


**New Zealand
Internet
Exchange**



Annual
General
Meeting
2022

Agenda

- Meeting Open & Chair's Report, Chris Browning
- Treasurer's Report, Dave Mill
- Secretary's Report, Tom Paseka
- Technical Report, Aaron Chidiac
- Committee Election, Tom Paseka
- Other Business, Chris Browning
- Meeting Close, Chris Browning
- Open discussion on IX, hosted by the NZIX Committee



Meeting Open & Chair's Report

Chris Browning

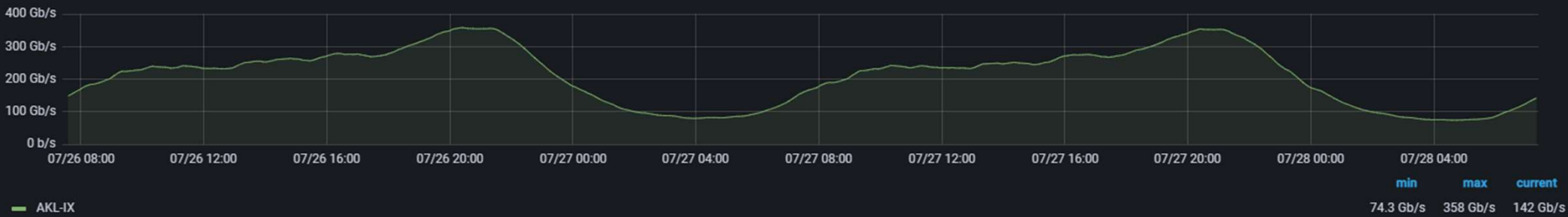
Welcome

- Welcome
- Meeting procedures
- Health and Safety
- Toilets
- Quorum
- Proxies
- Previous minutes

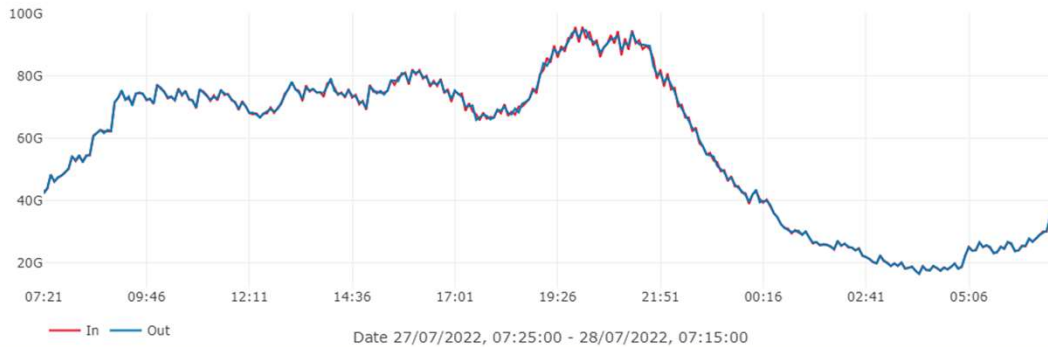


Chair's Report

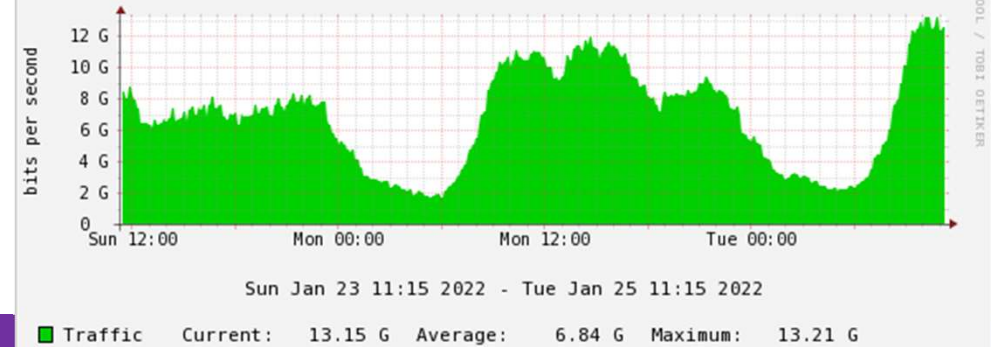
AKL-IX



Auckland IX



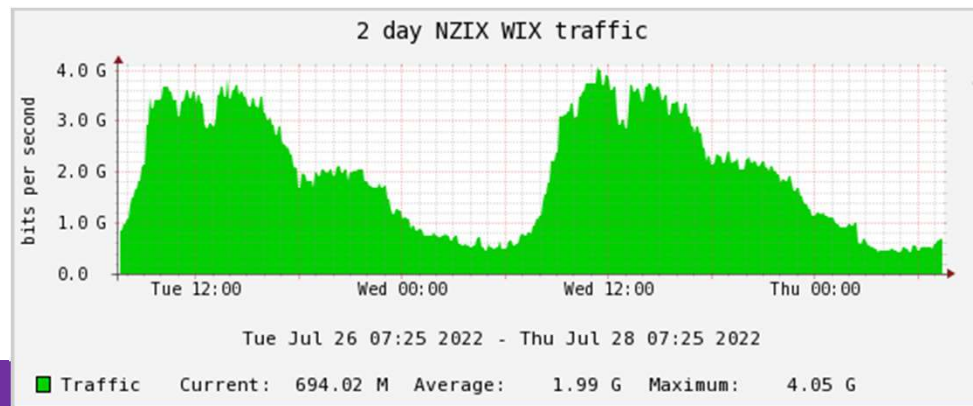
2 day NZIX APE traffic





Chair's Report

WLG-IX





Chair's Report

CHC-IX



Oops

Error 404 - File Not Found



Chair's Report

AKL-IX capacity upgrade

Its coming!!!

