Unified Communications

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Means to an End

Government agencies deploying Unified Communications can enable better, faster decision making by integrating communication into the process.

While information technology has become a key enabler in helping organizations through the decision-making process, it's ultimately the people involved who play the most important role in making the right choices to grow the business or fulfill the mission. But what if those decision makers aren't available at crucial times, or don't have the necessary information at their fingertips to make the right decisions? Such hurdles can become serious inhibitors that result in missed opportunities, poor deadline performance, and lackluster customer service.

That's where a set of technologies called Unified Communications (UC) comes in to help remove those hurdles to communication and availability.

When successfully deployed, UC takes what Forrester Research principal analyst Henry Dewing calls "human latency" out of the equation, helping organizations reach their goals and meet deadlines by enhancing communications and access to data. The technology components achieve this by putting all the necessary information in the hands of key people working on a project, and keeping those players in real-time contact with each other.

In a Perfect World

Within an organization, a team working on a project would use UC technologies to keep all the documents and other forms of data that are integral to the project in a shared application, such as a collaboration program that performs version control and other document-management tasks. The team would communicate in a variety of ways – land line or mobile phone, video or Web conference, e-mail, text, or instant messaging (IM) – and that communication could be launched at any time from within the applications that are key to the project. Presence features would allow each member to determine who else on the team is available at any given time, and unified messaging would gather the members' voice mail, e-mail, and instant messaging communications in one central spot.

"Many communications buyers are looking to advance their firms from a communications paradigm where end users reach for a device (like a phone or a PC) to communicate (via voice, e-mail, or IM) to one where the ability to communicate is embedded within a business process and users, or the process/application itself, select the most effective communication path," writes Forrester's Dewing in his 2009 report "Market Overview: Sizing Unified Communications."

For example, one large IT services firm that Forrester interviewed for its report is using UC client software installed on technical experts' notebooks to check their availability and remain in real-time contact with them during the implementation of a complex project. This helps the firm reduce the overall implementation time of the project, which has a direct effect on profitability.

However, the above describes an advanced state of UC deployment; most organizations that are leveraging these technologies have not yet reached that level. According to a 2009 survey by CDW-G designed to assess IT decision makers' attitudes and progress towards the adoption of UC technology, only 6 percent of the 766 IT professionals asked said they have completed their implementation of UC; the majority of respondents said they were in the

Unified Communications adoption rates among different organizations:

Type of Organization	Assessing	Planning	Implementing	Deployed
Medium – large businesses	27%	39%	27%	7%
Federal government agencies	40%	30%	24%	6%
State and local government agencies	52%	29%	17%	2%

Source: CDW-G's Connecting the Enterprise 2009 Unified Communications Tracking Poll of 766 IT professionals.

assessing, planning, or implementing stages. The CDW-G survey showed that the majority of federal government organizations polled are still in the assessment stage of adoption (see text chart).

Planning for UC can be the most difficult part of adopting the technologies, according to the survey. Organizations who participated in the survey and said they have begun implementation of UC listed the impact on existing infrastructure as the No. 1 challenge, followed by training requirements, time required to implement, capital costs, network security, technical support requirements, operating costs, service quality, and technology interoperability. One survey respondent said the reason that planning for UC is so challenging is because the change required by the technologies affect the entire organization. However, it's also by making these changes across the board that organizations derive the greatest benefits from UC.

Other issues clouding deployment of UC that were identified by Forrester include confusion over which vendors will end up the dominant players in this area. Predicting which technology provider or providers will lead the pack in five years isn't something most IT professionals are willing to stake their reputations on, particularly in a market such as UC that has been volatile in the past few years, says Forrester's Dewing.

Equally confusing is the state of technology standards regarding UC. Despite the emergence of some industry standards, not all the major vendors are adhering to them, and not all of the standards are adequate to guarantee high levels of service, says Dewing. Therefore, expectations are that new standards around capabilities such as transporting live and streaming media will emerge in the next few years, making it a risky proposition to bet on existing standards and products today.

