Three Best Practices to Help Government Agencies Overcome BYOD Challenges

This paper discusses how IT managers in government can address the challenges of the new Bring-Your-Own-Device (BYOD) environment as well as best practices for ensuring security and productivity.

Bring Your Own Device (BYOD) is no longer the sole domain of leading-edge private enterprises. Nearly 80% of white-collar workers in the United States use a mobile device for work and approximately 95% of IT organizations allow use of employee-owned devices in some way[i]. Piggybacking on its popularity in the private sector, federal and state government agencies are keen on bringing BYOD into their operations as well.

However, the preference for using personal devices over government-issued assets creates a set of new challenges for IT managers and government business leaders. Moving to a personal device-oriented environment means IT departments must rapidly adapt to an increasingly mobile workforce with new mobile-friendly infrastructure, while simultaneously taking great care to address the security of sensitive information—including data vital to national security.

This paper highlights key challenges facing government IT administrators in a BYOD environment—and discusses steps and strategies for network preparation, ongoing support, and securing information to enable widespread adoption of personal device use, while enhancing data security.

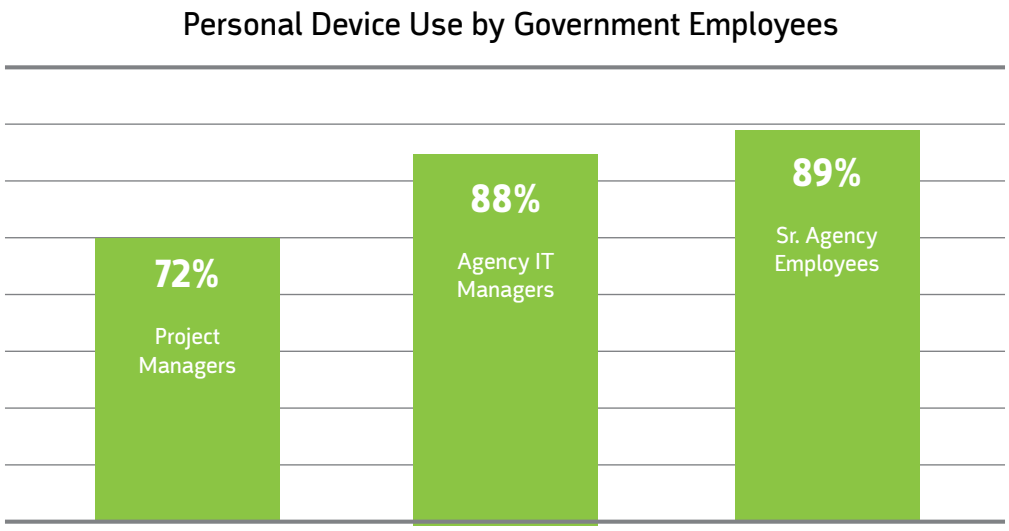
Increased productivity, cost savings drive the BYOD trend

Government at all levels must address the expectation of constant connectivity and communication of public sector employees, contractors, and end users. A well-planned BYOD strategy can benefit workers with increased mobility, better work-life balance, and more flexibility to work where and how they wish for optimal productivity.

BYOD confers many benefits on government operations. It creates opportunities to get new technology into employees' hands as quickly as possible and saves money because employees are bearing the costs of purchasing the technology. Most importantly, using personal devices for work reasons has become so popular among government IT leaders that most believe BYOD is essential to the success of their agency.

A recent survey revealed the use of personal mobile devices is pervasive at all levels of government, including project managers (72% of respondents), senior agency employees (89%), and agency IT managers (88%).[ii] The polling also showed that more than 50% of executives believe agency employees can't effectively do their jobs without use of their own mobile devices.

To make BYOD a reality in government organizations and serve the needs of a diverse workforce, business leaders must consider and plan appropriately for an array of distinct responsibilities. In particular, IT administrators must understand how to manage a significant increase in network traffic, monitor and manage a diverse set of devices and applications, and consistently apply accessibility and security policies seamlessly and accurately across users and devices.



Source: 1105 Government Information Group Content Solutions Unit

Best Practice 1: Plan Ahead

An airtight plan—written and agreed upon at all levels of the organization—is essential to a successful transition to a BYOD environment. Government agencies seeking to allow employees to use their own devices to improve productivity and mobility will undoubtedly worry that devices may not be secure, that workers may be distracted by applications rather than using the devices for work activities, and that IT administrators will be overwhelmed by supporting unmanaged devices.

The first step in addressing these concerns—or when considering any BYOD expansion—is developing a comprehensive BYOD policy. More than simply gaining acceptance and approval from top administrators down to end users, an effective BYOD policy reaches across the organization's operations and provides prescribed protocols for enforcement.

A well-conceived policy considers the needs of users from various lines of business and explicitly lists the types of devices that will be supported by the IT department. Prior to allowing any personal devices onto a network, IT managers should strategize how to achieve and maintain real-time visibility into network operations to accelerate troubleshooting or preempt network interruptions caused by unauthorized devices.

