

précis

Thoughts on IT in Business



Mobility Booms | No 1 Volume 4

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Mobility Booms

Mobility is rewriting the script of modern business. Today's corporate world doesn't sit still. Employees want and expect to use their smartphones and tablets both at the office and while on the road. By granting employees remote access, organisations can boost productivity and customer service levels and inject agility into their business model. At the same time, consumers and businesses alike are starting to recognise the significant potential to combine mobile applications with the power of cloud computing. These tools promise to increase productivity, reduce paperwork and increase revenue in ways that traditional approaches and devices simply cannot.

Mobility is gaining momentum as a focal point for IT and for business.

In this issue of Précis, we consider the opportunities as well as the risk and usability challenges that new mobile devices introduce. We explore how best to bridge the gap between the security and control IT needs and the experience end users demand. We look at the implications of advanced mobility on bandwidth and explore how emerging mobile standards and technologies are gearing to support the rampant rise of mobile Internet usage. Mayan Mathen, Dimension Data's Chief Technology Officer in the Middle East & Africa shares his views on the increasingly strategic role that mobility is assuming on the corporate agenda. We conclude that while joining the mobile movement may be good for business, a successful outcome depends on an informed and structured plan and coherent execution.

Enterprise mobility matters. Organisations that prioritise mobile computing and lay the right foundations to provide compelling experiences across multiple platforms will be at the forefront of the mobile tidal wave. Will your business be one of them?

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Today, mobility, in the form of individuals with their smartphones and tablets, may be found at the core of a behavioural and even political change, and the cloud, in the form of Twitter and Facebook, represents the distribution platform. News has never flown faster and people have never had greater access to it. Without the cloud, mobile technology cannot reach its full potential. And without mobile technology, the cloud has far less power to affect the social fabric of our world.

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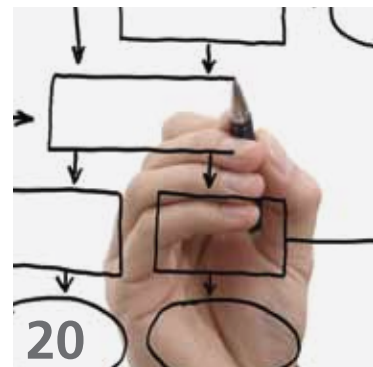
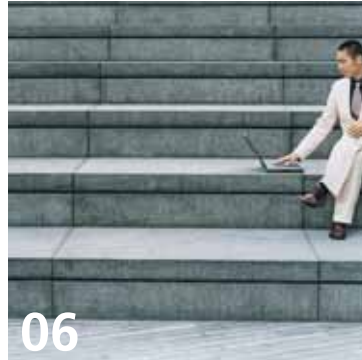
Mobility isn't a technological revolution, it's a human revolution

Mobility is a game changer in the unified communications and collaboration (UC&C) space. It is also changing the game before many businesses have thoroughly understood all the rules of UC&C or implemented UC&C in any comprehensive or meaningful way. Over the past decade, employees have also changed. Many have purchased their own tablets or smartphones and some are more adept with these technologies than IT specialists. They also operate and interact with one another across multiple geographies. Given the new forces in play, for many organisations, defining a UC&C strategy has to start in a new place.

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New Mobility Standards Demystified

What possibilities do emerging IP-based wireless and mobility standards hold for business?

When it comes to bandwidth, more is definitely more. Today, the demand for greater access to better bandwidth is driving the development and imposition of new mobility standards and options, from wireless telephony and consumer video communications, to conferencing from mobile devices, and mobile devices that act as though they're 'hardwired' to the data centre.

From a bandwidth consumption perspective, the mobility boom certainly has a lot to answer for. Demand for better access to more bandwidth is driven by the exponential increase in mobile devices around the world. Every time a mobile device accesses an application, it opens up potentially hundreds of IP addresses simultaneously, dramatically increasing the network throughput required to service that single device. Another major factor pushing new mobility standards is the flexibility users demand when it comes to the devices they use, when they use them and how they use them.

The point being, your typical end user doesn't care which network they should be using or what the connection methodology is. They simply want a fast and efficient mobile experience that includes switching between their desk phone in the office, to their mobile phone in the car, to their tablet in the airport lounge – without having to re-initiate the call.

Wireless Standards Genealogy

4G is the fourth generation of mobile wireless standards. It is a successor to the 3G and 2G families of standards. In 2008, the Radiocommunication Sector of the International Telecommunication Union specified the International Mobile Telecommunications Advanced (IMT-Advanced) requirements for 4G standards. It set peak speed requirements for 4G service at 100Mbps for high mobility communication (such as from trains and cars) and 1Gbps for low mobility communication (such as pedestrians and stationary users).

A 4G system is expected to provide a comprehensive and secure all-IP based mobile broadband solution to laptop computer wireless modems, smartphones, and other mobile devices. It will enable facilities such as ultra-broadband Internet access, IP telephony, gaming services, and streamed multimedia to be provided to users.

LTE – Although LTE is often marketed as 4G, first-release LTE does not fully comply with the IMT-Advanced 4G requirements. TeliaSonera launched the first commercial LTE network in 2009 in Stockholm and Oslo, while Verizon launched limited LTE services in the United States in late 2010. There are nearly 60 LTE networks currently planned around the world.

One of the fundamental objectives of LTE and 4G technology is the creation of a network capable of **providing lower latency, inexpensive bandwidth** and **faster speeds**, both indoors and outdoors, with premium quality.

Why now?

