



APNIC

Asia Pacific Network Information Centre

# The APNIC Internet Routing Registry

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# The APNIC Internet Routing Registry

- Project Origins
- Goals
- Status
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- Regional/Global Coordination



# Acknowledgements!

- Many thanks to JANOG-9 P.C./O.C
  - For invitation
  - For being so hospitable
  - For the \*fantastic\* food!!!!
    - (except for the CRAB)
- Ito-San, IPv6 promotion council
- Kondo-San, IJ/JPNIC IRR w.g.
- Nakagawa-San, INTEC/JPNIC IRR w.g.
- Maemura-San Equant/JPNIC APNIC EC

# Project Origins

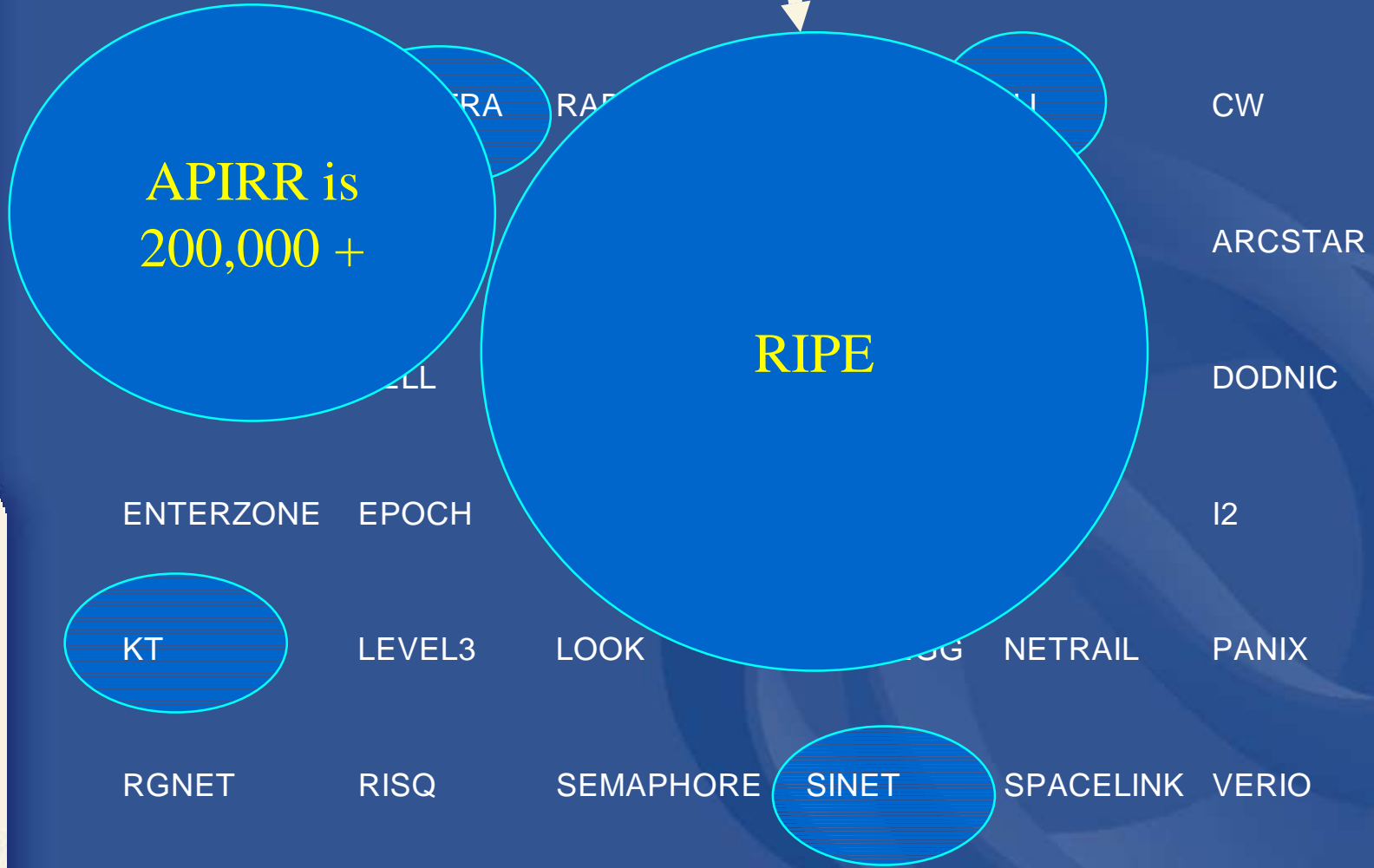
- Long standing recognition of need
- Activity commenced after request from APNIC membership:
  - JPNIC IRR workshop in particular
- JPNIC IRR workshop took lead in initiation
  - provided support/encouragement
  - tested IRRD/RIPE-V3 interoperation
  - Early pilot mirror site
  - Help MUCH appreciated

