



TELSTRA: DELIVERING SOLUTIONS TO THE MODERN MANUFACTURER

EXECUTIVE SUMMARY

Today's manufacturing leaders are companies that use technology to provide fast access to information and visibility across the entire chain of operations

Cisco¹

The global economic crisis has aggravated the challenges faced by manufacturers

Manufacturers must have strong, integrated supply chains and communications to meet global challenges

Telstra offers an ever-increasing range of services to meet the unique needs of manufacturers

The challenges facing the Australian manufacturing industry are immense and have been exacerbated in recent times by the global economic crisis. Boards and management teams have to juggle such issues as productivity, sustainability, increasing regulation, globalisation, skills shortages, capital constraints and volatile energy, distribution and raw materials costs.

It is essential that manufacturers maintain strong, integrated and resilient supply chains to deal with these challenges. It's equally critical to strengthen all modes of effectively communicating with customers, suppliers and staff.

Telstra understands these pressures, as it helps large numbers of Australian manufacturers deal with these, and other more mundane business challenges, every day. This experience has allowed Telstra to develop service offerings and delivery processes that change the way manufacturing organisations and employees work

Telstra provides an ever-expanding range of services to the manufacturing industry, including many that are not traditionally associated with a telecommunications company. They leverage the Telstra Next IP™ network and Next G™ network to provide effective collaborative work alternatives – including Instant Messaging (IM), Presence, Video, Audio and Web Collaboration applications and services. Telstra can plan, design and deploy the right technologies to meet the unique needs of manufacturers. Their proven capabilities and experience span every requirement associated with creating an integrated, collaborative working environment – from high speed connectivity and Internet access, IP-based phone and mobility solutions to on-demand conferencing and collaboration tools.

Telstra delivers ICT services to the full range of Australia's manufacturing industries, from single-person businesses to Australia's largest public and private companies. These include customers who manufacture food and beverages, textiles, clothing and footwear, wood and paper products, packaging, printed products, petroleum and other refined products, metal products and machinery, electronics and other technologies. These services are provided to metropolitan, regional and rural customers, and to employees of these companies in their factories, offices, homes and when mobile. Telstra provides a broader range of ICT services to a greater geographical spread across Australia.

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1. INTRODUCTION

Manufacturers must improve performance across expanding channels and diverse geographies

Manufacturing remains one of Australia's most critical and innovative industries, earning estimated revenue in the 2008/9 financial year of \$380 billion and employing 1,070,000 people. It represented over 10% of Australia's GDP in 2007/8, higher than both agriculture and mining. Only construction and property and business services contribute more to our country's GDP.

With the continuing expansion of supply chains into Asia, and the need to remain globally competitive, Australian manufacturing firms have a critical need to constantly improve their performance. They also need to communicate through a growing number of channels and across disparate and often difficult geographies, not only in remote Australia, but also to the far corners of the business world. They have been forced to adapt as market complexity (along with volatile transport, energy and raw materials costs) demands that all parties in the supply chain attempt to effectively track and manage assets, raw materials, WIP and finished goods.

New strategies are integrating workers, customers and suppliers to maximise productivity

An expanding requirement to integrate an increasingly mobile workforce, distant customers and suppliers while maximising worker's productivity means manufacturers are also employing new strategies to help improve the effectiveness and efficiency of their workers, suppliers and partners.

Among the most important challenges facing the manufacturing industry are:

- Supply Chain Transformation
- Sustainability
- Productivity.

2. SUPPLY CHAIN TRANSFORMATION

Australia needs to be a world leader in innovation, not just in a piecemeal manner, but focused on the whole supply chain.

The National Strategy for the Transport and Logistics Freight Industry, 2008¹⁵

Australia has an enviable record of successfully managing logistics issues across a vast country, in often unfriendly environments such as extreme heat and dust. No manufacturer operates without two major supply chains – inbound logistics and outbound logistics. And in the 21st century both supply chains can extend over national as well as interstate borders – all the way to the far regions of China, India and all corners of the world.

The Australian Logistics Council (ALC) Chairman, Ivan Backman, reported that Australia's supply chain is worth \$150 billion every year.² Based on current value, every 1% increase in efficiency will save Australia around \$1.5 billion.

Many manufacturers have saved
5-10% on supply chain costs by using
ICT solutions

Examples abound of Australian manufacturers saving 5-10% of their supply chain expenditure through careful reorganisation of this critical business area. This is normally achieved through the judicious application of technology, very often Information and Communications Technology (ICT). Telstra has assisted many of these organisations in this vital task and continues to assist in daily innovation and the type of fundamental change that improves the way the supply chain works.

3. SUSTAINABILITY

Substantial national carbon mitigation and abatement requires large-scale energy conservation of the kind that only ICT can deliver. As a result, ICT is expected to become an increasingly important factor in business sustainability both nationally and internationally.

Garnaut Climate Change Review (2008)³

Manufacturing is highly vulnerable to changing regulations addressing climate change and sustainability

Clearly, manufacturing is one of the Australian industry sectors most vulnerable to the impacts of regulatory and market forces that are now in play to address climate change and other sustainability issues. Information and Communication Technology (ICT) will play a pivotal role in building resilience for Australian manufacturers as they adapt to new regulatory frameworks designed to address climate change. And in this time of global economic uncertainty, sustainability initiatives are of greater, rather than lesser, importance.

Proven ICT solutions can help manufacturers cut environmental impact and respond more rapidly and efficiently to change

In this era of high-speed data networks, unparalleled coverage and real-time connectivity, investment in IT and telecommunications by Australian manufacturers represents an astute investment in their future. Practical and proven ICT applications and systems help manufacturers to improve energy efficiency and reduce their environmental footprint. At the same time, they assist them to respond quickly and cost-effectively to changing production, market, employee and shareholder demands.

Sustainability may become more important than cost-efficiency and on-shelf availability

The ability of ICT to deliver sustainability is the subject of a detailed white paper published by Telstra in January 2009, entitled "ICT as a Driver of Productivity".⁴

Individual companies, research houses and industry associations worldwide are also addressing the issue of sustainable supply chains. For instance, one recent paper notes that sustainability needs may trump cost: "Until now, the most important parameters for supply chain designs have been related to cost efficiency and on-shelf availability. As a result of these emerging issues (resource scarcity, climate change, security and new regulations – Ed.), new factors are becoming increasingly critical, such as traffic congestion in urban areas, energy consumption, CO2 emissions and the permanent rise in transportation costs."⁵

Among solutions this paper identified was the need for enhanced collaboration, which can only be delivered through ICT.

Many of the Telstra capabilities discussed in this paper address sustainability issues.

4. PRODUCTIVITY

While investment in ICT has boosted the productivity of workers, Australian firms, industries and the national economy, productivity levels in Australia are still below those of countries on the productivity frontier. There remains room for improvement and catch-up through increased and smarter adoption of the latest ICT innovations by business and organisations, particularly in areas such as manufacturing.

ICT as a Driver of Productivity⁴

Telstra recently commissioned ACIL Tasman to undertake a review of Australian and international evidence of the role of Information and Communication Technology as a driver of economic productivity, entitled 'ICT as a Driver of Productivity'.⁴ The following information from the paper is particularly relevant to Australia's manufacturing sector.

45-75% of Australian productivity growth has been driven by ICT-related technology

Australian studies have shown that ICT influences labour productivity growth via its effect on multi-factor productivity (MFP) growth through technological changes, capital investment in ICT and falling ICT prices. In Australian manufacturing industries, 45-75% of MFP growth has been driven by ICT-related technology factors.

Australian studies have also found significant productivity impacts from ICT at the company level. ICT confers informational, strategic, transactional and transformational benefits. However, investment in ICT requires consistent organisational and ICT strategies, effective internal and external communication, and careful risk assessment. ICT is an enabler, a necessary but not sufficient condition for productivity growth and transformational improvements.

