

Cisco Cius: Mobile Collaboration in the Post-PC Era

What You Will Learn

As enterprises strive to connect a more mobile workforce to network resources, tablets have emerged as a promising solution (Figure 1). Today, there is no shortage of tablets to choose from. To determine which tablet will work best for your business, consider these questions:

- Will you use your tablets to run, grow, or transform your business?
- Will you develop your own tablet applications, purchase them, or both?
- Do you want tablet users to videoconference with colleagues, customers, suppliers, and partners?
- How will you deliver and manage applications at scale?
- How will you balance flexibility and security?
- Will your tablets be part of larger consolidation or cloud initiatives?
- What level of service and support will you require from your tablet vendor?

Many enterprises are evaluating the Cisco Cius™ tablet as a potential replacement for PCs and IP phones. This paper compares the Cisco Cius tablet to other media tablets to see how each addresses critical business considerations.

Figure 1. The Evolving Workspace: Mobile, Virtual, and Visual

2011	2012	2013
		
Fifty Percent of Computing Devices Will Be Smartphones and Tablets¹.	Forty Percent of Businesses Will Use Cloud-Based Services².	Ninety Percent of Network Traffic Will Be Video³.

¹ Deloitte, <http://economictimes.indiatimes.com/tech/hardware/tablets-smartphones-to-eclipse-pcs-in-2011-deloitte/articleshow/7469526.cms>

² Gartner, http://www.cisco.com/web/strategy/docs/gov/ps_cloud_wp8-31.pdf

³ Cisco Visual Networks Index Forecast

The Rapidly Evolving Workspace

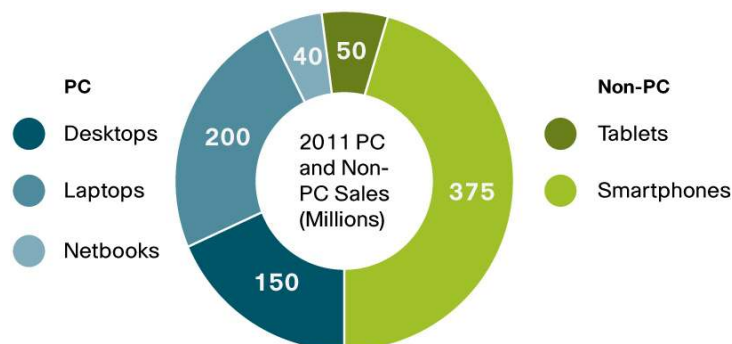
A convergence of market transitions (Figure 1) is significantly affecting where, when, and how we work. The rapidly evolving workspace is more:

- **Mobile:** By 2012, mobile users will make up 73 percent of the enterprise workforce, according to research from Forrester⁴. With so many mobile employees, ubiquitous access to network resources has become business-critical. Research by industry analyst Chadwick Martin Bailey shows that by extending unified communications and collaboration to mobile workers, companies can obtain up to 2 hours of more productive work from employees every day⁵.
- **Virtual:** Cloud computing is now an established deployment model. Applications, data, and even operating systems can be securely and reliably delivered from private or public clouds through intelligent networks that connect the many devices people use. Gartner predicts that by 2012, 40 percent of businesses will meet their communications needs by using a blend of premises-based services and Internet or cloud-based services, compared to 3- to 5-percent of businesses in 2009.
- **Social:** Traditional applications are being replaced by social media. Gartner predicts that by 2014, social networking services will replace email as the primary vehicle for interpersonal communications for 20 percent of business users⁶. This trend will result in communications moving beyond one-to-one to many-to-many and it will enable innovation with unprecedented scale and speed.
- **Visual:** The prolific use of video, with YouTube and social networking sites such as Facebook, has made video the new voice. Cisco predicts that by 2013, 90 percent of traffic on networks will be video. Pervasive video will make it possible for employees to effectively and efficiently share ideas and expertise while reducing corporate operating expenses.

The Rise of the Tablet

This year, more than 50 percent of computing purchases will **not** be PCs (Figure 2). One reason for this tipping point? The tablet computer has finally arrived. More than 50 million tablets will be sold in 2011. Deloitte expects that more than 25 percent of these tablets will be purchased by businesses.

