

## **Definition**

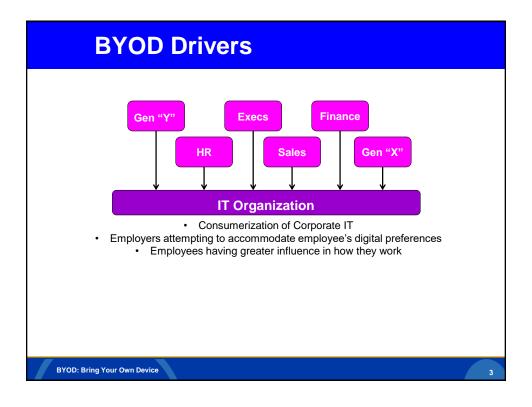
# **Bring your own device**From Wikipedia, the free encyclopedia

Bring your own device (BYOD) refers to the policy of permitting employees to bring personally owned mobile devices (laptops, tablets, and smart phones) to their workplace, and to use those devices to access privileged company information and applications. The term is also used to describe the same practice applied to students using personally owned devices in education settings.

BYOD is making significant inroads in the business world. In most cases, businesses simply can't block the trend. Some believe that BYOD may help employees be more productive, increases employee morale and convenience by using their own devices and makes the company look like a flexible and attractive employer, and attract new hires.

BYOD: Bring Your Own Device

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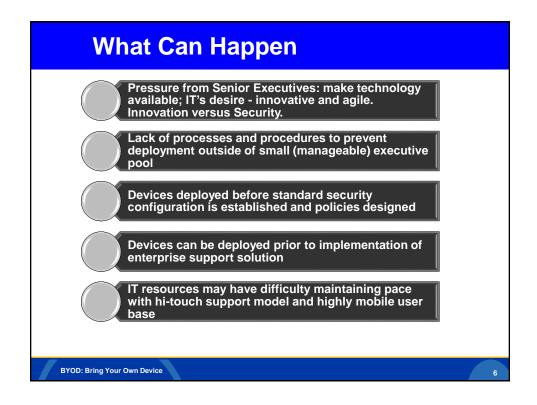


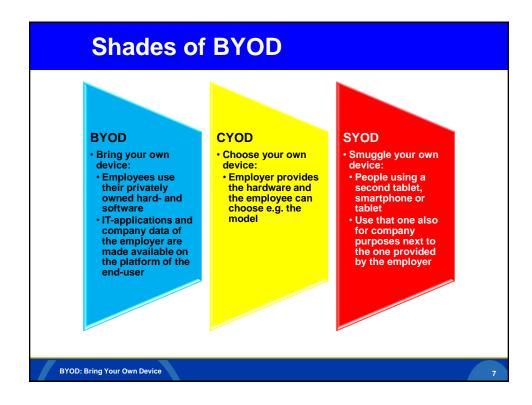
# **BYOD Examples**

- Smartphones
- Laptops & Netbooks
- Tablets
- USB
- Digital Cameras

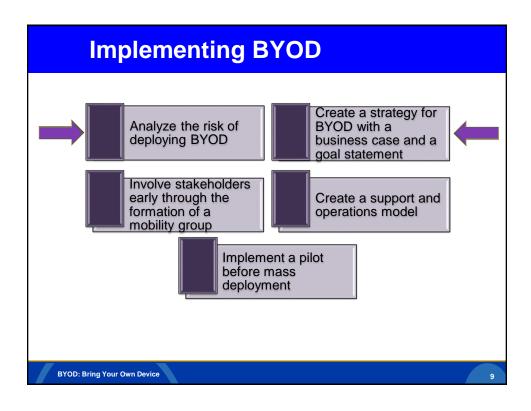
- Digital Cameras
- RFID/M-RFID
- Printers/Smart Cards
- Other Internet of things

