



Overcoming CIO challenges in global mobility management

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This paper looks at some of the challenges that CIOs are facing in managing mobility. This is clearly becoming more complex for large enterprises as mobility penetrates more deeply into their organisations, driven by changing working practices and supported by rapidly evolving technology. In multinational companies, management of mobility is especially challenging because they almost always need to control mobility of staff across multiple countries and manage relationships with many service providers and suppliers. Cost management is a particular issue and improved efficiencies are sought through integration of voice into the corporate network and a more unified approach to communications.

Most enterprise CIOs want to manage mobility more effectively by providing employees with devices that are easy to maintain and to control, and which support enterprise applications within a security framework. But they struggle to control user behaviour as employees like to select their own devices and then use them to access consumer applications too.

We have included a case study showing how one global company has approached the mobilisation of its workforce and devices using the BlackBerry Enterprise Solution and BlackBerry Mobile Voice System (BlackBerry MVS) from Research In Motion (RIM). The company's CIO has taken very tight control over its mobile device fleet, recognising early on that by standardising on a single device platform it could simplify device management and the whole mobilisation process. He believes that its decision to standardise on the BlackBerry solution has been proved since its mobilisation has proved relatively painless and transparent.

The multinational's challenges in managing mobility

Mobility has become more complex for large enterprises, and particularly for multinationals that need to manage the mobility of their staff across many countries. There are simply more users with more devices using more applications. In addition there has been a blurring of the boundaries between business and personal usage and many IT managers struggle to enforce company policies while employees demand more consumer-like devices and applications. Their need for support in managing this complexity and cost has never been greater.



In our research with CIOs in multinational corporations we looked at their priorities in managing mobility. We asked CIOs in multinationals how important 12 mobility issues are to their organisations, grading them from 'extremely important' to 'not required'. *Figure 1* shows that they judge almost all of the mobile issues as either important or very important. A number of issues are moving up the CIO agenda over time and we would highlight here the need to exploit unified communications and collaboration potential and the increased mobilisation of data applications. Perhaps unsurprisingly, the high cost of international roaming remains the primary concern overall for multinationals, and a number of other issues are also highly important, in particular the need to understand the total cost of ownership (TCO) of mobility and the need to provide secure access for staff on the move or working remotely.

Figure 1 **Multinationals' priorities in enterprise mobility**



Source: Ovum/EVUA

Managing the cost of mobility

As we have already seen, many multinationals say that understanding their TCO for mobile is of critical importance. It is easy to see why few multinationals have a clear picture of what mobility costs them:



- Many MNCs have already centralised, or are in the process of centralising, their ICT activities. But mobile expenditure is rarely all under the control of the centralised ICT department
- Keeping track of devices is getting more difficult and few MNCs benefit from bulk purchasing – in most companies there are many different types of handsets in use, and they are rarely purchased or managed centrally. Indeed in many companies devices are purchased nationally along with airtime
- Personal usage of company devices is an issue and one that few multinationals actively monitor. Although we are seeing considerable tightening up here in the current climate, data protection legislation makes this a challenge in some countries
- Few multinationals have a global view of mobile service costs, since mobile services are usually procured nationally. And so long as they procure services nationally, multinational corporations are particularly exposed to international roaming charges, which often account for an unpredictable (and usually huge) proportion of all mobile costs
- While mobility remains decentralised and purchased locally much expenditure is billed through expenses, bypassing central budgets – many companies therefore pay a premium for mobility, since staff are billing back consumer-rate calls that could have been incorporated into a corporate tariff plan.