Figure 2. According to Deloitte, More Than Half of All Computers Are Not Computers Anymore



⁴ Forrester, <http://www.information-age.com/channels/comms-and-networking/perspectives-and-trends/1095262/three-quarters-of-enterprise-workers-will-be-mobile-by-2012.html>

⁵ http://www.cisco.com/en/US/services/ps2961/ps2664/services_article_uc_apps_research_wp.pdf

⁶ <http://www.gartner.com/it/page.jsp?id=1293114>

Gartner predicts that by 2013, 80 percent of businesses will support a workforce using tablets. What is fueling this interest? Companies view tablets as a way to capitalize on the market transitions referenced earlier:

- The mobile workforce
- The virtual desktop
- The social enterprise
- The visual network

“By 2013, 80% of businesses will support a workforce using tablets.”

— Gartner, *Tablets in the Enterprise*, March 2011 – David A. Willis, Research VP, Gartner

Tablets can also provide an opportunity to consolidate devices at the desktop, based on user preferences, work styles, and strategic IT objectives. Many companies are excited about the transformative capabilities of tablets, because they have the potential to enable a range of new business applications and to redefine business processes.

“Every organization should be thinking about how tablets could change the way they operate. If you can think of an application for tablets, your competition may well be thinking in the same way - and acting on it.”

— David A. Willis, Research VP, Gartner⁷

⁷ http://my.gartner.com/portal/server.pt?open=512&objID=202&mode=2&PageID=5553&ref=webinar-rss&resId=1586614&prm=WB_IPD11R

Considerations for Tablets in a Business Environment: Go Beyond Hardware Comparisons

Although some organizations have already begun using consumer media tablets, IDC says, "Companies aren't yet buying tablets for employees en masse (78% do not). And due to the failure to roll out device management software and write group policies, they are hesitant about letting employees bring their consumer tablets into the workplace. Only a small percentage of tablet-owning workers today are allowed to access the corporate network (35%), access corporate e-mail (17%), or run business apps (18%)."⁸

“Don't be dazzled by media tablet hardware. Look at the entire ecosystem. User interfaces, applications, and services will truly differentiate.”

Businesses have not yet fully deployed consumer media tablets because these tablets are primarily designed to address the entertainment needs of consumers. They are not natively designed to address critical business requirements. For those businesses that wish to embrace tablets, one of the big challenges will be to maintain a balance between user preference and productivity and corporate security and compliance. Much like IP telephony did more than a decade ago, tablets will challenge IT. Businesses deploying tablets must make sure they provide operational, productivity, and strategic return on investment (ROI).

⁸ <http://www.business2community.com/mobile-apps/idc-claims-very-real-possibility-that-tablets-like-ipad-will-be-the-next-netbook-019444>

Cisco Cius: Designed for Business

Cisco Cius (Figure 3) is a mobile and desktop collaboration device built for business and is both IT- and user-friendly. Cisco Cius enables a new way of working, collaboratively. Wherever you are.

Figure 3. Cisco Cius Is a Mobile and Desktop Collaboration Device



Out of the box, Cisco Cius delivers support for:

- Integrated collaboration: In addition to industry-leading Cisco® Unified Communications applications, Cisco Cius comes equipped with Cisco Collaboration applications. Among these market-leading applications will be Cisco WebEx® meeting applications for conferencing; Cisco Jabber™ messaging for integrated presence and IM; and Cisco Quad™ social software for virtual teaming, secure communities, and content tagging for information exchange.
- Virtualization and cloud computing: Cisco Cius is ready to run a virtualized desktop, so you can flexibly, transparently, and securely host software applications in the data center and give users on-demand access to applications and network services through the cloud - without having to worry about data theft.
- Ubiquitous computing and transparent mobility: With resident computing, storage options, and unrestricted connectivity, you don't need to be in an office to be productive. Cisco Cius gives you the power to compute, communicate, and collaborate everywhere with confidence.
- High-definition (HD) video interoperability: Interoperability with all Cisco video endpoints and multivendor solutions facilitates greater participation and productivity and a rich video experience, and provides exceptional value because Cisco Cius works with the products you already have.
- End-to-end security: Cisco provides enterprise-grade security for Cisco Cius, which includes device security, network security, and mobile security. Security policies and quality of service (QoS) are enforceable across the network because Cisco Cius is a recognized network endpoint. Application security is provided with Cisco AppHQ, a trusted source for Cisco Cius applications that undergo comprehensive security testing by Cisco before being published to the Cisco AppHQ user storefront.
- Centralized device and application manageability: The same engine that powers Cisco Collaboration (Cisco Unified Communications Manager) provides central device management so no additional "bolt-on" Mobile Device Management (MDM) service is required. Centralized application management is also enabled with the optional Cisco AppHQ Manager, which provides a comprehensive set of IT management tools and reporting. Cisco AppHQ Manager also enables customers to create their own "app center within a center", where they determine which apps are made available to users.
- Enterprise-grade service and support: Cisco has more than 25 years of experience supporting the enterprise with centralized tech support and 24-hour replacement and warranty options for Cisco Cius, in addition to offering customers a wide array of advanced services.

- Developer community: Cisco AppHQ provides the resources and tools Android developers need to create and market compelling enterprise applications that can redefine the way employees perform their work.

Business-Class Collaboration: Look for Industrial-Strength Applications and Interoperability

- According to a recent Frost and Sullivan survey, "organizations that have deployed collaboration technologies experienced a whopping 400 percent-plus return on their investment."⁹ When it comes to business tablets, the tighter the integration, the more efficient tablet computing will be and the higher user productivity and ROI will be.

"When it comes to tablets and the enterprise, simplicity is most important."

— Channel Insider, 10 Problems Companies Will Face With Tablets, March 2011¹⁰

¹⁰ <http://www.channelinsider.com/c/a/Spotlight/10-Problems-Companies-Will-Face-With-Tablets-In-2011-407362/>

When evaluating tablets for use in a business environment, do more than just examine individual applications. Evaluate the user experience. Tablet users should be able to easily and transparently take advantage of a full collaborative experience. Individual applications should interoperate and work together to meet the comprehensive needs of users.

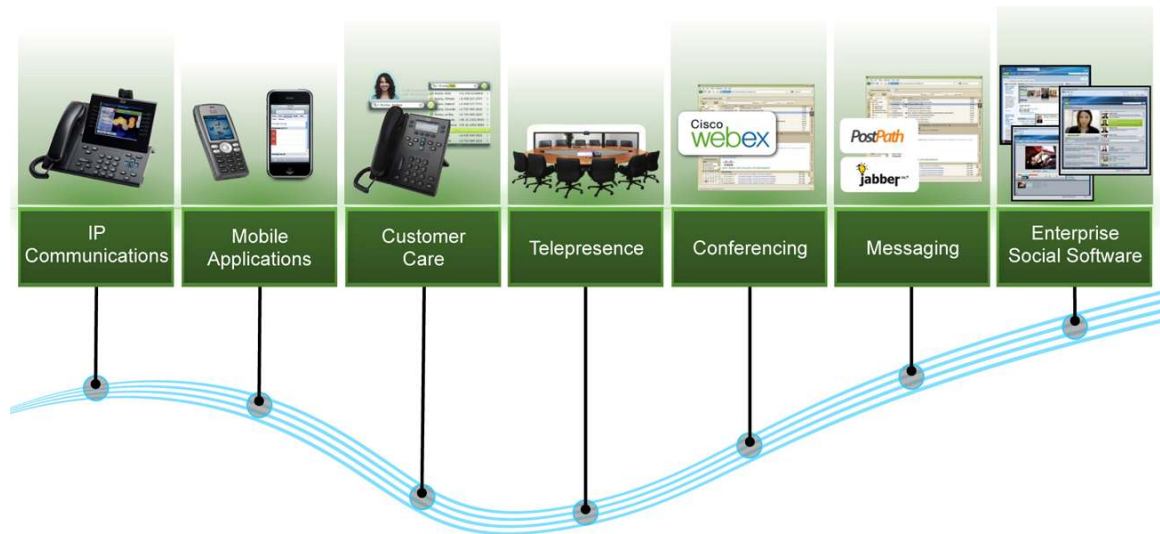
Cisco Cius reduces application-development costs with collaboration applications that are pretested for interoperability and ready to boost productivity. Consider the productivity benefits when users can:

- Launch meetings directly from the phone dialer
- Book meetings directly from a contact's information
- Start an individual or group chat with meeting participants
- Escalate a chat conversation into a meeting
- Schedule and start meetings directly from the calendar
- Record calls and retain call histories for regulatory compliance
- Have video conference calls with people who use different devices

Because the Cisco Cius tablet natively integrates enterprise-grade communications and collaboration (Figure 4), the user experience is more intuitive, more effective, and more productive. Native support for high-quality, interoperable, mobile video with a common dialing plan means you can videoconference with all of your contacts.

⁹ Cisco TechWiseTV, Shattering the Barriers to Rich Collaboration, April 7, 2011

Figure 4. Cisco Cius Delivers Integrated Access to a Full Suite of Collaboration Applications



Although many tablets do offer video support, video conferencing requires far more than a tablet camera and a software application that supports it. If you can videoconference only with someone who has the same device - for example, if a sales representative cannot videoconference with customers or an executive cannot join a video conference with peers - then what is the real value to the business?

Cisco is the video leader and has a proven systems testing and support model in place. Cisco Cius interoperates with all Cisco video endpoints, including:

- Cisco TelePresence® Systems
- Cisco TelePresence EX Series
- Multivendor solutions

Business-Class Connectivity: Look for Flexible, Ubiquitous, Low-Cost Connectivity

The Cisco Cius tablet enables a no-compromise computing, communications, and collaboration experience both in and out of the office. The Cisco Cius tablet provides support for:

- Power over Ethernet (PoE): In addition to battery operation, Cisco Cius can be powered with 802.3at PoE switches or locally powered with a power supply.
- Wired connectivity: Desktop docking with the optional HD media station, which supports 10/100/1000 (Gigabit) Ethernet, delivers cost-effective connectivity at the desktop.
- Wi-Fi everywhere: Together, the Cisco Cius tablet and the Cisco Unified Wireless LAN "n" network bring a secure, reliable, high-quality-performance network solution. Cost-effective on-campus, at-home, and hotspot mobility is enabled with 802.11a/b/g/n Wi-Fi.
- Network users can benefit from Cisco Clean Air Technology, which **detects** RF interference that other systems cannot see, **identifies** the source of the interference, and automatically **adjusts** the wireless network to reduce downtime. Cisco Compatible Extensions v5.0 helps ensure QoS and extends tablet battery life.

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- Broadband connectivity: Off-campus mobile collaboration and computing is provided through 4G data services, planned for CY2011.
 - Transparent roaming: Signaling is directed over the wireless LAN (WLAN) network, even when the tablet is docked in the HD media station and is using wired connectivity. Transition from wired to Wi-Fi as users roam on campus does not require user intervention in their communications and collaboration activities.
 - Lower overall tablet cost: Users can take advantage of the campus network when on campus and rely on 4G data cellular services only when outside Wi-Fi range, reducing overall operating costs.

Business-Class Security: Look for End-to-End Security

When deploying tablets across the enterprise, IT managers need end-to-end security to keep employee and customer data safe. Because Cisco Cius is a natural extension of your secure collaboration infrastructure, it delivers the degree of security required by enterprises to manage confidential business and customer information. Cisco Cius provides security for mobile computing, communications, and collaboration with:

- A highly secure remote connection through the Cisco AnyConnect™ VPN Client, which comes standard.
- Secure boot, secure credential storage, image authentication and encryption, random bit generation, and hardware cryptographic acceleration.
- Media and data encryption through Transport Layer Security/Secure Real-Time Transport Protocol (TLS/SRTP) and Secure HTTP (HTTPS) for client browsings.
- Wired network security through IEEE 802.1x for authentication prior to network admission when users are off campus.
- Flexible wireless network security with Wi-Fi Protected Access 2 (WPA-2); Wired Equivalent Privacy (WEP), which is often used in home networks; and Extensible Authentication Protocol and Secure Tunneling [EAP-FAST] for enhanced security.
- The ability to "vet" applications from third-party Android developers and Android marketplaces, prior to permitting downloads or bulk provisioning, through the Cisco AppHQ Manager and Cisco Unified Communications Manager.
- Multiple Remote Wipe features from Cisco Unified Communications Manager, if the tablet is lost or stolen.

