An Expansionary Approach towards the IPv6 Address Allocation Model

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Introduction

- The Internet has evolved from a research based closed network to a social network used by everyone, and has grown to become the largest economy in the world.

- It is important to note that the focus of this study has never been to criticise ICANN or the RIRs. In fact, the study recognises the contribution and agrees to the address allocation principles of the RIRs.

- This study is a proposal to expand the current model. The reason is simple. The internet users of today have matured and prefer to have choices instead of only a single entity allocating addresses for the region.

Introduction

- Based on our studies, we find that the present system of IPv6 address allocation can be further expanded to meet the growing demands of the Internet community within the region.

- Researchers at NAv6 have been researching an expansionary IPv6 address allocation scheme that provides greater choices to the Internet community, but still maintains the integrity, sustainability and routability of the Internet.

# Need for an Expansionary IPv6 Address Allocation Model

- Our model proposes to maintain ICANN/IANA but further expand the RIR system currently existent on IPv6 address allocation by giving the users a choice. This is in line with the basic principle of freedom and democracy advocated by the founders and the current Internet community.

- Creating more localised RIR and CIRs will lead to provisioning of better and more competitive services to the Internet community. This is standard textbook outputs of "healthy competition".

- To have more relevant and equal participation in the IPv6 address allocation policy development by local Internet communities.

# Need for an Expansionary IPv6 Address Allocation Model

- To meet the local needs of the Internet users, especially within the Asian community by providing local language content, systems and training.

- To achieve better conservation of IPv6 addresses as local entities know the local requesting organizations better.

- To ensure better support and awareness programs to help move the IPv6 agenda, especially for the developing nations in the region.

# Current Internet Address Allocation Model
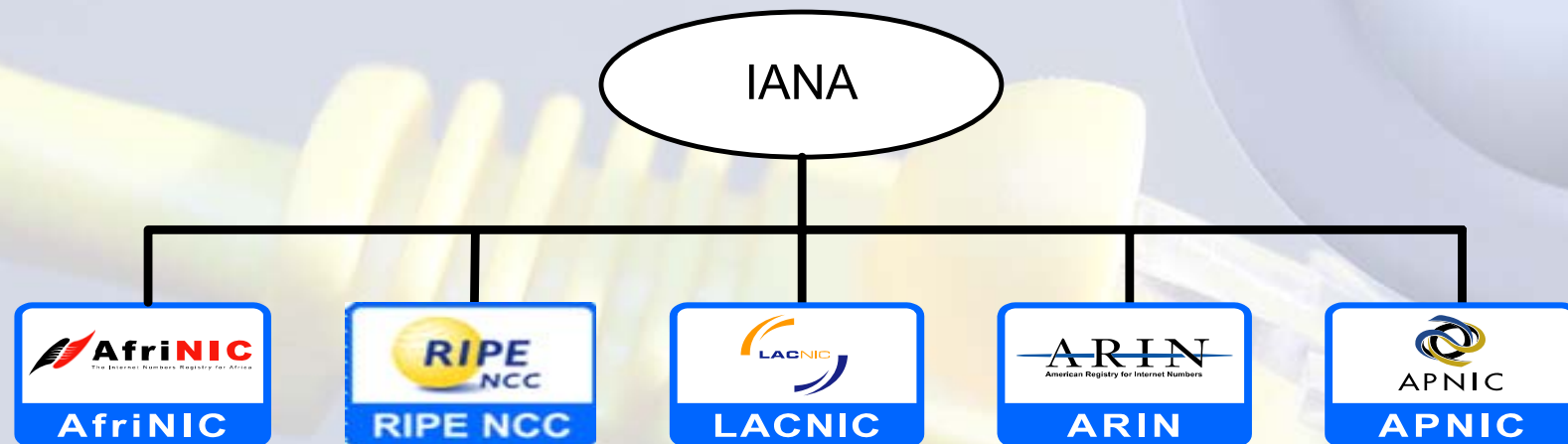
Current IPv6 Address Allocation Hierarchy and Policy

