Enterprise mobile – planning for 2013

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Intranet Focus Ltd
12 Allcard Close
Horsham RH12 5AJ, UK
+44 1403 267030
www.intranetfocus.com

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Although there were many organisations exploring the potential of mobile access to information in 2011 the emphasis was on the use of smartphones. Most of the early adopters were in the IT industry, anxious to gain experience that would enable them to offer commercial solutions in 2012. In the course of 2011 there were a number of important developments in enterprise mobile delivery, notably the realisation that Bring-Your-Own-Device (BYOD) was going to be a very important strategy to support, and in addition tablet devices (in particular the Apple iPad2) began to be widely adopted in organisations around the world.

Over the last decade intranet investment has focused on providing support to employees based in offices. Most organisations have a substantial number of employees who are almost constantly on the road, working with suppliers, customers and prospects. There is now the capability to deliver a wide range of information content and services (notably collaboration) to these employees, making use of a combination of smartphone, tablet and pc devices. The need to support a BYOD policy means that employees may well start asking why their organisation is being slow to move into mobile services when they see competitors being more innovative and committed to this approach.

In 2013 Apple will probably be releasing the next version of its iPad, Microsoft will be launching Windows 8 and Office 15 with strong mobile capabilities and 4G/LTE broadband services will be widely available in the USA and starting to be rolled out in Europe. Not all organisations will need to invest in mobile-ready websites, intranets and other enterprise applications, but for many others the quality of their mobile services offering to employees in 2013 could have significant business outcomes.

This Research Note highlights the outcomes of a number of recent research reports, considers issues such as information security and the dark side of mobility before making recommendations for actions that should be taken in 2012 within the context of planning for enterprise mobile delivery in 2013.

Contents

Research Notes

This is the third in a series of Research Notes that Intranet Focus Ltd are publishing in 2012. For further information see http://www.intranetfocus.com/resources/downloads. Previous Research Notes covered enterprise search team management and digital workplaces

1. Introduction

In this Research Note we have highlighted some of the many recent research reports and briefing papers on developments in enterprise mobile implementation. A year ago the focus of enterprise mobile delivery was on the use of smartphones. Now it is about the role of the tablet in what Apple refers to as the post-PC world. The PC is certainly not dead, but for the next few years PCs, smartphones and tablets are going to co-exist and smart companies will be building deployment strategies around the use of each device individually and collectively in various combinations.

Greg Nudelman, one of the leading mobile application developers, suggested in January this year that a company without a mobile strategy is a company without a growth strategy. That is our view as well. The subtitle of this report is not an error. Companies unwilling to support pilot implementations in 2012 are almost certainly going to lose competitive advantage in 2013 and 2014. The time to start thinking mobile is over. Now is the time to be doing something about delivery.

2. Looking back at 2011

The initial enthusiasm in late 2010 and early 2011 did not result in any significant levels of adoption outside of IT companies offering mobile solutions to employees as internal proof-of-concept exercises and as a way of persuading potential customers to adopt their solutions. Among the reasons for the low level of adoption were

- Usually no mobile champion
- Lack of agreement about which department owned mobile
- Indecision about whether to provide mobile handsets or allow employees to use their own
- Multiple operating systems
- Substantial concerns about security
- Other business priorities with more certain returns

Where there was a lot of activity was around vendor positioning. Google purchased Motorola Mobility and gets into the handset business, though where this will take Google is not yet clear. HP dropped out of the mobile OS and handset business and offered the WebOS operating system to the open source community. Microsoft made good progress integrating Nokia and incorporating mobile functionality into Windows 8, and undoubtedly the next release of SharePoint will have a substantial amount of support for mobile applications.

