



Unified Communications and Collaboration

Innovative organizations are using unified communications and collaboration solutions to improve customer service, workforce productivity and business resilience. Here's how IP-based solutions from Avaya, Cisco, IBM and Microsoft are changing how organizations can integrate technologies to respond to the changing needs of customers, employees and partners.

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Executive Summary

Businesses and their IT organizations are striving to improve workforce productivity by utilizing technology innovations to deliver relevant, real-time information and communications to whoever needs it — from customers and prospects, to corporate management and partners, to customer service and sales reps. For many organizations, most of the critical technology solutions are already in place: e-mail, instant messaging, video conferencing, voice over IP (VoIP), presence, Internet and intranet portals, and others. The challenge, however, is that many of these services are segregated into silos and reside on different networks, which stifles opportunities to improve enterprisewide collaboration and workforce productivity. With separate applications, organizations also have higher management costs.

With today's solutions for unified communications and collaboration, organizations can break down existing technological barriers and deliver dramatic improvements in productivity and customer satisfaction. Research shows that an effective unified communications and collaboration strategy can improve customer service by more than 50 percent and increase worker productivity by nearly 50 percent.

What does it take to achieve those kinds of improvements? Among other things, it takes a strong commitment, a sound plan and solid partnerships with leading vendors. This document looks at the unified communications and collaboration platforms and strategies of four of the industry's top suppliers and CDW partners: Avaya, Cisco, IBM and Microsoft. It also discusses best practices in deploying a unified communications and collaboration solution and how to get started. Finally, this paper explains why it is critical to do a full assessment of what you have in place and where you plan to go.

Market Overview

Unified communications and collaboration is all about using the latest advances in communications and collaboration technology to improve and enhance business responsiveness while reducing the overall costs of business processes. Demand for these solutions is certainly growing: Gartner, Inc., an IT research and advisory company, estimates that the global unified communications and collaboration market reached \$7.4 billion in 2010, and Forrester Research predicts the market will increase to more than \$14.5 billion within the next five years. Nearly 70 percent of businesses have prepared a business case or a strategic plan for adopting unified communications and collaboration, driven by the need to:

- Reduce operating costs
- Increase productivity
- Improve the reliability of communications
- Improve cross-function communications and collaboration

