destroyed all the equipment in the rack, taking down the network. The customer’s IT manager needed to reach the systems engineer, but he only had one number for Paris: the main Cisco number. Navigating through the directory, he called Paris’ extension. With single-number reach enabled, Paris’ mobile phone rang in parallel to his office number. He took the call on his mobile phone and was able to help the customer get the equipment replaced on Saturday, with almost no downtime. “The customer couldn’t believe he got me live,” says Paris. “He thought I was in the office. Without the NEW single-number reach, this problem probably would not have been resolved until Monday morning.”

When another Cisco employee needed to travel to Bogotá, Colombia, for the adoption of his first child, he was concerned that his extended stay there could interfere with his work. “I used Cisco Unified Communications capabilities, available in NEW, to keep in touch and remain productive,” says Steven Craven, a Cisco consulting system engineer in Nashville, Tennessee. “Customers who called my office number could reach me no matter where I was: at the hotel, the office, or wherever I was in Colombia. My customers never had to wonder where I was, because I was always available and could support them regardless of my location.”

Cisco employees in the NEW field trial estimated that the single-number reach and the single business voicemail features saved them, on average, approximately 20 minutes per day. More than 40 percent of users surveyed reported that Cisco Unified Mobility made their daily work experience much better or more efficient in the first three months.

One of the problems that NEW solved with the single business voicemail feature in Cisco Unified Mobility is the multiple mailbox scenario. "There have been many times in the past when there's been an urgent voice-mail message waiting for me in one of my mailboxes, which I didn't happen to check right at that moment," says Brooks Borcharding, director of operations for Cisco IT in the East Coast United States. "For instance, I might receive a message on my mobile phone, but the battery would be dead, so I couldn't use it. There was often a lag of hours." Borcharding observes that the single business voicemail allows him to receive all his messages, from any phone number, in one mailbox. Single-number reach makes this feature possible. When a user enables the single business voicemail feature, an unanswered call to the mobile phone terminates before the mobile voicemail box picks up, and the call rolls back into the corporate voicemail box. This capability drastically reduces not only the amount of time required to check messages periodically during the day, but also the risk of missing an important message.

Other features in Cisco Unified Mobile Communicator and Cisco Unified Mobility include presence, visual voicemail, corporate directory access, click-to-dial, and conference notification capabilities enabled by using the Cisco Unified Mobile Communicator client on mobile phones. When surveyed on how much productive time they gained each week from using these features, Cisco employees reported an average savings of approximately 17 minutes per day, with many "power users" indicating savings of more than five hours per week.

"What I've found to be the most useful tool for voicemail is Cisco Unified Mobile Communicator. It has some great features," Borcharding says. The Cisco Unified Mobile Communicator application runs on multiple mobility platforms. "I use it on my Nokia e61i. Basically, it's my office extension on my mobile phone. It gives me the ability to set my status, and then it will update my status on everything from IM to email to everything else. And I can change my status in real time." Mobile Communicator also gives users access to the corporate directory. "So if I need help from someone on my team, I can check the status of everyone on the NEW network and figure out who's available."

The convenience of the voicemail notification feature appeals to Borcharding. "If I get a new voicemail in my Unity mailbox, it sends out an indication to my mobile device, and then it streams that message to my mobile device as well. So I don't even have to call in to listen to my voicemail." Other features of Mobile Communicator that Borcharding appreciates include call logs and secure text messaging.

The dual-mode capability is another valuable mobility feature. Its chief benefit is cost savings, because it automatically shifts a call from the more costly cellular network to a wireless IP connection whenever a wireless network is available. Approximately 19 percent of Cisco employees said that being able to use their dual-mode phones as both mobile and IP wireless phones made their daily work experiences much better or more efficient. Another 41 percent responded, "I can see a real benefit here."

