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PAPER

Extend the Value of IBM Lotus Applications with Avaya Unified Communications

**A Step-by-step Guide for IT Leaders on the Considerations,
Options and Benefits of Unifying Communications**

April 2007

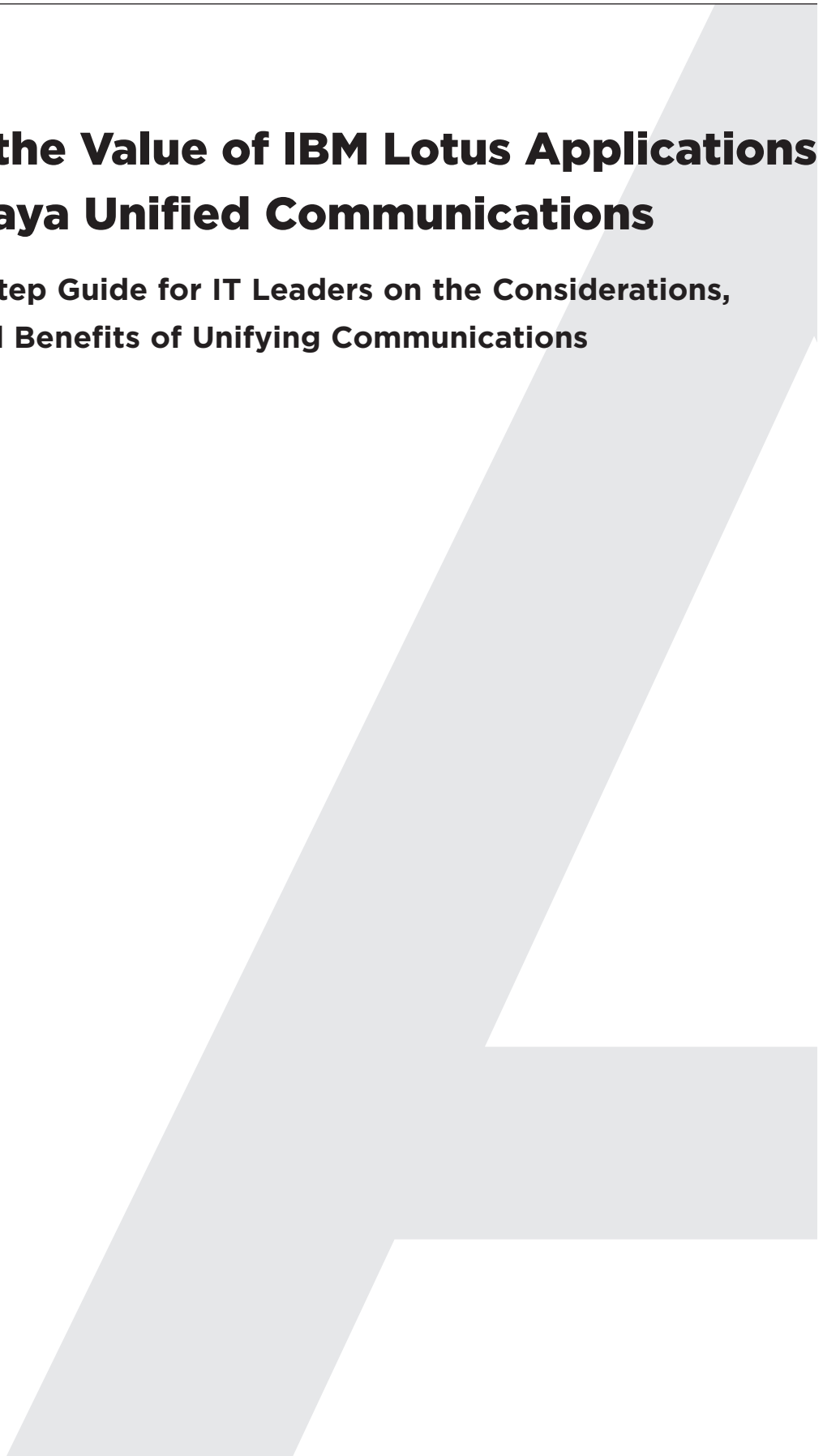


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The mantra of anytime-and-anywhere communications is now being united with any way.

Introduction

To realize the value of unified communications, most enterprises will have to integrate new communications solutions within existing infrastructures. Because some legacy systems will not offer a clear onramp to unified communications, an organization will want to evaluate vendors based on their abilities to minimize disruption by leveraging existing infrastructure and user experience, as well as their ability to help weigh the business, technical and product considerations that would yield the right solution to meet the organization's needs.

In doing so, enterprises will want to assess the breadth of integration options and the depth of integration. Options should encompass all communications applications that can be unified: telephony, messaging, mobility, presence and conferencing. A full complement of features will ensure those of critical importance to your organization can be readily deployed.

Avaya and IBM have leveraged their considerable individual technologies and platforms and roadmaps to create a combined vision to make real-time and non-real-time collaboration a reality for enterprises. Integrating the powerful communications applications from Avaya with market-leading IBM Lotus software for business applications, results in unity of communications. This unity removes the barriers of time, geography, isolated applications, messaging formats, communication modes, and choice of device. Information and communications are then liberated from virtually any access limitation. The mantra of anytime-and-anywhere communications is now being united with any way.

Learn how enterprises can now increase productivity in measurable ways by allowing

- “click-to-communicate” from familiar desktop interfaces;
- integrate in-house audio and Web conferencing to reduce expense and make meetings more effective;
- integrate e-mail, voice mail and calendars into a single client;
- reduce total cost of ownership on server management;
- extend functionality to mobile and remote workers.
- Also learn when and how to make integration decisions as well as the unique capabilities afforded by the powerful combination of Avaya/IBM.

The reality meeting the vision: How Avaya and IBM are unifying communications.

The three most important unified communications attributes reported by customers are:

- Reliability and Security
- Seamless User Experience
- Convergence of Real and Non real time applications.

Avaya and IBM are leveraging Avaya Intelligent Communications solutions across IBM Lotus platforms and applications to create a seamless communications environment. Such an environment will be of measurable benefit to the enterprise, to the individual within the enterprise, and ultimately to its customers. Combined applications increase productivity, are enterprise-ready by being reliable, scalable and comprehensive, and connect instant messaging and telephony in existing Sametime and Domino environments.

