



Resource Guide

Building a Business-ready Mobile Infrastructure

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Mobile Tools and Technologies

Learn about the most current tools and technologies to empower remote offices and how to best maximize productivity with everything from computers, devices and peripherals to networking, wireless, and communication.

Introduction

Small and medium businesses (SMBs) are increasingly on the go and now require more tools to keep their mobile workforces connected. That means affordable mobile computing and communication solutions for remote offices and telecommuters that won't break the bank or compromise productivity. This guide provides a basic overview of the most promising tools and technologies, as compiled from the combined resources of BNET, CNET, TechRepublic, and ZDNet to build a business-ready mobile infrastructure that's scalable and cost-effective.

The Cornerstone of a Mobile Infrastructure: Laptop Computers

The primary tool of any mobile worker or telecommuter is almost certainly the laptop computer but different users have different needs and choosing the right hardware is essential. With such a wide range of laptops now available on the market-- from small and lightweight netbooks to larger and more powerful desktop replacements and mobile workstations -- it isn't too difficult to find the exact right fit for all the different types of users. The key is simply understanding the needs of all the different users in an organization and choosing the hardware that makes sense for what they actually need to do. By doing so, organizations stand a better chance of saving money without sacrificing productivity.

Of course, it is important to make sure that all of these different types of computers can still be easily managed and supported. One of the easiest ways to ensure consistency throughout an entire portfolio is the use of a single vendor that offers choice and versatility. Although it's tempting to make a laptop purchase of any type based on the initial cost of hardware, there are additional considerations that could end up increasing costs in the long run. Fortunately, leading vendors can provide invaluable insight on the various choices available and help build a customized portfolio that is both scalable and cost-effective.

Customizing the Mobile Computing Experience: Laptop Peripherals

In addition to choosing the right types of computers, an equally important consideration for business-ready mobile infrastructures is peripheral devices which allow users to customize their own computing experience. While laptops are prized for their portability, not everyone is comfortable with laptop keyboards, pointing devices, and monitors. In fact, there are a growing number of mobile users who simply prefer to attach these types of external devices for no other reason than personal comfort. USB connections are generally plentiful on all but the most portable laptop computers (i.e. netbooks and ultra portables) so finding enough connection ports for one, two, or even three or more devices really isn't that big a problem. Of course, wireless and Bluetooth devices are also available which often reduces the number of hardware connections needed and also just make it easier to connect or synchronize devices such as smartphones and personal digital assistants (PDAs).

One way to simplify the use of peripheral devices is the use of a docking station that consolidates all of the connections that would otherwise need to be connected to a laptop computer. Docking is an ideal solution for those who mostly transfer their laptops between two locations (i.e. work and home) and want to have the same experience in both places. Again, this is where a single portfolio vendor can make all the difference so that a single docking station can work equally well for a wide range of different types of computers. By only using interoperable docking stations that work on more than one type of computer from the same manufacturer, users don't necessarily need to replace them every time they purchase a new laptop or, for whatever reason, if they're simply using more than one computer. In general, docking stations are good idea for anyone who appreciates convenience, ease-of-use, and stability.

Making the Right Connections: Wired, Wireless and Mobile Broadband

In addition to choosing the right peripherals, another top consideration is mobile networking and connectivity. Obviously, wired routers and hubs offer the top speeds available over Ethernet connections whenever available and are particularly suitable in situations where someone is using a docking station since they are generally hardwired. Wired routers and hubs come in all shapes and sizes so the most important thing is to simply have enough ports to accommodate the number of users on the network. In fact, wired hubs offer a simple and effective means of expanding the number of ports available on a router and generally require very little effort to setup and/or manage.

Of course, wireless technology is the epitome of convenience so long as proper precautions are taken for network access control and authentication as well as basic device security. In some cases, wireless connectivity may actually be even more secure than wired connections since they require both a network key and password to access. Just like their wired counterparts, wireless routers come in all shapes and sizes, and are often built right in to a wired router, which means less hardware to manage. In this day and age, it is difficult to imagine a business-ready mobile infrastructure without some type of wireless solution and most, if not all, laptop computers now come equipped with wireless networking capabilities.