There's much talk about the next generation of wireless networks and the technology and rollout plans of major mobile operators. Fourth generation (4G) technology, and its predecessor, long term evolution (LTE) represent the advances in wireless technology that will improve upon and eventually replace today's 3G technology. Since 3G networks were not built for considerable Internet usage and the demand for video is growing exponentially, LTE and 4G are imperative to support ever increasing traffic volumes.

One of the fundamental objectives of LTE and 4G technology is the creation of a network capable of providing lower latency, inexpensive bandwidth and faster speeds, both indoors and outdoors, with premium quality. All 4G network designs are IP-based, creating the opportunity for potential downlink peak rates of 100Mbps and uplink peak rates of 50Mbps, making tasks such as video conferencing, VoIP, and music and video downloading much smoother than is presently possible.

But what about the potential issues these developments may hold for both networks and their operators and also for businesses? This is not just about a jump in network speed; the advent of LTE and 4G wireless represents a leap into uncharted territory. Current volumes of 3G mobile traffic will pale in significance when LTE and 4G wireless access moves into the mainstream. The concept of being connected anywhere, anytime, via any type of device will put enormous pressure on service providers. Right now, operators are doing their best to prepare for this onslaught of high-volume traffic.

The impact on business

Ultimately, new IP-based wireless and mobile standards are going to make becoming a mobile business easier and cheaper. In effect, the new mobility standards will make it possible for organisations that exploit IP to have user mobile devices acting as PBX extensions. And while the new standards, and the technologies that will support them, are evolutionary in nature, there are many ways in which an organisation can make its current mobility compatible with what's coming down the development pipeline.

Both 4G and LTE will be deployed first to the mass market by mobile network operators, their first cousins, mobile virtual network operators, and the enablers of both, mobile virtual network enablers, all working together in their own best interests. This means that most of the wrinkles will have to be ironed out before deployment, because one mistake in a mass market can destroy an operator's reputation for delivery. Business adoption of the new standards will therefore not entail reinventing the wheel.

That said, the new mobile standards represent unfamiliar territory to most businesses, which is why there is wisdom in consulting networking and systems specialists for advice when laying one's plans for the future. Regardless of standards, mobility has a vast number of moving parts. Pulling them all together in a coherent way to deliver the results business stakeholders seek, calls for the experience, insight, and skills of a global organisation working across many implementations in multiple industries.

According to Nadeem Ahmad, Dimension Data's Group Technology Director, Network Integration: "IP technology is well understood. That's not the difficult part of mobility. The focus has to be on the way you design and future-proof your architecture for new mobility standards and options that will change rapidly and be adopted even more rapidly by end users in the future. Focus on deploying effective management and processes today to enable you to fully exploit the mobility functionality currently available and avoid having to re-architect your infrastructure when LTE and then 4G become the norm."

Dimension Data Group Sales Director for Global Media and Communications in Europe, Ken Jacobson, says that all the current activity around mobility is advantageous to organisations because it will simplify the communications landscape. "For businesses, the new mobility standards are a way to future-proof

the organisation against the evolution of a technology boom whose implications no-one yet fully understands."

Albert Lentink, Dimension Data's Media and Communications Line of Business Manager in the Netherlands, believes that the new mobility standards and mobile Internet implementation options are all about innovation. "Users are innovating with their mobile devices all the time and operators and carriers will have to stay ahead of users by continuously refreshing their offerings, while containing costs.

"Mobility is forcing convergence at every level – public and private networks, communication and entertainment, fixed and mobile, business and consumer. That's not only an enormously complex landscape in which to function, it's also one that organisations have never encountered before. Even network operators are feeling their way. Organisations looking to capitalise on the enormous productivity benefits that advanced mobility holds in store should work with specialists who have experience in creating the technical scaffolding on which great services and content ideas can be constructed."

Fleet of foot

The mobile telecommunications landscape is shape-shifting in response to growing end user adoption of mobile devices, both on a corporate and consumer level. To stay ahead of the curve – and the competition – organisations need to embrace these changes and appreciate their potential to enable their businesses to become more flexible and 'fleet of foot' in dealing with opportunities and challenges that come their way. If previous fundamental shifts in technology are accurate indicators of what to expect, achieving success in this new era calls for careful planning and hard work. This will ensure businesses are able to take advantage of the new technologies and concepts swiftly, as they become available. **p**



Towards Secure Mobility

Securing the handheld, securing the business

The drive towards a more mobile workforce has spurred the demise of the traditional corporate perimeter, with a sudden flood of devices that are no longer directly managed and controlled by the organisation accessing corporate resources. While the loss of control over end-user computing devices is in itself of major risk and concern, the ability for the endpoint device to be very easily lost or stolen is an important new consideration.

Inherent mobility-related risks

Mobile devices, by their very nature, introduce new risks. For example, traditional endpoints in organisations are procured, configured, and deployed by the technology department. These endpoints are often the products of a single vendor, with a base desktop build that is both fully configured and managed to be consistent across the environment. This makes them easy to manage and support with business tools.

The same does not hold true for mobile devices. An additional grey area is the ownership of data stored on the mobile device. The blurring of personal and corporate resources introduces many questions for organisations around the protection of their data. A lack of clarity exists from a legal perspective regarding data ownership, data protection responsibilities and privacy guidelines,

with case law still far from definitive. The matter is even more challenging for organisations that handle regulated data and need to ensure that it is adequately protected.

The small size and portability of mobile devices coupled with their mass appeal means they are very easily lost, left behind in taxis, planes and trains, and present attractive targets for theft. The implications of the loss of a device can be even more catastrophic when one considers the regulations in place around data protection.