Integration of voice within the corporate network

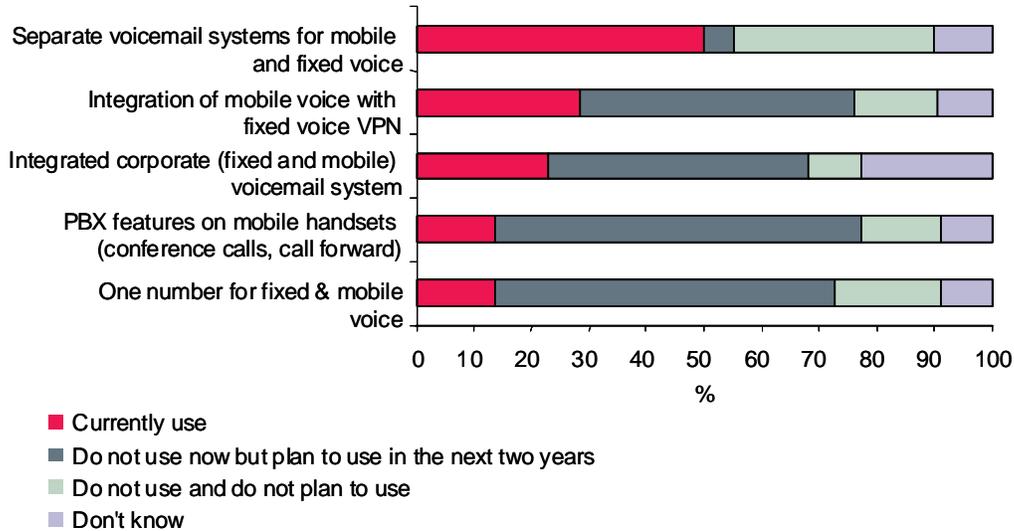
For most large enterprises the integration of cellular voice into the corporate network is an important prerequisite to the productivity and flexibility improvement promised by mobility. Dealing with on-site mobility effectively is an area where huge potential cost savings can be made. The need to cut down on unnecessary expenses such as the use of standard company mobile phones on a mobile operator's network while on site, whether for business or personal reasons, is an obvious one to target. Figures from the industry suggest that a huge percentage of calls made over the mobile network are made by staff on company premises where other, cheaper communication methods are available. This is an issue for almost all enterprises. Estimates of the proportion of corporate voice traffic carried on the mobile network range between 50% and 80%; estimates of the proportion of calls made on mobiles where the user is not in a genuine mobile context are equally shocking and vary between 30-40%.

Many organisations are starting to deal with this, mostly through cooperation with their technology providers. They also anticipate far more integration of fixed and mobile voice in the coming years, including extending the availability of PBX features, such as conferencing, call forwarding, follow-me, onto mobile handsets. See *Figure 2*.



Figure 2 **Spending less on site voice: solutions to deal with inefficiencies**

What mobile voice features do you use, or plan to use?



Source: Ovum

Mobile UC is moving up the agenda

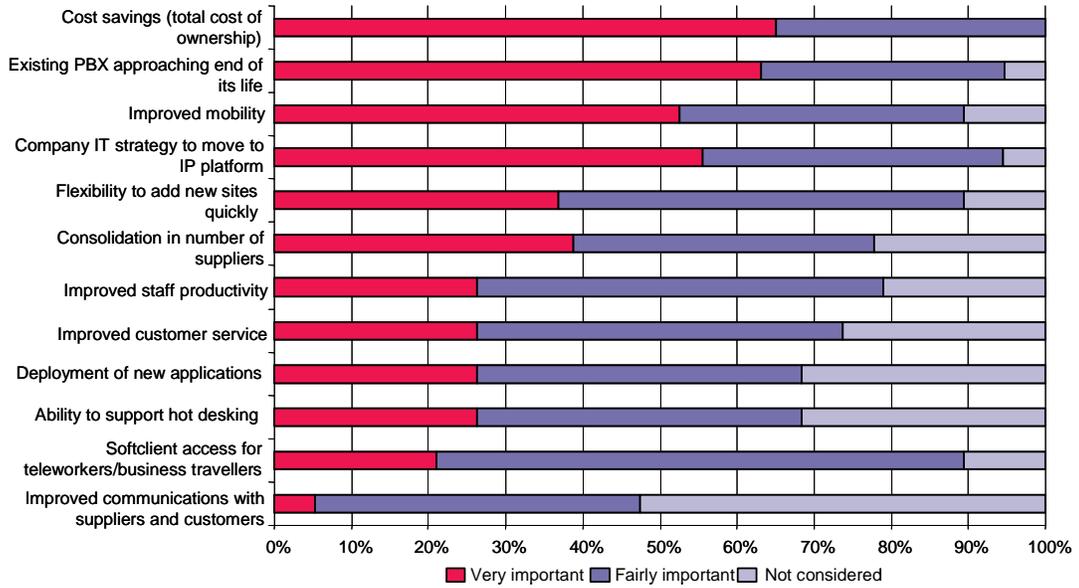
Unified communications has moved up the agenda for many MNCs over the past year, with mobility becoming an increasingly important driver of company UC strategy, as *Figure 3* shows. Mobile UC is an area where enterprises see developments being driven by technology providers (IPT vendors, device vendors and software collaboration vendors).