Final scoping for

Orbit

300Gbit ring around 4 primary PoPs (MDR, 220Q, VDC Albany, Orbit)

Easy upgrade to 400Gbit ring

Chorus extended reach

- Live for Auckland
- Only 2 users
- Not planned for CHC-IX, but maybe
- Not planned for WLG-IX, but maybe



Chair's Report

2021 AGM Update

Upgrading is expensive

Educational ISP

- Support in principal from industry
- People time to build and operate hard to solve
- Distraction at this time
- If right people approach we would help start

Becoming a Spark customer

- They saw through us and rejected our request to becoming a customer



Chair's Report

Thanks

Treasurer's Report

Dave Mill



Treasurer's Report

Summary:

2021/2022 financial year summary

As of 31 March 2022

- \$409,046 cash on hand
- \$166,625 profit before depreciation
- \$64,357 net profit for the year
- \$458,945 equity (increase of ~\$55,000)
- No loans or other debt



Treasurer's Report

Key Budgets:

Main budget passed March 2021 for 21/22 financial year

Budget adjusted October 2021 allowing for:

- WLG-IX launch
- PE purchases



Treasurer's Report

IAA Services Agreement:

Previously:

- \$4000 + 10% of income per month

Reviewed (mid 2021):

- Now: \$8000 + 10% of income per month

Roughly \$14,000 p/m (previously about \$10k p/m)



Treasurer's Report

Auditor:

Laura Addinall

- 2nd time using her
- Not required from this year on, but still very useful



Treasurer's Report

Main Audit Point:

Procedures required around adding of new payees in Westpac

- Or around changing of suppliers' bank account details



Treasurer's Report

Appointment of Auditor:

Propose that we appoint Laura Addinal - LACA Ltd for 22/23 financial year audit



Treasurer's Report

Spending:

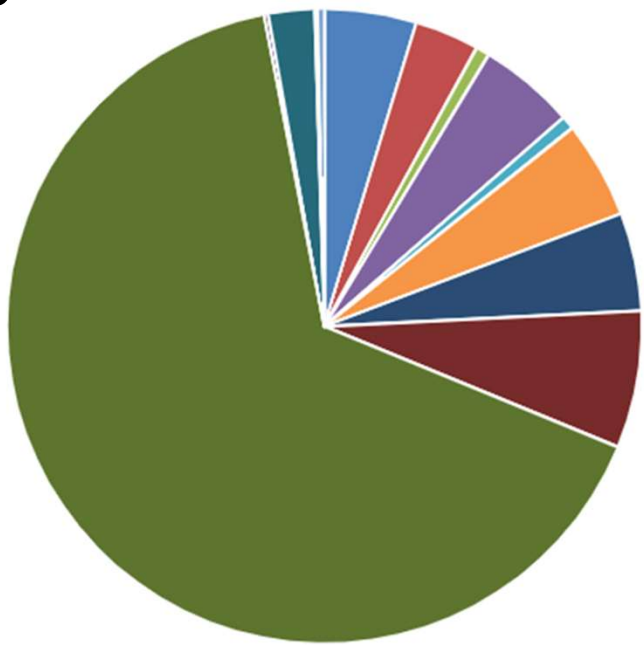
Financial reports are circulating

What we spent your \$\$\$ on...



Treasurer's Report

Spending Excluding Cost of Sales

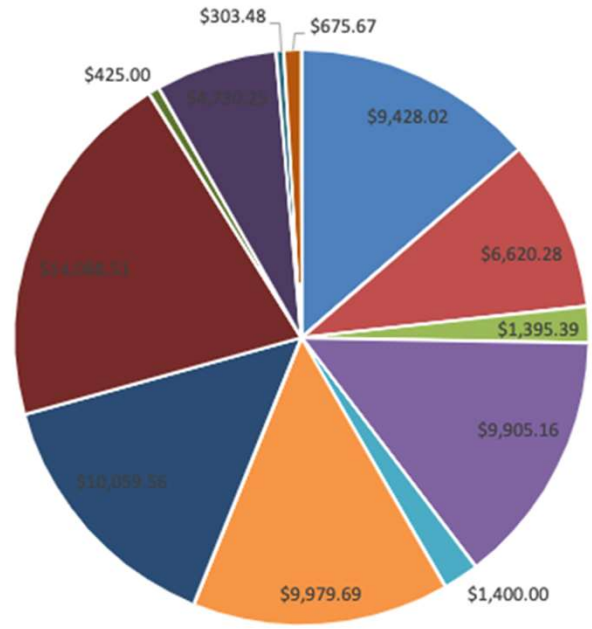


- Banking/Accounting
- Functions & Events
- General Expenses
- Insurance
- Legal Expenses
- Loss on Disposal of Assets
- Marketing & Sponsorship
- Promotions
- Service Agreements (IAA)
- Subcontractors
- Subscriptions
- Training & Development
- Travel