# Goals

- Provide in-region Routing Registry
  - Mirror as many other IRR as possible
  - Bootstrap APNIC membership in IRR
  - Coordinate regional activity
  - Provide Training Opportunities
    - RPSL/IRR course at APRICOT
      - Andy Linton, Technical Consultant on APIRR pilot project.
- Enhance global routing
  - Enhance member services


# Status #1: Sources Available

Over 600,000 objects!!



## Status #2

Sorry, 1 day. We  
added memory  
yesterday

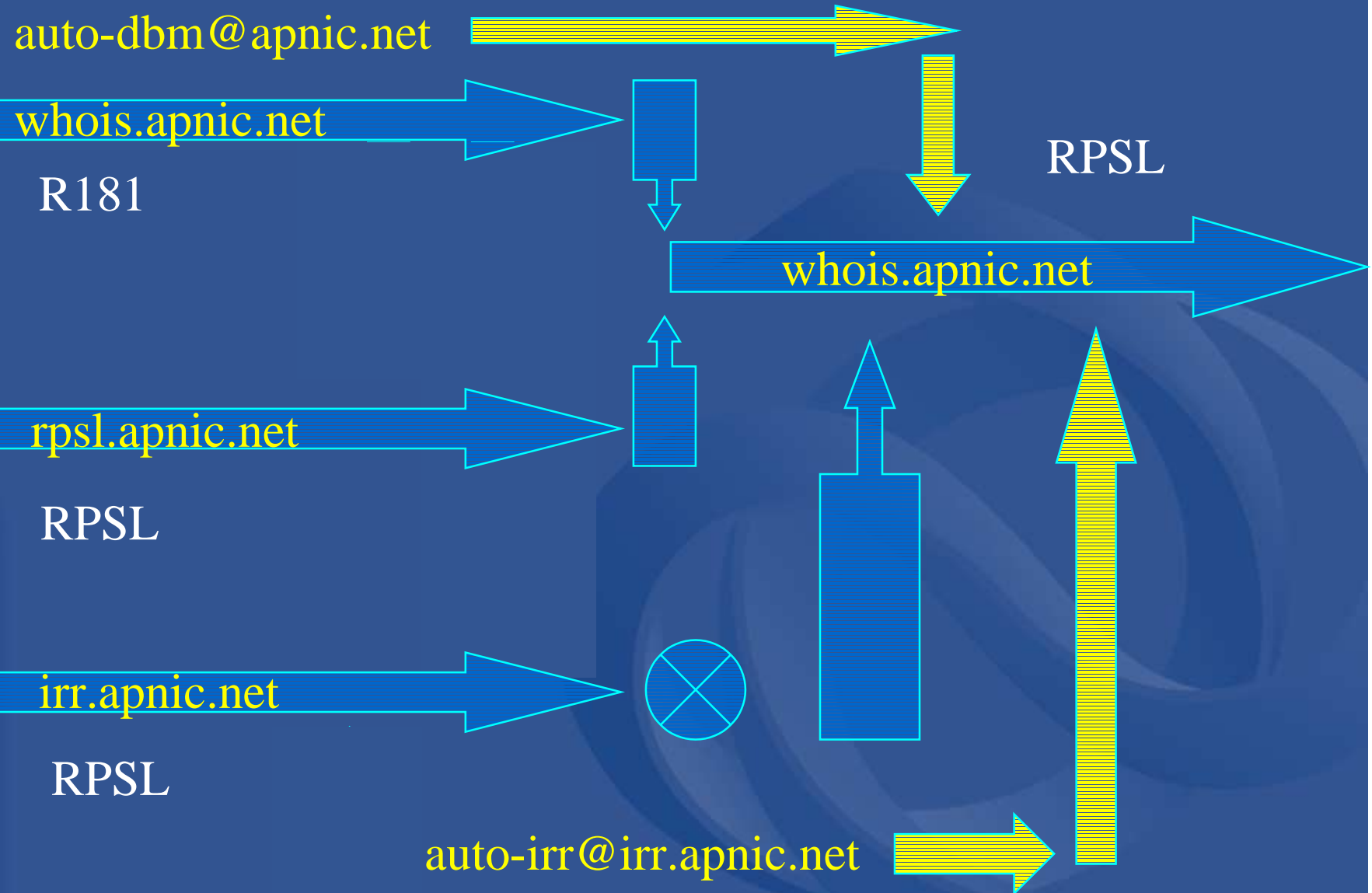
- Service live on `irr.apnic.net`
  - `auto-irr@irr.apnic.net`
  - Robust service: uptime  days
    - (server relocation caused last outage)
  - Dell 1550R dual CPU, 1GB memory
  - large memory footprint processes!
    - 86Mb whoisd (C++)
    - 250Mb mysqld (uses mfs backed /tmp)
  - Not a general purpose host!

