Modern mobile technology in the workplace

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Whoami

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Bluewave Technology

- Established 2000
- Headquarters, Dublin Ireland
- Offices In London, Edinburgh
- Premium IBM Business Partner / Symantec Master Partner / Blackberry Partner
- Staff comprising 29 IT Professionals
- www.bluewavegroup.eu
Why are you here?

- You have been “asked” to deploy a mobile solution
- You want to know how to install it
- You want to know how it is installed in the real world
- You are concerned about security
- You are concerned about devices
- You want to know how other companies deal with operational issues
- You want to know what the solutions are capable of
- You want to know what the solutions are not capable of
- You want to know how companies are dealing with support of devices that are not owned by the business
Boss: “I have an iPad. I want my mail on it”

You: “But you have a blackberry”

Boss: “I have an iPad. I want my mail on it”
Quick agenda

- Approx 60 minutes
- Discuss mobile technology
- Past present and future
- What challenges lie out there
- Where are thing going
History
Mobile phone evolution

- Earliest prediction for mobile phone proliferation in UK
  - Maximum number of mobile phones will be 10,000
  - 1986

- First mobile phone user in UK
  - Margaret Thatcher
  - Had phone with her when meeting Ronald Regan
    - British Telecom setup Analogue Mobile phone post in No. 10

- Nokia had firm grip on market

- Limited competitors
Smartphone evolution

- Apple
  - Newton
  - Handwriting recognition
  - Fax built in!
- Palm
  - Pilot
  - Massive adoption
- IBM
  - Workpad
  - Clone of palmpilot
First windows smartphones

- HTC
- Brandless hardware supplier
- Windows mobile x
- Limited success
  - OS / Battery life
Palm

- 19 models released
- Massive early adoption
- Final model released in 2008
  - Replaced by Palm pre
First to critical mass

- Motient “e-link” technology
  - POS repair company
- Used custom “pager” service
  - Customers saw staff with it
  - Wanted it
  - Became Research in Motion / BlackBerry
  - Started with limited phone functionality
The jesus phone
Good design?
Good design
Apple – the 1st disruptor

Mobile phone makers’ share of industry profits (% of total)

Source: Asymco
Apple Revenues

Source: Apple Financial Statements
Android
Android – the 2nd disruptor

Canalys figures for Worldwide smartphone shipments (millions per quarter)
The mobile workplace

- Over 5 billion mobile phones connected worldwide
  - July 2010
- Smartphone sales grew 72% is 2010
  - Gartner, 2011
- Nokia holds 28% of phone market
  - 2010
- Neilson projection
  - 50% of all US sold phones will be smartphones in 2012
Worldwide business use smartphone shipments

Corporate and individual liable smartphones used for work (million units per year)
Communication evolution

- Speaking / cave chalk, parchment, pictures, written word, sign language
- Analogue
- GSM
- SMS
- WAP
- GPRS
- EDGE
- CSDMA
- 3g
- WiFi
- WiMax
Battery power evolution
Post-pc
The “post-pc era”

- Phrase coined by Steve Jobs
- Growth of personal computers will decline
  - Already reported for 2010/2011
- Tablet devices will overtake and surpass PC proliferation
- Most owned by consumers
- Business will follow
- The application ecosystem of the Apple App Store is intrinsic to this
- Users are accustomed to always on, small functional applications

You have to deal with this
  - How/why?
Maslow’s hierarchy of needs

- **Physiological**: Breathing, food, water, sleep, sex
- **Safety**: Security of body, of employment, of family, of health
- **Love/belonging**: Friendship, family, intimacy
- **Esteem**: Confidence, achievement, respect of others
- **Self-actualization**: Creativity, morality, problem-solving
Pre 2009 Mobilisation challenges

1. Mobile device management
   - BES meets most needs

2. Off-the-shelf apps
   - Few business apps

3. Custom apps
   - Little impact on business process design, few custom apps
Post 2009 Mobilisation challenges

1. Mobile device management
   - Enterprise access, basic PIM, security
   - Multiple device support
   - Self service

2. Off-the-shelf apps
   - Application support
   - Provisioning applications

3. Custom apps
   - In-house application support
   - Enterprise Lifecycle support
   - Profile based deployment

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Level 1 trends – Device management

- Mobile endpoints increasing
- Mobile device diversity increasing
- Company-liable and Personal-liable
- Increasing user demand for on-device data storage

Increase in complexity
Level 2 trends – Off-the-shelf apps

- Massive increase in availability of mobile apps
- Increased security risks in cloud-based mobile apps
- Pressure to integrate with enterprise systems

Increase in complexity
Level 3: Custom apps

What are custom apps?