Avaya Unified Communications delivers convergence of real-time and non-real-time business communication applications such as telephony, conferencing, e-mail, voice mail, instant messaging, video, and collaboration across a variety of interfaces, whether those are PC- or Web-based clients, telephones and mobile devices, or speech. Avaya provides integrated, multi-vendor business communications applications, systems and services reliably and securely. The result is a superior, seamless user experience across all enterprise communication solutions regardless of location, network or device.

Avaya's objective is to help its customers realize maximum value through a reliable and wholly integrated voice, application and desktop experience. Avaya's communications technology has been included into a number of IBM Lotus desktop applications.

The Avaya/IBM partnership results in combining expertise and converging applications to deliver communications control. By providing the real-time context of presence along with instantaneous action, wasted efforts to communicate are eliminated.

Business Benefits of Unified Communications

Users drowning in messages — voice, e-mail, fax — and trying to manage them using multiple messaging interfaces will find the integrated approach of Avaya and IBM extremely liberating. Users needing to reach out and connect real-time, will find their ability to do so greatly enhanced.

To help create **business value** for an enterprise, employees must be able to effectively communicate and be responsive to customers. Employees need to collaborate with other members of their teams, hierarchical chains of command and partners. Their ability to act on priorities by knowing who is available and being able to communicate with them regardless of communication mode or device is extremely beneficial. They need to be able to move from an Instant message to a live call or conference call without thinking twice about it. They need to be able to quickly scan all voice mail, e-mail and fax messages in their IBM Lotus Notes mailbox, sorting them by date, sender or urgency. When voice messages and faxes are filed with e-mail messages, users stay more organized and dramatically reduce the time they spend managing their messages. Users can see their voice messages at a glance, and no longer have to manage them in a sequential manner giving them greater opportunity to focus on priorities.

By helping employees communicate, share, interact, influence, direct and arrive at decisions, business collaboration becomes a core element of the value chain. Key characteristics for successful business collaboration include:

- The ability to **remain connected and maximize availability**
- The tools to **participate in multiple teams and create impromptu conferences** and meetings
- Easy and multimedia **access to the flow of information**
- The ability to **seamlessly shift between different communication modes and media**

From theory to practice seamlessly: a unified communications scenario

Liberating the worker to communicate effectively and responsively means allowing them to reach out when they need to, to whomever and to whatever they need to, from whichever device they are currently using. For truly unified communications, the individual must be able to move from desktop to destination without missing a beat. For example:

- Mike checks his **e-mail and voice messages in his Lotus Notes inbox**.
- Needing to respond quickly to a message from Kelly, he confirms Kelly's "presence"
- Noting her availability, Mike initiates an **instant messaging (IM) session**.
- It quickly becomes apparent that a live conversation would be more expedient, so Mike **"clicks-to-call"** from Sametime Connect to automatically set up a phone call with Kelly. (While setting up the call, the system **automatically detects** that both Mike and Kelly's endpoints support video and **initiates video simultaneous with the audio**.)
- Someone wanders into Mike's office, briefly interrupting. Mike places the call with Kelly on hold. (Since communications are unified, **both the audio and video are placed on hold**, and then opened when Mike takes the call off hold a moment later.)
- Needing to check with a consultant, Mike **initiates a conference call without placing Kelly on hold** (unlike a typical conference set-up that places people on hold.)
- With everyone together, Mike presses a button to **record the conversation, which will be left as a voice message in his voice mailbox**.
- With the discussion gaining momentum, Mike realizes that he has to leave the office for an important customer meeting. He **transfers the call to his mobile device while the call is in progress without losing touch of the conversation**.
- Mike's office has poor cellular coverage, but **Mike continues the call using the internal WiFi network**. (Even if he had cellular coverage, using internal WiFi saves him from consuming minutes in his cell phone plan.)
- As Mike gets further from campus, he's given a warning that the WiFi signal is getting weak. He **switches to the cellular network while the call is in progress**.
- Having just ended his call with Kelly and the consultant, Mike receives a call from the customer with whom he is scheduled to meet. (The customer dialed Mike's single business number, and Mike's **mobile phone simultaneously rang with his office desk phone**.)
- Before the customer heads for their meeting, he urgently needs to speak with Mike's systems engineer. Mike **uses the mobile client on his cell phone to transfer the call**.
- Now in his car, Mike uses **speech access eyes-free and hands-free to check his calendar** for his afternoon meetings and return a couple of calls. He then searches for the promised message from the systems engineer, finds the e-mail and listens to it along with the attached Microsoft Word document... all done on a single call.

Mike arrives at his meeting, having moved the agenda forward by a full 15 minutes by communicating between participants enroute. All accomplished seamlessly.

How to successfully implement Avaya Unified Communications in IBM Lotus environments — Integration options and considerations

As organizations consider their unified communications implementation strategy, they should seek to become well versed in the considerations and options available in a IBM/Avaya Unified Communications integrated solution. The following provides a guide of the key environmental, business and technical considerations and the current options for integration.

Enterprise Communications historically has been architected out with separate domains for voice and data communications, requiring separate networks, systems and applications. Now, the dominant trend is to consolidate and integrate these elements into a single environment. With the rise of IP networking, a strong wave of convergence has followed that has built a common IP network infrastructure, leveraging a single network for the transport of diverse voice, data and video information.

The most visible examples of these kinds of integrated applications have been the emergence of multi-media messaging and contact centers. In addition, real-time communications now allow mobile and remote workers to communicate from anywhere over any network. Control of voice communications is now being integrated with familiar desktop interfaces to provide a seamless experience and greater control for all types of communications. Enterprises that have successfully combined the multiple methods of communications into integrated mailboxes, portals, and service support workflows, have not only increased communications choices for those seeking to connect but have improved the efficiency and responsiveness of those being contacted.

The next wave of integration that is emerging is the integration of communications into core enterprise applications and business processes. Avaya has characterized this wave as the move to Intelligent Communications, which enhances business processes by communications-enabling applications and business processes.

The timing and pace of development in the migration to Intelligent Communications are likely to be determined by the cooperation of the applications developers and the leaders in enterprise communications like Avaya. An important basis for inter-company cooperation involves the role of standards-based versus the use of proprietary technologies and development initiatives. Open systems and standards are preferable in the long term because of the inherent efficiencies and, when used effectively, can make the integration of multiple applications simpler.