Presence and Unified Client Streamline Communications

Employees who used the Cisco Unified Personal Communicator client for Macintosh and PC systems reported that these features saved them on average about 17 minutes per day, and about 20 percent of users said that Cisco Unified Personal Communicator made their daily work experience much better or more efficient. Cisco Unified Personal Communicator is a communications client that includes an IP softphone, allowing employees to use their laptops as both portable office desktops and portable office phones. It integrates presence, phone calls, voice messaging, instant messaging, and ad hoc meetings into a single tool, making access to people and information fast and easy. Presence status information lets employees see on their laptop whether a business associate is available. Visual voicemail lets employees see each voicemail in a list, which they can selectively listen to or delete. And the Click-2-Conference feature lets employees instantly initiate a web conferencing session for quick sharing.

“As quickly as I think of someone I need to talk to, I can see if they are available,” Sorensen says. “If they are, I click on their name and I’m connected.” Sorensen estimates that features such as presence improve his work time productivity by about 5 to 10 percent.

Chuck Churchill, Unified Communications program owner, says, “Here is the power of unified communications: I was reviewing a financial spreadsheet from a colleague when I noticed a critical error. I used Cisco Unified Personal Communicator to see if the person was available, and then used Click-to-Dial to call his office. When he picked up, I explained my concern, then used Click-2-Conference to launch an ad hoc web conference, through which I quickly shared the spreadsheet. My colleague gathered another person in his office and we all agreed on the issue. This interaction took place over the course of five minutes.”

Another useful feature is synchronization of the “message waiting” indicator. Cisco Unified Communications give users the ability to check voicemail from their single business voicemail box on the device of their choice. Marc Sanchez, a channel systems engineer in Paris, often uses Cisco Unified Personal Communicator to check voicemail from his laptop. The “new message” indicator is synchronized with all his devices, so that if he deletes a voicemail message from his laptop or his mobile phone, the light goes off on his desk phone.

Figure 1. The View/Listen Screen on Cisco Unified Personal Communicator Shows Available Contacts and Voicemail Messages

