

DWDM Makes a Difference at TIME



Capacity, reliability and Tellabs' support help the Malaysian operator win new wholesale and enterprise customers.

By Joan Engebretson

Hairun Nizam Hashim (left) and Azman Imen (right).

For TIME dotCom, the Ds in DWDM stand for “difference.”

TIME is a competitive carrier with a fiber optic network that covers a large portion of Malaysia and features 5 redundant routes totaling 6,000 kilometers. Until recently, TIME served its wholesale and business customers using SDH, but that technology did not provide the efficiencies the company wanted for its customers.

All of that has changed since the company deployed a DWDM network based on the Tellabs® 7100 Optical Transport System (OTS). The new network enables TIME to offer strongly differentiated, high-bandwidth services backed by SLAs. It is supported by a unique mesh protection scheme that provides sophisticated reroute capability to help ensure service even in the event of multiple fiber cuts.

After just a few months of operation, the new network already has helped TIME win new wholesale business from one major wireless carrier and attract significant interest from several others. In addition, the new network capabilities have generated strong interest on the part of key enterprises, including several in the financial industry.

Capacity and Confidence

TIME decided to make the move to DWDM because as Azman Imen, head of network roll-out, project management, for TIME, explained, “Our concentration is in the wholesale market, and we needed to have a very effective network that could provide 99.999% reliability.”

Capacity was another motivation. “SDH networks are subject to congestion, and wholesale customers now want more bandwidth,” said Hairun Nizam Hashim, transmission and service management engineer for TIME.

“We had a tight deadline,” Azman said, and of the vendors participating in the proof of concept, “Tellabs was able to keep to this.”

The maximum connection speed that the SDH network could support was 10 Gb/s. The new network can support as many as 88 wavelengths per fiber, with each wavelength providing 10 Gb/s connectivity. And in the future, the system can be easily upgraded to support 40 Gb/s or even higher data rates per wavelength.

Tellabs was 1 of 6 manufacturers that competed for the TIME business and had not previously supplied any equipment to the carrier. Tellabs won the business because its product was rated the highest in TIME’s stringent internal tests and because decision-makers were impressed by Tellabs’ responsiveness to their needs.

“What interested us most was the mesh protection,” Azman said.

Tellabs was one of only a few vendors that would be able to support mesh protection capability using GMPLS at the wavelength level. This was critical for supporting TIME’s 5 fiber routes running across Malaysia.

Tellabs is in the process of enhancing the Tellabs 7100 OTS to support this capability, which it has scheduled for delivery in third quarter 2010. By using GMPLS-based mesh protection at the wavelength level, each of TIME’s fiber paths will have 4 different backup paths. Traffic can be switched onto those paths instantaneously, helping ensure connectivity even in the event of multiple fiber cuts. This mesh protection scheme enables TIME to offer service with 99.999% reliability.

Proof on a Tight Timeline

Prior to deploying DWDM, TIME wanted to do a proof of concept involving a limited installation of the DWDM equipment.

Winning Wireless

Although the new DWDM network has been operational only since December 2009, TIME has won wholesale backhaul business from a major wireless carrier that the company had been trying to land.

“What we offered earlier was based on SDH, and they weren’t very keen,” said Azman Imen, head of project management for TIME. “But once we offered DWDM, we got the business.”

That wireless carrier, along with others, are impressed by the bandwidth and capacity TIME now can provide. With 88 wavelengths per fiber, capacity is virtually unlimited, and the 99.999% reliability that TIME can provide using its 5 fiber routes and Tellabs’ GMPLS-based mesh protection scheme was also an important differentiator.

“The wireless operators demand bigger bandwidth and the protection,” Azman said. And measured on a per-bit basis, the DWDM-based offering is less expensive than SDH-based alternatives.



TIME is proud of its network and confident that it is ready for any eventuality.

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Decision-makers were also impressed with Tellabs' global approach to customer support. To meet the schedule, Tellabs not only leveraged its extensive Asia-Pacific-based services expertise, but also sent people from its U.S. operations to help with the proof of concept.

“We were able to demonstrate the full ROADM functionality required,” said Chua Joo Kwang, Tellabs' regional sales director for Singapore, Malaysia, Thailand, Philippines, Hong Kong and Taiwan. “The proof of concept was completed in a very short time.”

Tellabs also made some modifications to the Tellabs 7100

OTS to help meet the unique needs of TIME's network, based partly on submarine cables connecting markets located along the country's 2 coasts. The use of submarine cables could have increased the solution costs, but Tellabs minimized the number of regenerators and other expensive components needed to reduce costs by about 35%.