Treasurer's Report

Non-IAA Expenses



- Banking/Accounting
- Functions & Events
- General Expenses
- Insurance
- Legal Expenses
- Loss on Disposal of Assets
- Marketing & Sponsorship
- Promotions
- Subcontractors
- Subscriptions
- Training & Development
- Travel

Treasurer's Report

Statement of Financial Performance

New Zealand Internet Exchange Incorporated For the year ended 31 March 2022

	NOTES	2022	2021
Members' Contributions			
Port		624,597	565,747
Virtual Peering		8,400	-
Total Members' Contributions		632,997	565,747
Cost of Sales			
Cables and Consumables		23,590	-
Total Cost of Sales		23,590	-
Direct Costs			
Peering - Data Centre/Co-location		43,703	45,475
Peering - Contractors		14,880	7,000
Peering - Fibre/Interconnects		167,937	62,745
Peering - Remote Hands		10,252	7,702
Total Direct Costs		236,772	122,922
Gross Profit		372,634	442,826
Other Income			
Interest Income		144	95
Other Income		7,500	2
Total Other Income		7,644	97

Treasurer's Report

Statement of Financial Performance

Expenses

Accounting Fees	3,798	3,580
Audit Fees	3,646	2,750
Bank Fees	1,134	1,844
Computer Equipment Support	22,205	-
Exchange Loss	-	3,832
Functions & Events	6,620	695
General Expenses	1,395	48
Insurance	9,905	7,411
Interest Expense	-	2,207
Legal Expenses	1,400	14,795
Marketing & Sponsorship	10,060	16
Merchant Charges	850	599
Promotions	14,089	-
Service Agreements (IAA)	132,417	122,676
Subcontractors	425	-
Subscriptions	4,730	2,987
Training & Development	303	-
Travel	676	-
Total Expenses	213,653	163,440



Treasurer's Report

Statement of Changes in Equity

New Zealand Internet Exchange Incorporated For the year ended 31 March 2022

	2022	2021
Equity		
Opening Balance	394,588	214,141
Increases		
Profit for the Period	64,357	180,447
Total Increases	64,357	180,447
Total Equity	458,945	394,588



Treasurer's Report

Balance Sheet

Assets

Current Assets

Cash and Cash Equivalents		409,046	313,531
Accounts Receivable		4,647	1,208
Income Tax Receivable	3	48	31
Prepayments		7,609	3,667
Total Current Assets		421,350	318,436

Non-Current Assets

Property, Plant and Equipment	4	109,158	103,605
Spark NZ Trading Ltd - Bond		5,000	5,000
Total Non-Current Assets		114,158	108,605

Total Assets		535,508	427,042
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Treasurer's Report

Balance Sheet (cont.)

Liabilities

Current Liabilities

Accounts Payable	5,498	2,522
Accrued Expenses	20,684	15,752
GST Payable	10,508	11,879
Income Received in Advance	39,750	2,300
Other Current Liabilities	122	-
Total Current Liabilities	76,562	32,454

Total Liabilities

76,562 **32,454**

Net Assets

458,945 **394,588**

Equity

Members' Funds	458,945	394,588
Total Equity	458,945	394,588



Treasurer's Report

Motion to Accept Financial Statements:

- Prepared by our accountants – Sutcliffe Graham and Co Ltd
- Audited by Laura Addinall – LACA Limited
- Any questions? (raise hands)

Propose – Dave Mill

Seconded - ...



Treasurer's Report

Financial Plans for This Year:

- New PEs
- Orbit / Datacom POP in AKL
- CDC POPs in AKL??
- Western path
- WDM 300G ring



