

The Compelling Case for Unified Messaging

Changes in unified communications make UM the right choice for most enterprises.

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Abstract:

Unified Messaging is now the best solution for telephone call answering in most enterprises.

The use of voice mail has declined significantly in importance in this decade due to better alternatives for communications, including Presence, Instant Messaging, E-Mail, Conferencing and Collaborative Workspaces. In most enterprises the residual value of voice mail is to answer the phone for the few callers who don't have other options. Therefore, enhanced user productivity and reduced costs are possible by combining the remaining voice mail workload with e-mail (as with Microsoft Exchange Server 2007).

Meanwhile, business and regulatory processes continue to evolve, also changing the requirements for voice mail systems. In the current environment, a Unified Messaging (UM) solution that answers telephone calls and then stores the voice recordings in the users' e-mail inboxes is also the best business process option for most enterprises, providing improved business outcomes.

This White Paper will highlight these evolutionary forces and describe the major business value gains that are possible with the new UM solutions. By implementing UM, organizations can not only improve end user productivity and business outcomes, but can reduce costs compared to traditional voice mail systems. Also, the White Paper will provide decision-making criteria for moving to a UM solution. The Microsoft UM solution, Unified Messaging in Exchange Server 2007, will be discussed in light of the decision-making criteria, showing that Microsoft UM is an effective solution to deliver business value for most enterprises. The Total Cost of Ownership (TCO) analysis will show the TCO for Microsoft UM can be as much as 40% below either traditional voice mail or the two-vendor UM solutions common in the market today.

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Unified Messaging Overview

Unified Messaging: A Better Solution

Unified Messaging (UM) is the convergence of voice mail with e-mail. Incoming, but unanswered, telephone calls are routed to the UM system which records the caller's message and stores it in e-mail for later retrieval by the intended party. UM is a significant improvement on the voice messaging systems it displaces since UM provides better:

- **Message Storage:** The most complete and efficient UM systems use the e-mail platform (e.g. Microsoft Exchange Server 2007) to store all voice messages; this eliminates the need for and maintenance of a separate voice mail system and message store. This provides business value through decreased cost.
- **User Interfaces:** The most productive UM systems use the e-mail client software (e.g. Microsoft Outlook) to deliver the messages to the users via both their desktop PCs and their mobile devices (wireless laptops or smart phones such as Windows Mobile or BlackBerry devices); this provides the user with all their information in one place, eliminating phone calls to check for messages and increasing responsiveness for customers and business transactions. This produces business value by saving time and improving end users' productivity.
- **Voice and Speech Access:** UM systems also provide the users with voice telephone access to their messages, calendars and tasks for convenience in a hands-free mobile situation or when data links are not available; the best UM systems provide a robust speech command interface so the user literally does not need to touch their mobile device to be productive. Again, this improves end users' mobile access to information and their overall productivity.

Several other approaches to UM exist in the marketplace, as described later in this paper, but the optimal solution for most enterprises is the single message storage approach as above.

For today's decision makers, UM is the preferred solution for telephone call answering and voice messages in most enterprises. Let's look at how this evolution occurred.

Voice Mail Evolution – Declining Use Drives Migration to UM

Voice Mail arrived in businesses in the 1980s, before PCs, laptops, cell phones and smart phones were the business standard and before LANs and wireless networks were prevalent. In this environment, voice mail was a very useful application. With voice mail systems, companies could provide four key services to their users, at lower cost than with message slips and memos¹:

- **Call Answering:** Record messages for users when calls were not answered.
- **Caller Information Services:** Provide info to callers to save operator time.
- **Voice Messaging:** Enable users to send a voice message to multiple mailboxes.
- **Notification:** Advise the user when they had a message via a light, tone or call.

¹ "The Practical Guide to Voice Mail", by Martin F. Parker, Osborne McGraw-Hill, 1987

Voice mail was both useful and economical, especially since it eliminated the need for staff positions to answer the phones. Business could be conducted more quickly and efficiently than was possible with message slips and memos. By the 1990's almost all enterprises were using voice mail systems.