Telstra has segmented workers into six types according to ICT needs and is quantifying the productivity benefits of them using tailored ICT packages

ICT can help boost the productivity levels of most workers. The type of ICT required by a worker and the productivity impact of that ICT is likely to vary considerably according to job characteristics. Telstra has recently segmented workers into six different types according to their ICT needs: mobile workers, roaming professionals, decision makers, trade workers and service providers, informational processors and office knowledge workers. It has begun working with selected large manufacturing firms to quantify the productivity benefits of delivering tailored ICT packages to workers in each of the segments, based on the defined business requirements of these organisations.

The paper's key findings below are highly relevant to the modern Australian manufacturing organisation.

Table 1: ACIL Tasman's Key Findings

- While ICT is likely to boost the productivity levels of most workers, the type of ICT required by a worker and their productivity impacts are likely to vary considerably according to job characteristics
- Electronic communication methods (such as e-mail, telephone, instant messaging and mobile phone) have enabled individual workers to quickly connect with others. ICT also makes communicating with people both inside and outside the company more timely and thus more productive
- Mobile phones allow people to make better use of the time they spend travelling and waiting, keeping in touch with colleagues, friends and family, or performing a range of work-related tasks
- Mobile phones increase worker flexibility, efficiency and productivity. This enhances business productivity by enabling employees to remain up-to-date with project news and developments while away from the office
- Broadband enables more flexible work practices, hours and location, which can increase productivity and contribute to easing congestion and pollution challenges faced by large cities
- Broadband access also benefits consumers, by reducing search and information costs and giving greater access to information, making price comparisons easier, facilitating competition and creating downward pressure on prices
- More generally, broadband changes the role of individuals in production, facilitating user-driven innovation and the development of user-created content
- ICT also enhances workgroup productivity via Web 2.0 collaboration tools (such as social networking sites and wikis that allow collective editing and modifying of on-line content) and by facilitating teleworking
- Global studies on teleworking have found that both teleworkers and their employers report substantial productivity gains (due partly to savings in commuting time which has been enabled by home access to ICT).

Source: ICT as a Driver of Productivity, Telstra, January 2009⁴

5. THE TELSTRA NETWORK

5.1 Telstra Next G™ network

All manufacturers have a network of factories, suppliers and customers served by one or more transport companies. Communication therefore, and notably mobile communication, is critical for business efficiency.

The Next G™ network has the largest and fastest 3G network coverage in Australia

Telstra has the largest and fastest mobile broadband network coverage in Australia, through the Telstra Next G™ network. This network is Australia's largest 3G mobile network covering over two million square kilometres and 99% of the Australian population.

The Next G™ network offers better in-building coverage to more places than any other mobile network in Australia

Aside from speed and coverage*, there are several additional important benefits that the Telstra Next G™ network offers to manufacturers (Appendix 1). These include the fact it provides better coverage in more buildings, lifts and car parks than any other 3G network in Australia and deeper coverage in more Australian cities than any other 3G mobile network in Australia.

Improved mobile communications can enhance customer service, productivity and revenue, while cutting costs

What this means for manufacturers is simple – whatever work their mobile workforce is tasked with – field sales, in-field technicians, roaming executives, transport and distribution – the ability to stay in consistent high-speed contact with their home office, customers and suppliers is best provided by the Telstra Next G™ network. This can improve customer service and productivity, and can help lead to increased revenues or decreased costs.

5.2 Telstra Next IP™ network

The Telstra Next IP™ network is a fully integrated fixed line network that can create new business opportunities and help deliver a better user experience over IP infrastructure. It does this by providing greater scale, reliability and robustness, and support for more advanced features.

The Telstra Next IP™ network brings many benefits to the manufacturing industry, including:

- **High Performance Enterprise Networking** – To maximise the performance of the Telstra Next IP™ network, standard access is linked to a powerful Multi Protocol Label Switching (MPLS) core. The network has Class of Service (CoS) and Quality of Service (QoS) intelligence to help create new business opportunities and deliver better user experience over the IP Infrastructure. The Telstra Next IP™ network can optimise and prioritise services using Classes of Service (CoS), with end-to-end Quality of Service (QoS) specifications for new and existing applications. Manufacturing customers can improve their productivity with performance improvements across their business applications as well as their video, collaboration or IP telephony solutions

- **Seamless Fixed to Wireless Connectivity** – Integrating the Telstra Next IP™ network and Next G™ network enables manufacturing customers to support applications that work across fixed and wireless networks
- **Enterprise Level Security** – Customers have complete separation of their IP networks from the Internet and other customers. The network offers manufacturers the same performance and security of private infrastructure at a fraction of the cost and without the need for additional internal network support. Telstra provides the only ISO27001 Security Certified network in Australia across the key IP solutions which includes IP WAN, IP MAN, IP Wireless and Managed Storage
- **Reliability** – Telstra has invested in the latest network technology to achieve sub-second recovery in the event of equipment failure or transmission cut in this network
- **Flexibility and Scalability** – Telstra has transformed and expanded its core network as well as its comprehensive access network, complemented by tools to monitor, measure and report on the performance health of the service. The core network is scalable and will support large increases in customer traffic; allowing customer access to the Telstra Next IP™ network from the majority of locations in Australia. Manufacturing customers can rely on the Telstra Next IP™ network to help them accommodate their future needs
- **Control** – With enhanced network visibility, advanced features allow customers to self-manage and have greater control of their network. Manufacturing customers can use the Online Customer Self Management portal, which enables control and viewing of their network's performance
- **New Opportunities** – As technologies and forms of data converge, the network allows manufacturers to develop applications specific to the industry and to their own business needs much faster and with less cost, taking advantage of the network's common capabilities of Identity, Presence, Location and Authentication.

Together, the Telstra Next IP™ network and Next G™ network create a powerful, single communications platform; Australia's largest fully integrated national IP network.

6. TELSTRA'S SERVICE OFFERINGS

Telstra's services are often grouped by the organisation, its customers and market experts. These groupings include:

- Network Solutions – Data and IP
- Voice and Unified Communications Solutions
- Mobile Services
- Telstra Next Generation Services™.

Telstra's service offering for the manufacturing industry is reviewed in detail in the following pages.

6.1 Network Solutions – Data and IP

As the manufacturing industry evolves we witness profound transformations to the way people work, interact, communicate and conduct business. The Telstra Next IP™ network is flexible and its scalable network capabilities and services will help meet the changing requirements of the manufacturing industry.

To complement Data Solutions, Telstra offers a range of reliable, scalable and secure Managed Network Solutions to help the manufacturing industry reduce their network capital investment and ongoing management costs.

By leveraging the power of the Telstra Next IP™ network, the modern manufacturing business can stay ahead of its competitors in the market, offering staff, customers and accredited suppliers critical knowledge and information flow to create a sustainable competitive advantage. Over recent years, Telstra has made significant investments in the Telstra Next IP™ network, which continues to enable Australian manufacturing businesses to work smarter and faster, whilst helping to deliver significant improvements in productivity, sales, profitability and cost savings.

Through a single connection at each site, Telstra Network Solutions (Data and IP) can help streamline data voice and video applications comprising the user's IT infrastructure. This family of solutions is designed to 'plug and play', making it easy to add and remove functionality, while complying with international security certification ISO 27001 that ensures the integrity of the user's network services.

Regardless of the size of a business, Telstra has the demonstrated skills and expertise to assess, design, plan, implement and optimise its network solutions.

MEF Certified

In meeting global industry standards for the operational ability and functionality of its Ethernet products (E-Line and Ethernet MAN), Telstra has been awarded Metro Ethernet Forum (MEF) certification.

MEF certification offers users the assurance and peace-of-mind that the service they receive meets global standards for service and reliability. It also ensures simpler integration and interoperability with the existing services they may already have.

