Unified Communications and Collaboration

Pervasive Capabilities for Where and How People Work

A Microsoft White Paper

Microsoft

Abstract

In today's global business environment, business needs drive IT requirements. IT departments are constantly being asked to deliver more services to increase business efficiency—while spending less money and using fewer resources to do it.

Today's businesses require the ability to collaborate on-demand—anywhere, anytime. They need access to the right information and people at the right time and place. To make this happen, businesses need collaboration tools that give them in-context access to the appropriate communications methods from within the business applications that they already use every day.

This document describes the Unified Communications and Collaboration platform from Microsoft and how Microsoft's approach to unified communications and collaboration delivers these capabilities for businesses of all sizes.

Contents

Software and Services for Contextual Collaboration

In the new technological workplace, the focus is on the *work*, not where it is done. Individuals come together to solve problems, develop plans, and embrace opportunities. In the past, this usually required people to be in close physical proximity; in the new world of work, working together no longer requires or even implies that individuals are sitting in the same room or even in the same country. It also no longer implies that they belong to the same organization or even that they share the same applications infrastructure or network resources.

Today, in the new world of work, the geographic barriers that once defined a team or workgroup are dissolving, and those who will thrive in this world are those who are not anchored in yesterday's physical constraints.

The Unified Communications and Collaboration platform from Microsoft provides an integrated, modular set of solutions that make the new workplace more effective by giving information workers a complete contextual communication and collaboration environment. Grounded in the familiar Microsoft® Office user experience, these solutions deliver unified communications collaboration and capabilities that provide seamless, simple access to the right information at the right time.

The Unified Communications and Collaboration platform is organized around four pillars, each of which offers its own set of business productivity benefits (see the table below). Throughout the rest of this paper, we describe each pillar in detail and explain how to get the most from the Unified Communications and Collaboration capabilities.

Unified Communications and Collaboration Pillars and the Benefits they Deliver

Pillar	Benefits
Unify Business Communications	• Anywhere-access to real-time and synchronous communications. • Unified voice mail, e-mail, contact, calendar, instant messaging (IM), and presence data. • Enriched applications with presence-enabled contextual communications. • Powerful, built-in mobile and wireless access. • Extensible platform for integrating collaboration with line-of-business application. • Security services allowing secured communication with business partners and customers.
Empower Teams Through Workspaces	• Help distributed teams get "on the same page" and collaborate together. • Enable decentralized authoring with team workspaces, blogs and wikis. • Provide structured authoring with centralized workflow and process controls. • Include presence, IM, and conferencing capability directly in team workspaces and portal sites. • Allow teams to work together from different locations, within and across organizational boundaries. • Integrate document and records management with desktop productivity applications. • Create team dashboards for tracking and monitoring key performance indicators.

Connect People, Processes, and Information	- Unlock business value by providing comprehensive access to enterprise information and data. - Find information faster with unified enterprise search. - Quickly find and connect to people and expertise. - Build robust forms-based server applications that provide broad client access for critical applications. - Free information workers to personalize, publish, and manage information for themselves and for others. - Get notifications of workflow events by role, interest, and business event. - Create and interact with business processes that are centered on people and roles, not back-end system requirements. - Use powerful eXtensible Markup Language (XML) support to link together disparate systems.
Enable Work Anywhere	- Deliver line-of-business applications directly to mobile devices. - Provide mobile access to people and corporate data. - Reduce costs with remote device management and administration. - Lower telephony and travel costs with powerful, available communications services.

Unify Business Communications

Unified Messaging

In the new world of work, communications that once were separate now become unified, and people gain the ability to control their communications instead of having their work schedules and interactions controlled by their communications. Communications such as e-mail, IM, and Web conferencing are available to people in the context of the work they are doing—whether they are working in Microsoft Office Outlook® 2007 messaging and collaboration client, a productivity program such as Microsoft Office Word 2007, a team workspace, or a line-of-business application. Rich presence information about other people's availability and whereabouts is available no matter what program or device you are using.