Another key difference between traditional endpoint devices and mobile devices is that with mobile devices, the technology department no longer controls deployment and configuration of applications. This choice is made by the owner of the mobile device. Mobile application repositories such as Apple's AppStore® allow users to discover new applications and install them at the click of a button. This can be done independently of the corporate technology department, and without its approval.

The good news

On a more positive note, the inherent differences between these devices and traditional computing platforms do provide a number of benefits that serve to mitigate some of the risks.

Organisations integrating mobile solutions need to address information **security requirements** across the **entire lifecycle**.

In fact, it is arguable that some of these devices have a stronger security posture by default than personal computing devices. This is due to a number of complementary platform design aspects and features.

The operating systems that power mobile devices are based loosely on traditional operating systems. However, they have been stripped-down and designed with mobility and communication in mind. The mobile platform design methodology means that a large number of unnecessary components are not included in the operating system, which results in a more streamlined operating platform. Complexity is the enemy of security, and in this case, the elimination of excess functionality results in a smaller exposed attack surface.

Mobile devices and operating systems also have the benefit of being architected and developed in more recent times, where there is a more heightened awareness and sense of security. From the very beginning, vendors have approached the design and architecture of such platforms with security in mind, and in many cases without the need incorporate legacy code with its associated vulnerabilities.

Today, most devices support hardware-based encryption of data, as well as software and application encryption for some earlier models. Vendors have also considered issues such as code-signing and sandboxing, which mitigate the risk posed by a single application, by limiting that application to its own allocated resources and preventing a single compromised application from compromising others.

Key considerations for adoption

Organisations integrating mobile solutions need to address information security requirements across the entire lifecycle. This should include governance, risk and compliance, policy and procedure, technical controls and implementation, and testing and assessment. Let's explore these in more detail:

- **Governance, risk and compliance**

A critical aspect of secure mobility is a thorough understanding of information and data management within an organisation. It is essential to know what data is considered critical and what the organisational policy on protection and handling of that data is.

This is best achieved through a robust data classification system that is actively followed and strictly enforced. The

sensitivity labels applied to various organisational data will dictate how that data should be handled, and can drive risk assessment, policy and controls around that data in alignment with the overall organisational guidelines.

It is also important to have a clear understanding of situations where data must be protected in order to comply with the regulations affecting the organisation. Without this insight, it is not possible to align properly policy and technical controls.

- **Mobile communications policies**

Once an organisation has a thorough understanding of the risk profile and the implications of the mobility solution on data security governance, the next step is to review and refresh its policies and procedure to incorporate and cater for the mobile solution. Where relevant, new policies should be developed to specifically address mobile devices.

Acceptable Use Policies must also be updated to specifically address mobile devices and what is permitted and not permitted. This is a critical step that must be handled with care.

Bear in mind that much of the appeal of mobile devices is the freedom that they offer users to interact and collaborate. Overly restrictive policies may alienate users and result in the violation of such policies. Careful planning and interaction with users will ensure that the policies allow users the level of freedom that they value, while balancing the risk to the organisation appropriately.

- **Technical security policy and controls**

Once policy has been designed and outlined to align with the governance, risk and compliance drivers of the organisation, technical security policies and controls can be developed to enforce these policies and can then be deployed to mobile devices.

Controls will be designed per the device and platform in use, as well as the capabilities of such devices when paired with the deployed management platform. Once more, in the case

of devices dealing with sensitive and regulated data, more restrictive policies must be deployed.

The key in this phase is to deploy controls that balance the risk profile of the device, the role of the user, the data that will be accessed, and the minimum acceptable security posture of the organisation.

- **Testing and assessments**

After technical controls have been implemented, organisations should conduct an assessment of the mobility solution and endpoints, in order to highlight and demonstrate any vulnerabilities and flaws that may have been overlooked.

A key aspect of this is to assess the security posture of in-house developed applications, especially if these applications will be deployed to clients. The source code of these applications should be reviewed, and where relevant, the applications should undergo some form of penetration testing.

For organisations adopting third party or external applications, where relevant, these applications should also be assessed to determine whether they incorporate any malicious functionality, backdoors or other unwanted characteristics.

Steering ahead, securely

Mobility promises vastly increased productivity and effectiveness of employees, and is a very necessary step in the continued evolution of business.

This journey towards a mobile workforce need not necessarily be fraught with risk and uncertainty. With some focus, secure mobility is achievable and will enable organisations to unlock the benefits that this new paradigm and underlying technologies promise.

Success requires consideration of the security implications of key aspects of the mobility solution, and careful planning to address information security in line with the fundamentals of a mature information security programme. **p**



Virtualisation Joins the Mobile Movement

Why businesses are looking to desktop virtualisation to gain greater control of the IT environment

Today's knowledge workers expect to have access to the information necessary for them to perform their jobs, yet they typically take exception to having to use a specific device, network, or application, or be in a particular location, in order to obtain that information. They want their experience of work to be technology-agnostic and unfettered by the cogs and wheels in the organisational back-end.

Implications on the desktop

The implications of the shifting mobility landscape on the desktop environment are significant. 'Desktop computing' as it has traditionally been known, has moved beyond the realm of the desktop PC and laptop. Today's desktop is an end-user environment comprising a host of applications, documents and configuration data. And as employees increasingly rely on mobile devices, they need desktop environments that they can access anytime, anywhere. On the other hand, IT organisations are under increasing pressure to trim costs and increase productivity while strengthening security and tightening control over and access to corporate information assets.

The dilemma, then, is how to accommodate both the needs of IT administrators and users using a common framework. Ultimately, effectively controlling and managing end-user devices, whether they are fixed or mobile and whether they are owned by your

organisation or by your employees, involves finding a means to abstract the user experience from the device, the underlying operating system, the applications involved, and the corporate data.

