

Unified Communications

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External Factors Drive Demand

Unified communications (UC) is a notoriously hard term to pin down, but however you view it there's no doubt that demand for it across government is starting to develop. Actual deployment may still be light, but activities that will eventually require it are gathering pace so the future for UC in government is bright.

Teleworking, for example, is considered a first step along the road to more widespread use of UC. President Obama signed the 2010 Telework Enhancement Act early in December, requiring all agencies to establish policies for their employees to work outside the office.

It's the final stamp of approval that will push government into a much wider use of teleworking to provide more flexibility and better working conditions for their employees, help cut agency costs, and to guarantee continued operations during emergencies such as February 2010's "Snowmageddon" paralysis of Washington, DC.

Office of Personnel Management (OPM) director John Berry said the long-term goal "is to have the vast majority of (the government) workforce telework on a regular basis."

Other technology trends, such as the use of the cloud to provide applications and services and the bulldozer that is social media, also augur well for the increased uptake of UC. And the push by many agencies for better collaboration between their own people as well as between agencies and other entities could prove the biggest impact of all on the use of unified communications.

The numbers alone show the promise for UC. In its 2010 Unified Communications Tracking Poll, technology solutions provider CDW found that some 75 percent of government agencies were preparing either a business case or a strategic plan for using UC. Some 20 percent were in the process of deploying UC, and eight percent had already deployed it.

"From what we're seeing now, wide scale deployment is finally starting to happen," said Andy Dignan, CDW's senior manager of unified communications. If just a portion of those who said they were going to deploy

actually do "then my hope would be that the next CDW tracking poll will see the actual deployed figure at 15 to 20 percent for 2010/2011."

It's a much different market than five years ago, which Dignan described as "very difficult". There just wasn't a lot of education then about UC, and the reception companies got at agencies was mostly puzzled looks. Now, there's a much better understanding about what UC can do to support an agency's business and mission, both with C-level executives and in IT departments.

"We've been involved with some pretty significant request for proposals in the past six to twelve months," he said.

Those could involve the use of the term unified communications, though more likely they would ask for Voice over Internet Protocol (VoIP) solutions, which agencies are more frequently using to replace their aging, and expensive, circuit-switched Time-Division Multiplexing (TDM) phone systems with communications that run over IP networks.

That's an important point. VoIP itself is not UC, but given that unified communications is about delivering various kinds of communication services and applications digitally over an IP infrastructure, it's an essential gateway technology for the eventual use of UC.

The U.S. government is the leader among all sectors when it comes to using VoIP. In early 2010, market researcher In-Stat reported that nearly half of all respondents to a government-wide survey reported VoIP being deployed. The Census Bureau, Social Security Administration, General Services Administration are prime examples of government agencies moving to widespread use of VoIP.

The biggest user is the military, which decided over a decade ago to move to an IP infrastructure to support a "net centric" approach to fighting war. VoIP is proliferating throughout the military and is a major component of what the Defense Department has labelled its Unified Capabilities, an expansive set of requirements that sets the VoIP-driven basis for future unified communications.

An early example of what that might entail is Defense Connect Online (DCO), a secure system that combines VoIP with web conferencing, video and instant messaging along with presence and awareness, two services by which users can tell in real time who is available and can be contacted. It's used for collaboration and to improve situational awareness.

Perhaps a better way of looking at the government market for UC is to consider the kinds of things agencies want to do with communications, such as speed up their decision making, increase productivity by doing more with less people, react faster to citizen requests and so on, said Lawrence Byrd, director of UC architecture at Avaya Inc.

"People are not asking for UC, necessarily, they're asking for certain kinds of capabilities, and then they expect things to work together and be easy to use in order to provide those capabilities," he said. "In that sense then there is absolutely a demand for UC."

Demand is also increasing because of the proliferation and accelerating diversity of the various ways of communicating. Only a few years ago it was just voice and email. Today, as well as those two, it's also instant messaging, texting over cell networks, Twitter, Facebook and, more and more, through video.

