

The Compelling Case for Conferencing

How Conferencing Can Help Organizations Improve Business Outcomes
While Reducing Costs in Challenging Economic Times

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Abstract

Organizations of all types and sizes are looking for ways to improve their business outcomes while reducing costs and encouraging environmental sustainability.

To help meet these goals, many of these organizations are turning to new software-based conferencing and collaboration solutions for audio and Web conferencing as well as continued face-to-face conferencing via video. Companies who use these capabilities report achieving measurable improvements in their corporate performance including increased business efficiencies, total cost savings, and environmental footprint reductions.

This paper outlines some of the business benefits realized by companies who have deployed conferencing and collaboration solutions. It provides market data on the growth of unified communications (UC) and collaboration systems as well as end user feedback on which groups receive the most benefit from these solutions.

It also describes factors companies will want to consider when selecting and deploying a conferencing solution, including accounting for all conferencing costs and how to look at ROI, which may go beyond just hard dollars. The Total Cost of Ownership (TCO) analysis will show that an integrated hosted conferencing solution can save up to 95% of the costs of using separate audio, video, and Web conferencing service providers and that a premise-based UC solution can save as much as 97% when compared to using separate hosted service providers for an organization's conferencing needs.

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Conferencing Is Compelling

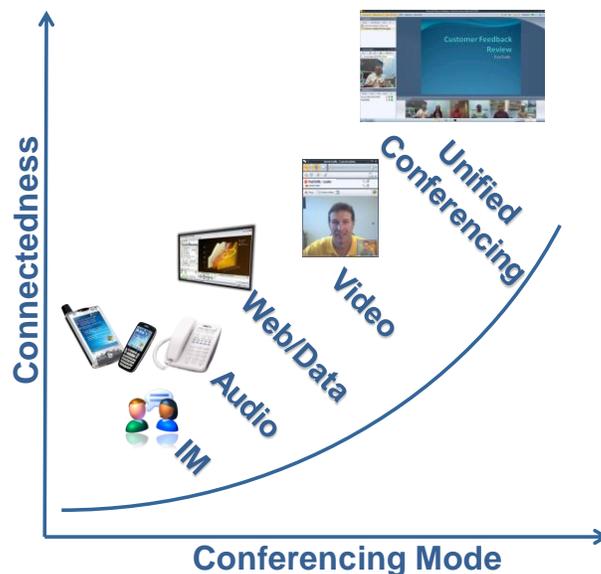
As the global supply chain for labor, goods, and services has been flattened and accelerated, it has become more complex, creating an exponential need to communicate and collaborate globally between suppliers, manufacturing, R&D, sales, marketing, finance, and others. Similarly, service oriented organizations, government and education, need to increase their agility and optimize their use of information to serve their clients and constituents most effectively. Organizations of all types and sizes are acknowledging the competitive need to streamline the flow of knowledge and expertise within the enterprise, i.e. their *knowledge chain*, regardless of where in the world that knowledge and expertise need be applied. In the current economic conditions, the big economic wins will likely go to those companies, and their key partners, who are able to flatten and accelerate their *knowledge chains*.

Types of Conferencing

Conferencing and collaboration are keystones to accelerating *knowledge chains* and business processes. There are four types of real-time conferencing technologies most organizations deploy as shown below. An integrated environment that enables a seamless choice of these conferencing modes for the users could be termed “Unified Conferencing.”

- **Instant Messaging** – The simplest form of conferencing is text-based instant messaging between two or more parties. Instant messaging is very useful when transactional types of communication occur; it is typically used when short questions, answers, and/or comments are sufficient to handle the needs of all parties. When longer dialogs are needed among larger numbers of participants, persistent group chat provides an extended multi-party conference environment.

Figure 1. The sense of connectedness increases as richer conferencing modes are used.



- **Audio conferencing** – A much richer conferencing experience occurs when people participate in an audio conference. The audio conference provides more meaning and voice inflection in the dialog which can enhance understanding and speed the successful outcome. A major advantage of audio conferencing is easy access from essentially anywhere over the public switched and cellular telephone networks as well as through the global Internet using Voice over IP (VoIP).
- **Web conferencing** – Web conferencing enables the visual sharing of documents and applications between two or more parties and locations. This real-time information sharing is a major enhancement to an audio conference because participants are able to visualize, contribute to, and/or document topics that are being discussed, which enhances both focus and long-term memory.
- **Videoconferencing** – The richest type of conferencing, from a content perspective, employs video in combination with audio and Web conferencing. In the business market videoconferencing solutions range across four tiers: 1) desktop video running on personal computers; 2) self-contained video appliances on the executive desktop; 3) meeting room systems with enhanced screens, cameras and microphones; to 4) half million dollar telepresence solutions that use high-definition (HD) audio/video to create the perception of a single physical space.

The use of each type or combination of conferencing depends on both the purpose and the facilities. Audio conferencing is the most widespread, requiring only a voice end-point; IM and Web conferencing from any PC are rapidly expanding in popularity and use due to convenience and cost advantages. Many conferences start out as an IM session which is escalated to include other, richer forms of conferencing including audio, Web, and video conferencing.

Historically, these four types of conferencing have each been separate infrastructure silos. Users had to decide in advance which type or combination to use; the user interfaces were different and confusing for each type, and they usually required separate access IDs and passwords; and separate, often specialized, equipment was needed for video conferencing. This “siloesd” environment restricted the use of the most appropriate format and also added significant staff and administration cost. There is a compelling need in most enterprises to eliminate silos while reducing cost and improve outcomes.

Skyrocketing Conferencing Use

Recent market data indicate that audio, video, and Web conferencing are all seeing tremendous growth in terms of total use and frequency of use. For example:

- The number of bridged audio conferencing minutes increased by 55% worldwide between 2006 and 2008 approaching nearly 60 billion minutes.
- The number of named end users for premise-based Web conferencing solutions increased by 48% during the period to reach 31 million.