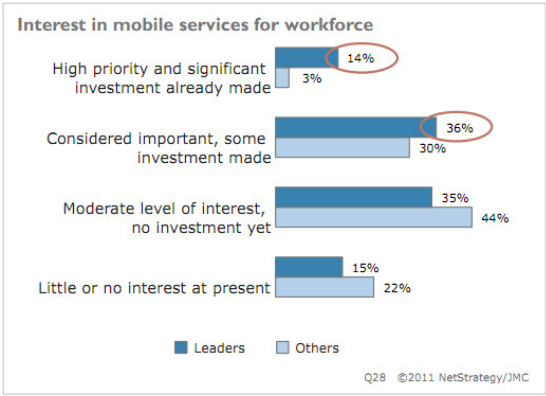
RIM Blackberry came under pressure, especially after a major server failure in 2011, and it is difficult to see how the company can re-establish its reputation for engineering excellence. Apple continued to set the standard in tablet development and also with iPhone 4S

Of the major IT vendors IBM is clearly making a very significant commitment to mobile service development with Connections and Notes and mobile management applications, and SAP is making full use of its Sybase subsidiary in the ERP/BI sector as well as issuing iPads to a substantial sector of its workforce.

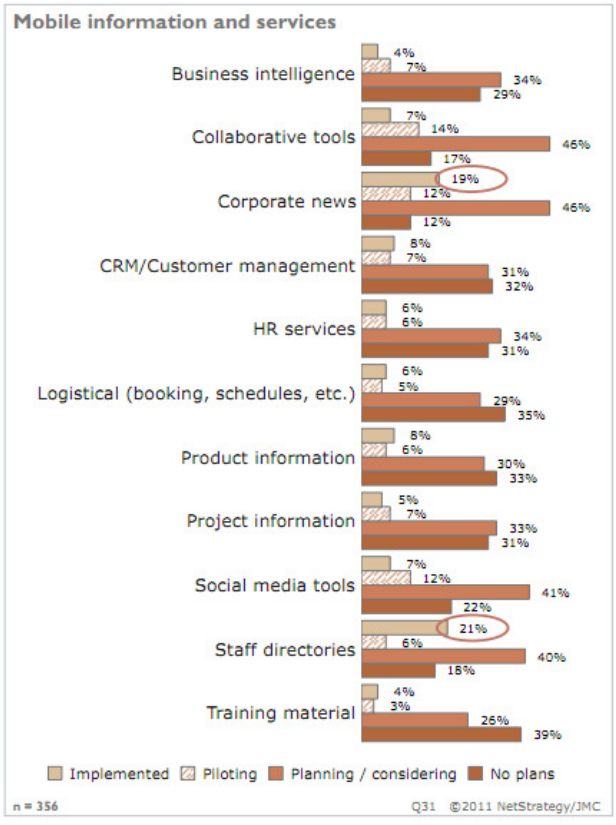
The people who are making the most out of the mobile business are patent lawyers, with Apple, Google and Samsung in particular engaged in very aggressive protection of their intellectual property, a sure sign that all concerned see the mobile market as being a very important one for many years to come.

3. Lessons from the early adopters

The level of analysis of mobile adoption in Digital Workplace Trends 2012 survey is very detailed, and has an intranet management rather than an ECM focus. The report identifies a group of organisations whose approach to intranet management sets them out as Leaders. As the graphic below indicates there is already a substantial difference in the level of commitment by Leaders to mobile services compared to others.

