



BYOD to the Enterprise



What's Hot



What's Not

BYOD to the Enterprise - Outline

- ☑ Mobile industry projections – YG, Gartner, LinkedIn
 - Four pivotal forces of the mobility industry
 - Cross pollination - mobile, cloud, social, big data
- ☑ BYOD – a.k.a The Consumerization of the Enterprise
 - Why BYOD?
 - Benefits
 - Challenges
 - Solutions and trends
 - Sample architecture

Mobile industry 2017 projections

- Mobile Economy Overview ¹
 - Market size - \$3.1 Trillion new mobile economy (3X from 2009).¹
 - Annual - smartphone sales cross 1 Billion in 2014.¹
 - Total - smartphones in use grows 12X from 2009 to 3 Billion.¹
 - Global - mobile lines to exceed 7.5 Billion, services \$1T in 2017.¹
 - US - mobile penetration >100% now, WW >100% in 2014.¹
 - Internet of Things (IOT) & M2M - growth of 20% CAGR till 2017.¹
 - Hidden device cost - Health devices & connected cars.¹
 - Wearable - like watches the likes of Google Glass.¹
 - Wireless - LTE is being progressively deployed by 4 US carriers.¹
 - Devices - include LTE multi-frequency chips.¹
 - Apps market - Google & Apple dominate. Third platform emerging.¹
 - BYOD - More than half of employees use / are interested.¹
 - 70% of enterprises ranked their investment in mobile apps as high.¹ priority in terms of overall IT spend.¹

¹ [Yankees Group Webinar: 2013-11-05 Mobile Metrics That Matter: Ten Data Points That Will Define the Next Wave of the New Mobile Economy](http://blogs.yankeegroup.com/2013/11/06/6919/) (http://blogs.yankeegroup.com/2013/11/06/6919/)

Pivotal forces in mobility

- Platforms

- iOS from Apple - catalyst of mobility pivotal forces
- Android from Google - opensource alternative to Apple
- Microsoft Windows Phone 8 – Powerful follower
- BlackBerry – Respected leader, but fading away

- Developers in large numbers

- UX is king – follow the user
- Develop apps for AppStore
 - Native - special resources
 - Web - Multi-platform
 - Hybrid - Potentially better
- Simple lucrative ecosystem
- Platform fragmentation
- Hardware fragmentation

- Users in **very** large numbers

- UX is king
- App downloads still growing
 - Native - improved UX
 - Web - UX is compromised
 - Hybrid - good sensor UX
- Ecosystem is compelling
- Lots of device choices
- High quality devices & apps



The Four Key Forces of Cross Pollination - Mobile, Cloud, Social, Data

- ☑ Mobile - is all about large numbers
 - Billions of high performance computing devices at the edge
 - Numerous sensors - at each edge point
 - Always-on - devices Consume / create / utilize data
- ☑ Cloud – feeds and being fed from wireless devices
 - Connectivity – through public networks
 - To / from public / private cloud (DMZ or secure back-end)
- ☑ Social - mobile enable more people to socialize often
 - Facebook, Yahoo - boosted revenues with mobile strategy
- ☑ Data - mobile generate / consumes big amounts of it
 - Internet of Things, M2M - driven by mobile sensors
 - Big-Data analytics utilizes mobile data



BYOD is here to stay

But is it secure?

- Primary data security issues:
 - Device containing confidential data is lost
 - Employee who is device owner leaves the company
 - Wireless communications can be tapped
 - Mid-tier servers managing mobile data may be at risk
 - Mash-up apps access public internet & intranet simultaneously
 - Device OS may not have built-in security
- The solutions to all these issues are the main challenges to the healthy evolution of BYOD. Some of them are:
 - ☑ Wireless SSL
 - ☑ on-device VPN
 - ☑ Device side and server side Encryption
 - ☑ Remote wipe / lock
 - ☑ Secure container



BYOD - Benefits

- Benefits to employees
 - Single device - for both personal and professional use
 - Flexibility - access personal apps at work and vice-versa
 - Productivity - more opportunity to stay connected and work
 - ☑ Satisfaction - much better work / life balance
- Benefits to employers' IT departments
 - Cost savings in device hardware to IT
 - Control / manage - remotely manage apps and devices
 - ☑ Productivity - IT action boosts employees' productivity
 - ☑ Overall employee satisfaction with corporate IT



