

Product and Service Development Report November 2016

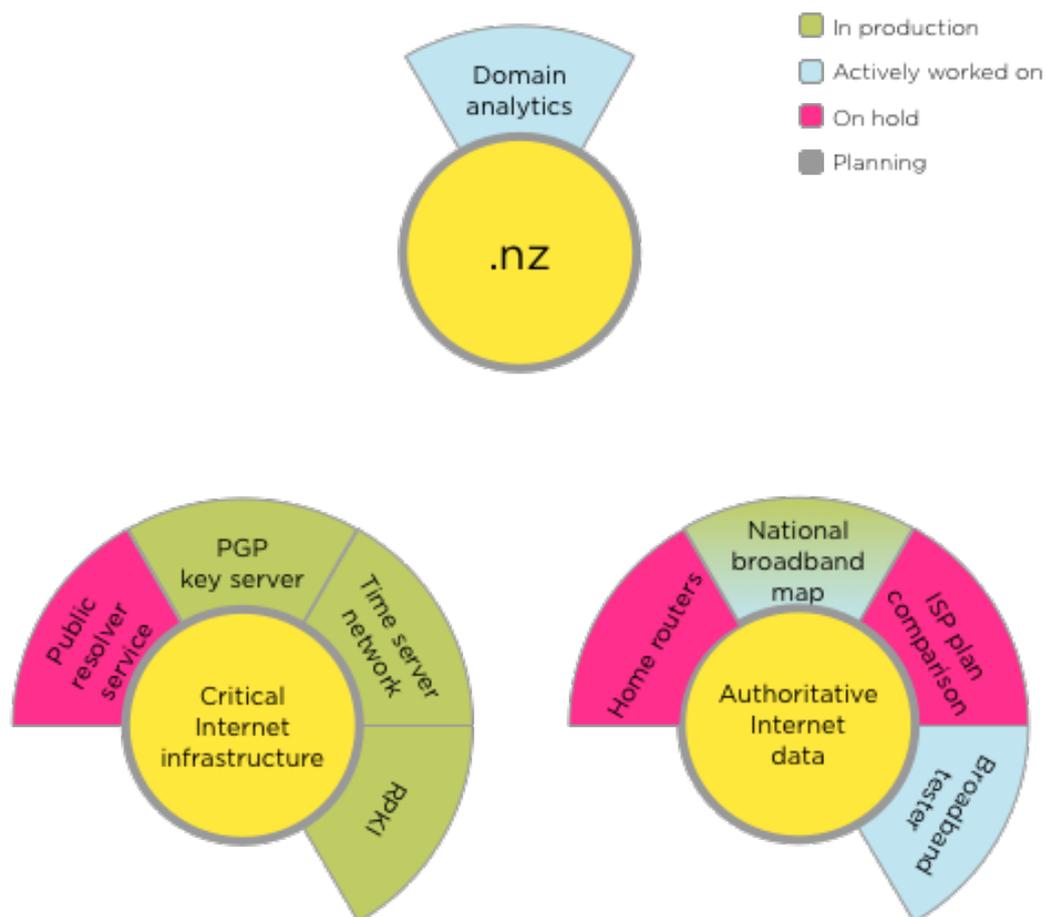
1 Introduction

NZRS has a three-legged stool of product and service development that is based on our mission statement:

“To provide world class critical Internet infrastructure and authoritative Internet data.”

Where .nz sits in the nexus as both critical Internet infrastructure and authoritative Internet data.

The diagram below shows the opportunities that are sufficiently well defined to be tracked. Progress on each is detailed below. Please note that this is an operational report and is not intended to explain the strategy or process by which opportunities are chosen.