Stages of Deployment

Forrester's Dewing defines two phases of UC adoption. Basic UC technologies allow users to manually select from a range of communications options – voice, e-mail, or instant messaging – from within UC client software that includes presence indicators to help determine the most effective means of reaching a coworker. Enhanced UC technologies achieve a higher level of communications integration by interfacing with business applications and multiple transport networks.

Dewing predicts that 2010 will be the year when UC integration and adoption hurdles will be cleared and organizations will begin broad deployment of basic UC capabilities. More complex integration of UC technologies with business applications and networks is expected to follow two years later, he says.

Regardless of what stage of UC implementation agencies are at, the goal is the same; to connect with team members in order to facilitate an agency's mission, says David Hawkins, Unified Communications practice manager with Iron Bow Technologies, which develops lifecycle solutions for government and industry.

Perceived Benefits of Unified Communications

Increased productivity	61%
Reduced operating costs	56%
More reliable communication	48%
Improved cross-functional communication	44%
More effective use of remote/mobile workers	41%
Improved customer service	34%
Reduced business travel	33%
Continuity of Operations (COOP)	30%

Source: CDW-G's Connecting the Enterprise 2009 Unified Communications Tracking Poll of 766 IT professionals.

"Unified Communications is really the seamless integration of all forms of communication with the intent of the end result being speeding delivery of information so it can reach the right person at the right time," says Hawkins.

UC adoption among government agencies is still in the early stages; Hawkins says he sees pockets of adoption, mostly concentrated in the intelligence and defense spaces. But as the benefits of UC become clearer, more agencies will begin adopting UC components to improve communications within the organization.

"Really where the benefits are for the federal government is in giving agencies a holistic view," says Hawkins. "If over the years agencies have built siloed applications that don't talk to one another, then their adversaries or competition are not bound to the same restrictions so they can move much faster in passing information from entity to entity. Building silos of voice, video, data-sharing … it slows down the ability to share information from agency to agency, even within agencies. So unified communications increases the efficiencies and reduces the time it takes to share information."

For those agencies that are beginning to look at UC, ensuring that their telecommunications infrastructures can support the often bandwidth-intense applications, such as video, is an important step.

"Infrastructure is the fundamental building block, you can talk about UC all day long but if you don't have an intelligent network infrastructure to support it, the application won't mean anything, and the mission or business won't be successful," Hawkins says. ❑

The Push to Unify

Reduced capital spending and improved productivity are the top benefits that government agencies can expect from Unified Communications deployment.

A turning point has occurred in the market for Unified Communications (UC) over the past two years as government IT departments move from trying to understand the technologies involved to quantifying the benefits and launching trials. As the economy begins to show signs of rebounding, 2010 is expected to see more UC trial deployments backed by hard return-on-investment figures to spur widespread UC roll-outs throughout federal, state, and government organizations.

Forrester Research principal analyst Henry Dewing says the overall market for UC technologies reached $2.8 billion in 2009, and will continue to increase with annual growth rates of 20 percent or more. By 2015, Dewing predicts the market for UC in North America, Europe, and Asia Pacific will reach $14.5 billion.

"UC is a hot technology which will help lead the tech market recovery, moving from trial to early deployment phase in 2010," says Dewing.

UC Drivers

The two biggest drivers pushing UC adoption are the promises of reduced capital spending and increased productivity. Over time, as government agencies move from basic UC technologies to advanced ones, they can expect a second round of benefits: More reliable communications to maintain Continuity of Operations (COOP) in the event of an emergency; more effective use of remote and mobile workers to meet government mandates; improvements in customer service levels, and reductions in business travel.

