REANNZ

REANNZ

STATEMENT OF INTENT 2014—2018

RESEARCH AND EDUCATION ADVANCED NETWORK NEW ZEALAND LTD

STATEMENT OF INTENT 2014-2018
MAY 2014

MILLISECONDS
AWAY FROM THE
REST OF THE
WORLD

REANNZ

INTRODUCTION

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THIS STATEMENT OF INTENT IS SUBMITTED BY THE BOARD OF DIRECTORS OF RESEARCH AND EDUCATION ADVANCED NETWORK NEW ZEALAND LIMITED (REANNZ), PURSUANT TO THE CROWN ENTITIES ACT 2004. IT SETS OUT THE STRATEGIC DIRECTION FOR REANNZ FOR THE PERIOD 1 JULY 2014 TO 30 JUNE 2018.

PROF. JOHN RAINE
CHAIR

JIM DONOVAN
ACTING DEPUTY CHAIR
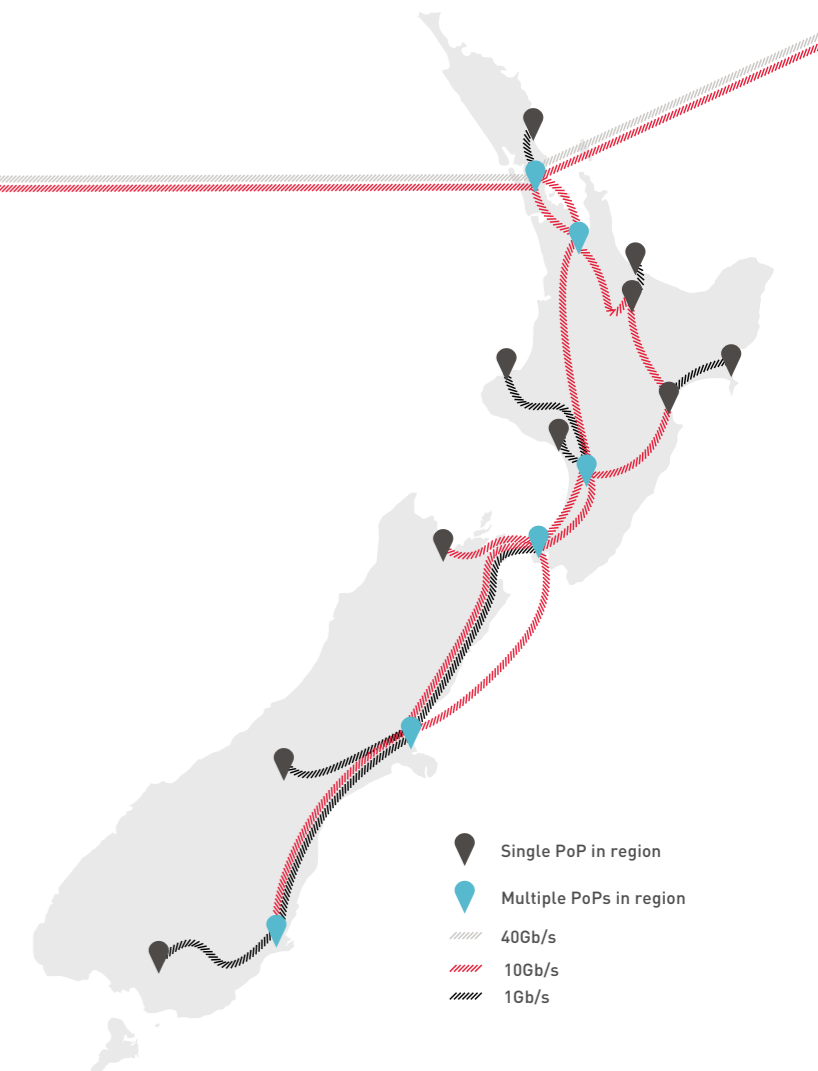
29 May 2014

ABOUT REANNZ

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REANNZ IS THE HIGH-PERFORMANCE NETWORKING ORGANISATION SERVING THE UNIQUE NEEDS OF THE NEW ZEALAND RESEARCH, EDUCATION AND INNOVATION COMMUNITIES.

Our vision is a New Zealand where transformative ideas flourish and the exchange of knowledge is completely unconstrained by physical location, ensuring our nation's prosperity and wellbeing. In the service of that vision, our mission is to provide cutting edge network services, unparalleled infrastructure and ground-breaking tools that enable collaboration and accelerate education, science and innovation.

Our members include New Zealand's universities, Crown Research Institutes, wānanga, ITPs (institutes of technology and polytechnics) and other entities in the research, education and innovation (R, E & I) community.[1] At the heart of REANNZ is the REANNZ advanced network, which connects our community to each other and to their international peers with high-capacity, high-quality broadband, designed to meet the exacting requirements of 21st century science, education and innovation. REANNZ also provides tools that facilitate collaboration between institutions, specialised services that enhance our members' ability to use our network, and products and services that enhance the effectiveness and efficiency of our members' businesses.
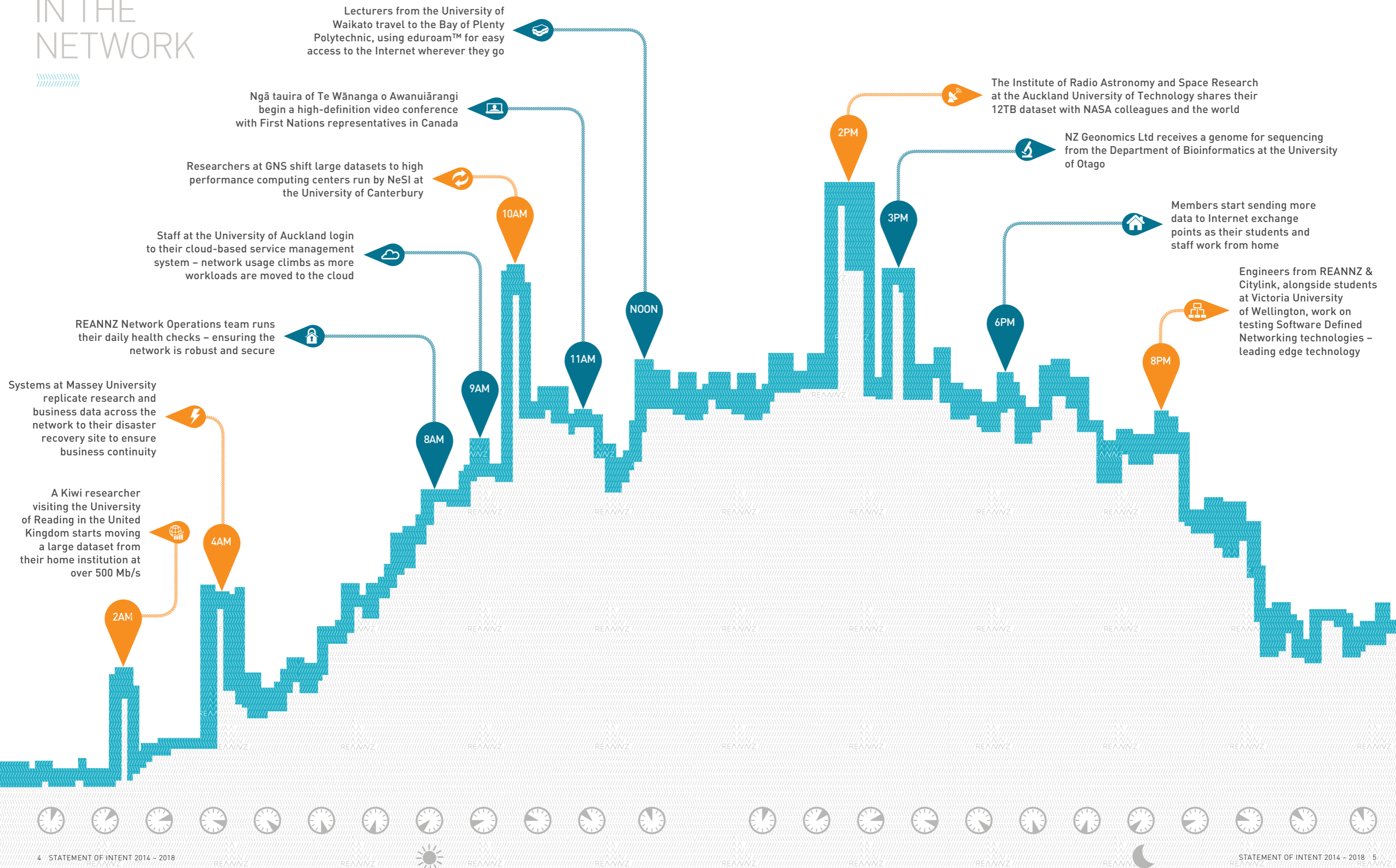
Single PoP in region