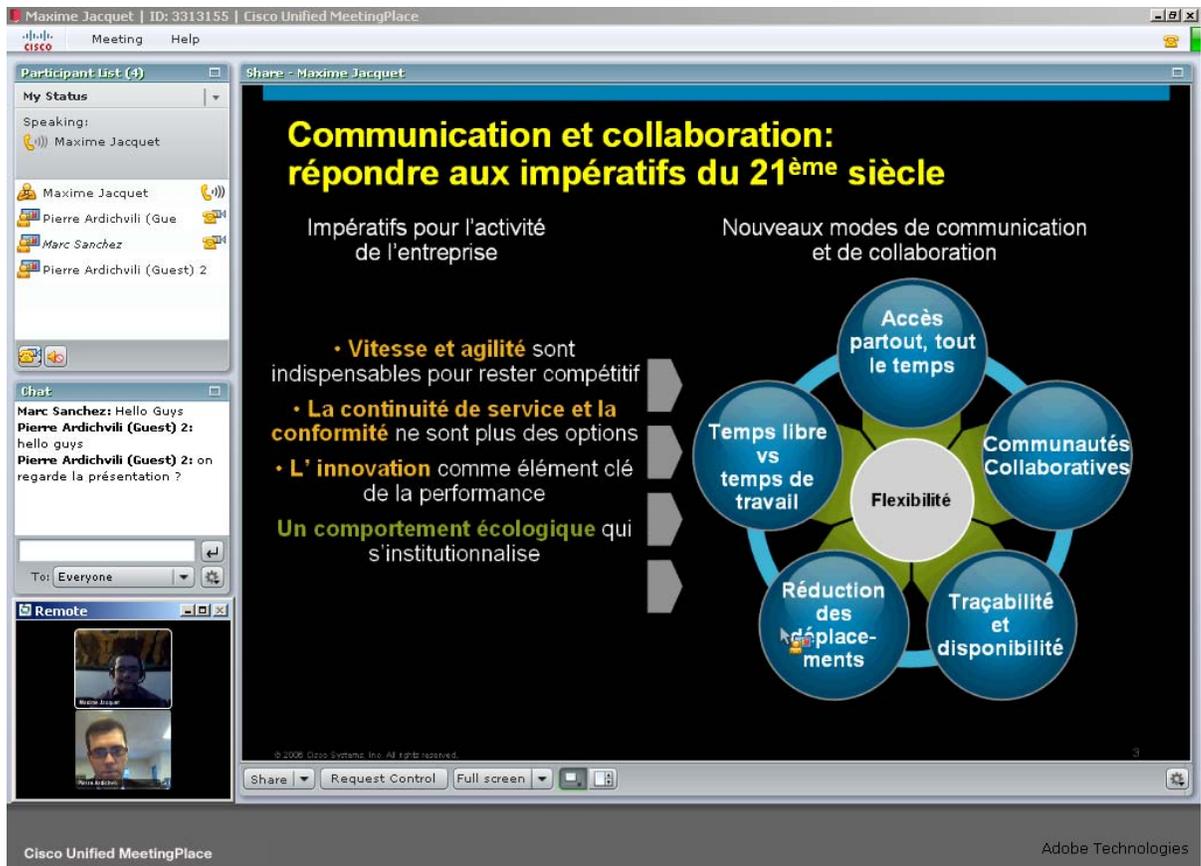


Web Collaboration for Efficiency and Impact

Cisco employees said Cisco Unified MeetingPlace 6.0 (with optional video-conference support) saved them on average approximately 10 minutes per week. Because most users already had access to an earlier version of Cisco Unified MeetingPlace voice and web collaboration, the difference in productivity gains was not as significant as in other product areas. Having access to integrated Cisco Unified MeetingPlace web collaboration through Cisco Unified Personal Communicator's Click-2-Conference feature saved an additional 10 minutes per day. Many survey respondents commented that they liked the ability to set up a video conference as quickly as an audio conference with Cisco Unified MeetingPlace, especially with the mobile scheduling option.

Brooks Borcharding appreciates the ease of collaboration delivered in the NEW Unified Communications, and says that he and his colleagues have quickly made it a staple of their workplace communications. "I can start with a simple chat conversation and then escalate that smoothly to web collaboration, and from there to web and video collaboration, to web video and telephony," says Borcharding. "Within my team, that ability has gone from being an interesting type of technology, to something we've started to ingrain into our day-to-day business.

Figure 2. Cisco Unified MeetingPlace: Incorporating Voice, Video, and Web Collaboration



Through the acquisition of WebEx, Cisco now has another powerful conferencing solution in its toolbox: WebEx Conferencing. The company offers both conferencing options to its employees. Whereas MeetingPlace is used at Cisco as an on-premise solution, WebEx Meeting Center is a cloud-based, software-as-a-service solution that enhances the company's ability to work more closely and efficiently with customers, partners, and for Cisco's own internal needs.

Borchering notes that when he schedules a call, he generally opts to schedule it in WebEx as opposed to a direct-dial call. "That gives us the foundation to add people, share documents, be on video, and so on. I can just click to start a WebEx session versus starting a call, and through that tool, I can click to bring other people into the session. It's as straightforward as placing a telephony call."

Figure 3. WebEx Meeting Center: Incorporating Voice, Video, Presence, and Web Collaboration

The screenshot shows a WebEx Client Entry window in Microsoft Internet Explorer. The main content is a presentation slide titled "Cisco on Cisco: Customer Engagement Strategies". The slide features a central graphic of a globe labeled "Customers and Partners" with three callouts: "1 → 1" (EBCs, IT CEs, high-touch engagements), "1 → Many" (Industry events, conferences, workshops), and "Web Content" (CD distribution, newsletters, training, presentations, case studies, Cisco best practices). Below the slide, text reads: "IT 'Giving Back' These engagements create opportunities to learn from customers. Lessons are brought back into the organization, creating value add for IT." On the right side of the window, there is a video conference interface with four video thumbnails (Eric Laprelle, Brian, ylescoue, Naomi Readings) and a "Participants" list at the bottom right showing names like Robbert Kuppens (Host), Antonio Del Grosso, Brian, Call-in User_1, Call-in User_2, Call-in User_3, Didier Dhaenens, and Eric Laprelle.

