Wireless and Mobility Solutions
Are you harnessing all the mobility advantages that wireless can deliver?
A wireless LAN provides all the functionality of a wired LAN, but without the constraints and costs of physical cabled connection, providing mobile, seamless and rapid connectivity. And now – due to new technology standards – it enjoys near parity with wired networks.

An increasingly mobile workforce now has expectations of ‘on the go’ access to information, applications, people and resources.

What wireless can deliver

With more laptops than desktops in the enterprise and a growing number of converged WLAN/Cellular phones, the proliferation of mobile devices is widespread. An increasingly mobile workforce now has expectations of ‘on the go’ access to information, applications, people and resources, and a growing number of businesses are readily harnessing the opportunities that such mobility can deliver.

Broad-based connectivity

Wireless technology can connect remote LAN networks, extend existing LANs or replace structured cabling where cabling is not feasible.

Reduced capital and operating costs

On top of a more efficient use of workforce time and resources, wireless reduces the need for physical cabling and IT configuration and its associated costs. Voice connectivity over the Wireless LAN can also reduce the need for unnecessary and costly cellular usage whilst in the office. In addition, expenses related to moves, additions and changes within the workforce are greatly reduced.

Business agility and speed

Continuous access to information, applications, people and resources allows both enterprises and individuals to streamline business processes, improve workflow, accelerate response times and gain competitive advantage.

Improved productivity

Anywhere, anytime access to key business applications and resources improves productivity by allowing more frequent and less restricted collaboration between co-workers, partners and customers.

Enhanced business services

A deployed infrastructure within public places, business meeting areas and presentation halls allows for user access to the Internet without compromising corporate network security access.

Making wireless work for you

While the benefits that wireless capabilities afford are both pervasive and persuasive, several critical technological factors must be considered before these benefits can be realised. This will enable you to successfully map out the design, implementation and management of your wireless requirements and prevent unnecessary or unviable technology investments.

An easy-to-manage architecture

The need for a centralised, controller-based architecture that will provide an effective means to manage the wireless network, troubleshoot issues and appropriately manage devices and users is fundamental. This will ensure the most effective level of security for the Wireless LAN – and the attached wired network – and allow your wireless network to work in a more cost-effective and seamless way.

Defined user requirements

Effective analysis of the nature and needs of your workforce will help you achieve the technological infrastructure that you require. It is also crucial that you discuss your capacity requirements: for example, where are your employees located and how are they organised?

Built-in security

Security systems are also integral to the network infrastructure. Mobile users will need access to data typically housed within database management systems, knowledge users will need access to the back-end infrastructure and power users will need all of the above, as well as access to their normal applications and personal tools.

An environmental match

Furthermore, any environmental or technical factors that could affect your wireless frequency and spectrum must first be identified, analysed and mitigated before a wireless network is deployed.

Dimension Data’s expertise

Our extensive experience and expertise in networking, coupled with a specialised focus in wireless and mobility, enables Dimension Data to offer our clients a complete solution, from consultation, through architecture and installation, to support and management services. We have a 25-year industry heritage, multiple technical certifications, and extensive cross-industry experience achieved through working with over 5,000 clients across the world.

Dimension Data has Cisco Advanced Wireless LAN Specialisation across all our geographies and is Cisco Mesh Advanced Technology Provider (ATP)-certified in multiple countries.

Our extensive wireless design and deployment experience has led to the formulation of the Dimension Data Wireless LAN Engagement Methodology (WLANEM). Based upon established best practices, the WLANEM is both a client engagement and a delivery methodology. It defines a phased approach with specific activities – including relevant tools and templates – to assist our project teams with the effective planning, design and deployment of wireless and mobility solutions for our clients.

Wireless standards

Wireless refers to the use of radio waves, as opposed to cable or fibre, as a medium for data, voice and video transmission over a local area network (LAN).

IEEE 802.11: Original WLAN standard that specified 1.2 Mbps over the 2.4 GHz bands (1997).

IEEE 802.11b: Described faster data rates up to 11 Mbps over the 2.4 GHz ISM bands (1999).

IEEE 802.11a: Described much faster data rates up to 54 Mbps over the 5 GHz UNII frequency bands. Not compatible with 802.11b (1999).

IEEE 802.11g: Described rates comparable to 802.11a over 2.4 GHz RF bands and backward compatibility with 802.11b.
Wireless and Mobility Solutions

IEEE 802.11n: Expectations are that 802.11n will provide over 100 Mbps of packet throughput and up to twice the range of 802.11g. Operates in both 5 GHz and the 2.4 GHz frequency bands and has backward compatibility with 802.11 b/g/a devices (expected ratification during 2009).

IEEE 802.11s: Proposed Mesh standard for Mesh discovery, configuration, security and routing protocols. This will allow for interoperability of competing devices.

WiMax 802.16d-2004: Originally known as 802.16, WiMax 802.16d-2004 is an improved wireless broadband standard that uses 2GHz frequencies that can penetrate walls and other dense objects and provide high-speed backhaul.

Wireless and Mobility success stories

Boston Public Library, North America:
Dimension Data’s solution has allowed the library to mould current activities into a seamless wireless network and completely transform the quality of services they provide. In addition, the client avoided the cost of cabling installation and was able to preserve the character of the historic library buildings. We have since extended the library’s services to the public within the surrounding outdoor park area.

Maxima Medisch Centrum, Netherlands:
The solution has made it quicker and easier to retrieve patients’ data using mobile technology. This has resulted in an increase in the doctors’ and nurses’ productivity, and has facilitated their ability to provide better patient care. Doctors can call up patient information from their bedside via a tablet or pocket PC. The new infrastructure also lends itself to the expansion of patient services, such as interactive television or bedside Internet facilities.

Mitsubishi Heavy Industries, Singapore:
The solution comprised a flexible and dynamic communications medium on board the Singapore Flyer, a giant observation wheel with 28 fixed passenger capsules, for continuous on-board audio and video entertainment during the 30-minute ride. Despite the unique deployment and environmental challenges, this landmark project was delivered within the agreed timeframe and on budget.

Start with an Assessment
A Wireless LAN Site Assessment is the starting point for a reliable wireless network deployment and the most important step in ensuring the desired operation of that network.

Dimension Data’s Wireless LAN Site Assessment will help you in the following ways:
• It identifies the optimal placement of wireless devices and components based on RF analysis
• It recommends the features and functions necessary to ensure wireless architecture is secure
• It reports on current wireless environment status and recommends a Wireless LAN design to fulfil requirements

Wireless and Mobility Solutions
Dimension Data’s Wireless and Mobility solutions focus on key business, operational and technical requirements. Our priority is to ensure that, whichever Wireless Infrastructure or Mobility Services are put in place, your business is able to work seamlessly, reducing complexity and risk.

Our Wireless and Mobility Solutions include:

Wireless infrastructure solutions:
• Secure wireless LAN: Provides enterprise users with secure and controlled wireless network access
• Wireless mesh: Extends dynamic wireless connectivity outdoors across large and often challenging coverage areas for government, enterprise or service provider funded wireless networks

Mobility services solutions:
• Guest access: Enables secure and controlled Internet access for our clients’ visitors, partners and contractors without compromising the corporate network
• Location-based services: Provides Context Aware services that allow clients to not only locate critical and high value assets but also provide important telemetry information on the status of these assets
• Voice over WLAN: Extends voice capabilities wirelessly via wireless IP phones and network integration with IP telephony systems

For more information, visit: www.dimensiondata.com
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