Multiple PoPs in region

40Gb/s

10Gb/s

1Gb/s

REANNZ'S NETWORK FOOTPRINT
See http://weathermap.reannz.co.nz
for a live view of traffic across the network.

1 See www.reannz.co.nz for a complete list of members.

A DAY
IN THE
NETWORK

Lecturers from the University of Waikato travel to the Bay of Plenty Polytechnic, using eduroam™ for easy access to the Internet wherever they go

Ngā tauira of Te Wānanga o Awanuiārangi begin a high-definition video conference with First Nations representatives in Canada

The Institute of Radio Astronomy and Space Research at the Auckland University of Technology shares their 12TB dataset with NASA colleagues and the world

Researchers at GNS shift large datasets to high performance computing centers run by NeSI at the University of Canterbury

NZ Geonomics Ltd receives a genome for sequencing from the Department of Bioinformatics at the University of Otago

Staff at the University of Auckland login to their cloud-based service management system – network usage climbs as more workloads are moved to the cloud

Members start sending more data to Internet exchange points as their students and staff work from home

REANNZ Network Operations team runs their daily health checks – ensuring the network is robust and secure

Engineers from REANNZ & Citylink, alongside students at Victoria University of Wellington, work on testing Software Defined Networking technologies – leading edge technology

Systems at Massey University replicate research and business data across the network to their disaster recovery site to ensure business continuity

A Kiwi researcher visiting the University of Reading in the United Kingdom starts moving a large dataset from their home institution at over 500 Mb/s

2AM
4AM
8AM
9AM
10AM
11AM
NOON
2PM
3PM
6PM
8PM

OUR OPERATING ENVIRONMENT

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RESEARCH AND INNOVATION REQUIRES A SPECIALISED NETWORK

The structure of modern science presumes the availability of reliable, high-bandwidth, feature-rich networks for interconnecting instruments and collaborators globally. Large-scale science and data-intensive disciplines create massive data flows, requiring different network capabilities than the smaller flows generated by email, video, and web browsing. Members rely on REANNZ for their specialised networking needs because many of the services they require are cost-prohibitive, or simply unavailable, on the commercial market.

REANNZ's network serves as a vital "circulatory system" amongst those striving to educate the next generation of scientists or produce disruptive technological innovations. Without such purpose-built networks and tailored services, the community couldn't function anywhere near the level it does today. As shown in the map, nearly all developed countries, and many developing countries, have a national research and education network (NREN) similar to REANNZ.

Our emphasis on aspects such as end-to-end performance, lossless transport and scaling capacity in a way that is cost-effective for members sets us apart from commercial networks focused on profits, commoditised services, and small, non-science traffic flows. We expect the qualitative and quantitative differences between commercial commodity traffic and specialised science traffic will continue for the foreseeable future, meaning that a dedicated research and education network will continue to be necessary.

OUR MEMBERS' DEMANDS FOR OUR NETWORK AND SERVICES WILL INCREASE

The direction of our business over the next four years will be driven by clear trends towards more data, more collaboration, and more work "in the cloud". It's the role of every NREN to keep ahead of these trends, to ensure that data and ideas can flow smoothly to wherever they need to be.

EXPONENTIAL DATA GROWTH

New instruments and computing systems continue to generate exponentially growing data sets. Smaller and cheaper sensors and data collection devices are being deployed and are gathering increasing amounts of data. Because of this, data growth in many areas, including geonomics, exceeds Moore's Law[2] by a considerable margin. American market research firm IDC estimates that between 2013 and 2020 the annual rate of data generation will increase by 4300%[3]. This relentless growth in data will require REANNZ to scale its capacity aggressively while maintaining service quality.

DATA MOBILITY

Researchers are increasingly dependent on networks to support activities such as data replication, data sharing, remote access to storage, and bulk data transfer. Large data sets are being moved among Crown Research Institutes and universities for analysis; moved again to remote facilities for secondary analysis; and eventually shared with collaborators. The need to move data to where it can be productively analysed is a hallmark of data-intensive science, and the need for efficient data mobility underlies much of REANNZ's strategic planning activities.