Telstra is proud to have been an active member of MEF since early 2008. For more information about Telstra's involvement with MEF, contact your Telstra Account Executive.

IP Virtual Private Network (IP VPN)

Telstra IP VPN is a comprehensive, secure national and international private IP solution for organisations. Incorporating the inherent benefits of Internet Protocol (IP), IP VPN offers an 'any to any' connectivity solution that facilitates connectivity between multiple locations and sites, individuals and applications using a platform that is powered by a massive IP/MPLS core.

The Telstra Next IP™ network delivers a quantum leap in security, reliability, performance and simplicity, required for business and a foundation for future business innovation.

Telstra offers an IP VPN service, enabling manufacturing customers to connect to more locations, more conveniently and more cost effectively than ever before. Thanks to its extensive Global Next IP™ network, Telstra delivers a truly global telecommunications solution with strong service levels and a single point of contact for implementation, billing and support.

IP Wide Area Network (IP WAN)

IP WAN offers simple, cost-effective connectivity across multiple sites

IP WAN is a secure, fully managed, IP/MPLS network which provides customers with a comprehensive and sophisticated Telstra Next IP™ network solution.

Incorporating the inherent benefits of a private IP network, IP WAN can provide the foundations for innovation, helping to save an organisation much of the cost associated with building and maintaining its own data network. To build an end-to-end solution requires an integrated approach, combining performance, reliability and demonstrated skills in managing large and complex IP networks that scale. Telstra's experience with IP WAN, including the ability to integrate a range of essential value-added services, makes it uniquely qualified to help as Australia's largest IP service provider.

IP Metropolitan Access Network (IP MAN)

Telstra IP MAN is a high-speed, IP/MPLS, secure, fully managed network, interconnecting sites in metropolitan and selected regional areas. It suits both large and medium sized organisations where there is a need for high capacity, scalable networking requirements.

With scalability to 1Gbps and with bandwidth on-demand options, IP MAN allows the ability to dynamically change network capacity at each location, providing unprecedented levels of customer control.

Connect IP and Business IP

Telstra Connect IP and Telstra Business IP are preconfigured IP WAN solution packages for companies seeking a convenient, predefined IP VPN solution. Telstra delivers a packaged end-to-end solution, addressing your network requirements,

including equipment sourcing and ongoing network operations, to ensure a company's network works.

Ethernet Line (E-Line)

E-Line is a premium, dedicated, high-speed point-to-point ethernet data service allowing data to be transmitted between any of Australia's capital city locations (Sydney, Melbourne, Canberra, Brisbane, Adelaide or Perth). E-Line is available in speeds starting from 10Mbps through to 1Gbps, ensuring modern-day corporate applications perform to the best of their ability.

Ethernet MAN

Telstra Ethernet MAN is a Metropolitan Area Networking (MAN) service enabling customers to build their own ethernet-based Local Access Network around a Telstra exchange with an IP MAN point of presence. With an Ethernet MAN solution, customers need not worry about the infrastructure challenges in developing a high speed metropolitan data network solution that connects multiple local office sites.

Ethernet ATM

Telstra Ethernet ATM offers customers a very high-speed ethernet interface to their ATM data service and is available with access speeds of 10Mbps, 20Mbps, 50Mbps and 100Mbps. With an Ethernet ATM service, companies can benefit from the reliability of Telstra's national ATM network with the advantage of having an ethernet interface.

BDSL

Telstra BDSL is a premium, business-grade broadband service designed to meet the needs of customers requiring simple, high speed data services in a symmetric fashion. This service is based on G.SHDSL technology, which allows for symmetric upstream and downstream data transfer.

ADSL

Telstra ADSL technology allows the transmission of high-speed data over an existing PSTN basic access service. With ADSL services, the user's connection is effectively 'always on', providing access when needed. Telstra ADSL solutions are best suited for organisations seeking effective internet browsing, email and sending and receiving file attachments.

Telstra Internet Direct (TID)

TID offers a high-performance, carrier-grade, dedicated connection to one of the largest internet backbones in Australia, utilising Telstra's unequalled breadth of data access services. Whether a small business, multinational, government department, educational institution or not-for-profit organisation, TID can provide the right internet connectivity solution and has the option of subscribing to anti-spam, anti-virus and Telstra exchange mail services. TID ensures companies have the best access to the World Wide Web, and enables them to better serve their customers and transact with their suppliers.

Remote Working

Telstra Remote Working Solutions (TRWS) enable a company's employees to connect

directly and securely to its private corporate network, using a comprehensive selection of access technologies. Telstra Remote Working Solutions (TRWS) deliver a single client interface supporting highly secure remote access via a full range of domestic and global access technologies, such as dial-up, ADSL, Next G™ network Mobile Broadband, Ethernet access, and wi-fi. The solution offers advanced security policy enforcement options and secure, integrated authentication of end users. TRWS includes integrated reporting, billing and helpdesk support.

6.2 Data Services

Telstra Data Services are underpinned by the Telstra Next IP™ network and Next G™ network. Together they create a powerful, single integrated platform - Australia's largest fully integrated national IP network.

The Telstra Next IP™ network (refer Section 5.2) is a fully integrated fixed line network that can create new business opportunities and help deliver a better user experience over IP infrastructure. It does this by providing greater scale, reliability and robustness, and support for more advanced features.⁶

Manufacturers are able to access the full variety of Telstra data services, based on these core networks.

IP Solutions – (IP WAN)

Manufacturers migrating to IP WAN (refer Section 6.1) and similar services are generally working to resolve the following issues:

- Consolidation of disparate networks (often secured during mergers and acquisitions) for IT interoperability
- The need for network convergence to obtain cost economies with voice, data and enterprise applications
- The need to reduce in-house costs associated with managing a private IP network
- The requirement for a single point of accountability for the core network
- The need to have rapid scalability to deal with company growth/downsizing
- The requirement for value-added services, including security and risk management.

Many companies do not fully realise the extent of costs and risk associated with managing their own IP network. The complexities of day-to-day network management, various vendor arrangements, ensuring service optimisation, and business continuity, all divert a company away from their core business activities. By connecting to IP WAN through Telstra, the responsibility for managing such a network shifts from the customer to Telstra. Telstra deals with the complexity and risks associated with a corporate data network and designs a tailored solution to meet business growth aspirations.

IP WAN meets the changing needs of Australian manufacturers who require:

- The ability to access their corporate network from most places (home, hotel, airport, overseas, on the road). Telstra provides secure access to corporate networks from around the world via a range of access types, including PSTN, ISDN, IP Remote, GPRS via IP Wireless, ADSL, Business DSL, Frame Relay, ATM and Ethernet via IP MAN
- The flexibility and breadth of the Internet with minimal security risk. Telstra

Only Telstra provides Australia's largest fully integrated national IP network

The Telstra Next IP™ network provides greater scalability, flexibility and security. Designed for 99.999% reliability, it also offers Quality of Service and Class of Service to improve network performance

IP WAN offers simple, cost-effective connectivity across multiple sites

Organisations that manage their own networks can incur significant cost and risk

IP WAN delivers improved access, security, flexibility and scalability

provides a transparent end-to-end view of the customer's landscape. This includes built in security solutions, 24/7 dedicated monitoring centres, a single point of accountability enabling rapid response and recovery measures, and quality network performance, including single SLA across IP and access

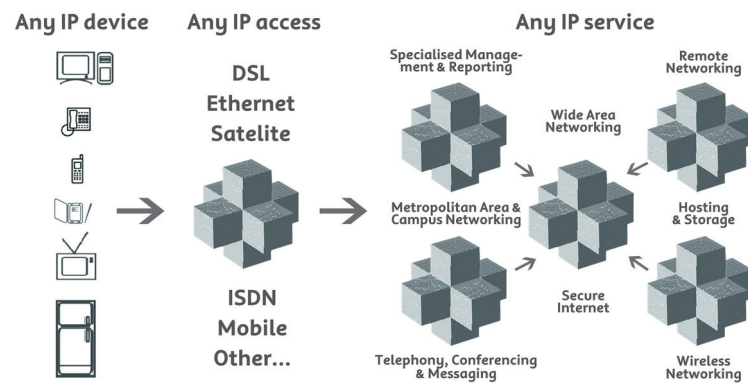
- Data networks that can scale to match growth and budget. This allows manufacturers to deploy capital and OPEX (particularly skilled IT labour) elsewhere in the business. Customers gain increased operational efficiency, flexibility and scalability through highly secure, reliable interconnectivity.