# How many source= at APNIC?

- whois.apnic.net = source APNIC
  - RIPE v2 (perl) RIPE-181 encoded objects
  - Live service, generates DNS zones, allocation mgt.
  - Retirement overdue!!
- rpsl.apnic.net = source APNIC
  - RIPE V3 (c++) RPSL objects, copied from V2 source.
    - **READONLY**
    - **Experimental, will become [whois.apnic.net](http://whois.apnic.net)**
    - **TESTBED for migration planning.**
- irr.apnic.net = source APIRR
  - RIPE V3, copied from V2 source,
  - in RPSL but with [update enabled](#).
    - **Data will be integrated back into source APNIC when RPSL migration is completed.**



# APNIC Migration to RPSL





## Status #3: how APIRR is made

- Near-Real-Time Mirror (NRTM)
  - of RIPE V2 (RIPE-181) dataset
- Mirror source is source: APNIC
  - Mirror process converts data to RPSL
  - stream of {add,del, {del,add} ...}
    - converted to {add,del,modify...}
  - some objects cannot be imported:
    - ~ 300 out of 200,000
    - due to non-compliant (legacy) NIC-HDLs
    - will be manually cleaned up



# Source APIRR Protection

- If you have nic-hdl, maintainer in SOURCE APNIC in ripe-181
  - You can add route objects in source APIRR automatically with same protection (crypt string is same)
  - easy to bootstrap
- Once in APIRR, can upgrade to GPG security to protect objects



## Other Sources

- Read Only copies of mirrored sources
- Can host your source on our h/w
  - JPNIC IRR probably a better choice
- Mix of NRTM, bulk update, snapshot
- Depends on source policy
  - Some pre-date widespread IRR (radb)
- We aim to release AUP to clarify mirrors of APNIC hosted data
- updates must go to prime source



# Future Plans

- Complete RPSL Migration at APNIC
  - copy APIRR data back into APNIC
- Run fully Integrated whois services
- Enhanced signing of route information
  - OCSP/Attribute-Certificates (PKIX)
    - ties into MyAPNIC
    - integrated registry services
  - Investigate cross-source auth when code available from RIPE



# Regional/Global Coordination

- APNIC proposed structure:
  - Reflects JPNIC working group proposals
- RIR run ‘federated’ mirrors
  - respect pre-existing services such as RADB
  - widest possible coverage
- Within APNIC, APNIC should mirror:
  - NIR hosted IRR
  - Other in-region IRR
- RIPE proposed cross-source authentication
  - ‘complicated to implement’ – W.I.P.



## Regional/Global Coordination contd.

- `wg-irr@lists.apnic.net`
- <http://www.apnic.net/mailling-lists/wg-irr/index.shtml>
- IRR BOF at NANOG
- JPNIC IRR WG
  
- Presentations/Discussions
  - NANOG, JANOG
  - APNIC-MM, RIPE-MM
  - IETF
  
- Service launch at Bangkok AMM



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# Questions?

O-Sewa Ni Narimashita !!!!