Business-Class Manageability: Look for Centralized Provisioning and Device Management

Tablet total cost of ownership (TCO) will be significantly affected by application development, procurement, deployment, and maintenance. As a recognized network device, Cisco Cius takes advantage of the network as a service platform for collaboration. Network-powered collaboration provides many benefits for endpoints, including centralized provisioning, management, and consistent QoS.

Because Cisco Cius can be centrally deployed and managed through Cisco Unified Communications Manager, IT administrators can:

- Streamline deployment time-to-live and reduce costs through bulk provisioning
- Retain a common dialing plan across Cisco endpoints
- Enable or disable USB, Secure Digital (SD) cards, Bluetooth, and Wi-Fi services by user profile
- Prioritize real-time video communications and help ensure QoS through network policy controls

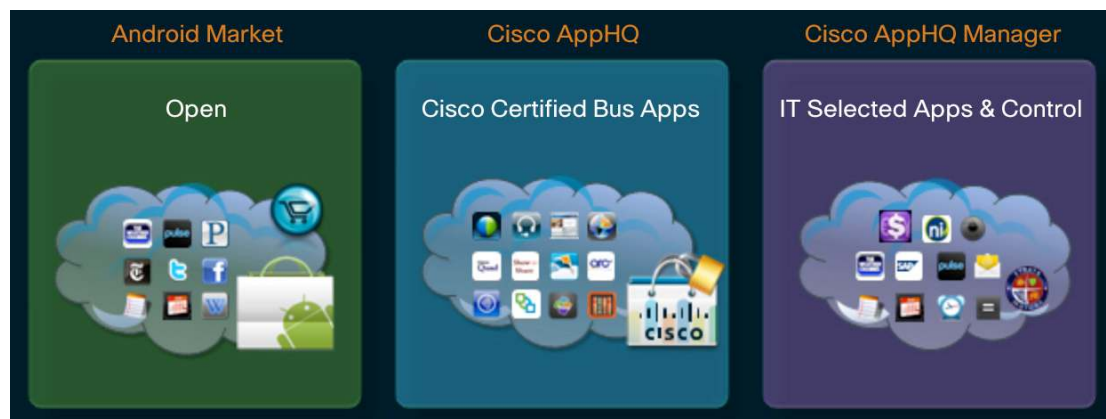
Conversely, with consumer tablet models, provisioning occurs through public stores using an employee's personal ID. According to Gartner, by 2014, there will be more than 70 billion downloads from app stores every year. The world of collaborative business applications is just being defined, and Cisco is leading the way. Independent software vendors (ISVs), independent Android developers, system integrators, and even customers can create new, value-added business applications for Cisco Cius using Android developer resources, which are available from the Cisco Cius Developer Microsite at <http://www.ciusdeveloper.com>.

“By 2014, there will be more than 70 billion application downloads from app stores every year.”

— Gartner, Mobile and Wireless Scenario, March, 2011

As your company's ecosystem of business applications expands, management and deployment of these applications is another consideration for IT (Figure 5).

Figure 5. Companies Have Many Application Deployment Options with Cisco Cius



With Cisco Cius, applications deployment and management can be facilitated in several ways. IT administrators can:

- Push applications through the native application deployment capabilities of Cisco Unified Communications Manager, with zero-touch provisioning. Administrators can easily add or remove applications from devices, by user, by groups of users, across an entire company, or by device (for example, a Cisco Cius tablet).
- Restrict employee access to only applications that are published to Cisco AppHQ. Cisco AppHQ, hosted by Cisco, is an ecosystem for the new class of collaborative applications supported on the Cisco Cius tablet. Cisco AppHQ can be accessed directly from a factory-installed client app on the Cisco Cius business tablet, providing a trusted source for a wide variety of Cisco-selected and validated applications. Cisco AppHQ blends the needs of enterprise IT with the user-friendly storefront experience of consumer marketplaces.
- Create a custom applications center with Cisco AppHQ Manager, which provides administrator-friendly tools that give IT even more control. Cisco AppHQ Manager provides a secure, simple, and efficient way to deploy and centrally manage free, purchased, and in-house Android-developed applications to selected users, groups of users, or an entire enterprise of Cisco Cius users. Other management capabilities enabled

by Cisco AppHQ Manager include application tracking by device, encrypted storage and communications, and flexible licensing and purchasing options.