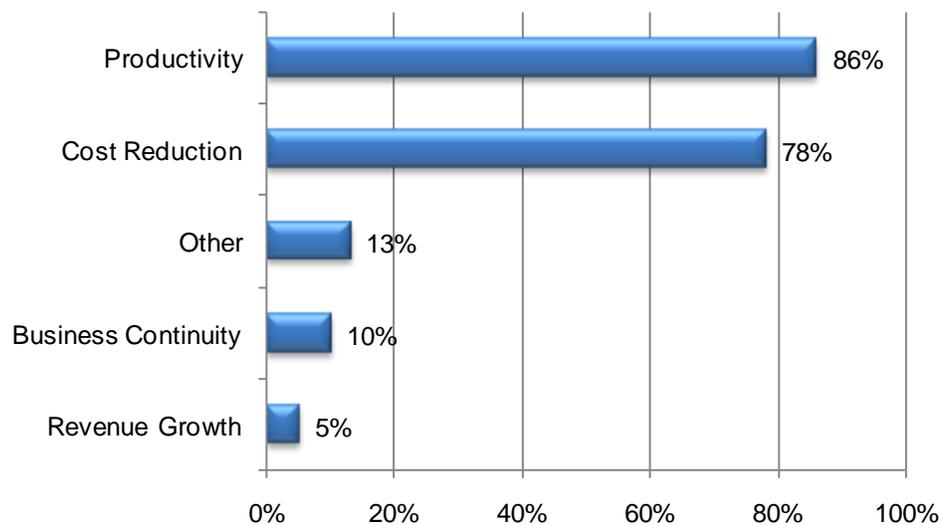
- The total number of business video endpoints sold increased by 43% to 235,000, of which a significant and growing number are high definition (HD)¹.

Clearly, conferencing use is skyrocketing in the enterprise, and it is providing real business impact.

The Business Impact of Conferencing Solutions

Organizations are adopting conferencing capabilities because they have significant impact on the business. Recent end user survey data indicate that by far companies are adopting conferencing technology as a way to improve productivity and control costs.

Figure 2. Top reasons enterprises use unified communications and collaboration solutions².



Source: Wainhouse Research, July 2008

Improving Business Outcomes using Conferencing

Organizations use conferencing to enhance business results by communicating and collaborating faster with team members, partners, customers, and everyone in the value chain, often across multiple geographies and time zones. Major areas of improvement include:

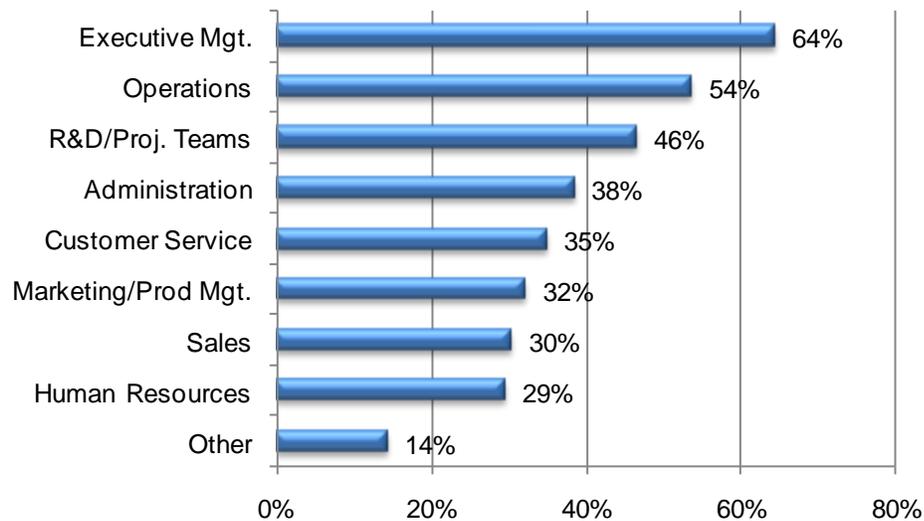
- **Improving Productivity and Accelerating Results Among Individuals and Operational Teams** – Our research indicates that many conferencing and communications solutions allow people to be more productive by making it possible to

¹ Data compiled from 2007 and 2008 Unified Communications Products and Services forecasts published by Wainhouse Research. See <http://www.wainhouse.com/reports/ucfct2008.html> for more details.

² “2008 Unified Communications Survey”, Wainhouse Research, July 2008. There were 112 respondents of which 43 were from companies with over 10,000 employees and another 35 were from companies with over 1000 employees. The other respondents were from small- to medium-sized businesses.

contact colleagues for information more quickly, to perform project-oriented work more effectively without delays, and to make decisions more rapidly. Operational teams are able to convene the necessary skills and resolve issues much more quickly, as well. Figure 3 illustrates which internal functional groups will see the most benefit as reported by actual users. The benefits will appear both as faster time to results, to market, or to revenue, and as lower costs per project³.

Figure 3. End user functional groups that will derive the greatest benefit from conferencing and collaboration. Many of these are inward facing⁴.



Source: Wainhouse Research, July 2008

- **Shortening Sales Cycle Times** – Sales persons can be more productive when they are talking to customers and potential customers via conferencing versus spending a significant amount of time traveling. Clearly some in-person interaction is required, but conferencing and communications solutions enable sales persons to reach more people more rapidly and to close more deals than ever before.
- **Attracting & retaining employees** – The new generation of worker has grown up with instant messaging, presence, rich media, and Web/video conferencing and look upon the availability of these tools as a *must have* in both their work and private life. Work is no longer where one goes, it is what one does, and working moments regularly occur outside of normal business hours and away from normal business settings.

³ “2008 Unified Communications Survey”, Wainhouse Research, July 2008. Ibid.

⁴ “2008 Unified Communications Survey”, Wainhouse Research, July 2008. End users were asked, “If conference and collaboration solutions were deployed in your business, which user group(s) would derive the greatest benefit for your company? Select all that apply.” The chart represents the percentage of respondents that selected that particular user group as one that would receive benefit.

Reducing Costs

Along with efficiency and productivity gains, reducing costs is another key reason why enterprises adopt collaborative communications.