Reigning in Costs

The cost-saving promises made by UC technologies stem from the fact that these products and services are based on an IP network, allowing organizations to converge voice and data traffic and add features such as presence, unified messaging, and collaboration that are accessible by virtually any end point. Because these technologies are IP-based, existing infrastructure investments can be leveraged, new features can be added on an as-needed basis, and underused network capacity can be tapped.

Telecommunications giant Sprint made the move to UC technologies and quantified the savings to help showcase how UC and the right communications infrastructure can benefit organizations. The company replaced its legacy PBX infrastructure with a trunking circuit that offers local, long distance, and data communications over a single WAN connection, and Microsoft's Office Communications Server 2007 that provides presence, instant messaging, conferencing, and enterprise voice services for Sprint's 489 offices around the world. The result for Sprint has been an annual savings of $6 million, with another $2 million in savings every 18 to 24 months realized by eliminating the need to upgrade and maintain PBXes, according to the company.

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> Henry Dewing, principal analyst, Forrester Research

Boosting Productivity

Once IP telephony is in place, organizations can begin leveraging the converged network to boost productivity by using the most effective means of communication for any given situation. No longer do employees have to wait for a call or email back from their managers to take action; UC features such as presence let workers know who is available at any given time, and being able to reach an available manager with a wire line or wireless voice call, email, instant message, or text message significantly speeds the decision-making process. ❑

Pieces of the Puzzle

Achieving advanced Unified Communications requires the adoption of a number of technologies before government agencies reap the full benefits, but incremental cost savings and productivity boosts can be realized by leveraging basic UC components along the way .

While few organizations have reached an advanced state of Unified Communications (UC) deployment, where communications becomes an integral, almost organic, aspect of the business process, many are seeing cost savings and greater productivity from the UC components they have installed, proving that UC isn't an all-or-nothing proposition.

Bern Elliot, research vice president and distinguished analyst with Gartner, defines UC as "the direct result of convergence in communications networks and applications." Elliot breaks down the components of UC into six general technology areas:

- telephony (fixed and mobile)
- conferencing (audio, video, Web)
- messaging (e-mail, voice mail)
- presence and IM
- core services
- clients and endpoints

The first five components would be integrated into applications that run on the sixth component – client PCs and other endpoints such as smart phones. Together, these technologies meld communications into business processes in a way that significantly improves how individuals, groups, and organizations interact and perform.

Benefits Along the Way

However, government agencies don't need to wait until all of these technology components are implemented and integrated to start seeing the benefits; small steps such as adding presence to business applications can quicken decision making and improve deadline performance in a demonstrable way.

"All of these UC areas do not have to be implemented in lockstep at all, and it doesn't have to be from one vendor, either," says Elliot. "Applications would be greatly benefited by being integrated with communication, which provides context. For example, if you have a purchasing application and you can see if the people responsible for purchasing are available, that's context," he says.

The key is deploying some aspects of UC in a manner that is truly unified; simply using e-mail without collaboration or presence won't yield the same results. The more the UC components work together, the greater the benefits an organization will see.

First Steps

Government agencies looking to begin implementing UC should start by assessing where in their organizations communications could be injected to better serve clients and customers, provide needed information, and resolve problems. "That's where leadership can help, by creating a vision for employees," says Elliot. "For example, social workers could benefit by having mobile applications that allow certain clients to instant message them. If you're in close communication with your clients, you're going to benefit from this integration."

Leaders need to go through their organizations department by department and develop such visions, then justify these visions with return-on-investment scenarios made possible by the cost-savings benefits of UC. Then, in partnership with the IT department, leaders can identify the technology required to bring these visions to life.

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Gartner's Elliot also recommends the support of a senior executive to help drive UC projects, and also the creation of an advisory group that includes personnel responsible for the technology – including members from the telecommunications, operations, and IT departments – as well as departmental managers and end-user representatives who will work together to define an end goal and a road map for getting there. It's important for this group to agree on an overall set of goals; for example if one member of the team only cares about getting video conferencing in his department and pushes that agenda, the results may not benefit the organization as a whole. ❑

Making the Most of Telecommuting

Unified Communications enable remote government workers to drive mission objectives regardless of location.