However, 15 years later, new and better technologies have dramatically changed voice mail requirements and reduced voice mail usage. Specifically, in 1993, active voice mail users in customer-facing roles or in collaborative teams would receive 15 to 24 voice messages and call answering messages per workday; users in less communication intensive roles would receive an average of 4 call answering message per workday². In the past few years, actual customer results have shown that with very few exceptions across high-tech, industrial, transportation, hospitality, insurance, and university sectors, the average user is receiving approximately 1 (one) call answering message per workday and that voice messaging (see definition above) is approaching 0.1 messages per workday³. Of course, so long as users have telephones, enterprises will continue to need some form of call answering (voice mail) systems, but the usage patterns and the resulting requirements are significantly different.

The causes of this dramatic decline are the new and better technologies, including:

- E-mail is a better solution than “voice messaging” for most users. Since e-mail provides a written record, it is better for transactions with the required facts, numbers, and record keeping. Since e-mail can include attachments, it is better for sharing information (a fax was the best that a voice mail system could do). Also, e-mail works between enterprises, globally, while voice messaging is usually restricted to one PBX-based system or to an internal network of voice mail systems in one enterprise. On top of all that, e-mail is now fully mobile via Blackberry, Windows Mobile, and other options on most cell phones; since the user can see new e-mails instantly and at a glance, e-mail is the clear winner as reflected in the statistics offered above.
- Internet web sites are a better solution than the “caller services” for almost all business applications. PCs and laptops are the business communications tool of choice, so the former “voice mail callers” became “web site visitors”. The information services are much more efficient on the web, with maps for directions, visual menus rather than auditory ones, and forms for job applications. Those callers who do not have a PC are usually served by a speech-enabled interactive voice response system (IVR), such as Speech Server in Microsoft Office Communications Server 2007. Examples of this trend exist on almost every business web site, providing maps, information and job openings and offering e-mail and chat as preferred options for customer interaction. Reports from many of our clients' voice mail systems show that approximately 90% of the auto-attendant mailboxes have no traffic over multi-week reporting periods.

² Internal usage at major manufacturing firm, 1993.

³ Based on actual customer data as reported by the author at VoiceCon Orlando 2008.

- Presence and Instant Messaging (IM) are a better solution than internal telephone calls to solve internal business problems⁴. With the traditional phone calls, the caller has no idea of the intended recipient's availability before placing the call. With Presence and IM, the user can quickly see whom is available for a consultation, can search for the best resources, or can tag the required person for an IM when "available". Even if the other party shows busy state, an IM can sometimes get a quick answer via text, or at least set a time for the live voice call. In any case, there is no longer a need to call another person to leave a voice call-answer message. The results are reflected in the voice mail data previously mentioned; PBX reports would likely show similar declines in call volumes.

The result is that, for most enterprises, voice messaging is now a minor, low-usage application – but one that still requires separate provisioning, management and maintenance; because UM is an add on to the existing email system, it simplifies and lowers the cost of operations compared to voice mail. Meanwhile, UM is a powerful tool to improve business results and productivity. Thus, the business value of UM is compelling both for decreasing costs and for improving business outcomes.

Business Value of Unified Messaging

Improved Business Outcomes

Enterprises are able to improve business processes and the resulting outcomes with Unified Messaging (UM). Some examples of the major applications and benefits of UM include:

- Improved End User Productivity: Improved convenience, effectiveness and productivity for Knowledge Workers, Information Workers, and Management. Since the voice messages are now in exactly the same message storage and client environment as are the user's e-mail messages, the UM approach consistently delivers the highest productivity for the users. When at their desks, users' voice and fax messages are visible in the same in-box as e-mail, with exactly the same folders, rules, group lists, and message management techniques. Users can easily scan the message headers to determine which have the highest priority for action or response. Also, it is easy for the user to process the voice messages as e-mail messages when forwarding or replying to them, or when posting them to a meeting invitation or to a collaborative workspace (e.g. SharePoint).

When mobile, the users have the best of both worlds – text and speech. When the users can read their Windows Mobile or similar devices, they immediately see the new voice messages and can act to support customers much more quickly and responsively. When users need hands-free mobility or are out of data network range, a speech interface will give them audio access to all messages – voice mail, e-mail and faxes – as well as enabling them to access their contacts, calendars and tasks. Whether in text or speech mode, the users have the complete set of actions – forward, reply, call, etc.

