

UNIFIED COMMUNICATIONS

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INTRODUCTION

Several prior Tech Insights discussed Software as a Service and Infrastructure as a Service; this Tech Insight will talk about Unified Communications as a Service. One of the top trends in technology today, unified communications allows users to integrate voice, video, and data into a single interface, enabling users in disparate locations to communicate and collaborate in real-time. Key components range from items the Department of Veterans Affairs (VA) currently uses every day (i.e., e-mail) to those less familiar. This Tech Insight highlights the various aspects of unified communications, how they are used, what benefits they provide, and VA's plans to implement them.

OVERVIEW

Unified communications is an evolving set of technologies that automates and creates efficiencies across communication channels. These technologies also help optimize business processes by reducing latency (i.e., lags or delays), managing the flow of information and communication, and eliminating device and media dependency. For instance, by using unified communications an individual can access voicemail—or even telephony capabilities—through a personal computer.

There are several components to unified communications. The most common aspects include:

- **Presence:** Knowing where recipients are, and if they are available, in real time. Common presence features include status icons and updates within Microsoft products, such as Lync and Outlook.
- **Instant Messaging (IM):** Online chatting, with real-time text transmission over the Internet.
- **Mobility:** Being connected anytime, anywhere, in a device-independent manner. Many people assume they are mobile with the invention of cellular phones, however unified communications mobility is greater than a cell phone. Mobility really means being able to access your information across networks (i.e., personal and work domains) from anywhere in the world.

- Unified Messaging: Integrating electronic messaging and communications technologies into a single user interface, accessible from various devices. This would put e-mail, IM, voice features (i.e., calling), voicemail, fax, and other communications technologies in one place, for the user to access at any time.
- Desktop Sharing: There are two main components of desktop sharing. The first is remote login, in which a user can access his/her own desktop (or another user's) without physically being at the computer. The second component is real-time collaboration. Real-time collaboration allows users to view the same information simultaneously. This is often used in conjunction with other multimedia communications to provide a virtual work or meeting space.
- Data Sharing: Sending and receiving information across communication channels or via interactive media (including SMART boards or other collaboration tools).
- Audio/Video Conferencing: Connecting two (or more) locations by simultaneous two-way video transmissions.

Real time collaboration tools (i.e., WebEx or GoToMeeting) have been in existence for some time and serve multiple unified communications purposes. These services enable audio and video conferencing, IM, and desktop sharing in a single package. Many experts also include speech access, or recognition, and business process integration as aspects of unified communications.

Two of the big trends in unified communications are the movement to cloud solutions and “bring your own device” (BYOD). In the past, information technology executives wanted onsite solutions, often discrediting cloud, or hosted, technologies. However, the need for scalability and efficiency resulted in greater expansion of cloud services. For unified communications, cloud infrastructure provides service upgrades and growth that are not typically available in on-site facilities; the cloud service provider resolves scalability and upgrades on behalf of clients. BYOD allows users to integrate their personal devices into the work environment. Within unified communications, the trend will be making BYOD useful and accessible, as the choice to plug in a device may not be within the user's control.

BENEFITS

Unified communications offers many benefits, from simplifying workflows to creating efficiencies and increasing individual productivity. A few of unified communications' benefits are highlighted below.

- The use of unified communications features (i.e., presence) help individuals save up to 60 minutes per day by connecting more phone calls on the first try and escalating IMs to

telephone calls and web conferences when necessary. Delays associated with traditional telephony are minimized or eliminated.

- Using audio/video conferencing allows organizations to reduce travel costs, especially across geographically-dispersed organizations. Organizations requiring travel were typically able to reduce their travel-related expenditures by approximately 10 percent over the course of one year.
- Unified communications enables information delivery to be streamlined, simplifying processes and making it easier for individuals to access and integrate information.
- Mobility provides flexibility, allowing individuals to access the information they need, when they need it, across networks and devices.

CHALLENGES

One of unified communications' top benefits is also a top challenge: mobility. While the ability to access work e-mail and voicemail via smartphones is priceless for many businesses and employees, the additional challenge of securing data accessed remotely or through mobile devices can be difficult. Security measures spanning disparate information and networks (i.e., integrating personal and work information) is needed to ensure proprietary or sensitive information is not disclosed or leaked.

Another issue with increased mobility is the need to filter incoming messages depending upon the worker's status. Messages go to the user—not specific devices—so an individual may have difficulty separating work and personal matters while on vacation (or likewise while at work).

Another key challenge is unified addressing. There is typically not a single username or number that can reach an individual across various communication technologies. For instance, telephone numbers and e-mail addresses are not the same, but can reach the same individual. This challenge can be addressed through an integrated directory that includes all contact information for employees: usernames, telephone numbers, e-mail addresses, and other methods of contact should be included.

UNIFIED COMMUNICATIONS AT VA

VA currently uses some aspects of unified communications (i.e., chat and presence) and is beginning to move toward alignment with industry trends. One of the biggest unified communications trends is social integration, or using social media channels for business optimization. VA uses technologies such as Yammer and blogs to spread messages and keep up communications enterprise-wide.

The forthcoming version of the Enterprise Technology Strategy Plan (ETSP) for 2015 does address VA's unified communications future direction. The ETSP indicates that VA should develop and execute a comprehensive unified communication and collaboration strategy that calls for a converged platform serving all communications media (voice, data, video, chat, presence, and unified messaging).

Over the last several years, VA's Office of Information and Technology has been developing the Enterprise Voice System (EVS), also known as the Voice as a Service (VaaS) project. The intent of VaaS is to modernize the voice infrastructure within VA, while providing cost savings using a hybrid of Government Owned and Contractor Operated (GO/CO) systems. Part of the GO/CO strategy is to centralize the control of voice systems under a centralized management tier and provide unified communications features to end users that they would otherwise not be able to have without a costly upgrade to their current systems. There is currently a GO/CO proof of concept effort underway at three locations within VA (Fort Harrison, Montana; Tennessee Valley Health Care System, Tennessee; and Charleston, South Carolina). This proof of concept is designed to demonstrate that the GO/CO strategy will work and that it will provide a level of cost savings to VA, enabling the Department to implement the strategy across a broad spectrum over the next several years and eventually encompass the entire VA voice system.

If you have any questions about unified communications, don't hesitate to ask TS (askTS@va.gov) for assistance or more information. Check out earlier Tech Insight editions [here](#).

TS TECH INSIGHT SERIES

The monthly Tech Insight series aims to help readers make better decisions and be more informed customers (of Office of Information & Technology's products and services) by providing them with high-level overviews of technology issues that impact or will impact VA's Information Technology (IT) environment. Tech Insights introduce topics in an easily digestible fashion by presenting background information on the topic, clearly explaining its importance within VA, and providing recommendations for success from TS. View all TS Tech Insights [here](#).

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