Telstra IP solutions can be used alone or combined for a complete enterprise-wide solution

The products comprising Telstra IP solutions such as IP Remote, IP WAN, IP MAN and IP Wireless can be used individually or 'dove-tailed' for a complete, enterprise-wide solution Australia-wide and internationally. Although Frame Relay access into Telstra IP WAN is one of the most popular access options for IP WAN, a fundamental strength of the product is that the same IP core network can also allow a number of other access types such as ADSL, Business DSL, ISDN and Next G™/GPRS. Companies can select a different access type at each of their sites depending on the type of applications they are running, bandwidth required, geographic coverage, service performance requirements and budget.

The Value Added Services available with IP WAN enable customers to securely access their network remotely, connect to the internet and to segment their network into zones to limit security risks. In simple terms, IP WAN provides the 'glue' that allows any-to-any IP connectivity for any IP application.

Chart 1: Value Positioning Summary Data IP WAN



Source: Telstra

6.3 Voice, Unified Communications (UC) and Collaboration

Most businesses derive immediate benefits from implementing all or some of the elements of UC. Key benefits include increased efficiency and productivity, cost reduction, ease of management, ability to integrate new applications and business process improvement.

The Future of Unified Communications in Australia by Andrew Milroy and Audrey William, Frost & Sullivan, 2009⁷

Research house Frost & Sullivan note⁷, “Carriers, such as Telstra, are able to offer UC solutions that provide assurances around network performance, in addition to integration skills and capabilities. They can typically offer UC application functionality as a hosted service, a managed service, an on-premise solution or offer a blend of these delivery models. Furthermore, they typically have partnerships with leading UC product vendors and can offer references. Indeed, around one third of IT decision makers in Australia perceive Telstra to have a strong understanding of UC, positioning it well in the nascent market.”

Telstra's UC solutions can offer key productivity outcomes at the personal, workgroup and enterprise level

Telstra is providing an evolving range of services that unify communications to improve the way manufacturing organisations work. This evolution is market-driven, reacting and driving the need for simplified interactions; collaborative applications; the integration of remote and mobile workforces; real-time decision making; competitive differentiation; real-time enhanced customer service; and the need for a reduced carbon footprint. The proper application of UC solutions, including conferencing and collaboration tools, offers the modern manufacturer key productivity outcomes – at the personal, workgroup and enterprise levels.

Telstra can simplify the processes used to enhance communications and increase speed to market

Telstra's expertise in this area allows the simplification of the processes organisations use when reducing communications boundaries, improving real-time, all-the-time contact capabilities, improving speed to market, and accessing remote and mobile workforces. Using the Telstra Next IP™ network and Next G™ network combined with Telstra Next Generation Services™, Telstra provides a first-class service across multiple channels and devices that are backed by the highest level of service performance and coverage. Telstra also has some of the most experienced people in the industry, working in more places to deliver efficient service and the best possible customer experience. This includes 2400 customer facing specialists dedicated to Telstra Enterprise and Government customers. Telstra provides an end-to-end, integrated Unified Communications solution for today, tomorrow and the future enabled by the Telstra Next IP™ network and Next G™ network.

Telstra is undergoing a massive transformation in the way it does business. At its core is a recognition that, along with the rest of the world, the way Australians do business is changing. This transformation will fundamentally replace much of the information and communication infrastructure of the Australian economy.

Telstra's transformation is focused on improving performance and productivity and passing these benefits on to customers

Yet, Telstra's transformation is much more than building world-class networks – it's about new ways of doing things, the improved performance and productivity this enables and the benefits it brings to its customers and the way they work.

Of course, Telstra cannot, and does not, do this on its own. It has built value-enhancing relationships with world leading vendor partners including Aastra, Alcatel-Lucent, Broadsoft, Cisco, Ericsson, Genesys, Mitel, Polycom and Voxify to deliver the best possible voice and UC solutions to Australia's manufacturers. This allows Telstra to reduce the complexity suffered by manufacturers having to manage multiple suppliers, enabling them to focus on their core business.

6.4 Conferencing and Collaboration

Telstra also offers a full-suite of conferencing and collaboration tools.⁸ Telstra's capabilities include, but are not limited to, providing the following tools.

Telstra Phone Conferencing is easy to use, reliable, secure and economical

Audio Conferencing⁹

Telstra Phone Conferencing provides a cost-effective, time-efficient means of meeting and collaborating with colleagues, suppliers and customers. Telstra Phone Conferencing is accessible from phones in Australia, easy to use, reliable and secure, and available with a range of productivity features, including an invitation system and integration with Microsoft Outlook. The service allows from two to over 1000 phone conference participants to talk together, as if in the same room.⁹

Telstra offers a range of video conferencing services for life-like virtual collaboration

Video Conferencing¹⁰

Telstra Video Conferencing, incorporating high-definition video delivery over the Telstra Next IP™ network, can create a virtual experience, which is like communicating face-to-face. The old world of poor quality video conferencing that takes half a meeting's time just to connect is long gone. Telstra now enhances business communications and transforms collaboration between colleagues, customers and suppliers, using virtual face-to-face meetings. Among options Telstra offers are: live on-screen communication; desktop, mobile, portable and dedicated high resolution viewing; and a range of versatile conferencing modes. Telstra's video conferencing services span from simple desktop video to fully immersive, true high definition telepresence solutions, in purpose built meeting rooms.

Telstra can provide a true end-to-end video conferencing solution incorporating equipment, installation and service right through to specialist on-going support. It has over 20 years experience in providing videoconferencing services, combined with Australia's largest fully integrated national IP network. Telstra also provides an on-line demonstration of IP video collaboration that will assist in explaining to senior management the new world of video conferencing.

Reducing complexity associated with end-to-end video conferencing solutions is paramount for the success and adoption of next generation high definition video. Telstra has addressed this issue through the development of 1 Touch Video™ Service. This service includes design and deployment of video conferencing equipment, access, data carriage, training and management, all for a simple fee per month. Delivered over Telstra's IP Video Network, 1 Touch Video™ provides complete e2e video for intra and inter business video communication.

To learn more about Telstra's 1 Touch Video™ Service, go to this vodcast¹¹: www.telstraenterprise.com/newsevents/NextNewsletter/Pages/feb09techsolu.aspx

Telstra Web Conferencing enables users to meet and share documents online, securely and at short notice

Web Conferencing¹²

Telstra Web Conferencing allows users to meet, share documents and collaborate from multiple locations in real-time using web based technology, and allows for improved conferencing outcomes. Using this service, manufacturers can view presentations and documents in real time, allow guests to share and amend documents without software, and host meetings from any location with internet access.

Telstra offers a scalable, secure web conferencing platform operating in real-time, and at short notice. Telstra Web Conferencing even integrates audio and video functionality for an even richer online experience. In this area of conferencing, Telstra's manufacturing customers can take advantage of the power and reach of the Telstra Next IP™ network and Next G™ network and specialised conference management services for critical or large events.