BYOD – The Challenges

- Challenges to employers' IT departments
 - BYOD introduce significant device fragmentation
 - Data security on variety of employees' mobile phones
 - Provide Virtual Private Network (VPN)
 - Maintain boundary between personal and corporate access
 - Ability to wipe / lock lost devices remotely
 - Ability to improve employee productivity by app innovation
 - Simultaneous employees connection to intranet & internet
 - Secure confidential information on employees' devices
- Challenges to employees
 - Maintain boundary between personal and corporate access
 - Select a device that's within IT umbrella of compatibility
 - Having IT erase personal data on "lost" device
 - Seamless corporate and personal user experience



IT Industry related publications & Research re: BYOD

- BYOD: From optional to mandatory by 2017, says Gartner.³
- 38% of companies expect to stop providing workplace devices by 2016.³
- BYOD prevalent in midsize to large enterprises with 2,500-5,000 employees.³
- Around half of BYOD programs provide a partial reimbursement, while full reimbursement costs "will become rare."³
- Gartner Vice President David Willis says companies should "subsidize only the service plan on a smartphone."³
- Gartner Vice President Chris Howard talks about the converging four forces of Mobile, Social, Cloud and Information.⁴



³ [ZDNet's daily email newsletter Author: Zack Whittaker](#) retrieved 2013-11-17

⁴ [Gartner Vice President Chris Howard talks about the nexus of four forces](#) retrieved 2013-11-17



Mobile IT industry solution provider re: BYOD

- iPass/MobileIron Enterprise Mobility Guide for IT and CIO.⁶
 - Apple dominates the enterprise: Supported by 74% of enterprises.⁶
 - Employees owning their smartphones increased from 42% to 47% in 2012.⁶
 - Employees using employer provisioned phones declined from 58% to 49%.⁶
 - Apple dominates the enterprise: 74% of enterprises support the iPhone.⁶
 - Windows phones, tablets attracting attention: 30% supports one or another.⁶
 - Tablet usage is up among all departments: executives, sales, marketing etc.⁶

Apple Dominates the Enterprise

Increasingly flexible policies are changing the device mix in the enterprise. In 2011, RIM's BlackBerry was the top enterprise smartphone with support at 77 percent of companies. Apple's iPhone was second with a presence at 52 percent of enterprises.

In the latest Mobile Enterprise Survey, the brands switched places. The iPhone is now the leader, with support from 74 percent of enterprises. BlackBerry held onto second place with 62 percent but its popularity is rapidly eroding.

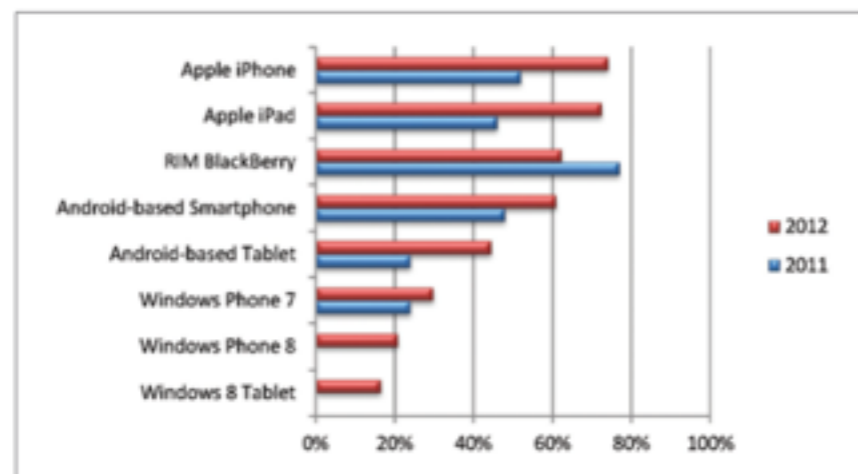


Figure 6: Does your company support any of the following devices?

6

Mobile Application Trends

Given the popularity of mobile apps in the enterprise, it is no surprise that more than 52 percent of IT managers stated that their companies are developing apps. Native applications for specific mobile operating systems are more popular than web-based apps (30 percent vs. 22 percent) despite the buzz surrounding new web standards like HTML5.

