

Global Internet Number Resource Governance and Regional Ecosystem

MCMC Seminar
23 June 2026

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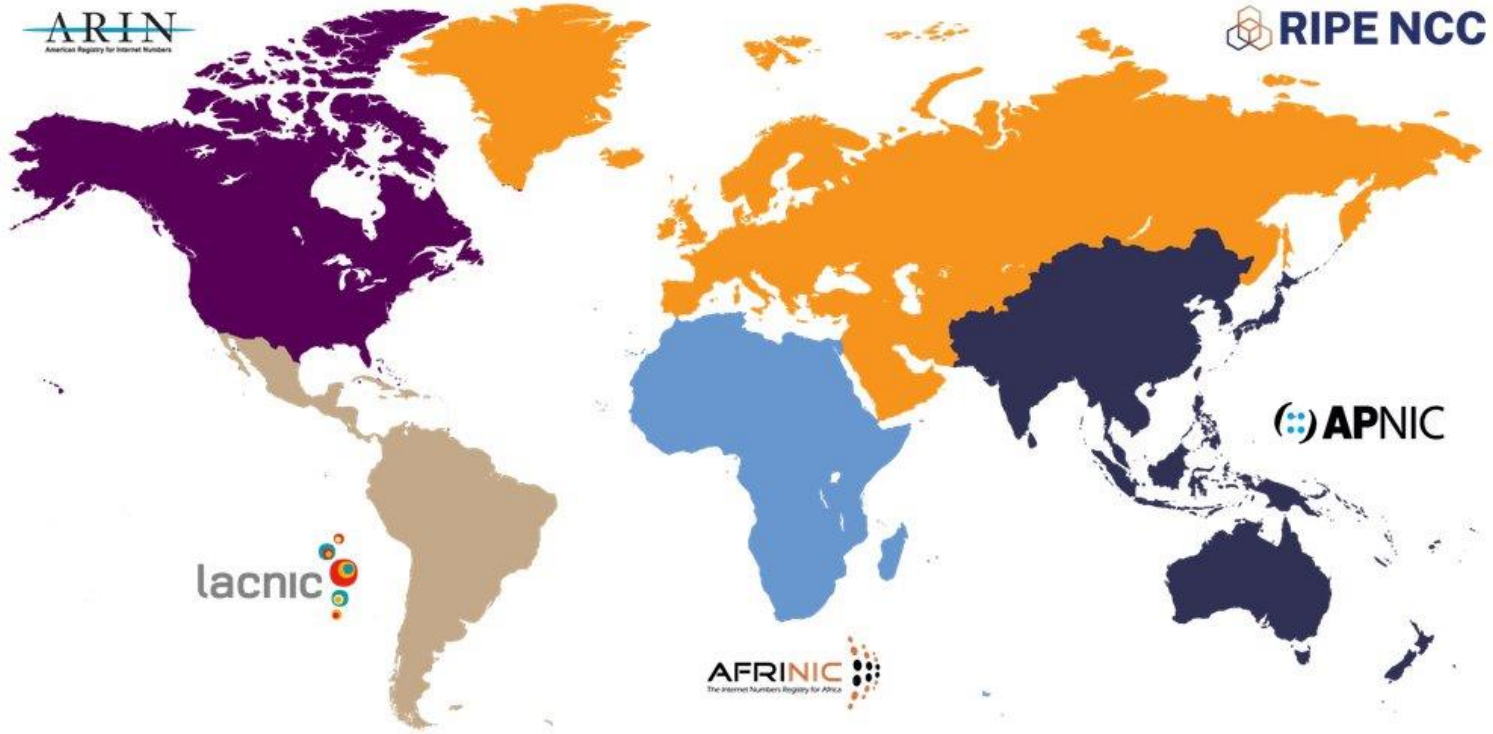
In the beginning...