Many multinationals have deployed web conferencing, video conferencing and IM on laptops and PCs. Relatively few have deployed UC applications on handheld devices yet – this is mostly email and instant messaging, but many companies are planning to deploy other UC applications, including telephony presence features, click-to-call from mobile applications and some conferencing capability. There is much interest (and investment from technology providers) in presence-based solutions, in the expectation that federated identities will allow users to painlessly manage the shifting boundaries between their different roles, for example balancing their needs as ‘consumer’ and ‘employee’. (*Figure 4*). Multinationals are however only now starting to integrate collaboration applications and IP telephony, with some pilot projects underway.



Figure 3 **Unified communications drivers**

Which of the following factors is important in your move to IP telephony and network convergence?

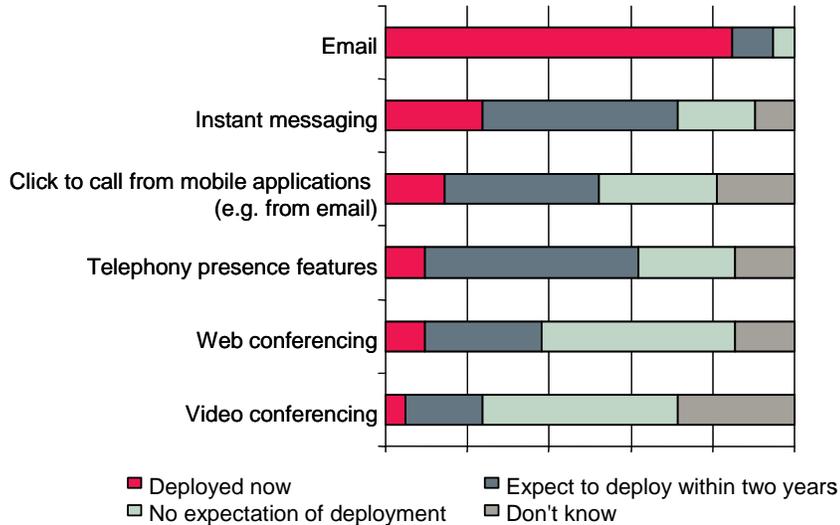


Source: Ovum/EVUA



Figure 4 **Unified communications applications on handheld devices**

Which of the following unified communications/collaboration applications have you deployed or do you expect to deploy from hand-held mobile devices in your organisation (please ignore small-scale trials)?



Source: Ovum/EVUA

The rollout of mobile applications

The enterprise IT department has a vision for the mobile device. It sees the employee's mobile as a corporate productivity tool, and as part of the company's overall IT infrastructure. The same technical developments that have driven the mobile phone towards the centre of the consumer's personal life have also transformed its role within the enterprise, from little more than a telephone into a potential platform for enterprise applications. As well as the obvious extension to the enterprise's voice telephony estate, these applications include, but are not limited to:

- email and PIM
- mobile CRM
- field force management
- access to corporate databases.

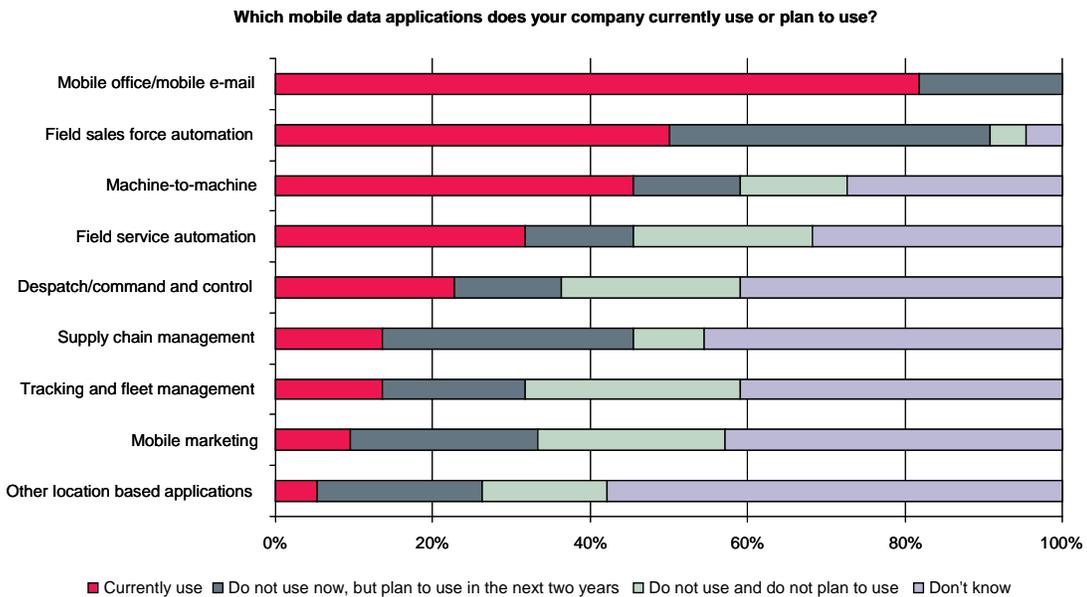
Mobile email and office applications still dominate enterprise mobile data applications among multinationals. Mobile email/office is fairly ubiquitous now and there is more use of other applications, particularly salesforce automation, field service automation and machine-to-machine applications. But these are expected to grow considerably over the coming