- Commoditized business processes
- Commoditized applications
- Middleware
- Infrastructure

Adaptable technology
Adaptable IS processes

Differentiating business processes
Custom applications
Level 3 trends – Custom apps

- Tablet devices enable new more efficient business processes
- Process redesign carries risks and significant costs
- Need for more reliable & resilient mobile apps (local data store)

Increase in complexity
Directory contact

![Lotus Notes screen showing contact information for Jerry Bess at Zetacomm](image)
User expectation?
BYOD
Consumerisation of IT

“Consumer IT will affect every enterprise. Attempts by enterprises to deny this are doomed to failure, just as previous attempts to deny Wi-Fi, 'smart' mobile phones, the Internet, and even the PC itself failed.”

– David Mitchell Smith, VP & Gartner Fellow, Gartner Inc.
BYOD Challenges

- Data security
- Content on device
  - Photos / music
- Support
- Software on device
  - Jailbreaking
- Cost of device
- Wiping
- Data plan
  - ROAMING
- Data retention / compliancy
- Privacy acts
Policy document

- Person agrees to logging of all access to mail
- Person agrees to be bound by the security policy set out by employer
- Person agrees that the company owns the data issued to the device by the traveler server
- Person agrees that the company withhold the right to remotely lock or wipe the device
- Person agrees that they are responsible for all other content on device
- Person agrees to notify company immediately after losing etc
Communication
Exchange ActiveSync
Brands
Most common question.

- “Which devices should we support”

Answer
- Ask your users
- It’s impossible for us to recommend anything
  - Your users are now in control
- But, we have opinions..
  - As ever
- If possible, limit your supported platforms
  - Eases your operational overhead
  - This is not always an option
Nokia

- Symbian platform
- Massive (but declining) % of the mobile phone market
  - Heavy deployment in emerging countries
  - In Africa, land line deployment is rare
- Pros
  - Excellent hardware
  - Excellent “phone”
  - Excellent battery life (model dependant)
- Cons
  - Limited growth
  - Migration of Nokia to Windows phone platform
Windows Phone

Overview
- Microsoft’s mobile offering
- Has had limited success
- Numerous re-writes

Pros
- Numerous hardware vendors
- Nokia’s integration with Microsoft will make it a major OS
- Windows Mobile 7 much improved platform
- Exchange activesync support / sharepoint integration

Cons
- Not mainstream
- Coming from behind
Android

- Overview
  - Google’s own Mobile OS
  - Numerous versions deployed
  - Rapid growth

- Pros
  - Open platform for development
  - Wide acceptance in marketplace
  - Various hardware makers

- Cons
  - First malware and viruses detected
  - Sometimes considered over-complex OS
  - Carriers can alter OS before deployment
Apple iOS

■ Overview
  ■ Hardware / software specific device
  ■ Tightly ringfenced by Apple
  ■ Massive adoption

■ Pros
  ■ Huge consumer acceptance
  ■ Single device makes easy to support
  ■ Massive development ecosystem
  ■ Exceptional UI

■ Cons
  ■ Ringfenced
  ■ Expensive
Blackberry

- Overview
  - RIM’s long-running leader in corporate messaging

- Pros
  - Most secure
  - Most malleable
  - Numerous devices from one vendor
  - Industry standard in corporate communication
  - Heavy corporate users favour the blackberry
  - Battery life
  - DATA ROAMING CHARGES

- Cons
  - Limited development ecosystem
  - Some models poor
  - Touch screen interface inferior
  - NOCs can cause security issues with some business / countries
Smartphone predictions (gartner)
2015 smartphone predictions

IDC June 2011

Gartner June 2011
Security
## Core security features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Blackberry</th>
<th>iOS</th>
<th>Windows</th>
<th>Android</th>
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</thead>
<tbody>
<tr>
<td>Password enforce</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES (post 2.1)</td>
</tr>
<tr>
<td>Password change</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<td>Password strength</td>
<td>YES</td>
<td>YES</td>
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<td>YES</td>
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<tr>
<td>Remote wipe</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td>Device encryption</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Transmission encryption</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Location tracking</td>
<td>YES</td>
<td>YES</td>
<td>Yes (addon)</td>
<td>YES (addon)</td>
</tr>
</tbody>
</table>
Location tracking
Location tracking
Enhancing security