These challenges are driving organisations to move away from the traditional model of the monolithic desktop in search of a fundamentally better way to operate their end-user environments.

Virtualisation of the desktop addresses these challenges

Following the mainstream adoption of server virtualisation as a means to reduce the overall capex and opex cost of the server estate, many organisations are turning to desktop virtualisation to extract similar benefits.

The advantages of desktop virtualisation, which include cost savings on desktop hardware through the ability to sweat assets and invest in lower capacity machines, enhanced business continuity and efficiency gains, are well-documented and widely-accepted amongst today's IT decision-makers. Interestingly, however, as mobile devices continue to cross the corporate threshold, desktop virtualisation is increasingly being recognised as a tool to help businesses ensure that the devices employees use to access organisational data have the ability to exchange information with business applications, without compromising security.

With the traditional monolithic desktop, the applications, operating system and user data are all tied to a specific piece of hardware. Virtualisation breaks the bonds between these elements into isolated layers, enabling IT administrators to change, update and deploy each component independently for greater business agility and improved response time. End users enjoy the same rich desktop experience, but with the added ability to access that computing environment from a multitude of devices and access points in the office, at home or on the road.

Dimension Data's Consulting Director for Data Centres and Virtualisation, David Cottingham, explains: "Desktop virtualisation disengages the user experience and application functionality from operating systems, hardware, and software. By doing so, it removes the need for organisations to favour specific mobile devices above others and it means that organisations don't have to rely on specific vendors to gain control of their IT environments."

There is, however, no clear-cut, one-size-fits-all desktop virtualisation methodology at present. Desktop virtualisation and virtual desktop interface, for instance, are not the same, although oftentimes the terms are used interchangeably.

There are technical differences between the two. However, the practical distinction often comes down to whether or not the organisation wishes to have user desktop sessions run centrally from its data centre, or would rather have the virtual desktop experience managed from the client (the device) with data being streamed from the data centre. Another option is to have virtual desktops hosted by a third party.

The advantage of running the session from the data centre is that the organisation remains in control of the way the data is accessed and used. The disadvantage is that there is rarely the flexibility of usage options that today's users expect.

If sessions are hosted by the client, the organisation is not burdened with managing the devices and the user has total flexibility regarding his choice of device. The downside is that the data may only be secured through encryption and authorisation levels.

Having the virtual desktop experience hosted by a third party, who is also responsible for work area recovery, is a useful option. Especially so if an organisation operates in the healthcare sector, where the security of patient information is critical, or in the financial services domain, where compliance requirements are more stringent than in most other industries. However, this arrangement is not suitable for every organisation because neither the hosting company nor the customer organisation has any control over the quality of service of the carrier network.

Where to start?

"Ironically, having so many options to choose from actually does make things simpler," says Dimension Data's General Manager for Virtual Data Centres in Australia, Dave Hanrahan. "It forces one to go back to the core, in this case, the back-end infrastructure that is going to have to support the way in which you abstract the user experience.

"Your technology core will evolve over time. That's inevitable. But it cannot possibly evolve as fast as the consumerisation of technology is taking place. Take the only control you can, which is to put policies in place for the way in which user technologies could come into the system, based on the technology involved, the associated bandwidth requirements, and the security and authorisation levels that can be accorded to the various types of technologies."

Given the myriad of choices available, identifying the optimum route to architectural simplicity is not intuitively obvious. So, it's helpful to use a desktop assessment tool that caters for a hybrid environment that consists of any combination of traditional and virtualised desktops and computing devices.

Cottingham says the ideal assessment would assemble the various desktop components (operating system, applications, user data, and settings) in the right combination to produce an accessible desktop that meets business needs. "It should cater for employees who work remotely, are mobile and connect from different locations or who have role-based user classifications, for example, task, general and power users.

“Also, you need to approach your desktop environment with an eye on the future. Any approach should provide for the seamless introduction of other technologies that will enhance your core infrastructure, mobility, security and power consumption while reducing operational costs, as your business matures.”

Striking a balance

Clearly, today's computing environment requires IT departments to address more device-management challenges than they did just a few years ago. The mobility boom has left many organisations scratching their heads as to how to provide users with the right level of desktop experience, in a secure manner, given the fact that most users want and need to access corporate resources not from the traditional desktop PC or laptop, but from any number of handheld devices.

All the signs indicate that desktop virtualisation can go a long way to assisting organisations seeking to manage the proliferation of mobile technologies within their businesses in a structured and coherent way. Many organisations are already adopting virtualisation technology to increase freedom and flexibility for end users while providing IT organisations with the centralised management and control they need to lower costs and increase security. Additionally, desktop virtualisation can enable more dynamic centralised management by separating the elements of the traditional desktop computing stack.

Getting it right, however, takes a sharp focus on end-user needs as well as the underlying technology infrastructure. Ultimately, desktop virtualisation by no means represents a panacea to the challenges associated with the mobility boom. It is however, adding significant momentum to IT leaders' efforts to navigate their way through these largely uncharted waters.

Desktop Virtualisation 101

The desktop environment brings together the hardware on which to run software, to store data, and to connect with devices; the operating system software that enables software to run on the hardware; software applications; data relevant to the user; and the configuration or setup of the environment, including personal preferences and corporate policies.

Virtualisation is about abstracting each of these elements to make deployment and management easier and more flexible, thereby enabling the consolidation of IT effort and resources.

Desktop virtualisation versus virtual desktop interface

Desktop virtualisation in a terminal server environment, enables multiple desktop users to access a full desktop operating system in a single environment that can be customised on a per user basis. However, server resources are not dedicated to a particular user. Also, some applications won't run easily in a terminal server environment.