Treasurer's Report

Thanks

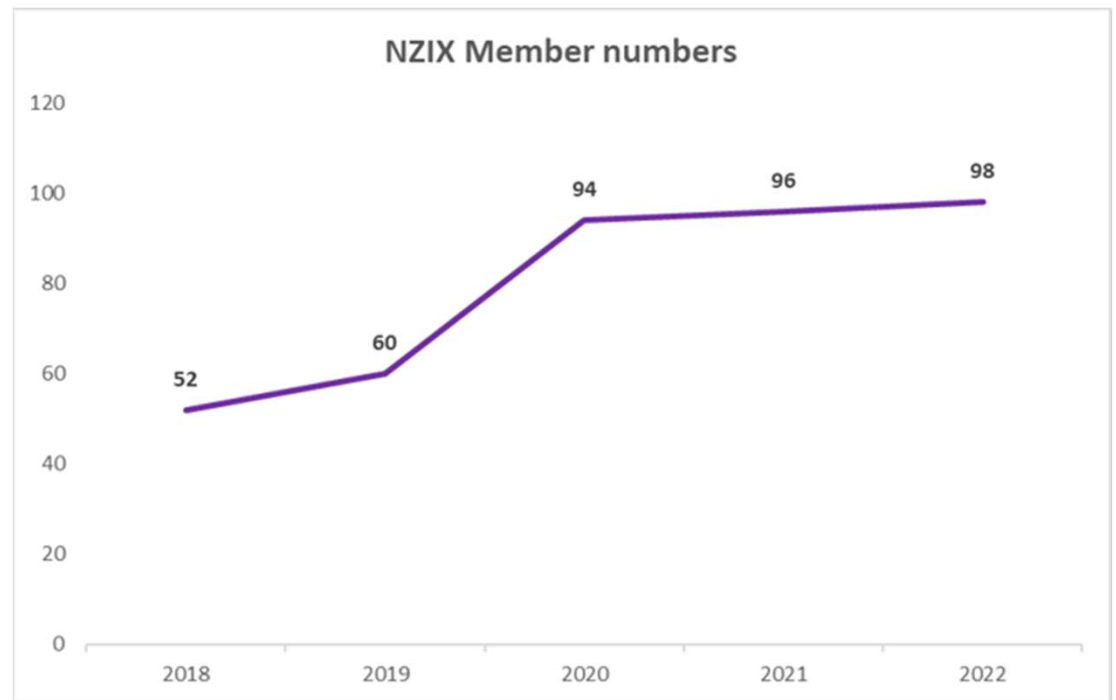
Secretary's Report

Tom Paseka



Secretary's Report

Growth rate of 88.5%
since 2018 and 2.08%
since 2021





Secretary's Report

Policies:

- NZIX conducts a policy review on each Society policy every 2 years
- In the last 12 months we reviewed the Peering Services Schedule, Disconnect Policy and Acceptable Use Policy.
- Only minor changes were made to the Disconnect policy to reflect a new Accounts Receivable process.
- The other two policies remained unchanged



Secretary's Report

Incorporated Societies Act 2022:

- As part of this years Committee Elections, we wanted to review and update our Committee Onboarding documents
- In doing this considerations were made based on the incoming Societies Act 2022
- This new Act does not come fully into force until December 2025
- There are likely further changes that will be required to our Society rules to comply with the Act and early discussion with our lawyer will begin in the coming months
- Early guidance is new rules will need to be voted on by members by the 2024 AGM – so we have some time!



Secretary's Report

Service Agreement with IAA

- Last November the NZIX Committee successfully re-negotiated the Service Agreement with IAA, to continue outsourcing the operations the society
- The new agreement came into effect on 1 January 2022 for a period of two years
- IAA provide technical and administrative support



Secretary's Report

Thanks

The background is a solid purple color with a faint, repeating pattern of hexagons and gears. The hexagons are arranged in a grid, and some of them contain a gear icon. The gears are of various sizes and are scattered across the page.

Technical Report

Aaron Chidiac



Technical Report

NZIX Exchange Overview:

- **Core Network:** OSPF, MPLS + VPLS with RSVP-TE + LDP Fallback
- **Hardware:** Extreme Networks – X870-32c (32xQSFP28), X690-48x-2q-4c (48xSFP+, 2xQSFP+, 4xQSFP28), Legacy X670G2-48x-4q and X670V-48x (48xSFP+, 4xQSFP+)
- **Optical/Cabling:** FlexOptix and Codecom. Standardize on LR4 10km 1310nm for 40G/100G, ER4 40km for long paths, 40G PLR4 (4x10G Breakouts). Circulators, MTP-B 8f (4xLC to 1xMPO), LC-LC.
- **Fibre Carriers:** Vector, Vodafone, Chorus



Technical Report

NZIX Exchange Overview (cont):