years – particularly field service automation, dispatch command & control, tracking and fleet management and mobile marketing. See *Figure 5*.

For the vision of the enterprise device as a corporate productivity tool to be realised, it is important that the enterprise IT department retains control over these mobile devices. The cost of rolling out applications can best be managed by ensuring that the number of platforms and device types is minimised. Supporting applications and users is made easier by restricting the users’ ability to make changes to their devices, and preventing the users from installing content and applications on their devices helps to protect the security of the corporation’s IT infrastructure.

Figure 5 **Growth of mobile data applications in multinationals**



Source: Ovum

More devices: more need for device management

All the evidence shows that mobile is penetrating much more deeply into multinationals, with more staff becoming mobile, flexible working becoming commonplace and more staff using company-provided devices. While the figures vary between individual enterprises and verticals, ‘on average’, only one-third of staff are judged as having low mobility (primarily at a fixed workplace location) now, with the remainder being international travellers, highly mobile (national field or sales staff) or moderately mobile (occasional travellers &/or frequent on-site movement).

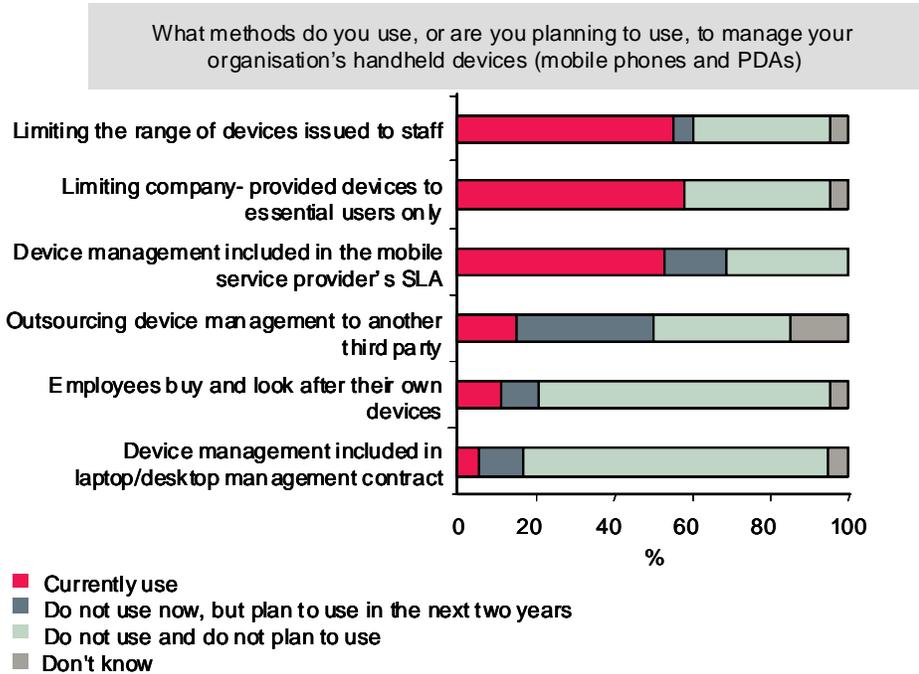
Three trends are apparent:



- growth in device penetration in the highest mobility groups – international travellers, fieldworkers and sales staff
- growth in data-centric handheld devices
- flexible/home working is growing, particularly in some countries as companies implement green ICT policies.

Device management is becoming a more important concern as both the range and number of devices used within multinationals grow and as more employees are using mobile devices for accessing more data applications. Few companies have the in-house expertise to support device management for such large numbers of users with complex requirements. Interestingly, the main method of device management used now for handheld devices in many companies is restriction – limiting who can have devices and limiting the type of devices they can have, as shown in *Figure 6*. Many are fighting a tide of consumerisation from employees wishing to bring their personal mobility profile into the workplace. Companies clearly need to control the applications that employees can have on these enterprise devices as well as ensuring that security is not compromised. They need to get this under control. They need help.