Implementing unified communications requires a combination of e-mail, calendaring, instant messaging, voice mail, Web and data conferencing, and audio/video collaboration. Business information workers, customers, and partners currently use many different types of devices to communicate, including private branch exchange (PBX)- and public-switched telephone systems, mobile phones, personal digital assistants (PDAs), corporate and public IM systems, and personal computers both on and off of the corporate network. The information being communicated ranges from simple text messages to complex, multimedia presentations. This range of devices and communication types challenges IT organizations today to facilitate "new world" collaboration—securely, reliably, and right now.

Simplify Communications

Unified communication solutions from Microsoft simplify meeting this challenge by providing solutions that make it easier to use multiple communication types from within the productivity and business applications that users are already familiar with. These solutions provide several benefits that help organizations improve their bottom lines:

- Less wasted time. People are able to quickly send, receive, and find the exact information they need, no matter what form it was delivered in and no matter where they are.

- Improved communications. The combination of e-mail, voice mail, and fax capability can be augmented with presence, IM, and real-time conferencing capability to expand the ways in which users can share information and communicate.

- One inbox. Microsoft Exchange Server 2007 seamlessly delivers e-mail, voice mail, calendar data, and fax messages into users' inboxes. Users can sort, manage, and act on multiple message types without having to switch between applications or systems.

- Anywhere access. The unified communication solution from Microsoft provides access to communications services from the desktop, Web browsers, and mobile devices.

Staying Connected

The core of the unified communication solution is Exchange Server 2007, which allows users to access their e-mail, voice mail, and fax messages in whatever way is most convenient for them to work effectively. Instead of having to access messages using three discrete systems—mail, voice mail, and fax—Exchange Server 2007 makes all

these data types available from a single unified inbox. For example, voice mail messages are accessible not only using the telephone, but also in clients such as Office Outlook 2007 where they appear alongside e-mail and fax messages. People can take notes directly in the message and forward voice mail messages to colleagues, and voice mail messages can be synchronized to mobile devices along with e-mail, calendar items, and contact records using Microsoft ActiveSync® technology. Even while on the go, all messages are available. In addition to giving people control over their voice mail and fax messages from their mail clients, Exchange Server 2007 offers Microsoft Office Outlook Voice Access, a new way for people to access their Exchange Server 2007 Inbox. Office Outlook Voice Access requires only a standard telephone to allow people to respond to their messages using either speech recognition or touch-tone. People can call in and hear not only their voice mail, but also their e-mail messages read back to them. They can even manipulate their calendars, for example by canceling meetings or informing meeting attendees that they will be late.

Office Outlook 2007 builds on the capabilities of Exchange Server 2007 to offer a number of new and improved capabilities designed to do two critical things:

- Help people manage their communications, including e-mail, instant messaging, really simple syndication (RSS) feeds, and short message service (SMS) messages; all from a single location, using a consistent and powerful user interface.

- Help people locate, manage, prioritize, filter, and act on the volumes of information they deal with every day.

By serving as the control center for information workers, Office Outlook 2007 gives users quick access to voice mail, e-mail, contact, calendar, and task data, along with custom data produced by line-of-business applications, network news transfer protocol (NNTP) feeds, and RSS feeds. This unification means that users always have the right data at their fingertips with all the power of Outlook's searching, sorting, filtering, and categorization tools.

Instant messaging, presence, and real-time communication are important parts of Microsoft's unified communications offerings. Presence information helps users easily identify which co-workers are available, what their peers are doing, and where they are physically located, all without interrupting them to ask. Microsoft Live Communications Server 2005 provides rich presence information about people's whereabouts and status that can be surfaced through Microsoft Office Communicator 2005, the integrated communications client that brings the richness of the PC together with the familiarity and voice capabilities of the desktop phone. Presence information is also visible to users throughout the Microsoft 2007 Office system applications, in Microsoft Windows® SharePoint® Services sites, and through line-of-business applications that take advantage of the Live Communication Server programming interfaces. Presence availability facilitates real-time communication across multiple geographies, time zones, and organizational boundaries, enabling people to make better decisions faster.

Empower Teams Through Workspaces

Enable Diverse Team Structures

Information workers in today's business environment must use a multitude of tools and contexts to collaborate. Effective collaboration requires teams of information workers to quickly create team workspaces to share calendars, project schedules, documents, and contact lists both within and beyond the organizational firewall. These services need to combine both collaboration and communication services, and they must provide adequate security for sensitive tasks.