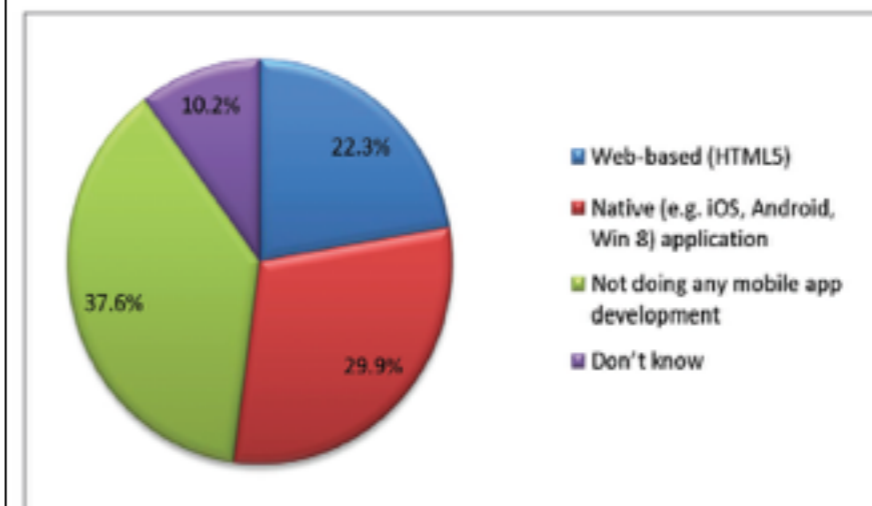
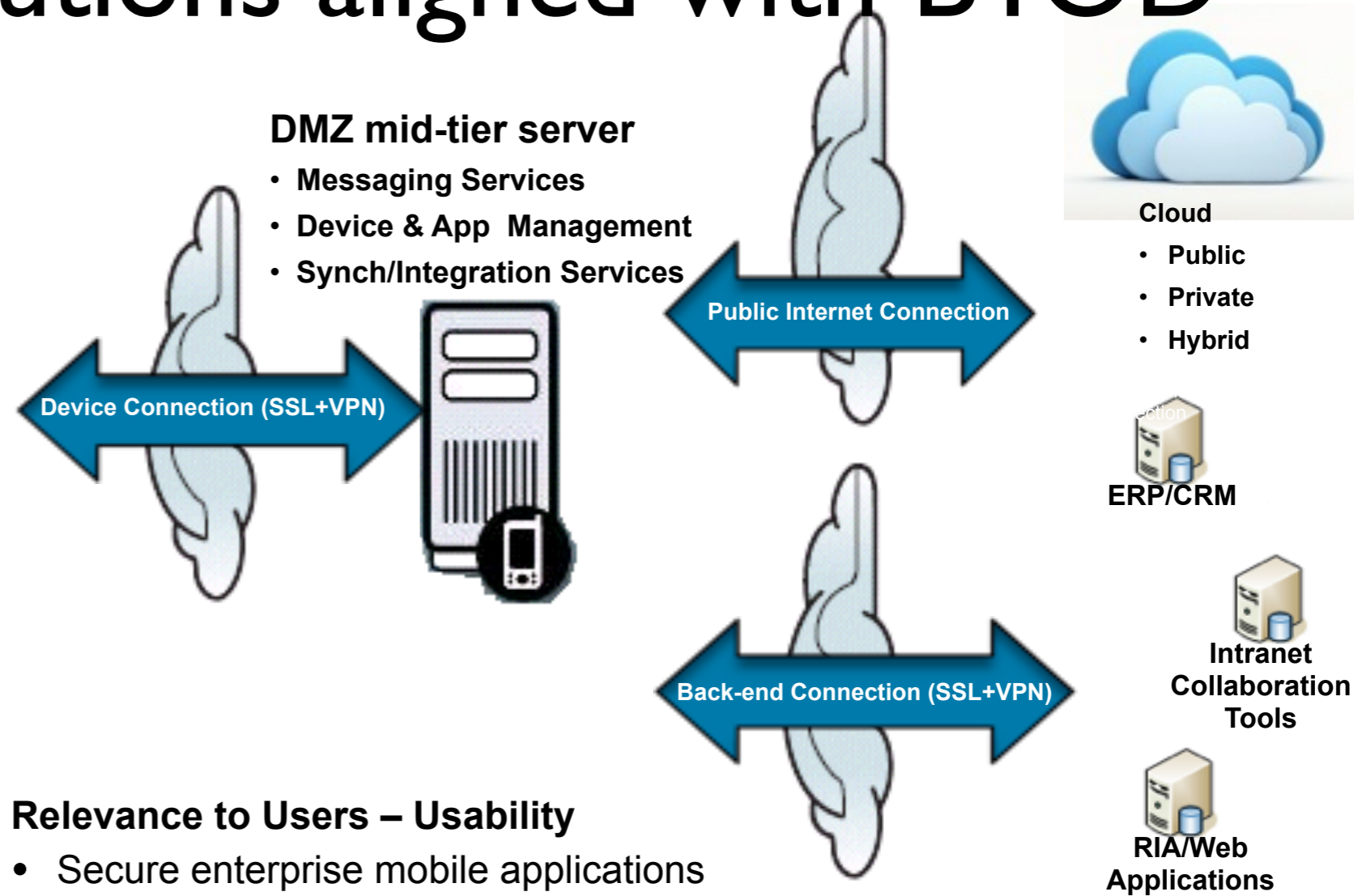