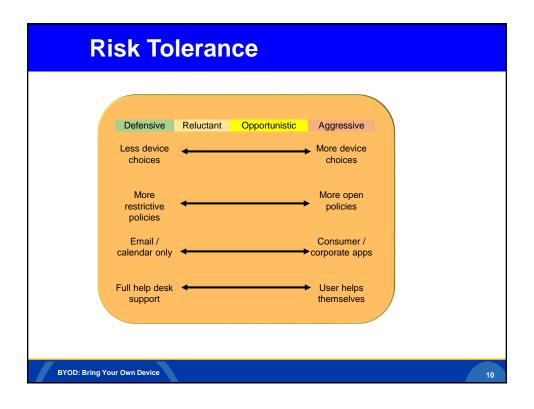




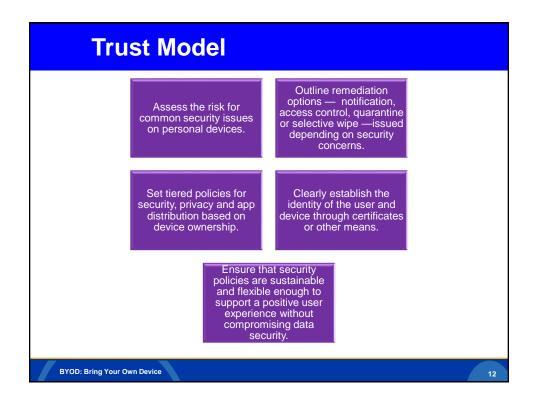


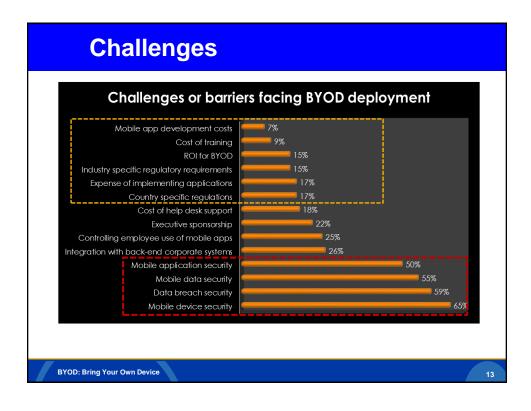












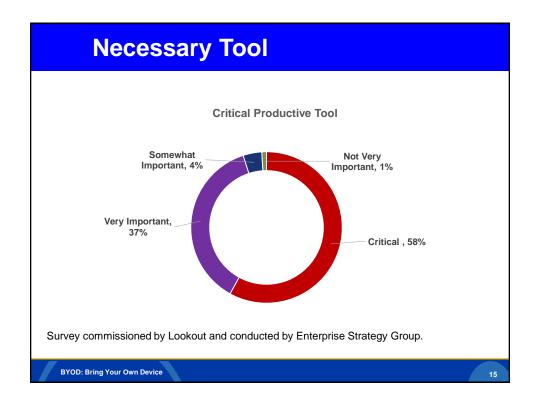
### % **Explanation** Of people use personal devices at work, regardless of the office's official BYOD policy (Source: Microsoft via CBS News) Of employees haven't received any education about the risks related to BYOD (Source: 2013 Data Protection Trends Research 11% Of end users access business applications from the corporate office 100% of the time (Source: Cisco) 46% Of end users surveyed said network performance negatively affects mobile devices the most (Source: Cisco) 78% Believe having a single mobile device helps balance employees' work and personal lives (Source: Samsung)

Currently use a smartphone or tablet as their primary, work-

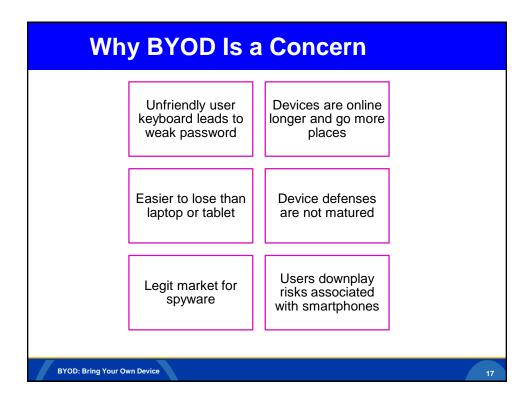
related computing device (Source: Samsung)

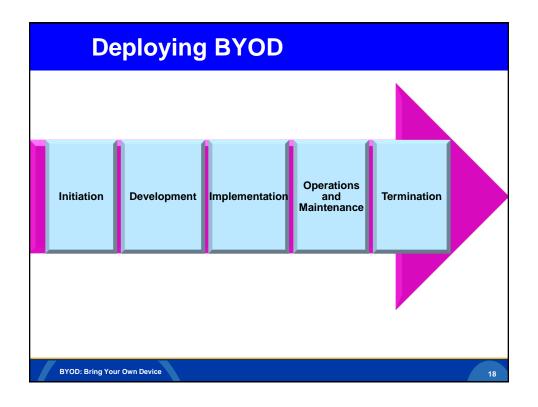
**BYOD Statistics** 

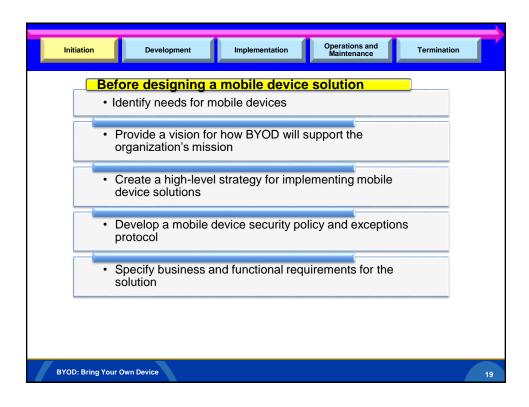
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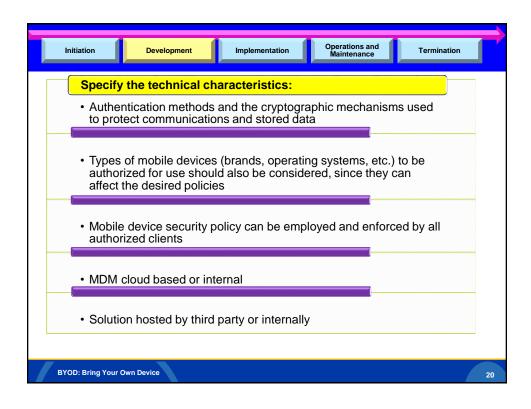