In a virtual desktop interface environment, each user can access his or her own centrally hosted physical PC or Blade PC, or a shared virtual machine. Physical CPU, memory, and disk capacity can be allocated to particular users. One user's activities won't affect another's. Also, a virtual desktop interface enables applications to be run as if they were on a local PC.

A virtual desktop interface abstracts the operating system from the physical desktop, and typically runs it from a server in a data centre. Therefore it allows the quick provisioning of a desktop environment and the consolidation of the environment in a data centre. It can also allow the use of simpler end-devices. **p**



Mobility Claims its Seat at the Boardroom Table

Interview with Mayan Mathen, Chief Technology Officer for Dimension Data in the Middle East & Africa

Précis recently spoke to Mayan Mathen, Chief Technology Officer (CTO) for Dimension Data in the Middle East & Africa for his insights on the mobility boom and what it means for IT decision-makers.

P: Mayan, please tell us a bit about your role at Dimension Data?

As CTO, I am responsible for thought leadership and the provision of innovative approaches to solution development that resolve both our clients' day-to-day and longer term challenges.

P: Firstly, how would you define enterprise mobility?

Enterprise mobility may be best understood as the rapidly-evolving ecosystem of devices, applications and offerings that provide highly mobile services and capabilities to both knowledge-based organisations and the consumer world.

P: What are the most compelling trends that you are currently seeing around mobility?

The world we live in today is characterised by a high level of digitisation of content and business processes. Importantly, individuals want and need to be highly mobile. Businesses need access to real-time information to make decisions and stay a step ahead of the competition. Historically, we've often said that 'information is power'; however this paradigm has shifted to 'who knows how best to use the information they have, has

power'. In the past, employees expected their organisations to provide them with communications tools. Now, more and more, the corporate consumer is also a personal consumer, and expects to make use of the same communications tools at work as they do in their personal life, which increasingly comprises mobile devices such as smartphones. But beyond device convergence, there's also network convergence – the network to which you connect to perform work-related tasks is the same one to which you connect to interact with friends on Facebook. The Internet is becoming the de facto connection mechanism for all data.

Mobile devices are increasingly becoming the method of choice to communicate both socially and professionally, anywhere, anytime ... and as a result, mobile operators are benefitting immensely from the increase in both voice and data traffic across their networks. According to the International Telecommunications Union, globally we have gone from 250 million Internet users in 2000 to two billion this year, largely owing to mobile use (five billion subscriptions this year) and we are seeing the fastest growth in mobile Internet use, which is set to overtake desktop use very soon.

P: Given these developments, what do you see as the cornerstones of a comprehensive and actionable enterprise mobility strategy?

Dimension Data regularly has conversations with clients who are grappling to chart their way forward in a structured and coherent

“Organisations need to consider how to **integrate value adding mobility solutions** as well as organisation-specific applications, into the mix.”

manner. They recognise that the mobility boom is here, but are unsure of where to start in developing their mobility strategy and anxious to ensure that all the bases are covered. In order to officially empower employees to be mobile, they need to make certain that all the moving parts in this new ecosystem of devices and applications are secure, of high quality, available, cost effective and relevant to their employees.

Our advice to such organisations is that they develop a flexible framework that is independent of the mobile device type, which will enable them to keep pace with the rapid change.

The way Dimension Data approaches mobility is via our Enterprise Mobility Framework. This framework covers the four key pillars of mobility: connectivity, applications, operational support and security.

P: Tell us more about Dimension Data's Enterprise Mobility Framework.

The first element of the framework focuses on connectivity and converged technologies, that is, the networks (including telecommunications and carrier elements). Apart from selecting the correct carrier partner with the appropriate plans and coverage, companies need to look carefully at their Wi-Fi connectivity options, be it at home, hotspot, office or campus. This is essential in ensuring that the user has the most pleasant experience when browsing the Internet, accessing

communications tools, social media or corporate applications at the most cost effective rate.

Applications cover three core areas: infrastructure, productivity and social. These applications need to be managed (patched, updated, etc) in a simple way for administration as well as from the user's point of view. Our solution portfolio allows for an application store look and feel for the enterprise.

Operational issues focus on the challenge of managing and supporting the influx of mobile devices into one's business. It covers mobility service management, change management, operations management and user adoption. It is important to ensure that highly mobile businesses that are reliant on their mobile devices and applications have the correct support to ensure that users are productive.

Last, but not least, effective security represents the final pillar of an effective enterprise mobility strategy.

P: Let's talk a bit more about security as it relates to mobility.

Security is a fundamental component of an enterprise's mobility framework. Organisations need to consider how to wrap security around every mobile requirement, device and application. Key to this discussion is the concept of

profiling. Not all users within your organisation need the same level of access to applications. Field staff will have different requirements to senior executives. By defining profiles you are able to match the application access requirements to a specific role and then apply the appropriate security around that. This is a well-trod discussion within organisations, but mobility is taking it to another level.

Another key consideration is: where does the data live? Is it on the device; in the cloud or within the organisation? Consider the following example: A certain large mining organisation is beginning to virtualise all its mobile device applications to ensure that data does not 'live' on the mobile device but instead back within the company's data centre. They are finding that the percentage of lost smartphones is far higher than traditional laptops, yet these devices often contain similar data. In some countries in which this particular mining organisation operates, stealing an individual's mobile device is the easiest way to illegally acquire corporate information.

