

COMMUNICATING WITH SAM

Converging Enterprise Messaging: Understanding the Decision Points



Sam Johnston

Question:

Our company has a very high percentage of workers that would be considered “road warriors”. They often work from client locations, or hotel rooms, using a VPN connection to reach corporate resources. We are trying to make these workers more productive through improved communications. We currently have an analog phone system that has been in place for over ten years and is end-of-life. Consequently, we are looking towards migrating to an IP Telephony solution based on direction from our Corporate Head Office. The main feature that we are looking at (for productivity gains) is the option of integrating, or “converging” as our CEO likes to say, voice and email messaging so that “road warriors” can manage both types of messages through a single interface. Our fax traffic is fairly insignificant, so there is no need to integrate this traffic. Currently, our office environment is a mix of Microsoft Exchange 2000 and Novell Groupwise across multiple offices. What options do we have to integrate these solutions?

Answer:

In the post Y2K era, “convergence” seems to have replaced “e-business” and “web-enabled” as the technology buzz word that seems to make every CEO’s strategic mission statement as the path to the promised-land. Often used, frequently misunderstood, “convergence” is one of those terms that initially had business executives and IT professionals thinking they were in sync, while really operating in parallel and distinct universes. Two or three years ago, when an IT professional talked “convergence” their vision was the merging of voice and data traffic onto a single IP network or wire. On the other hand, the picture in a CEO’s mind was one of a single converged GUI and/or TUI for the end user. Early in the game, the converged end-user interface was often unattainable or clumsy, leading to many disappointments.

Despite the early challenges, IT professionals continued to work in their parallel universe first to converge the network, and then to converge at a system layer. This process created a foundation that has finally led to compelling convergence at the end-user interface, be it GUI or TUI. Finally the technology has caught up to the CEO’s vision!

While “convergence” is a layered and integrated technology approach that can generate significant ROI when it is allowed to impact the network,

system, and the end-user interface layers, it is also a modular technology that can provide great benefits even when “converged” components are mixed into legacy environments. The selective use of “converged” technologies, whether it is to facilitate a smooth transition path, or to “cherry pick”, can generate significant benefits for an enterprise.

Your company is an excellent case in point. To integrate, or “converge”, your voice and email messaging it is not necessary for you to migrate your phone system to a “converged” IP Telephony system. There are IP-based messaging solutions such as Cisco Unity that provide the ability to integrate with either IP Telephony solutions or traditional PBX systems. Unless there are other benefits to migrating the phone system itself, you can achieve the goal of “converging” the end-user without “converging” the back-end, including leaving the voice and email as disparate messaging systems despite the “converged” end-user interface.

Given the age and state of your current phone system, we will assume that replacement of the phone system with a new IP Telephony solution is the right approach. From a technology perspective, there are essentially two messaging approaches which will create a “converged” or single end-user interface for messaging. The two approaches are referred to as “integrated messaging” and “unified messaging”.

An “integrated messaging” solution is one where you maintain separate voicemail and email repositories, but you have the ability to access your messages from either interface. Essentially this results in a “converged” end-user interface without convergence of the back-end messaging platforms. You can access your voicemail and sometimes email from the Telephony User Interface (TUI) and also access your voicemail and email via your email client (some systems with separate mailboxes). Depending upon the vendor, you may have some limitations in capability between voicemail and email, some of which will be touched on later.

The second approach is “unified messaging”, which by definition, is where the voicemail and email system share a common “converged” message repository. Fully enabled, this repository can support voicemail, email and fax and can provide integrated functionality where the TUI can be used for voice messages, emails and fax co-ordination as well as using your standard email client for access to voicemails and faxes. Most solutions have been designed to support Microsoft Exchange as the message store but also Lotus Domino is an option for support with systems such as Cisco Unity.

Both technology options will provide a converged end-user experience, but via different means, each with a specific set of integration considerations. The key is to

understand the benefits of converging at a system layer to determine which model is best for you. Most messaging systems that converge voice mail and email are one or the other – integrated or unified. Cisco Unity is unique in that it offers both flavours. Cisco Unity is a unified messaging solution, while Cisco Unity Connection is the integrated messaging option. As Cisco Unity comes as either, we will use this product to highlight and illustrate the different integration considerations between the two.

Cisco Unity Connection is a new product that is designed on Microsoft Server 2003 with SQL as the data repository. The product is very scaleable and flexible in that it can be integrated into the Cisco CallManager IP telephony product, the “lite” version known as Cisco CallManager Express and to some legacy PBX systems using an integration appliance. The flexibility and scalability does not mean that it is a compromise solution. Cisco Unity

Connection supports standard voicemail functionality, plus speech activated dialing for contacts, speech enabled voicemail browsing, and call transfer rules by caller, time of day and calendar. These features mean that mobile users can have a hands-free experience while using their voicemail out of the office.

Integration options also include access to voicemail from a Web Client that permits a user to access voicemail, (play, save, forward, delete) or compose new messages. Notifications can also be sent including SMTP that can be used to send message notifications to an email mailbox, for example, with a URL link to the Web interface to open the message. For MS Exchange only mailboxes there is a Text to Speech feature to enable access to emails over the TUI. There are additional IMAP integrations to some IMAP clients in order provide the ability to access the voice messages from an email client.

There is significant functionality within this product that enhances the user voicemail experience, however, there is a requirement to still leverage multiple interfaces and message stores to get all the functionality offered surrounding the “integrated messaging”. The downside of not creating a converged back-end messaging system is that we have now created additional systems and points of failure that need to be managed ongoing. While this is a drawback, there are some benefits to the solution as the integration of a full “unified messaging” solution can be complex as we will see.