- **Reducing Travel Costs** – Web and videoconferencing, as well as other UC capabilities, can connect participants with meetings, training, or “events” when they do not necessarily need to be physically present. The use of multi-party video at all four tiers (see pg. 2) is proving a very valuable tool for organizations that have implemented travel restrictions or just want to be more efficient. Video conferencing provides individuals with a rich sense of interaction without the need to travel. Several companies have reported that in a video meeting, participants pay more attention than in a Web conference alone because they know others are watching them and how they react to the information being discussed.
- **Lowering Real-Estate and Facility Costs** – Some companies are realizing that tremendous savings can occur if employees are able to work from home or from less expensive locations. Conferencing tools enable these teleworkers to effectively join meetings and participate in collaborative projects from their home location. Other companies are reducing facility costs in new and existing locations by eliminating headcount at expensive facilities and instead using “remote” personnel who are instantly available over voice, video, and/or web.
- **Resolving Customer Issues More Quickly at Lower Cost** – Call centers have long had escalation procedures so that customer inquiries can be responded to rapidly. The ability for customer facing personnel to see the presence of their colleagues and instantly bring them into a meeting or launch a multi-party conference with subject matter experts allows customer issues to be resolved more quickly, which in turn reduces the cost of “maintaining the customer”.
- **Lower IT and Telephony Infrastructure and Administration Costs** – A key element of a UC and conferencing deployment is its ability to integrate with existing directories, messaging systems and telephony infrastructure. Organizations can simplify the management of collaborative capabilities, optimize their IT resources, and eliminate silos with the increased flexibility of a premise-based software conferencing solution.

Environmental Sustainability

Many organizations have made environmental sustainability part of their overall mission statement or policies for corporate and social responsibility. These companies have set goals for reducing their carbon footprint, and conferencing and collaboration can help them achieve those goals.

- **Reducing Carbon from Business Travel and Commuting** – We are seeing more and more organizations reporting their carbon reductions as part of their normal quarterly or annual reporting process. These reductions are primarily achieved through more efficient energy use and travel reduction. Clearly, reducing travel by relying more on conferencing technology can reduce the amount of fossil fuel consumed and the amount of CO₂ and other greenhouse gasses emitted into the atmosphere.

Key Factors for the Best Conferencing Investment

Organizations considering a robust collaborative communications environment will need to look at a variety of factors that will impact both the solution and the decisions the organization makes with regard to costs and ROI. We outline several of the major factors as follows.

Understanding the Current Costs for Conferencing and Meetings

As organizations consider the type of conferencing deployment that would best meet their needs, it is important to create a cost baseline. This may require diligence, since conferencing costs are often dispersed throughout the enterprise, with different systems and service provider contracts in each division or department, and with occasional conferencing use charged to credit cards or submitted on expense reports. Suggested approaches follow. It is usually possible to gather the following information from your current systems or services:

- **Voice, Video and Web Services Usage and Costs:** Service provider contracts usually provide monthly reporting in support of the invoices that will document the usage in terms of total minutes of time used, total numbers of conferences held, and the average duration and attendance of the conferences. If information can be obtained for a number of months or quarters, a usage trend can be determined. When conferencing costs are reported on reimbursement requests, they need to be captured and rolled into the total costs numbers.
- **Internal Server Usage:** If your enterprise has begun to use in-house conferencing systems, whether the legacy hardware-based versions or some newer software-based systems, usage data is available from the system reports. It is also helpful to understand the peak periods of usage, since that is a major factor in planning for conferencing system capacity. Look for the trends which will reflect conferencing growth rates and indicate capacity requirements.
- **Meeting Room and Conference Room Usage:** If your organization uses any form of meeting room scheduling software, you can usually get reports that will show the usage levels of those rooms. This is particularly important for rooms equipped with video systems and telepresence solutions, where usage can be promoted to offset travel. Also, the finance staff may be able to determine the monthly or annual expense for off-site

meetings, which may lead to an assessment of whether those events, and the related travel expenses, could be reduced or eliminated by better conferencing software.

All of this information will support informed decisions about how to achieve both the productivity gains and cost savings the new UC and collaboration tools can deliver.

Decision-Making Criteria for Conferencing Solutions

In addition to defining the capacity and sizing of a new conferencing system, a number of other criteria are important to guide in the purchase and deployment.

- **User Experiences and Roles:** Perhaps the most important factor in a conferencing and collaboration solution is that the user experience is convenient and familiar, providing both flexibility and consistency for all participants. Users will create the greatest outcome improvements and cost reductions if the conferencing tools are accessible directly from their business tools such as e-mail, calendars, tasks, collaborative workspaces, document creation and analysis tools, and application portals. The conferencing solution should provide for the intended user roles: most information workers as well as transaction oriented workers (e.g. logistics, help desks) will want PC-based conferencing. Teams, managers and process leaders (e.g. quality management) will also want meeting room conferencing. If you plan to use conferencing with customers and for advanced decision making, then some amount of telepresence investment may be justified.
- **Anywhere Access:** As an extension of the user experience, it is crucial to provide the optimal level of functionality for each mode and venue, with consideration for the economics as well as the security of each of the access modes. Voice, video and Web conferencing should be available to the participants through the device that is most appropriate at the time, including PC clients, Web browsers, conference rooms, and to the extent possible, mobile devices and telephones. Security of the conference should be preserved as appropriate to the conference type, with the option of encryption of all media streams, with the exception of PSTN voice calls. Similar functionality should be available to non-employees, e.g. customers and partners.
- **Applications for Enterprise Operations and Business Processes:** To be most valuable, the conferencing solution should be capable of being well integrated into the employee's daily work flow. This should be supported in three ways: (1) specific uses of the conferencing systems within a documented procedure, such as using conferencing tools to resolve and document quality management events; (2) integration of the conferencing tools with other applications such as collaborative workspaces, so that conferencing is as natural as typing an e-mail; and (3) the transparent integration of conferencing with other business applications (e.g. such as linking video conferencing

directly into a medical lab application for ease of consultation between the radiologist or pathologist and the physician).