When looking at endpoint security, our advice to clients is that they step away from device specific requirements and instead develop a framework that lists the endpoint security needed to access certain applications. This removes the never-ending requirement to update the supported device list and instead provides a simple framework that allows end users to ensure that their new mobile devices meet security requirements before requesting access to a particular application.

P: What offerings are currently entering the market to enable organisations to evolve their mobility strategies?

One of the fastest growing business applications is one that enables an organisation to provide selected users with access to corporate applications, such as SAP, securely, via a mobile device and follow the performance of their business and manipulate data in real-time.

Historically, financial applications such as SAP have typically been accessed by members of the finance team from their desktop

computers. Executives would attend board meetings where they would receive copies of spreadsheets, analyse the figures and thereafter decide on the way forward. These new kinds of applications change all this, and represent immense value to business leaders. Now they can track and identify statistics and data that are important to them at any given time. This is the essence of real time decision making. Mobility has truly been given a seat at the boardroom table.

Among the most sought after applications that Dimension Data itself leverages within its own organisation are secure messaging applications. These applications are independent of the employee's mobile device and what they allow us to do is isolate the social, private messaging data on the employee's device (such as Gmail) from the corporate information he or she wishes to access. If the employee tries to make any modifications to the application, the device will request an administrator password. If the individual leaves the organisation, or the device is lost or stolen, we can remove all corporate data from the device immediately from a central console, leveraging Microsoft® Active Directory.

P: What advice would you give organisations and they move ahead and embrace the concept of advanced mobility?

Managing the growing complexity of the mobile ecosystem is a growing IT challenge. New devices and platforms continue to proliferate. The key is to find a way to integrate the proliferation of devices and applications and the convergence of different networks into your organisation ... securely. Bear in mind that one size does not fit all. What works best for your organisation will depend on the nature of your applications and devices, the culture of your internal user community and to what extent each user group expects to or would benefit from advanced mobility. Success requires that organisations work collaboratively with their telecommunications and integration partners to plot the optimum way forward and turn this new mobility ecosystem into a true business enabler. **p**



Mobility and the Cloud

A compelling and complementary alliance

Most IT departments struggle to successfully deliver mobility to their end users because the concept of mobility extends beyond the business environment, into the broader individual lifestyle. Therefore, it's not a business issue that needs to be addressed and enabled by an organisation's IT department, but a human issue in which business needs to participate, in order to stay relevant.

In fact, mobility may be the point at which life and work actually become mere extensions of the same thing. Progressively more people don't go to work. They simply work wherever they are – at home, in airports, in trains, in cars, in customer offices, in the field, next to the sportsfield... at times which suit them. What makes this possible is mobility.

Similarly, many people – nurses, doctors, and IT support staff – do need to be in a particular location to perform their jobs, but rarely sit at a desk. By supporting their need to be mobile with the right communication and collaboration technologies like smartphones and tablets, they can be much more efficient and effective than they are today.

The days of a mobile workforce that consists mostly of salespeople out on calls or technicians conducting repair work or installations in the field, are over. Almost everyone in an

organisation today is a 'mobile worker' if only because they have a mobile device with which they can access or communicate intelligence that helps them do their jobs.

Your business is part of a lifestyle

In the same way organisations have begun to realise that the concept of sustainability implies more than a focus on the environment and involves the integration of all things human, natural, social, economic, and environmental, so mobility is enforcing the message that business has to be an integral part of life and not something that happens separately when people aren't having fun.

The need for work/life balance has been replaced by the need for work/life integration. And mobility is a crucial means to that end because it provides individuals with what they most want. Easy, real-time contact with other people anywhere, anytime.

One of the most telling statistics of modern times is that, as of March 2010, Google and Facebook enjoy an almost equal share of visits. We can deduce from this that people would rather share information than go looking for it. They'd rather turn to their peers for recommendations regarding good restaurants and films than rely on Google and the endorsements of online food and film critics.

News has never flown **faster** and people have never had **greater access** to it

It indicates that people will search for and find information in their own ways far more proactively and productively than they will through formal, proscribed, and prescribed channels. It also points to the fact that people will voluntarily innovate with mobility tools in ways that organisations have been trying to incentivise them to do ever since the start of the industrial revolution.

More than technology

Today, mobility, in the form of individuals with their smartphones and tablets, may be found at the core of behavioural and even political change, and the cloud, in the form of Twitter and Facebook, represents the distribution platform. News has never flown faster and people have never had greater access to it.

Without the cloud, mobile technology cannot reach its full potential. And without mobile technology, the cloud has far less power to affect the social fabric of our world.

More importantly, perhaps, it's doubtful that the creators of Twitter or Facebook foresaw the use of their platforms as a tool for social or political change. That arose purely as a consequence of human ingenuity taking advantage of the tools at its disposal.

It is that human ingenuity, above all, which organisations need to harness.

The best way to do this is to embrace mobility rather than trying to lock it down in an effort to protect organisational data.

Virtualisation is the first step

This doesn't imply simply opening access to your data centre to all devices and all users.

What it does mean, is using virtualisation as the foundation to adjust your architecture to enable greater organisational mobility. According to Etienne Reinecke, Dimension Data's Group Chief Technology Officer, that's not as onerous as it may sound.

"Virtualising your servers, desktops, and applications enables you to decouple your systems, hardware, and even your applications from the user's device. As virtualisation occurs through the separation of functionality into its component parts, it enables you to both segment your user base according to their roles, and possibly their devices, and impose on users the access policies you put in place.

“In this way, virtualisation positions you to give users the mobility they seek and, thereby, gives them the freedom to innovate on the organisation’s behalf, while still protecting the organisation’s intellectual property.

