

# Telstra's Transformation

*Australia's largest operator leverages the new Tellabs SmartCore® 9200 Series for its Multi-Service Edge Next Phase project.*

*By Joan Engebretson*



*Mike Wright, Telstra executive director for networks and access technologies*

***Mike Wright has his hands full. As Telstra's executive director for networks and access technologies, he's in charge of the Australian operator's latest ambitious project: double network capacity, introduce a next-generation content routing platform and reduce network costs through upgrades to its aggregation network.***

"The network is largely about maintaining network scale and managing growth, as well as taking evolutionary steps to improve reliability, enhance efficiency and expand services," Wright said.

A critical element of this plan is a new edge router, the Tellabs SmartCore® 9200 Series, which Telstra plans to deploy in 2012. Telstra also will deploy a new universal line card, a new Ethernet and IP line card and a new switch and controller card for the Tellabs® 8800 Multiservice Router Series (MSR), which Telstra has used since 2005.

Currently under development, the Tellabs SmartCore 9200 series is a high-performance IP and Ethernet platform capable of scaling to 1 Tbps per slot and 11 Tbps per chassis, offering ample support for future network expansion.

"The Tellabs SmartCore 9200 series really builds on the success of the Tellabs 8800 MSR series as a carrier-class edge routing platform, supporting IP/MPLS and Ethernet in a highly scalable solution with industry-leading capacity and application-oriented routing," said Tim Doiron, director of product management for the Tellabs IP and Mobile Internet group.

## **New Year, Twice the Traffic**

Over the past several years, Telstra has consolidated more and more traffic onto an MPLS and IP core. To support that evolution, Telstra deployed the Tellabs 8800 MSR series in a large portion of its network. Telstra has deployed nearly 300 Tellabs 8800 MSR series nodes and plans to add more over the next 18 months.

Telstra initially moved Frame Relay and ATM traffic onto its Tellabs 8800 MSR-based MPLS network, leveraging the Tellabs 8800 MSR's unique ATM PNNI-to-Ethernet interworking functions. Later the operator moved traffic from residential broadband customers onto the MPLS network, as well. This

network also supports Ethernet services and mobile backhaul.

Traffic on Telstra's aggregation network has been growing dramatically. For example, the residential broadband portion doubles every 12 months.

"We want to make sure we can continue to support strong traffic growth," said Arturo Cacace, technology manager for Telstra's Ethernet infrastructure and services. "We would like to expand our service offerings, enhance network reliability and efficiency and minimize costs."

Those requirements are driving Telstra's newest upgrade, known internally as Multi-Service Edge (MSE) Next Phase, which aims to further enhance the carrier's aggregation network according to a 2-phase plan.

The first phase, known as MSE Gen 2, is already underway and scheduled for completion in early 2012. In MSE Gen 2, Telstra is introducing 3 new cards to the Tellabs 8800 MSR series that will double network capacity, improve reliability, significantly reduce cost per bit and add new capabilities for Ethernet service delivery.

In the second phase, scheduled to begin in mid-2012, Telstra will deploy the Tellabs SmartCore 9200 series, which expands on the capabilities of the Tellabs 8800 MSR series.

"We plan to use the Tellabs SmartCore 9200 series to provide additional scalability, reliability and network efficiencies, ultimately reducing network costs," said David Robertson, Telstra director for transport and routing engineering. "In addition, the Tellabs SmartCore 9200 series can provide a platform for next-generation services."

### Change is in the Cards

The Tellabs 8800 MSR series nodes, which are part of Telstra's MPLS-based aggregation network, are today equipped with the Tellabs universal line card (ULC-2).

Telstra now plans to upgrade trunks and spares to the ULC-3, a next-generation universal line card that has a revised ASIC, a faster CPU and more RAM. Telstra expects the ULC-3 to improve performance and increase network reliability.

"By using the latest platform, we get better scale and reliability and lower unit cost," Wright said.

Telstra also plans to upgrade the switch and controller card (SCC-1) that is currently deployed in the Tellabs 8800 MSR series to a next-generation version of the card, the SCC-2. That upgrade will more than double chassis capacity, from 120 GB to 288 GB. Slot capacity and Ethernet port density will double, as well.

"Instead of the traditional hard disk drive, the SCC-2 uses solid-state storage," said Andrew Roberts, a sales support engineer for Tellabs who has been closely involved in Telstra's network upgrade plans. "That is one of the several design updates on SCC-2 that enhance network reliability."

