

# Mobile Collaboration in the Public Sector: *Work Your Way, on Any Device*





## What You Will Learn

Two social trends are transforming work styles in the public sector. More employees work outside the office, and they increasingly want to bring personal devices, such as tablets and smartphones, to work.

This white paper, intended for business and IT leaders in government and education, explains how the public sector can empower a mobile workforce to collaborate from anywhere, with any device, without compromising security:

- Field workers and teleworkers can communicate with mobile video, building trust and increasing communications efficiency.
- Employees can work using personal tablets and smartphones from any vendor if the network, not the device, enforces security policies.
- Virtual desktop infrastructure (VDI) enables employees to access their virtual desktop on any device, either personal or government-owned.
- The foundation for all these solutions is an intelligent network that delivers a high-quality collaboration experience for mobile employees while also simplifying management.

## New Work Styles in the Public Sector

Changing work styles are compelling public sector employers to offer more flexible choices for where and what device to use for work.

One big change is that more employees work outside of a traditional office. These include the growing ranks of teleworkers as well as traditional field workers such as inspectors, bank examiners, building inspectors, clinicians, caseworkers, researchers, intelligence personnel, and others. Whether they work at home or in the field, mobile workers need tools to collaborate with coworkers for information sharing, team meetings, and training.

## Telepresence Increases Situational Awareness and Lowers Costs

- **Public safety:** In the city of San Antonio, Texas, detectives who need a search warrant right away use an in-vehicle laptop with Cisco Jabber Video™ for Cisco TelePresence® System software to connect to a judge. Obtaining the search warrant at the point of need instead of waiting up to 12 hours helps detectives take advantage of a window of opportunity to execute the warrant.
- **Emergency response:** In Jefferson County, Alabama, the Emergency Management Agency uses a Cisco TelePresence solution to collaborate with other Jefferson County agencies as well as 14 other counties, gaining a more complete operating picture than possible with voice communications alone.
- **Justice:** The city of San Antonio also uses mobile video to eliminate the costs and safety risks of escorting prisoners to and from the courthouse for arraignments. Instead, prisoners can meet with the judge face to face on a mobile Cisco TelePresence System.

High-definition videoconferencing, or telepresence, is a breakthrough for mobile collaboration because it enables employees to interact as they do in person, by taking cues from facial expressions as well as words. Regularly seeing team members face-to-face helps to foster trust, build camaraderie, and enhance communications. Video also more accurately conveys visual details than verbal descriptions. For example, police officers and firefighters can transmit video from vehicle-mounted cameras to the command center, increasing situational awareness for commanders. Similarly, inspectors can show a crack in a levee to engineers at headquarters instead of trying to describe it.

The other sea change in work styles is that employees are bringing personal tablets and smartphones to work. In a 2011 survey of 3000 global college students and recently employed college grads, 66 percent of the students and 58 percent of the new employees said the most important technology in their lives was a mobile device, such as a smartphone or tablet. The bring-your-own-device (BYOD) trend can be seen as a boon for organizations that implement the necessary security precautions, because the sharp displays and built-in multimedia capabilities on iOS, Android, and BlackBerry devices make them well suited for collaborating with voice, video, social media, and instant messaging. Organizations with a BYOD program can also compete more effectively with the private sector for talented new graduates.

## City of Amsterdam Employees Work on Any Device

Employees of the city of Amsterdam can work from anywhere on the grounds, using iPhones and other personal or government-issued devices. The Cisco intelligent network supports as many as 150 users per floor, some of whom connect with both a laptop and smartphone, plus more users in flexible workspaces inside and outside city-owned buildings.

## Preparing for Mobile Collaboration and BYOD

To make sure that mobile collaboration and the influx of personal devices do not compromise security or increase operational costs, public sector organizations need to prepare the network and data center. Contrary to popular assumptions, security is not a function of the tablet or smartphone. Employees can work with any device, including personal devices, when the network itself enforces policies and protect data. Requirements for mobile collaboration solutions in the public sector include:

- **Information security:** In public sector organizations from hospitals to schools, and from local government to the Department of Defense, protecting private information is a regulatory requirement. Voice, video, and data traffic must be encrypted as it travels over wired or wireless networks, keeping content private even if the stream is intercepted. Depending on the mission, some organizations might not want to physically store data on the employees' device, but rather store it on a virtual desktop in the organization's secure data center.
- **Choice of endpoints:** When employees are free to use video endpoints from any vendor, organizations extend the life of existing devices and increase their choices for future purchases.