According to the Office of Personnel Management, 103,000 government employees in 78 agencies spent at least one day a month teleworking in 2009, up from 94,643 teleworkers in 2007. With mandates, incentives, and challenges encouraging government workers to telecommute, that number is poised for g rowth in 2010 and beyond.

While the advantages that agencies gain from increasing their ranks of telecommuting workers – including cost savings, greater productivity, and employee work-life balance - are clear, having employees work outside of an organization's walls introduces challenges that can diminish those benefits. Decision making can be slowed and mission objectives derailed when the distance between members of a team or project inhibit communications and idea sharing.

With the promise of delivering integrated voice, video, and data across a secure IP infrastr ucture, Unified Communications (UC) technologies are helping government agencies increase the efficiency, responsiveness, and productivity of workers regardless of where they are located. Whether government employees habitually work from home or occasionally telecommute due to special circumstances, equipping these workers with UC technologies means giving them the tools to get their job done regardless.

"Telework is becoming a part of agency missions, rather than an exception," says Dave Rubal, Unified Communications regional manager for federal government with Cisco, a provider of UC infrastructure products and applications.

The Right Mode of Communication

Take the simple example of a common organizational problem - not being able to reach a co-worker on the first try, an issue that is compounded by the growing number of mobile and telecommuting workers in government agencies. Although employees today have a variety of devices at their disposal for communicating, it's not knowing which mode of communication (mobile phone, landline, e-mail, text message, instant message, etc.) to try first that is hampering productivity, according to a 2008 report released by researcher Chadwick Martin Bailey, which surveyed 244 U.S. organizations that use or are planning to use UC products.

"Although this scenario might only seem a modest annoyance, it has real economic impact. These internal communication obstacles lead to critical delays over time," says the report. "In fact, nearly half of all organizations without UC clients (48%) at one point have experienced a missed deadline or project delay at least quarterly as a result of impeded access to k ey decision-makers."

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>
> Dave Scibetta, director of The Department of Defense's Defense Acquisition University Operation Support Group.

Those organizations leveraging UC client technology are able to minimize this communications disconnect, even among teleworkers. Of the organizations surveyed by Chadwick Martin Bailey that use UC clients, 49 percent said their typical user saves up to twenty minutes a day by being able to reach coworkers on the first attempt. And 50 percent of respondents using unified messaging said the typical user in their or ganization was able to save 20 minutes per day by more effective message management, in other words being able to manage voice mails, e-mails, instant messages and faxes from a single inbox, known as unified messaging.

"As these results illustrate, Unified Communications applications are enabling communication practices by giving workers intelligence that improves how they keep in touch and collaborate with one another," the report says.

Knowing that UC products can keep workers productive even when they're not in their office, government agencies can effectively plan for Continuity of Operations (COOP) in the case of inclement weather, natural disasters, and pandemics such as the H1N1 flu outbreak, says Cisco's Rubal. Using these technologies also gives agencies a recruiting and retention advantage by offering new and existing employees the flexibility of being able to work from home.

Connecting People

One important use of UC is enabling employee training and education across disparate geographic locations. The Department of Defense's Defense Acquisition University, which provides mandatory, assignment specific, and continuing education courses for military and civilian personnel, has twenty locations across the U.S. and additional facilities in Europe. The university's Operation Support Group is tasked with providing IT services and video support to faculty in the classroom.

Recently the university was looking to upgrade its video capabilities, and considered telepresence technology from Polycom as a way to enrich the classroom experience for students.

"Telepresence was an idea that came forward as we were looking at new ways to have a high-quality collaboration method," says Dave Scibetta, director of the university's operation support group, which looked to solution provider Iron Bow Technologies to help acquire and implement the necessary technology from Polycom.