Since many voice messages are from customers or business partners seeking support or

⁴ See the Global Crossing example in the "[UC ROI for Microsoft OCS 2007](#)" White Paper.

action from an account team or service desk, customer responsiveness can be improved with UM. Also, customer or partner problem resolution can be accelerated and enhanced, since the customer's or partner's original message is part of the e-mail string or collaborative workspace record to assist in prompt and accurate resolution. All industries can benefit in this area, since all have employees to whom productivity is important, with the greatest benefits in the customer-facing areas such as sales and service (increase responsiveness), financial services (client support actions), or logistics (accelerate transactions, increase capacity). The results are improved business outcomes through faster information access and better information management.

- **Improved Team Productivity and Collaboration:** Improved speed and effectiveness of team activities. Though the need for phone calls in team activities is reduced by Presence, IM, and e-mail, there are still points at which a voice message will be valuable or critical to the progress of a project or for advancement of a collaborative effort. For example, a team member may find it much quicker and more effective to record the results of a customer interview or site visit as a voice message and post that to the collaborative workspace. Similarly, customer voice message inputs directly to the team or, perhaps, to a department mailbox, help desk, or similar destination, can be easily saved in the collaborative team space. Integration of voice messages into a discussion thread may also improve both speed (allowing users to contribute even when mobile or off-line) and quality (getting a more expressive or emphatic expression) of the outcomes.

UM enables these team productivity and collaboration enhancements by capturing the voice messages as part of the integrated office environment. Industries ranging from Manufacturing (shorten sales cycles, accelerate product development, streamline supply chain management) to Government (enhance field staff reporting, augment intra- and inter-agency collaboration) can integrate these benefits into their operations. Each voice message is, essentially, a document that can be filed, forwarded, or posted in the appropriate business process to accelerate the collaborative results.

- **Optimized Business Processes:** Better workflow for business applications. Some enterprises need to apply specific business processes to voice or fax messages from customers, partners, or employees. Some enterprises also use their e-mail system as a core element of business processes. With UM, both of these needs are better served. All of the processes applied to e-mail can now apply to voice mail messages, since the voice messages are in the same messaging system.

For example, firms requiring records retention for messages can now consolidate the business process from two modes (voice mail and e-mail) to just one mode (UM). This application is prevalent in law firms, insurance firms, some health care applications, many government applications, purchasing departments, HR applications, and more. In the past, some of these firms actually paid for manual transcription of the voice messages to enable filing with the client records, but that can clearly be avoided (or at least postponed) when the message is part of the UM mailbox, folder and archive system. For another example, with the UM solution it is also practical to utilize personally

recorded voice messages for communications within the enterprise (e.g. the President's message) or outside the enterprise (e.g. a sales person's response to an important client where the vocal intonation will be important). With the improved mobile access to UM messages, via text or speech, the business processes can progress more quickly and efficiently as the access delays are removed.

UM offers business process value in many industries as mentioned above. The improved business outcomes accrue through less delay, avoidance of transcription steps, and seamless "anywhere access" to the information by the participants in the processes.

In summary, there are many possibilities for improved business outcomes using Unified Messaging, with many case studies to illustrate successful realization of that business value.

Decreasing Costs for Operations and Regulatory Compliance

UM offers numerous advantages for IT and Telecom Operations, as well as for Regulatory Compliance. The major benefit areas are shown here. Details of the economics are described in the subsequent TCO section.

- **Single Infrastructure.** By using a single UM message store, there will be only one messaging system for both voice mail and e-mail. This will remove all the duplicate effort to administer two separate mailboxes for each employee, to provide two sets of help desk support, to administer two sets of application servers, and to provide two complete sets of administrative procedures. There is also the potential for improvements in system management and security, for example consistent, single sign-on control of password complexity and aging; administrative access and AAA (Authentication, Authorization, and Accounting) support; and, in the more recent e-mail systems (e.g. Exchange Server 2007), encryption and digital rights management. While there will continue to be a set of voice servers as part of the solution, the best solutions will provide those voice servers as integrated elements or server roles within the E-mail system environment.
- **Streamlined Directory and Message Store Management.** With this approach, there is only one directory to provision and manage. Even while some stand-alone voice mail systems may replicate from the enterprise master directory for user provisioning, there is still a separate directory containing user profiles, with the ability of the users to add their own contact entries, group lists, preference settings, recorded greetings and more. All of these additions must be managed for backup and recovery and, perhaps, must be integrated back into the master directory for business process purposes, creating the likelihood of schema extensions and other complications to the support model. A single system will also allow for shared economies in such cost-reducing aspects as high-capacity data storage (SAN, NAS or DAS methods), rather than the high-cost separate storage of standalone voice mail systems.
- **Single Business Continuity and Disaster Recovery Plan.** With the Message Store Consolidation approach, all the focus can be on creating the best business continuity and

disaster recovery solution for the single messaging system rather than diluting or duplicating the efforts across two systems. For example, if business continuity guidelines call for redundant systems at two geographically dispersed sites with active failover between the sites, then the UM approach will require only two storage subsystems, rather than four systems to support voice mail and e-mail separately.