TIME's network has a total of 66 nodes and includes 4 landing points in Malaysia, as well as 2 points in Singapore. Once Tellabs was chosen, the first phase of the network upgrade was completed in just 4 weeks, meeting TIME's ambitious deployment schedule. Additional phases of the network upgrade will roll out during 2010.

With the network in operation for just a few months, it's too early for TIME executives to estimate the savings thus

THE TELLABS® 7100 OTS ADVANTAGE

The Tellabs® 7100 Optical Transport System (OTS) initially caught TIME's attention because it provides GMPLS-based mesh protection at the wavelength level. This design offers automatic reroute protection even in the event of multiple fiber cuts and enables the carrier to offer 99.999% reliability.

TIME knew that high-resiliency, combined with the Tellabs 7100 platform's ability to support virtually unlimited bandwidth at improved price points, would be a hit with customers. Johari Raja Affendi, Tellabs' account rep for TIME, said that the Tellabs 7100 network will lead to potential growth in the enterprise market for TIME,

with more Tellabs® 7100 Nano™ products expected to be deployed and more services revenue generated in the process.

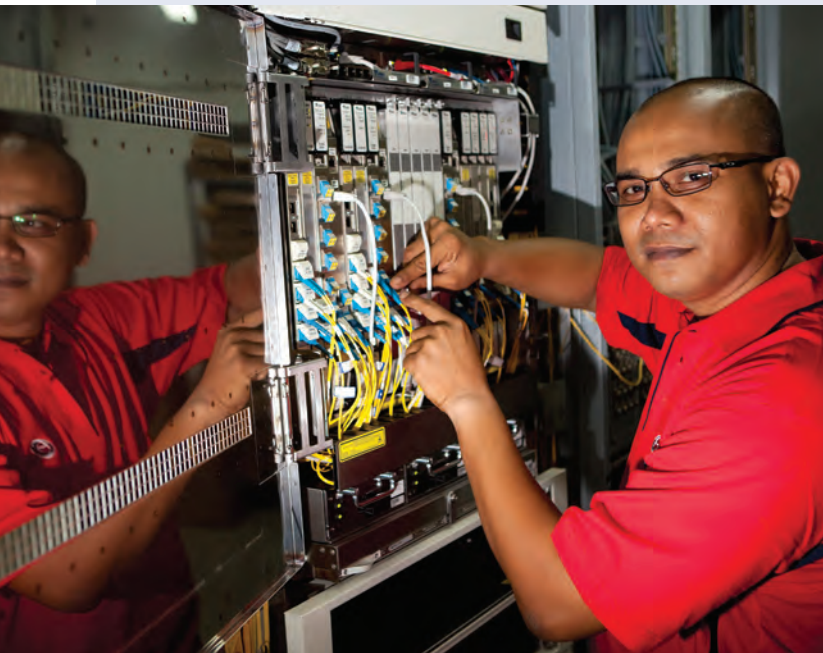
Other Tellabs 7100 OTS capabilities also can help TIME and other service providers differentiate their service offerings. One example is remote provisioning, which enables TIME to provision DWDM-based services for its wholesale and enterprise customers in less than 24 hours without a truck roll.

Customers also can add new services and locations quickly by adding new cards rather than new devices. That capability, in turn, can eliminate the need for customers to issue requests for proposal when expanding a service or purchasing a new one, thereby simplifying the sales process. And by eliminating the need for equipment ordering and installation, Tellabs' approach helps minimize customers' waiting times.

Service providers find the Tellabs 7100 OTS easy to manage, using the point-and-click capability of the Tellabs® 8000 Intelligent Network Manager (INM). The Tellabs 8000 INM also provides end-to-end performance monitoring and remote troubleshooting using unique testing tools that use live traffic at the packet level.

Despite these advanced capabilities, the Tellabs 7100 OTS is more economical than legacy solutions. One of Tellabs' North American service provider customers saw savings of up to 65% in CapEx and 85% in OpEx compared with its previous network.

Tellabs estimates that an upgrade to the Tellabs 7100 OTS delivers 4 times the bandwidth at less than 75% of the cost of legacy systems.



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far, but they expect a significant OpEx reduction. The DWDM network provides substantially higher bandwidth with fewer network elements and should be less expensive to operate, particularly when costs are calculated on a per-bit basis.

According to data from other Tellabs customers, a Tellabs 7100 OTS-based DWDM solution can deliver 4 times the bandwidth at 50% to 75% of the cost of legacy systems. Network elements and CapEx can be reduced by up to 65%, and OpEx can be reduced as much as 85%.

Strategy and Support

To help persuade TIME, Tellabs shared its experiences with Verizon, which uses a Tellabs 7100 OTS-based DWDM network to serve enterprise customers. TIME was at a stage where it was also looking at ways to widen its range of services, as Verizon had.