For those who truly need anytime, anywhere access to the Internet, mobile broadband devices leverage the same technology already used by mobile telephones to provide a connection to the Internet, wherever and whenever mobile coverage is available. Mobile broadband can be provided through a built-in internal device or an external device that plugs in to the PC MCIA slot on a laptop computer. Another popular option is a tethered modem which uses a smartphone connected by a USB cable. Either way, mobile broadband is highly available and easily one of the most reliable solutions for mobile and remote workers who need or want pervasive connectivity. Also, mobile broadband is very secure because it's not a borrowed network but rather a private network with multiple levels of security over the mobile broadband network. Of course, just like mobile telephones, mobile broadband typically also comes with a mobile carrier contract so beware of terms and prices.

Pervasive Voice Communication: POTS, VoIP, and Smartphones

Plain old telephone service (POTS) is still the standard for general voice communications and is one invention that still works well for most small and medium businesses. If nothing else, it's highly reliable and many find that it's generally a good idea to have at least one POTS line (or more) for those situations where reliable telephone service is critical to the business. However, POTS lines are also more expensive and also offer fewer options than the latest generation of Internet based alternatives.

One such alternative is Voice over Internet Protocol (VoIP) which is increasingly more popular due to its lower cost and greater number of options. VoIP allows small and medium businesses to leverage their existing Internet infrastructure to seamlessly access, process, and manage phone calls as well easily routing, adding and moving phone lines through a computer interface. One other benefit is toll avoidance since businesses usually only pay a set rate for unlimited local and long distance service. VoIP is an invaluable addition to a mobile infrastructure and its capabilities are constantly expanding.

Like the laptop computer, mobile phones are now one of the most essential means of communication for businesses of all types and sizes. Beyond voice, however, smartphones offer even greater availability of communications tools and services. In addition to Internet, email, and messaging, the rise of mobile applications for everything from navigation and social networking to unified communication and laptop Internet access make smartphones a central component of a highly available mobile infrastructure. In terms of overall productivity, advanced smartphones are one of the best and easiest to justify additions to an SMB portfolio.

Summary

Small and medium businesses are increasingly on-the-go and face a wide range of challenges when it comes to providing access for their growing mobile workforces. While scalable and customizable laptop computers and solutions still rule the world of mobile computing, more and more businesses are now beginning to recognize the need for a mixture of wired, wireless, and mobile broadband connections as well as advanced voice services that enable a new level of services and savings. By understanding these tools and technologies and how they form the foundation of a business-ready mobile infrastructure, SMBs can improve their productivity by leveraging the very latest solutions that will help them grow their business.

Mobile Security, Support, and Management

Discover how to simplify technical support for remote and mobile workers as well as increasing overall security with comprehensive warranties and replacement programs to protect your network, data, and devices.

Introduction

IT professionals are increasingly challenged to secure, support, and manage the growing number of tools and technologies required for today's mobile workforces. The key is a full understanding of the leading solutions to ensure productivity without compromising security. This guide provides a basic overview of the most promising tools for mobile security, support, and management, as compiled from the combined resources of BNET, CNET, TechRepublic, and ZDNet to ensure maximum savings and peace of mind.

Protecting Data, Devices, and the Network: Mobile Security Essentials

Many manufacturers now offer a wide variety of minimal security features that will help protect data, devices, and the network. Although it's usually only basic, built in security features at least provide something to build upon and may help avoid an unexpected problem. Anti-virus software, firewalls, and basic data protection are essential and may very well be included so always check with the manufacturer. Otherwise, there are several measures that SMBs can take to help protect the security of a business-ready mobile infrastructure:

Virtual Private Network (VPN)

Creating a virtual private network (VPN) provides mobile workers with secure access to the primary network from remote locations over a public network such as the Internet. VPN remote access is generally provided by a third party service provider and involves both a network server and client software installed on the remote user's computer. In addition to improved security via encrypted connections that are routed over the Internet, VPN offers additional benefits for improved network manageability and reduced costs of remote network access. VPN is essential to ensure the security of proprietary and confidential resources and information.