- **Improved Governance and Compliance.** All responsible enterprises have governance procedures related to document and message retention, archiving and management. Examples include such items as message aging, archival criteria, indexing and retrieval procedures, and other processes appropriate to protection of enterprise information, customer privacy and shareholder value. UM will enable implementation of these governance criteria in a single consolidated approach across email and voice mail, rather than in a duplicative and possibly non-conforming manner.

Regulatory compliance can also be improved via UM. For example, the privacy management regulations such as HIPAA and FERPA can be implemented in one consistent policy for both voice and e-mail messages, utilizing such advanced e-mail features as digital rights management (DRM). Also, in the case of legal discovery requirements, one consistent set of procedures and tools will suffice, rather than two separate methods for voice and e-mail. It is worth noting the 2006 US Supreme Court directions regarding discovery of electronic information⁵ which states that even for information (such as voice messages) that are “not reasonably accessible” the court may still order discovery for “good cause” and also that a plaintiff may choose to examine a defendant’s information even if the defendant claims the info is “not reasonably accessible.” While some enterprises have relied in the past on the concept that Voice Mail was not reasonably accessible, the fact that modern voice mail (VM) systems do store messages in retrievable formats, combined with the ability for a plaintiff to request access for their own discovery certainly exposes all voice mail to access and review. Consequently, many enterprises are moving to the more proactive approach of managing voice mail consistently with e-mail for this purpose. Clearly, the single message storage solution of UM is best for that purpose, though some still prefer separate VM systems.

In summary, UM has the potential for decreasing costs in most enterprises. The primary driver is the simplification of operations through elimination of duplicate or redundant effort and through the convergence of solution management into one integrated environment. In addition, decreased costs are possible for enterprise governance and regulatory compliance both by the use of a single, consistent messaging environment and by enhanced information management. The subsequent TCO section describes the major categories for these cost reductions, as a guide for planning, analysis and realization of the savings.

⁵ See <http://www.supremecourt.us/orders/courtorders/frcvo6p.pdf> and article at <http://www.edgeblog.net/2006/supreme-court-releases-new-e-discovery-rules/>

A comprehensive article on this topic appeared in Business Communications Review, February 2007⁶.

Choosing the Right Unified Messaging Solution for your Enterprise

If the business values of UM are compelling for your enterprise, you will want to choose the best solution for your organization and operations. This section provides methodologies and criteria in support of your choice.

Understanding Voice Mail Usage in Your Enterprise

An important step is to understand the current levels of voice mail usage in your firm. In most cases, the usage is far below the capacity of the installed voice mail systems, since voice mail has been displaced by better options – Presence, IM, e-mail, interactive voice response system (IVR), etc. It is possible to run several reports on the existing voice mail systems to determine the current usage levels and patterns, as an input to your selection, configuration, and deployment of the new UM system.

- **Mailbox Usage Report:** This report shows how many messages of each type (call answering or voice messages) have been received in each user's mailbox for a specific period of time, say a week or month. In most cases, over 80% of the users will be receiving an average of roughly one call answering message per day, an indication that the voice mailbox has limited use and that no voice messages are being created and sent. For the other 20%, the report will indicate which persons, roles and departments have greater call answering or voice messaging activity as an input to the UM plans.
- **Caller Services or Special Mailbox Report:** This report will show the usage of those "IVR-like" caller services boxes. This is important to plan for the transfer of those services to the new UM system or to an IVR/Speech Server solution, or for the retirement of those caller services mailboxes that are no longer required.
- **System Traffic Report:** This report indicates the total connect time and, for some systems, the connect time by port for the existing voice mail system. This will indicate what amount of capacity is currently being used and what capacity might be required for a replacement system. In most cases, less than 50% of the current capacity is in use. Also, this report should indicate the usage (which is often minimal or nil) of voice mail message networking between systems, if that feature has been deployed.

This usage information will guide in selecting the best and correctly configured UM solution.