Figure 2: What type of mobile application development is your company doing?

6

Mobile Solutions aligned with BYOD



Relevance to Users – Usability

- Secure enterprise mobile applications
- Convenient enterprise sign-on for secure access (ESO, SSO)
- Mash-up integration across various app connections
- Enterprise contacts, calendar, email apps synchronized with container apps
- Single device completely isolated work from personal usage

Relevance to IT – Security and Management

- Mobile Device Management (MDM)
- Mobile Applications Management (MAM)
- Address enterprise encryption requirements
- Portable to other mobile platforms
- Simplified deployment for SMB opportunities

Summary – What's Hot

- ✓ Market size - \$3.1 Trillion in 2017
- ✓ 70% of enterprises ranked their investment in apps as high
- ✓ iOS from Apple - catalyst of mobility pivotal forces
- ✓ Android from Google - opensource alternative to Apple
- ✓ Users and developers in **very** large numbers
- ✓ Mobile, Cloud, Social, Data – inter-operational key forces
- ✓ Biometrics, SSL, encryption and VPN - mitigate security risks
- ✓ IT cost saving leveraging BYOD cost structure
- ✓ Personal security utilizing biometrics (fingerprint)
- ✓ Employee satisfaction - work / life balance

Summary – What's Not

- Security risks are a major concern to IT and employees
 - Device and data ownership who is accountable?
 - Device personal data wipe / lock is a concern for employees
 - Some platforms lack inherent security building blocks
 - BYOD introduces significant device and OS fragmentation
 - Security around data proliferation and copies
 - Isolation between personal usage and work related usage

Resources & Solutions aligned with BYOD

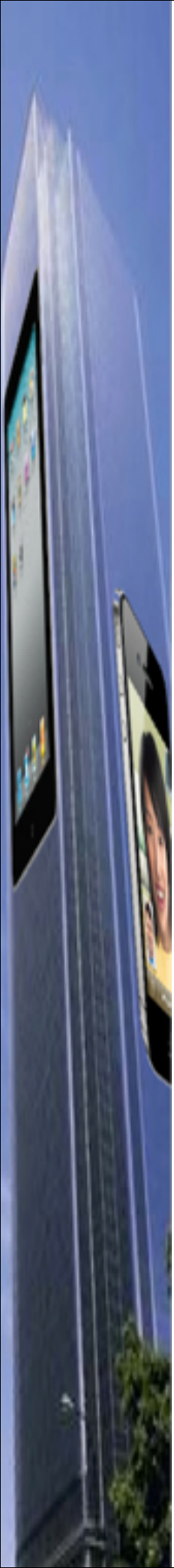
- Sources used in this presentation
 - [Yankees Group Webinar: 2013-11-05 Mobile Metrics That Matter](#)
 - [2013 BYOD & Mobile Security Security – LinkedIn Survey, Holger Schulze](#)
 - [ZDNet's daily email newsletter Author: Zack Whittaker](#)
 - [Gartner Vice President Chris Howard talks about the nexus of 4 forces](#)
 - [The iPass MobileIron Mobile Enterprise Report - for IT CIOs](#)
- Additional sources
 - [MobileIron - Best Practices for Mobile Privacy in BYOD](#)
 - [Appearian – Achieving Work-Life Balance with BYOD](#)
 - [Sybase - Managing Mobile Devices in Device Agnostic World](#)
 - [Kinvey native-vs-web-vs-hybrid-for-enterprise-mobile-apps](#)
 - [Ten Commandments of Bring Your Own Device \(BYOD\)](#)
 - [Dell - Mobile/BYOD Solutions](#)
 - [IBM - Why and how you should adopt BYOD](#)
 - [ZDNet - BYOD and the Consumerization of IT](#)
 - [CISCO - BYOD Smart Solution](#)