It's now relatively easy, using freely available services such as Skype, for someone in the US to videoconference with people in Europe or Asia. If people can do that in the comfort of their bedrooms, and connect in real-time through such things as Facebook, they'll expect the same kinds of tools to be available to them at their place of work.

Some people think the conversation has even started to move beyond just the consideration of UC into such things as collaboration, which government overall is touting as a major tool that will be needed to drive many of the solutions to critical problems.

The need to more easily swap information and ideas between agencies and other organizations was highlighted following the terrorist attacks of Sept. 11, 2001. Lack of interoperability between various communications networks prevented that, however, and a huge amount of energy and money has gone since into improving those communications.

"One of the areas we have constant discussion with CIOs

about it being able to take existing day-to-day applications and be able to instantly launch a UC session from it," said Steve Derr, vice president of sales and engineering for Avaya Government Solutions. "So, if you're a missile warning operator and you detect a launch, it should be a very simple thing to click on an icon that says "initiate conference" and the system automatically pulls together a conference of all the right parties to analyze the launch and act on it in the appropriate way."

Cybersecurity is probably the most critical issue government is currently dealing with. Homeland Security Secretary Janet Napolitano recently stressed that the effort to secure cyberspace had to be a team effort between Homeland Security, the DOD and other agencies and even private industry organizations.

"We're hearing more and more from leaders in the DOD, civilian and intelligence agencies about the importance of collaboration, and unified communications becomes the platform that will enable that," said David Hawkins, unified communications practice director with Iron Bow Technologies.

Collaboration isn't a technology issue in itself, it's a business process and behavior. But it requires technology that will support the pervasive, ubiquitous, anywhere, anyplace and secure communications that in turn will enable to kind of collaboration people now have in mind, Hawkins said. And only UC can deliver on that.

The first adopter stage for unified communications is already done, he feels. People now see its benefits, and it's no longer debatable as to whether it's a viable approach or not.

"I think we're going to see mass adoption, and relatively soon," he said. "We're now moving to unified architectures, and users won't accept any other model." ▲



Getting the Definition Right

Unified communications suffers from an image problem, that's obvious. The phrase itself has been around for some time, and over the years it's come to mean a bunch of different things to different people. Lump it in with similar sounding concepts such as unified messaging, and it's no wonder there's confusion surrounding the phrase.

Add to that the different modes of communication that exist now, and what UC has to encompass, compared to just a few years ago. At one time it would simply have meant how the office and the mobile phone worked together. Then it became also about working offsite, and how email and voicemail worked together. Now there's also instant messaging, social networking and presence.

There's also the connection UC has to the concept of the call center, with its origins in the business world as a way to provide customer service. The call center involves a similar set of technologies that now include email, online chat, faxes and instant messaging, all supposedly integrated with enterprise applications such as customer relationship management.

In many ways, UC has become a catchall. Anything that relates to communications can be brought under its umbrella. And to many people that's the drawback.

"It's a nice thing for some to keep expanding the boundaries of UC, but that's a big part of the definition problem," said Jay Brandstadter, a consultant who works with government and commercial organizations in VoIP and UC, and previously worked in government, including 10 years with the Defense Information Systems Agency. "The UC tag has worked its way into ubiquitous meaningless, it's just too broad and too vague."

The fuzziness of the term is real, according to Iron Bow Technologies's David Hawkins, who said he deals with the confusion on a regular basis in his dealings with government agencies. One of the earliest adoptions of the phrase was around VoIP. It's gone far beyond that now, he said, "but when you talk to government you still hear VoIP being used in the same context as UC."

In many ways, the modern concept of UC is being divorced from any relation with specific technologies, and instead relates more to processes and what it can do for organizations' strategic outlooks.

CDW's explanation of UC, for example, which it uses in the summary of its 2010 UC Tracking Poll, is "the convergence of enterprise voice, video and data services and software applications to achieve greater collaboration among individuals or groups and improve business processes."