Telstra was awarded¹³:

- Australia's Best Practice Awards, Market Leadership in Conferencing Service, 2008
- Australia's Best Practice Awards, Market Leadership in Managed Telephony 2008.

Telstra contact centre solutions can help deliver better customer service, improved agent productivity and lower costs

A hosted contact centre solution can minimise CAPEX and rapidly scale to meet demand fluctuations

Motorola's survey shows high ROI for enhanced mobility through improved productivity, customer service and supply chain efficiency

6.5 Contact Centres

Telstra Next Generation Services™ provide a complete portfolio of contact centre and enterprise speech solutions designed to help manufacturers retain more customers through better service, improved agent productivity and lower costs. Telstra's expertise enables them to optimise application integration to meet the exact business needs of a manufacturing organisation, and ensure that contact centre solutions perform at peak.

Telstra can host, co-host or manage contact centres and can connect service representatives where the expertise resides – online, at home or in the office. A hosted solution on Telstra's network for contact centres requires minimal capital investment and, in most cases, no additional on-site equipment. This allows organisations to scale up and down to suit staffing levels and business demands.

Telstra already manages more than 30,000 contact centre seats in Australia and carries more than 100 million customer calls, many of them for the manufacturing industry.

6.6 Mobility

In 2008 Motorola undertook an extensive survey of Enterprise Mobility in the manufacturing industry.¹⁴ Among the findings were:

- High ROI has been found in task-worker mobility applications such as preventive maintenance, asset management and tracking, and data collection
- Wireless capability was rated as the most important criterion when assessing mobile devices, ahead of both device durability and price
- Increased access to and availability of data leads to lower operational costs and reduced down time of key assets
- Key benefits include employee empowerment/heightened productivity, supply chain and inventory efficiencies, improved customer service, and competitive advantage/differentiation gained from mobile access to real-time information
- The key mobility applications were inventory/materials management, maintenance/repair, and quality assurance.

Two key facts emerged:

- 71% of all respondents believe mobility is more important today than two years previously

Manufacturing is lagging behind in IT spend on mobility

- Workers were recovering an average of 52 minutes downtime per day as a result of using mobile devices and wireless technology.

However, the survey also identified that manufacturing was a laggard industry in IT spend on mobility, with an average of 15.9% of IT and telco budgets allocated to mobile and wireless technologies, compared to 18.5% overall for other industries.

Mobile solutions are enabled by the Telstra Next G™ network, Australia's largest and fastest mobile broadband network. To help manufacturers integrate mobility effectively and securely into existing business systems and applications, Telstra offers services to design, deploy and manage networks, devices and applications.

Most manufacturers wish to provide fast, secure, mobile access to business applications and communications to support their business goals. Telstra employs mobile solution specialists who can assist with strategies for a distributed workforce. Whether it is customised device configuration or the complex integration of business applications into a mobile environment, Telstra has a range of solutions that allows mobile manufacturing employees to be more productive, focusing on providing a simple user experience while ensuring that all relevant security policies are enforced.

Once a solution is deployed, Telstra can also provide managed services to assist companies to inventory, update and secure devices remotely and provide ongoing training. As mobility is now a vital part of the future of all manufacturing business, an Appendix is included at the end of this document: Appendix 2: Mobilising Your Business.

7. TELSTRA NEXT GENERATION SERVICES™

An increasing number of Australian businesses are seeking a strategic business partner who understands their corporate goals – one who has the insight, technology and expertise to deliver the right network foundation to support new ways of working.

Globally, organisations are making a fundamental shift in the way they do business. They are embracing converged applications that incorporate voice, video and data, and in turn, new working practices that enable them to collaborate and connect in new ways.

Telstra gives organisations tools to increase productivity and become more responsive

Telstra Next Generation Services™ are designed to create a smooth, low-risk transition to a new way of working

To help organisations to realise the potential of connecting differently with partners, suppliers and colleagues, Telstra developed products backed by the power of the Telstra Next IP™ network and Next G™ network. They give organisations the tools they need to help increase productivity and become more responsive in a dynamic business environment.

Telstra's portfolio of Telstra Next Generation Services™ is designed to help enterprise customers make a smooth, low-risk transition to services that can be delivered either as projects or as managed services by the specialist Network Enterprise Services team. The team provides a complete network service, including everything from day-to-day network operations to strategic planning and optimisation. Customers can choose the level of service that suits their business goals.

Telstra offers a comprehensive suite of professional and managed services around the following solutions:

- Unified Communications
- Security
- Mobility
- Networks
- Contact Centres
- Industry Solutions
- Hosting and storage.

7.1 Telstra Network Services

To help provide a smooth, low risk path to a new way of working, Telstra's expert consultants can build a network roadmap for manufacturers, design solutions and implement them, and help transform their business by managing ICT projects, end-to-end on their behalf – utilising a team of highly skilled people and a history of proven deployments.

Telstra Network Services are designed to help customers manage costs by simplifying the network environment that underpins their business systems and providing a single point of service delivery across the organisation.

Telstra Network Services design and deploy ICT solutions to transform and simplify the network environment

Telstra Managed Network Services®
manage networks and assets to
maximise operational uptime and
lower costs

Telstra Strategic Network
Outsourcing® manages every facet of
network operations so customers can
focus on core business

Telstra provides world-class networks
and facilities, exceptional experience
and recognised best practices to
enhance performance while
reducing cost and risk

7.2 Telstra Managed Network Services®

Telstra can manage manufacturers' networks for them, ensuring network service is available to the agreed service levels, using highly skilled people and world-class tools to monitor their operation and report on performance and capacity utilisation.

We can also manage customers' assets through their lifecycle and provide regular maintenance to ensure peak network performance.

7.3 Telstra Strategic Network Outsourcing®

Telstra can assume management of every facet of network operations, from relationship management to Service Level Agreements. A dedicated Customer Management Team manages the relationship between the company, Telstra and any third parties, and assumes end-to-end management of network service delivery. Which means manufacturing companies can focus their resources on their core business, while enjoying a smoothly managed, highly secure and highly available network.

World-class facilities

Telstra offers a worldwide network that's more available and secure, with the first Global Operations Centre of its scale, and a Managed Network Operations Centre providing 24x7 visibility into network activity. Using advanced tools, Telstra can detect threats and prevent network problems before they happen and respond rapidly to restore services in the event of disruption.

A skilled team

The breadth and depth of knowledge within Telstra's Network Enterprise Services ensures that there are experts managing every aspect of manufacturing company's networks 24x7. Telstra's combined expertise and knowledge helps to reduce risk and costs, while optimising network performance and reliability. This collective wisdom also gives user companies access to proven methodologies and technologies that can be deployed with less risk and at lower cost.

Best practice

At Telstra, disciplined project management, based on Project Management Institute (PMI) methodology, helps customers meet their current rigorous compliance demands, as well as planning for future imperatives.

Telstra champions many internationally recognised standards to ensure stakeholder confidence regarding governance, reporting, change, risk, resource and quality management. When it comes to obligations, Telstra's best practice processes are designed to not only meet, but to anticipate and exceed customer expectations.

8. CONCLUSION

Telstra is clearly one of the most important providers of ICT to the Australian manufacturing industry – whether they are base carriage services such as voice, mobile and data, or in the increasingly important world of Telstra Next Generation Services™. Telstra's expertise in this area, coupled with the ubiquity of its high speed fixed and mobile networks, makes a compelling case for any manufacturer to discuss its current and future needs with its Telstra Account Representative, and to maintain an ongoing dialogue as a bulwark against competitive pressures in these uncertain economic times.