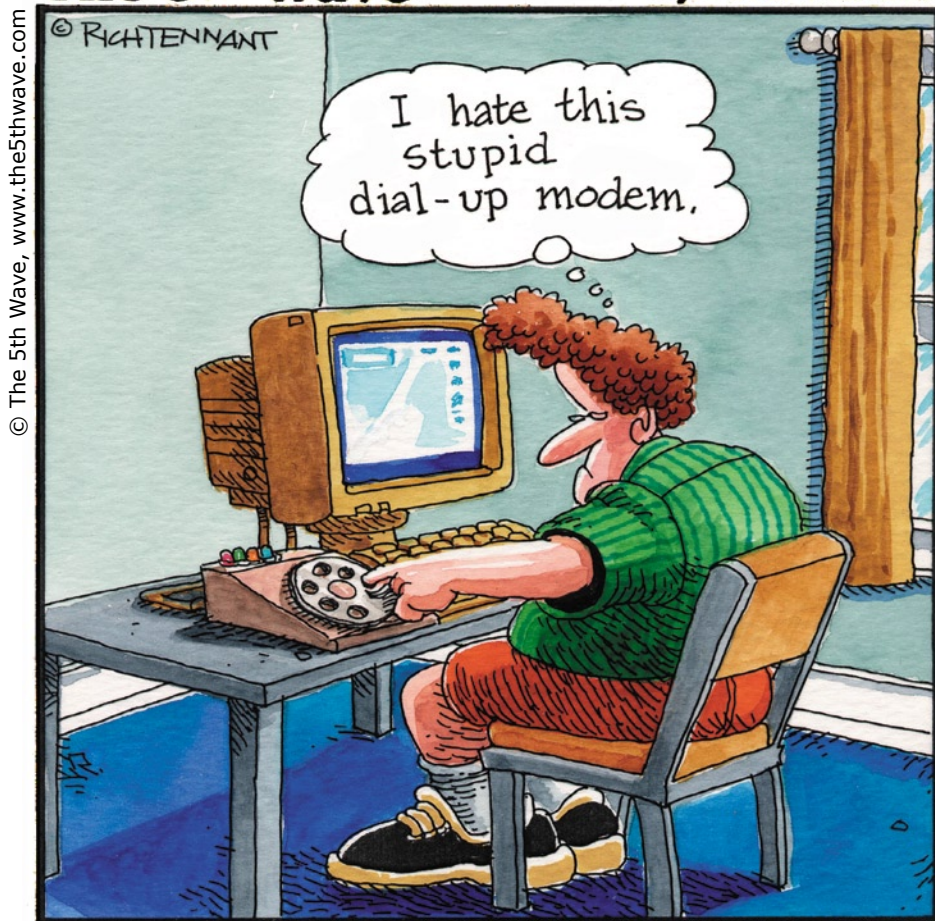
Cisco Unity is an example of an enterprise “unified messaging” solution that leverages a single message store for voice, data and fax. Like the Cisco Unity Connection product, you can integrate to an IP telephony system, or a legacy PBX, again letting you chose how deep you “converge”. This solution has been designed to support either a Microsoft Exchange Message Store or a Lotus Domino Message Store.

For Microsoft Exchange Message Stores the solution requires Active Directory integration and modification of the AD schema which can be a stumbling block in large multi-national AD integrations where small changes have larger ramifications. The benefits of a single message store is that it enables direct access of voicemails and emails via the email client and via the TUI requiring only text to speech ports enabled on the system. Additionally, network faxes can also be deposited into the same mailbox. However, with Cisco Unity in order to get some of the enhanced call transfer and speech enabled voicemail access you will require an additional product call Personal Assistant to provide this capability which runs on an additional server platform, again introducing more complexity.

If all these options are not enough, if you are not ready to provide a fully “converged” end-user interface, but like the idea of a single message store, Unity does provide an option to access the voicemails from the PC via a web interface. While the solution is feature rich for end users, the integration can be complex due to the AD implications, and as such the decision process needs to be exhaustive in terms of capturing the true total cost of ownership of the solution.

The 5th Wave

By Rich Tennant



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Lastly, we need to look at your added complexity of supporting a mixed messaging environment with the addition of Groupwise integration to the solution.

First off, Groupwise is not a common platform at this time, and as such integration will be a challenge in a converged world. Cisco Unity support for Groupwise is done through a third party (ALI), a Groupwise connector that enables tighter integration to the Groupwise mailbox and supports message forwarding, MWI and notification synchronization.


However, there are caveats such as no message remarking, no media recording, no G.729a codec support, no text-to-speech, and users cannot reply to voice messages.

Additionally, for the Groupwise integration in the case of Cisco Unity, the Server will need to be ordered as a voicemail only system, which means that it will not enable the Exchange Outlook clients to have

unified messaging access to the message store, resulting in significant reductions in functionality. Given these limitations with Groupwise, and the fact that convergence itself assumes consolidation of networks, systems and applications as a foundation to do more with fewer, it would be best if you consolidate your email systems to make unifying with voicemail an easier task.

The lesson of all this is that “converged” solutions are not straightforward and contain many decision points. The key is that you need to weigh the benefits of consolidating network traffic, systems and end-user experiences into a single converged architecture, versus the complex integration needed to achieve these benefits.

The easy part of the equation is for the IT professionals to determine the network management and system administration benefits associated with convergence. The real challenge is quantifying the end-user productivity gains associated with

a “converged” interface experience. Make sure this aspect is evaluated by the business champions, as most convergence projects fail not because of the technology, but rather due to loosely defined end-user benefits that are often qualitative and not quantitative in nature. The most important thing to remember is that as an IT professional your accountability is to make sure the technology works, not shape how the end-user works. 

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