JUNE 2018

THE PERFECT STORM

New Zealand's NREN & strategic positioning

REANNZ

NEW ZEALAND

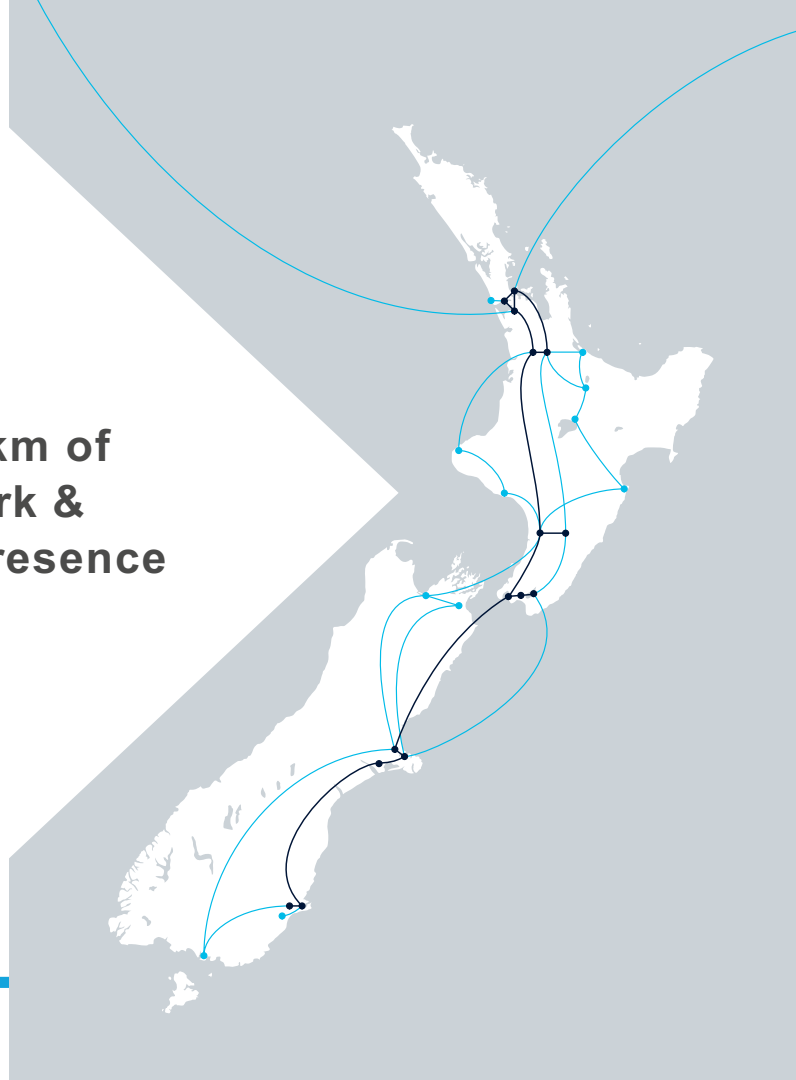

NORDUnet
Jisc
GÉANT
TEIN
INTERNET2
CANARIE
Ubuntunet Alliance
SANReN
aarnet
REANNZ
CLARA
LONDON
AMSTERDAM
LAHORE
MUMBAI
HONG KONG
BANGKOK
COLOMBO
KUALA LUMPUR
SINGAPORE
BANDUNG
BEIJING
SEOUL
TOKYO
TAIPEI
MANILA
HONOLULU
GUAM
MARINA LANI
SEATTLE
PORTLAND
PALO ALTO
SAN JOSE
LOS ANGELES
MIAMI
NEW YORK
SANTIAGO
BUENOS AIRES
SAO PAULO
CAPE TOWN
PERTH
SYDNEY