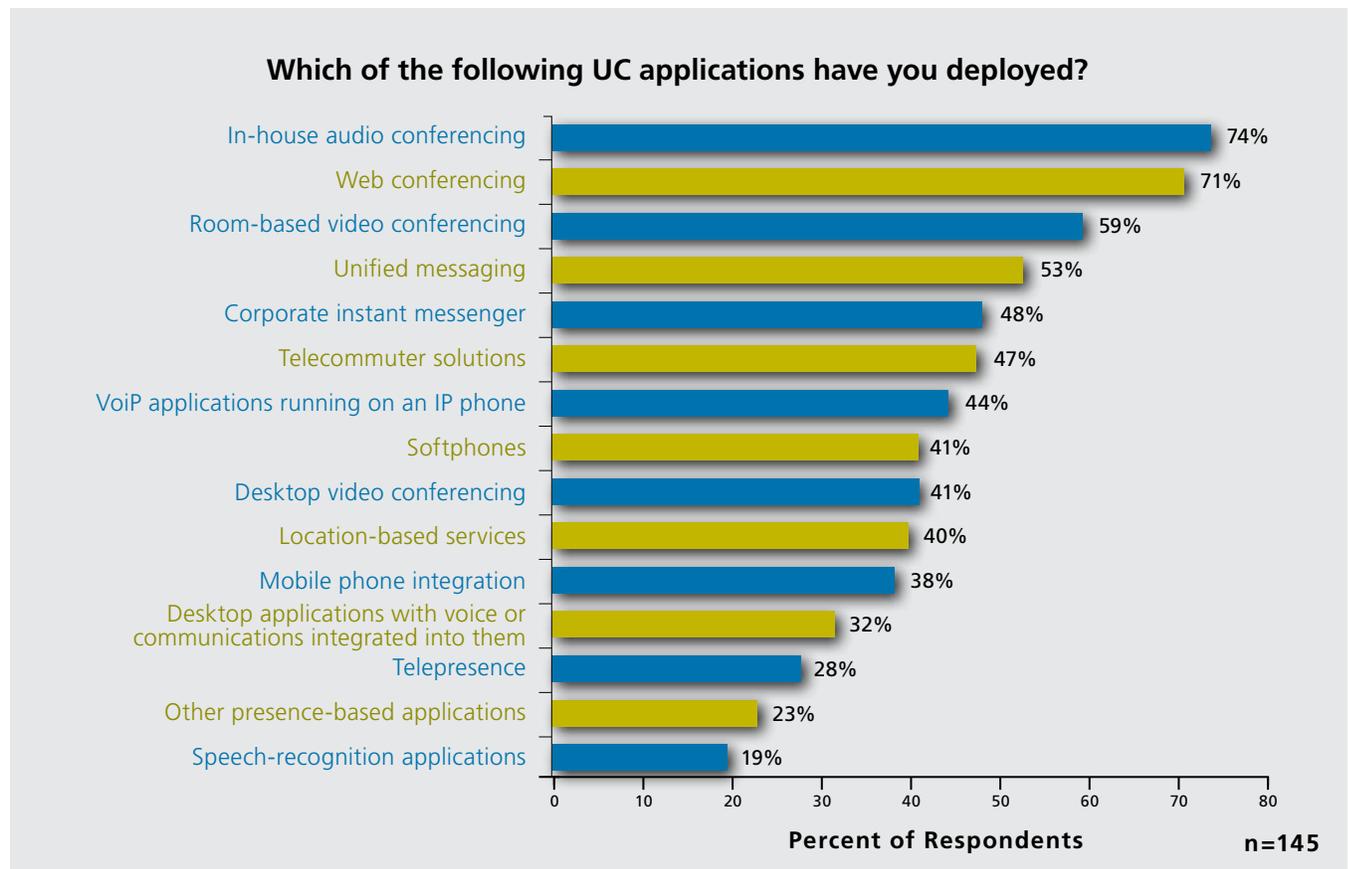
Unified communications and collaboration can be defined as the convergence of enterprise, video and data services, and software applications to achieve greater collaboration among

individuals or groups and improve business processes. Unified communications and collaboration solutions comprise a variety of previously disparate products brought together by the convergence of IP networks and open software platforms. A wide range of solutions fall under the umbrella of unified communications and collaboration, including:

- VoIP and telephony
- Presence
- IP PBX
- Messaging, including e-mail, voicemail, instant messaging (IM), chat, text and unified messaging
- Video, audio and web conferencing, and application and desktop sharing
- Fixed-mobile convergence

In a survey of unified communications applications deployed by large enterprises, the Yankee Group identified 15 separate product categories that had been implemented by at least 19 percent of respondents. Although these applications, shown in Figure 1, focus more on communications, they give a sense of the wide breadth of products and solutions that have to be integrated in order to deploy a successful unified strategy.

Figure 1. Enterprises' Adoption of UC Applications



Source: Anywhere Enterprise — Large: 2008 U.S. Fixed Mobile Convergence/IP Communications Survey

Integration and Collaboration

Unified communications and collaboration is a solution set where the whole is far greater than the sum of its parts. While businesses have deployed a wide range of applications, it is the integration and coordination of these applications that makes collaboration possible and brings significant added benefits to the organization. Interoperability is one of the key factors that enable unified communications and collaboration. In fact, experts suggest that the surest way to achieve adequate functionality is to insist that vendor products be interoperable with one another and adhere to standards. In a survey of 299 organizations aimed at measuring best practices in unified communications, the Aberdeen Group found that those organizations that enjoyed best-in-class performance were twice as likely as other companies to pursue open standards-based architecture.¹

To be sure, having an open, integrated, collaborative communications framework can lead to significant benefits to the overall business. Gartner notes that unified communications and collaboration help organizations meet the top three business priorities identified by more than 1,500 CEOs surveyed by Gartner: 1) improving business processes, 2) reducing enterprise costs and 3) improving workforce effectiveness. Among the best-in-class companies studied by Aberdeen, improvements in business processes and productivity after implementing a unified communications plan were significant, including:

- A 53 percent improvement in customer service metrics, compared with an increase of just 1 percent among those at the low end of the performance scale.
- A 49 percent improvement in workforce productivity metrics, compared with an increase of just 3 percent among those lagging in unified communications.
- The ability to contact an employee within 10 minutes, compared with 66 minutes among those at the other end of the deployment spectrum.