Questions



Backup



BYOD & Mobile Security 2013 – LinkedIn Survey

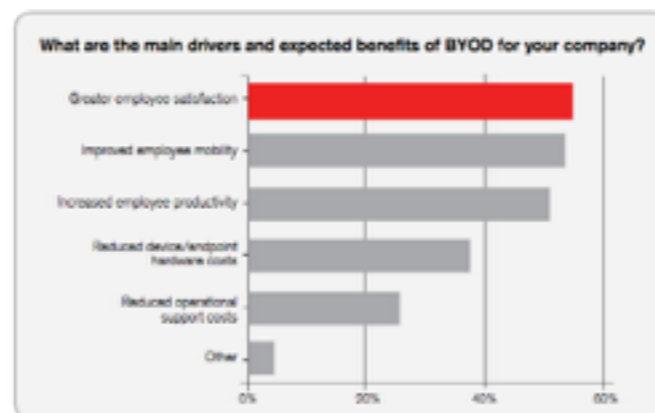
Main Findings

- Most important BYOD benefit is employee satisfaction.²
- Most companies are concerned about loss of data.²
- Encryption is the most used risk control for BYOD.²
- Mobile security threats biggest impact is more IT resources.²
- Most popular apps in business are email, calendar and contacts.²
- Most popular mobile platform is IOS.²

Q1 WHAT ARE THE MAIN DRIVERS and benefits of BYOD for your company?



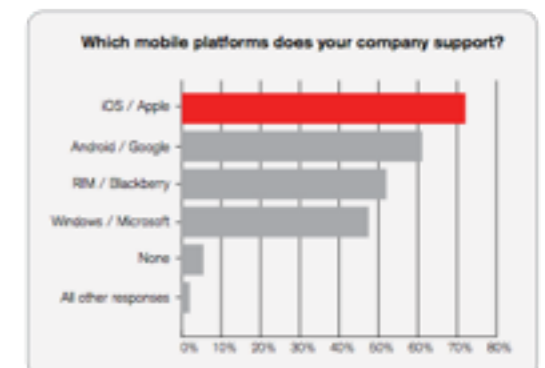
The top-3 drivers for BYOD are all about keeping employees happy and productive: greater employee satisfaction (55 percent), improved employee mobility (54 percent) and increased employee productivity (51 percent).



Q5 WHICH MOBILE PLATFORMS does your company support?



The most popular mobile platform for BYOD is iOS/Apple (72 percent).



BYOD & Mobile Security 2013 – LinkedIn Survey

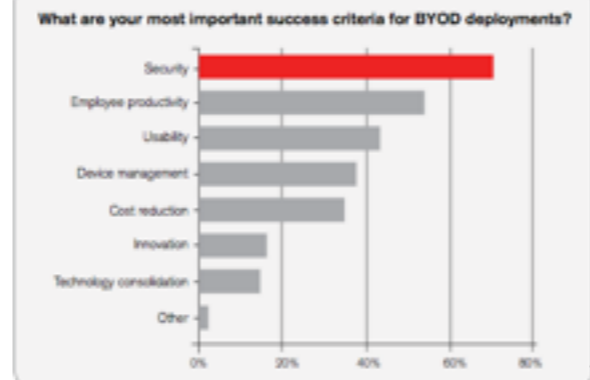
More Findings

- Mobile Device Management tools, most frequently used.²
- 32% of organization are considering on-premise BYOD.²
- 70% of organizations believe security is most important.²
- 54% of organizations believe employee satisfaction is.²

Q13 WHAT ARE YOUR MOST IMPORTANT success criteria for BYOD deployments?



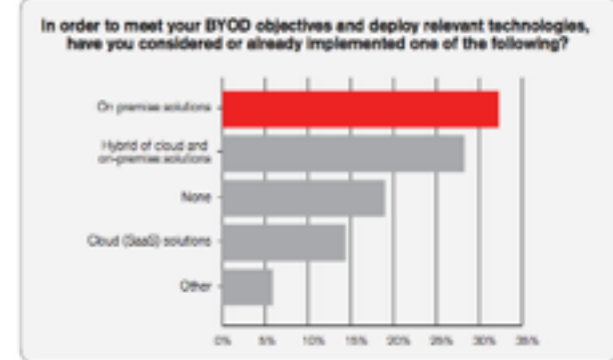
The most important success criterion of BYOD deployments is **maintaining security** for 70 percent of organizations. Employee productivity ranks second with 54 percent.