Firewall

It goes without saying, but a firewall is one of the most critical security tools that any business can use to protect a network against unwanted external threats and intrusions. Firewalls use software and/or hardware to create filter and policy-based barriers that prevent unwanted connections to company networks, data, and devices. While most computers are generally protected by a firewall that is part of the operating system, firewalls may also be included at the router level and offer additional benefits for security and protection.

Anti-Virus, Spam, Spyware, and Malware

Another essential precaution that all businesses should take is strong anti-virus, spam, spyware, and malware protection. Most operating systems provide some level of protection against the growing number of threats from the Internet but a strong third party application is often more likely to be updated on a constant basis and therefore better prepared to handle both existing and emerging threats before they cause any problems. With so many solutions now available on the market, it is extremely important for businesses to consult with the hardware providers to determine exactly which security solution is best optimized for their systems.

Device security

As the mobile workforce grows, so does the risk from lost, stolen, and compromised devices. Physical security such as locks is always a good idea but

not always practical. The key is protecting the information that is stored on those devices. At a minimum, all devices should be password protected but password authentication isn't always enough. Today, there are many other options, including fingerprint and electronic card readers, which provide excellent protection against unwanted access to computers and devices. However, for even stronger security, some businesses may even consider data encryption which renders all information that might be saved on a computer unusable. In addition to protecting the information on the devices themselves, all of these measures are also helping protect against potential access to even more important information on the network.

Security Policy Enforcement

Of course, all security techniques are powered by some type of policy and a policy is only as good as the ability – or willingness – to enforce it. SMBs, like any other type of business, must be constantly adapting their policies based on what is happening in the world around them. But more importantly, they must be able to make those policies known and be willing to enforce them in a way that always protect their most important asset which is their confidential and proprietary information.

Support and Management

Building a business-ready mobile infrastructure represents a tremendous opportunity for simplified support and management as well as reduced cost through overall efficiency and productivity. By working closely with the right technology partner, SMBs can actually simplify the support and management of their mobility solutions as well as reducing costs and improving the overall mobility solutions that they provide to their entire organizations. Services such as custom factory integration and managed transition can go a long way to ensure that everyone receives the right type of hardware and software solutions to meet the budget, management, and support demands of the business as well as offering a well-planned strategy to grow and integrate their overall mobility platform over time.

Hardware and software variations are common which creates a wide range of challenges for support and management. Businesses concerned with long term success and viability must consider technology vendors that offer the most promise for comprehensive services that will ease the burden on their IT support staff and maximize the potential for the greatest possible return on their mobility investments. In addition to hardware and software, a worthy technology partner must also provide a breadth of services that includes end-to-end security, timely help and support, and reliability that will ultimately improve the efficiency of in-house IT departments. Stability and reliability are also essential and relatively difficult without the right type of support from a credible and qualified technology partner.

IT professionals must consider several key factors when choosing the right technology partner for their notebook and mobility purchases. Issues such as price and value are certainly important, but equally important are the issues such as service and support that IT departments should expect to implement, maintain, and manage an ever increasing portfolio of diverse mobility solutions. The most important consideration should always be whether their technology partner is bringing real value to their organization in terms of versatility, scale, costs, and overall simplification of their mobile infrastructure. Failing to do so will almost certainly lead to a flawed strategy that will only place additional stress on their already limited IT resources and saddle the productivity of their business.

Summary

The rising demands of an increasingly mobile workforce require a new type of partnership between IT and business as well as technology partners. Creating a business-ready mobile infrastructure that is secure and reliable presents unique challenges due primarily to the role that mobility plays in worker productivity and business efficiency. By choosing a technology partner

that provides the best balance of product, price, and versatility, organizations of all types and sizes stand the best chance of achieving exactly what they expect from their mobility platform to build real business value and maintain a competitive advantage regardless of the overall market and economic challenges.

Advanced Mobile Access and Services

Find out how a well-planned mobile infrastructure will improve your access to the most important resources in your business through solutions such as cloud computing and similarly useful solutions for mobile access and collaboration.