Now the university is able to significantly increase the options of speakers – be they VIPs, senior DoD executives, or industry leaders – to give talks in the classroom because geographic location is no longer an issue, and travel budgets are significantly reduced.

"It truly has been a game-changing process for how we can provide collaboration for students in a way that they can really see and understand each other very clearly and share information," says Scibetta. "Industry executives who might be in Los Angeles can speak to our executive class here in Fort Belvoir (Virginia) and that expands dramatically the kind of senior speakers we can get in the class." ❑

UC offers the following telecommuting benefits to government agencies:

- Increased individual and group productivity
- Enhance coordination and collaboration
- Safeguard continuity and speed recovery during interruptions or crisis situations
- Improve work/life balance
- Decrease environmental impact by reducing traffic congestion, emissions, and infrastructure impact
- Reduce costs by decreasing government real estate, overhead and labor expenses
- Reduce peak and off-peak travel
- Enhance workforce with the ability to attract job candidates with flexible working practices and enhance current positions for people with disabilities

Source: Polycom

UC as a Service

Organizations are turning to service providers to run their Unified Communications systems, saving themselves integration and maintenance headaches while avoiding technology lock-in.

One way to reap the benefits of Unified Communications (UC) without having to deal with the complexity of integrating and managing the different technologies involved is to leave that heavy lifting to a managed service provider.

In a Forrester Research study conducted two years ago, which asked 282 IT decision makers if they were interested in buying UC as a managed service, 11 percent said they were already using UC from a managed service provider, 9 percent said they were very interested in it, and 51 percent said they were somewhat interested it. Since then, interest in UC as a managed service has grown as the technologies involved change at a rapid pace, and IT managers fear that if they buy UC products today they may lock themselves into platforms that quickly become outdated tomorrow. Also, thanks to the downturn in the economy over the past few years, organizations don't necessarily have the capital on hand to purchase UC products, and so they're looking to "rent" them instead.

"IT decision makers looking to mitigate the financial and technology risk associated with adopting new technology will be more willing to turn to managed service offerings," says Henry Dewing, principal analyst with Forrester Research. "There's a reasonable amount of interest in UC as a managed service; the pay-as-you-go, flexible volume approach matches up with government agencies' needs."

Keeping UC Running Smoothly

It's not only in the installation and integration of UC technologies that managed services can be of value; it's also in the ongoing management of these systems. As UC environments grow and become more complex, monitoring and managing these systems becomes more demanding. Keeping UC systems running smoothly means more than simply making sure the telephony network is running properly; it also means upgrading and maintaining related applications, which can require IT staffers with specialized skills to handle all of these tasks. Suffering from UC system outages would not only negate the promised benefits of these technologies, but would also run the risk of dampening upper management and users' support of them.

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Henry Dewing, principal analyst, Forrester Research.

Service providers offering UC managed services typically guarantee network and application performance to their clients through service-level agreements. Most also offer monthly fee structures, real-time reporting services, 24-hour fault notification, and a complete portfolio of technical support. For additional fees, organizations can also count on their managed service providers to perform technology upgrades and break/fix engineering tasks when needed.

Hybrid Environments

As far as products are concerned, the majority of UC managed service providers use technology from UC market leaders such as Cisco and Microsoft. For maximum flexibility, organizations should seek managed service providers that are not only proficient in UC technologies, but can also integrate and manage UC components from different vendors. As UC implementations become more involved the complexity rises; add to that a heterogeneous environment with products from multiple vendors and the complexity compounds. For example, a UC environment where identity or presence information is being shared among platforms but security is still maintained can be difficult to achieve without the help of a service provider well-versed in hybrid scenarios.

"Rich presence is harder, if you've got two different presence servers, it's very difficult to do the integration of full-presence capabilities, meaning `Are you on the phone, or mobile? Are you logged in?' Rich presence services are hard to share between systems because they go beyond the currently defined standards," says Forrester's Dewing. ❑

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