- **Flexibility in Deployment Options:** Preferably, the conferencing solution will offer a variety of deployment options such as on-premise, hosted or hybrid, to allow for the most efficient, effective, and economical operations. While an on-premise option provides tight, seamless integration with the users' complete UC environment and is often preferred for reasons of control and security, a hosted option is usually required for large conferences and peak loads. In either case, it is important to provide the same user interface and clients to assure transparency for the user. Also, it should be possible to scale an on-premises solution from small to large configurations, both to allow for broader deployment and growth, and to enable the best mix of centralized and distributed or regionalized deployments.
- **Single Vendor Support:** For many customers, it is preferable to have one consistent infrastructure for the conferencing system in order to minimize costs for both implementation and operation. Single vendor solutions will require less investment in planning and professional services when interfacing with existing communications infrastructure. Also, a single vendor solution will be easier to maintain and troubleshoot than a system with multiple parties or technologies to service.
- **Architecture and Roadmap:** An architecture is required that will support the highest reliability and security levels in order to serve the enterprise's needs and to protect the enterprises' information. Scale and flexibility, as defined above, are required to allow for graceful upgrades as technologies, functionality, user interfaces, and standards evolve. Generally, a software-based architecture with modular components will provide the most sustainable value. In addition, the vendor should be able to provide an appropriate investment roadmap, to deliver a reasonably long life cycle in support of a positive ROI.
- **Total Cost of Ownership (TCO):** While TCO is not the only criteria, it is a very important one, since it reflects the financial impact of the system within IT and the operating departments. An optimal TCO gives the enterprise a business advantage as well as a foundation for additional or future investments. TCO will include the costs of selection, implementation and deployment to the users; the costs of maintenance and ongoing upgrades to the systems; and the costs of administering and supporting the system, including the costs of supporting the users with ongoing help desk and training services. In some cases, where a complete UC rollout is not yet approved, or where IT priorities, resources or capital budgets are constraints, the best TCO may come from beginning with a fully compatible hosted solution in advance of an on-premise installation.

- **Operations, Governance and Compliance:** As with any technology, the conferencing solution must fit smoothly and synergistically into the operational, governance and compliance policies of the enterprise. For example, the conferencing systems should include the ability to log activity and, if required, record the communications for compliance with certain regulations. Also, the conferencing system should support effective controls on authentication, access and audit to assure secure and appropriate use. Effective tools in this area will avoid major costs or even penalties for remedial action.

Several of these criteria are discussed in slightly more detail in the following sections.

Considerations in Choosing Deployment Options

Given the many options available for conferencing, a set of strategic guidelines may be helpful when making investment decisions. As with any business decision, the many factors that contribute to business value creation will come into play⁵. Our suggested guidelines are:

1. **Focus first on requirements and business outcomes.** No matter how tight the economy may be, every enterprise, public or private has a mission to fulfill. Of course, if immediate actions can cut travel and real estate expenses or can reduce the fees paid to multiple conferencing service providers, take those actions, both for the savings and to fund the other conferencing investments. Beyond that, look for a conferencing-based solution that can streamline processes and eliminate wasted time and labor while improving service. Our recommendation is that organizations consider conferencing as an integral part of holistic communications solution and not as a separate siloed investment. Hosted solutions exist that can integrate into the daily work flow and which utilize existing IP networks to provide voice, video, and Web collaboration. Many companies are also deploying premise-based UC solutions that add presence, instant messaging, “anywhere access,” and the ability to move individuals or groups seamlessly into conferences from desktop and workflow applications. Furthermore, if an organization has regulatory or governance requirements or security concerns, an on-premise would be suitable.
2. **Focus then on TCO.** The elimination of existing silos and the in-sourcing of expensive and, possibly, multiple conferencing services will provide major payoffs. In addition, a silo-free infrastructure will have a far lower cost of implementation and operation, and an integrated client will have far less help desk burden. Licensing and maintenance options will be an important element of TCO analysis.
3. **Utilize Hosted Solutions for Transitions and Peaks.** A compatible hosted conferencing solution will allow for phasing in groups of internal and external users and

⁵ For additional information on choosing between a hosted service and a premise-based conferencing option to select, see the white paper titled ‘*Choosing a Microsoft Web Conferencing Solution*’ at the [Microsoft Download Center](#).

for managing peak loads, such as a divisional kick-off or customer webinar series. Hosted services may also be useful if IT resources are constrained, e.g. during a short transition period or budgetary cycle. If the software clients are capable or accessing both on-premise and hosted services, the support costs will be minimized.

Total Cost of Ownership Factors and Examples for Conferencing

Total Cost of Ownership (TCO) reduction can be a major benefit when considering a conferencing solution replacement. The table below compares the TCO of four options for providing conferencing services for a 5,000 person enterprise requiring voice, video, and Web conferencing capabilities⁶.

Table 1. TCO analysis comparing separate hosted conferencing solutions to integrated hosted conferencing offerings and premise-based conferencing solutions.

	Hosted Solutions		Premise-Based Solutions		
	Separate Services for Audio, Video, and Web Conferencing	Integrated Hosted Solution for Voice, Video, and Web Conferencing	Complete Premise-Based UC Solution incl. Voice, Video, and Web Conferencing	Allocation of Conferencing Portion (33%) of Complete Premise-Based UC Solution	
Factor					Comments
Service Cost	\$ 17,587,080	\$ 577,080	\$ -	\$ -	Three year service costs
Licensing	\$ -	\$ -	\$ 414,540	\$ 138,042	Initial Licensing cost
Servers	\$ -	\$ -	\$ 84,000	\$ 27,972	Redundant servers
Installation & Setup	\$ -	\$ -	\$ 135,000	\$ 44,955	Professional Services
System/Server Admin	\$ -	\$ -	\$ 120,000	\$ 39,960	1/3 person/year, 3 year period
Help Desk/User Admin	\$ 240,000	\$ 240,000	\$ 360,000	\$ 120,000	
Maintenance	\$ -	\$ -	\$ 207,480	\$ 69,091	Three year maintenance cost
Total Three Year TCO	\$ 17,827,080	\$ 817,080	\$ 1,321,020	\$ 440,020	
TCO per User Per Year	\$ 1,188.47	\$ 54.47	\$ 88.07	\$ 29.33	Sources: Wainhouse Research and UniComm Consulting