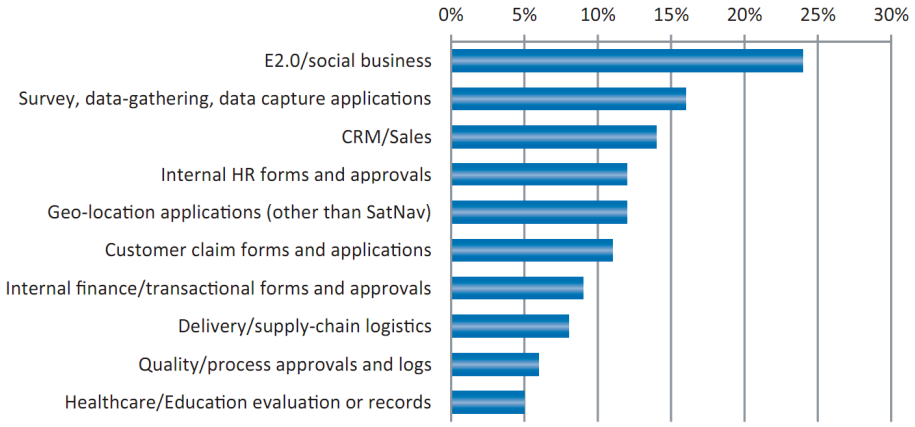


'Significant investment' or 'some investment' has been made in 50% of the Leaders compared to 33% of the other organisations taking part in the survey. The table below, also from the Digital Workplace Trends report, sets out the extent to which organisations have planned, piloted or implemented mobile information and services.



The AIIM survey, sponsored by Open Text, was conducted in September 2011 and contains a wealth of implementation analysis with a focus on enterprise content management. The chart below provides a useful insight into some of the applications that are being deployed. As with other research, notably from Forrester and the Aberdeen Group social media applications are very popular as a way of mobile employees keeping in touch with each other rather than with corporate departments.

Figure 8: Has your organization deployed any of the following applications in a mobile-specific way? (N=106. Excl 71 (40%) "None of these" 17 (10%) "Other")



A study from FreePint focuses on the delivery of content, especially external content, and positions the enterprise as a publisher. The 2012 study, with research conducted in late 2011 makes some interesting comparisons with a similar study conducted a year ago. Senior executives are now recognising the benefits of mobile access, and there is significant interest in carrying out pilot projects. It is clear that these pilot projects are immensely important in identifying opportunities and challenges which cannot be identified from reading reports or undertaking staff surveys. Another important issue tackled in this report is the need to be able to provide mobile users with access to external content, which raises issues of contract terms and authentication.

4. Point or platform strategy

Sybase, a subsidiary of SAP, has been in the forefront of promoting the virtues of enterprise mobile access. This is not surprising given the range of mobile management applications the company offers, but the quality of the writing in the reports and briefing papers from Sybase is consistently high. Last year the company published its Mobility Manifesto which is among the best reports yet written on the subject. In a more recent paper 'Is Your Mobility Strategy Truly Integrated with Mainstream Business Opportunities?' Sybase address the issue of what the company sees as the perils of a fragmented mobility strategy.

The low cost of development of individual mobile applications is very low, whether based on web, hybrid or native apps. One outcome of this has been that companies have adopted an ad hoc approach to application implementation with the view that they will quickly gain an understanding of what works and what doesn't. In principle this is a good approach, and certainly better than doing nothing at all. The challenge comes when the demand for mobile applications outstretches the ability of the company to manage not just the new applications but also to phase out the applications that failed to gain adoption.

However the process of selecting a Mobile Enterprise Application Platform (MEAP) are considerable because companies are doing so for the first time and do not know what to look for in such a platform. To its credit Sybase recognises this and describe some short-term options, such as using packaged applications built to platform standard or using a business mobility application provider which has a hosted MEAP.

5. Tablets move to centre stage

The two major developments in enterprise mobility over the last twelve months have been the recognition that providing all employees with a corporate mobile device may only be appropriate for a small minority of companies (in particular those where compliance requirements put a premium on information security) and the rise of the enterprise tablet. In round figures Apple shipped 40 million iPads in 2011 and most forecasters are looking at shipments of 65 million in 2012, especially as the new iPad is a substantial upgrade to the iPad2. There are of course other tablet manufacturers but none are anywhere near the Apple shipment levels, especially for enterprise use. In addition there are concerns about the security of the Android operating system, which for IT directors already very concerned about security issues means that Android tablets will have an uphill battle for enterprise market share in 2012. The rate of growth of tablet shipments is not only important for the future of enterprise mobility adoption but has implications for many other sectors of the IT industry, as an excellent report by Morgan Stanley shows in detail.