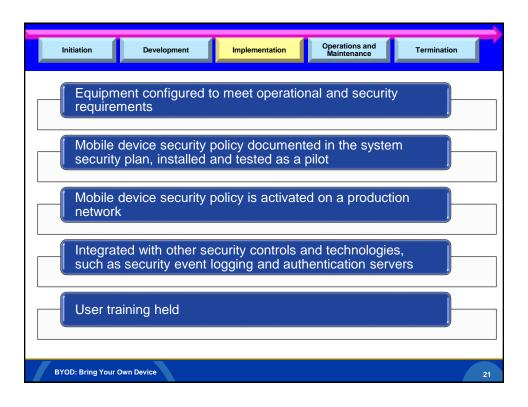


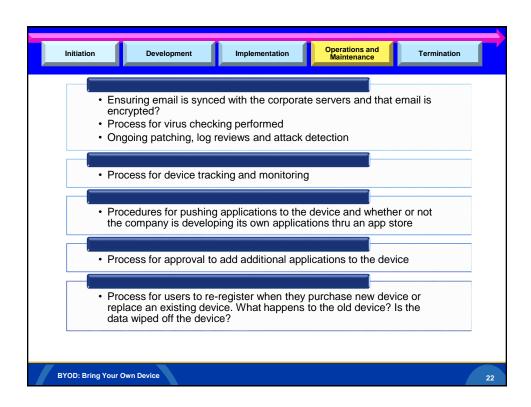


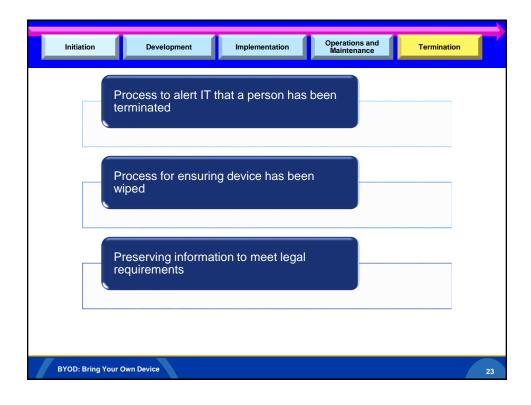




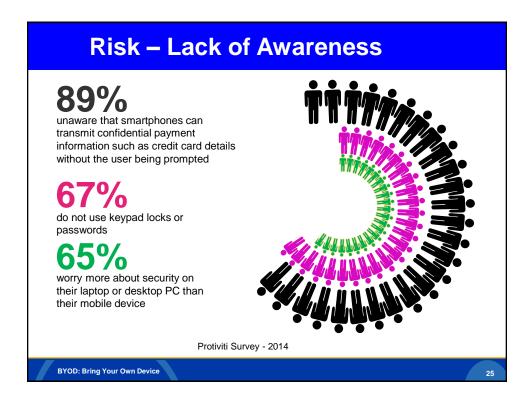




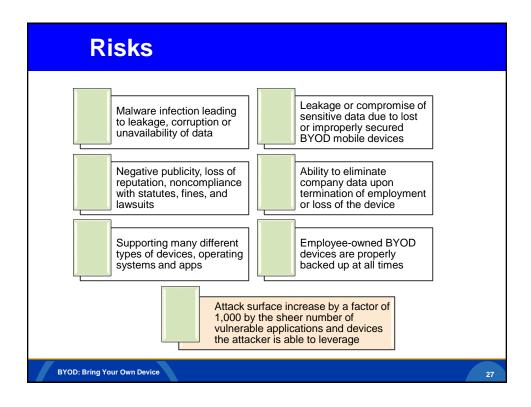


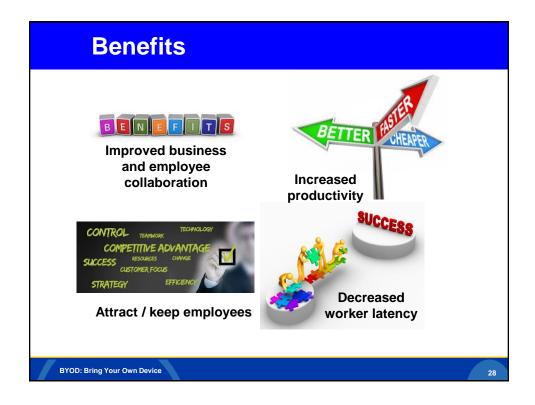


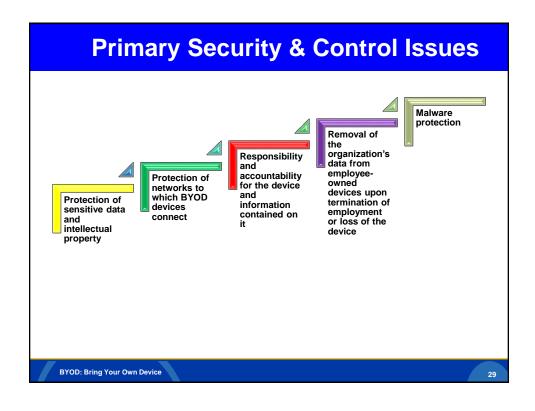




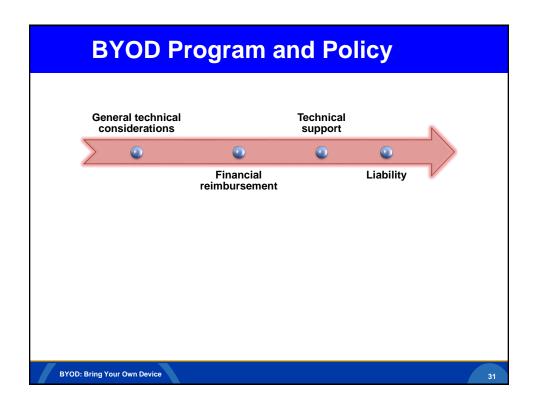


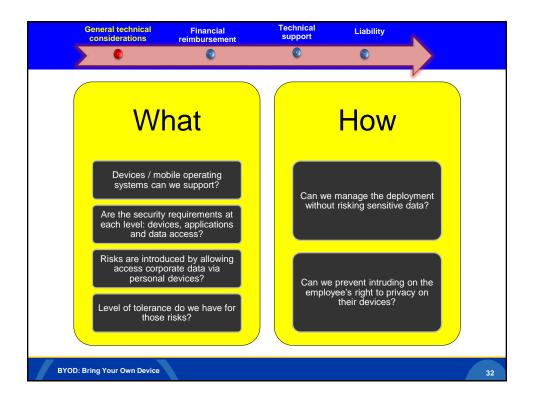


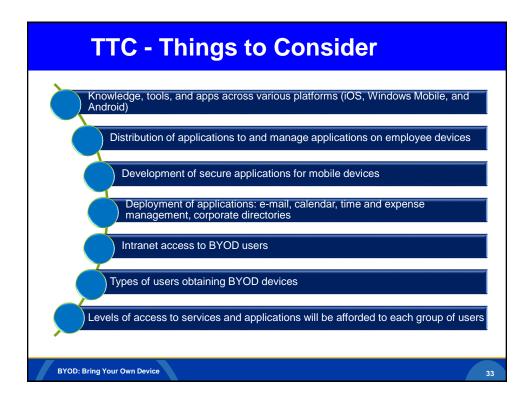


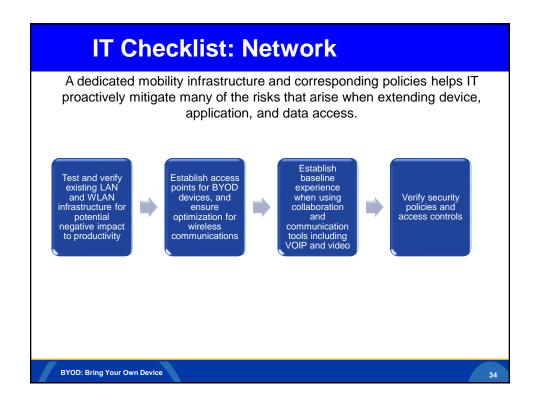


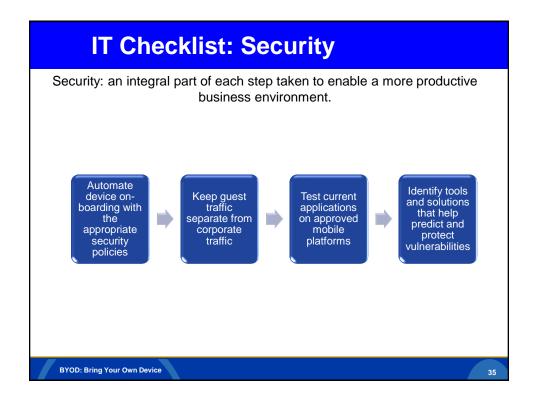


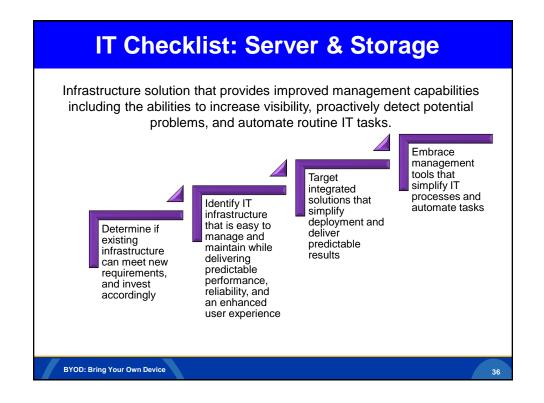


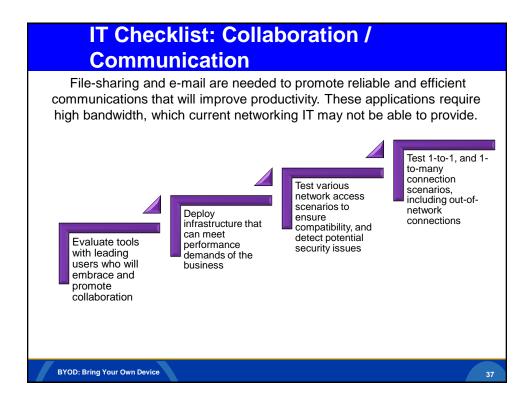


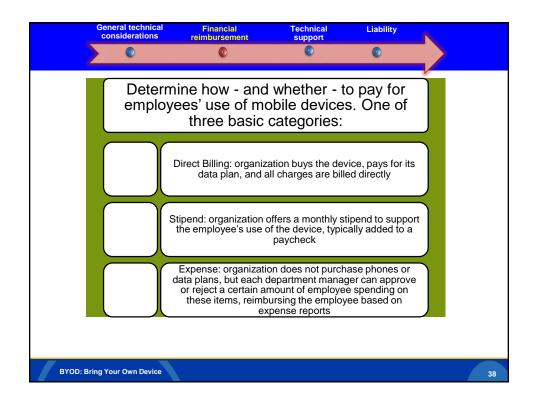