“In addition, the process of virtualisation prepares the organisation to migrate to cloud-type services, whether they’re provided by an internal IT department or external private or public providers.

“Becoming cloud-ready enables you to give your employees and, eventually, customers and business partners, the mobility experience they enjoy in the outside world. This keeps your organisation relevant to its market and enables it to retain talent.”

Business continuity

Another major gain that organisations that embrace mobility can look forward to is improved business continuity.

Reinecke cites the case of a financial services company that has used desktop virtualisation to enable its equity traders to operate from wherever they happen to be, using any device. When they log in, they receive pushdowns from the corporate server that provide them with the same trading tools as they would have at head office.

“Japan’s earthquake and tsunami are tragic examples of the way in which this approach could have helped many a business stay operational even when there’s no office building remaining from which to operate. Cloud-based mobility, in which your data resides in a cloud rather than on a head office server or a device, is an extremely effective way of conferring business continuity.

“In addition, the Apple Appstore® has taught us that there is no longer a need for heavy applications. All individuals require to enable them to perform their jobs is the information relevant to their role in the organisation. If segmenting the user base makes

sense from the point of view of managing and controlling the use of myriad devices in a single organisation, then segmentation of information is an automatic, symbiotic next step, in terms of managing bandwidth, network traffic and access, and protecting organisational intelligence.

“For all these reasons, it’s strategically useful to view mobile devices as thin clients rather than stand-alone devices.”

Will the proliferation end?

Highly unlikely. There’s too much potential for innovation and profit. Vendors have realised the profit potential of a thin client approach, and are bringing to market hybrid devices that provide the best of both the mobile and the computing worlds.

Motorola’s Atrix, for instance, has circumvented the need to own both a cell- or smartphone and a laptop computer. It’s a smartphone of a familiar shape and size, but once it’s placed into one of two docking accessories, it functions like a computer.

Its HD Dock has inputs for a mouse and keyboard, and outputs for a monitor. Its other dock is an empty laptop shell, with an 11.6-inch screen, a full-size keyboard, a battery and two USB ports. In both cases, it’s the phone that provides all the processing and access to data. You need only one SIM card and you don’t need to share the data you store on your phone with other devices.

On the fast track

Research estimates the market for cloud-based mobile applications will grow from \$400 million in 2009 to an estimated \$9.5 billion in 2014, as users demand truly anytime, anywhere access to their personal and business information. It is clear that consumers and businesses alike are starting to see the vast potential for combining mobile applications with the power of cloud computing. Thanks to the cloud, mobile technology is on the fast track to reaching its full potential. **p**



Merging Mobility into the Unified Communications and Collaboration Mix

Mobility isn't a technological revolution, it's a human revolution

Mobility is a game changer in the unified communications and collaboration (UC&C) space. It is also changing the game before many businesses have thoroughly understood all the rules of UC&C or implemented UC&C in any comprehensive or meaningful way. Over the past decade, employees have also changed. Many have purchased their own tablets or smartphones and some are more adept with these technologies than IT specialists. They operate and interact with one another across multiple geographies and could be working from home, on the road, from customer premises or out at meetings. Meanwhile, technology has become easier to use, products and services are consumerised and available to anyone, often on a 'pay per use' basis. These developments have been building into a wave of change that IT organisations need ride, or risk being swept away.

Moving targets

Given the new forces in play, for many organisations, defining a UC&C strategy has to start in a new place. That's because the goal posts have shifted. As Dimension Data's Group Manager for Voice and Applications, Neville Cousins, points out; "Today's employees typically have at home, and in their pockets and handbags, better equipment and better access to better networks than you can provide for them at work. Employees are also extremely inventive about how they put their consumer technologies to use in the workplace. Think of a service person confronted with a problem with a customer's equipment. He could take a video of the problem and forward it to the engineering or design department, or access

information about a service part on the Internet because it's faster than using the organisation's intranet (assuming it has one) or phoning the parts division."

In other words, it's not so much that users, through their increasing insistence on having what they know is possible, are driving IT policy in organisations; they're actually also driving productivity and business performance, quite naturally and with considerable enthusiasm, because they so enjoy using their mobile devices. Employees are voluntarily taking on responsibility for providing better, faster, more effective service simply because they want to use their mobile devices. So, mobility isn't a technological revolution. It's a human revolution. Instead of blocking or restricting the use of mobile devices, organisations should be finding ways to allow the innovation inherent in the devices and the innovation spill-over of users to flow through into their UC&C execution to the benefit of the organisation.

A framework for user enthusiasm

If you've acknowledged that your organisation is, very probably, already extremely mobile even if it has no field workers, what's the next step in developing your UC&C strategy? It's essential to base the strategy on a structured framework of the technical and human implications mobility holds for the organisation. The core implication of having users choose to use their mobile devices in highly individualistic ways, on behalf of the organisation, is that the business' intelligence becomes mobile. This usually requires