9. FOR MORE INFORMATION

Contact your [Telstra Account Executive](#)

Click www.telstraenterprise.com/productservices

Call [1300telstra](tel:1300telstra) (1300 835 787)

10. ABOUT THE AUTHOR

Rocky Wood is the Industry General Manager, Manufacturing, Transport & Logistics for Telstra Enterprise and Government. Based in Melbourne, Rocky is responsible for overseeing Telstra's customers in these industries. An industry veteran with over 25 years experience, he is an expert in designing and delivering enhancements across a wide range of business areas, including productivity and customer service. He also specialises in supply chain transformation which includes warehousing, domestic and international transport.

Prior to joining Telstra Enterprise and Government, Rocky spent five years as the General Manager - Logistics for Visy. In this role, he restructured their logistics division, including developing and launching a new internal business division focusing on supply chain transformation. Rocky's earlier roles included Managing Director of UPS in Australasia, Regional General Manager Europe of TNT and senior executive at Australia Post Logistics.

Rocky is the inaugural chairman of the Information and Communications Technology Committee for the Australian Logistics Council.

11. APPENDICES

APPENDIX 1: THE TELSTRA NEXT G™ NETWORK

THE FACTS

Speed

- Australia's Fastest National Mobile Broadband Network
- Typical customer download speeds range from 550kbps to 8.0Mbps in selected CBD, metro and regional areas
- Actual speeds vary due to factors such as distance from the cell, local conditions, user numbers, hardware, software, download source and other factors.

Coverage

- 2 million square kilometres – 2x larger than competitor 3G networks in Australia
- 99% of Australia's total population; 100% capital cities
- Provides superior coverage in more buildings, car parks and lifts than any other 3G network in Australia
- Next G™ coverage depends on your location, device and if it has an external antenna.

Signal penetration

- 850MHz spectrum – unlike some of our competitors (who use a patchwork of different networks and frequencies to deliver coverage), the Next G™ network is 3G at 850MHz across the entire coverage footprint. It has been built from scratch for further needs, rather than a bolt-on upgrade of an existing system
- Because it operates in a superior frequency range and has more base stations than its competitors, customers have access to higher download speeds in more places.

THE BENEFITS

One integrated network

- A great experience for users across both the Telstra Next IP™ network and Next G™ network.

Wireless Applications

- Partnerships with leading application providers such as Microsoft, Xora, Navman, Trimble and more. Telstra can work with customers to deliver and support end-to-end solutions.

APPENDIX 2: CASE IN POINT: MOBILISING YOUR BUSINESS

The following is an analysis of how manufacturers can and should go about mobilising their business, as business needs demand, and technology now allows.

Wireless Business Applications – Capability Statement

Telstra, through Wireless Application Services Partner Program (WASPP), has developed exclusive partnerships with the best-of-breed application developers in the market to provide mobility solutions. Telstra's mobility solutions offer an end-to-end solution by bringing together software, network access, professional services, support and devices to enable you to mobilise, automate, streamline and standardise field processes.

Telstra, the largest ICT provider in Australia, provides unmatched wireless and wired network infrastructure in Australia and world-class mobility experience and capability to mobilise your business. Telstra's mobility solutions give manufacturing customers a single point of vendor accountability to simplify project planning, development, deployment and support. Throughout the delivery process of the mobility solutions, our skilled and experienced mobility experts will collaborate with customers to:

- Understand current business process for field force and identify the pain-points
- Determine how a mobility application can enhance business process and address the pain-points
- Develop a commercial proposition and business case that meets specific capital and operational requirements
- Deploy and integrate the solution into the business.

Why mobilise your business?

With the advance of mobility technologies, companies can now enable their field workers to securely access and update critical field information in real time when they are away from the office. Companies are now also able to track and monitor the location and status of their field workers and service vehicles in real time through the development of mobility applications. The mobility applications are driven by business need to improve business efficiency and streamline field operations in order to meet the increasing competitive challenges and customers' increasing service expectation.

Frost & Sullivan research¹⁵ has identified the following key benefits that can be derived from mobile applications:

- Increase productivity
- Improve customer service
- Address skills shortages
- Transform business processes
- Improve work/life balance.

Increased Productivity

The use of mobile applications can help increase productivity in many ways including:

- **The elimination of manual paper-based activity** – Many processes

performed by mobile workers are highly dependent on paper-based manual processes. The introduction of mobile applications can eliminate the need for paper-based activities within some processes

- **Increased revenues** – Rapid information exchange can allow sales to be closed on the spot, shortening the sales cycle and converting a higher proportion of prospects into customers. Furthermore, from a task-based perspective, employees can redirect effort previously spent on paper work and refocus on activities that drive real revenue outcomes, such as more jobs completed per day
- **Improved ROI** – An investment into mobile applications can deliver a rapid ROI. The potential for both cost reduction and revenue increases can help provide a fast return on investment
- **A reduced need for petrol** – With oil prices increasing, the efficient utilisation of vehicles is becoming more important to organisations. Mobile applications that allocate jobs to workers that are located closest to a customer site (using location based services) can assist in reducing fuel consumption. Reduced fuel consumption also helps organisations to reduce their carbon emissions. Legislation that is designed to reduced carbon emissions, together with carbon trading will further increase energy prices. If enacted, this will lead to greater focus within organisations on the reduction of fuel consumption
- **Fewer vans and people needed** – Using Mobile Resource Management (MRM) applications helps companies to get a greater return on their assets. This means a mobile workforce may be able to achieve more with fewer employees and fewer vehicles if MRM applications have been deployed. MRM applications also reduce the amount of administrative work that is required by an organisation and decrease the costs incurred by using contractors
- **Greater ability to complete remote tasks accurately and on schedule** – Mobile applications can offer real time information exchange enabling tasks to be completed more accurately as well as ensuring the tasks are completed on schedule.

Improved Customer Service

Customers are increasingly demanding a commitment to service levels, response times, and more accurate arrival times. Organisations need to optimise their operations to achieve highly efficient and agile mobile workforce. From a task-based perspective, mobile applications can allow companies to be more responsive to activities in the field.

For example, unscheduled maintenance can be handled more rapidly and efficiently using MRM applications. MRM applications can typically improve customer service significantly by delivering products or services on schedule and more reliably than is usually the case when such technology is not being used.

Skills Shortages

Even in an uncertain economic environment, there is a continuing shortage of technically skilled labour in the Australian economy and in the manufacturing industry. Mobile applications, particularly in the MRM space, can dramatically lower labour requirements by using existing labour more efficiently.

In Australia, much demand for mobile applications is driven by a need to increase labour productivity. Additionally, companies that fail to deploy key new technologies, such as mobile applications, risk being viewed as unattractive employers by younger workers. Indeed, enabling staff to complete some work functions without returning to offices offers greater flexibility and empowerment in carrying out roles.

Business Process Transformation

In recent decades, IT has played a major role in transforming business processes. For example, the successful deployment of Internet technology has enabled many retailers to use the Internet as a major channel to market. This has had a profound effect on supply chains, resulting in increased supply chain collaboration and disintermediated supply chains. Similarly, mobility will increasingly have a transformational effect on key business processes. Both mobile banking and mobile retail will become commonplace over the next few years, radically transforming existing business processes.

Improved Work/Life Balance

An increasing proportion of today's workers undertake their work activities remotely. This is the case with both task-based and knowledge-based workers. Home working has become increasingly common, as have flexible working hours. Mobile applications can facilitate and support this trend by allowing workers to focus on activity completion without the distraction of being fixed in one location. Some workers, particularly knowledge workers, may choose to complete certain activities outside traditional working hours and to undertake domestic or personal activities in traditional working hours. Mobile applications can enable this and allow workers to balance their domestic activities with their work activities in a way that suits them personally.

Additionally, from a task-based perspective field service workers can use mobile applications to minimise 'dead time'. In other words, they can travel straight to a job from home rather than commuting to a depot and being given a list of jobs. Such workers will have less downtime and are able to maximise their billable hours.