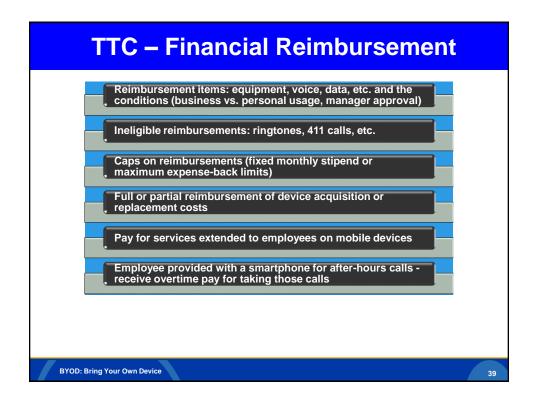


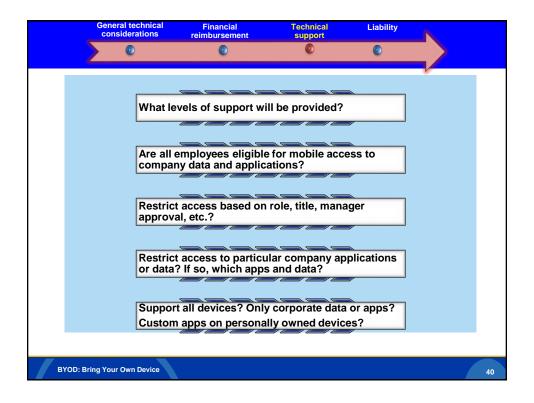




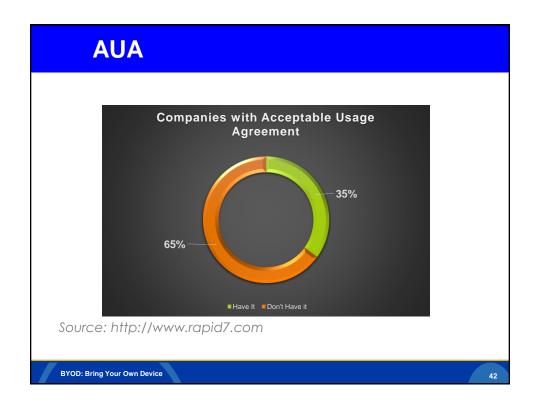


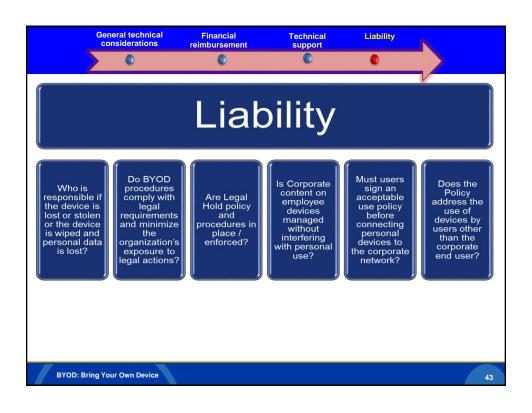


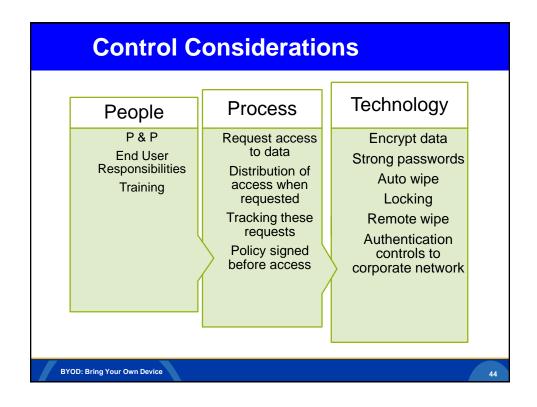




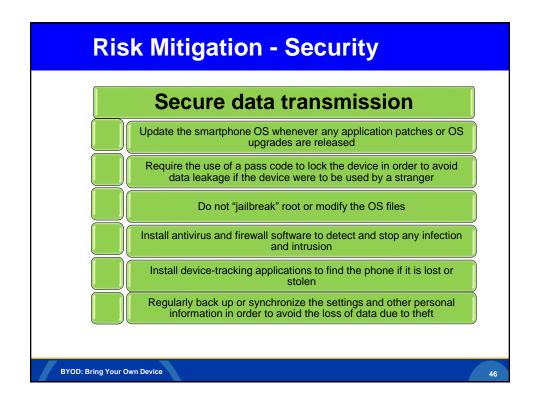
### **TTC – Technical Support** Regulations that govern data the organization needs to protect Security measures needed Acceptable Usage (passcode protection, Agreement (AUA) jailbroken/rooted devices, Employees access: email, anti-malware apps, wireless networks or encryption, device VPNs, CRM restrictions, backup)? Collection of work related Forbidden apps: IP data