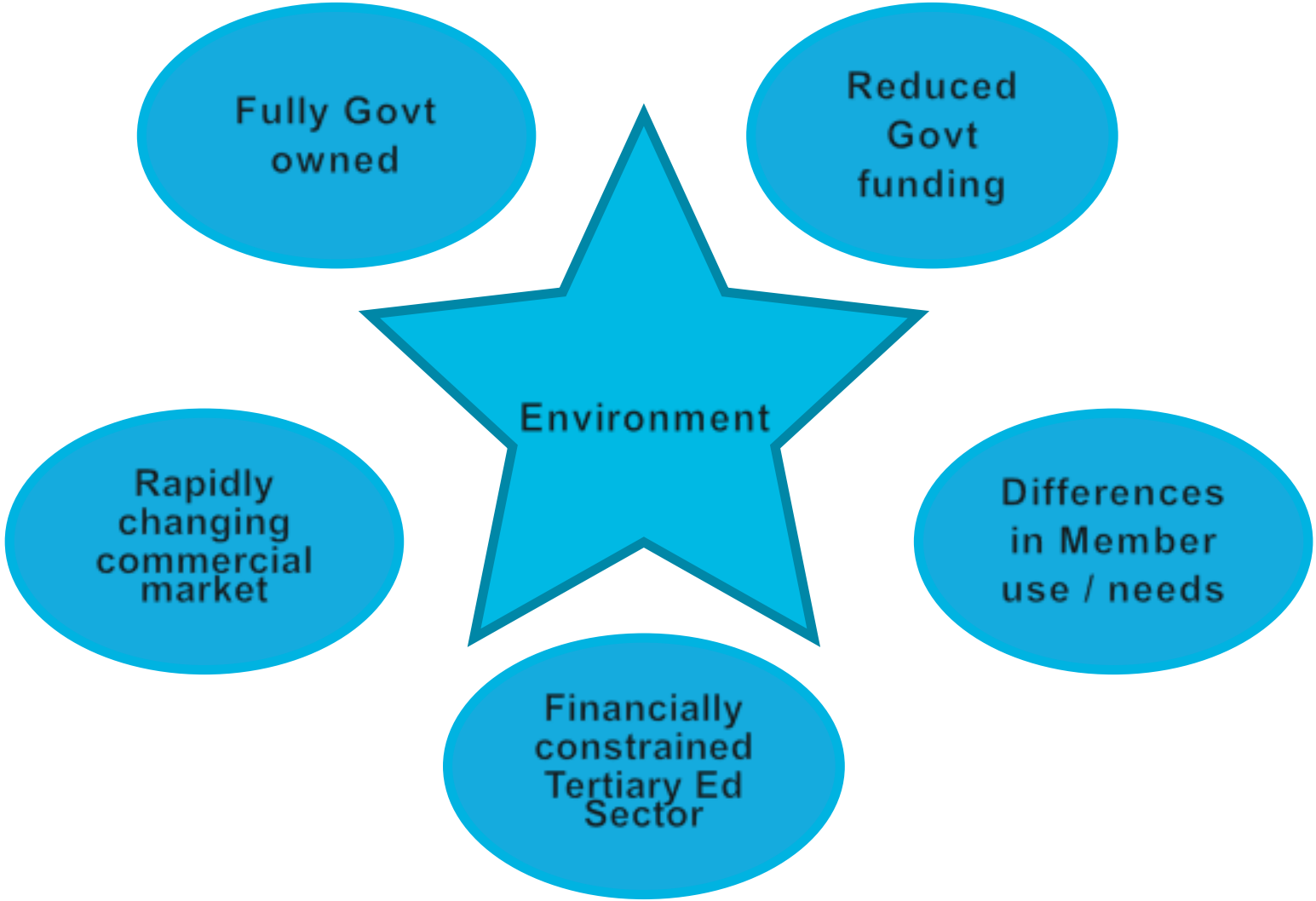
OUR MEMBERS

45 Members

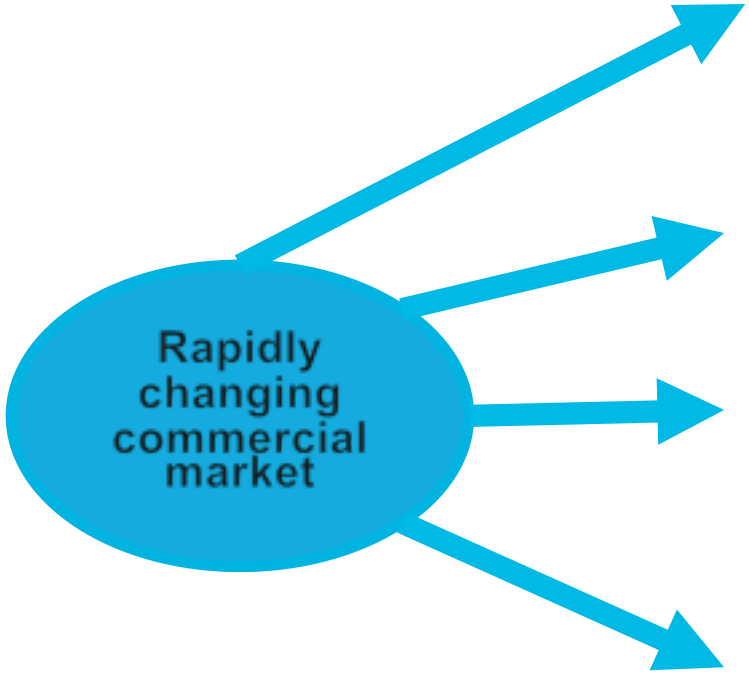
- 8 Universities
- 8 Crown Research Institutes
- 12 Polytechnics
- Government Agencies
- Independent Research Organisations

Over 20,000km of fibre network & 28 Points of Presence




Fully Govt owned
Reduced Govt funding
Environment
Rapidly changing commercial market
Differences in Member use / needs
Financially constrained Tertiary Ed Sector


Environment
Rapidly changing commercial market



Gov’t fibre to the premise program; increased access & regulated cost 1Gbps to the home & 10Gbps to business more common

Very competitive market; over 80 ISPs fighting for business

10Gbps wavelengths now EUR1,200/month (1/10th of 2008 price)

Internet now EUR4.50 Mbps / month (remember our nearest international IXs are in Sydney & USA)

How is an NREN different to a commercial provider?

STAKEHOLDER ENGAGEMENT