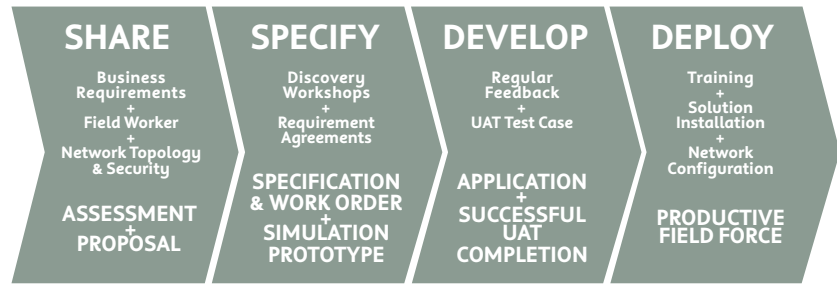
Telstra's approach to mobilising your business

Telstra has developed an iterative solution development process to understand a company's business processes, and their challenges and pains in relation to their current processes. Telstra defines ways of utilising mobile computing to relieve the pain and enhance current business process and delivers a solution on time and within budget. More importantly, the solution will deliver real benefits, with the built-in flexibility to rapidly adapt as business needs change in the future.

Telstra's solution development process consists of the following four key phases:

1. **Share** Mobility Assessment
2. **Specify** Discovery Workshops and Functional Specification
3. **Develop** Mobile Application and User Acceptance Testing
4. **Deploy** Rapid Deployment Process

Chart 2: Solution Development Process



Source: Telstra

Share

The initial Share phase is designed to identify the current business model of your field force and determine how a mobility solution may enhance the current ways of working. Telstra will offer a Mobility Assessment to assess your current field processes and produce a document to help identify and build a business case to better mobilise your field operations. The Mobility Assessment exercise encompasses assessments in the following areas:

- The current processes used in the field
- The benefits of mobilising the business process
- Solution architecture and solution options.

The Mobility Assessment is necessary in this phase to:

- Capture your business drivers and business pain-points
- Brainstorm on the potential mobility components such as sat-nav, bar code scanners, signature capture
- Understand how your field workers work in the field and identify the potential improvements
- Capture your field workers' view-points and pain-points
- Understand where the backend data is and how it can be accessed
- Develop a high-level view of network topology, user authentication and other security considerations
- Understand the logic used for job dispatch
- Identify the data required from the field for job dispatch.

After Telstra presents and discusses the Mobility Assessment results with a company, if it decides to proceed to building a solution, Telstra will provide an indicative commercial proposal to move into detailed design and specification.

Specify

In the Specify phase, the Discovery Workshop will further assist a company's effort to mobilise the key business processes. Telstra will help the company's project team and sponsors focus on detailed aspects of the mobilisation process to deliver rapid time-to-value.

Participants will define the proposed business processes to be supported by mobility solution as well as the information required to support the defined application. Finally, participants will define specific success criteria including the specific metrics and method of measurement.

The Functional Specification serves to document both the new mobility processes and workflows as well as designing and documenting the changes to existing non-mobile processes. A company's acceptance sign-off serves as acknowledgement that the project is working as intended. Once Telstra receives acceptance of a company's sign-off, the Functional Consultant and other team members of the project team may commence preparation of the simulation or prototype of the solution and the training material.

Develop and Deploy

The final step of the solution development process is the Rapid Deployment Process. Through years of direct experience with a multitude of customers across various industries, Telstra has created a deployment process that balances the discipline necessary to achieve consistent and repeatable results with the creativity required for developing innovative and costs-effective solutions.

Telstra's professional services team and partners will utilise the Rapid Deployment Process to help ensure a company's success by positioning the company for future growth and accelerating its field productivity, leaving it more time to focus on revenue generating activities.

The Rapid Deployment Process introduces five phases to define and refine the solution. Each phase consists of a discrete set of activities organised into a project plan producing well-defined deliverables that contribute to the overall solution. The five phases of the Rapid Deployment Process are:

- Business Process Gap Identification
- Solution Requirements Definition
- Solution Design
- Solution Implementation
- Solution Testing and Validation
- Solution Delivery.

Telstra's People

Telstra provides a single point of contact and accountability from business requirements gathering to ongoing training and support through our mobility experts. Telstra's mobility experts take a hands-on collaborative approach to planning, developing, deploying and supporting customised or off-the-shelf mobility solutions. With their business mobility expertise, our mobility experts will provide in-depth due diligence analysis to minimise your risk and maximise your return of investment.

Telstra has many qualified and experienced sales professionals.

SOLUTIONS – WORKFORCE MANAGEMENT & FLEET MANAGEMENT

WORKFORCE MANAGEMENT – ENTERPRISE MOBILITY SOLUTIONS (EMS)

What is it?

EMS is an end-to-end wireless mobility solution designed to support the needs of your mobile workforce, whilst streamlining and automating mobile business processes.

EMS provides mobile workers with secure access to the critical data and applications they need. It integrates the data they collect back into your business systems, and enables you to extend existing enterprise data and processes to the field. What's more, your business processes are mapped and defined within the application to ensure governance and compliance across critical operations and activities.

Features and Options

Telstra's EMS is an end-to-end solution, encompassing the following five components. Telstra provides a single point of accountability across all solution components:

- **Professional Services** – Telstra partners with best-of-breed system integrators to design, develop, implement, integrate and manage your mobile applications plus offer training and on-going support
- **Wireless Applications** – Pre-packaged or customised mobile applications designed to support client specific business processes
- **Platform** – Flexible integration adaptors for most enterprise applications including SAP, Oracle, Oracle-Siebel, Salesforce.com, JD Edwards, Remedy and others. This allows you to maximise investments in your existing enterprise systems and create process consistency across office and field-based workers
- **Network** – The Telstra Next G™ network is the largest and fastest national mobile network in Australia – and together with the Telstra Next IP™ network forms Australia's largest fully integrated national IP network
- **Devices** – The EMS application framework supports a broad range of devices and operating systems. This allows you to choose devices and applications to suit your field processes, including processes that require signature capture, barcoding, RFID and mobile printing.

How does it work?

Telstra's EMS seamlessly integrates three key layers of your enterprise mobility solutions:

1. Your People

Whether they are business managers, mobile knowledge workers or workers in the field, your employees need access to a range of data and applications. Mobile applications can help automate, simplify and streamline the performance and management of tasks such as:

- Sales
- Field service (scheduled and unscheduled maintenance)
- Building, construction or equipment installation
- Equipment and asset inspections
- Quality and compliance inspections (e.g. OH&S, health, etc)
- Services (e.g. health, education, emergency, etc).

2. Your Network

EMS supports all current TCP IP based communication standards, including Telstra GPRS and the Telstra Next G™ network, to connect your business and your employees.

Your business can improve data security and management by routing data on the Telstra Next IP™ network. On this proprietary network, your data never touches public domain networks.

3. Your Business

Telstra EMS data comes through a firewall to an event-driven messaging system that manages the communication of data between distributed applications and backend data sources.

This then integrates to existing back-end systems and applications via the Dexterra Adapter Framework, which provides an extensible infrastructure for integrating with existing systems using point-to-point application adapters, technology adapters (such as MQ) and native database adapters.

The Dexterra Administrator, a web interface to manage the Dexterra Concert platform, can then be used to monitor and manage users and applications.

WORKFORCE MANAGEMENT – XORA™ TIMETRACK

What is it?

Xora™ TimeTrack is a business solution that runs on Telstra mobile devices and connects to a web-based management interface. It enables businesses to track and analyse the hours, jobs and locations of remote workers, such as those at work sites. When they start or finish a task, employees simply enter the information into their mobile handsets.