from employees' scanning, data sharing, devices - personal data is Dropbox never collected BYOD: Bring Your Own Device

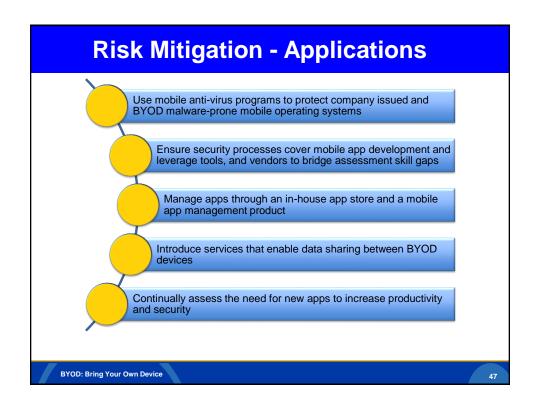




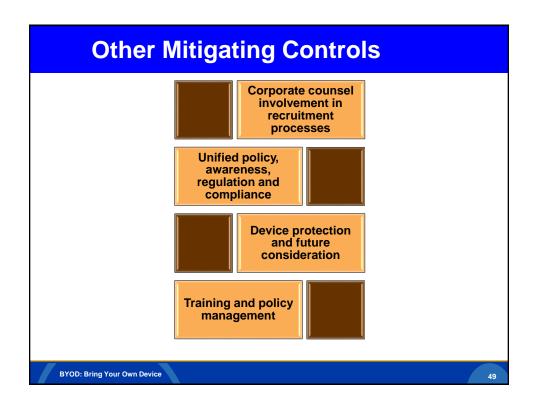


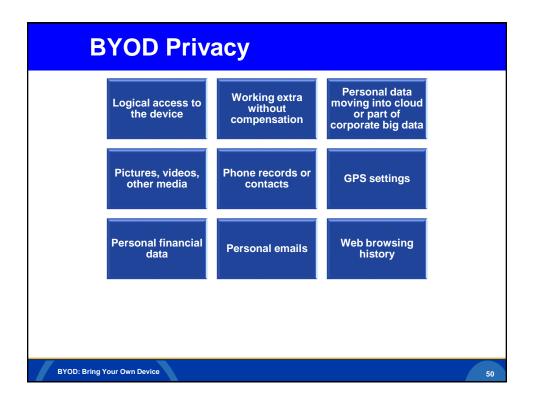
# Detection & remediation of mobile malware Detection & remediation of compromised operating systems Detection & remediation of sideloaded apps Detection & remediation of network-based "man-in-the-middle" attacks Detection & remediation of non-compliant/"risky" apps Ease and depth of integration with your Enterprise Mobility Management (EMM) and Mobile Device Management (MDM) platforms