TIME also liked that Tellabs provided comprehensive post-sale support. TIME was eligible for Tellabs’ Enterprise Partnership Program, a sales support and training program aimed at helping Tellabs’ service provider customers sell more services based on Tellabs equipment.

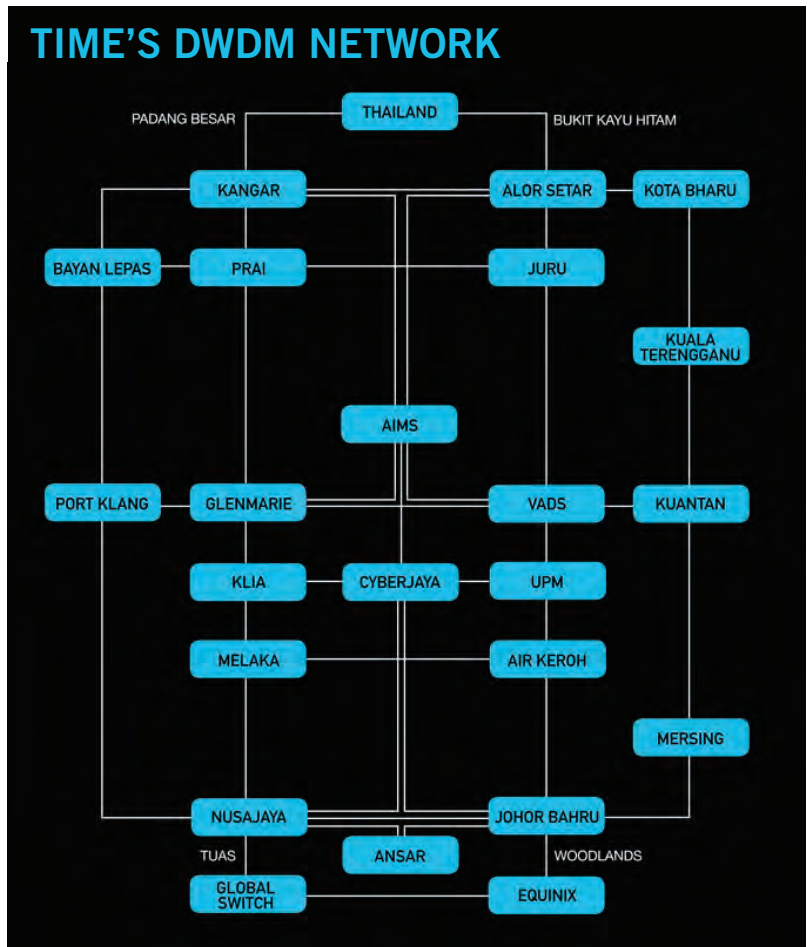
Tellabs personnel worked with TIME’s sales and marketing team to explain the benefits of features such as GMPLS-based mesh protection. Using the Tellabs 7100 OTS, TIME is able to provision services for wholesale and enterprise customers in less than 24 hours without a truck roll. (See sidebar.)

“Tellabs conducted workshops to explain the benefits of TIME’s network redundancy and resiliency, and how customers could be hooked up and provisioned quickly,” Joo Kwang said.

Tellabs also worked with TIME to position TIME’s DWDM-based services against other service provider offerings. Using this technical information, TIME salespeople can demonstrate how their offering provides greater resiliency and capacity than competitors, including Malaysia’s incumbent carrier.

Tellabs’ participation helped TIME generate substantial interest from large enterprises, including some Singapore-based financial organizations looking for reliable high-speed connectivity to Malaysia’s major city Kuala Lumpur, sometimes referred to as simply “KL.”

“They like the fact that we can do add/drops in KL and connect to Singapore,” Azman said. “You can’t do that with SDH.”



TIME’s Cross Peninsular Cable System (CPCS) network is now the most robust transborder terrestrial system ever built. Its design only has one goal in mind — high availability. Tough and resilient, TIME is proud of its network and confident that it is ready for any eventuality.

Designed as a fully meshed network over 5 diverse routes, CPCS traverses more than 6,000 km with dedicated fiber optics connecting Thailand and Singapore, CPCS was designed to provide the ultimate in physical path protection. With 5 dedicated fiber routes running along both coasts, alongside major highways and via utility corridors, TIME does admit to an element of over-engineering.

The results, however, are stunning: up to 99.999% availability. ■

- CapEx:** Capital Expenses
- DWDM:** Dense Wavelength Division Multiplexing
- GMPLS:** Generalized Multiprotocol Label Switching
- OpEx:** Operating Expenses
- ROADM:** Reconfigurable Optical Add/Drop Multiplexer
- SDH:** Synchronous Digital Hierarchy
- SLA:** Service-Level Agreement