With potential business advantages such as these, it is apparent why most midsize and large businesses are exploring unified communications and collaboration solutions. The gauntlet has been thrown down, and IT departments are responding with strategic initiatives to make organizations more responsive to the needs of customers, employees, partners, regulators, prospects and others that may be involved in the company's business. Unified communications and collaboration, when done properly, can deliver measurable solutions that enable the organization to be far more nimble and collaborative, and able to respond more adeptly with expertise and real-time information.

Best Practices

While the benefits of an open, integrated framework for unified communications and collaboration are clear, actually achieving those benefits can be a complex and lengthy process, requiring careful planning and solid execution on the part of both business and IT executives. The biggest challenge, according to market experts, is that companies typically treat component parts of the solution in silos. "They can no longer work this way as [unified communications and collaboration] represents a fusion of different communications cultures and work systems," says Jeff Mann, research vice president at Gartner. "The artificial separation they are used to will become a thing of the past."²

What are some of the best business practices that will lead to the most significant business improvements? According to Aberdeen, they include:

- C-level executive support or buy-in
- Staff in place to manage the unified communications systems
- Secure end-user authentication
- Communications systems training for end users
- Regular assessment of the quality of end-user support
- Policies for centralized management of solutions
- The ability to identify and map business process workflow for unified communications and collaboration solutions
- Team-based collaborative tools, such as IM, mobile wikis and micro-blogging

In addition, Gartner underscores the need to support interoperability and open standards, and strongly suggests taking a longer-term approach. Most enterprises start to examine a unified communications and collaboration deployment by defining the most cost-effective way to deliver value while controlling costs, retaining control over accounts and leveraging existing investments. Often, Gartner notes, initiatives start with a focus on a particular project and new projects are initiated as others are completed.

A key step is to perform a full analysis and audit of your existing infrastructure and communications platforms. If you are using a wide range of disparate services — such as e-mail, video conferencing, IM, VoIP and voicemail — and they are not integrated, your organization is likely missing out on significant opportunities to improve business processes — and profitability — through collaboration. At this point, it makes sense to bring in a reliable and knowledgeable independent third-party partner to help conduct an audit and assessment and build the framework for an integrated approach to unified

¹ Unified Communication: Improve Customer Satisfaction and Workforce Productivity, Aberdeen Group, May 2010

² Gartner Says Distinctions in Unified Communications and Collaboration Will Disappear by 2013, October 2009

communications and collaboration. CDW has helped thousands of companies assess their communications environments and then design and deploy custom-built solutions. CDW has certified unified communications and collaboration specialists who can provide expertise and assistance through the entire process, including configuration and installation services as well as assessments and health checks.

Evaluating Solutions

Having an expert partner in place is particularly important not only through the assessment process, but also in evaluating the myriad of solutions available. The availability of unified communications and collaboration solutions is a result of telecommunications, data networking, desktop computing, corporate computing, digital devices and applications all coming together through the advent and ubiquity of IP networks and open software platforms.

As a truly converged solution — or, more accurately, a set of solutions — unified communications and collaboration has become a common ground where vendors from various disciplines are coming together to build competitive products and suites based not only on the needs of their business customers, but also on their traditional strengths as solutions providers. It is also an area where vendor consolidation has taken place, with the acquisition of Nortel by Avaya in late 2009 and the acquisition of Tandberg by Cisco in early 2010. Because unified communications and collaboration covers a wide range of product solutions, applications and disciplines, most of the vendors have either acquired companies — as Avaya and Cisco have done — or partner with other vendors to offer a full range of solutions for customers.