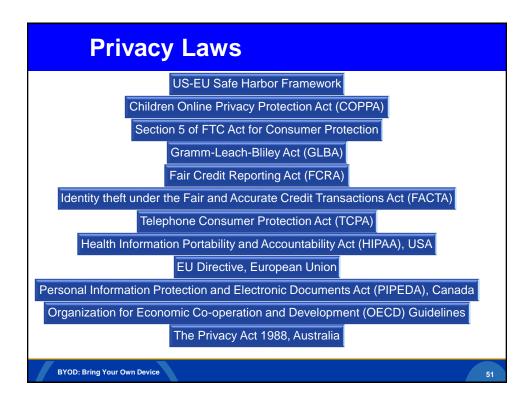


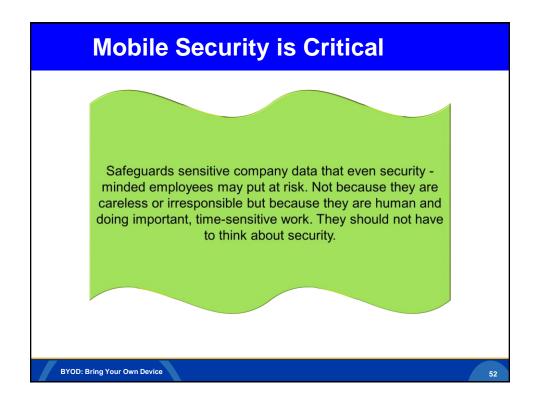


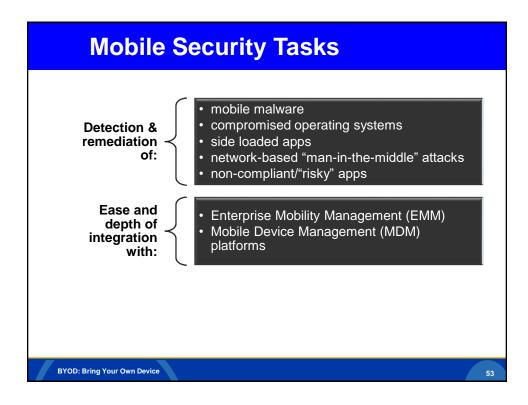


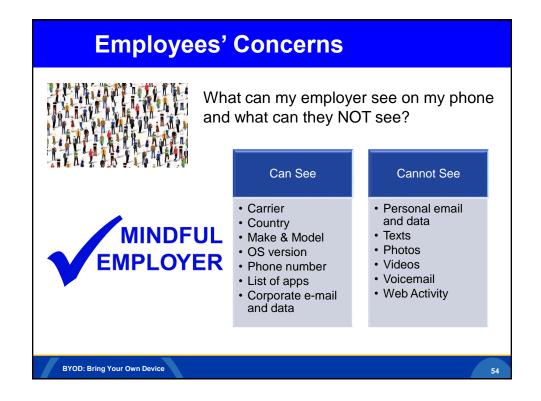








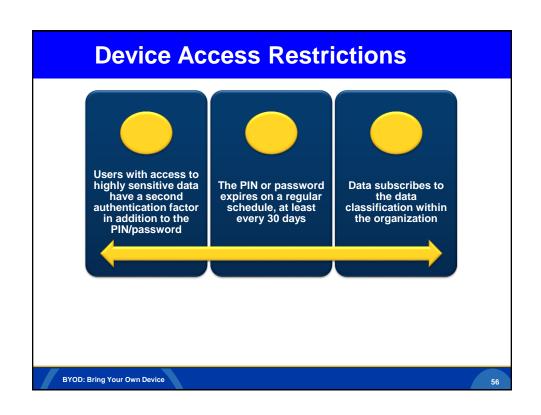


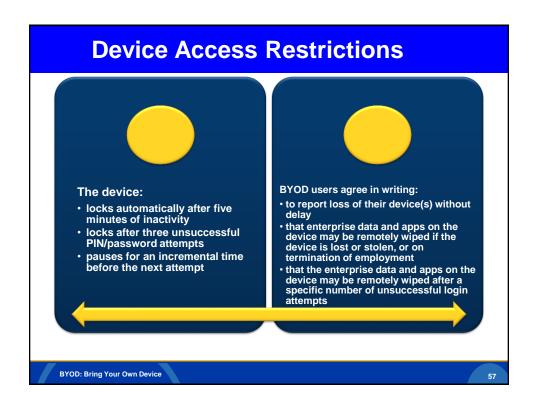


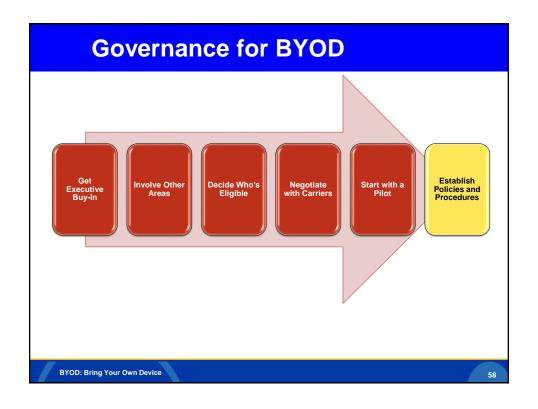
### MDM Mobile device management (MDM) is the administrative area dealing with deploying, securing, monitoring, integrating and managing mobile devices, such as smartphones, tablets and laptops, in the workplace. The intent of MDM is to optimize the functionality and security of mobile devices within the enterprise, while simultaneously protecting the corporate network. The ideal mobile device management tool: Can add or Is compatible Can deploy Can be remove devices with all common next-generation Can function implemented from the system handheld hardware, through multiple directly over the as necessary to device operating service air, targeting ensure optimum platforms and operating providers specific devices network platforms and applications efficiency and as necessary applications quickly

security

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# **Roll Out the Program**

### Select the pilot

- Sample group of users to complete the device registration and configuration process
- Distribute the BYOD mobile device policy or end-user agreement at this stage to ensure users understand the terms of the program
- Include a large percentage of business and non-technical users to get a better understanding of the average BYOD user experience
- IT operations staff participate to ensure any technical issues are discovered during the pilot phase