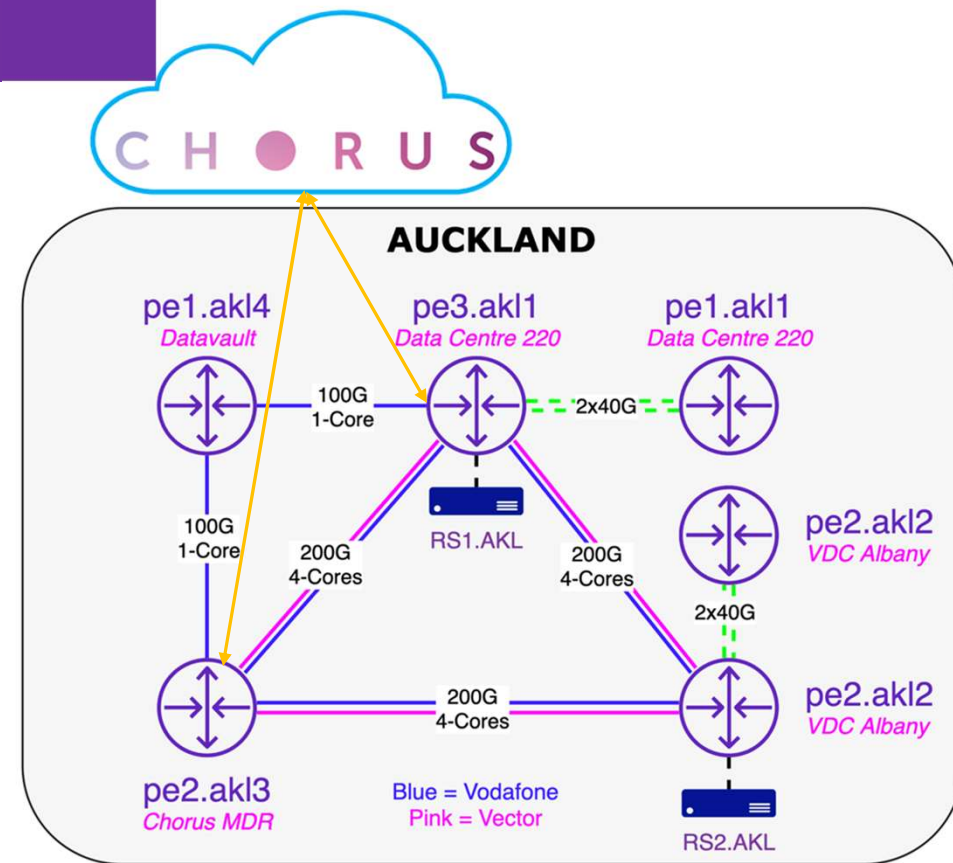
- **Route Servers:** Dell R640s running Bird 2.07 (RPKI Compliant, dropping invalids).
 - Members with AS-Set defined peering policies are updated daily: RS1 at 2pm and RS2 at 3pm.
- **Out of Band:** OpenGears – ACM7004-5 with /31 from \$providers
- **Port Security (Ingress):**
 - Static MAC filtering
 - Broadcast, Unknown Unicast, Multicast (BUM) traffic limited to 500pps
 - Noise filter access list – STP+ALT,ISL,PVST,CDP,LLDP, IPv6_RA

Technical Report

AKL-IX:

4 Physical Points of Presence:

- 220Q
 - MDR (Chorus)
 - VDC Albany
 - Datavault
- 3 PoP ring has 2x100g carrier diverse + 2x100g redundancy to each
 - 1 PoP has 2x100g diverse
 - Chorus Edgeconnect redundant 1x100G in AKL-IX – MDR + 220Q





Technical Report

AKL-IX - Trends

AKL-IX	2018	2019	2020	2021	2022
Peers	70	77	90	94*	96
Traffic Peak	60Gbit/s	98Gbit/s	178Gbit/s	278Gbit/s	402Gbit/s (21/06)
IPv4 Routes	10,000	51,000	67,000	105,000	114,000
IPv6 Routes	1,800	24,000	35,000	45,000	48,000
1G Ports	15	10	8	6	3
10G Ports	60	75	91	83	85
40G Ports	0	0	1	3	3
100G Ports	0	1	8	15	24
Total Ports	75	86	108	107	115



Technical Report

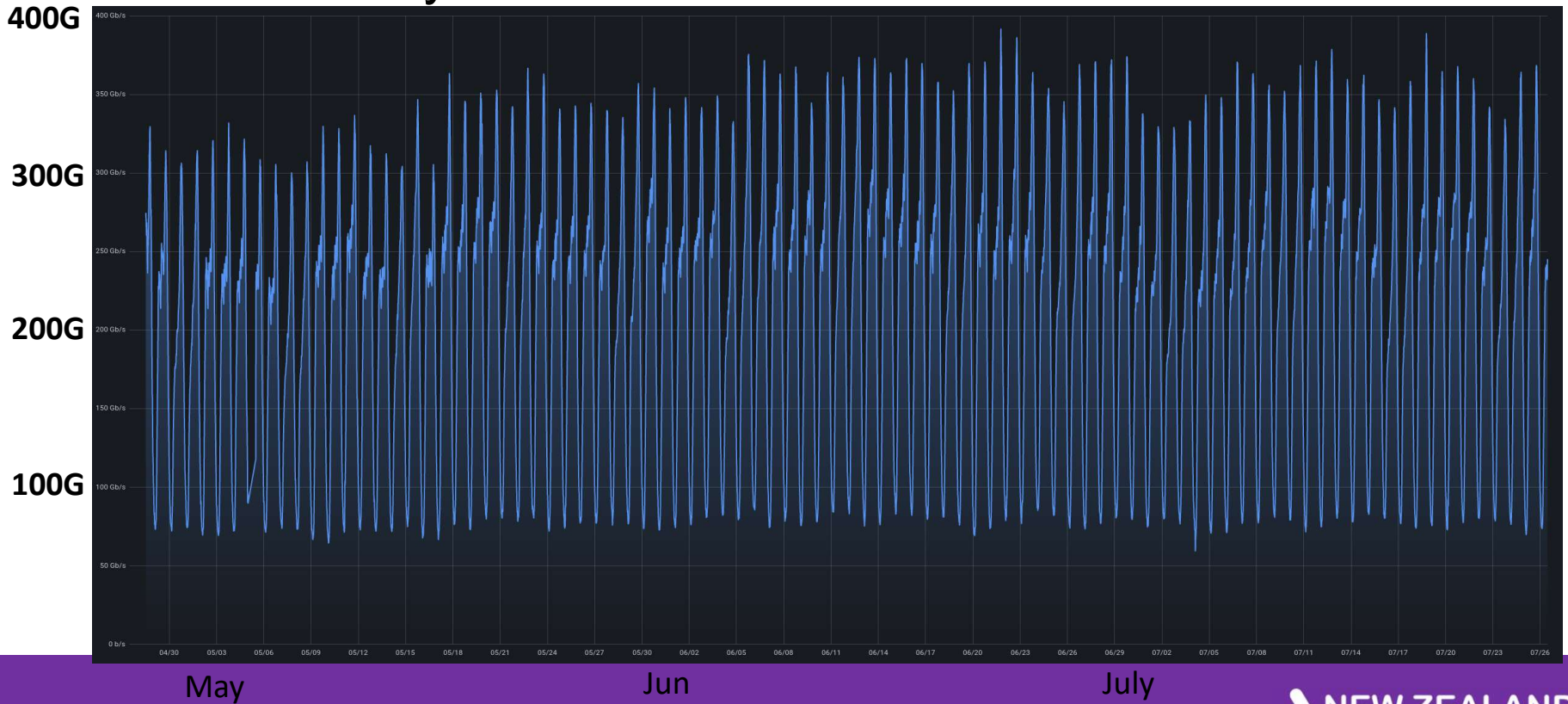
AKL – Last Year 90 Day Traffic (May to Aug)