Depending upon how an enterprise is structured, convergence must also occur among the IT professionals in the organization: those who recommend and deploy business applications and those who recommend and deploy telephony applications. Both have a vested interest in the benefits accruing to the organization: institutionally, advantages include business agility, competitive differentiation, process improvement, customer loyalty, and employee retention. From a practical standpoint, both experts will collaborate to deliver unified communications throughout the organization to boost productivity, drive down cost, foster greater collaboration and simplify the individual's ability to communicate effectively.

The Avaya initiative with IBM to jointly develop integrated platforms for communication-enabling business applications gives enterprises considerable flexibility and power to embrace the convergence trend.

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Project A: Integrate telephony into workflow

Why integrate telephony?

The ability to focus on the task-at-hand is a luxury in short supply in many enterprises and among millions of knowledge workers. The increased pace of work life and the need for speed-to-market have made it imperative that solid productivity enhancements such as unified communications become integrated. Integrated telephony empowers individuals to better initiate and, indeed, control their communications by giving them information on who, what, when, where and how they can communicate.

“Presence” is changing how people communicate. Presence means knowing that when you click-to-communicate (and much more) — you will connect with the person you most need to reach.

Integrating telephony on the desktop allows you to:

- Locate available colleagues faster: gives you the foreknowledge to know if you can reach the individual you seek at any given moment
- Easily shift modes of communication: rather than iterative IM or e-mail exchanges, you escalate to a real-time call instantly
- Minimizes the necessity of moving from application to application
- Eliminate punching numbers on a keypad; never misdial again
- Allows you to shift from the PC or desk phone to a mobile device, or from a mobile device to the desktop while a call is in progress

Avaya can integrate its IP Softphone with the IBM Lotus Sametime Connect application and/or Lotus Notes to allow click-to-call functionality from right within the Lotus interface. Sametime users can click on a buddy or a contact list search result and automatically initiate a call with the chosen individual. Similarly, with Notes integration, users can enter a name in the IP Softphone lookup window and find a contact's phone number to dial immediately. Video calls are automatically established for Avaya IP Softphone users who are enabled for desktop video. And, all Avaya Communication Manager capabilities are available once the call is made, and are supported from within the Avaya IP Softphone client itself.

This integration of telephony with presence and instant messaging increases productivity throughout the organization. It allows users to quickly and easily switch modes of communication without disrupting the conversation and work flow, when topics discussed over IM escalate to the point of needing real-time, voice-to-voice contact. Users can also quickly launch a desktop video call from their IP Softphone, when the other endpoint is video-enabled, making the collaboration even more interactive. Managing video through Avaya Communication Manager unifies audio and video together. Voice and video will share a common dial plan and management. The telephony features, such as forward, hold, transfer and mute are even extended to the video call, should one participant need to move to another office or conference room.

Finally, users don't have to worry about misdialing or about moving from device to device just to collaborate: with Avaya IP Softphone integration with Lotus Sametime, the user's PC provides the rich functionality of both the desktop and the desk telephone.

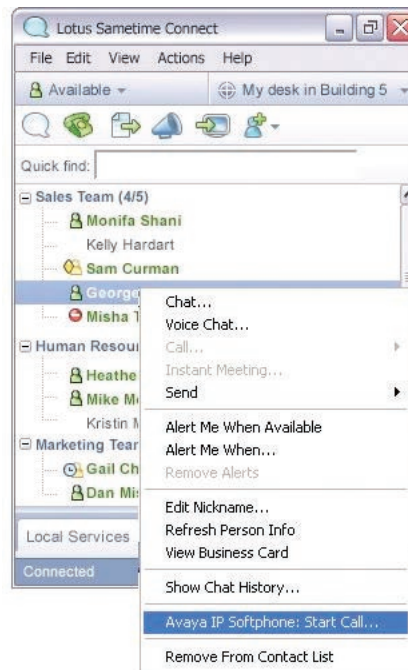


Figure 1. Users can click on contacts in the Sametime Connect Client and initiate a call using the Avaya IP Softphone. They can also go directly to the Softphone and enter a contact name; the phone number will be pulled from the Notes address book, allowing the user to immediately call the contact.

Without having to find or dial any numbers, the user right-clicks on an individual's name within Sametime and selects to call them — and within seconds, they're on the line. Real-time collaboration can make all the difference when companies are competing for business. When they add the power of Avaya Unified Communications to their existing IBM Lotus applications, company's can quickly use the power of voice communications... without leaving the context of their work.

Implementation, which occurs primarily at the desktop level, is quick and easy. Users should first have Lotus Notes and/or Lotus Sametime Connect already installed on their Windows PC. When you install Avaya IP Softphone 6.0, you simply select the optional support for IBM Sametime or Notes. The Softphone installer automatically finds the Lotus application on the local PC and installs a Java plug-in file into the Sametime or Notes directory to enable the telephony integration.

Click to Call in Sametime launches Softphone

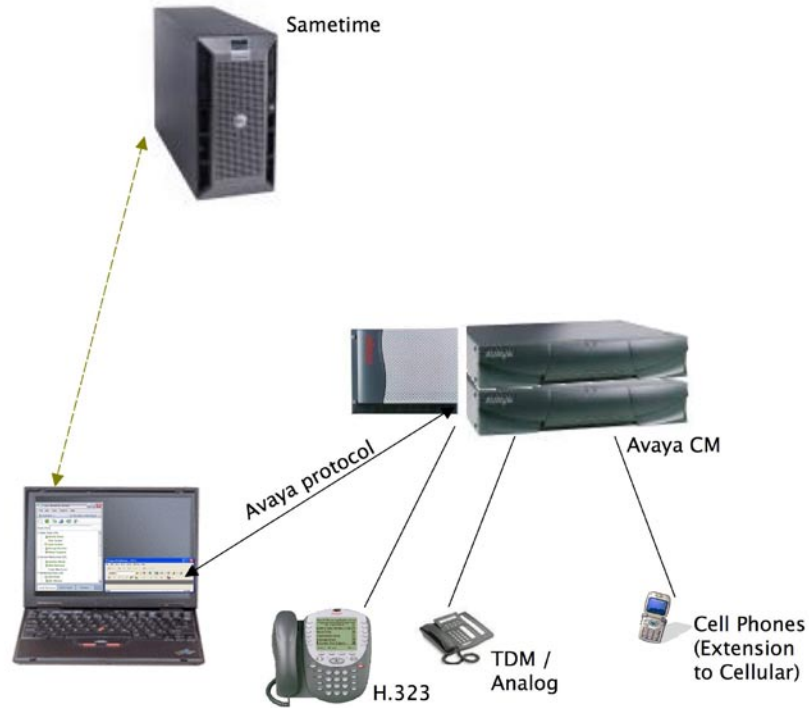


Figure 2. Unification of IBM Lotus Sametime and Avaya Communication Manager happens on the user's PC with software built into IP Softphone.