- The coordination of unique identifiers was seen as critical from the very beginning of the Internet
 - 1972 – Dr Jon Postel proposes that someone be appointed to allocate and manage socket numbers for ARPANET (forerunner to the Internet)
- 1980s
 - TCP/IP becomes the standard protocol for ARPANET
 - Academic networks created around the world
 - Networks converge on TCP/IP and form the foundation of the Internet
 - IANA function created in 1988 including maintaining the Internet registry
- 1990s
 - Task of managing the registry becomes too large – IAB recommends further delegation of assignment and registration authority on an international basis (RFC 1174)
 - RFC 1366 (Oct 1992) lays out a framework for a regionally distributed registry model

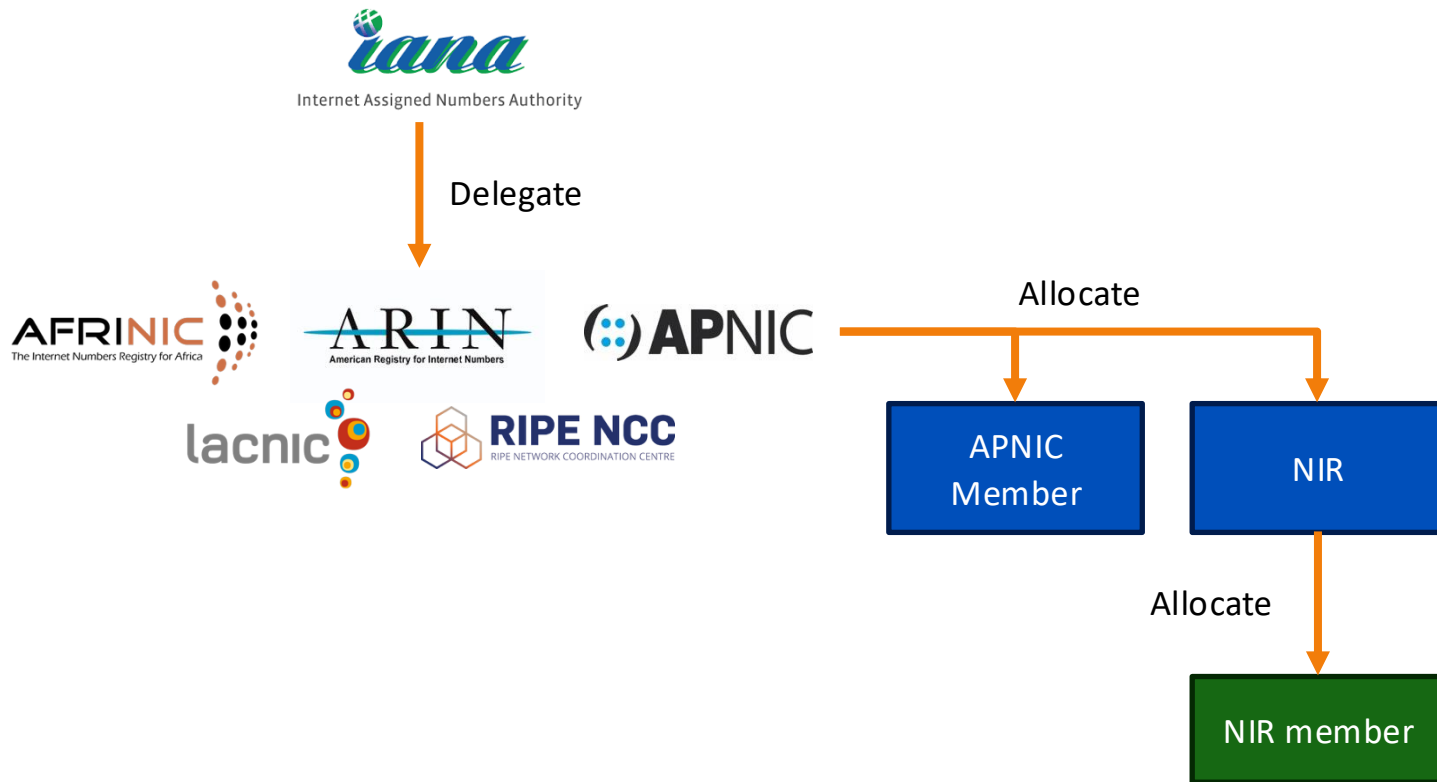
The RIRs emerge

- 1992 – RIPE NCC (Europe, Middle East, parts of Africa)
- 1993 – APNIC (Asia Pacific)
- 1997 – ARIN (North America, Latin America and Caribbean, parts of Africa)
- The IANA functions transition to ICANN (formed in 1998)
- 2001: ICP-2: Criteria for Establishment of New Regional Internet Registries developed
 - 2002 – LACNIC created
 - 2005 – AFRINIC created

RIR Regions



Global IP Addresses Flow



APNIC Region and NIRs

- APNIC began as an experiment in 1993
 - Some NICs pre-dated or formed at the same time as APNIC, and supported the experiment
 - AUNIC, JPNIC, KRNIC all assisted
 - APNIC was delegated its first ranges 202/8 and 203/8 by IANA in 1994
- NIRs in the APNIC region were created for scaling reasons in the early years
 - Assisted APNIC in coping with the growth of the Internet and demand for address space (APNIC was small but growing)
 - TWNIC (1994), IDNIC (1996), CNNIC (1997) joined JP and KR (AUNIC disbanded)
- As APNIC's service capabilities grew and IPv4 exhaustion slowed Member growth, few new NIRs emerged
 - VNNIC (2003), IRINN (2012)
- Today the IP address landscape is very mature and membership growth is flat in Asia Pacific and most other regions
 - APNIC EC placed NIR criteria under moratorium in 2012 and deprecated criteria in 2024
 - Original rationale for additional NIRs no longer applicable under current conditions

APNIC Governance

APNIC Governance

- APNIC is a Member-based, not-for-profit organisation funded by Member fees
- APNIC is governed by the Executive Council (EC) who are elected by the APNIC membership
- The EC also serve as the Directors of APNIC Pty Ltd