That's why interoperability and support of open standards is so critical. Despite efforts to round out their product lines with a wide range of services, all of the vendors require some level of partnership and collaboration to deliver every aspect of an integrated unified communications and collaboration solution. Each year, Gartner conducts an overview of unified communications, examining market trends and the strengths and weaknesses of each vendor.³ While some of these observations are discussed in our examination of the strategies of the individual vendors, it is important to note the following overall market trends identified by Gartner:

- An overall increase in product functionality, particularly in the areas of conferencing, mobility, server virtualization and session management
- The emergence of complete suites from single vendors, which, although not yet competitive with best-of-breed portfolios, suggest the direction for market leaders

- A market dynamic in which each vendor has at least one strength — for example, e-mail, telephony or networking
- A push by each vendor to expand its footprint within the enterprise, commonly by bundling their lesser-known or weaker features with their stronger products
- Increased use of discounting and other incentives to introduce new products into accounts, expanding vendors' portfolios

Evaluating Vendors

In this document, we look at the strategies and solutions of four of the most influential vendors of unified communications and collaboration solutions: Avaya, Cisco, IBM and Microsoft. Each is a strong presence in the market and can lay some claim to market leadership in what is a very diffused and competitive environment. Avaya was the No. 1 supplier for communications licenses in 2009, according to market research firm Infonetics Research.⁴ Microsoft and Cisco were the most widely deployed unified communications suppliers among survey respondents, enjoying high buyer awareness and receiving high marks from buyers on the most important buying criteria. IBM is a long-time market leader in communications and collaboration, with its Lotus Notes platform having been one of the breakthrough solutions that pioneered the market.

Avaya

Avaya has been a leader in the telephony segment of the market with its Avaya Aura Communications Manager telephony server, its Modular Messaging product and the contact center capabilities in its Interaction center. With the acquisition of Nortel Enterprise Solutions, Avaya has embarked on a new product roadmap for universal communications designed to assure customers that it will protect, extend and grow their investments. The key is an enterprisewide, real-time architecture built around open standards such as SIP, presence and web services.

Avaya Aura is the company's core communications platform, supporting unified communications and collaboration with contact center solutions for midsize and large enterprises. Avaya Aura provides the integration and management platform between the company's PBXs and the unified communications and collaboration services it supports, such as voice, video, messaging, conferencing and mobility. Aura enables legacy Avaya and Nortel PBXs to interoperate with SIP-based VoIP equipment, which promises to reduce the cost of adopting unified communications and collaboration solutions because it obviates the need to replace existing PBXs and phones.

Among the benefits delivered by Avaya in its unified communications and collaboration strategy and Aura product line are adherence to industry standards, an open platform, multi-

³ Magic Quadrant for Unified Communications, Gartner, July 2010

⁴ Unified Communication Market to Top \$1 Billion by 2013, Infonetics Research, January 2010

vendor compatibility and robust, high-availability features. Avaya Aura includes five core applications:

Communications Manager: This is Avaya's leading telephony solution, delivering voice and video control for a resilient, distributed network of media gateways and a wide range of analog, digital and IP-based communication devices. It scales from fewer than 100 users to as many as 36,000 users on a single system and more than a million users on a single network.

Session Manager: The SIP Session Manager makes it possible to use Avaya Aura to integrate and simplify existing infrastructure, combining existing PBXs and other communications systems regardless of vendor. Among other features, Session Manager enables users to log in from remote locations and get access to a full set of preprogrammed capabilities.

Applications Enablement Services: These are enhanced telephony APIs, protocols and web services that support off-the-shelf and custom integration with hundreds of communications and business applications.

Presence Services: These integrate rich presence capabilities across diverse environments, including Avaya and third-party products. Presence services support voice calls and instant messaging, enabling users throughout the network to reach the people they need using multiple communications channels.

Systems Manager: This is a common management framework that optimizes central management functions for provisioning, operations and fault/performance monitoring.

Avaya Aura supports a number of other unified communications and collaboration features as well. Unified messaging is supported with the Modular Messaging platform, and video conferencing and audio conferencing are supported by Avaya Aura Conferencing. Avaya Aura System technology leverages virtualization technology, predefined templates, common installation, licensing and support infrastructure to deliver simplified deployment of unified communications and contact center applications.

Avaya offers a market-leading enterprise contact center portfolio, and Session Manager provides a migration path toward a secure, end-to-end SIP environment, among other strengths cited by Gartner. In addition, Gartner notes that Avaya's product directions and end-user migrations include movement toward a virtualized infrastructure, which should result in cost-effective deployment of unified communications applications, as well as reduced operational complexity.