Figure 6 **Handheld device management**



Source: Ovum/EVUA



Ideally the corporate IT function wants to provide employees with a limited range of devices so that it does not have to learn about several sets of user interfaces and support requirements. It wants these devices to be easy to maintain and control. It wants them to support the enterprise's requirements for applications within an overall security framework that protects the company against the many risks that mobile is seen to bring. It wants to be able to prevent employees from installing their own applications, which might compromise that security framework. It also wants to stop employees engaging in inappropriate usage, however defined – which might include accessing content which is illegal, or simply racking up huge bills from content that has no business value. It would like to be able to monitor and perhaps separate personal usage, even for voice services.

The requirement: managed mobility

Clearly all the drivers are there for multinationals to centralise and take control of mobility. In particular, centralised management of mobility would:

- reduce service and device costs (reduce TCO)
- simplify device management
- make mobilisation of (centralised applications) more straightforward
- enable more integration of mobility with the corporate network, including integration of UC applications
- allow multinationals to reap the promised productivity and flexibility benefits of enterprise mobility.

For the large enterprise, therefore, the management of mobility includes a range of activities, and interest in a managed mobility approach has continued to grow over recent years. Such an approach offers hope of a solution to the difficulties multinationals face in managing multiple relationships with mobile service providers, managing the ever-expanding device fleet, managing secure data applications, analysing hundreds of bills and allocating costs back to departments or users.

Figure 7 shows Ovum's view of managed mobility, which we see as comprising four main groups of elements – device management, management of operator relations, billing analysis, and management and consultancy services including support of mobile integration within the corporate network.

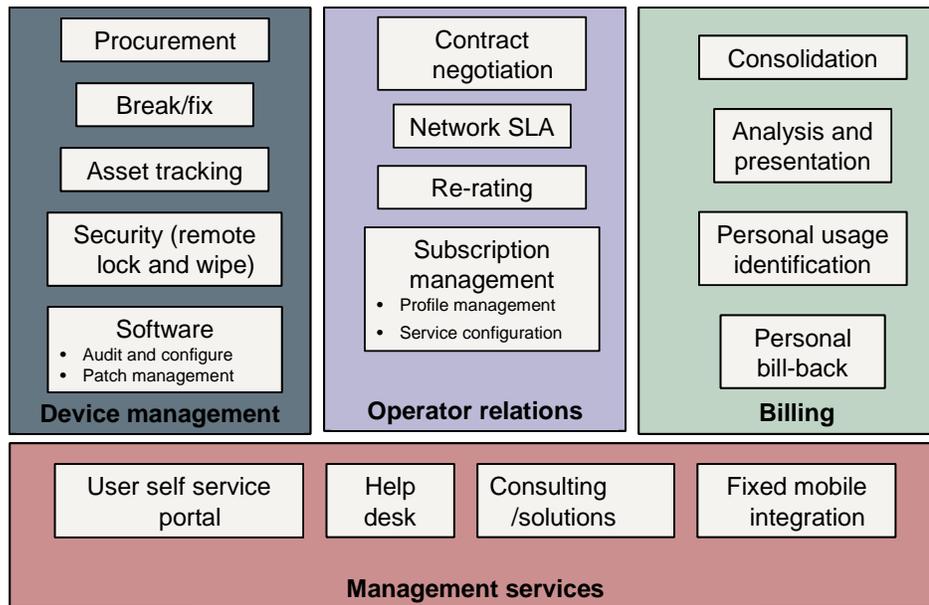
The most important components of managed mobility for the multinationals we spoke to are the billing and analysis tools, management of contracts with multiple mobile network operators as well as device management, as *Figure 8* shows.



We find that managed mobility is the main focus of all new sourcing plans within multinationals. Over half of the companies we spoke to said that they are planning to use managed mobile services contracts within the next two years covering procurement & management of service (airtime), and devices, as well as device maintenance (*Figure 9*). But despite this interest, there has been little change in take-up of managed services to date. There are two main reasons:

- Procurement and operation of mobile services is inherently national in nature – the majority of multinationals still buy most mobile services locally. Whatever their mobility strategy at the corporate level, they are simply not organised to manage mobility centrally
- Managing mobility involves a mix of complex activities and no one supplier has the required skillset to carry out all of these, certainly not globally.