Q12 HOW ARE YOU DEPLOYING BYOD solutions?



32 percent of organizations are considering or implementing **on-premise BYOD solutions.**

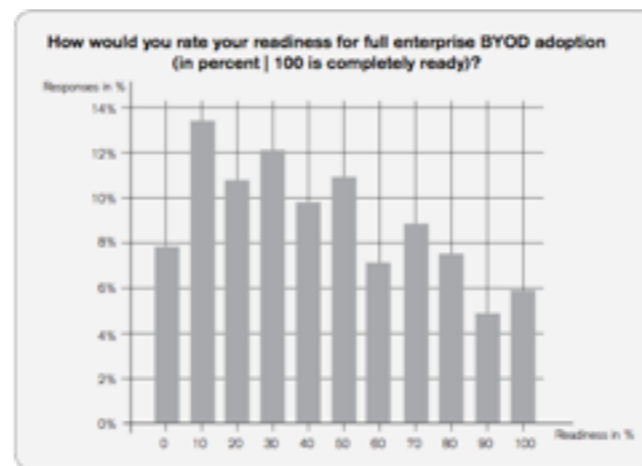


BYOD & Mobile Security 2013 – LinkedIn Survey More Findings

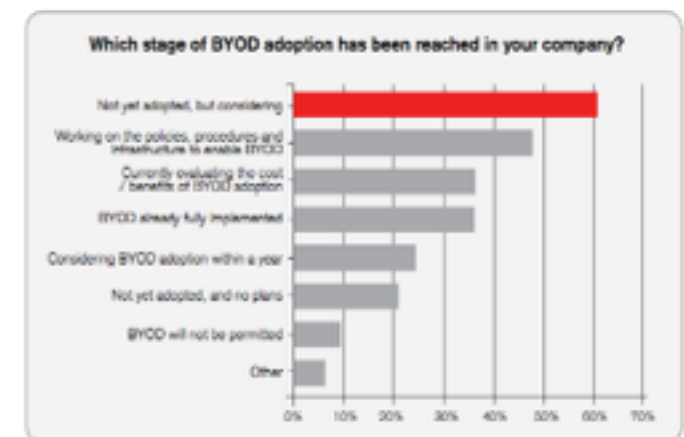
- 60% of organizations have not yet adopted BYOD.²
- Less than 50% ready to adopt BYOD.²
- 41% create mobile apps for employees. 40% do not.²
- 43% create mobile apps for customers. 40% do not.²



A majority of organizations say they are **less than 50 percent ready to adopt BYOD** for their enterprise.



60 percent of **organizations have not yet adopted BYOD**, but are considering it. Only 10 percent of non-adopters are ruling it out. 24 percent are actively working on policies, procedures and infrastructure for BYOD.



² 2013 BYOD & Mobile Security Security Report – Survey Results. Holger Schulze – BYOD and Mobile Security LinkedIn Group Owner. Retrieved 2013-11-17

BYOD & Mobile Security 2013 – LinkedIn Survey More Findings

- >80% think email, calendar and contacts are most popular.²
- Less than 50% think document access are most important.²
- Report Author – Holder Schulze.²

ABOUT THE AUTHOR

Holger Schulze is a B2B technology marketing executive delivering demand, brand awareness, and revenue growth for high-tech companies.

A prolific blogger and online community builder, Holger manages the B2B Technology Marketing Community on LinkedIn with over 42,000 members and writes about B2B marketing trends in his blog Everything Technology Marketing.

Our goal is to inform and educate B2B marketers about new trends, share marketing ideas and best practices, and make it easier for you to find the information you care about to do your jobs successfully.

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Q20 WHAT ARE THE MOST POPULAR business applications used on BYOD devices?

The most popular mobile business applications are **email, calendar and contact management** (85 percent).

What do you think are the most popular business applications used on BYOD devices?

Application	Percentage
Email/Calendar/Contacts	85%
Document access / editing	~45%
Access to Sharepoint / intranet	~38%
Access to company-built applications	~35%
File sharing	~30%
Access to SaaS apps such as Salesforce	~25%
Virtual Desktop	~20%
Video conferencing	~15%
Cloud Backup	~10%
Other	~5%

² [2013 BYOD & Mobile Security Security Report – Survey Results. Holger Schulze – BYOD and Mobile Security LinkedIn Group Owner. Retrieved 2013-11-17](#)