 - There is one share on issue in APNIC Pty Ltd which is held on trust for the Executive Council by APNIC EC Limited. APNIC EC Limited is a public company limited by guarantee with the Executive Council serving as the Members and Directors of the company
- APNIC's By-laws establish the corporate, electoral, and governance rules for the organization
- The By-laws can only be amended by a successful vote of the APNIC membership

Open Policy Process

- Resource Policies are the rules that determine how IP addresses and ASNs are distributed and managed
- Resource Policies are determined by the community – not APNIC or NIRs
 - The community follows the Policy Development Process (PDP)
- Once a proposal becomes policy, APNIC and the NIRs must strictly follow the policy
- NIRs are encouraged to hold their own Open Policy Meetings to contribute to regional policy making
 - NIRs may have their own policies as long as they do not conflict with APNIC Policy



Global Governance

Multistakeholder Model of Internet Governance

- No single person, company, organization or government runs the Internet
- The multistakeholder model is collaborative approach that involves participants from all relevant groups in developing Internet policy
 - All participants can be take part on an equal footing
 - Bottom-up rather than top-down approach
- The model is based on transparency, inclusivity, and collaborative decision-making to ensure all voices are heard and considered in the governance of the Internet
- The principles of the model can be seen across the RIRs and all global Internet bodies

Global Technical Community

- NRO – coordinating body for the five RIRs
 - NRO NC – representatives from the five RIR regions
 - Global policy and select ICANN Board representatives
 - Play the role of the ASO AC at ICANN
- ICANN – global coordination body for names and numbers, including steward for PTI (IANA Functions)
- IETF – develop and maintain technical standards that allow the Internet to function
- Internet Society – Internet development initiatives and advocacy
- ...there are many more

ICP-2 Review

- Internet Coordination Policy 2 (ICP-2) sets out the essential requirements for the recognition of Regional Internet Registries (RIRs)
- A review of ICP-2 commenced by ICANN ASO AC in October 2023 as the original document is more than 20 years old
 - Open, transparent, multistakeholder community process including global consultations in all RIR communities and at ICANN
- Final output will be an updated “RIR Governance Document” that will be adopted by ICANN and the RIRs
 - Current [draft available](#) on NRO website