A version promulgated by UC Strategies and others simply refers to UC as communications integrated to optimize business processes.

Unsurprisingly, the DOD has the most complete definition in government in describing its Unified Capabilities requirements, which it detailed beginning in 2007. In that, Unified Capabilities is defined as "the seamless integration of voice, video and data applications services delivered ubiquitously across a secure, highly available IP infrastructure to provide increased mission effectiveness to the warfighter and business communities."

The important point here is that, with UC, there's a lot of technology involved but if it doesn't have a mission or business impact "then it's kind of pointless," said Avaya's Lawrence Byrd.

"People shouldn't be buying UC for the sake of having UC," he said. "They should be looking at UC as a way of bringing together a wide range of communication technologies for the very specific needs they have."

That's not a throwaway sentiment, since it has a real influence on the way government organizations need to look at unified communications. As something with a technology focus, the IT department might seem to be the logical home for UC-based projects. Under this more expansive definition, however, other parts of the organization have to be involved in defining requirements and deciding how UC will be applied. And the effort needed is much greater.

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Social Media Provides the Glue

Social media is being used in the federal government, and just about every agency has its Facebook, Twitter and YouTube sites. However, it's fair to say that not every agency uses social media to communicate with its constituencies to the extent that it could, or that every agency really understands the true reach of social media.

The various studies about social media use in government also paint confusing pictures. A recent Government Accountability Office report found that 22 of 24 major agencies are using social media. A study by research firm Market Connections, however, found that government use of social media is still quite low, and that most agencies used it to connect with the public rather than for communication between agency employees.

Nearly 40 percent of the employees surveyed were not using social media either at work or in their personal lives.

But it's likely that, in the future, they will. Once security issues have been ironed out, and agencies work through exactly what the returns will be for them investing more in social media, it will become a fixed part of their communication infrastructure. The Market Connections survey found that some 25 percent of decision makers in agencies thought social media important, versus just five percent or less in previous surveys.

MilSuite, for example, is a collection of social media tools that the DOD makes available to its employees for sharing information and collaboration. Dave Dejewski, head of customer relations for the DOD's Business Transformation Agency, believes it will take time to make the use of social networking tools widespread in the military, but that once senior leaders start using them others will fall into line pretty quickly.

The question then becomes how social media will fit into agencies' unified communications plans.

"Just as with your personal social media, where you have all of your friends listed, in the agency environment it would be colleagues, associates, partners, industry experts and so on, and I'd be able to see their profiles" said David Hawkins, unified communications practice director

with Iron Bow Technologies. "With UC that would be made context aware, so that where I see certain communication threads I'm interested in I can click on a tag that would bring me into the communication."

The presence capability available as part of the UC environment would show who is available to be contacted and even what preferences people have for the way they could communicate. A one-click capability would allow that social media user to shift the conversation with those people to richer media such as audio or video conferencing, as required.

For those agencies that have a lot of contact with the public it would involve how Twitter streams or Facebooks clicks are handled when they come into a government contact center, and how those social media interactions are automatically routed to the best available person.

As social media use in government expands and it becomes an integral part of the way agencies communicate and do business it will become another of the drivers pushing demand for UC.

Outside of the government, tools such as blogs, Twitter and other forms of social media are rapidly becoming the norm, according to Zeus Kerravala, a senior director at consulting firm Yankee Group. UC solutions can enhance the way people communicate with each other, "but they will need to include social media to deliver a complete collaborative experience."

The combination of social media and UC could also create new ways for agencies to improve the way they do business. One of the things private industry is looking to use the UC infrastructure for, as an example, is to monitor social media chatter for what people are talking about, and what the particular sentiment is on a particular issue.

UC would fit with that by, say, the person who is monitoring the social media and sees something that needs attention, automatically initiating a call to someone or tweeting them to see if they needed anymore help on

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Taking it to the Cloud

For federal agencies, moving their communications needs to the cloud is no longer an option. As a part of the 25-point plan recently published by the Office of Management and Budget to reform federal information technology management, agencies are required to consider cloud as a first option for accessing applications.