CENTRALITY OF COMPUTING AND NETWORKING

Computing is becoming essential in many areas of science in New Zealand. University and Crown Research Institute supercomputers, as well as New Zealand eScience Infrastructure (NeSI) and New Zealand Genomics Ltd (NZGL), are key components of the nation's research complex and REANNZ provides the high-performance connections that make these facilities available and productive.
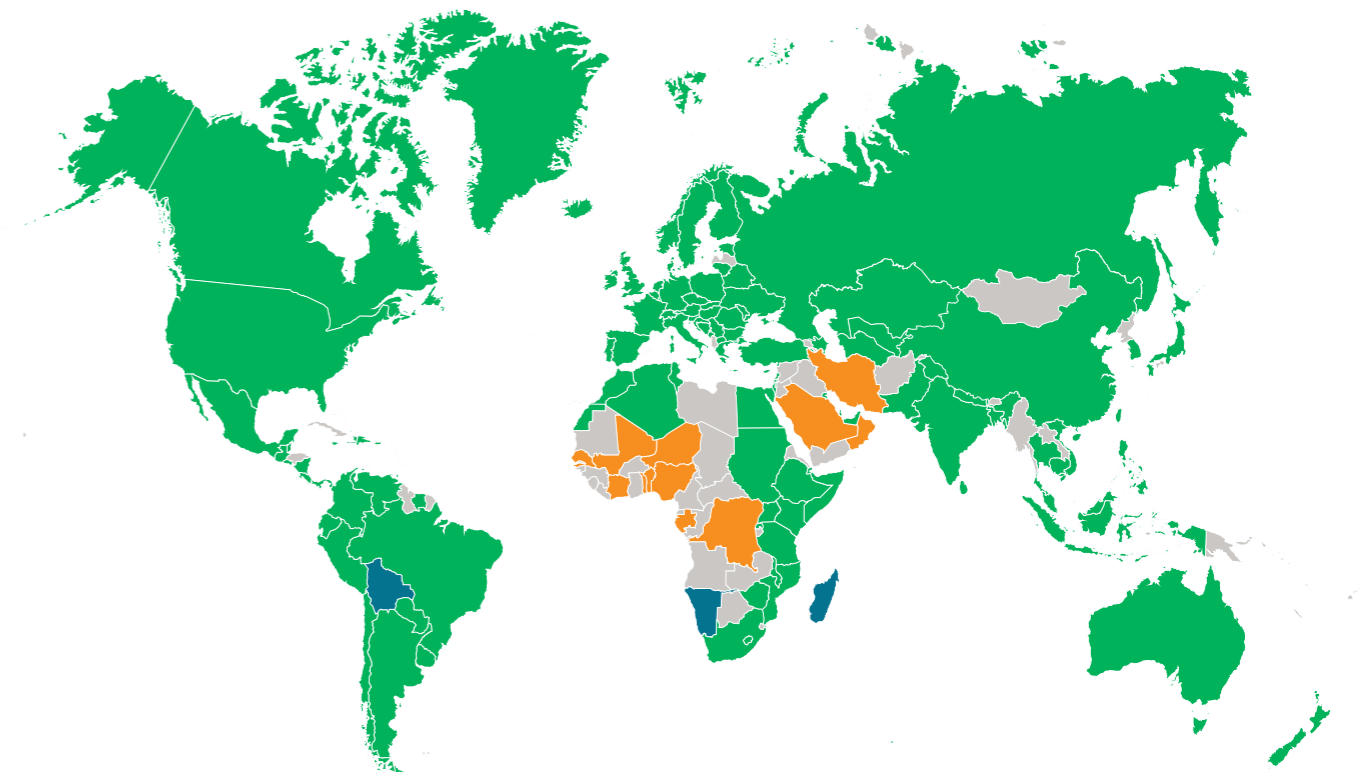
- ● NREN we connect to
- ● NREN we cannot connect to
- ● NREN planned but not yet operational
- ● No NREN or status not known

2 http://download.intel.com/museum/Moores_Law/Articles-Press_Releases/ Gordon_Moore_1965_Article.pdf

3 GEANT Strategy 2013-2020

DEVICE AND USER MOBILITY

Smartphones and tablets are already near-ubiquitous in the student/younger researcher demographic. Wearable devices are on the way into the mainstream, and will only increase our users' expectation of connectivity wherever they are. Initiatives like eduroam™, for which REANNZ is the New Zealand provider, show the NREN community responding to this expectation.

GLOBAL COLLABORATION

Collaborations within the community are growing in scope and scale. Whether facilitating the teaching of Māori culture in remote New Zealand secondary schools or enabling New Zealand's participation in the GeoPRISMS[4] plate tectonic boundary study, REANNZ must be able to support collaborations that comprise hundreds or even thousands of participants. Many of these large-scale projects are only possible because dedicated research and education networks, including REANNZ, connect the required instruments, facilities and participants together.

ONLINE, CROSS-BORDER EDUCATION

While e-learning has been a factor in education for many years, the scope and scale of online education continues to ramp up, posing challenges and opportunities for New Zealand institutions. 2013/14 saw huge growth in Massive Open Online Courses (MOOCs). While the implications of such initiatives for traditional institutions are not yet clear, it is clear that connectivity, and the ability to reach content and students around the globe is increasing in importance. REANNZ provides a key part of the infrastructure New Zealand education providers need to respond effectively to coming changes in the way education is delivered, here and internationally.

CLOUD-BASED SERVICES

Increasingly, institutions are relying on cloud service providers and cloud-based applications to control costs and achieve their strategic objectives. Whether it's connecting universities to their online payroll provider or facilitating scientists' access to cloud computing resources, networks like REANNZ are becoming critical components of the research and education 'supply chain'.

LOSSLESS NETWORKING

When the Internet was launched several decades ago, it employed a *variable, best-effort, and ad hoc* service model. This model was a key innovation of the Internet architecture, distinguishing it from circuit-reservation systems that came before (most notably public telephony). Over time, science data flows began to diverge from commodity Internet flows in their scale and service requirements. For those networks that failed to stay ahead of the demand for resources and changing traffic characteristics, the result was *packet loss*. A small rate of packet loss (less than .01%) in a national scale network causes hugely disproportionate effects (>50x reduction) on data transfer speeds for large flows, due to the characteristics of TCP, the dominant Internet transport protocol. For this reason, REANNZ's network is designed to be *lossless* and is constantly monitored for packet loss. Commercial networks do not have the same design requirements, because the flows they support typically have much lower throughput and travel much shorter distances than science flows.

If REANNZ failed to meet the exponentially increasing bandwidth demands of our members, or did so in a way that introduced packet loss and compromised quality, the user experience would resemble the jerky experience of watching YouTube in a highly congested wireless environment. Such an outcome would negatively affect our members' productivity and impair New Zealand's ability to innovate.

REVENUE SOURCES

At present, REANNZ receives approximately two-thirds of our revenue from member fees, and one-third from our four-year Crown funding agreement, which runs until June 2017. We currently make a small amount of supplemental revenue from providing additional products and services to our members. In common with other NREN's internationally, REANNZ is seeking to use our growing in-house expertise, and our deepening understanding of our members' businesses to provide more services that members value. This year, we are focused on expanding our cloud services offerings, and meeting our members' needs for professional and advisory services relating to networking. Our primary aim is to improve our members' use of the network and ability to undertake their teaching and research activities effectively. Over time, this diversification of our services may create the opportunity to reduce our reliance on Crown funding.