Figure 7 **The components of managed mobility**

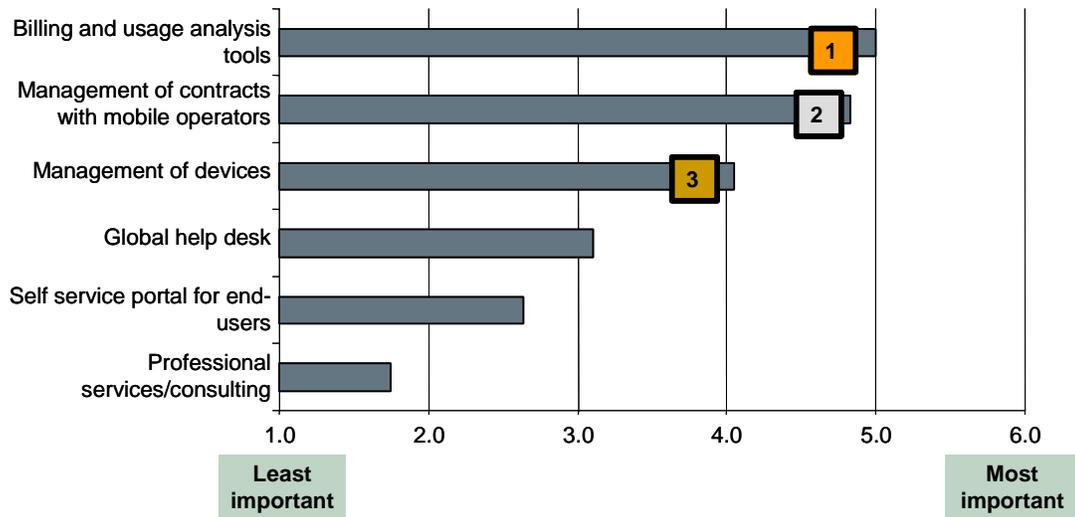


Source: Ovum/EVUA



Figure 8 Components of managed mobility

Which aspects of a managed mobility service do you consider most important? Please put the following in order of importance

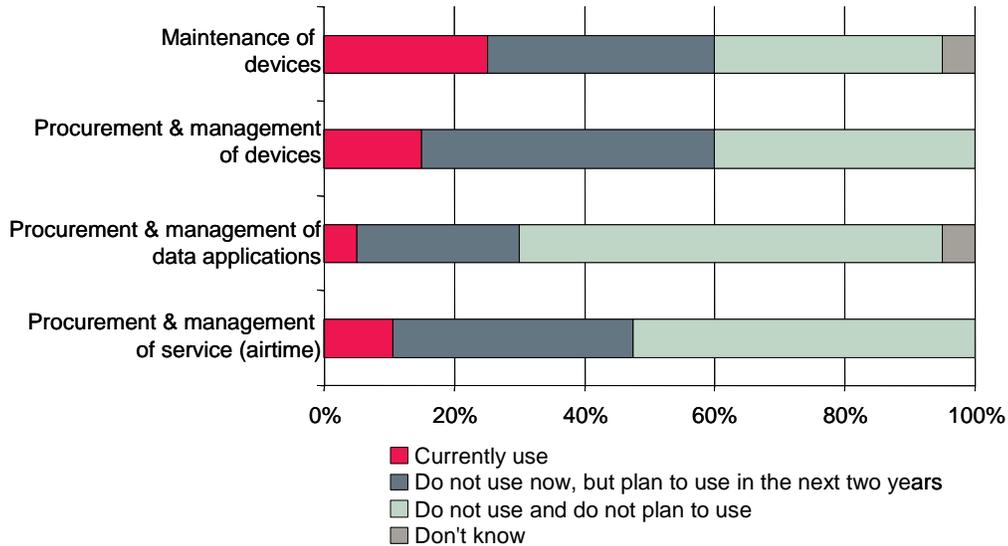


Source: Ovum/EVUA



Figure 9 **Managed services for mobile**

Have you adopted, or are you considering adopting, a managed services contract for the following?:



Source: Ovum/EVUA

Case study on effective management in a multinational corporation

Summary

This case study looks at how one multinational company is managing its mobile workforce. The company's CIO has taken tight control over its mobile device fleet, recognising early on that by standardising on a single device platform it could simplify device management and the whole mobilisation process. It believes that its decision to standardise on the BlackBerry solution, from Research In Motion (RIM) has been proved since its migration from executive devices to mobile applications to voice integration has been relatively painless and transparent. The company measures its mobilisation success in cost savings achieved, particularly on the voice side, as well as in improved productivity of staff and the ease with which they have adapted to new technology. Some issues remain and the next challenge the company looks to face is to reduce international roaming costs through the use of voice over WLAN.



