

## Cisco Unified Communications: Transform U.S. Army Mission Capabilities

### Abstract

Communications plays a critical role in the mission capabilities of the warfighter and the U.S. Army. Unified communications, in which voice travels over the Army's IP network, improves mission capability and facilitates business transformation by enabling new services such as IP telephony, secure rich-media conferencing, IP videoconferencing, and more. By taking advantage of Cisco's leadership in network security, the Army can securely provide these mission-critical services across the enterprise. In addition, by using the reliable IP network as the platform for unified communications, the Army can quickly and cost-effectively introduce new communication services that increase productivity and enhance collaboration.

Cisco® Unified Communications Solutions meet the Army's essential requirements for communications:

- Proven in garrison and tactical environments
- Certified by the Department of Defense (DoD)
- Acts as a force multiplier for communications and mission accomplishment
- Capitalizes on existing network and information-security investments
- Unifies the workspace so that personnel can access all of their communications and collaboration applications from any device, anywhere

Cisco Unified Communications also supports the Continuous Process Improvement focus of the Army's Business Transformation (DUSA-BT) governance, which calls for increasing "quality, productivity, reliability, and safety, while reducing costs and cycle time."

This paper explains how Cisco Unified Communications is helping the U.S. Army transform its mission capabilities. The first section summarizes the Army's communications challenges. The second section provides examples of how Cisco Unified Communications capabilities help enhance mission success in Army enterprise and tactical environments. Then the final section describes unique attributes of Cisco Unified Communications that satisfy the Army's demanding requirements.

### Army Communications Challenges

Communication and collaboration tools play a critical role in the U.S. Army's mission by connecting those who know with those who need to know — in garrison as well as on the front line. Mission effectiveness improves when Army personnel can reach each other the first time, on a wide range of communications devices. Additionally, the ability to collaborate with voice, video, and data can enhance situational awareness and speed time to decision.

The right unified communications solution can help the Army meet its most urgent communications challenges:

- **“Train as you fight”**: As units rotate in and out of theater, Army personnel ideally should be able to use the same familiar communications tools, processes, and features.
- **Rapid access to information for better decision making**: Workspace tools for chat, voice, video, and data collaboration speed time to decision.
- **Mobility**: Warfighters and support personnel need to be easily reached in any location, using any device, and they need to have access to the same communications services available in garrison.
- **Rapidly deployable communications**: Deployed units need the ability to establish voice, video, and data communications in minutes or hours — not the days required for traditional time-division multiplexing (TDM) communications.
- **Greater return from existing network investments**: Part of the Army’s mission is to deliver all services over IP — an initiative called Everything over IP (EoIP) — to extract maximum value from investments in wired and wireless networks.

### Cisco Unified Communications Capabilities for the U.S. Army

Proven in tactical and garrison environments, Cisco Unified Communications applications can help the Army meet its strategic communications challenges. The Cisco Unified Communications suite includes communications and collaboration tools for IP telephony, presence, contact centers, video conferencing, Cisco TelePresence, web collaboration, and mobility. Following are examples of Cisco Unified Communications capabilities that are available today for the U.S. Army.

#### Enhanced Mobility

**Challenge:** Army personnel work in a variety of locations on or off post every day. When they are away from their office, they typically cannot receive calls, quickly check messages, access telephone directory services, or use other capabilities available on their office phone. Forwarding calls to a mobile phone can be costly, and constantly dialing a voicemail box to check for messages erodes productivity.

**Solution:** Army personnel working away from their office can securely log on to any available Cisco Unified IP Phone, anywhere on post, using their Common Access Card (CAC) or a passcode. The phone is immediately personalized with the employee’s phone number, speed dial numbers, directories, and other assigned services, such as video conferencing or web collaboration. The benefit is that Army personnel can work productively from any workspace and be reached at their usual phone number.

#### Increased Agility

**Challenge:** Army personnel train on different communications equipment than that used in theater. The time needed to become familiar with the new equipment impedes readiness.