Technical Report

AKL – Last 90 Day Traffic

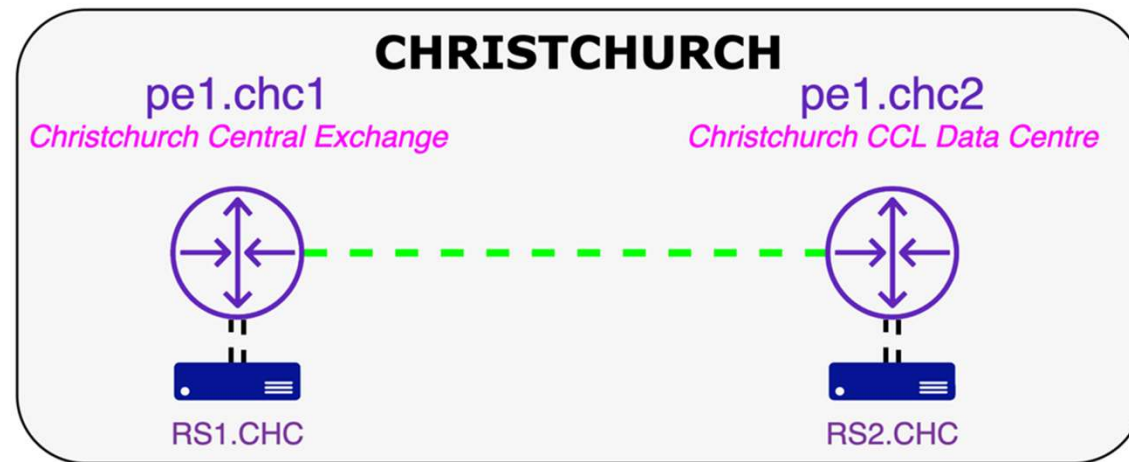


Technical Report

CHC-IX

2 Physical Points of Presence:

- Christchurch Central Exchange
- CCL Data Centre
- Single 40G Path (Via Lightwire)
- Extreme x690 platform