Among the many recent reports on tablet adoption one published by the Yankee Group, and sponsored by RIM, contains some very good analyses of trends in the US market. The point is well made in the report that there are three different tablet adoption models

Exhibit 3: Three Enterprise Tablet Deployment Scenarios

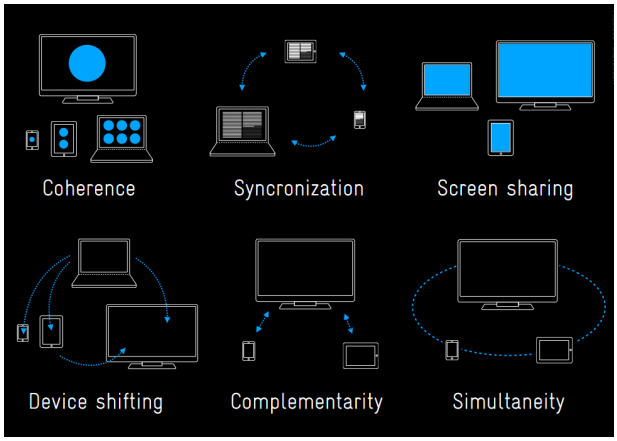
Source: Yankee Group, 2011

The report also contains an excellent table that looks at the appeal of tablets from an enterprise and an employee perspective, the combination of which is clearly going to drive tablet adoption over the next couple of years.

One of the reasons for the adoption of tablets is that their functionality meets the daily requirements of most managers, whether they are at their desks or away from them. For managers unaccustomed to the

'instant on' technology of Apple the ability to check for emails, look at corporate news and check on core enterprise data in perhaps 30 seconds is a major contributor to productivity and speed of decision making.

Despite the interest in tablets it is important to look at these devices in the context of the desktop/laptop and the smartphone. The possible combinations of these three devices are set out in an excellent set of six design patterns from the German design company Precious-Forever. It is already possible to swipe content and applications between a tablet and a smartphone and responsive design approaches mean that web pages are automatically reformatted for the device format.



The implication of these design patterns is that an enterprise mobile strategy should not focus just on tablets or on smartphones but take account of interworking between all potential devices, which could include plasma display screens in offices and videoconferencing applications.

6. Apple iPad enterprise strategy

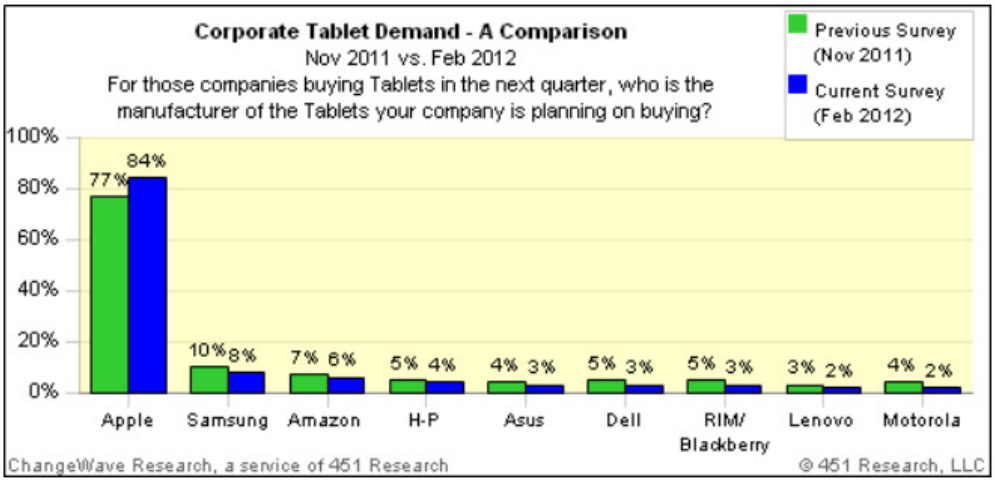
On 7 March Apple released details of its new iPad, not yet designated iPad3. The most important visual change comes when it is switched on, as it has a screen resolution of 2048×1536 pixels, which is significantly better than an HD TV display. The back camera is enhanced and overall the video performance is quite stunning. If you are into the visual arts and computer games then this is the iPad for you, especially when the price points are the same as they are for the iPad2. In addition the high resolution display will be a significant asset for the health care profession and for sales and engineering staff, all of whom will want to impress with high-resolution images.