**Solution:** Cisco Unified Communications equipment is portable. Rapid deployment communications kits often provide better voice, video, and web collaboration services than those available on the post. Units can train with the kit equipment in garrison, and then bring it with them when deployed. The benefit is that activated units can more easily rotate in and out of theaters, improving speed to deploy and troop readiness.

### Ability to Reach Every Person on Every Device

**Challenge:** Most Army personnel have a desk phone in one or more offices, an Army-issued smartphone, and a personal mobile phone. Some also have a softphone on their laptop for travel and a desktop or room-based video conferencing system in their office. To reach someone quickly on the right device often takes multiple attempts, a frustrating experience that can delay collaborative decisions.

**Solution:** With Cisco Unified Communications, employees can view each others' real-time presence information to see if they are currently available and on what device they prefer to be reached. In addition, they can designate their desktop Cisco Unified IP Phone as their main number and specify that when it rings, all other communications devices also ring. Personnel can answer whichever device is most convenient at that moment — for example, answering their mobile phone if headed out the door or off post. Associating all phones with a single number simplifies the way that personnel connect, reduces voicemail frustration, and increases the speed of information.

### Directory Lookup

**Challenge:** Most Army users cannot access a directory through their phones. Personnel who need to locate contact information for people in other units or military departments must conduct a web or Microsoft Outlook search, send an email, or call a service desk. These time-consuming activities cause unnecessary delays and depend on other organizations.

**Solution:** Cisco Unified Communications Manager can maintain its own directory or integrate with Microsoft Active Directory. Either way, the Army can equip every Cisco Unified IP Phone with a directory. Therefore, if the DoD completes its current project to create a single DoD Active Directory forest, Army units will have the option to provide current, authenticated contact information for any DoD personnel right on the Cisco Unified IP Phone display. With easy access to directory information, personnel will no longer need to use time-consuming methods to find each others' contact information.

“In our tests, we were impressed with the presence status displayed for the people in our directory of contacts. We could add people into our contacts from the company LDAP [Lightweight Directory Access Protocol] directory (Active Directory) or from the Microsoft Exchange Outlook contact list.”

—Miercom, Lab Testing Summary Report, April 2007

### Urgent Message Distribution

**Challenge:** Army personnel typically have separate voicemail boxes for each phone. The challenge is that most callers do not know where to leave messages for the quickest response. For example, personnel working in the Pentagon often cannot check their mobile phone voicemail because they do not have connectivity while in the building. Thus if an urgent message is left on their mobile phone they have no way of knowing until they go outside. The result is decreased productivity and delayed response.

**Solution:** With Cisco Unity® voicemail, personnel can manage messages from all of their phones in one voicemail box, saving time and reducing the risk of missing an urgent message. Voicemail messages can be converted to .wav files, encrypted for privacy, and then sent to the employee's PC or smartphone email inbox. Therefore, personnel who are working in the Pentagon or another facility without cellular connectivity can play back their mobile phone messages on a PC. When they are on trains, airplanes, or other workspaces without connectivity, personnel can use their time productively to respond to messages received earlier. The messages are sent as soon as the employee reconnects to the network. And personnel can share important information with many users at once by sending voicemail messages to groups.

### **Why Cisco?**

Cisco Unified Communications supports the Army mission to continuously improve communications and collaboration because it is proven in garrison and tactical environments, is DoD certified, acts as a force multiplier, uses the Army's IP network as the platform, and unifies the workspace.

### **Proven**

Cisco has sold more than 16 million IP phones — more than all other manufacturers combined — to more than 50,000 customers worldwide. More than 70 percent of Fortune 500 corporations use Cisco Unified Communications. Every business day, Cisco Unified IP Phones replace more than 21,000 TDM phones.

Cisco Unified Communications Solutions are also used in more U.S. and coalition partner tactical networks than all other vendors' solutions combined. Cisco is the mission partner of choice for unified communications because of the proven quality, reliability, and flexibility of its solutions in wartime environments. Used in conjunction with the Army's robust Cisco IP networks, Cisco Unified Communications provides the warfighter with exceptional capabilities, both in garrison and deployed. They support defense programs including Warfighter Information Network – Tactical (WIN-T), Battlefield Video-Teleconferencing Center (BVTC), special operations, and USCENCOM, among others..