Survey respondents also noted that integrated video will likely prove to be even more effective as more and more people incorporate it into their everyday collaboration toolkit. Twenty-five percent of the respondents said a desktop video solution would enable them to avoid travel.

According to Borchering, spending physical time with customers to develop a personal rapport is still very important. "But the NEW tools enable me to have much more frequent, much more rich conversations with customers," he says. In terms of travel avoidance, he says that the tools enable him to spend much less time traveling to be with his team. "In the past, from a coaching, development, and relationship perspective, I found myself feeling compelled to travel more to spend physical time with people. Now I can have a much better, richer experience with my team through these tools, and I did significantly reduce my travel because of that."

Cisco Unity Delivers Easy Access to Voicemail

Employees estimate that Cisco Unity® 5.0 saves them an average 13 minutes per day, and 18 percent of those surveyed say (Cisco Unity 5.0) "has made my daily work experience much better or more efficient." Cisco Unity messaging (version 5.0 and later) integrates with Microsoft Outlook, IBM Lotus Notes, and other integrated email packages, enabling employees to retrieve voicemail messages from the same inbox that they use for their email messages. This capability is significant, because 33 percent say they use Cisco Unity "continually throughout the day," and another 30 percent say that they use it "multiple times per day."

Marc Sanchez is among those who use Cisco Unity throughout the day. Among the many Cisco Unity 5.0 improvements that Sanchez appreciates is the ability to visually differentiate between email and voicemail messages in the queue. Message types are indicated with icons.

One of the most innovative features in the NEW version of Cisco Unity is Message Monitoring (supported in Cisco Unity versions 5.0 and 7.0), which gives users an unprecedented, two-part voicemail capability: first, to screen voicemail while a caller is leaving a message; and second, to intercept the call midway through the message. This feature is similar to that provided by telephone answering machines.

Since the start of the early field trial, Cisco IT has upgraded the NEW environment to Cisco Unity 7.0, which introduces several valuable features and benefits:

- **User interface improvements** include enhanced capabilities of the telephony user interface, such as “follow me” features that are easy to modify, and the ability to establish a preferred answering device based on the calling party ID. Another improvement is the ability to shorten messages and to know the length of the message before playing it.
- **Increased productivity** results from the system’s ability to learn from and adapt to repeated user behavior. For example, if a user logs in from the same number repeatedly, she might be asked if she would like the system to recognize her at that number. Additionally, the system can now match a user’s search keystrokes against a list of names most recently called, speeding the number lookup process by reducing the number of keystrokes needed.
- **Scalability Improvements** include reduced total cost of ownership and operations expenditures (OpEx). Cisco Unity 7.0 increases scalability by supporting twice the number of users (one Unity 7.0 server supports 15,000 users, as compared to 7500 users with version 5.0). It also saves IT staff time by supporting the ability to import and edit voicemail box configurations in bulk.

Architecture for Unified Communications

Cisco Unified Communications operates on a network-centric architecture delivered on software. One major benefit of the unified communications architecture is that it requires no servers in remote field offices. “The architecture within Cisco is entirely supported by the 15 production Cisco Communications Manager clusters in our global data centers,” Sanchez says. The NEW environment at Cisco is global, with three clusters serving the United States and Canada, Europe, and Asia Pacific regions, in parallel to the aforementioned production clusters.

To support the services that make up the NEW product set, Cisco IT staff needed to make several additions to the company’s current architecture, including:

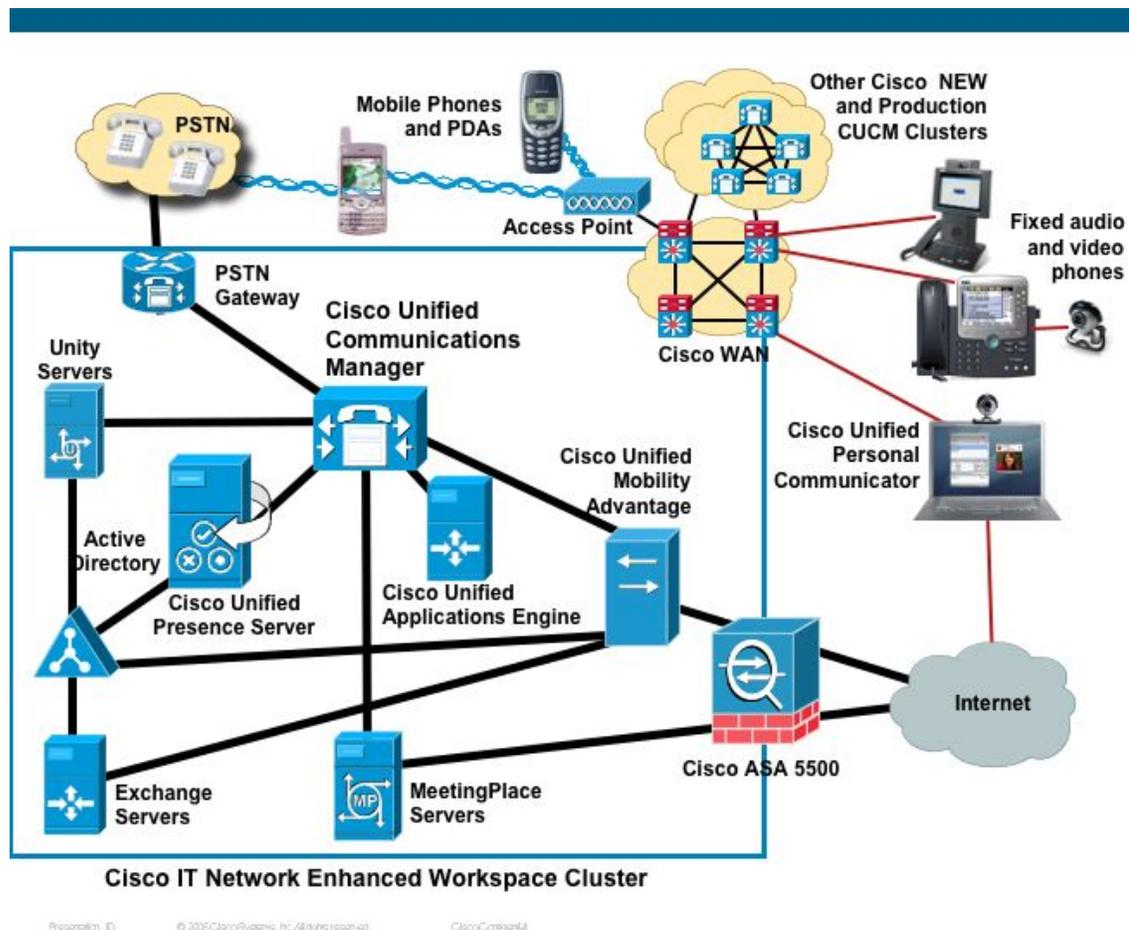
- Four new classes of server or appliance in the network:
 - **Cisco Unified Presence** servers, which (through integration with the Cisco Unified Personal Communicator client software) learns and shares presence information.
 - **Cisco Unified Mobility Advantage** servers, which support transferring calls across mobile and office phones, and support dual mode connectivity for both in-office, IP-based Wi-Fi, and cellular mobile outside the office.
 - **Cisco Unified Application Environment servers**, which provide support for any new application for integration with the UC environment, like any-context click to talk, or presence information for partner applications
 - **Cisco Adaptive Security Appliance**, which secures the Internet connection to Presence and Mobility Advantage servers, and supports phone proxy services for secure phone access from the Internet
- Three basic network upgrades:
 - **Java Telephony Application Programming Interface (JTAPI) clusters of the Cisco Unity voicemail Interactive Voice Response (IVR)** upgrades (these are the voice response units that guide callers through the voicemail menus) to work with the new Cisco Unified Communications Manager servers.
 - **Cisco Unified MeetingPlace** conferencing server upgrades, to support video and better integration with Cisco Unified Personal Communicator.