Decision-Making Criteria for Unified Messaging

In addition to the sizing of a new UM system, a number of solution capabilities are important to guide the unified messaging system purchase and implementation. The top issues currently visible in the marketplace are:

⁶ See http://www.parkerbiz.com/files/BCR_VM_Article_Feb_2007.pdf

- **User Interface.** Since voice mail is an audible interface using touch tone access, the users often find it difficult to change to a new system, since they rely on learned patterns and “muscle memory” to access the existing voice mail system. Many of the voice mail and UM providers attempt to produce exact copies of the users’ current system interface, both for their own for others’ legacy system types. While several providers have been successful in copying the most common commands from the systems they are trying to replace, no company has been successful in completely copying the old systems into the new. In almost all cases, there will be some users who “find” the missing or different functions and features and raise an issue with the Telecom, IT or executive management, with the predictable disruptive outcome.

Our recommendation to clients is to focus on the new capabilities of the UM system and to highlight the changes, including the supporting (and ROI-justified) training investment. Most employees and participants will support and embrace a purposeful change.

- **Single Vendor.** Most enterprises are reluctant to enter a multi-vendor mode unless necessary. In the past, for voice mail, this was addressed by treating the PBX provider as the single vendor. However, with the shift to presence/IM, e-mail, and web sites for business communication that drive UM, the more logical single vendor is the e-mail and/or Unified Communications (UC) vendor. Also, many enterprises have standardized on one E-mail system but still have many PBX types installed, which further supports the e-mail provider as the optimal single vendor choice for UM.
- **Migration Options.** Many enterprises have large, complicated voice mail installations, built up over two decades’ time. Even though the utilization patterns may have changed dramatically (see Voice Mail Usage in Your Enterprise, above), both the IT/Telecom and executive management expect a gradual transition to a new system. Besides User Interface (above), the ability to add new systems while maintaining existing systems is often paramount. Major factors include PBX integration, so that call coverage and message waiting lights will continue to work properly, and message networking if that feature is being used (see Voice Mail Usage, above). Also, in some cases, the conversion or re-creation of the “caller services” applications will be a challenge due to poor documentation of legacy solutions; new systems with good tool kits and speech enablement are key elements in addressing this consideration.

In many cases, based on the usage analysis, it becomes clear that the migration plan can be as simple as installing the new UM system and then moving users to it in logical organizational or functional groups, concurrent with user training on the UM system. Thus, migration may be a minimal criteria; usage analysis will guide in this area.

- **Architecture and Roadmap.** The most important architectural considerations include robustness (reliability and least susceptibility to disruptions, single points of failure, etc.), scalability, security, management, interoperation (types of interfaces, number of proven interoperation partners), flexibility (number and types of features and the range

of proven application examples), and extensibility (the types of APIs and application toolkits that are included). The roadmap considerations encompass both the supplier's claimed investment plans, the supplier's track record for delivering those improvements with quality on a timely basis, and the supplier's financial position and outlook during the expected life cycle of the product.

- **New Solutions, Business Applications and ROI.** This is perhaps the most intriguing question of the entire set. Many enterprises have made so few changes to their voice messaging solutions in the past 10 years that there is little demand for new applications. However, the business values described in this paper show that UM and the broader changes provided by UC offer major opportunities for improved business outcomes and decreased costs. For example, a well planned and written application for incoming contact management that would consider the caller's identity and would utilize advanced speech recognition scripting, enterprise presence and Instant Messaging would be a major improvement on any voice mail system. Every enterprise would be well served to take a strategic look at the applications and business value that UM delivers to identify the major ROI opportunities. A value-oriented investment will be much better than simple like-for-like replacement of voice mail.
- **Operations, Governance and Compliance.** Almost all enterprises will consider the operational, governance and compliance issues when considering UM decisions. Major opportunities exist to improve business operations, business continuity and disaster recovery. Many system administration factors can also be significantly improved, as highlighted previously. The tendency in governance and compliance is sometimes a "don't rock the boat" approach, but, again, major improvement opportunities exist in these areas, especially if current trends and new regulatory themes are considered.
- **Total Cost of Ownership (TCO):** The TCO factor, alone, will not drive the UM decision process, but it can be a major factor. More details are offered in the next section; in summary, a single-vendor UM solution can have a TCO that is 40% or more below the TCO the dual-vendor or dual system options. Maintenance costs and vendor stability are also factors in the TCO considerations.
- **Organizational Responsibility.** Lastly, but not least, the UM decisions in some organizations will be consciously or unconsciously influenced by the traditional, existing organizational roles. Often, there is a sense that maintaining separate voice mail and e-mail systems will protect current roles and responsibilities; but this view is usually short-sighted, as the changes are likely inevitable based on the many drivers already suggested. Even if a separation is maintained between the two systems, either (1) in a two-vendor approach (voice mail system with messages stored in e-mail) or (2) with a voice mail system using an E-mail client for message access, the voice mail team will be entirely dependent on cooperation from the e-mail team. The best solution, based on industry executive feedback, is to step up to this issue and proactively develop career evolutions to match the technology trends.