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4 http://www.geoprisms.org/

OUR
STRATEGIC
INTENTIONS

AT THE HIGHEST LEVEL, OUR STRATEGIC INTENTION IS TO CONTRIBUTE TO GROWING THE NEW ZEALAND ECONOMY TO DELIVER GREATER PROSPERITY AND OPPORTUNITY FOR ALL NEW ZEALANDERS. THE FOLLOWING DIAGRAM SHOWS OUR OUTPUTS, IMPACTS AND OUTCOME, SUPPORTED BY OUR VISION AND MISSION.
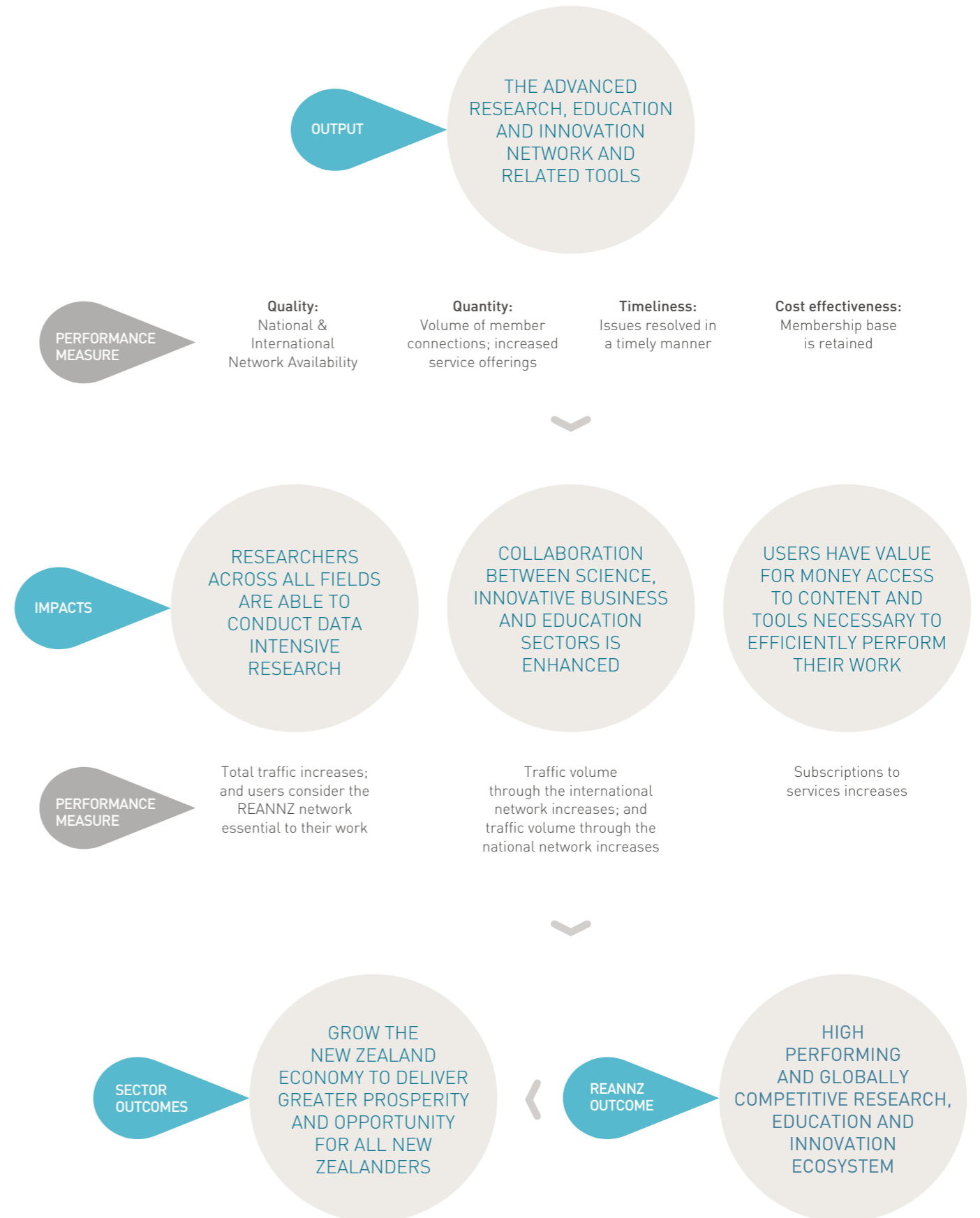
OUR GOAL ›
To be the essential networking resource of the Research and Education community
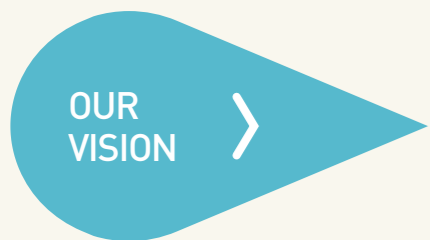
OUR VISION ›
A New Zealand where transformative ideas flourish and the exchange and of knowledge is completely unconstrained by physical location, ensuring our nation's prosperity and wellbeing

OUR MISSION ›
To provide cutting edge network services, unparalleled infrastructure and ground-breaking tools that enable collaboration and accelerate education, science and innovation

OUTPUT ›
THE ADVANCED RESEARCH, EDUCATION AND INNOVATION NETWORK AND RELATED TOOLS

PERFORMANCE MEASURE ›

Quality:
National & International Network Availability

Quantity:
Volume of member connections; increased service offerings

Timeliness:
Issues resolved in a timely manner

Cost effectiveness:
Membership base is retained

IMPACTS ›

RESEARCHERS ACROSS ALL FIELDS ARE ABLE TO CONDUCT DATA INTENSIVE RESEARCH

COLLABORATION BETWEEN SCIENCE, INNOVATIVE BUSINESS AND EDUCATION SECTORS IS ENHANCED

USERS HAVE VALUE FOR MONEY ACCESS TO CONTENT AND TOOLS NECESSARY TO EFFICIENTLY PERFORM THEIR WORK

PERFORMANCE MEASURE ›

Total traffic increases; and users consider the REANNZ network essential to their work

Traffic volume through the international network increases; and traffic volume through the national network increases

Subscriptions to services increases

SECTOR OUTCOMES ›
GROW THE NEW ZEALAND ECONOMY TO DELIVER GREATER PROSPERITY AND OPPORTUNITY FOR ALL NEW ZEALANDERS

‹ **REANNZ OUTCOME** ›
HIGH PERFORMING AND GLOBALLY COMPETITIVE RESEARCH, EDUCATION AND INNOVATION ECOSYSTEM

OUR STRATEGIC INTENTIONS SUPPORT GOVERNMENT PRIORITIES

The government is driving a more productive and competitive economy through the Business Growth Agenda. A cornerstone of the Business Growth Agenda is *Building Innovation*[5], which focuses on seven key initiatives, including:

- developing innovation infrastructure
- building international linkages
- boosting public science investment
- strengthening research institutions
- encouraging business innovation
- improving intellectual property settings, and
- growing the innovation workforce.