- Two new client software packages, which employees can download:
 - **Cisco Unified Personal Communicator** client software to turn the PC into a single unified communications device, providing access to voice, video, web conferencing, instant messaging, and presence information.
 - **Cisco Unified Mobile Communicator** software for mobile PDA (personal digital assistant) and Wi-Fi devices to support single-number reach.

The NEW environment is highly dynamic and changes frequently as the IT group deploys the latest available product versions and capabilities. The survey results discussed in this case study are based on product versions that were in use in April 2008. As of September 2008, Cisco's NEW environment has been significantly upgraded, and upgrades will continue to change this environment throughout the life of this document.

Table 1: **NEW Environment Components**

	Version: April 2008 (Survey)	Version: September 2008
Cisco Unified Communications Manager	6.1:	7.0
Cisco Unified Presence Server	6.1	7.0
Cisco Unified Messaging	Cisco Unity 5.0	Cisco Unity 7.0
Cisco Unified Mobile Communicator	3.0	7.0
Secure Proxy	Proxy Servers for Presence and Cisco Unified Mobile Communicator servers	Cisco ASA 5500 Series supporting Cisco Unified PhoneProxy
Cisco Unified MeetingPlace	6.0	6.0 (for audio server) and 7.0 (all others)
Cisco Unified Personal Communicator	6.1	7.0
Cisco Unified Mobile Communicator	3.0	7.0

Figure 4. Cisco Architecture for the NEW Field Trial

LESSONS LEARNED

Because the NEW deployment is a field trial and not yet supported in the entire Cisco enterprise production network, the Cisco IT project managers have worked closely with both users and the product development team. One of the measures that the IT group implemented was to establish a set of online self-support forums, which were originally intended to help lower support costs. A healthy and engaged community of users now frequents those forums. According to Chris Ross, IT project manager for NEW, what makes these forums valuable to the users and the IT organization are several elements:

- The IT group has defined forum moderators to create the effect of an informal online meeting. Additionally, the moderator helps control and direct discussions.
- The ability to pose questions directly to their peers gives users real-world feedback from others using the product in the same way.
- Users not only pose questions or problems, but also post their successes and solutions as references for others.

Another important part of the field trial involves gathering feedback and using it to improve the product for general availability. Ahmed El-Gabalawy has spotted several opportunities to fine-tune the products. For example, with Single-Number Reach, many users might want to set their phones to reach their mobile device from 8 a.m. to 5 p.m., and then afterwards turn their phones off. "With the early product release we have right now, that setup requires three menu options. Based on feedback from users, we're going to make that interface much easier and faster," says El-Gabalawy.

NEXT STEPS

Within NEW, Cisco IT is aggressively extending the business transformation benefits of unified communications. Already, Cisco IT has tested and is beginning to deploy the latest versions, including:

- PhoneProxy for secure IP phone access from any location.
- Cisco Unified Operations Manager, in testing now, for monitoring all of an organization's unified communications, providing an overall snapshot of the unified communications environment. The tool creates reports and includes a user-facing application so that end users can get a synopsis of the environment as well. This tool is now in Cisco's production environment, running on Cisco Unified Communications Manager 6.0.
- Cisco Unified Presence Server federation, enabling users at different companies to gain visibility into the presence of other companies' employees.
- Cisco Unified Application Engine servers: Cisco application developers are starting to integrate unified communications features into sales and engineering support tools using Personal Communicator APIs. One early example is a tool that links partners, requesting authorization for a sale, to a presence-enabled, click-to-dial list of Cisco sales approvers, cutting days off the partner approval process.
- A new Click-to-Dial feature, supported by Cisco Unified Communications Manager, that enables a user to click on text within an application such as Word or Excel and, if the text is recognizable as a phone number, the software will automatically initiate dialing the number on a user-defined CTI device (typically the desk phone).
- Cisco Unified Provisioning Manager, to help automate the labor-intensive task of provisioning voicemail.

FOR MORE INFORMATION

To read the entire case study or for additional Cisco IT case studies on a variety of business solutions, visit Cisco on Cisco: Inside Cisco IT www.cisco.com/go/ciscoit

NOTE

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