The primary cost factors are:

- **Service Costs:** These are the costs a hosted service provider charges for the conferencing services offered which include voice, video, and Web conferencing. Clearly using separate service providers for each capability is an expensive proposition. We have used a volume discount factor of 30% off of list price when calculating these costs.
- **Licensing:** This is the list price for the UC software licenses less a 30% street discount factor. Note that it includes licensing for the server operating system software, any

⁶ Assumptions: 1 meeting per day per person, 240 days per year, 60 minutes/meeting, service cost for video/min is \$0.35, service cost for each audio minute is \$0.10, 5% of meetings use video, service cost per person for Web conferencing is \$54.96 annually, all services and software licenses receive a 30% volume discount, installation is an educated estimate, burdened system administrator cost is \$120,000/year, burdened help desk/user admin is \$80,000/year. These costs do not include network design or upgrade or any telephony solution design and integration, should it be required, to enable voice and video over IP.

database software required, and the UC software licenses, all required software components.

- **Servers:** This includes two servers for the UC solution to provide redundancy and two servers for database server for redundancy. Additional servers for any directory components would be required, but it is assumed that these already exist in the enterprise.
- **Administration:** In the premise-based UC solution, there will be administration costs the enterprise must bear. This is assumed to be 1/3 of a person at a burdened salary cost.
- **User Support:** Both premise-based and hosted solutions will require at least one individual to provide help desk and user administration services.
- **Maintenance:** Software maintenance costs are at actual list costs with the 30% street discount applied.

Hosted Solutions: The two columns on the left show an estimated TCO for separate services for audio/video/web conferencing compared a hosted integrated conferencing solution. The integrated solution cost is much, much lower than having separate services for two reasons; (1) the integrated solution is available on a flat rate per user per year; and (2) the integrated solution uses voice and video over IP rather than more expensive traditional audio or video conferencing services. An integrated hosted services solution costs about 1/20th of what the services would cost for separate audio, video, and Web conferencing services (\$577,080 for the integrated solution versus \$15,937,080 for the separate services not using flat rate, all you can consume IP voice, video, and Web conferencing).

Premise-Based Solutions: The two columns to the right show estimated TCO for a complete premise-based UC solution, including IM/presence/persistent group chat, and enterprise telephony/mobile access in addition to conferencing functions. The “Complete” column shows solution TCO that has a slightly higher cost than the integrated hosted service because it provides so much more functionality than just conferencing. However, to provide an equivalent cost basis for on-premise conferencing, we have allocated one-third (33%) of the total cost to conferencing⁷ (conferencing as one of the three major groups in UC). This allocated cost is the least costly of all the options, at \$29.33 per user per year, or roughly half of the comparable integrated hosted service. For the premise-based solution, software licensing is required as well as the initial installation and setup and the on-going administration and maintenance. The cost for these professional services also includes initial end user setup and some on-line training. As the number of users goes up, both the “complete” and the “allocated” costs per user will decline.

For Small Organizations: For smaller organizations (~500 users⁸), the hosted conferencing costs will remain roughly the same on a per user per year basis, with only slight increases to account for

⁷ This is for comparative purposes only. Because conferencing is built into a the price of UC solution, we have allocated this 1/3rd cost factor to try to provide a reasonable comparison between the cost for conferencing in a UC solution and the cost of conferencing in a hosted environment.

⁸ We don't show the costs for a 500 person organization in the table, but they can be estimated using the data in the table and the assumptions listed in footnote 5.

lower discounts. The on-premise costs per user per year will rise to about \$46 per user per year for the allocated conferencing costs, which would still justify the on-premise conferencing option based on integration with the entire UC suite.

Summary: Many companies are turning to premise-based solutions because they provide much faster access to people and groups they are presence-enabled and they offer instant, ad-hoc multi-modal conferencing capabilities; furthermore, the better solutions also offer excellent voice capabilities that may replace the enterprise PBX, which could provide significant additional savings. With a UC solution, people can instantly click-to-conference using voice, video, web, or any combination of them. In summary, either the hosted or premise-based fully integrated conferencing solutions provide the most attractive TCO, each of them offering to reduce typical conferencing costs by 90% or more.

Microsoft's Conferencing Solutions

Microsoft has been a leader in the development and deployment of software-based UC and conferencing solutions, and the company has developed two deployment options for their conferencing solutions along with a variety of clients and devices upon which enterprises can rely to meet their conferencing and collaboration needs. The following descriptions begin with the hosted version, Microsoft Office Live Meeting, and then proceed to on-premise Microsoft Office Communications Server 2007 R2 (OCS 2007 R2), one of the cornerstones of Microsoft's UC solution set, which includes Live Meeting functionality.

Microsoft Office Live Meeting

Microsoft Office Live Meeting is a full-featured hosted UC (Voice, Web and Video) conferencing service. Users access the solution via a web browser over an Internet connection. A simple browser plug-in is usually installed, although not required, to provide a better participant experience.

Microsoft Office Live Meeting delivers all of the capabilities one would expect in a modern Web conferencing platform including the ability display presentations, documents, browsers, and any application. Live Meeting also offers whiteboarding, and it gives participants the ability to mark up and annotate any presentation. The Live Meeting hosted service also provides an excellent platform for events or large numbers of participants in a Web conference. The Microsoft Office Live Meeting Client provides access to both the hosted and on-premise options.

Using Microsoft's IP audio capabilities, Live Meeting participants can join a Web conference using their computer microphone and speakers, and for video, they may use a standard Web cam. Attendees will enjoy excellent audio quality, even over an Internet connection. Users may also join the audio portion of a meeting using a regular telephone.

One of the unique features Live Meeting offers is the ability for users to deploy a portable Polycom® CX5000⁹ conference room audio and video speaker device. Polycom CX5000 captures a 360 degree image of everyone in a room, and transmits it to participants at other locations. Using Polycom CX5000, meeting participants can see the body language of everyone in the meeting, making meetings much more effective, particularly for meetings involving non-native language speakers and those in multicultural environments. Polycom CX5000 also supports wideband audio, providing participants with a richer, more enjoyable audio experience while meeting.