The REANNZ network is a key piece of innovation infrastructure. Our network, tools and services allow our members to conduct data-intensive research, enhance collaboration between members and their international peers, and allow users to undertake their work more effectively and efficiently. By providing these services to members, we strengthen their position as research institutions and enhance their ability to build international linkages. An advanced network is particularly critical for institutions in a small, geographically isolated country like New Zealand, as it allows New Zealand-based researchers to participate in global science collaborations and large-scale science initiatives. This plays a key role in attracting and retaining high-level science and research talent for New Zealand.

The ten National Science Challenges provide a strategic focus for the government's science investment. The Challenges provide an opportunity to align and focus New Zealand's research on large and complex issues by drawing scientists together from different institutions and across disciplines to achieve a common goal through collaboration. REANNZ will support the challenges both through the provision of business as usual collaboration tools for our members, and by providing specialist networking support as and when required, to help make the intended collaboration a reality.

5   Ministry of Business, Innovation and Employment, Business
    Growth Agenda, Building Innovation 2012 (http://www.mbie.govt.nz/
    what-we-do/business-growth-agenda)

OUR STRATEGIC PRIORITIES FOR 2014-2018

Critical component of national eResearch infrastructure that removes barriers to collaboration and provides unrestricted access to local and global content

ADVANCED NETWORK PLATFORM

R&E SERVICES/ APPLICATIONS

Members have access to the services, applications and tools they need to compete on a global stage

High-quality services and unrivalled customer service deliver an outstanding experience for members

WORLD-CLASS USER EXPERIENCE

THOUGHT LEADERSHIP AND INNOVATION

Build NZ's reputation and capability in the development of technologies and new business models. Make New Zealand a magnet for talent and a testbed for new ideas

IMPLEMENTING OUR STRATEGIC INTENTIONS

REANNZ has set a four-part framework to guide us in delivering our outputs and achieving the strategic intentions outlined above. We will manage our business to ensure that our members have access to:

- an advanced research and education network
- research & education centric network-based services & applications
- a world-class user experience
- thought leadership and innovation.

ADVANCED RESEARCH AN EDUCATION NETWORK

Researchers, in their pursuit of discovery and innovation, continue to be the earliest adopters of networking technology in the world. To meet their needs, REANNZ must build, maintain, operate and update a robust network platform that supports both our members' daily business operations and high-end science (a "production-quality" network). Our advanced network must also support development and testing of innovative network technologies.

To achieve this REANNZ will:

- provide high-speed national connectivity that scales to meet our members demand through the Shared National Network arrangement put in place with FX Networks in 2013/14
- provide international connectivity through a partnership with AARNet (Australia's Academic and Research Network) that will give REANNZ members access to 40Gb/s of international capacity on the Southern Cross Cable Network that has previously only been available to Australian institutions

- seek to provide additional international connectivity to REANNZ members, and support government policy goals through taking an anchor tenancy on a new cable, should an appropriate, commercially advantageous opportunity arise
- maintain guaranteed end-to-end performance, spanning multiple network domains
- maintain an engineering emphasis on lossless transport
- maintain a distributed network performance monitoring platform
- provide IPv6 service and performance parity
- make available a team of experts for rapid diagnosis of data transport issues, both on the network backbone and member campuses
- undertake advocacy for network and security architectures that enable high-throughput data exchange, such as ScienceDMZs[6]
- allocate part of the network to providing researchers and the private sector with a realistic test bed environment to experiment with new technologies, protocols and applications.

The Shared National Network gives REANNZ access to terabits per second of capacity in a nationwide optical transport system. Between now and 2020, REANNZ will deploy optical transponders, routers, and other network components to progressively make use of the available optical spectrum and keep pace with members' demand for capacity.

We forecast that the costs of providing more capacity will reduce over time, in line with the normal downward price curve for technology. This predicted decrease in the cost of capacity is important for REANNZ's budget and on-going sustainability, as lower unit costs will offset increasing demand from our members. REANNZ will actively work on reducing cost and increasing performance by looking to partner with vendors, other networks, and researchers to test, influence, and support product innovations that promise to lower costs, deliver needed capabilities, or produce disruptive change. We will monitor the on-going balance between cost reduction and increasing demand, and seek alternative strategies should the demand/cost trajectory cease to appear sustainable.

In 2014, REANNZ began sharing AARNet's 40Gb/s undersea cable links for research traffic. By 2016, these links will be upgraded to 100Gb/s at no additional cost. These links provide excellent quality international connectivity for New Zealand's research and education and innovation community. In addition, REANNZ will continue to engage with the market for international connectivity out of New Zealand and, in conjunction with government, will consider any appropriate and commercially viable opportunities for supplier diversity on our international network segments.

PROVIDE RESEARCH & EDUCATION CENTRIC NETWORK-BASED SERVICES & APPLICATIONS

Over the period 2014-18, REANNZ will have an increasing focus on using our existing infrastructure, and our position as part of a global network of NRENs to deliver affordable applications and services to our members. By providing applications and services tailored to our users' needs that may otherwise be cost-prohibitive, or simply unavailable in the marketplace, REANNZ will support our member institutions, and their researchers, students and innovators, to remain competitive and stay at the forefront of their respective fields.

REANNZ will provide members access to the tools and services they need to not only perform their work, but to do it better and faster than their international counterparts, by:

- leading a cloud-based services deployment program
- offering low-cost commodity Internet
- providing a high quality videoconferencing solution
- ensuring users around the country have high-speed access to dedicated science instruments
- working with other parties in the New Zealand research and innovation ecosystem to investigate opportunities for enhancing value and efficiency
- staying abreast of the fast-paced development of services and applications, and bringing new offerings to members as we identify appropriate opportunities.

6 A Science Demilitarized Zone (DMZ) is a portion of the network, built at or near the campus or laboratory's local network perimeter that is designed such that the equipment, configuration, and security policies are optimized for high-performance scientific applications rather than for general-purpose business systems or "enterprise" computing.

PROVIDE A WORLD-CLASS USER EXPERIENCE

Our network and tools exist for the benefit of our users. We are only as good as our users' experience. To facilitate our members getting the most out of our infrastructure, we put users at the centre of our focus and support them and their work wherever they touch us. As part of our business as usual, REANNZ will continue to work with members to:

- improve the reliability of member edge connections
- improve end-to-end network performance and throughput
- improve member awareness and decision making to ensure networking and information technology expenditure is applied strategically.