IT organizations are often asked to implement these collaborative team sites or workspaces. In most cases, this approach is cost-prohibitive and yields little success because of the immediate needs of the information workers. They need the information and tools now and, as a result, it is often more efficient for the information workers to be empowered with the tools to do it themselves quickly with familiar applications.

Easy to Administer

Microsoft offers an integrated collaboration solution for global teams looking to create self-service workspaces that match when, how, and where they are working. Consisting of two products – Windows SharePoint Services and Microsoft Office Groove® 2007 – Microsoft's team workspace solution enables IT organizations to fulfill the need for relatively large and centralized workspaces that support one or more departments, divisions or business units, as well as the demand for small, decentralized workspaces for ad hoc, cross-organizational workgroups. Both Windows SharePoint Services and Office Groove 2007 enable self-service workspace creation while ensuring IT administrators retain centralized control and management for compliance purposes. Additionally, both solutions work effectively "out of the box" but can also be customized by IT organizations when integration with existing systems or processes is desired.

The Microsoft Windows Server® 2003 operating system includes Windows SharePoint Services, a set of technologies that makes it simple for IT professionals to implement and manage a team collaboration infrastructure that delivers immediate benefits to information workers. With Windows SharePoint Services, effective team sites can be deployed in minutes on a single server. These sites can support teams and departments or scale to terabytes of data and thousands of information workers in an enterprise—with no additional software cost and no additional software to deploy.

Once enabled, Windows SharePoint Services integrates with Microsoft Office products out of the box to allow information workers to create their own collaborative workspaces for meetings, document repositories, shared calendars, and other types of structured and unstructured data. Administrators retain centralized control and management capability, but users are able to dynamically create, remove, and modify team sites and shared document workspaces for their own projects and content. This gives individual users a way to provide self-service collaboration processes by setting up work areas and inviting the people who they need to collaborate with. For organizations that want a more structured collaboration environment that ties into their existing business processes, Microsoft provides a range of free applications templates that implement specific business processes, and workflows (including travel and holiday requests and document change tracking).

Windows SharePoint Services provides new ways to deliver information, too. It includes blog templates that allow Windows SharePoint Services sites to be viewed using the RSS format. This exposes Windows SharePoint Services data to almost any RSS-capable aggregator, including Office Outlook 2007 and NewsGator, so that the data is visible to a wider variety of clients. Windows SharePoint Services content can also be stored and modified in "wiki" format which eases collaborative content creation by allowing multiple users to simultaneously create, edit, and review content using only their Web browsers. Wikis are implemented as a new site template that makes it easy to create, edit, link, and restore an individual Web page. Users can harness wikis as creative forums for brainstorming, knowledge base creation and management, instruction, or information gathering.

Item Level Security

All of these activities are subject to policy and life cycle controls applied by administrators. Microsoft Office SharePoint Server 2007 builds on the Microsoft Windows SharePoint Server feature set by adding enterprise-scale document management, records management, and content management. These features allow companies to comply with regulatory, legal, and records management requirements across all of their collaboration spaces.

Rapidly Create Workspaces

Microsoft Office Groove 2007 complements Windows SharePoint Services by supporting the dynamic, often unstructured interaction between small teams who need to work together on projects or tasks. Much of this work today occurs in email which can be a difficult environment to coordinate project work and exchange document revisions. Information workers can create Groove workspaces with two clicks right on their PCs, add the tools they need to get the job done, and invite team members from inside or outside the organization. Once inside a workspace, the automatic synchronization in Office Groove 2007 keeps the team up to date wherever team members need to work, online or offline, while maintaining enhanced security at all times.

Office Groove 2007 provides new ways for teams to leverage other Microsoft products and technologies to enhance their collaborative work experience. Most importantly, teams working in Office Groove 2007 can now easily and quickly share their content more broadly through integration with Windows SharePoint Services and Office SharePoint Server 2007. Right from an Office Groove workspace, teams can dynamically collaborate on documents and then publish those documents to Windows SharePoint Services teamsites to share with a larger team or to Office SharePoint Server 2007 for long-term, enterprise-wide storage, search and retrieval. Additionally, while teams are working in Office Groove 2007, they can view their Microsoft Office Communicator 2007 contacts' presence and awareness states and engage them in real-time via chat or a phone call.