BYOD policies for government entities must address new risk elements BYOD introduces to an agency's operations, map them to regulatory compliance challenges, and lay out procedures for mitigating each element. Policies should identify what data is actually being accessed, what—if any—intellectual property or classified information is vulnerable to unauthorized access, and the potential impact were that data to be exposed.

With clearly defined risk factors, IT managers can take numerous steps to reduce threats such as standardizing inspections and sweeps before allowing any device on the network, or by isolating essential applications and data from the rest of the device. Similarly, formalizing guidelines for strong password controls, inactivity timeouts, screen locks and failed password lockouts can be combined with authorization procedures to further strengthen local device security.

In addition to manual authorization, agencies—especially those managing information such as medical records, personal identification records, or classified data—might elect to encrypt data or deploy solutions that automate the application of view-only access and enable other security measures like locking or wiping a device in case it's lost or otherwise compromised.

Best Practice 2: Conduct Network Audits

While securing information and devices is the primary concern for administrators, users tend to be more interested in network accessibility and performance from their personal devices. Conducting a thorough network assessment is a critical task in supporting BYOD.

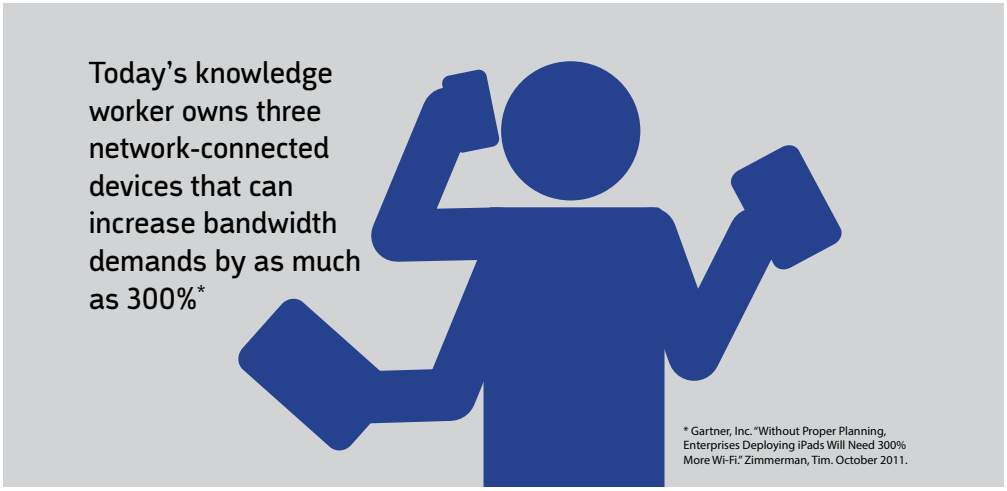
An audit can help administrators answer questions about how many and what kinds of devices can currently be supported and identify bandwidth or coverage limitations. An assessment is also an ideal opportunity to take inventory of an agency's essential hardware like wireless access points, controllers, and network management consoles.

One of the most important outcomes of a network audit or assessment is an understanding of how new devices will affect network density. The wave of personal and office-issued notebooks, tablets, and smartphones hitting a network can significantly impact the existing wireless infrastructure's performance and security.

In the past, expanding a network simply meant increasing coverage with more access points on or around an agency's campus. With today's knowledge worker owning three network-connected devices[ii] that can increase bandwidth demands by as much as 300%[iii], it is imperative to create high-density wireless deployments capable of allowing dozens—even hundreds—of users to get online at the same time without degradation of performance.

As such, IT managers should prepare to upgrade or add hardware and software to accommodate the increases in both on- and off-campus network demand. At the same time, dedicated human resources may be increased to effectively manage deployment and troubleshooting. Assembling a list of available technologies and partner service providers capable of meeting specific network needs will streamline the deployment and the support process in the future.

In addition to adding resources, the increased amount of wireless devices flooding the network requires IT managers to consider how they can configure existing assets to better manage and optimize performance. For example, while there are no standards for the implementation of Wi-Fi radios into mobile devices, a well-rounded BYOD plan will segment use across multiple bands (5GHz and 2.4GHz) and leverage wireless access points and routers that support both dual-band and dual-WAN operation to protect against performance degradation or outages.



Best Practice 3: Automate and Accelerate Security

The most intensely scrutinized aspect of BYOD for government agencies is the security and safety of high-value information and intellectual property. Protecting information as it's sent between parties and while it resides on user devices is a critical challenge for IT managers.

Employees and contractors need the ability to communicate without worrying whether their messages will be intercepted or accessed by unauthorized individuals. IT managers can help ease those worries with robust peer-to-peer encrypted communications that guarantees all data such as video, text, and file transfers are private and safeguarded. However, given the time-consuming nature and complexity of learning or developing encryption modules, agency leaders should decide, based on the BYOD policy, whether to deploy an on-premise or cloud-based service. Many will elect to use a cloud-based encryption service to save time and energy.