SEPT – DEC 2017

6
CRI & UNI STAKEHOLDER WORKSHOPS

2
TECHNICAL WORKSHOPS

NETWORK CAPABILITY TESTS & BENCHMARKING

2
UNI & CRI CFO SESSIONS

HOW WE ADDRESSED QUESTION: 'HOW ARE YOU DIFFERENT'

1. Explained how ***R&E is different*** (our purpose)
2. Explained how an ***NREN's capabilities*** support that
3. Explained the value in the way the ***NREN community*** works
4. Explained its ***more than the network***; we have an important role - even without the network

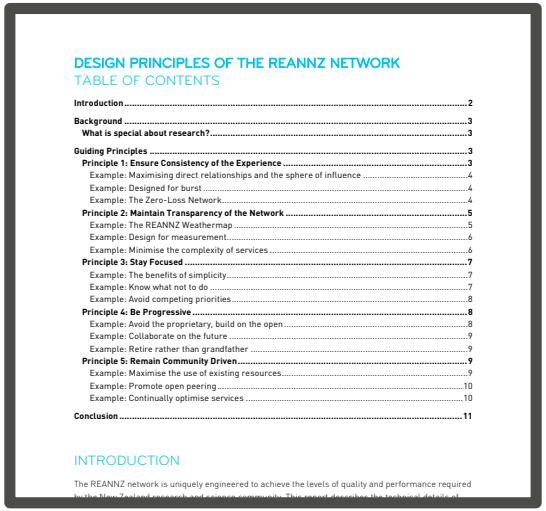
1. PURPOSE; HOW R&E IS DIFFERENT

We talked about the needs of researchers, and looked at where research and science was going in the future

- Highly collaborative
- Increasing number of global resources / facilities that require access
- Timing of the exchange of data is unpredictable
- Larger data-sets
- Time sensitive data
- Bespoke applications and protocols not commonly used by enterprises or consumers.