Polycom CX5000

Figure 4. The Live Meeting Console showing Polycom CX5000 video input.



Microsoft Office Communications Server 2007 Release 2 (OCS 2007 R2)

OCS 2007 R2, one of the cornerstones of Microsoft's UC solution, is the on-premise, server-based solution that provides rich presence, instant messaging, enterprise telephony, standard and high definition video, point-to-point and multipoint audio/video conferencing, and Web conferencing.

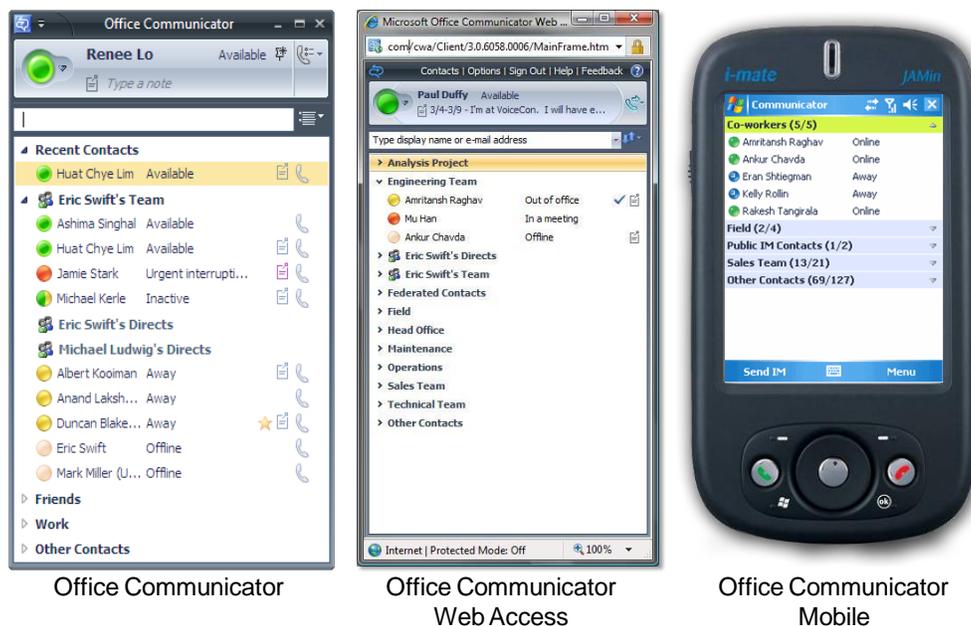
Software-based audio, video and web conferencing capabilities are native to OCS 2007 R2, and the product can support hundreds of simultaneous audio and/or video conferencing sessions. OCS 2007 R2 allows companies to eliminate the service fees charged by hosted audio and video conferencing service providers, allowing significant conferencing cost savings.

⁹ http://www.polycom.com/products/voice/conferencing_solutions/microsoft_optimized_conferencing/cx5000.html

Client Applications: OCS 2007 R2 delivers conferencing capabilities on the desktop, web browser, mobile devices or room based solutions using the following four primary user interfaces:

1. Office Communicator client provides all conferencing functionality (audio, video, web application sharing) on a PC as a part of the complete UC solution set.
2. Office Communicator Web Access provides a similar experience from most popular browsers, including Microsoft Internet Explorer as well as Mozilla Firefox and Apple Safari browsers.
3. Office Communicator Mobile provides for control of many conferencing functions from Windows Mobile and many smartphones, though, of course, the audio and video media will be presented over the appropriate device (e.g. cell phone voice link).
4. Live Meeting Console - as shown above.

Figure 5. Office Communicator's thick, thin, and mobile client interfaces.



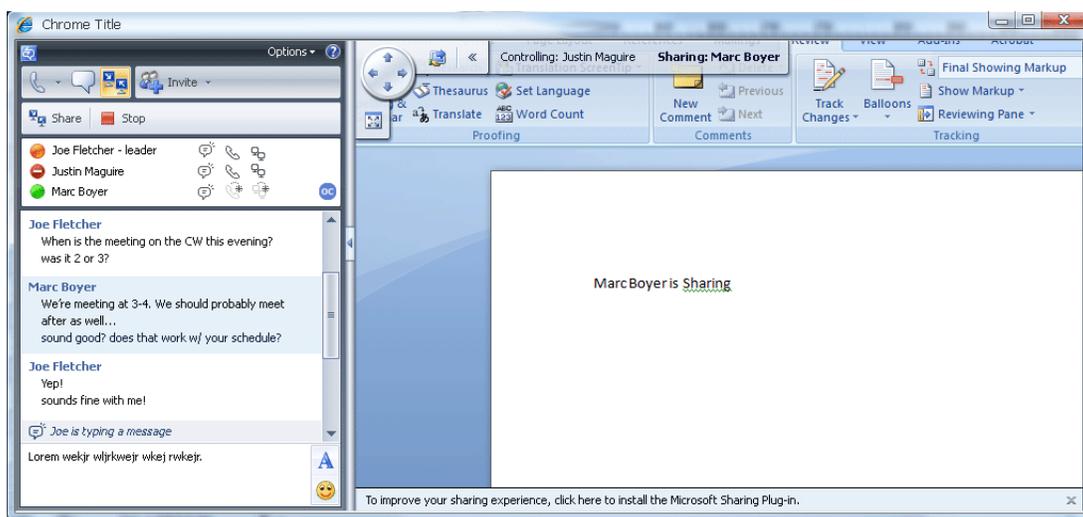
Audio Conferencing with OCS 2007 R2: OCS 2007 R2 also offers additional audio conferencing functionality to include dial-in users from the PSTN. While most users, both internal and invited guests will prefer to use the OCS 2007 R2 clients – Office Communicator or Communicator Web Access as described above – sometimes an internal user needs basic telephone access and outside participants such as customers or partners will naturally use the telephone network. They will experience familiar, high-quality audio conferencing, of course, while the conference host, using OCS 2007 R2 clients will have a Conferencing Console that will allow control of each PSTN line or mute, un-mute or drop.