Over the period 2014-18, our focus on serving our users will expand, as we seek to use our growing expertise and trusted position to provide assistance to our members across a range of strategic and practical technological challenges they face in both their scientific and research activities, and in the running of their business.

PROVIDE THOUGHT LEADERSHIP AND INNOVATION

The current data deluge is just the beginning of a long-term, data intensive trend that will only accelerate as more and more machines become connected to the network and 'talk' to one another. Part of our role as an advanced network is to help our members cope with the challenges, and exploit the opportunities, of the data-intensive world. REANNZ will use its networking expertise, and our contacts around the world, to participate in and enable knowledge gathering and home-grown research and development to ensure that our members have access to the best tools and networking technologies available. For example, we will:

- contribute to the development and deployment of bleeding edge software defined networking infrastructures in New Zealand
- support members' participation in network technologies research and development by providing a fibre testbed
- actively seek partnerships with industry to develop new products and services that suit our members' requirements, with the potential to transfer innovations back to the general market
- participate in global forums to build New Zealand's reputation for innovation and stay informed of international networking developments
- lead workshops on advanced networking technologies that educate members and inform purchasing discussions.

ASSESSING OUR PERFORMANCE

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OUR SUITE OF PERFORMANCE INDICATORS TRACK TRENDS IN OUR HIGH LEVEL OUTCOME OF A HIGH PERFORMING AND GLOBALLY COMPETITIVE RESEARCH, EDUCATION AND INNOVATION SYSTEM.

It also includes indicators that measure the impacts we are making, and the quality, quantity, timeliness and cost-effectiveness of our output, the advanced research, education and innovation network and related tools. Further detail regarding each of these indicators will be available in our annual Statement of Performance Expectations.
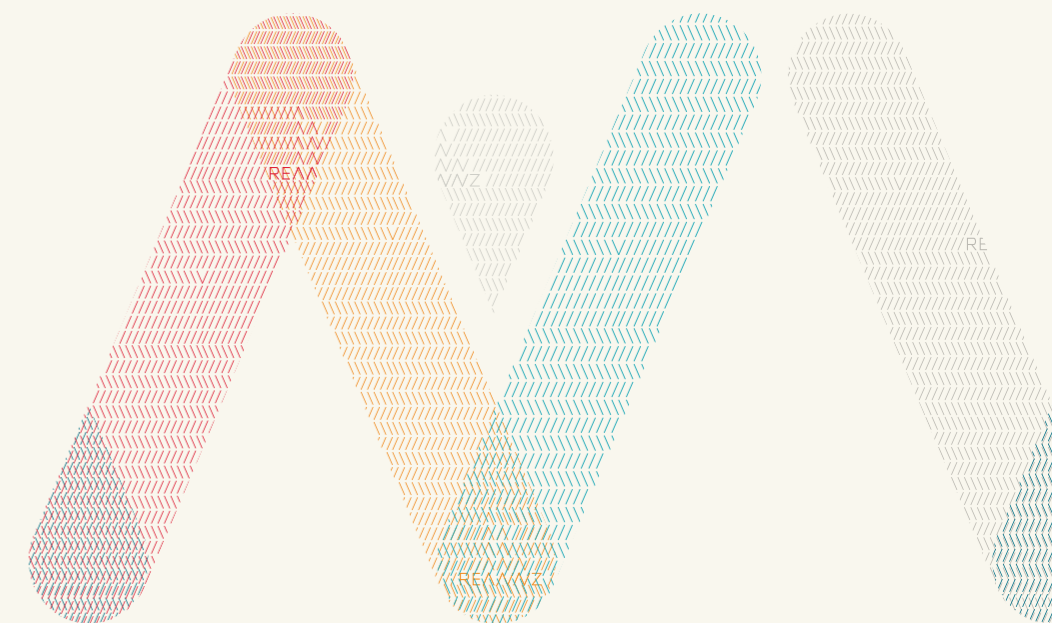
OUTCOME	TREND INDICATORS
High performing and globally competitive research, education and innovation system.	Progress in OECD's "Comparative performance of national science and innovation systems", OECD Science, Technology and Industry Outlook, published every two years.
	New Zealand maintains its ranking for the university-industry collaboration in R&D in the World Economic Forum global competitiveness index.
	An improvement in New Zealand's ranking for capacity for innovation in the World Economic Forum global competitiveness index.

IMPACT	EFFECTIVENESS INDICATORS
Researchers across all fields are able to conduct data-intensive research.	Total traffic flows over our network increase.
	Users consider the REANNZ network essential to their work.
Collaboration between science, innovative business and education sectors is enhanced.	Traffic volume through the international network increases.
	Traffic volume through the national network increases.
Users have value for money access to content and tools necessary to efficiently perform their work.	Subscriptions to REANNZ services increase.

OUTPUT	SERVICE MANAGEMENT INDICATORS
The advanced research, education and innovation network and related tools.	Quality: National and International network availability.
	Quantity: Volume of member connections (number and size), and number of new service offerings.
	Timeliness: Issues resolved in a timely manner.
	Cost effectiveness: Membership base is retained.[7]

ASSET MANAGEMENT AND KEY RISKS

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MANAGING OUR ASSETS

Our major asset is our network. We monitor the performance of this asset as described in the output monitoring section of our Statement of Service Performance. Part of maintaining our network is regularly refreshing our network hardware and software as it nears the end of its useful life. This is part of business as usual, and we do not anticipate any significant capital investments in our network in the period covered by this Statement of Intent.

We do expect significant capital investment will be required in our national network around 2022, when our current operating contract with FX networks expires, and our optical networking assets reach the end of their expected useful life. Depending on the international connectivity arrangements we are able to secure in the next few years, we may need to make additional international capacity purchases in 2019, when our current arrangement with AARNet expires.

MANAGING OUR RISKS

REANNZ has an active risk management framework, with risks regularly recorded, reviewed, managed, mitigated and escalated as appropriate.

Over the medium to long term we see key risks around:
- continuing access to sufficient, affordable international connectivity
- the security and stability of our revenue in order to be able to invest in our network as required
- our ability to maintain our "advanced" status, and stay ahead of our users' rapidly developing requirements.

In regard to international capacity, REANNZ's sharing arrangement with AARNet provides excellent quality international connectivity for our members until 2019. To ensure continuing access to sufficient, affordable international connectivity post-2019, REANNZ would like to secure an arrangement that provides supplier diversity and has a long-term time horizon. We will continue to engage with the market for international connectivity out of New Zealand seeking an appropriate and commercially viable opportunity to lock in a longer-term international connectivity arrangement.

7 Members remaining with REANNZ shows that REANNZ provides a competitive, cost-effective solution for their needs. We cannot directly bench-mark our cost-effectiveness as the service we offer is not directly comparable to other providers in the market.