Over the next 12 to 18 months, agencies have to select three Web-enabled services that they have to move to the cloud. And they would have to choose a cloud-based solution first if one exists before beginning a new IT solution development in-house.

How this will affect agencies' use of unified communications is unclear given the fairly basic level so far of UC adoption by government, but observers are enthusiastic about the potential agencies have for using the cloud for UC services.

The same restrictions that have so far slowed the growth of the cloud in the government space, mainly involved with security, are hobbling the growth of UC in the cloud, said David Hawkins, unified communications practice director with Iron Bow Technologies. But, in all other respects, UC has evolved to where it can take advantage of the virtual data center model.

"You can certainly now virtualize your call control environment, further reducing your costs," he said.

UC is "very compatible" with the cloud, said consultant Jay Brandstadter, and some companies are already starting to offer unified communications through the cloud, particular service oriented vendors. It's not really been taken up by federal government users yet, he said "but I would think a lot of agencies will eventually address UC that way."

UC is also supportive of agencies' use of the cloud to deploy applications and services for their workers, said Avaya's Lawrence Byrd. The question becomes how those cloud resources can plug into an agency's communications system. That becomes an architectural question so UC, which in the end is also more an architectural process, is supportive of agencies' move to the cloud.

There are some early signs of how the move of UC to the

cloud will happen, with various agencies' recent decision to take their email needs to the cloud.

The Army will move 1.6 million email and calendar accounts to the cloud environment managed by the Defense Systems Information Agency by Sept. 2011. Lt. Gen. Jeffrey Sorenson, who was then the Army's chief information officer, said in the announcement last October that Microsoft's SharePoint collaboration tool might also be added to the cloud.

In December, the General Services Administration announced it would be moving its entire agency's email needs, along with some collaboration tools, to the cloud, becoming the first agency to make such an agencywide move. It expects to cut its cost by 50 percent over the next five years by making the move.

And also in December, the US Department of Agriculture became the first cabinet-level agency to make its move to the cloud, opting for a Microsoft enterprise messaging service that will include email, web conferencing, document collaboration and instant messaging.

The USDA system will be at least UC-like, enabling employees to collaborate both within and across mission areas, see their colleagues' availability, choose which medium's are most appropriate to communicate in, and streamline messaging.

While this is a part of USDA CIO Chris Smith's vision to consolidate disparate messaging environments onto a single, unified platform, thereby reducing costs and boosting productivity and collaboration across the agency, a Microsoft spokesman said, it's also "part of a broader unified communications strategy that involves consolidating infrastructure, while providing added benefits to users in collaboration, messaging, calendaring, instant messaging, presence and audio, video and Web conferencing."

Email service is increasingly being seen as a valid gateway for organizations into full-blown UC. In its 2010 UC Tracking Poll, CDW found that, while rich media conferencing was still the common way for organizations

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An Anchor for Telework, COOP

With the 2010 Telework Enhancement Act now law, it's not a matter of if government workers will telework, but how much.

Given the advantages to government in cutting costs and potentially improving productivity by having people able to work outside of the office at least some of the time, and the increased surety that the government will stay up and running during bad weather or natural disasters, teleworking is guaranteed to be a staple of government employment.

Of all of the reasons to deploy unified communications, teleworking is probably the lowest hanging fruit. Voice over IP has been the traditional mainstay of the teleworker but, as the variety of technologies a worker uses in the office to communicate and collaborate with colleagues increases, so the need to replicate that environment to the remote workplace becomes necessary.

The one obvious new avenue that's developing around teleworking is video, and across the board you are starting to see a greater adoption of video as a communications channel. It's the one way to recreate a similar level of collaboration that people are used to in the office environment.

With over 60 percent of the communication between people happening at the non-verbal level, video has to be a close partner with voice in teleworking applications, which is why there's now a much larger adoption of video in the UC space.