While Avaya integration with Lotus Sametime and Lotus Notes provides employees with enhanced contact capabilities and real-time collaboration ability, our messaging and mobility points of integrations add even more ways to leverage unified communications.

Project B: Unify All Messaging

Unified Messaging brings together different forms of messaging — email, voice mail, fax — into a single environment. People working at their desk can access their voice messages using the familiar desktop client. Mobile associates can access their email using the same telephone user interface and session or speech interface used for retrieving voice mail. IT looking to extend consolidate servers for improved cost control and administrative simplicity can consolidate the storage of all messages into a single server.

Avaya allows an enterprise to move to a unified messaging solution while introducing minimal disruption for users. Avaya Modular Messaging supports the AUDIX, Aria, and Serenade telephone user interfaces. Thus, users can move to unified messaging to gain the benefits of using Lotus Notes to manage messages on the desktop, while maintaining the use of familiar touch-tone interfaces to access messages when they are away from their PCs.

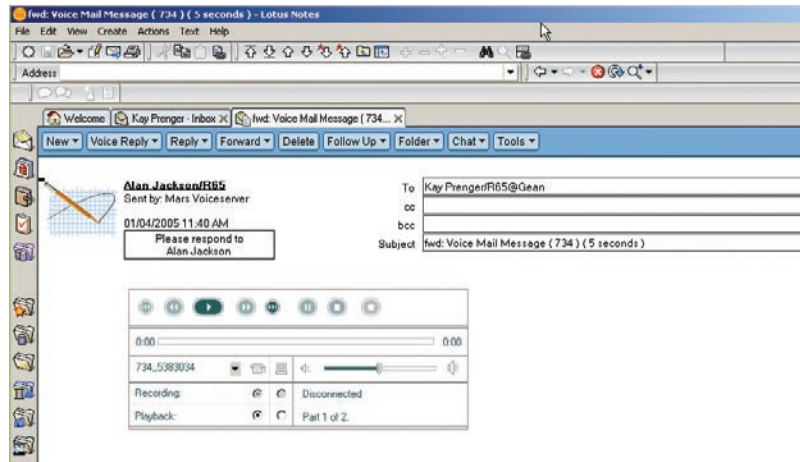


Figure 3. The Unified Messaging integration solution raises productivity and lowers training costs by allowing users to manage voice communications from their familiar Lotus Notes client or an intuitive speech interface.

In the multi-location enterprise, Modular Messaging is designed to introduce unified messaging while it co-exists in a broader voice mail network. Modular Messaging can be networked to other messaging systems using standards such as SMTP/MIME, VPIM V2, and AMIS; and Avaya networking protocols such as Octel Analog Networking, or AUDIX, Aria or Serenade Digital Networking.

There are two models of messaging unification to be considered, as depicted in Figure 3: unified access and unified message store.

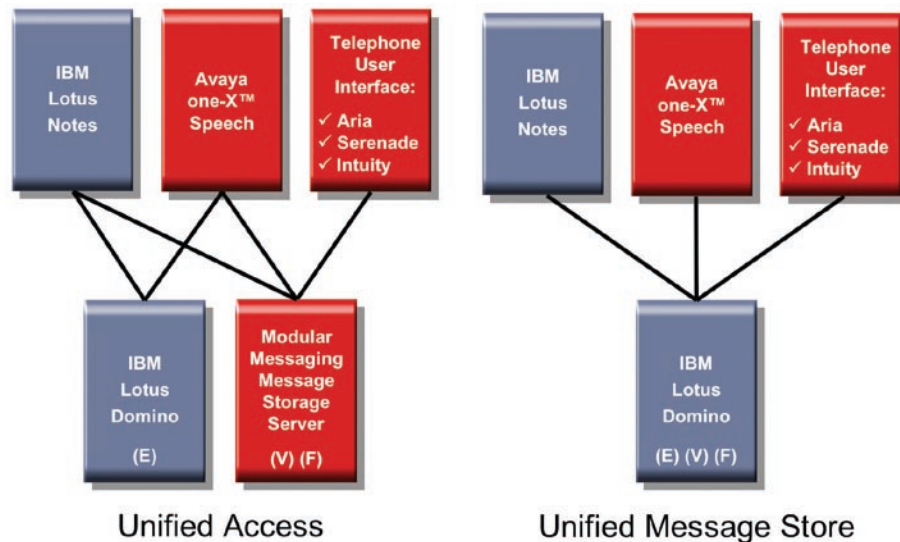


Figure 4. Unified Messaging Topologies. Alternative configurations are available to meet the specific architectural and business policy needs of the enterprise.

Avaya is unrivaled in its ability to “mobilize” the workforce, even as it unifies their communications.

The unified access approach allows Lotus Notes to be used to access e-mail messages from Domino while simultaneously accessing voice messages from the Avaya Modular Messaging Message Storage Server. Architecturally, Avaya provides add-ins for Lotus Notes to access the Avaya server. Users can also access Subscriber Options either loaded on their PC or from a Web-based application to administer their mailboxes. Note that, the telephone user interface (TUI) does not provide e-mail-reading for messages stored in Domino, though mobile users can access both e-mail and voice messages via speech commands using Avaya one-X Speech.

In the unified message store approach, the end-user desktop functionality is similar to unified access, in that Notes is used to access e-mail and voice mail. However, Domino is used to store e-mail, and voice and fax messages. IBM Lotus Domino Unified Communications (DUC) software is used to allow Notes to be used for both email and voice mail. With a unified message store, the TUI provides Dual Tone Multi-Frequency (DTMF) access to all messages stored in the user’s inbox on the message store. This means that the TUI can provide access to voice mail along with e-mail-reading (via text-to-speech technology) of messages stored in the corporate e-mail system.

Enterprises that opt for the unified message store approach realize the savings that can accrue from having a single messaging architecture. A unified message store reduces IT expense by establishing a single solution to operate and maintain: directories, message store, back-up procedures, administration, and servers. In addition, a single, unified message store solution leverages the investment, operations, and business practices associated with Lotus Domino.

