Extending Collaboration to BYOD Devices

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Device Freedom without Compromising the IT Network

Today’s employees are increasingly on the move, using mobile devices throughout their working life. Mobile collaboration has a powerful impact on productivity, offering anytime, anywhere access to data, applications, and most importantly, people. Tablets, smart phones and laptops have become so pervasive that individuals expect to be able to use them for their work as a matter of course. More companies are not only permitting, but supporting the employee’s choice of mobile technology a new trend called “bring your own device,” or BYOD.

The excitement around the latest devices and mobile applications can draw attention away from the true foundation of mobile collaboration: the network. It needs to be able to control access to maintain adequate security. It must also have the capacity, reliability and performance that mobile workers require. End-user configuration and connection have to be simple and easy, regardless of device.

To successfully enable a mobile collaboration and BYOD strategy, one must first address these and other network related issues. Cisco can help with solutions that consider everything from network infrastructure and device management to the policies that govern access and security. Cisco provides world-renowned network technology products.

Consider the full impact of mobile collaboration and BYOD

Some of the most critical aspects of mobile collaboration and BYOD involve the technical ability of the network to execute the enterprise’s policies. The network will need to deliver new levels of security while easing on-boarding and access for legitimate users.
It must fully support mobile devices and applications, as well as provide for secure and seamless network access from any point, whether wired, enterprise wireless, cellular or public WiFi. It needs the ability to prioritize bandwidth, with the greatest capacity given to those applications deemed most important to organizational goals.

The network also has an impact on IT administration. It has to support the most prevalent mobile device types and brands, and be able to grow to support new devices approved by the organization. In addition, it needs specialized tools to improve manageability and control costs.

Implementing an effective network to support mobile collaboration and BYOD begins with a defined strategy and a clear understanding of your goals. You then need to assess the readiness of your network to meet these goals.

Is the network:
- Prepared to manage the device issues such as support for the employee’s preferred platform?
- Able to effectively control usage without hampering productivity?
- Equipped to provide the bandwidth needed for a seamless user experience that includes voice and video?
- Prepared to support the organization’s policy for device security?
- Administered to support robust mobile device management?

With answers to these questions in hand, an organization is better prepared to begin building a technological roadmap for execution of the strategy. This plan must take into account how the network supports the other key elements of a mobile collaboration solution: devices and applications.
Cisco BYOD Architecture

Cisco provides a comprehensive BYOD solution architecture, combining elements across the network for a unified approach to secure device access, visibility, and policy control.

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To solve the many challenges described earlier, a BYOD implementation is not a single product, but must be integrated into the intelligent network. The Cisco BYOD solution builds on the Cisco Borderless Network architecture and assumes best practices are followed in network infrastructure designs for campus, branch offices, internet edge, and home office implementations.

**Cisco Catalyst Switches**
Cisco Catalyst® switches, provide wired access to the network and handle authentication requests to the network with 802.1x. In addition, access switches provide power-over-Ethernet (PoE) for devices needing power, including VDI workstations, IP phones, and WLAN access points (APs).

**Cisco Integrated Services Routers**
Cisco Integrated Services Routers (ISR), provide WAN connectivity for branch and home offices and connectivity for the wired and WLAN infrastructure in the branch office. In addition, ISRs may provide direct connectivity to the Internet and cloud services, application and WAN optimization services, and may also serve as termination points for VPN connections by mobile devices.

**Cisco Wireless LAN Access Points**
Cisco Wireless LAN (WLAN) APs, provide WiFi connectivity for the corporate network and handle authentication requests to the network via 802.1x. In addition, the WLAN provides critical functions for reliable, high performance mobile device connectivity.

**Cisco Wireless LAN Controller**
Cisco Wireless LAN Controller (WLC) is used to automate wireless configuration and management functions and to provide the visibility and control of the WLAN. The WLC is able to interact with the Identity Services Engine (ISE) to enforce authentication and authorization policies across device endpoint.

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Cisco Adaptive Security Appliance

Cisco Adaptive Security Appliance (ASA) provides traditional edge security functions, including firewall and Intrusion Prevention System (IPS), as well as providing the critical secure VPN (AnyConnect) termination point for mobile devices connecting over the Internet.

Deploying and managing a single supplicant client has operational advantages as well as provides a common look, feel, and procedure for users.

In addition, the AnyConnect client can be leveraged to provide device posture assessment of the BYOD device, as well as a degree of policy enforcement and enforcing usage policies.

Cisco Any Connect Client

Cisco AnyConnectTM client provides 802.1x supplicant capability on trusted networks and VPN connectivity for devices that access the corporate network from untrusted networks.

Cisco Identity Services Engine

Cisco Identity Services Engine (ISE) is a core component of the Cisco BYOD solution architecture and provides a number of services including:

- Self-service registration and enrollment portals
- Authentication
- Authorization
- Device profiling
- Device registration and provisioning
- Certificate enrollment
- Posture assessment
- Policy definition
- Interface to identity stores (e.g., Active Directory® [AD])
- Reporting and blacklisting of lost or stolen devices

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One of the most important functions Cisco ISE provides is the ability to have a single location for registration of devices. When devices first connect to the network, they can be redirected to a self-service (or IT intervention) registration portal where users can register the device, enroll the device, and receive auto-provisioning pushed to the device. This is an essential service for lowering the burden on IT to have to touch and pre-provision every device on the network and also gives IT the visibility to devices accessing the network.

In addition to core functions such as authentication and authorization, Cisco ISE provides intelligence about devices connecting to the network through device profiling. Device profiling can be used for discovering, locating, and determining the type and capabilities of endpoints that attach to the network to deny or enforce specific authorization rules.

**Cisco Jabber**
Cisco Jabber extends collaboration to BYOD devices by integrating the device into the Unified Communications suite of products. Users can easily use voice and video communications, access voice messages, and communicate through IM. Jabber clients also participate in Presence as well as having access to the same conferencing and desktop sharing applications as more traditional employee computers, including Cisco WebEx.

**Velocis Advantage**
Implementing a plan to extend collaboration to BYOD devices can be complex, requiring both outstanding technology and the ability to employ it properly. You can trust Velocis Systems a leading player in Networking, Computing, Messaging & Collaboration, Managed services, Portals and Business Process Automation. The organization brings a broader, deeper and state-of-the-art range of Products, Solutions & Services to it’s customers.

Velocis will ensure your realization of the vision of Collaboration & BYOD. Users will collaborate through the choice of their devices & Business will achieve Productivity, Security & Reliability.