Xora™ TimeTrack provides:

- Critical field management data, including job activity, timesheets and locations using Telstra's location-based services and select GPS-enabled handsets
- Easy to use web-based management tools, including maps and reports
- Clear, powerful reporting capabilities based on time and location stamps
- Simple installation and management - because Xora™ TimeTrack is a fully hosted service, there's no need for client-installed servers or software. You can be up and running in a matter of days
- Mobile device flexibility - Xora™ TimeTrack is compatible with a wide range of Telstra mobile devices – so you choose what is right for your workers
- High security - Xora™ employs the latest encryption methods
- Robust performance - Xora™ TimeTrack solutions are designed to provide the highest level of service reliability.

Features and Options

Xora™ TimeTrack Lite

- Location Tracking - monitor the location of field workers and reduce communication costs related to locating field staff
- Landmarks - Landmarks can be created within Xora™, which allows them to be viewed on maps.

Xora™ TimeTrack BusinessPlus

Includes everything in Xora™ TimeTrack Lite and the following features:

- Time Tracking - timestamp the start and stop of all shift and job events
- Job Tracking - record the time a job starts and stops, calculate its duration, and collect job-specific data from mobile employees
- Job FlexFields™ - collect job data through either a mobile device’s keypad or through pre-defined drop-down lists
- Job Dispatch - create jobs within the Xora™ TimeTrack web dashboard and dispatch them directly to the appropriate field worker’s mobile device
- Data Integration - integrate data with back-office applications or databases via flat file or ODBC data exchange.

Xora™ TimeTrack Gold

Includes everything in TimeTrack BusinessPlus, and the following features:

- Enhanced Job Tracking - customise job statuses so that they align to your organisation’s workflow
- Enhanced Job Dispatching - streamline job dispatching and field worker responses
- Enhanced Flex Fields - take advantage of FlexFields™
- Recurring Jobs - send recurring jobs automatically - just “set it and forget it”
- Advanced Alerts - use special location-based alerting for jobs outside a job site or shift and overtime warnings
- One Touch Safety Alerts - enable users to send special, location-based alerts
- JobPix™ - add multimedia attachments to active jobs for signature capture, proof-of-delivery, proof-of-work, etc.

Table 2: Xora™ Time Track Features Summary

Core Features	Lite	BusinessPlus	Gold
Location Tracking	✓	✓	✓
Time Tracking		✓	✓
Job Tracking		✓	✓ enhanced
Job FlexFields™		✓	✓ enhanced
Job Dispatch		✓	✓ enhanced
Data Integration		✓	✓
Recurring Jobs			✓
One Touch Safety Alerts			✓
Advanced Alerts			✓
Job Pix™			✓

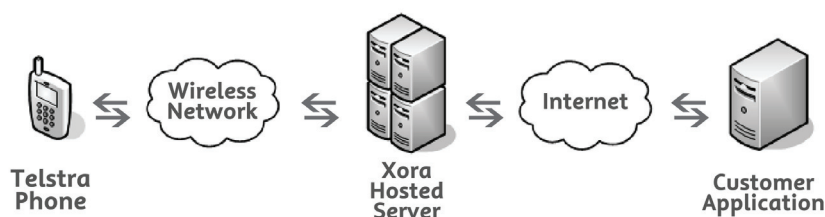
Source: Telstra

How does it work?

TimeTrack is a fully hosted service, so there's no need for client-installed servers or software. Plus, TimeTrack is compatible with a wide range of Telstra handsets, so you have the flexibility to choose the devices that are right for your workers.

Xora™ TimeTrack allows the exchange of time, job, and location data using XML-based standards.

Chart 3: Xora™ Time Track Data Exchange Flow



Source: Telstra

FLEET MANAGEMENT – TRIMBLE GEOMANAGER

What is it?

The Trimble GeoManager (Internet Location Manager) integrates GPS, wireless and internet technologies to enable more productive - and profitable - mobile resource management.

Powered by the Telstra Next G™ network, Trimble GeoManager can transform the way you manage and coordinate your vehicle fleet. From any internet-connected PC, your business can have anytime, on-demand visibility into your vehicles' locations and activities.

Whether you want to find the nearest vehicle to a job, dispatch text messages to workers, log work hours or view and print detailed reports, the Trimble GeoManager gives you the features and functionality you need.

Trimble GeoManager provides:

- A fully hosted environment, so there's no need for client-installed software or servers
- Easy-to-use, web-based management tools, providing you access to real-time, on-demand online mapping and reports of the present position of your vehicles
- On-demand vehicle and driver performance reports, enabling you to measure and compile routine performance reports faster and more accurately
- Enterprise integration, giving you the power to integrate your existing back office applications with the Trimble GeoManager platform.

Features and Options

- **MapView** – Quickly identify your vehicle locations through real-time, on-demand online mapping
- **Landmarks** – Define and post special destinations and locations in the

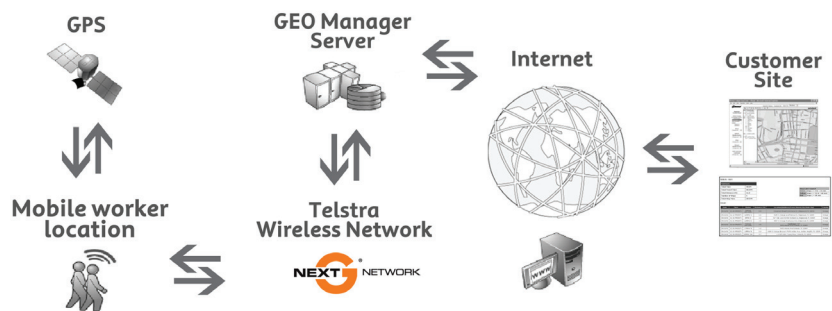
GeoManager customised mapping database then view them on the online map in relation to your vehicles

- **Geofencing** – Define virtual geographical boundaries on the online map and be notified when your vehicles travel beyond the defined areas
- **Exceptions** – Define and receive notifications for events such as travelling above the defined speed, arrival or departure from landmarks, excessive idling, and unauthorised vehicle use
- **Reports** – Access a range of activity reports such as driver logs, speeds, starts and stops and distance travelled, to measure driver and vehicle performance
- **Vehicle Maintenance and Diagnostics** – Receive automatic reminders when maintenance is required, view document service history, and with the GeoManager vehicle diagnostics module, monitor certain engine parameters, performance and warnings
- **Data Integration** – Integrate field data with your back-office application using XML through the GeoManager Application Program Interface (API).

How does it work?

The Trimble GeoManager solution works by combining GPS, the Telstra Next G™ network and the Internet.

Chart 4: Trimble GeoManager



Source: Telstra

The Trimble GeoManager unit and Vehicle Diagnostics module will read the location, speed and engine parameters of the vehicle and transmit the information over the Telstra Next G™ network to the Trimble GeoManager application server. The application server will process and translate the information into map and activity reports that enable customers to:

- Identify vehicle locations in MapView
- View Landmarks on the online map in relation to vehicles
- Get notified when vehicles travel beyond the defined Geofencing areas
- Receive notifications for events such as travelling above the defined speed, arrival or departure from landmarks, excessive idling, and unauthorised vehicle use
- View a range of activity reports such as driver logs, speeds, starts and stops and distance travelled
- Monitor certain engine parameters, performance and warnings with the optional Vehicle Diagnostics module.

The end user will be required to log in to a secure password protected web site to view the information.

APPENDIX 3: FIELD SERVICE CASE STUDY

A case study that illustrates the benefits of the application of mobile technologies is one outlining the challenge in transforming the management of Telstra's own 7200 field service units, the solution chosen and implemented and the benefits derived from the roll-out.

To view the written case study, click:

www.telstraenterprise.com/SiteCollectionDocuments/Case%20Studies/PDF/NDW%20CT%20Approved.pdf

To view the video case study, click:

www.telstraenterprise.com/SiteCollectionDocuments/Case%20Studies/Video/Case%20Study%20-%20Next%20Dimension%20Working.flv

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