### **DoD Certified**

Cisco invests heavily in product certification to help ensure that Cisco Unified Communications Solutions meet or exceed DoD mission requirements. Certification efforts extend through the full solution lifecycle — from design and implementation through support — and they account for the rigors of wartime environments. Certification efforts also extend across the full Cisco Unified Communications product line, with emphasis on solutions that are most important to DoD customers. Cisco was the first vendor to certify interoperability of a native IP telephony solution. Cisco Private Branch Exchange 1 (PBX1) Certified Unified Communications Solutions provide DoD customers with Joint Interoperability Test Command (JITC)-Certified voice over IP (VoIP), integrated video telephony, secure rich-media conferencing, and full support for Command-and-Control (C2) users in a fully approved, open-standards solution.

All Cisco Unified Communications Solutions are net-centric and meet the following DoD requirements:

- JITC-Defense Switched Network (JITC-DSN)
- Interoperability I/O and Information Assurance (IA)
- Assured Service Voice Application LAN (ASVALAN) for Cisco switches and routers
- IPv6-capable

- Support for secure devices: Certified Secure Telephone Unit (STU) and Secure Terminal Equipment (STE) support
- U.S. Army Technology Integration Center (TIC): Installation Information Infrastructure Modernization Program (I3MP)
- Federal Information Process Standard (FIPS) 140.2, Common Criteria (National Information Assurance Partnership)

### Force Multiplier

By enabling personnel to reach each other more readily and collaborate more effectively, Cisco Unified Communications serves as a force multiplier. By adopting Cisco Unified Communications, the Army:

- Empowers warfighters with enriched communications and ubiquitous network access
- Improves readiness by delivering rich-media training to the desktop for Active, Reserve, and National Guard forces
- Increases the agility of activated units by enabling them to take their communications equipment with them as they rotate in and out of theater
- Enhances command and control and situational awareness by helping personnel reach each other everywhere, on every communications device, using features such as presence and unified messaging (voicemail and email in one inbox)
- Enhances collaboration by enabling personnel to easily participate in chat, voice, video, and data collaboration on demand, and spontaneously escalate sessions to video-enabled collaboration with a single step

“[Using Cisco Unified Personal Communicator] we started with an IM session, and then escalated the session to a phone call with a simple click on an icon. While on the phone call, we were able to escalate the call again to a collaboration conference with a connection to Cisco Unified MeetingPlace<sup>®</sup> Express.”

—Miercom, Lab Testing Summary Report, April 2007

### Network as the Platform

Cisco uses the Army's reliable, scalable IP network as the platform for unified communications. This everything-over-IP (EoIP) approach helps the Army converge all unified communications applications and systems onto one network and deliver a high-quality user experience. Benefits of using the network as the platform include:

- **Quality:** The quality of the communications experience is directly related to the quality of the network. Cisco designs, builds, and delivers both the network and the unified communications solution, helping ensure that Army personnel can see and hear each other every time, from every workspace. Quality of service (QoS) is integrated into every voice call, video session, and collaboration event to facilitate the highest-quality experience.

- **Greater return from existing network investments:** Using the network as the platform for Cisco Unified Communications increases the return on the Army's existing investments in its Cisco network and information-security technologies. The Cisco Unified Communications architecture can also interoperate with the Army's existing TDM telephony systems, providing a migration path toward a pure IP converged solution when feasible.
- **Reduced total cost of ownership:** It costs less to deploy, secure, and manage a single unified network for voice, video, and data instead of separate networks. By converging its existing networks onto a single IP-based network, the Army can lower the costs of equipment and maintenance, network administration, and transport.
- **Flexibility:** The IP network platform is standards-based and open, enabling the Army to integrate unified communications with its existing systems and future IP solutions. Army personnel across the enterprise can take advantage of new Cisco Unified Communications capabilities and applications.
- **Scalability:** Cisco Unified Communications scales from the smallest deployments to the largest. Some of the world's largest global enterprises use Cisco Unified Communications as their core business communications fabric.
- **Reliability:** Cisco Unified Communications exceeds the five-nines availability that the Army requires for mission capabilities. This availability results from a combination of the inherent reliability of the IP network platform and the engineered reliability of DoD-certified Cisco Unified Communications applications that operate over the network.
- **Survivability:** The ability to withstand an accidental or intentional outage is built into the network, Cisco Unified Communications applications, and Cisco Unified IP Phones. For example, if a WAN link between a remote location and headquarters is disrupted, the router in the remote location automatically connects to the public switched telephone network (PSTN) or an alternative route until the connection is restored.

