



Internet  
Association  
of Australia

# Member Forum 2023

## IX Updates

August 2023





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# IX Update



# IX Upgrades, Updates and Upheavals

- WA-IX
  - Renumbering well under way
  - Future: P2 being scoped
- NSW-IX 400Gbps
  - New switches due end of month
  - Test program to commence
  - Aiming for RFS January
- SA-IX Changes
  - Billing to commence 50% off for first year for existing users
  - More traffic expected soon – Fastly
  - A1 from day 1
  - Bye bye Adam DC
  - Bye bye 132 Franklin (1 March 2024)

# NEW Member discounts

- iVLL Price Review
  - Tender conducted for underlying capacity
  - New pricing schedule with significant drops to most services
- NextDC Deal
  - With a new IAA IXP port in a NextDC get:
    - 2mo free on 1-4 racks on a 36mo term
    - 3mo free 5+ racks on a 36mo term
    - Offer valid from August 9<sup>th</sup> to December 15<sup>th</sup>, 2023
    - Delayed service commencement of up to 90 days if required

The new pricing aims to be appropriate to the market so that IAA can recover its costs for Intercapital cache and content services as well as provide a flexible, limited platform for members to deliver reliable generally small scale services. IAA is not attempting to be a market contender in long haul services.



## Introducing...

- TAS-IX
  - Locations: Tasmanet DC3 and 7HOB
  - No iVLL services for now
  - Content
- Thank you to FSG for partnership
- FREE!!
  - for 12mo



**Stay tuned for RFS date!**

# Route Server Replacement Program

- Dell EMC PowerEdge R350 server (1 RU)
- VMware ESXi 7 hypervisor
  - vSwitch with two attached physical NICs in teaming configuration
  - Explicit-order failover on link down detection
  - Attached to different peering switches for redundancy
- Ubuntu 22.04 guest OS
  - Management virtual interface and IX virtual interface
  - IX virtual interface in own network namespace

# Route Server Architecture

- BIRD 2.0.7 route server
  - Process runs in IX network namespace
- Why network namespaces?
  - Single BIRD process in separate network namespace = no other processes accessible via IX interface
  - Reduced attack surface, theoretically impossible to gain control over the route server from the IX fabric

## Route Server Architecture *contd*

- Why virtual machines?
  - RS1 and RS2 hypervisors for each IX grouped together in a vCenter-managed cluster
  - Route server VM can be quickly migrated to another host in the same cluster in the event of hardware failure or other requirement
  - Could move to container-based solution in the future (e.g. Kubernetes)



## Route Server Architecture *contd*

- BIRDWatcher API for looking glass interface
- SNMP monitoring via ESXi hypervisor
- Management connectivity via ZPE OOB network
- Configuration generated automatically by ARouteServer
  - Scheduled generate + push jobs in Ansible AWX
  - All IX route servers updated daily
    - RS1 @ 9 AM AEST
    - RS2 @ 2 PM AEST

# Diagram