The company

The company is a US-headquartered manufacturer in the hi-tech industry. It has revenues of \$2 billion and employs 5,000 staff globally. It is a multinational organisation with business activities in Asia-Pacific, Europe and the US; approximately 70% of business is outside the US. Approximately one-third of staff is employed in field service or field service-related activities. The company therefore has a very high requirement for mobility, with many staff out and about, often at customer premises.

Mobilisation

Phase 1 – productivity tools for executives

In 2002 the company began mobilisation of staff by introducing productivity tools for executives and, by 2004, 300 employees (executives and senior professionals) had company-provided and supported devices – all BlackBerry smartphones. In fact, at that time other devices were in use with around 50 to 60 employees using Windows mobile devices, although these were not officially supported by the company.

Phase 2 – mobile data applications for service engineers

In 2006 the company began a business transformation process in its service business and as part of this activity it looked to extend productivity tools to field service engineers. The main objective was to enable these engineers to access the company's case management and knowledge management systems while off-premises. To this end, the company deployed 1,000 BlackBerry smartphones worldwide together with a customised application for field service, using a platform provided by Antenna Software. At the same time it provided engineers with mobile applications for access to the company knowledge management system and another for the call centre to send dispatch information, via email, to the BlackBerry devices.

Phase 3 – managing devices

The results of this initial field service deployment were mixed. The main problem the IT department encountered was in logistics - simply getting the devices to the right people could be challenging, since staff were so widely spread geographically. At the time the company had no framework for managing devices in terms of provisioning and dispatching, as well as distributing software updates. They did not have a support function in place to deal with problems such as broken or lost devices. They began to understand that smartphones should be treated like PCs rather than phones, but in order to do this the platform had to be more tightly controlled. With PCs the company had standardised on a single vendor and



the benefits of that approach were clear. They came to the conclusion that management would become a serious issue unless they took the same approach with smartphones. They needed a standard device platform because it would be easier to manage and control and the obvious solution was to standardise around the BlackBerry platform and a single device.

The company decided to purchase all devices globally and actively control what the staff were doing with those devices. Despite already being primarily a BlackBerry-house, this decision to standardise was by no means accepted by all staff. The IT department's experience was that that most staff see their mobile device very personally, even when it is provided by the company. For example, even the choice of BlackBerry device could be contentious. They standardised on the BlackBerry 8700 because this device was available in most markets, whereas at that time the BlackBerry 8800 and BlackBerry Curve were available in the US but not elsewhere, so this was not seen by all as the optimum approach.

The company wanted to buy directly from the technology provider, RIM. There was no global service provider capable of meeting its geographical requirements, which meant setting up contracts in 18 countries. The company already had local contracts in all these countries for voice services and obtained voice devices from these service providers. In some markets it continues to support separate devices for voice. This decision appears strange but is driven by the need for field staff to stay in voice contact while on customer premises. Some customers do not allow the use of smartphones (for example with camera functionality) in manufacturing facilities for reasons of intellectual property protection. Newer smartphones present a problem in this respect and although the BlackBerry 8700 would not have presented a security risk, customers tend to assume the worst.

New capabilities added since 2006 have solidified the CIO's decision to go with the BlackBerry platform, including the early decision to choose BlackBerry over Microsoft. The solution has proved simple to manage and upgrade and, most importantly, the company feels its important mobile applications are highly secure.

There are now between 1,300 and 1,400 devices in use, including executive devices. The field service software applications have met with mixed success. The application that allows field service workers to accept or reject case dispatch has proved very successful. The reporting application has been less successful, although not for technology reasons, but for reasons of customer security, since the forms cannot often be completed on customer premises for the reasons mentioned earlier.

Phase 4 – improved cost management

In 2008 the focus moved onto cost management. The problem was considerable since mobile (cellular) costs exceeded all other



communications expenditure worldwide, including the data network. The CIO believed strongly that the company's approach to cost management should be one built around policy enforcement and standardised procurement. He also looked for solutions that would help employees continue to work flexibly. The decision to use the Ascendent solution (now BlackBerry Mobile Voice System - BlackBerry MVS) was vindicated when the company made considerable voice cost savings by routing cellular voice calls made when on site over the corporate network and IP PBX.

The solution will be available in North America first, then in Europe and eventually in Asia. The company had already standardised on a single IP PBX vendor. The main benefit of the solution is found in the home country, where the BlackBerry device acts as an extension to the IP PBX with similar capabilities to IP phones available on the handheld devices. There are efficiencies to be made through being able to find staff straight away and avoiding failed calls and voicemails, as well as considerable cost savings on long-distance voice calls.