Gartner's conclusion: "Consider Avaya's solutions when your unified communications plans include telephony, messaging, conferencing or CEBP [Communication Enabled Business Process] requirements. Existing clients should ensure that their plans match the company's product direction."

Cisco

Cisco offers perhaps the broadest product portfolio for unified communications and collaboration, with collaboration services available on premises to be deployed with existing infrastructure — where Cisco is an obvious market leader — but also on demand using software-as-a-service (SaaS) solutions such as WebEx. Cisco's video conferencing offerings were strengthened, particularly in delivering services for desktop and notebook computers, with the acquisition of Tandberg. The Tandberg technology has been added to Cisco's TelePresence product line, offering a full range of videoconferencing solutions that are tied into the organization's unified communications and collaboration strategy.

Cisco positions its collaboration solutions as open and interoperable, enabling customers to integrate new and existing collaboration technologies. It packages its collaboration solutions as conferencing, customer care, enterprise social software, IP communications, messaging, mobile applications and TelePresence. A relative newcomer is Cisco Quad, which is positioned as an enterprise collaboration platform that combines social networking with communications, business information and content management systems. One of the major benefits of Cisco Quad is that it is designed to work with other collaboration platforms and document management systems already on the market. Cisco Quad integrates the creation of content, communications platforms, business transactional systems and social capabilities. It features real-time integration through an open architecture and includes video as an embedded form of communication. It also offers enhanced security and policy management.

The Cisco portfolio is packaged under the name Cisco Unified Communications. It is a scalable, distributed, highly available enterprise-class system that delivers voice, video, presence and mobility services, connecting as many as 30,000 or more users of IP phones, media processing devices, VoIP gateways, mobile devices and multimedia gateways. Another important and relatively new feature of Cisco Unified Communications is the Cisco Intercompany Media Engine. The solution is designed to link users at different companies — or users in autonomous groups within an organization — that do not have direct connectivity. It is designed to enable features such as business-to-business video and high-definition VoIP with multiple levels of security built in.

According to Gartner, Cisco's strengths are:

- A comprehensive product portfolio, with expanding integration and capabilities across its components, offering access to key products via public standards, such as SIP. This goes along with an expansion in business application integration interface and intercompany collaboration options.

- The movement of significant portions of its software to VMware, which should increase efficiencies and deployment flexibility, while lowering overall costs.
- An enhanced vision for integrating the WebEx service and Enterprise premises architectures via the client services framework.

Gartner's conclusion: "Evaluate Cisco solutions when you have or plan to have Cisco for key voice and conferencing functions. However, ensure that any expected interoperability with other vendor products, as well as your planned Cisco products, is available. Also, ensure that your systems integrator has experience with similar unified communications deployments."

IBM

IBM has a long history in collaboration software with Lotus Notes and has enhanced that with Lotus Sametime. The result is a unified communications and collaboration solution that offers enterprise IM, presence information, web and video conferencing, and built-in VoIP capabilities. IBM also supports a wide range of telephone systems and offers functionality for integrated presence awareness, softphones, call control and rules-based call management. Among the key features promoted by IBM are support of interoperability, use of a single interface to support real-time communications services and a unified user experience that leverages the existing IT and telephony infrastructure. Key features of IBM Lotus Sametime are:

Enterprise Instant Messaging: This includes text, voice, video and file sharing. Communications-enabled business processes and out-of-the box integration with a wide range of e-mail and productivity applications are available, and tightly integrated tools enable the simple switching of communication methods as a conversation evolves. Other features include configurable contact lists, chat history with time and date stamps, and integrated high-quality audio and video.

Rich-Presence Awareness: Sametime software offers organizations the ability to integrate multiple presence elements to provide a comprehensive view of someone's availability. Features include online presence status and icons, custom status messages via a free text field, alerts to signal when people become available, and telephony status and geographic location awareness.

Online Meetings: Sametime allows users to seamlessly move from a text chat to a voice/video chat to an online web conference. Features include a meetings panel that makes starting or joining a meeting a single-click process; reservation-less meeting rooms; simple meeting invitations; native high-quality audio and video capabilities with available integration into leading audio and video conferencing systems; file, application and screen sharing; a meeting library; and browser-based meeting access.