Our long-term network refresh plans require us to build up reserves to invest in our network as periodic technology refreshes are required. To build up these reserves, and to continue to operate our core network effectively, we need reasonably secure, stable revenue. At present, our key revenue sources are membership fees and direct Crown funding. We work to protect our membership revenue by providing continually increasing value to our members, by engaging effectively with our members to understand and respond to their needs, and by providing services that are increasingly essential to our members, but unavailable or unaffordable elsewhere.

Our current four-year funding agreement with the Crown provides stability for the period of this Statement of Intent. We are actively engaging with the Crown to demonstrate the value that REANNZ provides to New Zealand. Further, we recognise our Shareholding Ministers' expectation that we will become less dependent on Crown funding over time, and are actively investigating supplementary sources of revenue that may form a larger part of our business in the future.

REANNZ's mission is to provide cutting-edge network services, unparalleled infrastructure and ground-breaking tools to our users. By definition, "cutting-edge" changes all the time. We need to anticipate researchers' needs with enough lead time to develop and deliver these "advanced" services precisely when they are needed. We do this through wide and deep engagement with our members, through our active involvement in the international NREN community, and through continual innovation and development of our network and services.

ORGANISATIONAL CAPABILITY

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REANNZ IS GOVERNED BY A BOARD OF DIRECTORS, APPOINTED BY ITS SHAREHOLDING MINISTERS FOLLOWING AGREEMENT BY CABINET.

STRUCTURE

Current directors are:

Professor John Raine *(Chair)* – to June 2015

Jim Donovan *(Acting Deputy Chair)* – to June 2015

Susie Johnstone – to June 2014

Professor George Benwell – to June 2014

Phil Norman – to June 2015

The Board appoints the Chief Executive, who is responsible for the day-to-day operations of REANNZ.

The Network Operations team is responsible for the day-to-day operational management of the REANNZ network, management of network supply contracts, implementation and support of new network services, connecting members and supporting their end-to-end network performance, network use policy, and technology planning.

The Business Development and Relationships team is responsible for catalysing a network-enabled community of researchers, educators and innovative institutions in New Zealand with the capabilities to take full advantage of the opportunities advanced network connectivity provides. The team is responsible for service development, and is focused on engaging with our members to identify ways in which REANNZ can help them perform their work more effectively.

The Systems team is responsible for maintaining and developing the infrastructure that provides visibility of the network for internal and external stakeholders.

The Corporate and Finance team provides administrative, financial and commercial support to ensure our staff and the company can operate effectively and professionally.

CAPABILITY

As a small organisation, REANNZ is heavily dependent upon its human resources. The highly specialised nature of REANNZ's work means these resources are scarce.

REANNZ supports flexible work arrangements for staff to maintain a proper work-life balance, which leads to happier, healthier and more productive employees. The nature of our work provides exciting, leading-edge opportunities for personal and professional development.
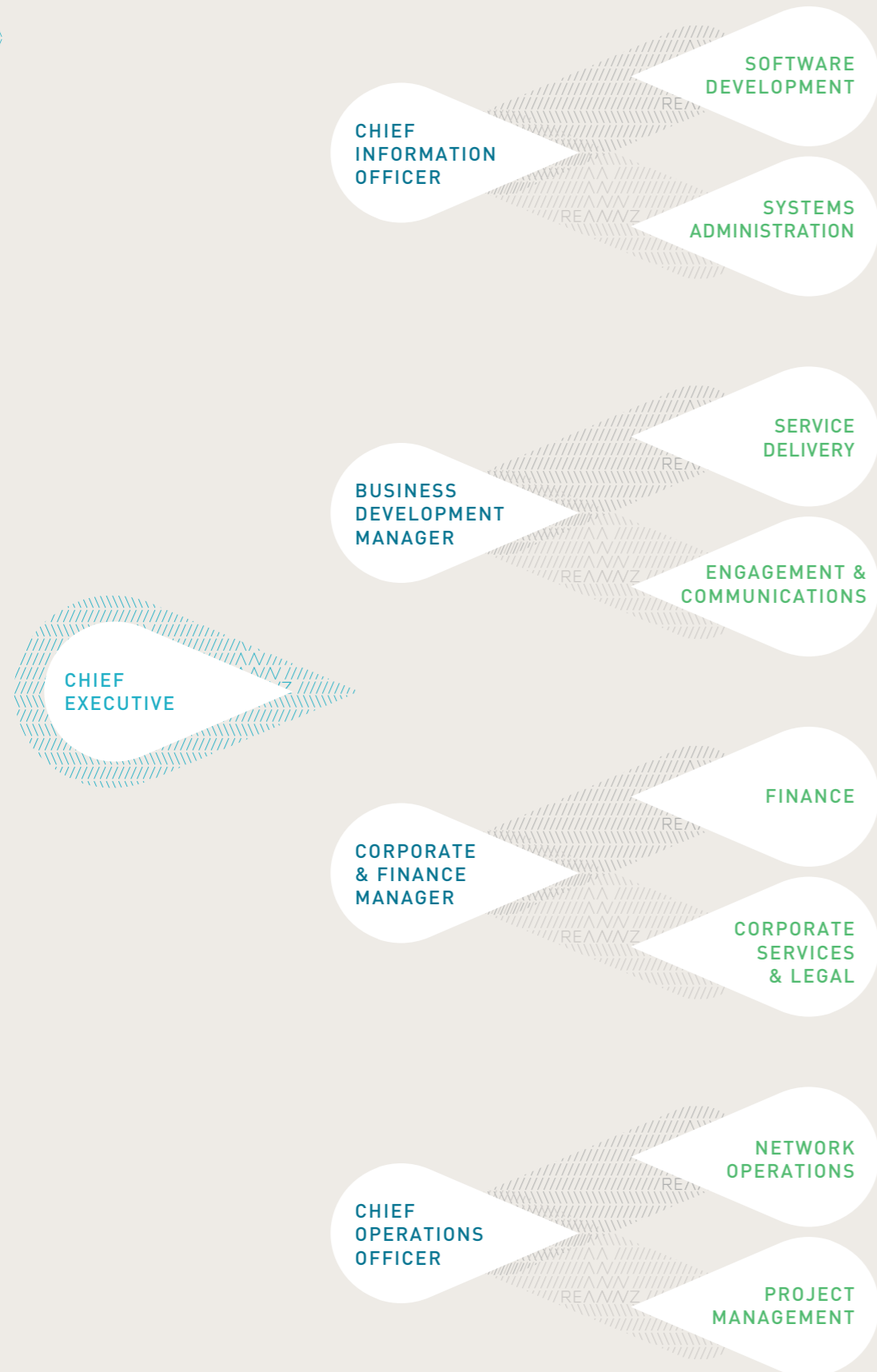
GOOD EMPLOYER

To ensure that REANNZ meets its Good Employer obligations prescribed in the Crown Entities Act Part 3 Section 118, REANNZ will provide opportunities to:

- enhance the abilities of individual employees
- recognise the aims, aspirations and employment requirements of women, and the cultural differences of ethnic or minority groups
- recognise the employment requirements of persons with disabilities.