2. HOW THE NETWORK SUPPORTS THAT DIFFERENCE

Design Principles



DESIGN PRINCIPLES OF THE REANNZ NETWORK

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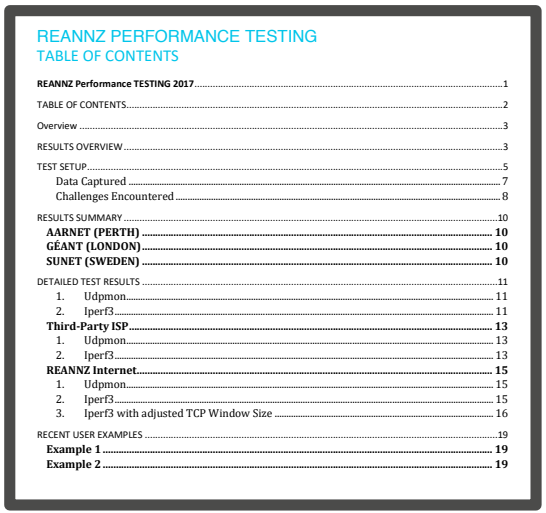
INTRODUCTION

The REANNZ network is uniquely engineered to achieve the levels of quality and performance required by the New Zealand research and science community. This report describes the technical details of

Network Tests



REANNZ PERFORMANCE TESTING

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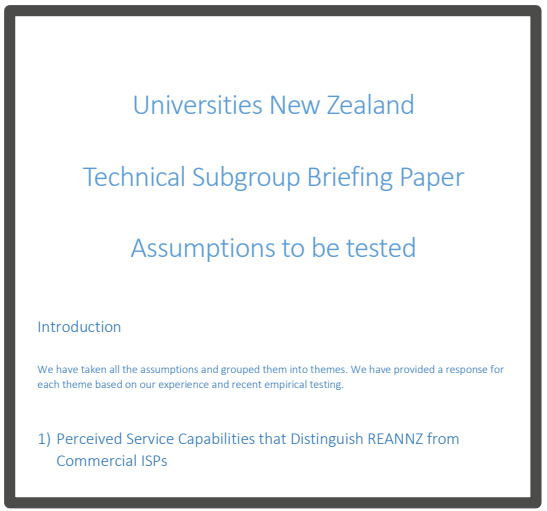
Member led analysis



Universities New Zealand

Technical Subgroup Briefing Paper

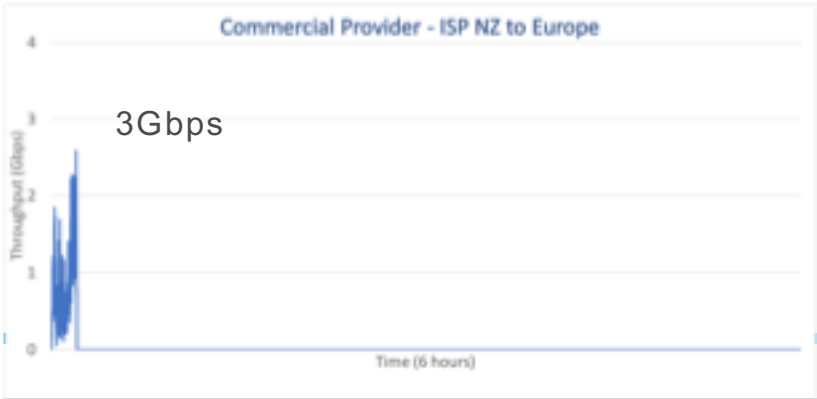
Assumptions to be tested

Introduction

We have taken all the assumptions and grouped them into themes. We have provided a response for each theme based on our experience and recent empirical testing.