Technical Report

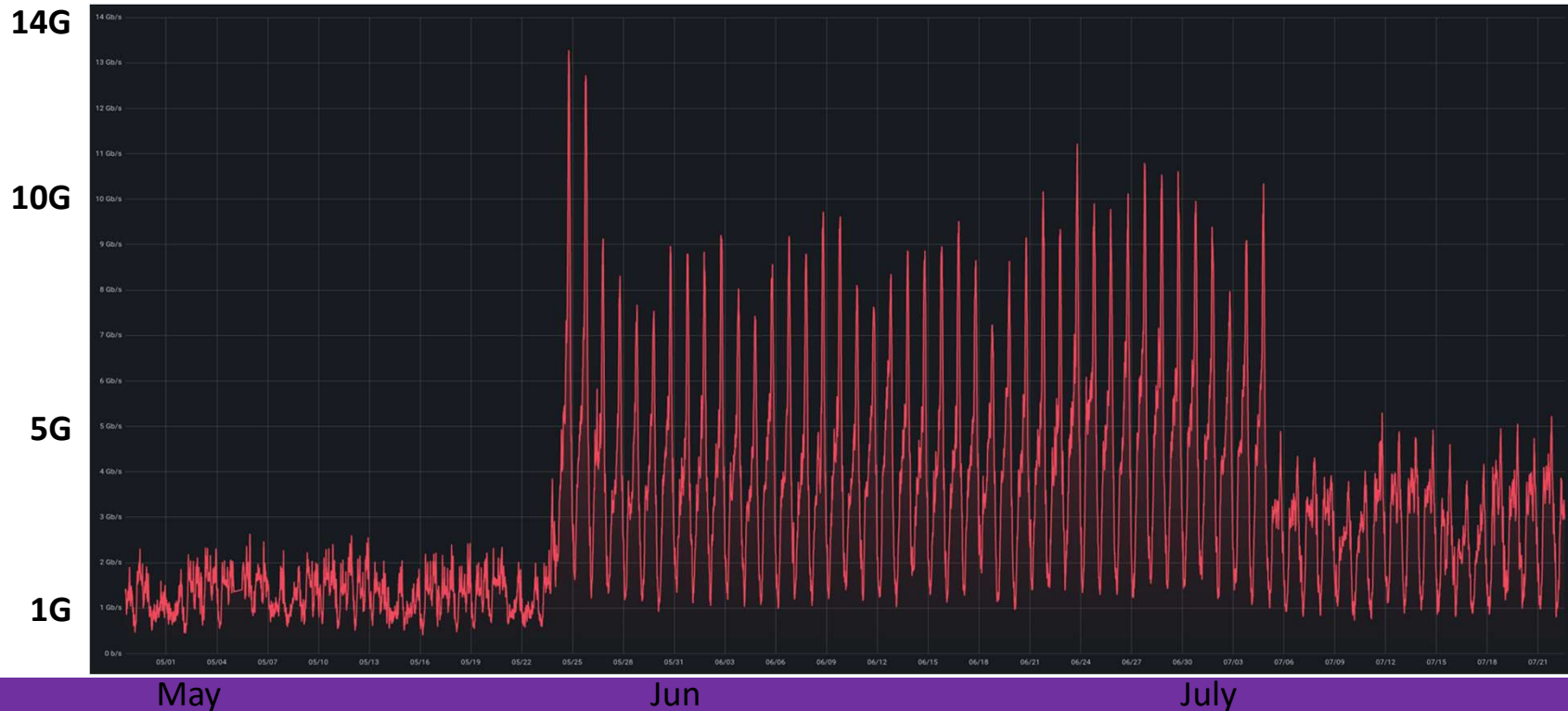
CHC-IX - Trends

CHC-IX	2020	2021	2022
Peers	7	10	17
Traffic Peak	550Mbit/s	2.5Gbit/s	13.3Gbit/s
IPv4 Routes	1,000	1,100	1,800
IPv6 Routes	100	200	450
1G Ports	0	1	0
10G Ports	7	11	16
40G Ports	1	1	1
Total Ports	8	13	17



Technical Report

CHC – Last 90 Day Traffic



Oh, Hey Fastly... Sorry not sorry 2degrees!

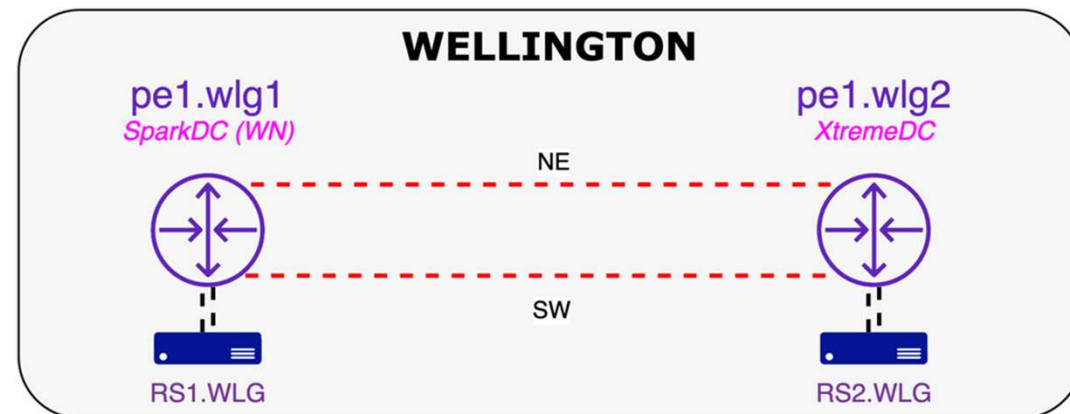
Technical Report

WLG-IX (Est. 1/11/21)

2 Physical Points of Presence:

- SparkDC (WN) / Featherston
- XtremeDC
- Redundant 1x100G paths (via Chorus)
- Extreme x870 platform (32x100G)