- **Consistently good video experience:** Video adoption is highest when workers experience consistently good video quality, whether they connect using an IP phone with video display, tablet, laptop, or immersive telepresence system. IT teams cannot control the quality of experience with consumer Internet video-conferencing services, making these services unsuitable for critical decision-making during disaster response, or even for weekly team meetings. Video solutions used in government must be able to dynamically adjust quality based on current network conditions, never dipping below a certain threshold. IT teams also need easy-to-use tools for performance monitoring and troubleshooting.
- **Automated provisioning and centralized management:** Public sector IT teams do not have time to manually configure more and more collaboration endpoints for the mobile workforce. Scaling mobile collaboration solutions requires automated provisioning of endpoints and the switch ports to which they connect.
- **Scalable, low-cost data center platform:** Part of the mobile collaboration solution is the data center platform that houses the collaboration applications and virtual desktops. To minimize data center space, power, and cooling costs, the platform should support virtualization. And to minimize management costs, it should make it easy to add servers, troubleshoot, and restart collaboration applications on other servers in the event of a hardware or software issue.

## Where to Start with Mobile Collaboration

Organizations looking to enhance mobile collaboration generally start with either virtual desktops or mobile video. The foundation for both is an intelligent network that can deliver an excellent user experience on any device.

### Virtual Desktop Infrastructure

When desktop applications and files are stored in the data center instead of on the device, employees can access their “virtual desktop” from anywhere, using any device. With a virtual desktop infrastructure (VDI), employees enjoy a full desktop experience from their choice of device, including thin or zero clients such as Cisco® Virtualization Experience Client (VXC) endpoints; government-owned laptops or ultrabooks; and personal devices.

Government organizations that provide virtual desktops do not need to worry about data leakage from lost or stolen tablets or laptops because applications and data are stored in the data center. A VDI can also reduce desktop TCO, whether employees use personal devices or thin clients, which cost far less than laptops and do not have to be replaced as often. Application licensing costs can also decrease because the organization needs only enough licenses for concurrent users, not all users.

Traditional VDIs support virtual desktops only, not voice and video. But Cisco Virtual Experience Infrastructure (VXI) provides a unified workspace, including virtual desktops, voice, telepresence, and collaboration applications. To access government voice and telepresence services, employees can use any device (including personal tablets and laptops) with the Cisco VXC software appliance or a Cisco VXC endpoint.

## Video for Training a Remote Workforce: Save Travel Time and Costs

The Alabama Department of Transportation uses Cisco TelePresence for employee training. Employees appreciate saving a three- to four-hour drive, and the department saves money by not paying a consultant to teach the same class multiple times. Similarly, the city of Nampa, Idaho Fire Department uses Cisco TelePresence for training so that firefighters can remain at the station, ready to respond.

## Telemedicine: Extend Specialist Care to Rural Areas

Government hospitals and clinics working with patients experiencing post-traumatic stress disorder (PTSD) and other issues use Cisco TelePresence technology to see more patients in a day. Providing a video setup in veterans' homes saves them from having to make arduous trips, and also eliminates the considerable expense of ambulance rides. Used in the California Department of Corrections and Rehabilitation, telehealth saved taxpayers \$13 million by eliminating the costs of transporting inmates long distances under guard to see specialists.

## Mobile Video

High-definition video provides important advantages for a mobile workforce. For example, it reveals facial expressions, such as a skeptical look or someone getting ready to speak, that make communications more effective. In public safety, mobile video increases situational awareness. And in healthcare, it allows mobile clinicians to consult with colleagues in other locations.

Employees can transform any personal or government-owned device with a camera into a telepresence endpoint by using Cisco Jabber Video for TelePresence software (Figure 1). Or, without any special software, they can use the Cisco WebEx cloud service to meet with video, audio, and desktop sharing. WebEx meeting participants can see each other in high-definition video, and can opt to see the active speaker in full-screen theater mode.

Figure 1 - Mobile Workers Can Join TelePresence Sessions from Anywhere with Personal Tablets



## Foundational Infrastructure for Mobile Collaboration: The Cisco Intelligent Network

Creating an excellent collaboration experience for mobile workers requires a strategic approach to the network architecture:

- **Medianet:** By turning on features in Cisco network devices, public sector organizations can adapt the existing IP network to become a medianet, which is a network optimized to deliver an excellent video experience without affecting the performance of other applications. A medianet also has the intelligence to simplify provisioning and performance monitoring, reducing total cost of ownership for mobile collaboration programs. To read more about medianet, visit: [www.cisco.com/go/medianet](http://www.cisco.com/go/medianet).
- **Policy definition, control, and reporting:** Cisco Identity Services Engine (ISE) consistently enforces access policies on wired, wireless, and VPN networks based on the user's role, type of device, time of day, and more. Cisco ISE also gives administrators a complete view into who and what devices are connected to the network. To read more about Cisco ISE, visit: [www.cisco.com/go/ise](http://www.cisco.com/go/ise).
- **Simple management:** Cisco Prime™ management tools lessen the effort of managing networks, data centers, and the collaboration experience. To read more about Cisco Prime, visit: [www.cisco.com/go/prime](http://www.cisco.com/go/prime).