These eight factors, if carefully considered, will consistently guide an enterprise to an optimal Unified Messaging decision. These will be applied to the Microsoft Unified Messaging in Exchange Server 2007 in a following section.

Total Cost of Ownership Factors and Examples for UM

Total Cost of Ownership (TCO) reduction can be a major benefit in voice mail replacement. The table below compares the TCO of three options for voice mail replacement for a 5,000 person enterprise requiring a 100 session capacity on the voice server, with system redundancy.

Factor	Solution Type			Comments
	Voice Mail Using E-Mail Client for UM (Two Vendor)	Unified Messaging Using Separate Voice System (Two Vendor)	Unified Messaging Voice Server as E-Mail Role (Single Vendor)	
Licensing	\$ 180,000	\$ 192,000	\$ 87,500	Per Port VM; Per User UM
Servers	\$ 60,000	\$ 52,800	\$ 30,000	With redundancy
Installation & Setup	\$ 30,000	\$ 30,000	\$ 15,000	Server Setup
Migration and Training	\$ 40,000	\$ 52,500	\$ 65,000	Acc'ts, Caller Apps, Training
User Admin/Help Desk	\$ 150,000	\$ 112,500	\$ 75,000	Three Year total
Syst./Server Admin	\$ 105,000	\$ 105,000	\$ 52,500	Three Year total
Maintenance	\$ 72,000	\$ 127,440	\$ 79,125	Three Year total
Total Three Year TCO	\$ 637,000	\$ 672,240	\$ 404,125	
TCO per User Per Year	\$ 42.47	\$ 44.82	\$ 26.94	Sources: UniComm Consulting and BCR Magazine Feb. 2007

The TCO of the Single Vendor UM solution⁷ is approximately 40% lower TCO than for either other option, per the following primary factors:

- **Licensing:** The Single-vendor model treats voice mail as a feature of e-mail, not as a separate system. The Enterprise CAL for Microsoft Exchange is shown, less discount.
- **Servers:** Assuming the single vendor solution uses two (2) voice servers at 100 ports each while the other two types use four (4) voice servers at 64 ports or less per server, due to the additional overhead and/or voice message store functions in those servers.
- **Administration:** The E-mail Client version requires both an account admin/help desk FTE and a 50% FTE server administrator to manage the four (4) servers. The two-vendor Message Store Consolidation requires a 75% FTE admin/help desk staff position due to the separate servers and integration workloads in that model as well as a 50% FTE server administrator. The single-vendor version requires 50% FTE admin/help desk staff position and 25% FTE server administrator for the added e-mail server roles.
- **Maintenance** is assumed at typical industry rates for each type of solution. The two-vendor solutions, due to the complexity, are typically at a premium maintenance price.

In summary, the price per user per year of \$26.94 for the large Single-Vendor UM solution is a significant reduction from the other two options, offering an average of \$250,000 in TCO

⁷ Also see BCR Magazine, Feb. 2007: www.parkerbiz.com/files/BCR_VM_Article_Feb_2007.pdf

savings vs. the alternative solutions. The 40% advantage of the Single-Vendor UM solution will also have the effect of roughly doubling the ROI of the solution, due to the lower “Investment”. Smaller configurations of the Single Vendor UM solution (~500 users) have a higher annual TCO (~\$74 per user per year) but still show a 20% - 30% advantage over the other options.