Moving to a unified message store for e-mail and voice mail is typically a change in messaging architecture and topology for enterprises. As such, there are a number of business and technical considerations that need to be addressed, including:

Network and environment assessment

- The messaging requirements of a unified message store increase the utilization of the e-mail server, mailboxes and system administration. The CPU utilization and memory requirements of e-mail servers need to be able to support the additional processing requirements for the voice mail application. This includes allocating storage space for voice messages; Avaya can help to calculate the impact that voice messages will have on a current e-mail store so that incremental space can be granted.
- With a unified message store solution, all of the communications for the application run on the enterprise’s network. Thus, the occupancy of the IP network needs to be assessed to determine if it can support the additional load, and to provide the responsiveness for the real-time aspects of the solution. This includes evaluating the proximity of the e-mail message store to the PBX or communication servers.
- Since the unified solution leverages the enterprise’s infrastructure, the release level of e-mail, how it is configured, operating systems, what is being used for directory authentication, and other hardware, software, and operating system elements that will be involved in the overall architecture and its topology need to be running reliably and in harmony.

Corporate governance procedures and requirements

- For customers that want to retain copies of all messages, including voice mail, a unified message store is an ideal solution. For enterprises that want to retain e-mail but not voice mail, either their archiving applications must be able to filter out the voice messages or they should select the Modular Messaging Message Storage Server to keep the voice mail store separate from e-mail.

Rollout and migration plans

- If the objective is to rollout unified messaging to communities of users there are two options: 1) Implement Modular Messaging with the Domino store for a sub-set of users, and have that system co-exist with traditional messaging via voice mail networking until such time as all users have been moved to the system with the unified message store, or 2) Implement Modular Messaging with the Avaya Message Store for all users, and selectively implement desktop messaging via Lotus Notes.

The Avaya/IBM alliance brings a strong combination of end-user and IT benefits that create a compelling case for unified messaging as a key part of an enterprise's total unified communications integration strategy.

Project C: Extend unity to mobile users

Avaya is unrivaled in its ability to “mobilize” the workforce, even as it unifies their communications.

Affording the workforce mobility is one of the most important productivity enhancements for many organizations. But, if functionality is jeopardized for mobile workers, productivity gains are compromised. With its unified communications solutions, Avaya extends the same functionality to the mobile user.

Extension to Cellular allows the user to transfer a call to a mobile device or from the mobile device to the IP Softphone or desk phone while the call is in progress, making the change of locations seamless while a call is in progress. A call may have started by clicking on a name in the Lotus Sametime Connect buddy list, but that call can be shifted to the mobile device to provide portability of the call. It also saves money should a call come in on a mobile phone while the individual is at his/her desk: the call can be shifted to the desk phone to avoid consuming cellular minutes.

Extension to Cellular provides simultaneous ringing of the business phone and the mobile phone. Thus, one never has to miss a call when on the go. When a customer is trying to reach an employee in the office, it will ring on his/her business line and mobile phone so the call is answered whether he/she is working remotely or on the road.

Avaya one-X Mobile extends the capabilities of a business line to the mobile device. A call from a mobile phone will first call Avaya Communication Manager and then dial out from there. Thus, enterprises can take advantage of Avaya Communication Manager reporting, least-cost routing and features such as hold, conference, transfer, park, call forward, send all calls, etc. The mobile phone thereby becomes a full-featured device — from virtually anywhere.

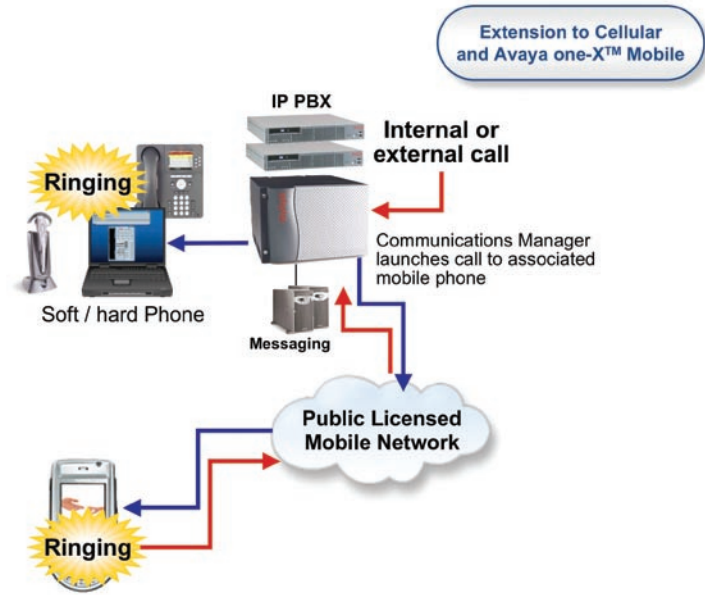


Figure 5: Extension to Cellular and Avaya one-X™ Mobile provide seamless Integration from desktop to mobile device

When the user places a call using Avaya one-X Mobile, his identity is matched to the enterprise business line, so the call recipient will recognize the call line/name ID consistent with the business line. Eliminate the need to dispense multiple reach numbers to business contacts. The simplicity of a single phone number cannot be overstated — for both workers and those trying to reach them. And the enterprise with a highly mobile workforce still maintains the relationship with the customer by owning the single number.

UCC Overview

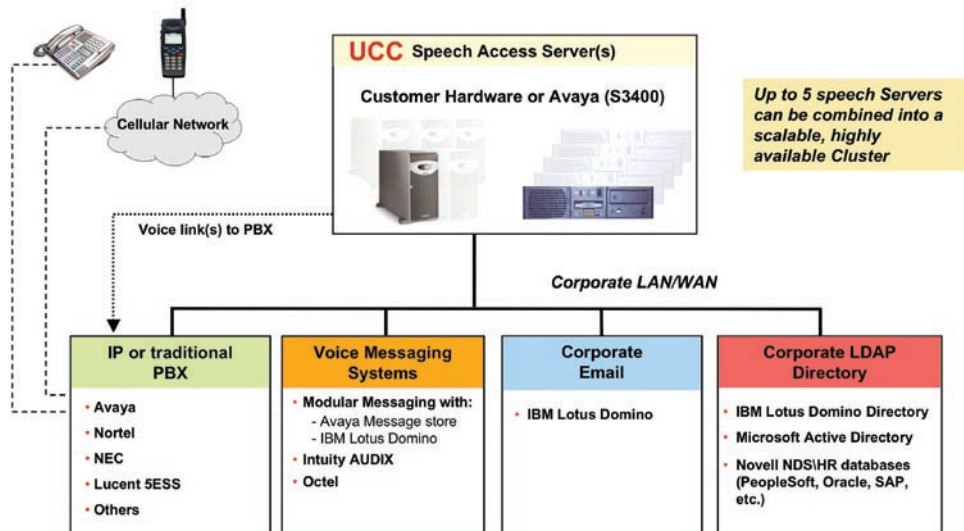


Figure 6. Avaya one-X Speech server aggregates access to email, voice mail, telephony, and LDAP directories to create a single Unified Communications solution via a speech recognition interface for mobile workers.

