



KAREN Members Report

For the 6 months ending 30 June 2007

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Audience

The intended audience for this document are:

- KAREN members
- REANNZ Board members
- REANNZ staff

Reference Documents

No documents are referenced.

Version control

VERSION	DATE	REASON FOR UPDATE	AUTHOR
1.0	4 June 2007	Initial Draft	David Brownlie
1.1	16 July 2007	Updated following comments from Donald	David Brownlie

Review and Approval

This document has been approved for release by the following:

NAME	ROLE	ORGANISATION	DATE
Mark Cordy	Operations Manager	REANNZ	25 July 2007

Distribution

This document has been distributed to the following persons or parties:

NAME	ROLE	ORGANISATION

Introduction

This report is intended to provide a high level overview of the performance of REANNZ, and KAREN, for the 6 month period ending 30 June 2007.

Projects Delivered

A variety of project work has been undertaken in the six months ending 30 June 2007.

KAREN Implementation

KAREN was formally accepted by REANNZ on 15 December 2006 following the completion of the project to deliver the network, and an extensive period of acceptance testing.

Extreme Switch Swap Out

12 temporary switches were used during the initial project to deliver the network. This allowed delivery in the intended timeframe without compromising the capability and capacity required from the smaller switches.

The project to install the permanent switches was completed at the end of April 2007. The work required an outage at each site. But due to the design of the network this only affected users that were directly connected to the switch in question.

Core Switch Augmentation

During the acceptance testing a theoretical capacity problem was noted on one of the four core Black Diamond switches. While it was not anticipated that this would become an operational problem in the near future, it was prudent to address the issue as a part of network acceptance. As such the four core Black Diamond switches were augmented with higher capacity modules in early May.

International Path Resiliency

An independent fibre optic path, in addition to the original path, between Auckland and the North Shore was implemented in May. The result is that an



individual fibre break, or the loss of the North Shore switch, can no longer prevent access to the International component of the network.

High Throughput Extension

The maximum packet size that can be used across the network was increased on June 26 2007 to allow greater data throughput. Early reports from members indicate that improvements of greater than 300% are achievable following this change.

Network Operations

Operational activity includes a variety of normal business activity resulting from the operation of the network.

Member Connections

Connecting members to KAREN has been one of the top priorities for the team. 27 connections supporting 15 Members and 1 Associate Member have been made to the network. Significant progress has been made with 2 other members in the planning process.

Peering

Peering has been established with 13 other International research and education networks ensuring broad access for the KAREN community to International locations.

Outages

A predictable number of fibre breaks occurred during the first 6 months of operation. The design of the network ensured that members did not suffer network outages as a result of these.

Outages did occur in relation to a backup generator in the North Shore and a power issue in Seattle. These issues have been actively managed and mitigated against. Members were kept up to date by REANNZ and the KAREN Helpdesk.



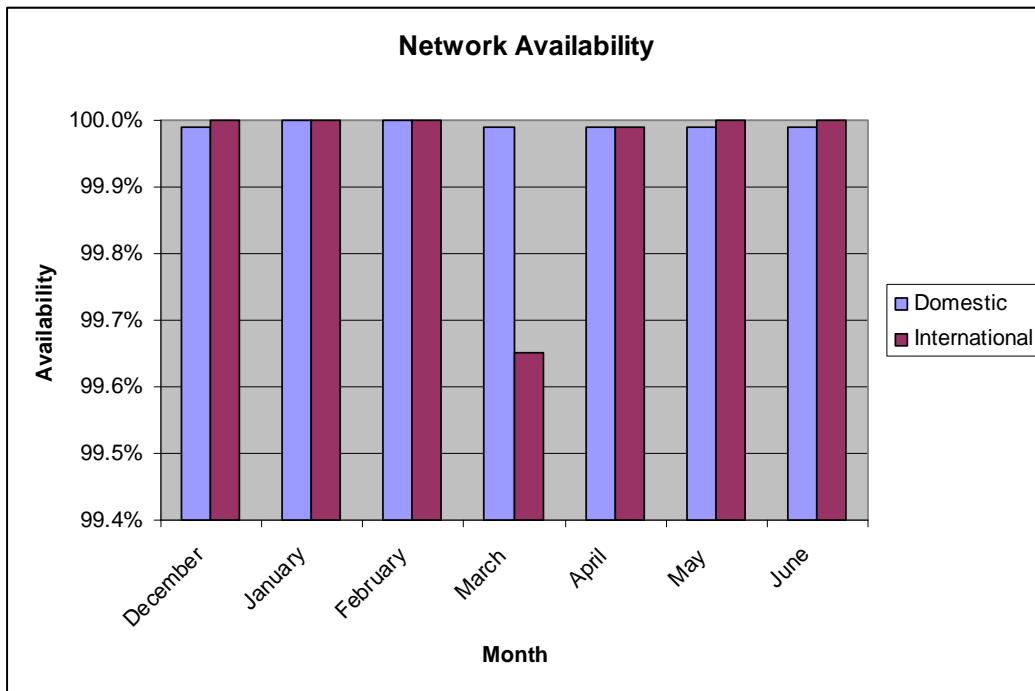


Figure 1 - Network Availability

Network Maintenance

A number of network operating system upgrades were performed during this six month period as part of normal network maintenance. The last of these upgrades should provide the capability to ensure future maintenance is possible without causing an outage.