Mobility: Mobility features of Sametime extend capabilities of the desktop client to mobile devices, including rich presence awareness, business cards with contact information, one-on-one and group IM, chat history and an intuitive user interface that manages multiple active chat sessions on small screens.

Telephony: With Sametime, organizations can integrate telephony and provide telephony features with the existing infrastructure through plug-ins. With optional software, organizations can integrate multiple PBX back ends and provide a single-user communications experience on the desktop client, including phone presence, one-number service, a softphone and intelligent call routing.

Voice and Video: Sametime provides high-quality integrated voice and video to help reduce telephony costs. Features include a single audio/video interface, VoIP chats with multiple participants and audio/video based on SIP for interoperability with third-party audio/video conferencing systems.

Community Collaboration: Community collaboration tools enable users to find, contact and collaborate with people not on their contact list. Features include the ability to broadcast community channels with instant polls and broadcast chat, a skill tap that sends real-time requests for information to a defined set of experts, persistent group chat and federation with community members outside the organization.

Social Networking Integration: IBM is also leading the market in bringing the capabilities of social networking software into the enterprise through its Lotus Connections and Lotus Quickr products. Social networking software simplifies the process of finding the right people or resources needed at work, and its integration with real-time communications software enables fast response times.

IBM's extensive experience in providing and enhancing business applications helps the company deliver communication as part of a business or collaboration application, rather than as a stand-alone solution, Gartner notes in describing IBM's strengths. It also notes that IBM's unified communications and collaboration products, including Sametime plus Lotus Notes/Domino and the Eclipse client framework, offer a comprehensive portfolio, "with Sametime providing conferencing, presence and a range of telephony and collaboration options."

Gartner's conclusion: "Enterprises should consider [IBM unified communications and collaboration] if they have investments in IBM unified communications functions, if they can leverage the collaboration strengths of their product, or if they wish to operate multivendor client and server applications environments. Users should ensure that any solutions considered have demonstrated that they can meet enterprise requirements, including integration and enterprise IP PBXs."

Microsoft

Microsoft has been aggressive in the unified communications and collaboration space through a series of strategic partnerships with vendors such as Hewlett-Packard and Aspect, and with significant new solutions that tie in unified communications and collaborations features and functions with Microsoft's widely used applications such as Outlook, Office and SharePoint. One of the linchpins of the Microsoft strategy is its Microsoft Lync Server 2010 release, which is the next generation of its Office Communications Server product line.

Lync Server 2010 is positioned as delivering complete presence, instant messaging, conferencing and enterprise voice capabilities through a single interface that is consistent across all PC, browser and mobile devices. From an IT administrator standpoint, there is a single management infrastructure as well as enhanced capabilities to increase availability and interoperability with existing systems. Among the key features of Lync Server 2010 are:

Instant Messaging and Presence: Features include real-time presence information and enhanced instant messaging. Presence status can be set manually by a user or automatically. Contact cards are streamlined, and contacts can be unified across Lync Server 2010, Exchange Server and SharePoint. Server-to-server federation capabilities allow users to utilize presence and IM with other Office Communications Server/Lync Server users outside the corporate network. There is a public IM connectivity capability as well, providing instant access to users on popular IM platforms such as AOL, Yahoo and MSN.

Audio, Video and Web Conferencing: Microsoft Lync conferencing provides a rich user experience and unified interface. Features support HD video, one-click desktop sharing and the ability to start a conference on a mobile phone and continue it on a PC. Lync Server 2010 conferencing is designed to work with existing network, enterprise messaging and telephony infrastructure.

Enterprise Voice: Lync Server 2010 combines the telephony features of an IP PBX with presence, instant messaging and conferencing. It has traditional voice and calling features and is designed to enhance or even replace an existing IP PBX system.

Integration: One of the key features of Lync Server 2010 is that it is tightly coupled with other popular Microsoft platforms and applications, including Exchange, SharePoint, Office, Microsoft System Center and Active Directory. By linking closely with Exchange Server, for example, users can take advantage of a unified contact list, a shared calendar and integrated presence data across the enterprise.