That's already apparent in the few UC-based systems now operating in the federal government. Defense Connect Online, which is available DOD-wide, carries video conferences as a part of its core capabilities. DCO has been incorporated as an integral part of the DOD's telework strategy.

Ease of use dictates the kind of infrastructure any agency will use to deliver teleworking for their employees, said Iron Bow Technologies' David Hawkins. They go home and then can't get back into the workplace for whatever reason, they dial in, authenticate over a secure connection, and then they have access to all of the applications they would have as if they were sitting in their office.

The desktop client they are working with should have no idea that the worker is sitting at home or in the office. These technologies are embedded within the UC framework today. The expectation of any organization should be that's it is an embedded part of the communications infrastructure and is not an add on, Hawkins said.

"It should be a seamless experience for the user, and it should be seamless to the IT department on how to support the telework model (of working), as well as a fixed and distributed model," he said. "The system should have the flexibility and the agility to support that, because the last thing I want to do if I'm trying to reduce cost is build separate architectures for different business models."

Teleworking is also an integral part of continuity of operations (COOP), and in fact agencies are under a mandate to come up with policies and plans to ensure it is. You need an IP network to provide the kind of survivability of communications necessary during emergencies, so that end points of the network can re-register to alternate backup locations in seconds.

"That's extremely difficult to do in a TDM environment," said Steve Derr, vice president of sales and engineering for Avaya Government Solutions. "So I think from that perspective that the IP capability inherent with UC is vital for that kind of survivability." ▲



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“You are talking about a whole different level of influence in getting UC adopted than for regular IT programs,” said Hawkins. “That’s why communicating requirements and dependencies for UC is critical in the early stages, otherwise (agencies) will just toss it to their IT department and tell them to run with it.”

In many ways, under this concept of UC the approach is more like that used in enterprise architecture, which is driven more by the business side of the organization. Business processes and relationships are isolated and defined in detail, and IT is used to enhance those processes and relationships.

A similar analysis, involving much the same groups, is used to identify how advanced communications fits into agency business processes. Once that’s been worked out, it’s then the IT department’s responsibility to implement the UC needed. What you are looking for is a framework to pull of this together, and the purpose for applying UC.

“Whatever happens, don’t use UC as a catchall for almost anything communications you can think of, as many tend to do,” said Brandstadter. “That omnipresent, all meaning, all knowing tag is meaningless.” ▲

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an issue, asking if they were satisfied with the help they received, or simply getting feedback for later action.

Federal agencies are now starting to investigate how that kind of monitoring can be provided to them with unified communications, as a way to at least help them improve their customer relations. ▲

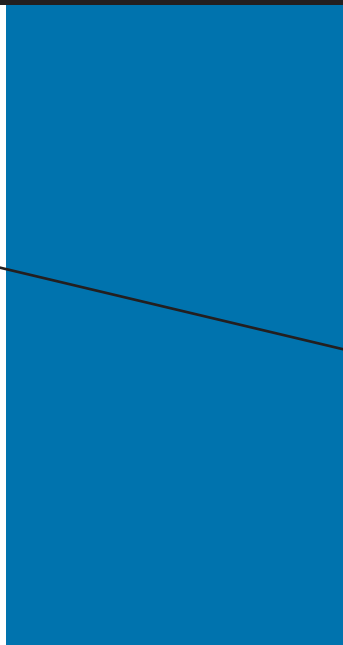
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to approach UC, significantly more were preferring the email route, some 29 percent of organizations compared to just 18 percent in the 2009 poll.

“Is email UC?” said Brandstadter. “I guess that depends on who you talk to, but it’s definitely part of messaging at large, which is a part of the UC infrastructure.”

Government agencies moving to the cloud for UC won’t happen anytime soon, observers believe. Given the nature of government procurement cycles, federal agencies are typically 2-3 years behind in their technology buys and security is still an issue for them with the cloud despite the Obama administration’s mandate. But agency interest in how UC can work in a cloud environment is beginning to show. ▲

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