RIR Governance Document

- Sets out operational criteria all RIRs must meet and introduces increased rigour
 - Implementation procedures to be developed with the agreement of all RIRs and ICANN
 - ICANN will undertake periodical audits to ensure compliance is maintained
 - Process for derecognition included
- Implications for APNIC and NIRs
 - APNIC will be held accountable for compliance, including where responsibility has been delegated to NIRs
 - Non-compliance by an NIR will mean non-compliance by APNIC
 - Strong collaborative relationships required
 - Compliance workload will increase at NIRs as a result (compliance costs may also increase)
- An RIR can be derecognised where it fails to meet the requirements under the Document

NIR Governance

NIR Governance: Current

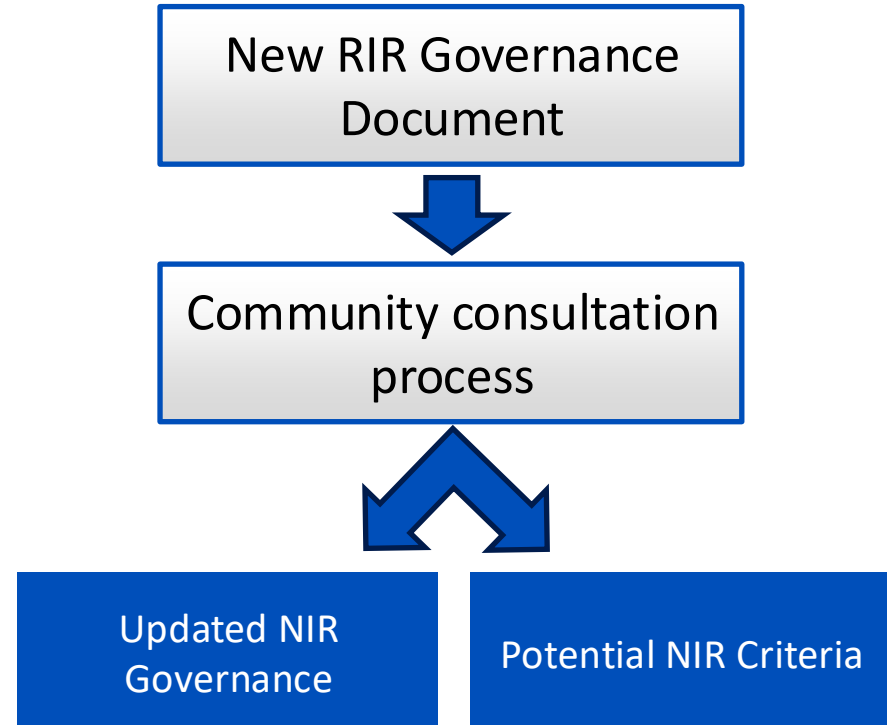
- NIRs must comply with current operational policies and the NIR Agreement
 - [NIR Agreement](#)
 - [Operational Policies](#)
- Resource Delegation Review Program in progress
 - Ensure address policy compliance across NIRs
- However, the NIR Agreement and Operational Policies are outdated (24 years old) and need to be updated

NIR Governance: Future

- Following adoption of the RIR Governance Document, APNIC will conduct community consultation on an updated NIR governance framework
- The consultation will consider the complete lifecycle of NIRs in the context of the new RIR Governance Document
 - Aim to ensure a viable, sustainable NIR framework, aligned with community priorities, and compliant with the RIR Governance Document
 - Output will apply to all NIRs
- All Members of the APNIC community will be encouraged to participate

New NIR Establishment

- APNIC is not in a position to process applications to recognise any new NIRs at this time
- Requests can only be considered after the RIR Governance Document is adopted and the community consultation with the APNIC community to develop comparable standards for NIRs is completed
- The consultation will include consideration to whether new NIRs should be permitted, and, if so, the relevant criteria for doing so



Questions?

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