From an enterprise perspective the major change is support for 4G LTE, with 73Mbs download speeds on LTE. However 4G LTE comes in some different varieties and it's not clear from the presentation if all the decoders needed are bundled in or whether for now the products will just support local markets. What might be of value is the ability of the iPad3 to act as a personal hotspot and support up to five other devices. What was also not clear from the presentation was what the future of the iPad2 would be. The price for the 16MB model is reported to be coming down to $399, which is not going to be good news for the Android tablet business.

The new iPad will certainly continue to set the specification benchmark for tablets. Others will catch up but by then Apple will have shipped millions of units, giving it a dominance that is difficult to see

being challenged. Corporate IT departments will probably be reassured by the level of commitment of Apple to the tablet format and the availability of 4G LTE even if in Europe 4G LTE network coverage is very poor. The USA is way ahead in this respect.

According to US market research company ChangeWave Research a survey of over 1600 companies indicated that 22% will be buying tablets for their employees in Q2 2012, and 84% of these will be iPads. This survey was undertaken before the announcement of the new iPad.



More interesting in terms of the Apple commitment to the enterprise was something that was not announced at the press launch. Apple Configurator makes it easy for anyone to mass configure and deploy iPhone, iPad, and iPod touch in a school, business, or institution by updating 30 devices at a time to the latest version of iOS, configure settings, and install apps and data for employees. It is worth looking in some detail about the capabilities of Configurator because they cover all the major elements for the support of mobile devices. What is more, the Configurator comes free from the Apple App Store.

Prepare devices

- Configure up to 30 devices at a time
- Update devices to the latest version of iOS
- Create and restore a backup of settings and app data from one device to other devices
- Import apps into Apple Configurator and sync them to new devices*
- Use the built-in editor to create and install iOS configuration profiles
- Enroll devices with the corporate Mobile Device Management solution for remote management

Supervise devices

- Organize supervised devices into custom groups
- Automatically apply common configurations to supervised devices
- Quickly reapply a configuration to a supervised device and remove the previous user's data
- Import apps into Apple Configurator and sync them to supervised devices
- Define and apply common or sequential names to all devices
- Restrict supervised devices from syncing with other computers

Assign devices

- Add users and groups manually or autopopulate via Open Directory or Active Directory
- Check out a device to a user and restore the user's settings and data on that device
- Check in a device from a user and back up the data for later use, possibly on a different device
- Apply custom text, wallpaper, or the user's picture to a device's Lock screen
- Import and export documents between Macs and Apple Configurator
- Sync documents between assigned devices and Apple Configurator

It is worth considering the potential launch slot for the next new iPad. This might appear a year from now just as Microsoft gets around to releasing Office 15 and the next evolution of SharePoint!

7. Mobile data traffic forecasts

Too much of the attention on enterprise mobility has been on device management and application development, and the implications on network traffic are rarely taken into account, despite the fact that without adequate network connectivity and bandwidth the growth of the market will be significantly impacted.

Cisco have been tracking and forecasting mobile data traffic for some years and their latest forecast was published in early 2012. Entitled Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update 2011-2016, the report presents a detailed analysis of why, in the view of Cisco, mobile data traffic is going to increase from 0.6 EB (exabytes) per month in 2011 to 10.8 EB in 2016.

One of the tables in the report provides a forecast for the growth in traffic by device, and the report points out that the growth is greater than the increase in the number of devices, mainly due to the increased use of mobile video services

Trend 2: Growth in Average Traffic per Device

Average traffic per device is expected to increase rapidly during the forecast period, as shown in Table 2.