The third new line card that Telstra will deploy is the Ethernet line card (ELC), which the carrier will use to support business Ethernet services. The new ELC is a more optimized way to deliver Ethernet with a higher density and lower price per port.

The move to the ELC at this time makes sense for Telstra because of the strong growth the carrier is seeing in Ethernet services. "If you look at our growth statistics, the real explosion is in Ethernet, DSL and wireless," Wright said. Using the ELC is a good move because the product represents "the latest generation technology with lower power consumption and lower unit cost."

### Better Awareness, Enhanced Reliability

Besides providing ample room for growth, the Tellabs SmartCore 9200 series also gives Telstra some powerful new tools.

"The Tellabs SmartCore 9200 series incorporates application awareness and OA&M capabilities beyond Layer 3 to help service providers understand what user applications drive their network,"

Doiron said. "Those insights enable them to both design accordingly and offer new revenue-generating opportunities."

Another capability of the Tellabs SmartCore 9200 series is built-in support for a 3G and LTE packet core. Although Telstra has no plans to adopt a packet core architecture immediately, the carrier likes the fact that the Tellabs SmartCore 9200 series will enable it to easily add that capability in the future.

The Tellabs SmartCore 9200 series also has several features aimed at enhancing reliability, including solid-state storage, the new Tellabs GeniOSTM carrier-grade operating system and a redesigned software architecture.

"We're always looking for the right time and opportunity to move to the next greater scale solution," Wright said. A key driver of the planned deployment, Wright said, is "to put the latest generation of the Tellabs platform into our network and use it to drive the most flexibility and lowest cost moving forward."

The Tellabs SmartCore 9200 series "has a lot of optional features to build future products on," Wright said. A content and security engine can provide the ability to "better understand how different customers are using the network

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The Telstra team: David Robertson, director for transport and routing; Mark Latham, senior technology specialist; Arturo Cacace, technology manager.

and over time, offer different service levels for different applications.” This functionality is built directly into the Tellabs SmartCore 9200 series’ line cards, enabling content inspection directly on line cards interfacing the network and making efficient use of precious chassis ports.

To develop those services, “we want to understand how the network is used,” Wright said. By enabling operators to maintain and analyze aggregate data about the types of applications that customers are using, application awareness can help gain that understanding.

Initially Telstra plans to deploy the Tellabs SmartCore 9200 series in “high-density parts of the network, where scale is needed or where we are looking to drive new services, such as DPI-based services,” Wright said. “We will continue to use the Tellabs 8800 MSR series in areas where Ethernet growth requirements are not as explosive.”

### Familiarity Breeds Content

Despite all of these upgrades, managing the new equipment should require minimal new training or procedures. That’s because Telstra will be able to manage its Tellabs network with a single, unified network manager for both the Tellabs SmartCore 9200 series and the Tellabs 8800 MSR series.

“We look at a lot of equipment from a lot of vendors,” Wright said. “One of the biggest factors we take into account as an operator is to maintain continuity in IT systems. Tellabs’

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manager makes integration easier and the decision to upgrade easier as well.”

That continuity includes some familiar faces. The Tellabs Global Services team has supported several other major Telstra projects, including its Next IPTM network. (For more information about Next IP, visit [www.tellabs.com/insight](http://www.tellabs.com/insight) and check out “Another Step for Telstra’s Next IP Rollout” in the Q3 2011 *Insight*.) That relationship continues with the MSE Gen

2 program and the Tellabs SmartCore 9200 series rollout.

“By working closely with Tellabs Global Services, we can get the most out of the platform,” Wright said. “We benefit from having their experts working with us.”

A team of Tellabs Global Services personnel is focused 100% on Telstra and even have desks located in Telstra offices. This close collaboration helps Tellabs in mapping out the direction of future products, Wright said. By working closely with Tellabs Global Services on an ongoing basis, Wright said Telstra has “direct input into where the partnership is going and a direct feed into the product area at Tellabs.” ■

**3G:** Third Generation

**ASIC:** Application-Specific Integrated Circuit

**ATM:** Asynchronous Transfer Mode

**CPU:** Central Processing Unit

**DSL:** Digital Subscriber Line

**IP:** Internet Protocol

**LTE:** Long-Term Evolution

**MPLS:** Multiprotocol Label Switching

**OA&M:** Operations, Administration and Maintenance

**RAM:** Random Access Memory

**TDM:** Time Division Multiplexing