Introduction

Small and medium business (SMB) decision makers must now especially close attention to the latest trends and technologies that are shaping the face of mobile computing. By building a business-ready mobile infrastructure, SMBs can increase productivity immediately while also building a foundation for the future. This guide, as compiled from the combined resources of BNET, CNET, TechRepublic, and ZDNet provides an overview of advanced and rapidly emerging solutions for hyper communication and real-time collaboration as well as the rising storms of virtualization and cloud computing.

Providing Mobile Access

Remote worker productivity is based primarily on reliable access to the applications and services they need to do their jobs. Today, many of the most common applications such as email and messaging can be easily accessed over the Internet via Webmail and similar types of Web-based applications but still require reliable and secure access to the Internet. Smartphones are certainly a must but their usefulness is generally limited to the basic applications such as email, messaging, and the Internet. Mobile broadband, which utilizes the same networks used for mobile voice communication and can be accessed via a smartphone or some other type of internal or external device on a laptop, is quickly gaining momentum in the marketplace for access with a computer. However, mobile broadband only provides access to the Internet and not necessarily to the applications and services that mobile users really need to utilize. In cases where Web-based services are not practical, businesses must still provide some sort of tunnel to their private network applications. Fortunately, some mobile broadband carriers now provide built-in virtual private network (VPN) functionality, which is essential for those who need it and should be a primary consideration whenever evaluating a mobile broadband solution.

Additional Applications and Services to Consider

Perhaps the real promise of building a business-ready mobile infrastructure is the fact that remote access to advanced services such as managed, virtual, and cloud computing solutions now make it possible to run extremely powerful applications over the Internet. All that anyone really needs anymore is an Internet connection to access countless shared applications and services running on remote servers all around the world. This makes the need for pervasive connectivity through multiple devices all the more important for real-time collaboration and even social networking:

Managed Services

For many SMBs, managed services offer an excellent opportunity to provide advanced applications and services without the need to manage all of the hardware and software necessary to make those services possible. Outsourcing services such as email and messaging or even unified communication technology can greatly reduce the capital and operating expenses of on-premise solutions for businesses attempting to do more with less in a dynamic economic environment. Instead of purchasing and maintaining the hardware and software, businesses may instead prefer to pay a monthly fee for many of their services through a third party managed services provider.

Virtualization

Virtualization is increasingly viewed as a simple and cost-effective alternative to purchasing, managing, and supporting excessive dedicated server hardware and software resources for a broad range of mobile applications and services to save both time and money. In many cases, much of an organization's dedicated

mobile infrastructure is seriously underutilized by applications that only require a fraction of their servers' processing power, which essentially results in over capacity from servers that only run one application. With virtualization, a single server can be partitioned to operate as several servers and used to run multiple applications on a single piece of hardware. When it comes to building an affordable and scalable mobile infrastructure, virtualized solutions are an invaluable tool for SMBs to save money on unnecessary hardware, management, and maintenance.

Cloud Computing

Advances in mobile technology are allowing users to work from anywhere by accessing applications and services with cloud computing which utilizes public networks such as the Internet. The most common cloud computing applications include Webmail and messaging as well as more advanced services such as customer relationship management (CRM) and similar types of software as a service (SaaS) solutions. In general, cloud computing solutions are readily available to SMBs through a number of service providers and the most important thing is to know what is needed as well as the options available for those particular types of productivity applications. Either way, cloud computing is an excellent way to provide secure and reliable access to applications and services that mobile workers need to remain productive away from the office.

Summary

Building a business-ready mobile infrastructure depends almost entirely on secure and reliable Internet access as well as private network resources. Smartphones and mobile broadband solutions provide the basic level of service that most SMBs require, but more advanced managed, virtual, and cloud computing services also offer tremendous benefits in terms of saving time and money as well as increasing productivity. By carefully considering all of the options for remote access and advanced services, SMBs can quickly increase the productivity of their mobile workforces and achieve a faster return on investment (ROI) from their business-ready mobile infrastructure solutions.