2 Progress

2.1 Domain Analytics

Current status:	ACTIVELY WORKED ON
Possible risk	Low to Medium
Possible income:	High to Very High
BD expenditure:	None
Synopsis:	<p>A product for registrants that they purchase through their registrars as an add-on to their domain name that provides usage data and popularity ranking based on traffic observed on ISP and NZRS nameservers. The ranking can then be compared against anonymised and aggregated data of other registrants based on several factors including ANZ Standard Industry Code.</p> <p>This is unique in that it allows a registrant to measure the impact of the promotional spend independent of factors that affect their market overall (e.g. seasonal changes).</p>
Issues and Risks	<ul style="list-style-type: none"> • The anonymisation has to be good to ensure that individual registrants cannot be identified by their competitors. Good examples of how to do this exist in the credit card data market. • The ranking algorithm has to be robust.
Key actions since last report	<ul style="list-style-type: none"> • Business plan approved by NZRS board. • Completed first cut of UX design and backend architecture.
Next steps	In development. Aiming for working UI with fake data by Jan/Feb.

2.2 Public Resolver Service

Current status:	ON HOLD
Possible risk:	Medium to High
Possible income:	Medium to High
BD expenditure:	None

Synopsis:	<p>A public resolver service akin to 8.8.8.8 from Google that</p> <ol style="list-style-type: none"> 1. allows people to access to their full resolver data (useful for identifying infections, access to phishing sites, etc); 2. to add-on custom filtering services and geo-ip blocking circumvention; 3. to use a DNSSEC enabled resolver if their company/ISP does not provide one; 4. to use new DNS privacy features being developed by IETF if otherwise not able to do so.
Issues and Risks	<ul style="list-style-type: none"> • Robust authorisation process required to ensure that people only see the data that belongs to them. • Preventing law enforcement thinking of this as a good place to serve an interception warrant.
Key actions since last report	<ul style="list-style-type: none"> • None
Next steps	<p>On hold due to other priorities with no urgency to reprioritise. This will be re-evaluated when new DNS privacy features are available to see if a gap exists nationally.</p>

2.3 PGP Keyserver

Current status:	IN PRODUCTION
Possible risk	Low
Possible income	None (current) to Medium (possible future)
BD expenditure:	None
Synopsis:	<p>This was initially launched in 2009 as a free service filling a gap in the Internet infrastructure of NZ. Since then a watching brief has been kept on identity technologies and services to see how this service can be built on.</p> <p>There is an opportunity to develop as a more general identity platform.</p>
Issues and Risks	<ul style="list-style-type: none"> • None.

Key actions since last report	<ul style="list-style-type: none"> • None
Next steps	No further work planned

2.4 Time Server Network

Current status:	IN PRODUCTION
Possible risk	Low
Possible income	None (current) to Low (possible future)
BD expenditure:	None
Synopsis:	This was initially launched in 2010 as a free service filling a gap in the Internet infrastructure of NZ. This service is capable of serving more accurate time (using Precision Time Protocol) and more secure time (using Autokey) but neither feature is turned on. Since then a watching brief has been kept on the need for more accurate or secure time to see how this service can be built on.
Issues and Risks	<ul style="list-style-type: none"> • None
Key actions since last report	<ul style="list-style-type: none"> • Fourth server installed.
Next steps	Announce availability of fourth server. Look at turning Autokey back on.

2.5 RPKI

Current status:	IN PRODUCTION
Possible risk	Medium
Possible income	None (current) to Medium (possible future)
BD expenditure:	None
Synopsis:	Over time we expect most if not all of the global Internet routing system to want to be protected by RPKI. For some NZ holders of large IP address blocks this may be costly for them to achieve because of the restricted practices of APNIC. By launching a free RPKI validation service we have a chance to

	establish our credibility and then publish an RPKI signing key into the global system along with ccTLD/DNS operator partners operating in the same space. With this we could then offer RPKI signing to NZ IP address holders in a less expensive way than RIRs.
Issues and Risks	<ul style="list-style-type: none"> • Competition and modernisations by RIRs may obviate the need for cheaper signing.
Key actions since last report	<ul style="list-style-type: none"> • None
Next steps	Concentrating on promoting the free service and encouraging people to use it, in order to establish the site. Current usage is minimal, reflecting a general apathy towards RPKI.