Table 2. Summary of Per Device Usage Growth, MB per Month

Device Type	2010	2011	2016
Nonsmartphone	1.9	4.3	108
E-reader	0.5	0.73	2.8
Smartphone	55	150	2,576
Portable gaming console	244	317	1,056
Tablet	405	517	4,223
Laptop and netbook	1,460	2,131	6,942
M2M module	35	71	266

Source: Cisco VNI Mobile, 2012

This increase in mobile data traffic is both an opportunity and a challenge to network operators. Certainly there are substantial revenues to be accrued from new mobile data services, especially as 4G services become more widely available, but at present most of the contracts are for unlimited data usage. To provide additional bandwidth and the switching needed to support IPv6 will require a substantial investment by the network operators, and they will need to switch from unlimited to tiered services quite quickly. Deciding what the tier levels are going to be is a commercial and not a technical challenge and that is going to result in some aggressive marketing campaigns over the next couple of years as 4G services are launched.

Another side of the data charge issue is to decide who is going to pay the bill. If the employee is going to use their own device, which now seems to be the default strategy, then they will be using the device for both personal and business use. How will they be able to claim back the costs of enterprise use in a way that satisfies not only corporate finance departments but also national tax agencies?

Of course in Europe 4G/LTE networks are still in the very early stages of roll-out, and it may not be until the end of 2012 that the first of these networks is commercially available. Over the last few years the European Commission has been successful in reducing roaming charges for voice calls across national boundaries. The situation with mobile data roaming is not yet clear.

8. The dark side of mobile

In a mobile strategy based around Bring-Your-Own-Device (BYOD) one of the implicit benefits to the organisation is that the employee can be reached at any time during a 24 hour day, because most users do not switch off their personal mobile phones. An employee may take a very different approach, and iPass, a US-based mobile service provider, commissioned a report on the benefits and issues of always-on working from the Institute of Work Psychology, University of Sheffield.

It appears that many of the mobile workers completing the iPass survey worked several extra hours as a result of their increased flexibility, with 47% working 5-10 extra hours a week and 26% working 15-20 extra hours. When analysing the iPass survey results in more detail, it seems that those working the most extra hours are doing so by using almost every available spare moment. Other issues raised in the analysis included a deterioration in maintaining a good work-life balance, pressure from colleagues to stay connected, worse sleep and poor recovery, and lower productivity because of the loss of energy from poor sleep patterns and extended working days.

However the report also points out the benefit of mobile technology, including greater autonomy and more chance to have a flexible approach to the working day.

The recommendations made in the report are that organisations should give employees the ability to declare 'off-work' periods without feeling guilty about doing so, and there should be no expectation that working long hours is the normal way of working. Organisations should also make sure that they understand the support that employees need to get the best out of a mobile virtual working environment. Overall this report provides a good basis for a charter for employees on what the expectations are of the company concerning mobile access.

Although not specifically mentioned in the iPass study there is an increasing amount of research around the impact of interruptions on work productivity, for example by Professor Gloria Mark at the Department of Informatics, University of California, Irvine. Even in the current working environment employees are faced with constant interruptions as other employees make contact by email, and a range of social media channels. There is a strong tendency to show a high degree of responsiveness as part of a commitment to the employer but research now shows that each interruption can have a significant impact on work performance for some time afterwards. Again employees now have multiple roles and responsibilities, and they themselves may quickly change between tasks in order to meet changing business priorities. If these interruptions increase in a mobile workplace then the net gain in productivity (or whatever success metric is being used) may be significantly lower than anticipated or promised.

9. Security issues

Any conversation about enterprise mobility quickly turns to security management. At some time in the not-too-distant future the requirement will be as follows, taken from the Cisco 2011 Enterprise Security Report.

"Ten years ago, employees were assigned laptops and told not to lose them. They were given logins to the company network, and told not to tell anyone their password. End of security training. Today, your "millennial" employees—the people you want to hire because of the fresh ideas and energy they can bring to your business—show up to their first day on the job toting their own phones, tablets, and laptops, and expect to integrate them into their work life.