Among other Lync Server 2010 features promoted by Microsoft are mobility, group chat, platform extensibility, federation

and an updated and streamlined management infrastructure that supports security, compliance and extensibility.

In addition to Lync Server, Microsoft's unified communications and collaboration strategy incorporates Exchange Server and Active Directory, along with a large and growing set of partnerships for gateways, survivable branch appliances, IP phones, audio conferencing and SIP functions, according to Gartner. Among Microsoft's advantages is its historic strength in desktop collaboration "combined with promising, emerging real-time communications," Gartner notes. Emerging areas include increased support of SIP trunks, significant new end-to-end solution providers and increased presence in contact centers.

Gartner's conclusion: "Enterprises looking into unified communications, particularly those with Microsoft applications in place, should understand Microsoft's broad [unified communications and collaboration] paradigm. When considering telephony specifically, [Lync Server 2010] can be deployed in different configurations. It can be deployed with a PBX so that both are in parallel use for telephony, or it can be deployed to perform non-telephony functions, leaving telephony to the IP PBX."

Summary

When voice, chat, e-mail, IM, CRM tools and web collaboration can work together, it provides the best possible communications experience for customers, employees, partners and suppliers. In addition, organizations can make better use of resources and lower their operating costs by consolidating telephony applications, messaging technology and customer databases into an efficient unified system. Among the benefits of adopting a unified communications and collaboration solution are reduced travel and communications costs; increased collaboration among employees, customers, prospects and partners; the ability to quickly get answers to business questions, often by quickly finding the right expert; streamlined business processes, thereby bolstering workforce productivity; and increased mobility, giving workers in dispersed areas current and consistent enterprisewide tools for messaging, conferencing and other critical applications.

While the benefits of unified communications and collaboration solutions are apparent, getting to the point where the organization is able to break down the barriers toward a fully converged and integrated infrastructure is no simple task. As you can see from the diversity of products and solutions delivered by the four leading suppliers examined here, there are a number of ways to implement unified communications and collaboration solutions, and many features and benefits that need to be considered and compared before deploying a solution. That's why it is critical to engage an independent third-party partner such as CDW to help you assess your environment and evaluate which solutions will be most applicable

and cost-efficient for your environment as well as your way of doing business. Even as vendors are moving toward providing more complete suites, there are still gaps in their product lines. CDW's many partnerships provide a unique value in that they provide best-of-breed cross-vendor solutions. Having a partner that specializes in building state-of-the-art solutions can be particularly valuable in the unified communications and collaboration market because of the cross-platform nature of solutions.

Partnering with CDW

At CDW, you'll find the people, products and plan you need to implement a successful unified communications and collaboration solution. CDW has many years of experience in working with organizations to improve enterprisewide integration and collaboration. Because CDW works with many of the leading vendors, it can help you evaluate winning solutions and determine which products provide the interoperability and cross-platform support you need. CDW's approach includes:

- An initial discovery session to understand your goals, requirements and budget
- Specific assessments, including CDW's UC Health Check, Contact Center Assessment and Network Video Readiness Assessments
- Detailed vendor evaluations and recommendations
- Procurement, configuration and deployment of the final solution

As Gartner suggests, unified communications and collaboration can be a daunting and complex topic. With CDW as an expert partner, you can eliminate confusion and enable your organization for unified communications and collaboration.

About CDW

CDW is a leading provider of technology solutions for business, government, healthcare and education. Ranked No. 41 on *Forbes'* list of America's Largest Private Companies, CDW features dedicated account managers who help customers choose the right technology products and services to meet their needs. The company's technology specialists offer expertise in designing customized solutions, while its technology engineers and solution architects can assist customers with the implementation and long-term management of those solutions. Areas of focus include notebooks, desktops, printers, servers and storage, unified communications, security, wireless, power and cooling, networking, software licensing and mobility solutions.

CDW was founded in 1984 and as of March 31, 2010, employed approximately 6,150 coworkers. In the 12 months trailing March 31, 2010, the company generated sales of \$7.6 billion. Intently focused on responding to customers' technology needs with a sense of urgency, CDW helps customers achieve their goals by providing the right technology products and services they need — when they need them.