Exchange Server 2007 Unified Messaging

Unified Messaging in Exchange Server 2007 as a UM Choice

Announced in December 2006 and released in January 2007, the Microsoft Unified Messaging in Exchange Server 2007 (Microsoft UM) has proven to be the best product for many segments of the voice and UM marketplace. The product design is elegant, requiring only deployment of the voice server role that is included with Exchange Server 2007. Connection (integration) of the Microsoft UM system to one or to multiple PBX types, including control of messaging waiting indicators is accomplished via SIP-based gateways from suppliers such as Dialogic, Quintum or AudioCodes. These gateways connect to a wide range of PBXs, both legacy TDM switches and the latest IP PBX brands, which enables deployment flexibility.

The user interface is also well done, offering both TouchTone® and speech recognition interfaces for call answering, caller services, and voice messaging applications. Of course, the users receive and process their messages via Microsoft Outlook and Outlook Web Access as well as from any mobile device that can receive Exchange e-mail today. It is notable that the emphasis in Microsoft UM is on the call answering and caller services applications, which reflects an intelligent analysis of actual customer requirements, and voice mail evolution. Microsoft UM in Exchange 2010 also includes Digital Rights Management (DRM) applied to voice messages, enabling significantly improved message security and privacy.

With Exchange 2010, an option also exists to implement a standalone voice mail system, in a separate forest, so that voice messages are not intermixed with e-mail messages. All the same telephone call answering and speech-activated message retrieval functions are included in the standalone VM option. This option may be of interest to companies that do not want to intermix voice and e-mail messages for specific governance reasons (see above); or are not ready to migrate to Exchange 2010; or are using different or various e-mail systems in their business. The standalone voice mail users can be readily migrated to the UM solution at a future date.

The most impressive user interface features are those that provide a very thorough speech-activated integration with Microsoft Outlook, providing the “Anywhere Access” that is a Microsoft focal point. Users can simply and easily dial in to Microsoft UM to access their e-mail, contacts, global address list, calendar, and tasks. One impressive feature is the ability to notify meeting attendees that the user will be late, saving everyone a lot of frustration and wasted calls.

The table below evaluates Microsoft UM against the eight decision-making criteria for Unified Messaging as defined in the previous section.

Criteria	Evaluation and [Rating] (5=highest)	Comments
User Interface	<p>[4] Microsoft UM has the best interface via both speech and TouchTone® for integration with the user's daily work, especially with Microsoft Outlook Contacts, GAL, Calendar, & Tasks.</p> <p>Some voice messaging features are not included, but that appropriately reflects current market requirements. A few advanced features, such as "follow me" are provided by Microsoft Office Communications Server (OCS) 2007.</p>	<p>The speech interface to Messages and Outlook is excellent. Note that no current supplier would rate higher than [4] in this category.</p>
Single Vendor	<p>[4] Microsoft UM offers the best options for UM with Exchange, by far. However, except when used with OCS, Microsoft UM installations will still involve the VAR, PBX integration and some third party products for gateways and message waiting indication.</p>	<p>Gateways not required with some SIP-based IP PBXs.</p> <p>Note: No other supplier would rate as high; no other single vendor option is Exchange 2007 or 2010 based.</p>
Migration Options	<p>[4] The Microsoft UM PBX gateway integration provides excellent flexibility. However, the Microsoft UM user interface is similar to only the Octel Aria voice mail type, so retraining of end users is needed in most cases. Also, integration to voice mail networks, if required, is complex, with some limitations. Microsoft UM does not work with other e-mail (e.g. Domino). Exchange 2010 Standalone VM Option adds migration flexibility.</p>	<p>As indicated in the Migration Options section, an investment in new solutions and retraining of the users to the new solutions is warranted and recommended.</p>
Architecture and Roadmap	<p>[5] Microsoft UM is the right architecture for UM. The architecture is SIP-based to provide alignment with the evolution of IP Telephony systems. The roadmap is well-funded by a strong supplier.</p>	<p>Microsoft UM in Exchange 2010 includes important features – Message Waiting Indication, Digital Rights Management, Personal Distribution lists. Also has Standalone VM-Only option.</p>

Criteria	Evaluation and [Rating] (5=highest)	Comments
New Solutions, Apps and ROI	[5] Microsoft UM offers the most application flexibility for new business solutions. APIs and co-existence with OCS 2007 are both powerful features. The large VAR community for Exchange and the growing VAR community for Microsoft UM will continue to improve this. ROI should be the best, based on high value creation and low TCO.	Surprisingly, few voice mail or non-Microsoft UM providers offer APIs or development toolkits.
Operations, Governance and Compliance	[5] Complete integration with Exchange 2007 and Exchange 2010 provides the best context for ease and efficiency of operations and for consistent governance and compliance.	
Total Cost of Ownership (TCO)	[5] The elegant architecture, single vendor approach, with automatic provisioning should deliver the lowest TCO in the UM category.	See the TCO section above.
Organizational Responsibility	[4] While this is a challenge for any supplier, Microsoft UM is part of Exchange software, providing the clearest, simplest organizational choice.	Note: No other supplier would rate as high, since all others would have much less clear organizational choices.