Allocation hierarchy

Minimum prefix size allocation

/12

/32

/32

/48 - /64
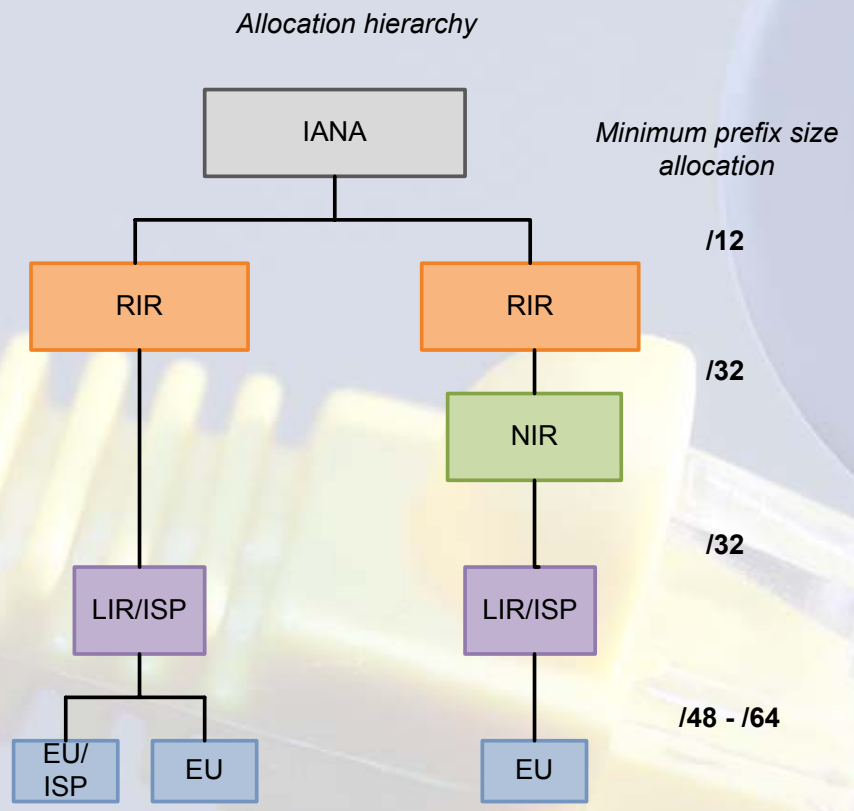
IANA – Internet Assigned Number Authority
RIR – Regional Internet Registries
NIR – National Internet Registries
LIR – Local Internet Registries
ISP – Internet Service Providers
EU – End User

Proposed Country Internet Registry (CIR) model
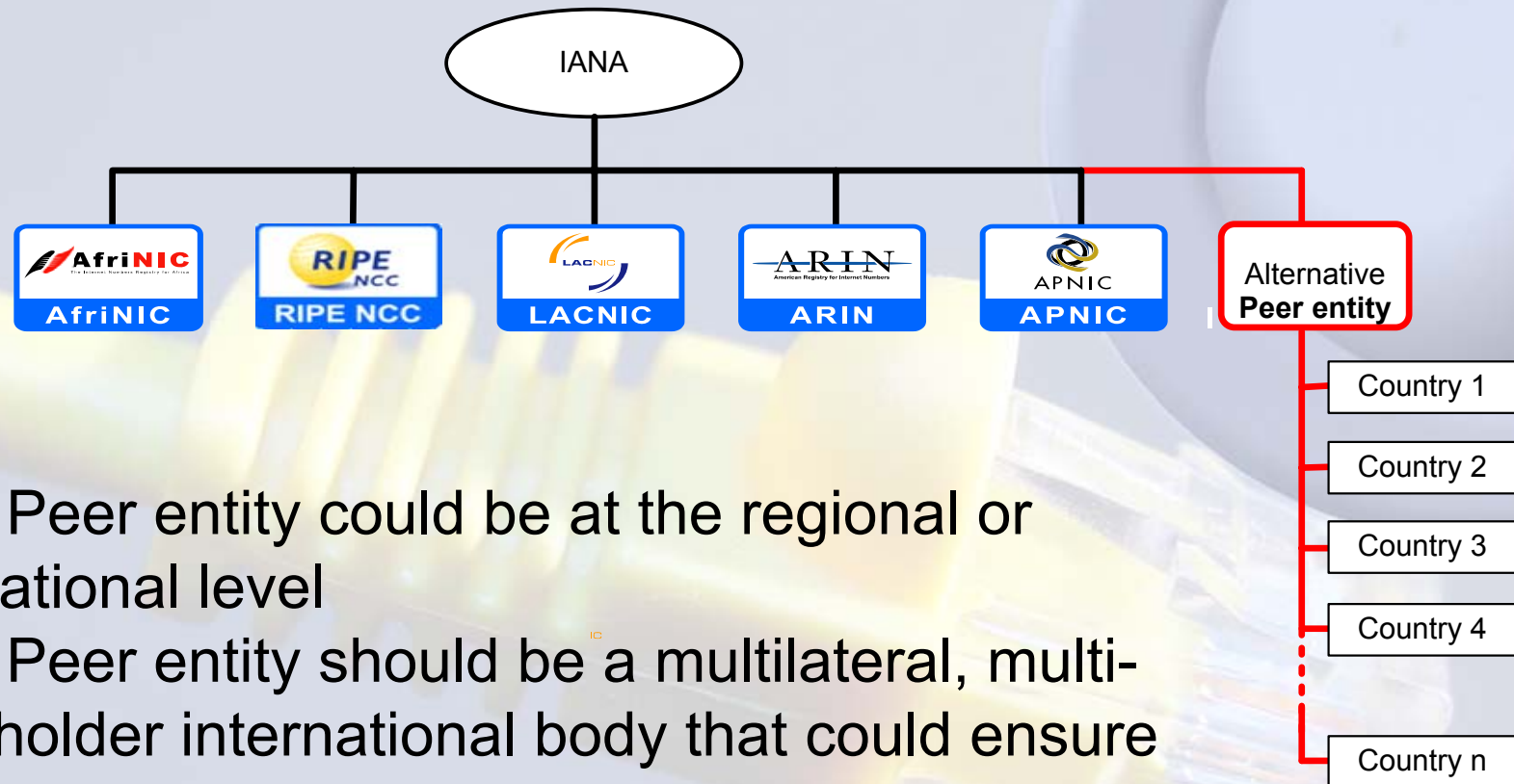
- The Peer entity could be at the regional or international level
- The Peer entity should be a multilateral, multi-stakeholder international body that could ensure close coordination among the CIRs and the RIRs.

