CASE STUDY

3G MIGRATION WITH ECLIPSE IP

VODAFONE FIJI

CHALLENGE

In 2007, Vodafone Fiji had installed an Eclipse nodal network. This was planned to provide a migration path to introduce Ethernet/IP transport. In 2008, Vodafone Fiji was ready to deploy this migration and upgrade to Third Generation (3G) technology using their Eclipse network.

SOLUTION

With the simple addition of one DAC GE card into each Eclipse node, 3G Ethernet transmission was enabled in parallel with existing TDM data transmission. The network's capacity could now used for 2G and 3G traffic and extra capacity added where required.

"The easiest thing about our 3G upgrade was the Eclipse transmission network."

Vikash Prasad

Technical Support Manager
Vodafone Fiji

As a part of the Vodafone Group, Vodafone Fiji provides mobile voice and data communications to 70% of Fiji's 1 million inhabitants.

In 2007, with a rapidly increasing customer base and the need for a 3G ready platform, Vodafone Fiji wanted to expand their network and provide greater coverage and capability. Using Aviat Networks' Eclipse platform, they quickly built a world class network, beginning in Fiji's capital city, Suva, and progressing throughout Fiji.

In early 2008 they planned to upgrade the Suva network, initially to 3G, to support new native Ethernet-enabled base stations.

A PLANNED UPGRADE SUCCEEDS

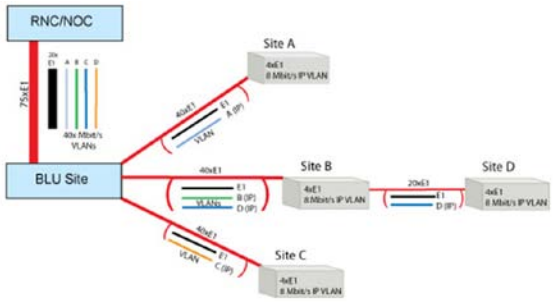
Vodafone chose Eclipse for their network expansion in part because it is very easy to upgrade. When they were ready for the upgrade in 2008, it was implemented by simply adding DAC Gigabit cards to the existing Eclipse Nodal radios.

Before the upgrade, each Eclipse INU, equipped with a DAC 16x card, was transmitting up to 75xE1 or 84xDS1 of Second Generation (2G) TDM. After the upgrade, with the addition of the DAC GE cards, Vodafone now has an IP network with Third Generation (3G) Gigabit Ethernet transmission capability.

With both DAC 16x and DAC Gigabit cards in place, this Eclipse network provides seamless 2G and 3G operation and control, within a single platform thus simplifying traffic management, control and aggregation.

NODE B IP AGGREGATION & VLAN

Eclipse's unique ability to use IP aggregation and to manage the traffic with VLANs within the radio platform made this a very simple upgrade. Vodafone also benefited from enhanced tools within the Provision NMS manager, specifically built for IP networks such as the ability to monitor % utilization per circuit bundle within the network, and port by port monitoring.



A sample of Vodafone Fiji's E1 and IP networking, including VLAN connections

AVIAT NETWORKS SERVICES SUPPORT

When the Eclipse nodal network was being installed, Aviat Networks provided comprehensive services and training. As a result of this support, Vodafone Fiji is fully able to handle the upgrade and manage their network as it continues to grow. Aviat Networks also provided specific resources to ensure that the DAC Gigabit cards would easily integrate with the IP Node B equipment.

RESULTS

Vodafone Fiji is highly satisfied with their fast, problem-free upgrade. They are now the first mobile operator in the South Pacific providing seamless 2G and 3G Ethernet data transmission and providing their customers with the advanced services that these enable such as mobile broadband data, real-time video calling, and animated text messages.

Vodafone Fiji has now joined the ranks of worldwide Tier 1 operators providing HSPA services for their customers. They are now expanding their coverage and capabilities nationwide throughout Fiji, with over 200 links of Eclipse, from downtown Suva to the beautiful islands and beyond.

DAC GE is a plug-in option card for the Eclipse Node to transport Gigabit Ethernet data. It incorporates a fully-featured layer 2 switch with support for:

- **L1 and L2 Link aggregation**
- **Enhanced RSTP (RWPR)**
- **VLAN tagging**
- **Extensive QoS options**
- **Jumbo frame support**
- **RMON and performance indicators**

Eclipse configured with a DAC GE and a DAC 16X or DAC 4X supports parallel transmission of Ethernet and PDH E1 traffic. The DAC GE is compatible with the earlier DAC ES.

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