Avaya one-X Speech provides eyes-free, hands-free, speaker-independent access to Lotus Domino for e-mail, calendar, contacts, voice mail, tasks and reminders. The user calls the speech server, which is connected to Avaya Communication Manager or other third-party PBXs. It is integrated to Domino for access to e-mail, calendar, and voice mail if using Domino as the message store for voice messages. It is integrated to a corporate LDAP directory, which could be the Domino directory or some other directory. It is integrated with the voice mail store if it is separate from Domino. Avaya one-X speech can be integrated with a heterogeneous mix of up to 50 voice messaging systems including Modular Messaging, INTUITY AUDIX, Octel 250/350 (Aria), and Octel 200/300 (Serenade).

Avaya IP Softphone for Windows Mobile 5, Pocket PC and other Windows-based devices is an IP telephone client for WiFi-networks. Users can utilize their PDAs or specialized hand-held devices — such as Symbol M50 or M70 devices — to have built-in telephony. It provides transparent access to real-time voice communications and productivity-enhancing Avaya Communication Manager features such as multiple call appearances, transfer and multi-party conference — all in the convenience of a handheld device.



Figure 7. IP Softphone for Windows Mobile 5. Users can manage their enterprise voice calls on the same mobile device that they use for Sametime or other data applications.

When working remotely, Lotus Sametime and IP Softphone can be used across a VPN connection. Hence, the ability to click-to-call from Sametime can be used even when working from virtual office or hotel room. The remote configuration for IP Softphone can be optimized to provide the highest voice quality based on the type of network and communication resources to which the individual has access. There are two core elements to communicating with IP Softphone: Audio (speaking and listening): taking place either through the PC or through a telephone; and Command and Control: initiating, managing, and terminating communications using the desktop interface or the buttons on a telephone.

Three modes of operation are available for the Avaya IP Softphone:

The **Shared Mode** is only used when working at the desk phone where an extension resides.

- All speaking and listening is done through the desk phone attached to Avaya Communication Manager
- When a call is initiated from Sametime or IP Softphone, a desk phone goes off hook and dials the number and conversely when a call is initiated from a desk phone, it will be indicated as such within IP Softphone
- As features are used on the clients to manage the call (e.g. hold, conference) it will be indicated as such on the desk phone and conversely as features on the desk phone are used to manage the call it will be indicated as such on the clients
- A call can be terminated by hanging up the desk phone or dropping the call from the clients

The **PC-Only** is ideal when working in a hotel room or home office with cable or DSL.

- All speaking and listening is done through the PC multi-media capabilities, and communications between IP Softphone and Communication Manager is done via Voice over IP (VoIP)
- All call control is performed through the PC

The **Dual-Connect** is designed for the remote worker with access to a telephone for toll quality voice.

- All speaking and listening is done through any telephone designated by the user. This could be a home phone, home office, virtual office, mobile phone, etc.
- All call control is performed through the PC
- The user instructs Communication Manager where to route all calls when he first logs into the IP Softphone
- Inbound Calls
 - When a call arrives for the extension, the Avaya Communication Manager reroutes the call to the designated number
 - The designated phone will ring normally and IP Softphone will provide a visual and audio indication of the incoming call
 - The user need only answer the telephone as he would for any other call
 - Once the call is in progress, the call is managed (e.g. hold, conference, transfer, etc.) using the PC
 - The user can terminate the call just by hanging up, or dropping the call from IP Softphone
- Outbound Calls
 - The user uses any of the techniques to initiate a call e.g. click on a name in Sametime, name lookup in Lotus Notes or LDAP directory, call log, enter a number, etc.
 - Avaya Communication Manager first places a call to the user at the telephone designated by the user

- Once the call has been answered, the Avaya Communication Manager then places the outbound portion of the call
- Once the call is in progress, the user can manage the call (e.g. hold, conference, transfer, etc.) using the clients
- The user can terminate the call just by hanging up, or dropping the call from the clients

Note that the inbound call originators or outbound call recipients receive no information regarding the number or location of the user beyond the extension number associated with the user.

One-Number Simplicity: Avaya **One person, one number, one organization**

One number for all calls, one mailbox for all messages. Voice and fax messages also can be received on the same number, as can TTY calls. In turn, these are deposited in the same mailbox (and made available through Lotus Notes). If a caller reaches a voice mail box, he/she can be given the option to request a notification message be sent, all as part of a single call flow. There is no need for the caller to try a second number.

Flexible management, even while roaming. Extension to Cellular will simultaneously ring the office desk phone and the mobile phone. Avaya IP Softphone for Windows Mobile 5 allows the extension to be managed on a PDA over the WiFi network as the user roams the office or campus environment. Thus, whether at the desk, around the office, across town, or in another city, you can increase the probability when someone is trying to reach you, they will succeed on the first attempt.

Remote/virtual workers reachable at their usual numbers. The user of IP Softphone (integrated with Sametime) working at a remote or virtual location (for example, a home office, a client office or hotel room) can answer a call directed to their business number from wherever they are — eliminating the need to publish separate mobile or virtual numbers.

Multi-tasking calls for multiple simultaneous calls. Avaya Communication Manager allows for multiple line appearances to be associated with an extension. This allows for multiple independent calls, originated or received at the business extension, which can be managed simultaneously. For instance, one can receive and answer a call while on a call already in progress, then place both appearances on hold while another outbound call is placed. One number simplicity is available on the Avaya hard phones, and IP Softphone.

Your Caller ID a constant. What about your mobile or home number showing an ID on outbound calls? Calls made from the IP Softphone, no matter where and which operational mode is being used, will appear to be coming from the business line. Likewise, calls made from Avaya one-X Mobile and Avaya one-X Speech. Extension to Cellular maps the cell phone number to the business extension.