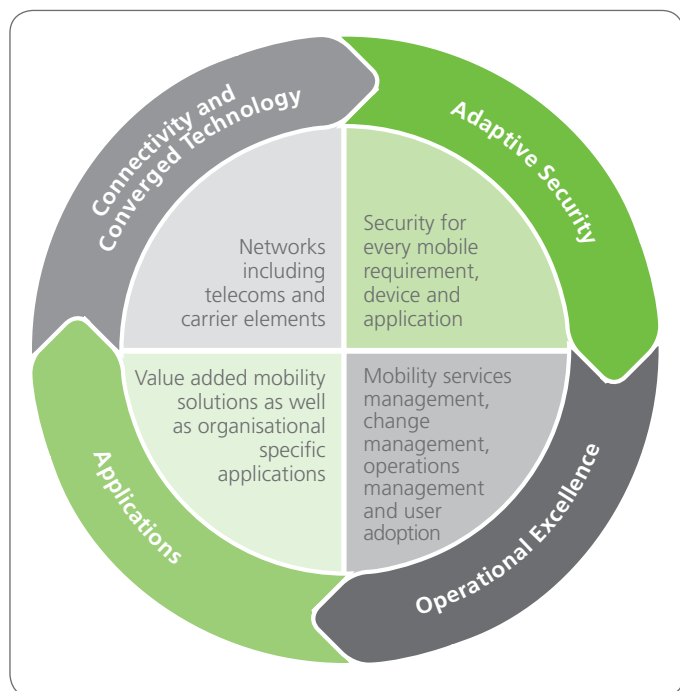
organisations that were avoiding knowledge management to finally embrace it. It also forces them to view all their knowledge related activities and technologies through the lens of interconnectedness. For many organisations, mobility has seeped into the business through tactical solutions; few have come to mobility with a holistic, strategic vision from the outset. The results can be incomplete, piecemeal and, quite possibly, costly.

A partial solution is no solution

Lisa D’Aguiar-Jackson, a member of Dimension Data’s Business Development team for unified communications, believes that there isn’t a single aspect of communications and collaboration that isn’t affected by mobility issues. “It is for this reason that Dimension Data has developed a framework to guide organisations through the choices they need to make to achieve the mobility outcomes that suit their business,” she explains.

Each of the quadrants in the framework covers a number of more detailed areas that are, in turn, pulled together in a broad strategy, as illustrated in the graphic below:

Dimension Data’s Enterprise Mobility Framework



Not all organisations will have to confront all the issues of mobility, but all organisations will have to confront the issues relevant to their own operations and, therefore, some combination of the individual elements of the framework. The point is that it’s vital to have a map. There’s more than one way to ensure that your UC&C initiatives incorporate mobility as smoothly and cost effectively as possible. But you can’t choose your route to that outcome unless you can make intelligent choices among the options available. It’s crucial to remember, too, that a UC&C mobile strategy is far more than simply locking down the devices and usage the organisation doesn’t want. It’s about enabling the organisation to be more productive.

The role of IT will change – again

The IT function is no stranger to change. Now, for the umpteenth time in the past several decades, it is firmly sandwiched between the business and the user. Dimension Data’s Group Enterprise Architecture Consulting Manager, Jeremy Horey, sees the IT department’s role as one of facilitation. “Of course, IT has always had to facilitate the activities of the business. But mobility in a collaborative organisation calls for facilitation across a much broader front. On the back of telecoms and converged technologies and applications, mobility drives business efficiency, sustainability objectives and productivity. In a collaborative world, mobility is essential to an organisation’s survival – and custodianship of that capability lies with IT.” It falls to IT then, not just to ensure that there’s enough bandwidth to support mobility and that networks and devices are secure, but also to understand at a strategic level what the value of mobility is to the organisation and create relevant, empowering policies.

Mobile and agile

Integrating mobility into an organisation’s overarching UC&C strategy is more of a journey than a destination, and businesses need to understand where they want to be, and what they want to achieve, within their own individual roadmap. What is clear is the importance of evolving from tactical projects to a consolidated, managed approach to mobility, to limit operational costs and security risks. Ultimately, the greatest returns will come to those businesses with the foresight to plan early and who look on mobility not just as another technology, but as an opportunity for business improvement, advancement and agility. **p**

Research Notes

What's new in the world of technology research

Companies may need 'Chief Mobility Officer' to cope with enterprise application explosion

A recent survey by Kelton Research supports the view that mobile enterprise applications are poised to take off. The research highlighted that 90% of IT managers are planning to implement new mobile applications in 2011 and nearly one in two believe that successfully managing mobile applications will top their list of priorities.

However, the already impressive growth of the mobile applications market is only the beginning of a process that will blur the distinction between consumer and enterprise applications and increase pressure on companies to appoint someone responsible for managing applications across call centres, customer service, marketing, e-commerce and IT functions, according to analyst Forrester.

In its report *Mobile App Internet Recasts The Software And Services Landscape*, the research firm suggests that over the next five years the scale and scope of the app market will expand through 'a new wave of innovation' and that businesses will have to think about appointing a Chief Mobility Officer to cope.

Move towards supporting corporate applications on employee-owned notebooks and smartphones is already underway

According to Gartner, the trend toward supporting corporate applications on employee-owned notebooks and smartphones is already underway in many organisations and will become commonplace within four years.

Facts:

By 2014, 90 percent of organisations will support corporate applications on personal devices

The main driver for adoption of mobile devices will be employees – i.e., individuals who prefer to use private consumer smartphones or notebooks for business, rather than using old-style limited enterprise devices. IT is set to enter the next phase of the consumerisation trend, in which the attention of users and IT organisations shifts from devices, infrastructure and applications to information and interaction with peers. This change in view will herald the start of the postconsumerisation era.

By 2013, 80 percent of businesses will support a workforce using tablets

The Apple iPad® is the first of what promises to be a huge wave of media tablets focused largely on content consumption, and to some extent communications, rather than content creation, with fewer features and less processing power than traditional PCs and notebooks or pen-centric tablet PCs. Support requirements for media tablets will vary across and within enterprises depending on usage scenario. At minimum, in cases where employees are bringing their own devices for convenience, enterprises will have to offer appliance-level support with a limited level of network connectivity (which will likely include access to enterprise mail and calendaring) and help desk support for connectivity issues.

For more information visit

<http://www.gartner.com/it/page.jsp?id=1480514>

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