1) Perceived Service Capabilities that Distinguish REANNZ from Commercial ISPs

PERFORMANCE TESTING



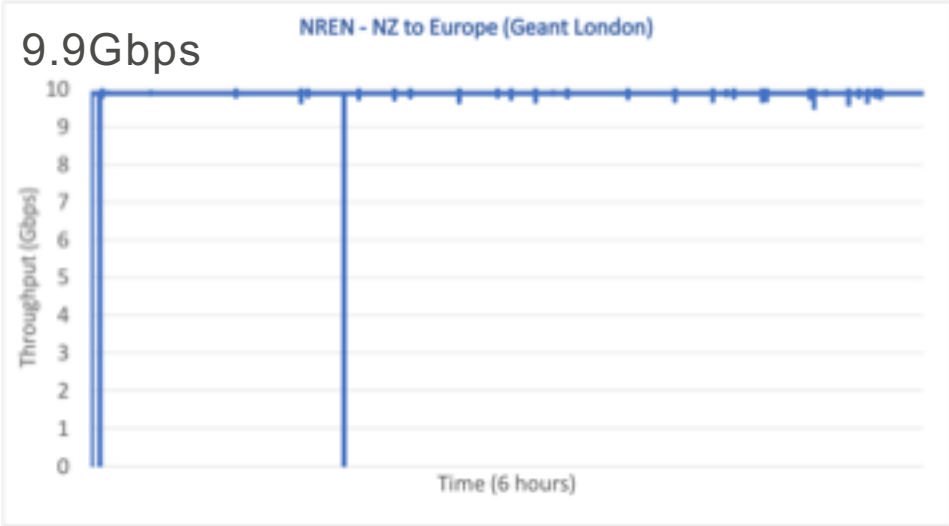
Commercial ISP

- Both tests failed immediately
- Australia was possible a couple of days later once the deliberate interruption was fixed; NZ-US-AUS
- The test to Europe was never completed successfully

PERFORMANCE TESTING

NREN

- 9.9Gbps average sustained for 6 hours (whole test duration)
- 100TB – 25 hours estimated transfer time
- Identical performance to both Australia and Europe



For copies of our full test plan and results email info@reannz.co.nz

3. THE UNIQUE VALUE OF THE GLOBAL NREN COMMUNITY

THE FIELD

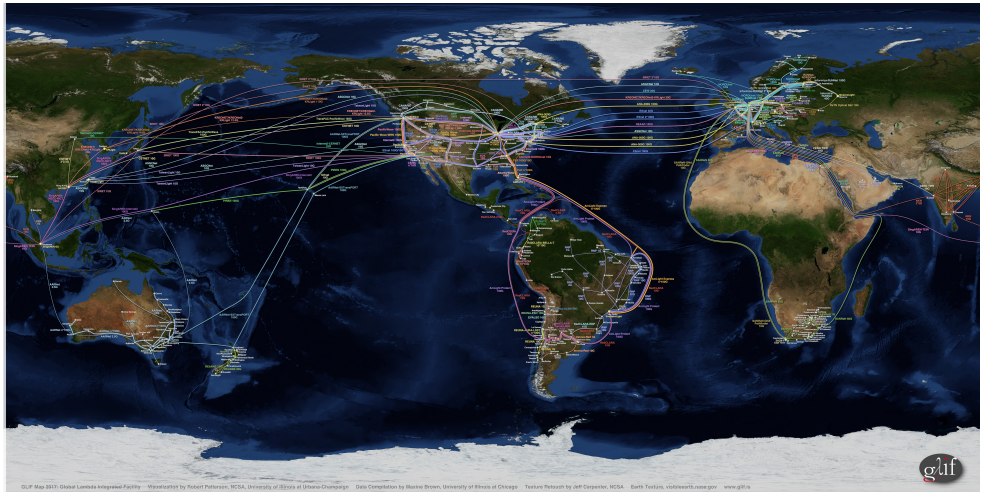
EXPLORE STORIES BY: TOPICS COUNTRY SEE ALL

Why R&E Networks?