One mailbox eliminates cost, recaptures time. By directing all calls to the business line, the user can eliminate the need for a voice mailbox on their cell phone, saving the cost from the mobile provider. More important, they now only have a single mailbox to check. Also, when the user gets a voice message, they can be more responsive because they can forward it to a colleague for action or information, and can access all messages in the Notes interface.

Project D: Add value to collaboration and conferencing

IP networking and telephony application services form a strong foundation upon which enterprises have built their group application solutions. By IP-enabling their communications solutions, organizations have seen significant collaborative gains that have allowed them to achieve a higher competitive advantage. Implementing a converged IP infrastructure with high availability and security allows enterprises to deliver centralized communications to many users throughout multiple locations and endpoints.

Audio conferencing is a simple, yet effective means for a group of workers to collaborate over any distance. As simple as audio conferencing may be, arranging and managing conference calls can become quite elaborate and cumbersome as the number of participants grows. Additionally, using third-party conferencing services can be both difficult to coordinate and cost-prohibitive.

Web conferencing adds another dimension to traditional audio conferences, allowing participants to view presentations real-time and communicate with the host or other participants via web chat without disrupting the entire meeting. However, scalability, reliability and security are major considerations when choosing a Web conferencing platform. Without an easy-to-use, reliable, encrypted web conferencing application that is secured behind a firewall; everyday meetings as well as large formal events would be vulnerable to access by unauthorized participants.

Avaya Meeting Exchange can be integrated with Lotus Sametime and Notes as an on-network collaboration solution that combines audio and Web conferencing capabilities from Avaya with the market-leading enterprise collaboration products from IBM. There are two levels of functionality available to Sametime users when they integrate Meeting Exchange audio conferencing. The first is **multiparty click-to-conference** capability, which allows users to initiate a conference call by clicking on contacts in their Sametime client contact list. Once the conference call has begun, the moderator has a control window associated with the Sametime interface. One typically does not associate the use of a graphical user interface with an audio conference, but as shown in figure 5, these tools help the call to become more effective. The call is more secure because the moderator can see who is on the call. The moderator can identify speakers, mute noisy lines, disconnect participants, or dial out to bring new participants into the conference.

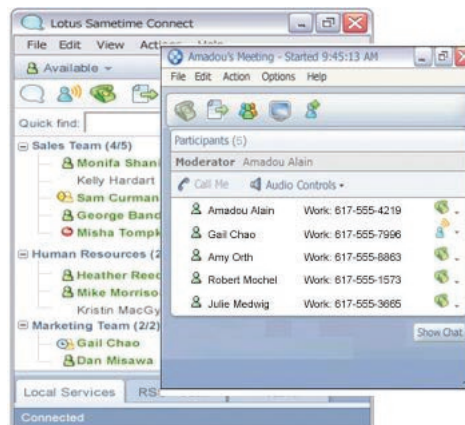


Figure 8. Lotus Sametime Connect integrated with Meeting Exchange allows conference moderators to control the participation on the call.

The second level of functionality provides similar **control of the audio conference embedded in the Sametime Web Conference interface**. By bringing audio and web conferencing together, participants have the ability to see everyone participating be it by web-only, audio-only or both, hence there is no need to conduct a roll call. Time is saved because you can keep track of who has come and gone... no more "who joined" or "did we loose someone".

In addition to providing the moderator with ability to monitor and control the audio portion of the meeting, participants leverage the benefits of a unified audio and web conference. For example, a participant can join the web conference, and then have the audio bridge dial out to bring them into the call. They don't need to remember the dial in number and access codes, and can avoid charges of dialing into the call.

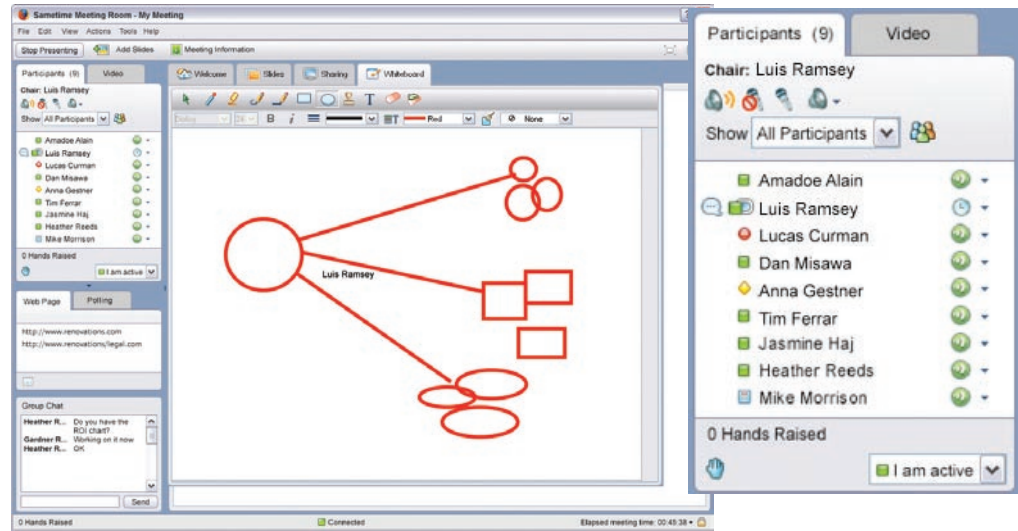


Figure 9. Avaya Meeting Exchange audio conferencing integration with IBM Lotus Sametime Web Conferencing.

In all, by using the Sametime interfaces to manage the audio conferencing, or unified web and audio conferencing, participants can spend more time on the purpose of the meeting, and less time managing logistics and technology. The bottom line is more effective meetings.

Scalable from 24 to 14,000 ports, Meeting Exchange allows enterprises to control costs and eliminates the per-use or recurring fees associated with traditional outsourced audio and Web conferencing. And by using the IBM servers and infrastructure already in place, this standard-based solution leverages existing investments without the need for revamping network architecture or making costly upgrades. Meeting Exchange can be deployed in any voice infrastructure, with any vendor's PBX, including but not restricted to Avaya Communication Manager.

Deploying Meeting Exchange audio conferencing in-house, on the corporate network, can yield significant savings and quick ROI for enterprise, as well as mid-market customers.