A number of partners have teamed with Microsoft to enhance OCS 2007 R2's native audio capabilities. For individuals that want high-end PC headsets, Jabra and Plantronics have developed OCS-compatible Bluetooth and corded headsets. For those that prefer to use a handset

versus a headset, LG-Nortel and Polycom, have created desktop phones compatible with OCS 2007 R2. See prior footnotes for more details on partner audio devices for OCS 2007 R2¹⁰.

Web Conferencing with OCS 2007: OCS 2007 R2 provides users two options for Web conferencing: desktop sharing and Live Meeting. Desktop sharing allows a person to launch an instant collaboration session in which participants are invited to a meeting through an instant message. By accepting the meeting invitation, participants immediately view the presenter's screen. Alternatively, if users want the full collaborative features Live Meeting offers, Live Meeting is delivered as a premise-based solution with OCS 2007 R2, and it can be installed on a separate server as an OCS 2007 R2 server role. It has all of the features of the hosted Live Meeting.

Figure 6. The instant desktop sharing interface in Office Communicator.



Video Conferencing with OCS 2007: OCS 2007 R2 provides three tiers of video conferencing solutions, each of which is supported by the appropriate user devices, provided by Microsoft and a wide range of partners:

- Desktop Video Conferencing:** Office Communications Server and Live Meeting both offer desktop videoconferencing in OCS 2007 R2 as shown in Figure 7 using inexpensive Web cameras, and video is easily added to IM sessions, audio calls, and Web conferences. To see multiple people simultaneously in an OCS 2007 R2 video conference requires integration with third-party group video conferencing solutions from Tandberg and Polycom (see below).

¹⁰ See these devices at: <http://technet.microsoft.com/en-us/bb970310.aspx>

Figure 7. Office Communicator 2007 R2 video conferencing.



- Extension of Audio/Video Room Conferencing:** OCS 2007 and Live Meeting both support integration with the Polycom CX5000 device that offers users the ability to view multiple parties simultaneously when in a Web Conference as shown in figure 4 above.
- Integration with Telepresence and GroupVideo Conferencing:** OCS 2007 R2 provides point-to-point high definition (720p) video conferencing capability. However, there are many situations when one needs to connect with video conferencing solutions from [Polycom](#) or [Tandberg](#). These two companies have integrated their endpoints, including Tandberg's MXP video units and Polycom's HDX, RPX, and TPX video units with Office Communicator. The Office Communicator video window can be expanded to full screen to show the video incoming from the Tandberg and Polycom video endpoints. Furthermore presence status (in use/not in use) of the Tandberg and Polycom video endpoints appears in the Office Communicator buddy list, making it easy for users to connect into these endpoints with a single click. By using either partner company's multipoint bridges or gateway capabilities, Office Communicator can communicate via video both with telepresence systems and with legacy H.323 and H.320 video systems.

Microsoft OCS and Live Meeting as a Conferencing Choice

The decision-making criteria and related details on deployment options, TCO, and functionality can be used for evaluation of Microsoft OCS and Live Meeting as an enterprise choice for Conferencing solutions. The table below evaluates Microsoft Conferencing solutions against the eight (8) decision making criteria as defined in the previous section.

Criteria	Evaluation and Ratings (5=highest)	Comments
User Experience	[5] Microsoft OCS and Live Meeting offer a comprehensive and integrated set of user clients for PC, web browser, phone and mobile devices. The user experience is fully integrated to the Office suite of tools and applications and the client interfaces can be embedded in business applications. OCS offers conferencing integrated with a complete UC suite, providing seamless communications across all modalities.	Microsoft Office Communicator (MOC) works consistently with both OCS on-premise and Live Meeting hosted services. Polycom CX5000 is a unique and highly effective meeting room conferencing tool, with best-in-class economics.
Anywhere Access	[5] OCS and Live Meeting both offer access from any location via secure, encrypted IP communications tools. Customers, partners and others can be readily included in conferences. Dial-in conference access is supported in OCS 2007 R2. Voice and video can traverse firewalls with OCS 2007 R2, and users do not need to use a VPN.	External users do not need an account to be invited into OCS or Live Meeting conferences and can access the meetings via all popular web browsers.
Applications for Enterprise Operations	[4] OCS and Live Meeting offer APIs for integrating the conferencing software into enterprise applications.	Microsoft has published open APIs that anyone can use to enhance or embed its solutions.
Flexible Deployment Options	[4] Premise-based OCS can scale from a small deployment (10's of users on one server) to very large deployments (over 100,000 users on multiple servers) using a single integrated software environment. Hosted and Premise can be intermixed for optimal flexibility. OCS on-premise also includes industry-leading UC (UC) functionality.	While the Microsoft solution now provides HD video, deployment into an existing conferencing environment will require gateways for protocol conversion or third-party integrated solutions.

Criteria	Evaluation and Ratings (5=highest)	Comments
Single Vendor Support	[4] Microsoft conferencing is a fully integrated element of the Office suite of solutions. Support will usually include the Systems Integrator as first point of contact and intermediary to Microsoft support. Software Assurance licensing provides on-going software and security updates.	
Architecture and Roadmap	[5] Software-based conferencing is clearly the correct architecture for the future. The Microsoft roadmap is consistent with the entire Microsoft Office suite.	Expect Microsoft to continue to enhance and expand the end-point options and HD functions.
Total Cost of Ownership (TCO)	[5] Both OCS and Live Meeting services are economical solutions. The software-based, fully integrated OCS package has reduced the cost of on-premises conferencing significantly. The option of consistent hybrid deployment supports optimal TCO.	When considering value for money, Microsoft's solutions are compelling from a cost standpoint.
Operation, Governance and Compliance	[5] Microsoft Conferencing is leading in this area, with logging, recording, security, and access controls.	Microsoft has invested significant effort into security and ease of maintenance for its solutions.