In addition to cloud-based encryption services, Mobile Device Management (MDM) and Mobile Application Management (MAM) solutions provide automated tools for standardizing data security protocols and applications. For example, while many devices have built-in encryption capabilities for basic level protection, IT administrators can use an MDM to ensure that only devices that support data encryption and have it enabled can access the network and corporate content.

Gaining a global perspective on a network's operations and current status is essential to optimizing security. MDMs provide tools for monitoring and managing mobile devices from a network console and on the device itself. An effective MDM enables managers to configure device policies according to the BYOD plan and deploy them over the air to approved devices.

Preferred solutions will also automatically scan newly installed apps for malware, quarantine infected devices, protect users against phishing attacks or accessing potentially malicious websites, and allow remote partial and full data wipes on lost or stolen devices. IT managers can use MDMs to streamline configuration and enforcement of BYOD access policies by setting compliance criteria for platform and device groups. Devices and platforms can be segmented by job function, security clearance, or virtually any other consideration.

Using an MDM can help ensure that only devices meeting minimum standards and requirements can access the network or select files. MDMs also allow administrators to perform regular compliance checks for enhanced security.

Similarly, MAM solutions help IT managers assert control over the kinds of applications users download via the agency's network. MAMs allow managers to determine which applications are acceptable on the network and securely deploy them to individual devices or work groups. A complete MAM solution provides the ability to centrally manage application updates, remove mobile applications, monitor application performance and usage, and remotely wipe data from managed applications from a single dashboard.

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Extending a BYOD strategy

With mobile device use across government agencies nearly tripling in the last two years and more than an estimated $2 billion in new productivity[iv], BYOD in government is expected to continue its rapid growth.

Once a reliable BYOD infrastructure and sound policy is established, enterprising government organizations may wish to further extend the reach and capabilities of their networks. Employing solutions from Crestron Electronics can help achieve that vision.

Crestron RL is an advanced unified communications and collaboration solution that works within the framework of an organization's BYOD strategy. The solution combines the voice and real-time collaboration features of Microsoft Lync® with the scalability and intuitive operation of Crestron control and automation systems.

Using any mobile device or network-connected computer, users can remotely join a conference to communicate, share documents, and collaborate with partners, colleagues and clients. And because Crestron RL connects over an organizational LAN, administrators can simply apply BYOD requirements to the solution, ensuring compliance with BYOD policy and maintaining the security of the network.

World-Class Planning and Support from a Global Leader

Choosing the right hardware and software and strategizing an effective BYOD policy can be a daunting task. For many IT leaders, implementing a BYOD program from scratch is their first foray into that market. While ripe with opportunities to increase productivity and lower costs, BYOD is also rife with risk that can adversely impact an IT manager, his or her department, and the company as a whole.

Objectively assessing an organization's needs and a time-consuming, accurate inventory of available technologies are essential to a successful BYOD deployment, but often beyond the scope or capabilities of IT departments with limited or restricted resources. Instead, many CIOs and IT administrators find it prudent to seek expert guidance and advice from external sources. AVI-SPL is a global leader in the design, implementation, and support of cutting-edge systems and environments that enable enhanced communications and collaboration.

The company provides professional services, support, and training for organizations globally, with particular expertise in mobile infrastructure and security. AVI-SPL uses each of its partners' solutions at AVI-SPL offices across North America, using its own operations as a proving ground for innovative communication and collaboration solutions.

AVI-SPL has established a reputation for its innovative approach to unifying technologies and delivering high-performance, cost-effective solutions for clients. AVI-SPL works closely with employees at various levels of an organization's IT department and core operations to help clients gain better insight to the scope, requirements, costs, and ways to safely accelerate deployment of their mobile presence and BYOD programs.

To learn more about AVI-SPL's services and expertise, visit www.avispl.com.

About AVI-SPL

AVI-SPL has a team of experts with the experience needed to meet the most technically advanced needs of our clients. We can help you design, build, and support the systems and environments that enable your video communication and collaboration. Our engineers are certified to ensure they have the skills and knowledge necessary to manage projects of all scopes.

AVI-SPL works with Crestron to provide solutions for different markets, including healthcare, education, hospitality, and many more. From integration and fabrication through installation, documentation, training, and support, the team at AVI-SPL is equipped to be your partner every step of the way.

We're ready to help you better understand how video collaboration can fit into your organization. To learn more about video collaboration solutions for governement agencies, contact us at (866) 559-8197 or visit www.avispl.com.

About Crestron

Crestron is the industry leader in control and automation solutions for offices, schools, hospitals, hospitality, and government organizations. The company provides control solutions for functions ranging from AV presentations to global videoconferencing. Creston products empower business leaders with in-depth monitoring and reporting of business activities, energy consumption and savings, and available resources across the enterprise for optimal productivity, sustainability, and profit. Learn more at www.avispl.com/crestron

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