While Office Groove 2007 is a desktop application, Microsoft Office Groove Server 2007 and Microsoft Office Groove Enterprise Services provide IT organizations with flexible options to ensure centralized management and control of Groove 2007 software and usage. In addition, organizations can leverage Office Groove Server 2007 to develop custom solutions that marry Groove workspaces on the desktop with existing centralized business data or processes.

Connecting People, Processes, and Information

Most organizations have a wealth of information that is stored in multiple formats and locations, including file shares, Web sites, databases, and line-of-business applications. This situation posed a huge challenge for IT organizations because the new world of work demands that information workers have access to structured and unstructured data that resides on disparate systems, both internally and outside the firewall. Meeting these demands, by tying this scattered information together, making it easier to find, and integrating it into the life of the business, is difficult in many environments.

Unifying Information

Office SharePoint Server 2007 helps solve this problem by providing a unified portal to your data and information wherever it is located, and by helping people use that information effectively and productively. Office SharePoint Server 2007 helps you connect people, processes, and information by:

- Integrating information from various systems into one solution through single sign-on and enterprise application integration capabilities.

- Delivering unified enterprise search across many types of data repository, including Microsoft Exchange Server public folders, Windows SharePoint Services team sites, Office SharePoint Server 2007 portal sites, Lotus Notes databases, and line-of-business applications.

- Providing flexible deployment and management tools.

- Facilitating end-to-end collaboration by enabling aggregation, organization, and searching for people, teams, and information.

- Enabling portals allows information workers to quickly find relevant information through customizing and personalizing content.

Controlling Content

Office SharePoint Server 2007 provides comprehensive tools for managed authoring, which allows administrators or managers to grant or deny users the ability to create sites, control site membership, monitor site use, and moderate site content submissions. New features, including the ability to require that users check a document out before editing it, let you control who takes which actions at what time. Policy controls help administrators set top-down policies for content creation, user management, and team workspace administration. These policies can control disk storage use, antivirus scanning, automatic expiration of content, permissions management, and Office Outlook 2007 integration.

Finding Critical Information and People Faster

Windows SharePoint Services and Office SharePoint Server 2007 share a common core of search technology that's been extended and improved with technology from the MSN® network and Microsoft Research. The SharePoint Enterprise Search toolset incorporates business data and information about people with documents and Web pages to provide more comprehensive results. Tools for query hit highlighting, duplicate result removal, "Did you mean?" spelling correction, and alerts help users locate what they want within search results. Users can do all this without having to modify the original source data to make it more searchable.

Office SharePoint Server 2007 extends this core technology by adding the ability to search additional repository types, including Lightweight Directory Access Protocol (LDAP) directories, business databases (provided that they are accessible through the ADO.NET database protocol), line-of-business applications, and Lotus Notes databases. The search mechanism can be extended by using IFilter plugins that add the ability to index specific data types. There is already a robust marketplace of third-party independent software vendors (ISVs) who provide IFilter plugins for various kinds of data formats. These IFilters can directly be used to enhance the search capabilities in Office SharePoint Server 2007.

Integrating Line-of-Business Data

Windows SharePoint Services and Office SharePoint Server 2007 make it easy to integrate existing line-of-business systems with your communication and collaboration environment. Included, no-extra-cost connectors let you access data in SAP and Siebel systems. With the new Business Data Catalog feature, IT can create a pool of connections to business systems, which business users can reuse easily to create personalized, interactive views into back-end data from browsers—all without writing any code.

The key to this system integration is the set of services and frameworks that Windows SharePoint Services exposes. These services are the foundation for building flexible and scalable Web applications and Internet sites that are specific to the needs of organizations, verticals, processes, and roles. Applications based on Windows SharePoint Services can communicate with line-of-business applications to bridge structured process-related documents with discoverable and manageable information shared in unstructured interactions and communications. This combination helps you capitalize on existing investments to get more efficiency from your existing business processes.

Providing Processes Everywhere with Office Servers

Office SharePoint Server 2007 includes two radical new capabilities that make it easy to securely host business applications that use the full power of the Microsoft Office system while still maintaining control over how people work with the applications.