Measuring success

The company is happy with the device in terms of its support for accessing email, knowledge management, case management, improved manageability and international voice cost reduction.

The overall benefits have been measured in terms of:

- User satisfaction - for the executive devices, the only measure of success is that they keep using the devices and system and encourage employees to do the same
- Productivity improvements – for field service mobilisation the BlackBerry solution has proved a big enabler of productivity improvements. However, in recognising there have been productivity benefits the CIO says that there have been no workforce reductions directly as a result of the implementation
- Cost savings – the best return on investment has come on the voice side where there has already been a significant return on investment. The company has definitely reduced international call costs through use of the BlackBerry MVS. The solution has been easy to implement, is easy to use and has brought about a significant saving in opex – close to \$500,000 per quarter (bearing in mind that the investment in devices had already been made for mobilising data applications).

Why RIM?

Transparency and ease of integration

BlackBerry MVS was chosen because it was seen as completely transparent for existing BlackBerry smartphone users – they do not need



to learn anything new or do anything differently from the way they already behaved. Usability is not an issue since staff are already familiar with the BlackBerry user interface and menu structure. The implementation was simple and BlackBerry MVS is completely integrated with the existing BlackBerry devices. The company now has governance over cellular expenses and feels it has costs increasingly under control. Employees are not banned from using company devices for personal calls, but have to keep expenditure under an agreed limit, with a well-understood process when this limit is exceeded.

The most important benefit of BlackBerry MVS has been the ability to maintain staff productivity while reducing voice costs. Staff use the solution because it is well-integrated; they make no active decision to use it – calls are simply routed that way. It is incorporated into the company dial plan, which means that there are other benefits including knowing much more about user calling patterns within the company than previously, which helps with planning and provisioning and saves management time (since it would otherwise have to be done twice for fixed phones and mobiles). The company has, however, not dropped its fixed phones as yet, although some staff do 'hotel' with mobile devices only and access the company voice network with a unique ID and login. Although the company has proved the case for using BlackBerry devices as single devices (i.e. extensions to the PBX when on site and as mobile devices on the mobile network), the business case for wholesale removal of fixed phones is not yet there across the board. It is likely fixed phones will be retained for desk based staff in administrative departments, customer service and departments such as finance, while FMC makes sense for business travellers and more mobile staff.

Security

Enterprise security is an area where the CIO believes the BlackBerry solution wins hands down over competitors such as Apple and Microsoft. There is a highly granular level of control with the BlackBerry Enterprise Server, which has been enhanced further in BES 5.0. This is particularly important for the field engineers and sales staff visiting customers who require secure access to applications. The risk of lost devices and the need to manage and exert control remotely is paramount. This level of control is essential in such a security conscious sector of manufacturing and when dealing with customers where intellectual property is an issue and is largely behind the decision to choose the BlackBerry platform above its competitors' products.



Issues to be resolved and future plans

Call routing issues

There have been call routing problems in Europe that have reduced the overall effectiveness (cost benefits) of the voice system. The company has discovered that different carriers handle call routing in different ways, so for example an employee in Germany might be able to route a call through BlackBerry MVS to France but that the reverse call may not benefit from the call routing via MVS, depending on the carrier used.

FMC

Despite success in reducing voice call costs, there have not been any savings on roaming costs and this is an area the company is looking to investigate.

One workaround in place now is the use of prepaid local SIMs when roaming overseas. Such SIMs usually entitle the holder to receive free incoming calls and the company can benefit from these free calls. The SIM can be registered with the BlackBerry Enterprise Server so that incoming calls from the home country can be received as usual. It is a complicated approach as it requires users to swap SIMs in devices but it is effective and saves a considerable amount of money for highly mobile staff. However, it will only be a solution for a dedicated minority and there is interest in WiFi-based solutions for roaming.

New data applications

The company has no immediate plans for new mobile data applications. The IT department constantly monitors applications for devices. It believes that with its current email and cost management activities it is meeting 95% of current requirements.

Desktop virtualisation

The company is looking at evolution to desktop virtualisation, combining the desktop with the smartphone so that when the BlackBerry smartphone synchronises with the desktop it displays everything on the desktop, enabling the company to dispose of PCs. This will be transparent to the user and will allow more flexible working practices. For the company it will reduce the need to support two devices. Technologies under consideration include Redfly (although this only currently only supports Windows Mobile devices) and Lenovo Constant Connect, which does support BlackBerry devices.



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