Did you know that publicly-funded academic research and education (R&E) networks created the foundation for ubiquitous internet? The profound impact this has had on society is immeasurable.

Today, R&E networking continues to impact. From helping researchers solve some of society's greatest challenges, in fields like disaster management, agriculture, healthcare, environment, climatology and more, to bridging the digital divide and unlocking opportunities for online education and training.

National R&E networks (also known as NRENs) are not commercial internet service providers (ISPs). They are much more. NRENs provide ultra high-speed information networks and bespoke services dedicated to the unique needs of universities and research institutes. In some countries, this includes schools, hospitals, libraries, museums and other national facilities.

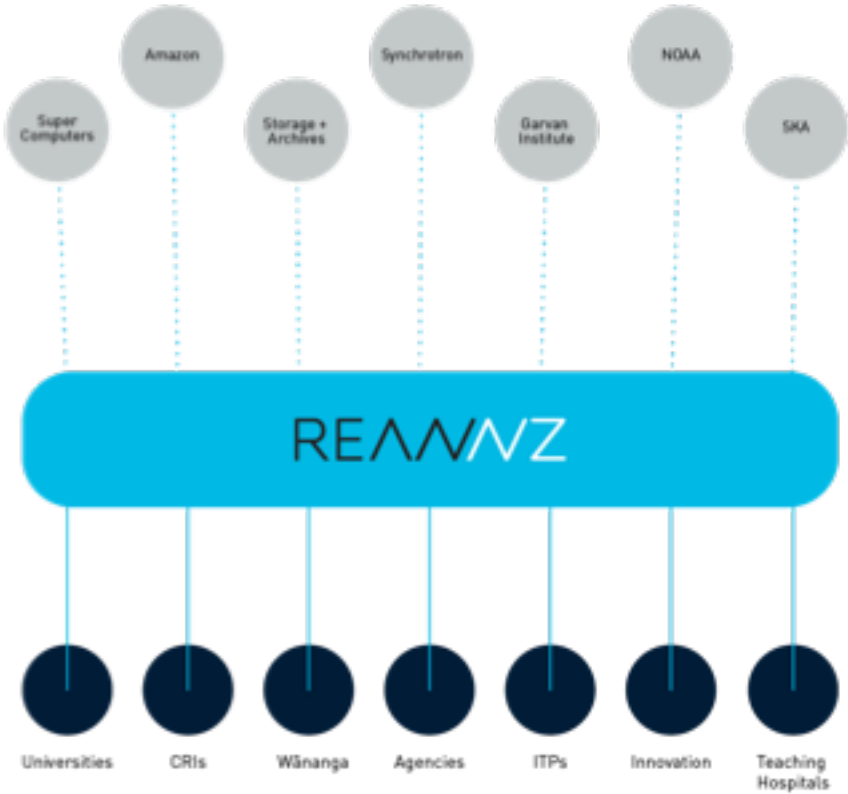


4. IT'S MORE THAN THE NETWORK

We act on behalf of the community to create economies of scale & leverage buying power; demand side

Represent NZ for the purpose of accessing the global R&E network and contributing to the development of global solutions

A trusted, neutral party to provide leadership & vision, and bring together & deliver solutions for the sectors we serve



a specialist research network is essential to support a growing and internationally reputable data-intensive research and science system

WHAT'S NEXT

Two key streams of work:

- Services Structure & Pricing Model Review for Members
- Government Review of our business model to address longer term opportunities

= completed by December, with new frameworks in place

WHAT WE LEARNED

- Be prepared to stand up for and defend your value; even if it means letting those go who cannot / will not be convinced
- Ensure your members feel a sense of ownership over what your organisation does and why you do it
- Be very alert for rapid changes in the commercial market; we know we are delivering something different but there is a point at which all will institutions will rightly ask ‘is this still relevant’ and ‘is this still value for money’
- Watch for capability gaps between your members, and how they may affect perception by them of the value they receive for the fee they pay (cross-subsidisation issues)
- You need research and science champions inside each institution to ensure the demand case can be defended.

Thank you

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