### Unified Workspace

Cisco Unified Communications unifies the many communications and collaboration tools used in the Army, making it easier for personnel to execute the mission. Not only are the Cisco applications integrated, but an open architecture facilitates integration of Cisco Unified Communications with business and communications applications from other vendors, including Avaya, IBM, Microsoft, Nortel, Polycom, Siemens, Tandberg, and others. The open design creates several efficiencies:

- **Integration between Cisco and Microsoft solutions:** Cisco conferencing solutions integrate with Microsoft Outlook and can help personnel schedule voice, video, and web collaboration sessions in the same way they currently schedule meetings. Personnel can also control their Cisco Unified IP Phone from the Microsoft Office Communicator client on their PC, increasing convenience and saving time.
- **Ubiquitous access:** A unified Army IP infrastructure enhances communications capabilities by giving personnel access to applications and services — video conferencing, multimedia collaboration, unified messaging, and more — from any workspace in garrison or in the theater.

- **Integrated video telephony:** Cisco video solutions are the industry's first to offer capabilities to desktop IP phones, H.323 IP endpoints, and H.320 ISDN endpoints and to enable personnel to collaborate using any device. Establishing a video call is as simple as dialing the 4-digit extension of another Army user. Multiple video or audio users can be joined into a conference with the push of a button. The same call features available for voice calls — forward, transfer, conference, and hold — are available for video telephony calls and are initiated through the Cisco Unified IP Phone.

“Unified Conferencing for TelePresence provides an extraordinarily realistic video conference in a multipoint screen-switched environment.”

—Miercom, Lab Testing Summary Report, April 2007

- **Secure rich-media conferencing:** Cisco Unified MeetingPlace® conferencing provides a DoD-certified rich-media conferencing solution with integrated voice and web collaboration. It helps the Army accomplish its mission by providing the needed security, reliability, scalability, application integration, and cost-efficiency. Personnel can schedule Cisco Unified MeetingPlace conferences using Microsoft Outlook, just as they schedule voice conferences, and use a firewall-friendly browser console to securely share applications, documents, websites, or presentations with other conference participants.
- **Enterprise messaging:** Cisco Unity unified messaging provides DoD-certified voicemail and unified messaging capabilities to personnel connected to IP telephony or TDM telephony systems. The Cisco certified solution also interoperates with a wide variety of other messaging solutions that the DoD uses. Management requirements decrease because the Army can manage a single Microsoft Exchange infrastructure for e-mail, voicemail, and faxes.

## Conclusion

By improving the mission capability of today's enterprise and combat forces, Cisco Unified Communications is helping accelerate Army business and mission transformation. Proven, DoD-certified solutions have demonstrated their value as a force multiplier for the warfighter in tactical environments as well as in garrison. The Army's total cost of ownership decreases because Cisco Unified Communications capitalizes on existing network and information-security investments to quickly and securely deliver new services. Voice, video, and web collaboration services unify the workspace, improving information access and accelerating speed to decision. Finally, Cisco's leadership in both facets of unified communications — the underlying network and the applications themselves — delivers solutions that meet the Army's needs for quality and reliability.

For more information about Cisco Unified Communications, visit: <http://www.cisco.com/go/uc>.

For more information about Cisco solutions for the U.S. government, visit: <http://www.cisco.com/go/federal>.



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