Network Capacity

The domestic network does not have any capacity issues. Individual network streams of 150Mbps and greater have been noted as KAREN members start to realize the unique characteristics of the network.

The International network does not have the capacity of the domestic network, but has also seen significant peak data streams. The average utilisation remains low at this point.

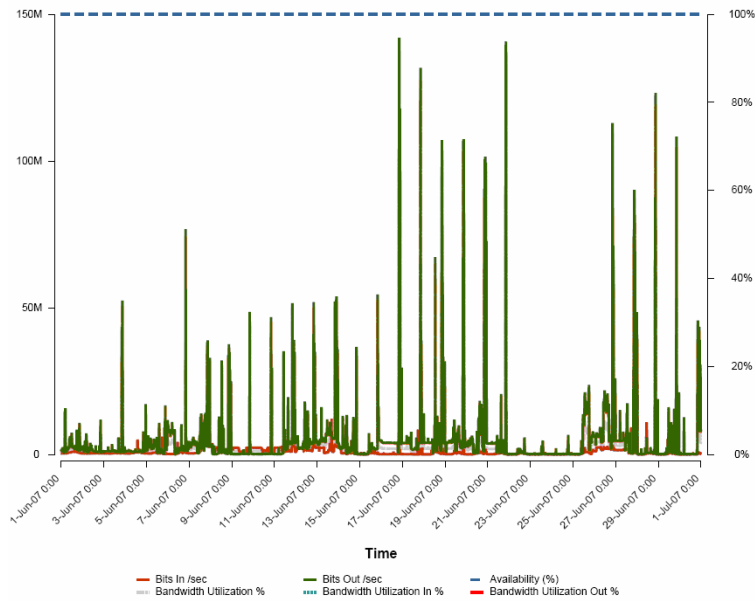


Figure 2 - Utilisation to Australia

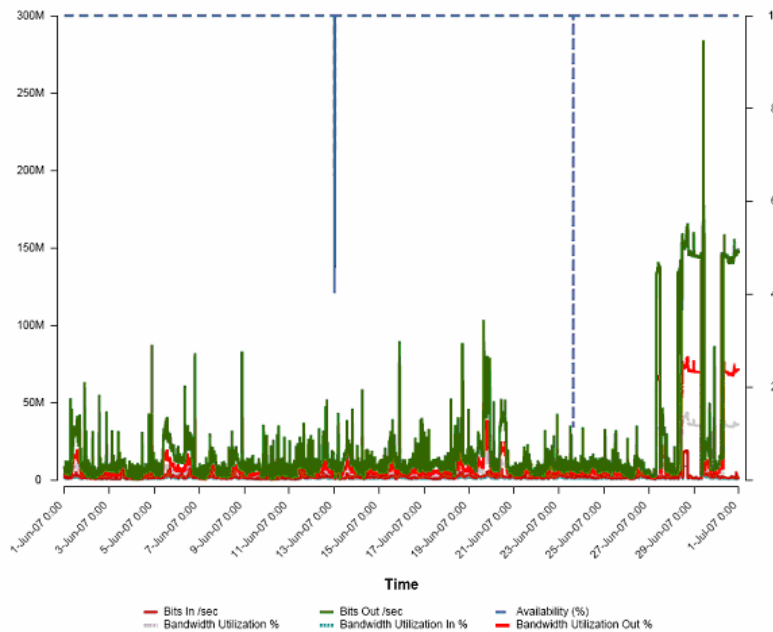


Figure 3 - Utilisation to Seattle

The graph for utilisation to Seattle has been truncated to increase detail, and represents just under 50% of total bandwidth (622Mbps).

Service Management

REANNZ has worked with Telstra Clear to improve the service management of KAREN during the first 6 months of operation. The evolution of process and practice in this area continues, with the aim of ensuring quality outcomes for KAREN members.

KPI Measure	Nov 06	Dec 06	Jan 07	Feb 07	Mar 07	Apr 07	May 07	Jun 07	Jul 07	Aug 07	Sep 07	Oct 07
Service Desk												
Incident Mgmt Cases Correctly closed												
Incident Mgmt Sev 1 Resolution												
Incident Mgmt Sev 2 Resolution												
Incident Mgmt Sev 3 Resolution												
Problem Mgmt												
Change Mgmt Operational Change												
Change Mgmt Contract Change												
Availability Mgmt												
Capacity Mgmt												

Figure 4 - Service Performance

REANNZ intends to conduct a member survey before the end of 2007 to provide formal data about the performance of the helpdesk. This information will be summarized in the Members report for the period ending 31 December 2007.