The average score of 4.57 on a scale of 5 is a top score in the UM marketplace in 2009. Clearly, Microsoft UM in Exchange Server 2007 warrants consideration for any enterprise considering an upgrade or replacement of their voice messaging or UM systems.

Customer Evidence

Another factor in evaluating Microsoft UM in Exchange Server 2007 is to assess the business value realized by other enterprises. Microsoft UM has been well-received as reflected by a number of customer case studies. See:

<http://www.microsoft.com/exchange/evaluation/casestudies/default.msp>.

Some highlights include:

- **Lifetime Products:** This 1,700 employee manufacturing firm, with operations in Utah, USA, and China, was able to achieve significant productivity gains by speeding up access to messages and by providing “anywhere access” to messages, for desktop or mobile devices. In addition, Lifetime products eliminated maintenance charges by

removing their old voice mail system and reduced IT admin costs by \$16 per employee per year. A cost decrease of \$600,000 was achieved by eliminating fax machines and delivering faxes directly to the users' UM mailboxes.

- **City of Bellevue:** This 1,400 employee municipality upgraded their Nortel PBX to the new Innovative Communications Alliance solution jointly offered by Nortel and Microsoft, including UM in Exchange 2007. This efficient new solution streamlined system and network management, reducing administration costs. The users are experiencing increased productivity due to the “anywhere access” power of UM. The City also utilizes Managed Folders to archive voice messages needed for public record.
- **Eastern Health:** This 7,000 employee healthcare provider in the State of Victoria, Australia, has dramatically improved the effectiveness of their staff through both improved “anywhere access” while moving between and within their many facilities and enhanced responsiveness using the presence functions embedded in the UM Messages in Microsoft Outlook. Costs have been reduced through in the single integrated management and administrative environment.

Conclusion

The voice messaging market has changed dramatically since the 1990s, when most of the current voice messaging and unified messaging products and architectures were developed. The forces of e-mail, presence, instant messaging, web sites, mobile devices and speech recognition have reduced the usage and value of standalone voice messaging systems.

Unified Messaging (UM) with Message Store Consolidation, i.e. storing messages in the e-mail system, is emerging as the new best solution for the remaining call answering, caller services and notification requirements of the voice mail marketplace, since the single message store leverages all the access and notification benefits of desktop and mobile e-mail solutions and reduces the total cost of ownership based on a single system implementation.

Microsoft UM in Exchange Server 2007 has emerged as the best UM solution for enterprises which:

- Have or are planning Microsoft Exchange for their messaging platform,
- See the high ROI opportunity from productivity, workflow or collaboration applications,
- Want to deliver new value and functionality to their users,
- Are willing to invest in the required user training and migration projects.

Any enterprise reflecting these four characteristics should seriously consider a move to Microsoft UM in Exchange Server 2007 concurrent with or shortly after their move to Exchange Server 2007.

For more about Microsoft UM in Exchange Server 2007, please visit:

<http://www.microsoft.com/exchange/evaluation/unifiedmessaging/default.aspx>

Appendix: About the Author

Marty Parker, Principal, UniComm Consulting, LLC



Marty Parker has been a major contributor to the voice messaging industry since 1983. His experience includes leadership with the industry's first major VAR; CEO positions at venture-funded voice mail and UM startups in the mid '80s to early '90s; and director roles at AT&T, Lucent, and Avaya actively participating in voice mail growth in the mid '90s, the acquisition of Octel in '97, and the introduction of two families of Unified Messaging systems for Lotus Notes and Microsoft Exchange. He is author of "The Practical Guide to Voice Mail", Osborne McGraw-Hill, 1986 ISBN: 0-07-881243-7. Since 2001, Marty expanded his focus to Unified Communications and is now a Principal of

UniComm Consulting and a co-founder of UCStrategies.com, supporting enterprise customers in UC and voice mail/UM strategic planning, solution designs, RFPs and vendor selections.