FREE period until 01/11/2022





Technical Report

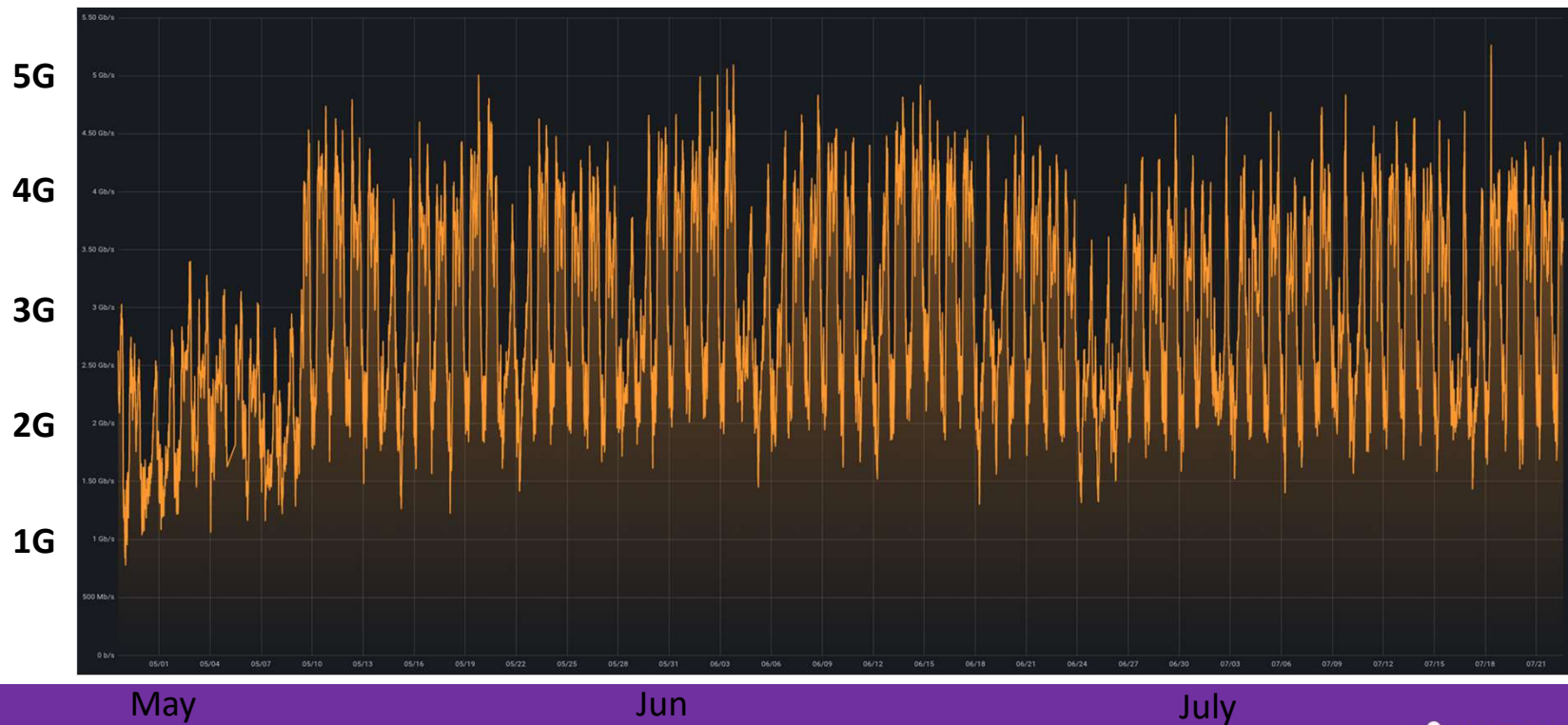
WLG-IX - Trends

WLG-IX	2021 (Est. Nov)	2022
Peers	8	16
Traffic Peak	606Mbit/s	6.5Gbit/s
IPv4 Routes	1,000	1,700
IPv6 Routes	200	400
1G Ports	N/A	N/A
10G Ports	7	16
40G Ports	0	0
100G Ports	1	1
Total Ports	8	17



Technical Report

WLG – Last 90 Day Traffic



May

Jun

July

Fastly... just turned up!



Technical Report

NZIX Future:

- AKL-IX Expansion project (DRAFT)
 - New Sites: Datacom Orbit Drive
 - Greater IX resiliency with western CBD path and multiple 100G Switches per site, greater capacity with 300G redundant ring, Big CAPEX but reduced OPEX
 - Discussions today have massaged this to a more feasible project



Technical Report

NZIX Future:

- Chorus Edgeconnect at CHC-IX, WLG-IX
 - Assessing better use of the product in all locations
- New Portal
 - Ansible Network Automation
 - Billing automation
- Spark Joining? :)



Technical Report

Huge thanks to everyone who has joined on the IX, it's you who make this possible!

Website – <https://ix.nz>

IX Metrics – <https://metrics.ix.nz>

Looking Glass - <https://lg.ix.nz>

Status page – <https://status.ix.nz>

Committee Election

Tom Paseka



Election Nominations

This year we had 4 Nominations:

- **Greg Wills** from NOW NZ LTD, nominated by Dave Mill representing SiteTech Solutions Limited
- **Jocelyn Bateman** from Amazon, nominated by Tom Berryman representing Connectivity I.T.
- **Liam Farr** from ISP Limited, nominated by Ashley Martin representing UniFone New Zealand Limited
- **Simon Allard** from 2degrees, nominated by Rob Graham representing 2degrees



Election Results

Thank you to all the nominees and everyone who voted for your ongoing support

New committee members are.....



Other Business

Chris Browning

Meeting Close

Chris Browning

Open Discussion on IX

Hosted by the NZIX Committee

**Thanks for
coming!**

Annual
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2022