- Reverse proxy / VPN Solutions
- Certificate deployments
  - SCEP, Juniper
- MDM solutions
Control
Secure iOS
Create profiles

Device Functionality
Enable use of device features

- Allow installing apps
- Allow use of camera
- Allow FaceTime
- Allow screen capture
- Allow automatic sync while roaming
- Allow Siri
- Allow voice dialing
- Allow In-App Purchase
- Force user to enter iTunes Store password for all purchases
- Allow multiplayer gaming
- Allow adding Game Center friends
- Allow In-App Purchase
- Allow automatic sync while roaming
- Allow Siri
- Allow voice dialing
- Allow In-App Purchase
- Force user to enter iTunes Store password for all purchases
- Allow multiplayer gaming
- Allow adding Game Center friends
- Allow use of YouTube
Pre-load configurations
Provision applications

- Create provisioning profiles to deploy IT approved applications
- Apple Volume purchase program for Business
in-house applications
Are consumer devices ready
No

- Paul got in some trouble with Apple 3 years ago for saying this on stage at a conference
  - iPhone at time did not support encryption
  - iPhone battery life was poor
  - Too slow
- You do not have the multitude of configuration parameters that are available on the default mobile platform
  - i.e. BES
- Limited control of non-corporate data on device
- The consumer/corporate ownership issue
Yes

- Recent releases of all models have extensive improvements in security and encryption
- Much improved phones
- Much more control via Mobile Device management services
  - We get to that later
- Already massive (5000+) deployments in the enterprise
- Ringfencing on iOS has turned it into the most secure consumer smartphone
Do we have a choice?

- Your users are consumers
- The market is now consumer driven
- BYOD environment is becoming more and more prevalent
- Application ecosystem in consumer products
  - Easy for users to accept mobile applications
  - No/little UI training required for applications
- Saying “no” to the boss about hooking his iPad to the business
  - Potential career limiting manoeuvre
- The “consumerisation of IT” is well underway
Mobile device management
Operational challenges

- IT no longer controls the access points
- The younger user base is more IT friendly
  - Not necessarily more proficient
  - Nowhere near more proficient if you ask Paul for an honest opinion
- You now have to support many operating systems
- Many endpoints
- Less endpoint control/security
- Less version control
- Less management
- Less monitoring
What is MDM?

- Additional processes and/or software
- Intermediary between devices and Mobile Access Server
- Extends functionality
- Extends security
- Reduces setup time for users
- Reduces operational management time
- Improved visibility on mobile access
  - Dispersement
  - Communications
  - Products/versions
  - Potential issues
What is MDM?
MDM criteria (Gartner)

- Multi OS management
- Role based controls
- Admin config management
- Security/Privacy policy
- Enterprise integration
- Enterprise application deployment
- Compliance Audit

- Certificate management (e.g. SCEP)
- Policy exceptions
- Jailbreak detection
- Scaleability
- Server side security
- Remote MDM access
- Selective wiping
What do you need MDM to do

- Automate device configuration
- Provide self-service user portal
- Multi role/profile configurations
- Dashboard interface
- And don’t forget the basics:
  - Implement basic best practices for mobile security
  - Ensure/enforce mobile usage policies in place

- Mobile device management needs to become strategic
  - Needs to become integral part of your IT strategy / vision / budget
How do they work

- Device level “agents”
  - Deployed on devices
  - Agents report to MDM server/appliance
  - “pull” updates or changes
  - “pushes” device information
    - Location
    - OS
    - Security stats
    - Applications
    - Possibly call information
    - Data information
    - Roaming etc
- All have similar functions
  - Operate within the boundaries of the devices
Do you need one?

- That depends
- Smaller sites with limited users may not want the added complexity
- Larger sites may see an operational saving on FTE expenditure
- Sites with security/compliance
- May require one
- The main messaging players will enhance features
- Slow. With new releases
- Smaller, focussed companies will move quickly
- More agile
- Faster to market
- This is the fastest moving technology market. Ever
Some of the MDM suppliers
Some of the MDM suppliers

Source: Gartner (April 2011)
Which should I buy?

- Do you have a preferred vendor?
- Does your carrier recommend one?
- Support framework?
- Functionality?
- Of the ones I have looked at, many similar
- Some have more proactive alerting toolsets (e.g. data roaming)
- Integration with your environment
- Have they deployed with your messaging system?
- Version support
- Limitations
- Cost
Thank you

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