2.6 Home Routers

Current status:	ON HOLD
Possible risk	Medium to High
Possible income	High
BD expenditure:	None
Synopsis:	<p>A home router that puts the consumer in complete control of their Internet connection. Features include:</p> <ul style="list-style-type: none"> • Monitoring your own traffic • Identifying locally infected devices • Measuring your internet service performance • Circumventing geo-IP blocks • Comparing your traffic against anonymised and aggregated data of other users • Time/device based blocking of Internet use • Local content filtering
Issues and Risks	<ul style="list-style-type: none"> • Expensive project to undertake. • Relies on specialist skills that are in short supply. • Taken so long to get to this stage that first mover advantage may be lost.

Key actions since last report	<ul style="list-style-type: none"> • None
Next steps	On hold due to other priorities with no urgency to reprioritise. This is a big project and would be considered as the project to follow Domain Analytics.

2.7 National Broadband Map

Current status:	IN PRODUCTION / ACTIVELY WORKED ON
Possible risk	Medium
Possible income	Low
Synopsis:	This is a two stage opportunity. Stage 1 is to build a site that enables anyone to find out what broadband technology is available at a particular location and what access speeds that supports. Stage 2 is to make that financially self-sustaining by charging for API access.
Issues and Risks	<ul style="list-style-type: none"> • That all data providers are happy with a small level of monetisation in order to make the site self-sustaining and not an ongoing cost.
Key actions since last report	<ul style="list-style-type: none"> • Further confirmed sales. • Work begun on developing new interface for high volume users. • New version of open source tool, Wavetrace, released. • Wavetrace made it as finalist in 2015 Open Source Awards.
Next steps	Adding satellite, extensible fibre and community wireless. Adding new high-volume API.

2.8 ISP plan comparison

Current status:	ON HOLD
Possible risk	Low
Possible income	Low

BD expenditure:	None
Synopsis:	Telme was an established price comparison site for consumers to choose the best ISP/Telco for their need. This was a complex site and expensive to run with no commercialisation. The plan is to redevelop it into a much simpler site and make it financially self-sustaining through the sale of the pricing data collected, as other price comparison web sites do.
Issues and Risks	<ul style="list-style-type: none"> • TelMe was not financially self-sustaining. • Complexity of providing results in a way that meets both Consumer requirements on correctness/authority and NZRS requirements on usability/simplicity.
Key actions since last report	<ul style="list-style-type: none"> • None
Next steps	On hold waiting to see what impact Glimp and BroadbandCompare have on the market and in particular if a new site can be made financially viable.

2.9 Broadband Tester

Current status:	ACTIVELY WORKED ON
Possible risk	Medium
Possible income	Medium
BD expenditure:	None
Synopsis:	<p>Broadband testing is in its infancy and there is still no best way to carry it out. The three forms currently employed are:</p> <ul style="list-style-type: none"> • Over the top (OTP) - such as Speedtest.net • Edge - such as Truenet • Infrastructure - such as WAND AMP <p>It is likely that some form of tender will appear for broadband testing capability using OTP or infrastructure methods to complement that edge based testing already used by ComCom. With extensive</p>

	<p>experience of infrastructure management in this area (we have managed some WAND AMP probes for many years) this provides a number of opportunities:</p> <ul style="list-style-type: none"> • To become the central/neutral repository of published broadband tests. • To develop or contribute to the development (as we have with WAND AMP) of open source broadband testing tools. • To become a neutral operator of a infrastructure based broadband testing network.
Issues and Risks	<ul style="list-style-type: none"> • May be perceived by some members as competition. • Ensuring that we have a neutral role and do not get into the judgemental space.
Key actions since last report	<ul style="list-style-type: none"> • None
Next steps	Waiting for a tender to be issued.

3 Financial summary

The total capital expenditure to the end of March of the \$400,000 committed to product and service development is as follows:

Year	Opportunity	Item	Spent
2014-15	National Broadband Map	Development	\$43,036
2015-16	National Broadband Map	Development	\$36,183
2016-17	National Broadband Map	Development	\$7,690
2016-17	Domain Analytics	UX Design	\$16,632
TOTAL			\$103,541
REMAINDER			\$296,459