They also expect others—namely, IT staff and chief information officers—to figure out how they can use their treasured devices, anywhere and anytime they want to, without putting the enterprise at risk. Security, they believe, is not really their responsibility: They want to work hard, from home or the office, using social networks and cloud applications to get the job done, while someone else builds seamless security into their interactions."

This is where the organisation needs to be in perhaps no more than two years. It is not just the new employees that will be a challenge but where as a result of an acquisition a substantial number of employees new to the organisation need to be made mobile as quickly as possible.

What does a mobile security strategy look like? IBM has set out a basic mobile security strategy that is applicable to both enterprise and employee-owned mobile devices and is a good starting place for a discussion with IT Security that balances risks against benefits.

Eight-character alphanumeric mobile device password

- Expiration every 90 days
- Device lock after 15 minutes
- Password prompt on device should pause for incremental time after each unsuccessful login to protect against brute-force login attempts

Device wipe

- Remote (by administrator) if device is lost or stolen
- After 10 invalid password attempts to protect against brute-force login attempts

Data-at-rest encryption for employees with high-value or sensitive access

- Encryption key strength of at least 128 bits (AES)
- Protection for associated encryption keys exchanged or stored in a manner not easily retrieved in readable form at rest on the file system or in transmission
- Method to reflect the encryption status of a given device based on value, application of policy or other manner

Bluetooth® configuration

- Set so that it is not discoverable, and only connected with paired devices on all handheld devices supporting these features

Remote access for data synchronization or to the corporate infrastructure

- must go through an approved remote access gateway and support the required security authentication

10. Mobile strategy framework

Unisys provides a useful approach to developing a mobile strategy that takes into account device management, security, application development and opportunity identification.

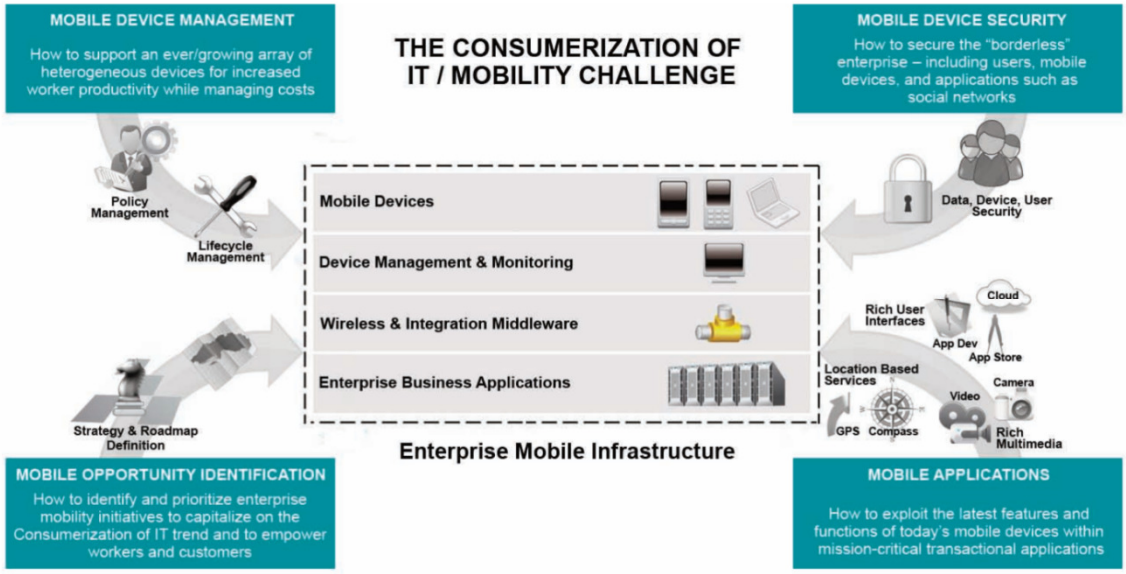


Figure 1 – The Consumerization of IT/Mobility Challenge

Opportunity identification is very important and will only arise through a programme of education. No matter how adept we are at using mobile devices it is always difficult to think laterally about how a process could be changed to take the best advantage of the technology. There is also a tendency to think just about a smartphone or a tablet, which is why the design patterns mentioned in Section 5 above are of great importance.