ROI and Cost Savings Examples*				
Company Size # employees	Conferencing minutes/month	Monthly Service Provider charge (based on \$0.05/minute)	Recommended Meeting Exchange system**	Months to payback; cost savings
1,500	287,000	\$14,350	96-port Meeting Exchange	6 months; \$12,600 average monthly savings
5,000	1,040,000	\$52,000	360-port Meeting Exchange	5.5 months; \$49,000 average monthly savings
8,500	1.8 million	\$88,400	600-port Meeting Exchange	5 months; \$85,000 average monthly savings

* Average calculations based on typical customer deployments
 ** Contact an Avaya representative for Meeting Exchange pricing

Business Drivers for Implementation and Migration Path:

Conferencing has become an important everyday communications tool for most businesses, and that means that money spent on conferencing is likely increasing all the time. Therefore, main drivers for in-house conferencing include a need to reduce spending on conferencing services and travel, while maximizing employee productivity.

Paying a one-time charge for a conferencing system that is deployed on the corporate network is significantly more cost-effective compared with per-use or recurring fees for conferencing services. And when you factor in reduction in travel and long-distance calls that can result from easy access to an internal conferencing system, the cost savings and ROI increase.

Embedding conferencing into a user’s familiar IBM Lotus environment provides more capabilities without adding several new, disparate communications tools. This can help users work more productively without requiring costly or time consuming training and migration to completely new tools. And because integration between existing applications is based on open standards, deploying and integrating Meeting Exchange conferencing with Sametime and rolling the solution out across the enterprise is straightforward.

The Meeting Exchange audio conferencing bridge can be easily integrated with IBM Lotus Sametime by installing a software adaptor on the Domino/Sametime server. The software provides integration between the Meeting Exchange Bridge Control API (BCAPI) and the IBM Lotus Telephony Service Provider Interface (TSPI), which is provided by IBM. Meeting Exchange bridges are shipped with the BCAPI, so no additional downloads or configuration are necessary. The adapter software is purchased from Avaya, and is configured for the number of Sametime users registered on the system. The Sametime server then communicates with the Meeting Exchange bridge over IP LAN or WAN.

The adapter supports TLS encryption between the Sametime and the Meeting Exchange bridge for the purpose of securing messages across the BCAPI interface.

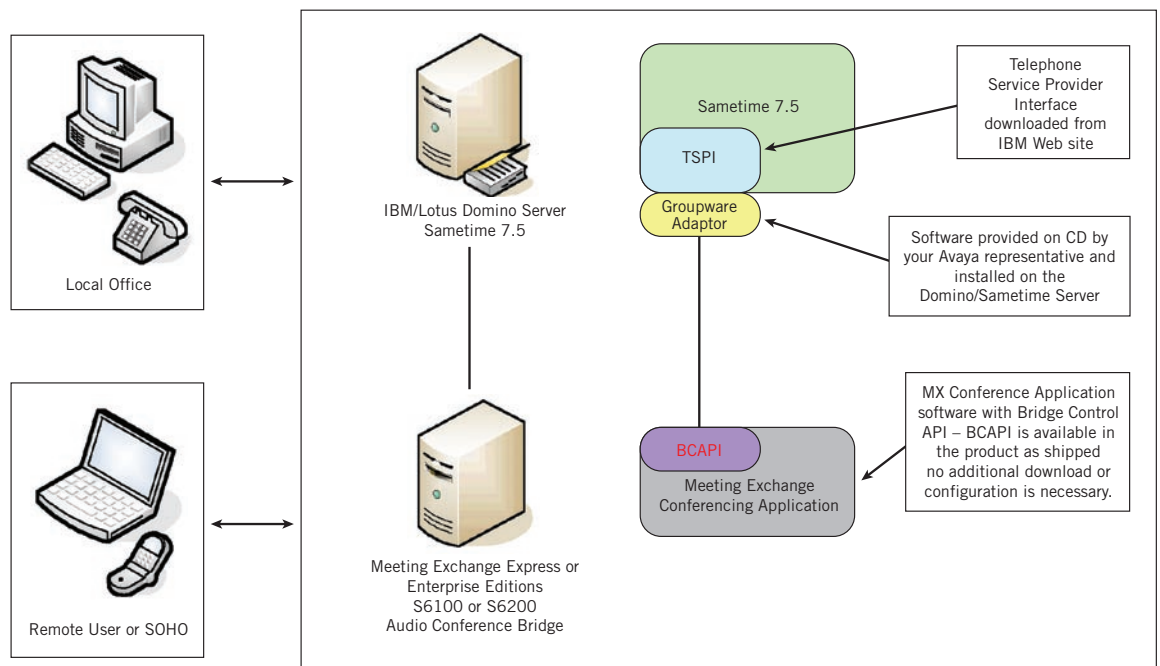


Figure 10. Avaya Meeting Exchange and Sametime Architecture.

Conclusion

Avaya has brought an integrated and reliable voice, application and desktop experience to the market in cooperation with IBM.

Avaya has been at the forefront of convergence by architecting the network over an IP infrastructure that handles both voice and data. Avaya solutions — while at the vanguard of technology for the enterprise — are first and foremost designed to be practical: to streamline operations, cut costs and make the worker more productive among many other benefits. Nowhere is that more apparent than with Unified Communications.

Enterprises can now increase productivity in measurable ways by allowing “click-to-communicate” from familiar desktop interfaces; integrate in-house audio and Web conferencing to reduce expense and make meetings more effective; integrate e-mail, voice mail and calendars into a single client; reduce total cost of ownership on server management; extend functionality to mobile and remote workers.

Avaya is equally committed to work with other key applications providers to incorporate communications-enabling capabilities into its applications. By taking a similar standards-based development approach with other players to offer competitive choices for the market, Avaya leverages its large enterprise and small business experience with scalable, reliable and secure communications solutions for the benefit of its customers, regardless of their choice of desktop applications.

The partnership between Avaya and IBM is just one of the examples of Avaya leadership in offering Intelligent Communications.

About Avaya

Avaya delivers Intelligent Communications solutions that help companies transform their businesses to achieve market-place advantage. More than 1 million businesses worldwide, including more than 90 percent of the FORTUNE 500®, use Avaya solutions for IP Telephony,

Unified Communications, Contact Centers and Communications Enabled Business Processes. Avaya Global Services provides comprehensive service and support for companies, small to large. For more information visit the Avaya Web site: <http://www.avaya.com>.

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