In summary, the software-based Microsoft conferencing solution scores in the top brackets in all categories. The 4.63 average is a top rating in the industry in 2009 and the industry trends favor software-based solutions. Clearly, Microsoft OCS 2007 R2 and Live Meeting warrant serious consideration for any investment in enterprise conferencing systems and services.

Compelling Evidence Showing Conferencing Benefits

The following real end user customers provide evidence that Microsoft's conferencing and collaborations solutions, Office Live Meeting and OCS 2007 R2, are providing measurable business value (see <http://www.microsoft.com/communicationsserver/en/us/case-studies.aspx> for additional evidences).

- **Intel** – Intel is the world's largest semiconductor chip maker, based on 2007 revenues of U.S. \$38.3 billion. This company, with 86,000 employees was looking for a UC solution to promote efficient collaboration for its global operations. Intel chose Microsoft Office Communications Server 2007 as the best solution to meet its needs, equipping all employees with Office Communicator for Presence, IM and peer-to-peer communications. Employees in specific roles have are also using the Conferencing and Enterprise Voice

features of OCS, both to replace desk phones and to provide in-house audio conferencing. In the first year of operation, Intel saw audio conferencing costs drop by 20% and reduced both travel/logistics costs and travel's impacts on the environment.

- [Lionbridge](#) - Lionbridge is a leading provider of language, content, and technology outsourcing services. With more than 4,600 employees in 26 countries, the company wanted to make it easier for employees to communicate with each other, while reducing telephony and conferencing costs. Lionbridge enabled all employees for integrated voice over IP, Web conferencing, presence, instant messaging, e-mail, and voicemail by deploying Microsoft® Office Communications Server 2007, Office Communicator 2007, and Exchange Server 2007. One of the things Lionbridge emphasizes is that, "... it (OCS) integrates directly with the applications that most of the people at Lionbridge use," a key value highlighted in the User Experience decision criteria in this paper. Also, Lionbridge estimates their savings on Conferencing alone at US\$1.3 million per annum, or approximately \$300 per user per year, contributing to a very positive ROI.
- [Royal Dutch Shell](#) - Royal Dutch Shell is a global group of energy and petrochemical companies active in more than 130 countries and territories. Shell had multiple systems and user interfaces for communications across its diverse business units. Because of this complexity, employees often depended on telephone calls or face-to-face meetings involving expensive business travel when other modes of communications would have better suited their needs. To improve the work environment and to make its employees more productive, Shell has chosen Microsoft Office Communications Server 2007 to provide a single user interface for all real-time communications for its 150,000 employees. As Royal Dutch Shell enables users with OCS Conferencing capabilities, it is realizing direct savings in its hosted audio conferencing service. Conferencing is now easily accessible and scheduled through the familiar Microsoft Office interfaces and users are readily adopting conferencing using their Microsoft Office Communicator for voice access. In addition, by using desk top conferencing and with Polycom CX5000 in most conference rooms, Royal Dutch Shell expects a major savings from a reduction in the 600 existing specially equipped video conferencing rooms.

Conclusion

In today's economy where companies need to communicate in real time with globally distributed teams and a multinational customer base, conferencing has become a mainstream tool for communication and collaboration. Businesses are finding significant value in terms of desirable business outcomes, cost savings, and environmental sustainability.

Conferencing, collaboration, and communications are all moving away from big iron hardware solutions to flexible software systems that run on off-the-shelf servers using standard operating systems. Microsoft has developed two enterprise-class conferencing and collaboration solutions:

Microsoft Office Live Meeting service and the presence-enabled capabilities available in Microsoft Office Communications Server 2007 Release 2.

When selecting between a hosted service and a premise-based solution, there are several factors to consider including the user experience, access methods, the ability to embed the solution into the daily workflow, flexible deployment options, architecture and roadmap, security and compliance, and clearly TCO. Additional factors include an organization's current costs for conferencing and travel, as well as the ROI required to move to a new solution. Not all RIO is based on hard dollar savings, and ROI can be tied into a businesses' differentiating expertise and concerns for which it cares passionately.

We have provided conferencing solution guidance which takes into account these factors and which makes recommendations for the optimal solution in order to meet specific business requirements. The evidences provided show that real companies are achieving real value by deploying conferencing and collaboration solutions.

For more information about Live Meeting Service, please visit www.livemeeting.com.

For more information about OCS 2007 R2, please visit www.microsoft.com/ocs.

For more information about Microsoft UC solutions, please visit www.microsoft.com/uc.

Appendix: About the Authors

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E. Brent Kelly has over 20 years experience in developing and marketing highly technical products. Prior to joining Wainhouse Research, Brent held senior management, marketing, and technical positions in both large and small communications, manufacturing, semiconductor testing, and petroleum companies. He has authored reports, articles, and seminars on migrating to IP communications, integrated conferencing environments, IP video network providers, and the conferencing reseller channel. Brent specializes in IP communications infrastructure, the rich media conferencing reseller channel, and strategic consulting.

Mr. Kelly holds a Ph.D. in engineering from Texas A&M and a B.S. in engineering from Brigham Young University.

For additional information on unified communications and collaboration from Wainhouse Research, please see:

[Wainhouse Research White Papers](#)

[Unified Communications Products Forecast 2008-2013](#)

[Unified Communications Services Forecast 2008-2013](#)

[Rich Media Conferencing Volumes 1 - 3](#)

[Mobile Unified Communications](#)

[Microsoft's Software-Powered Unified Communications Strategy](#)

[Collaboration Service Providers Market Intelligence Studies](#)

[WebMetrics](#)

[Rich Media Metrics](#)

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Marty Parker has been involved with enterprise conferencing solutions since the mid '90s when he had product line responsibilities with Lucent and Avaya. Since the emerging versions of Unified Communications (UC) in 2001, Marty has held leadership roles in the definition and creation of UC products and solutions, sponsoring the blend of voice, web and video conferencing as core elements of effective UC packages. Since 2005, Marty has been an independent consultant specializing in UC.

Mr. Parker holds a BS in Business Administration from the Haas Business School of the University of California, Berkeley.