11. Planning for 2013

All the indications are that during 2013 organisations with a business development strategy based on customer-facing employees working away from an office will need to provide targeted mobile-delivered information and services to these employees if the organisation is going to remain competitive and attract the best staff. In these organisations field-based employees make pay-days possible. During 2012 decisions will need to be taken on the identity and requirements of these employees.

Our recommendations on ten of the actions that need to be taken in the course of 2012 include the following.

1. Identify what section of your organisation's activities would be most vulnerable from a competitor making a strong commitment to mobile. It will be very difficult to play leapfrog later.

2. Work out how mobile developers will be found and trained. Without development skills nothing is going to be possible, and good developers are already in short supply

3. Plan, launch and evaluate pilots that are scalable if they work as anticipated. There will be no time to go back to the drawing board.

4. Get granular about security. Like 'collaboration' the word has many interpretations and it is important to find out exactly what the issues are and how they can be solved.

5. Think PC/tablet/smartphone all the time. Mobile employees are going to use all three devices and will be looking to the organisation to provide a seamless experience even with a BYOD policy.

6. Look carefully at mobile data tariffs, especially in Europe. At the same time work out how employees are going to be reimbursed for corporate use of their own mobile devices.

7. Track industry developments and learn from others. The mobile business is going to be shaped by a small number of powerful global companies.

8. Talk to your vendors about their mobile support roadmap. Many vendors still seem to be in denial about the impact of mobile access because of the challenges they face in modifying their platforms.

9. In particular talk to your enterprise search vendor. Tablet users will expect to be able to search enterprise repositories.

10. Take the decision to be your organisation's mobile champion. The career possibilities significantly outweigh the risks

Resources

These links were checked on 16 March 2012 but it should be noted that it is quite common for briefing papers offered by consulting companies and IT vendors to be available for only a limited period of time. Intranet Focus Ltd is not able to provide copies of these reports as this might infringe copyright.

3. Lessons from the early adopters

Digital Workplace Trends Report.
http://www.digital-workplace-trends.com/

Making the Most of Mobile
http://www.aiim.org/Resources/Publications/AIIM-White-Papers/Making-the-Most-of-Mobile

Enterprise Market for Mobile Content
http://web.freepint.com/go/shop/report/1995

4. Point or platform strategy

Is Your Mobility Strategy Truly Integrated With Mainstream Business Operations?
http://www.sybase.com/files/White_Papers/Mobility-Strategy-Truly-Integrated-WP.pdf

Mobility Manifesto
http://www.mobilitymanifesto.com/

5. Tablets move to centre stage

Creating the Enterprise Class Tablet Environment
http://www.yankeegroup.com

Design patterns for mobile devices
http://www.precious-forever.com

6. Apple iPad enterprise strategy

Demand for new iPad shakes up corporate market
http://www.changewaveresearch.com/articles/2012/ipad_20120312.html

7. Mobile data traffic forecasts

Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2011–2016
http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html

8. The dark side of mobile

iPass Global Mobile Workforce Report – Q4 2011
http://mobile-workforce-project.ipass.com/reports/q4-report-2011

9. Security issues

Cisco 2011 Annual Security Survey
http://www.cisco.com/en/US/prod/vpndevc/annual_security_report.html

Securing end-user mobile devices in the enterprise
http://www.datacenterdynamics.com/white-papers/2012/01/ibm-securing-end-user-mobile-devices-enterprise

10. Mobile strategy framework

Harnessing the Power of Mobility as the New Desktop
http://www.unisys.com/unisys/ri/pub/pov/detail.jsp?id=1120000970017210150