The first of these capabilities is the new Microsoft Office Excel® Services component, which provides access to real-time, interactive Microsoft Office Excel 2007 spreadsheets from a Web browser. You can use these spreadsheets to maintain and efficiently share one central, up-to-date version, while helping to protect any proprietary information, such as financial models, embedded in documents. In addition, not just users, but also programs can create, modify, and update spreadsheets. With this ability, existing monitoring and data-gathering applications can collect data and put it into spreadsheets that people can later view, update, and analyze.

Microsoft Office InfoPath® Forms Services has the second capability, which makes it possible to design Web-capable forms in Microsoft Office InfoPath 2007 and distribute them on corporate intranets, extranets, or the Internet. Users can fill out forms in a browser, with no download or client components needed. Forms designers can design their forms once and deploy them for use both within the rich Office InfoPath 2007 client program and through a Web browser. Office InfoPath 2007 Forms Services automatically converts the form into an ASP.NET Web form, with no additional work from the designer. Whether run from the Office InfoPath 2007 client or a Web browser, Office InfoPath 2007 forms can use rich validation, calculation, conditional formatting, and rules to

intelligently collect and verify data before submitting it to a central repository. Forms can be stored in Windows SharePoint Services libraries.

Native support for Web services and customer-defined XML schemas in Microsoft Office InfoPath Forms Services make it easy to integrate form data with many back-end systems through Web services. This is true for forms filled out in both the Office InfoPath 2007 client program and the browser.

Customizing with Microsoft Office SharePoint Designer 2007

Microsoft Office SharePoint Designer 2007 provides a flexible, What You See Is What You Get (WYSIWYG) environment for customizing Windows SharePoint sites and libraries, building reporting tools, and creating workflow-enabled applications using the Windows Workflow Foundation. When you use Office SharePoint Designer 2007 to create and manage Windows SharePoint sites, you can create and attach Windows Workflow Foundation workflows to document libraries and lists. These workflows can monitor transitions and conditions within the library or list, then take action, for example, routing a file for approval or sending an e-mail message.

Enable Work Anywhere

Information workers increasingly expect to be able to work from anywhere using the full range of tools and data they need to get their jobs done. Remote and mobile access is important, but so are security, management, and costs. Balancing these competing imperatives can be difficult. Microsoft has focused a great deal of effort in building platform components that let you choose the right balance between security and capability to give you the flexibility you need.

Unifying Communications

E-mail is important, but it is not the only data type you need; faxes, voice mail messages, and output from business processes (such as workflow approvals, status updates from line-of-business applications, and so on) are just as important. 2007 Microsoft Office system, Exchange Server 2007, and Live Communications Server 2005 work together to give you seamless access to all your communications from within the Office productivity applications, Windows SharePoint team sites, and document workspaces. They even give you access on mobile devices.

Delivering Mobile Access to People and Data

Microsoft's collaboration platform provides a consistent, integrated environment that lets you access the data you need from a variety of devices and locations. This environment helps you turn downtime into uptime by enabling you to work where and when it is convenient with access to the same powerful collaboration tools you use in the office:

- Office Outlook 2007 and Microsoft Office Outlook Web Access 2007 share much of the same user interface and capabilities, making it easy to switch between them as you move around. Microsoft Pocket Outlook for Windows Mobile® extends the Office Outlook 2007 experience to PDAs and smart phones.

- Microsoft Office Communicator 2007 and Microsoft Office Communicator Web Access provide similar instant messaging and real-time communications functionality. With Microsoft Office Communicator Mobile, you can take presence and IM capability with you on Microsoft Windows Mobile 5.0 devices.

- Windows SharePoint Services uses the rich client experience and offline synchronization of Office Outlook 2007, Microsoft Office OneNote 2007 and Office Groove 2007 to help individuals and teams stay productive when they need to access and update content while disconnected from the network.

Many of these capabilities are available on a broad range of devices, including personal computers running Windows, compatible Web browsers, mobile devices running Windows Mobile and Palm operating system, and cell phones from a variety of manufacturers.