Survey employees to continually improve the user experience

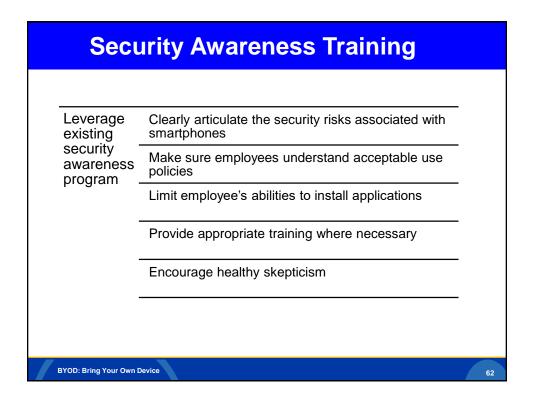
- Survey users during every phase of the BYOD implementation to make sure the program is meeting employee needs and expectations
- Registration survey captures the user's first experience with the BYOD program, and can identify any gaps in the device registration process
- Follow-up or closing survey provides both specific and open-ended questions to gather feedback about the overall user experience during the pilot test

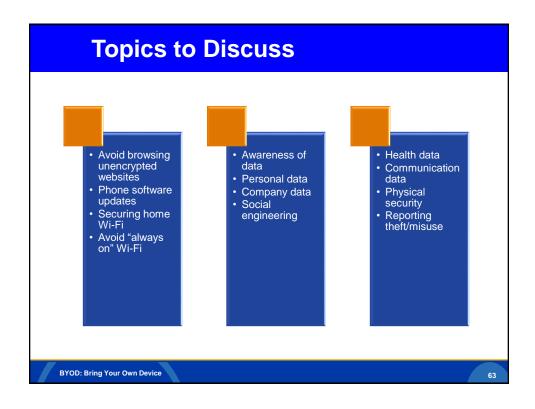
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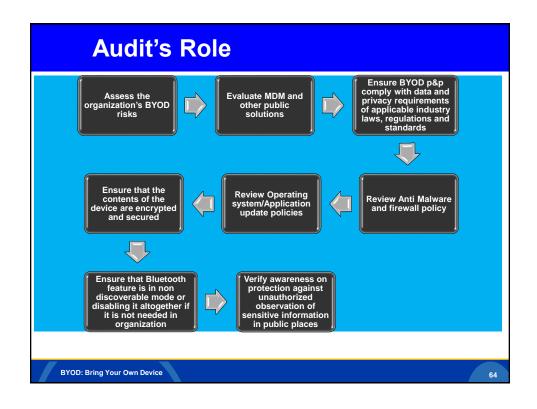
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# General security requirements for mobile devices Authentication (passcode/PIN) requirements Storage/transmission encryption requirements Requirements to automatically wipe devices after a number of failed login attempts Usage restrictions for mobile devices Company liability

вуог	BYOD Policy		
	Rights to monitor, manage and wipe		
	Support model		
	Leading practices for mobile data usage on international travel		
	Acceptable use (if different from the normal acceptable use policy)		
	Secure devices and apps		
	Breach investigation and notification		
	Data ownership and recovery		
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# **Key Controls**

# Risk Management

- BYOD is subject to routine risk assessment processes.
- Risk assessment was performed prior to acceptance of the program
- Subsequent risk assessments are performed after the initial one for new uses or devices

# **Policies**

- Policies defined, documented, approved, implemented and maintained
- Exemptions from BYOD policies are appropriately controlled and monitored
- Employees must sign the BYOD agreement before device activated on company network

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# **Key Controls**

# Mobile Device Management

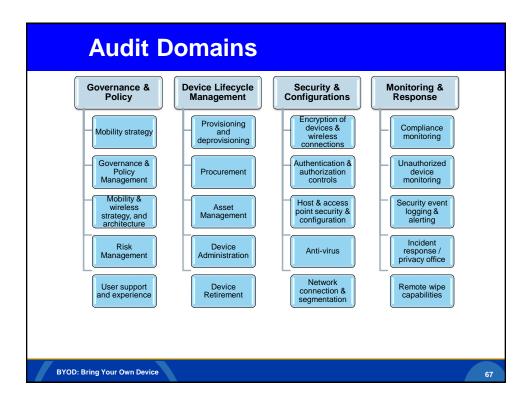
- An industry standard has been implemented
- The MDM provides adequate querying and reporting capabilities to manage the BYOD population proactively
- MDM has critical security features: remote lock and wipe, permission based access, over the air distribution of apps,
- Enterprise app store is private to BYOD devices

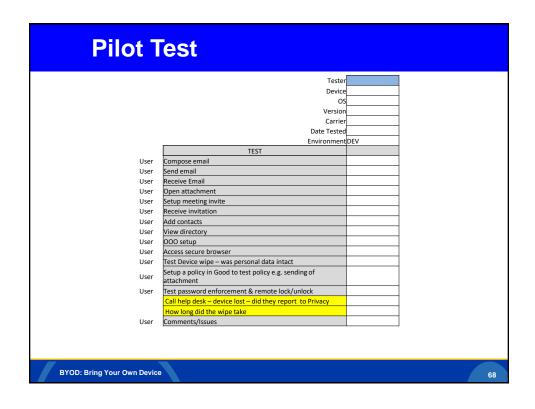
# Security / Governance

- BYOD is subject to oversight and monitoring by management
- Data access is aligned with organization data classification requirements and employee job function
- BYOD users are required to maintain basic security procedures for the device
- Approvals for new applications being rolled out
- Strong encryption is deployed

**BYOD: Bring Your Own Device** 

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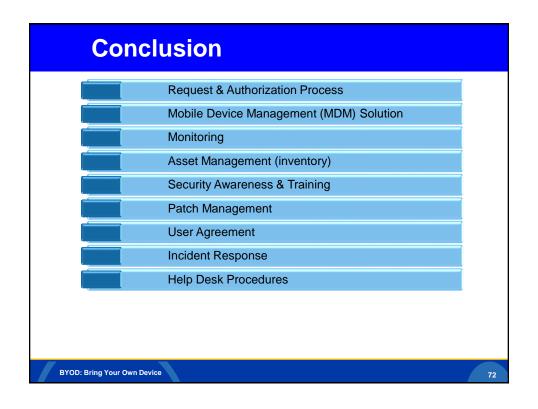