Proposed IPv6 Address Allocation Hierarchy and Policy

Allocation hierarchy

Minimum prefix size allocation
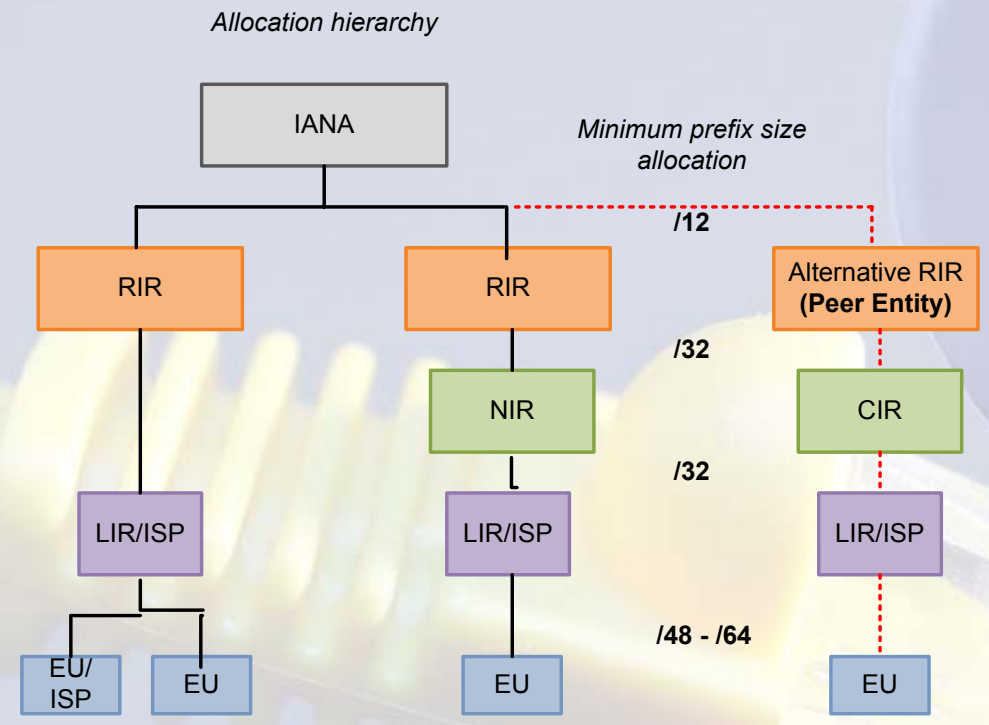
IANA – Internet Assigned Number Authority
RIR – Regional Internet Registries
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CIR – Country based Internet Registries
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The CIR model (1/4)

- The new entity/entities would serve in parallel to the current RIRs, thus providing Internet users a greater freedom of choice for obtaining IPv6 Address Allocation.

- The policies followed by the CIRs would be in close cooperation with the existing RIR policies with specific interest to satisfy the local needs of the users.

- Would adhere to the technical aspects of the Internet – address conservation, aggregation and registration

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The CIR model (2/4)

- Does not disturbs the existing infrastructure nor introduces any new infrastructure.

- There would be no additional fragmentation as our research and studies show have shown this.

- Overall number of prefixes added to the core routing table would be the same.

- *As such the expanded RIR/CIR model would not impact or threaten the global Internet stability and routability.*

The CIR model (3/4)

A CIR being closer to the user

– could check on the credentials of the applicants in assessing their IPv6 address needs

– can provide more fairly balanced aggregation and conservation through proper allocation of needed address space to the end sites

– would be able to better satisfy the local needs of the user – multilingual local language support and localized helpdesk

The CIR model (4/4)

- The CIRs would value add to the RIRs and benefit the Internet Users by differentiation of services.

- The CIRs would have equal participation in the policy formation and resource distribution so that Internet resource distribution and decentralization are more balanced, especially within their own countries.

- Implementing CIRs would facilitate a more equitable access to Internet resources, especially for non-English speaking countries, providing greater accessibility to the Internet for everyone.

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Conclusion

- The RIRs have greatly contributed in the early growth of the Internet and this is valued and appreciated.
- But we have to move with time
  - In creating the Next Generation Internet
  - An Internet that is open and non-monopolistic
  - An Internet where the users have a freedom of choice
  - The current Internet provides fair distribution of IPv6 addresses, and such methods of distribution should continue to be supported.

"The proposed CIR model will only work, if openly and correctly discussed, and implemented in the greater interest of the Internet and the netizens moving towards a fairly open, non-monopolized and democratic process of address acquisition.

Thank You

Q&A

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