REANNZ values the uniqueness of its employees and their contribution to the organisational personality and culture. Being responsive to a diverse range of viewpoints and cultures within the workplace will help the organisation develop a more representative workforce able to respond to an increasingly diverse New Zealand society.

ORGANISATIONAL CHART

CHIEF INFORMATION OFFICER
- SOFTWARE DEVELOPMENT
- SYSTEMS ADMINISTRATION

BUSINESS DEVELOPMENT MANAGER
- SERVICE DELIVERY
- ENGAGEMENT & COMMUNICATIONS

CHIEF EXECUTIVE

CORPORATE & FINANCE MANAGER
- FINANCE
- CORPORATE SERVICES & LEGAL

CHIEF OPERATIONS OFFICER
- NETWORK OPERATIONS
- PROJECT MANAGEMENT

ACCOUNTABILITY

REANNZ IS A CROWN-OWNED COMPANY, LISTED UNDER SCHEDULE 4A OF THE PUBLIC FINANCE ACT 1989 AND INCORPORATED UNDER THE COMPANIES ACT 1993. ITS CURRENT SHAREHOLDERS ARE THE MINISTER OF FINANCE AND THE MINISTER OF SCIENCE AND INNOVATION. EACH SHAREHOLDER HOLDS 908 SHARES ON BEHALF OF THE NEW ZEALAND PUBLIC.

CORPORATE

REANNZ is not a Crown entity listed under the Crown Entities Act 2004, but we are subject to the accountability regime laid out in the Crown Entities Act, and are expected by our shareholders to act in accordance with the Crown Entities Act. REANNZ is subject to the Official Information Act 1982.

The functions and purpose of the company are contained in its constitution and further augmented by an annual Letter of Expectations from shareholding Ministers.

REANNZ's performance is currently monitored by the Ministry of Business, Innovation and Employment. The Ministry of Business, Innovation and Employment, in partnership with Treasury, maintains policy oversight roles with respect to REANNZ's outcomes.

STAKEHOLDERS

As a network company – both literally and figuratively – REANNZ must retain excellent relationships with a large number of members, government and non-government stakeholders.

Key working relationships are important with:

- members, associates and partners
- Ministry of Business, Innovation and Employment as monitoring agency and financial analysts
- Treasury as shareholders' financial analysts
- Ministry of Education as policy developer and co-ordinator of technology strategies for schools
- Network for Learning as co-ordinator of e-learning initiatives for school
- supplier partners as the local and national fibre providers
- Internet community including InternetNZ and related community for their foresight and influence
- other NRENs to ensure good transit and peering agreements and to leverage their experience.

ACQUISITIONS AND DISPOSALS

While it is unlikely that the Board will seek to acquire or form a subsidiary, it would only take such action after providing adequate written notice seeking shareholding Ministers' approval of its intentions, in accordance with Government policy.

REANNZ will advise the shareholding Ministers, in consultation with the Ministry Business, Innovation and Employment, where it is contemplating new investments exceeding $5 million per transaction (or related set of transactions), and will seek shareholding Ministers' approval for major transactions in line with the Companies Act 1993.

REPORTING

ANNUAL REPORT

An Annual Report will be made available to Ministers within four months of the end of each financial year. It will comply with the reporting provisions of the Crown Entities Act 2004, the Companies Act 1993, and the Financial Reporting Act 1993.

STATEMENT OF INTENT

A draft of our Statement of Intent will be made available to shareholding Ministers no later than two months prior to the beginning of the financial year, either every three years, or more frequently as agreed with shareholding Ministers.
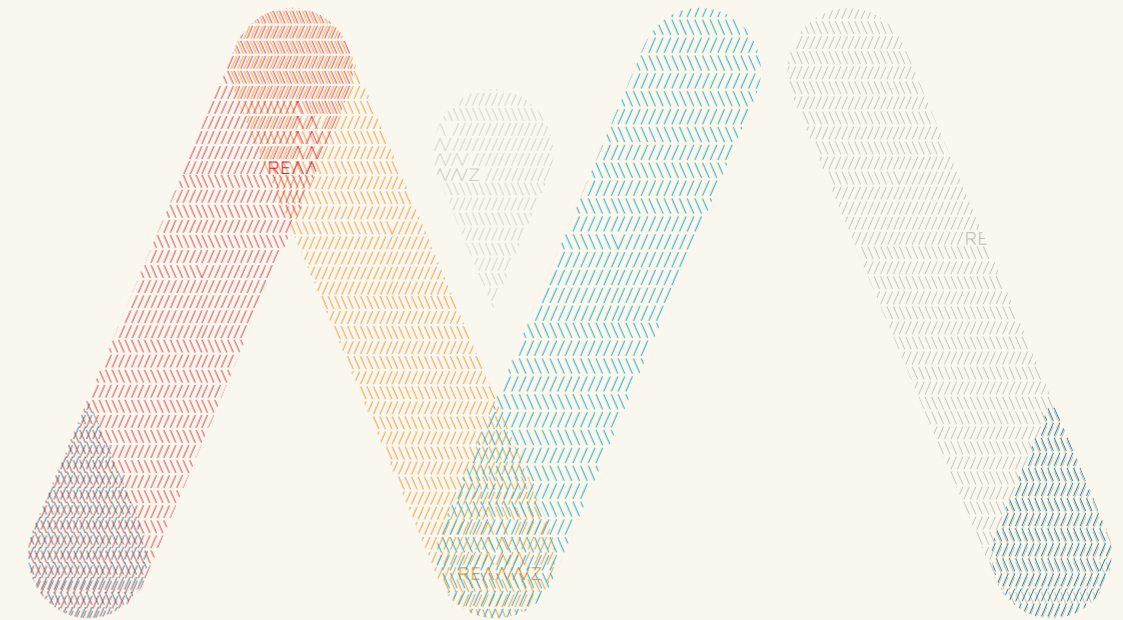
STATEMENT OF SERVICE EXPECTATIONS

A draft Statement of Service Expectations will be made available to shareholding Ministers no later than two months prior to the beginning of the financial year.

QUARTERLY REPORTS

Quarterly reports will be submitted to shareholding Ministers providing provisional financial and non-financial performance data, measured against the forecasts in the applicable Statement of Performance Expectations. This information will be provided through CFISnet, the Crown's Financial Information System.

OTHER INFORMATION

REANNZ will provide other information relating to the affairs of the company as requested by its shareholding Ministers.

REANNZ