	Tester			
	Carrier			
	Date Tested			
	EnvironmentDEV			
	TEST			
Admin	Perform a software update			
Admin	Push out app from Good NOC			
Admin	Test wiping data in Good Container			
Admin	Test Good Monitoring Portal. Ensure it provides real-time visibility from our NOC to the device			
Admin	Check Integration into LDAP			
Admin	Test user provisioning			
Admin	Check EULA presented to end user on provisioning			
Admin	Test over the air provisioning			
Admin	Test Good data cannot be saved to removable storage			
Admin	Test backup and restore of Good Server			
Admin	Test/Detect Jail Broken devices			
Admin	Check voicemail			
Admin	Test Container wipe			
Admin	Provision user account in Good			
Admin	View an attachment			
Admin	Inventory applications			
Admin	Test Jailbreak detection, password limit and auto device wipe.			
Admin	Test email synchronization			

Control Group	Control Number	Control Description	Inquiry and Examination
Access Request and Setup	ARS.1	All access granted to GOOD application should be accompanied with a formal submitted request, a valid business reason, user acceptance of the end user license agreement, and proper management approval.	Inquiry & Observation
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Control Group	Control Number	Control Description	Inquiry and Examination
Access Request and Setup	ARS.2	Ensure that management reviews or reallocates user access rights at regular intervals using a formal process. User access rights should be reviewed or reallocated	Inquiry & Observation  1. Perform a walkthrough and confirm that the control activity is operating as documented. If not, modify as necessary to show the current state of processing.
		after any job changes, such as transfer, promotion, demotion or termination of employment. Authorizations for special	Inquire and document the requirements for BYOD access modifications.
		privileged access rights should be reviewed independently at more frequent intervals.	3. Inquire and document the recertification process for BYOD users.
Device Usage	DU.1	Training and awareness programs are developed and distributed, or are readily available, to all users who have been granted access to GOOD application.	Reguiry & Observation     Perform a walkthrough and confirm that the control activity is operating as documented. If not, modify as necessary to show the current state of processing.     Inquire and document all training and awareness programs regarding BYOD.     Inquire and document processes for reviewing and updating BYOD training and awareness programs on a periodic basis.
More at the end			



John A. Gatto 312 402 4731 johnagatto@comcast.net

Group Numb Device Usage	Inquiry & Observation   1. Perform a walkthrough and confirm that the control activity is operating as documented. If not, modify as necessary to show the current state of processing. 2. Inquire and document all GOOD profiles and their accompanied
	settings.  Examination  1. Obtain a device with each available GOOD profile, or have each profile individually tested by being pushed separately.  2. For each sample perform the following test steps:
	Lock Settings     Password Settings     Time-out Settings

Control Group	Control Number	Control Description	Inquiry and Examination
Device Usage	DU.3	GOOD application and server activity will be logged at a device/user level. This includes, but is not limited to:  • Amount of data the device is requesting from the server  • Downloading (files) from the server  • Usage statistics	<ol> <li>Inquiry &amp; Observation</li> <li>Perform a walkthrough and confirm that the control activity is operating as documented. If not, modify as necessary to show the current state of processing.</li> <li>Inquire and document the requirements for logging and reporting as well as the processes for reviewing logs and reports.</li> <li>Inquire and document what activities will trigger alarms regarding GOOD usage or security.</li> <li>Examination</li> <li>Obtain a listing of users with access for the period from 6/24/2013 through 7/24/2013.</li> <li>AS will judgmentally select one user from the listing.</li> <li>For the user selected perform the following test steps:         <ul> <li>a) Ensure that all required metrics are being recorded for the device/user.</li> </ul> </li> <li>Document any exceptions.</li> </ol>
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Control Group	Control Number	Control Description	Inquiry and Examination
Fermination of BYOD Usage	T.1	Upon termination (voluntary or involuntary) access to GOOD application will be requested and removed in a timely manner in accordance with corporate policies.	Inquiry & Observation
			wipe was completed successfully. 3. Document any exceptions.

<u>Control</u> <u>Group</u>	Control Number	Control Description	Inquiry and Examination
Termination of BYOD Usage	Т.2	In the event of a lost, stolen, or misplaced device the GOOD application will be remotely wiped to ensure that unauthorized access is avoided.	Neguiry & Observation     Perform a walkthrough and confirm that the control activity is operating as documented. If not, modify as necessary to show the current state of processing.     Inquire and document the policies and processes for remotely wiping devices.     Inquire and document the different types of remote wiping methods that can be utilized and how the BYOD team validates that the wipe occurred.
Application Security	AS.1	GOOD application conforms to industry standard of encryption requirements and techniques.	Inquiry & Observation

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Control Group	Control Number	Control Description	Inquiry and Examination
Application Security	AS.2	GOOD application and devices will only use secure channels to connect devices to associated technologies.	Inquiry & Observation 1. Perform a walkthrough and confirm that the control activity is operating as documented. If not, modify as necessary to show the current state of processing. 2. Inquire and document the connection process utilized by GOOD application to HCSC servers.
Application Security	AS.3	GOOD application and profile updates are provided in accordance to policy requirements.	Perform a walkthrough and confirm that the control activity is operating as documented. If not, modify as necessary to show the current state of processing.     Inquire and document the process of application and profile updates.
Application Security	AS.4	GOOD application will log and report all activities and events (unsuccessful login attempts, last login, etc) that are outlined in the corporate policy.	Perform a walkthrough and confirm that the control activity is operating as documented. If not, modify as necessary to show the current state of processing.      Inquire and document all actives that are being logged and reported on and ensure that devices are recording data appropriately.

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