## Why Cisco for Mobile Collaboration in Government?

### End-to-End Solution

Cisco end-to-end solutions for mobile collaboration save governments and educational institutions the expense and risk of integrating products from multiple vendors. Cisco switches and routers include medianet features that help to create an excellent experience for users and simplify management. The Cisco Unified Computing System™ is an advanced, cost-effective data center platform for hosting video and collaboration applications and virtual desktops. Cisco also offers a range of video endpoints for mobile workers and teleworkers, ranging from Cisco Jabber Video for TelePresence software to immersive Cisco TelePresence systems.

### Enterprise-Class Security

Using Cisco solutions, public sector organizations can define and enforce security policy on the network instead of the device. This enables mobile workers to collaborate using any device, from any vendor.

At the network level, Cisco medianet features recognize voice and video traffic, isolating it on its own VLAN. The Cisco ASA Adaptive Security Appliance provides intrusion prevention system (IPS) capabilities; high-performance VPN and remote access; and optional antivirus, antispam, antiphishing, URL blocking and filtering, and content control. As the main component of the Cisco TrustSec® architecture, Cisco ISE supports BYOD programs by consistently enforcing policy based on the context: who is requesting access, on what device, where, and how.

Security also extends to the data center. If you provide virtual desktops for mobile users, files are stored not on the user's device, but on the Cisco Unified Computing System in the data center. This means a lost or stolen device does not compromise security.

Cisco endpoints themselves have built-in security. All Cisco TelePresence Systems, Cisco Unified IP Phones with video, and Cisco VXC endpoints encrypt voice and video using trusted, open standards. And Cisco TelePresence Video Communication Server (VCS) provides secure firewall traversal for standards-based video traffic. This means public sector organizations can offer video services to mobile workers without opening a firewall port or otherwise altering security policy.

## Support for Any Vendor's Endpoints

With Cisco mobile collaboration solutions, mobile workers can join telepresence sessions and work with their virtual desktop using personal or government-owned devices from Cisco or any other vendor. These include iOS and Android devices and BlackBerry smartphones.

Cisco collaboration applications work on Mac, Windows, iOS, Android, and BlackBerry devices, saving governments the expense of purchasing and supporting different software for different devices. These applications include Cisco Show and Share® for video sharing, Cisco Jabber Video for TelePresence, Cisco Jabber for enterprise presence and instant messaging, and Cisco WebEx® Social (formerly Cisco Quad) for secure online communities.

## Low Total Cost of Ownership

Finally, Cisco provides tools that minimize the management costs of mobile collaboration and BYOD programs. Factors contributing to low TCO for Cisco mobile collaboration solutions include:

- Cisco medianet features, including auto provisioning, management, and troubleshooting tools.
- Interoperability with all standards-based video endpoints, extending the life of existing investments
- Built-in security, helping to avoid costs of downtime and repairing damage.
- Single call-control system. All Cisco collaboration applications, including voice, Cisco TelePresence, and Cisco Jabber use Cisco Unified Communications Manager for call control. A single call control system costs less to purchase, manage, and maintain than multiple call control systems.

## Conclusion

The modern public sector workforce expects to work from anywhere, with any device. Successfully introducing mobile collaboration and BYOD to the workforce requires a strategic approach. The first step for most public sector organizations is transforming the existing IP network into a medianet that delivers a consistent quality of experience while minimizing management burden. Once the intelligent network is in place, your organization can provide virtual desktops and mobile video.

Cisco provides proven architectures and comprehensive professional services for mobile collaboration. Cisco Unified Workspace Smart Solutions for VXi and BYOD provide everything you need to “work your way,” including policy definition and enforcement, secure onboarding, mobile device management, and mobile collaboration applications.

### For More Information

To learn more about Cisco collaboration solutions for government, visit:

[www.cisco.com/go/govmobilecollab](http://www.cisco.com/go/govmobilecollab)

To learn more about Cisco collaboration solutions for education, visit: [www.cisco.com/go/edumobilecollab](http://www.cisco.com/go/edumobilecollab)

To learn more about the Cisco Unified Workspace, visit:

[www.cisco.com/web/solutions/trends/unified\\_workspace/index.html](http://www.cisco.com/web/solutions/trends/unified_workspace/index.html)



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