Business-Class Service and Support: Look for a Proven Record in the Enterprise

As tablets expand their presence within the enterprise, it is important to evaluate your tablet vendor's service and support model to determine if it is geared toward business needs. For example:

- What happens if a user drops a tablet? Can you get a replacement 24 hours a day?
- What do you do if you have questions about software? Is there a 24-hour help line?
- What about interoperability? Is your business expected to "vet" applications? Or will your tablet vendor do it for you?

The innovative Cisco Cius tablet together with world-class Cisco Services offer customers dynamic, new communications and collaboration experiences. Cisco has a 25-year record of excellence in service and support. Cisco Services are based on proven methodologies, and they provide businesses with:

- Worry-free hardware
- Ease of deployment
- Apps within Cisco AppHQ that have been vetted **on** Cisco Cius **by** Cisco

Customers can also take advantage of:

- Cisco Accidental Damage Protection Service, which provides next-business-day replacement for a cracked screen, drop, or spill
- Cisco Unified Communications Plan and Design Services
- The support team's email address: as-cius@cisco.com

Business-Class ROI: Look for Hard Dollar Return On Investment

Tablets that prevail in business environments have business-class capabilities that provide operational, productivity, and strategic ROI. Cisco Cius delivers hard dollar value to business in four important ways:

1. Cisco Cius enables capital-expenditures (CapEx) and operating-expenses (OpEx) savings by providing the opportunity to consolidate devices at the desktop, now or in the future, based on IT strategies and user roles and preferences. Cisco Cius supports both local and cloud computing experiences. With local computing, Android-based applications, such as Google Docs, can be run natively on the Cisco Cius tablet. Files can be stored locally on the tablet flash memory, on secure digital input-output cards, or on USB drives.
2. Cisco Cius is ready for cloud economics. Migrating mobile services to the cloud can help you reduce computing costs and accelerate time-to-benefits. Cisco Cius will support your choice of virtual desktop client applications from our partners Wyse, Citrix, and VMware. The integrated virtual desktop client allows Cisco Cius to run a virtualized Windows desktop, so IT can use the network to quickly and cost-effectively deliver new applications and application updates as a service anytime and anywhere.
3. Cisco Cius enables transparent mobility. With its support for wired and wireless networks, users can traverse from wired to Wi-Fi without intervention. This effortless mobility, along with a lightweight portable design, means you can be productive everywhere.

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4. Cisco Cius can help you build competitive advantage through business-process transformation. With anytime, anywhere computing, communications, and collaboration capabilities, Cisco Cius can change the way work gets done. Cisco Cius can:
- Give sales teams a more engaging way to share promotional materials
 - Make physician interactions with patients more personal
 - Make long-distance immersive learning experiences in educational institutions possible
 - Make it easy to engage with experts regardless of where they are located
 - Transform order entry for enhanced customer service
 - Empower field personnel in public sectors with secure, comprehensive, regulatory-compliant communications

Conclusion

Tablets are presenting new opportunities for businesses because they have the potential to change the way work gets done. Cisco Cius is the only tablet that comprehensively addresses business needs with a unique design that integrates collaboration, desktop virtualization, and cloud computing as well as ubiquitous connectivity, video interoperability, end-to-end security, centralized device and application management, and business-grade service and support. Cisco Cius provides the assurances IT needs and the ease of use users demand.

For More Information

For more information about Cisco Cius, please visit: <http://www.cisco.com/go/cius>.

For more information about Cisco AppHQ, visit <http://www.cisco.com/go/apphq>.

For more information about the Cisco Cius Developer Community, go to <http://www.ciusdeveloper.com>.



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