Mobilizing Line-of-Business Applications

Line-of-business applications usually contain critical data, and they are normally accessible only from desktop or laptop computers on the corporate network. Many applications would deliver better business value if they could be mobility-enabled, and that is exactly what the Microsoft collaboration platform enables. Line-of-business applications can easily be integrated with Windows SharePoint sites through the included connectors or by using Office SharePoint Server 2007, Office InfoPath 2007, Office Excel 2007, and Office Word 2007 to import and process XML data from applications.

The Microsoft .NET Framework makes it possible to write applications that run as rich clients on Windows, through browsers using ASP.NET, and on mobile devices using the Compact .NET Framework. This combination enables true write-once, run-anywhere capability while still preserving the advantages of the Windows family of operating systems: rich functionality, enterprise-grade management and policy controls, and a robust, well-supported development ecosystem.

Conclusion

Microsoft's Unified Communications and Collaboration platform offers two compelling advantages:

- It delivers a complete, inclusive set of tools and services for information workers to help them get more work done, faster and at less expense.

- It is easier and less expensive to deploy and manage, reducing IT overhead costs for providing a complete collaboration environment.

An Inclusive Platform for Unified Communications and Collaboration

Microsoft's vision for collaboration is that every information worker should have direct access to contextual unified communications and collaboration capabilities, so that it is easy to find and share information, communicate with the right people at the right time, and take full advantage of the power of mobile devices, the Internet, and the 2007 Microsoft Office system.

Infrastructure services provided across 2007 Office system applications, including identity management, online presence, and information rights management, enable this vision.

Microsoft's unified communications and collaboration tools build on these basic services to give you pervasive access to both real-time (instant messaging, Web conferencing, presence data) and asynchronous (e-mail, voice mail, fax) communications from within the familiar Office System productivity applications, Windows SharePoint team sites and workspaces, and your own line-of-business applications.

Easier for IT Professionals

Organizations of all sizes can get help in gaining measurable business benefits from adopting Microsoft's collaboration platform because it is designed to reuse skills and technical knowledge and let you take maximum advantage of the investment you already have in Windows and Microsoft Active Directory® directory service. The Microsoft collaboration platform is easier for IT professionals because it offers:

- *Better manageability*: Active Directory delivers single sign-on, policy management, software distribution, and desktop control. Microsoft Operations Manager provides world-class system, server, and service monitoring and management. Office system products are centrally manageable using Active Directory Group Policy, and the server products (including Exchange Server 2007, Live Communications Server 2005, and both Windows SharePoint Services and Office SharePoint Server 2007) can be managed with the tools familiar to your administrators.

- *Faster time to value*: Because it is included with Windows Server 2003, Windows SharePoint Services lets you quickly deploy collaborative team workspaces at no additional cost, and you can take full advantage of these services from within Office system applications. Additionally, with Office Groove 2007 included in the new Microsoft Office Enterprise 2007 suite, organizations can easily provide dynamic team collaboration capabilities to the most collaborative and productive information workers. 2007 Microsoft Office system and its applications deliver an extensive set of built-in functionality that can help make it easier and faster to quickly deploy solutions that make your workers more productive and help speed up your business execution cycle.

- *Reduced development costs*: The .NET Framework and the Microsoft Visual Studio® development system allow developers to reuse both code and skills to develop applications that run on Windows, Windows Mobile, and ASP.NET, interchanging data with both Windows and non-Windows based systems using Web services, XML, and other industry-standard data interchange mechanisms. Because of the .NET Framework broad adoption, developer costs tend to be lower than in pure J2EE environments.

- *A platform for future extensibility*: Microsoft is investing heavily in continuing to develop Office System as a development environment. Visual Studio Tools for Office (VSTO) and the Office InfoPath Forms Services simplify the process of building solutions that combine Office, the .NET Framework, and line-of-business applications. Microsoft is continuing to develop and extend these solution components.

- *Vibrant and extensive partner and developer ecosystem*: The success of Windows, the Office System, and the .NET Framework has led to a huge and active third-party community, providing training, support, custom solutions, and additional functionality for Microsoft's collaboration and communication solutions. This ecosystem gives you a broad range of choices for technology and services that you can use to customize your collaboration and communications environment to meet your business needs.