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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.

- USM was appointed as consultants to conduct a study to expand the current IPv6 Resource Allocation Model.

Introduction

Researchers at NAv6, USM 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.

- 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.

Need for an Expansionary IPv6 Address Allocation Model

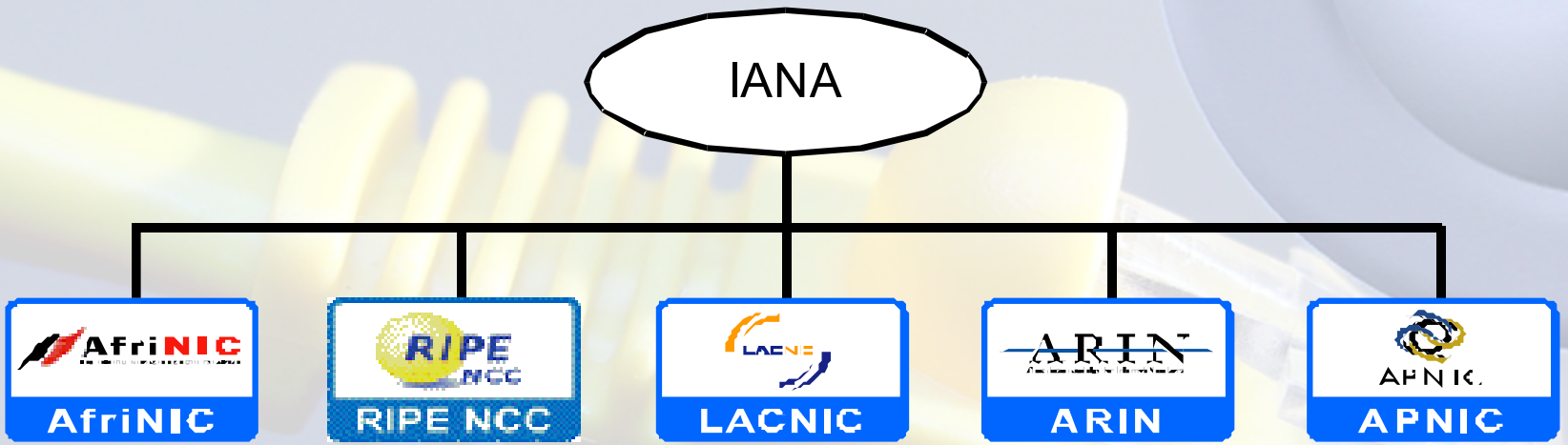
- Our model proposes to maintain the IANA/RIR but further expand the system to give ISPs a choice of whom their address block provider will be. This will potentially help reduce the cost to ISPs and in return, ISPs can re-invest that money to further promote IPv6 connectivity.

- To potentially further expand closer participation in the IPv6 activities and policy development by local ISPs Internet communities.

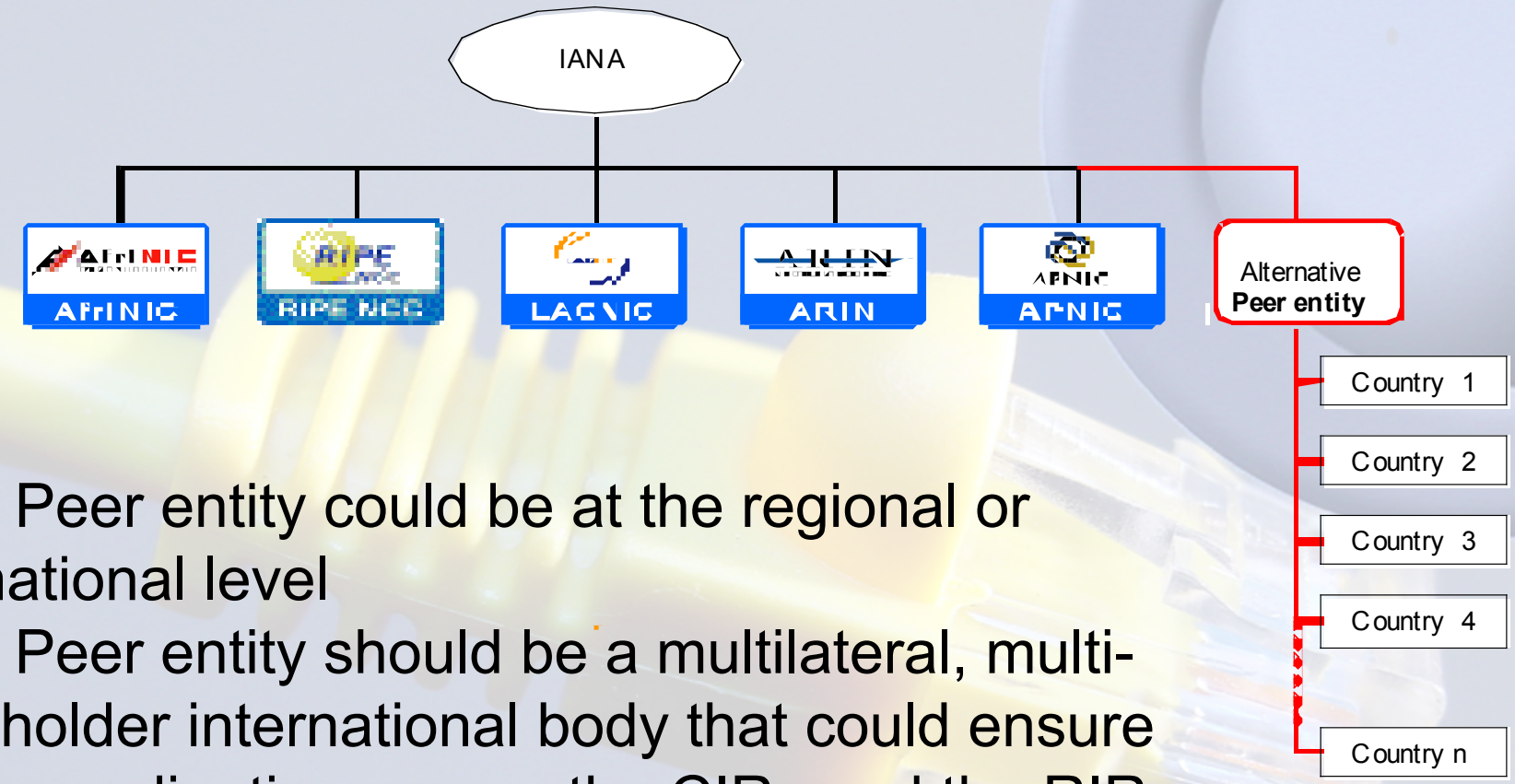
Need for an Expansionary IPv6 Address Allocation Model

- To meet the local needs of the ISPs and Industry, especially by providing local language content, systems and training.
- To achieve better conservation of IPv6 addresses as local entities and local ISPs know the local requesting organizations better.
- To provide better support and awareness programs to help move the IPv6 agenda, especially for the developing nations.

Current Internet Address Allocation Model

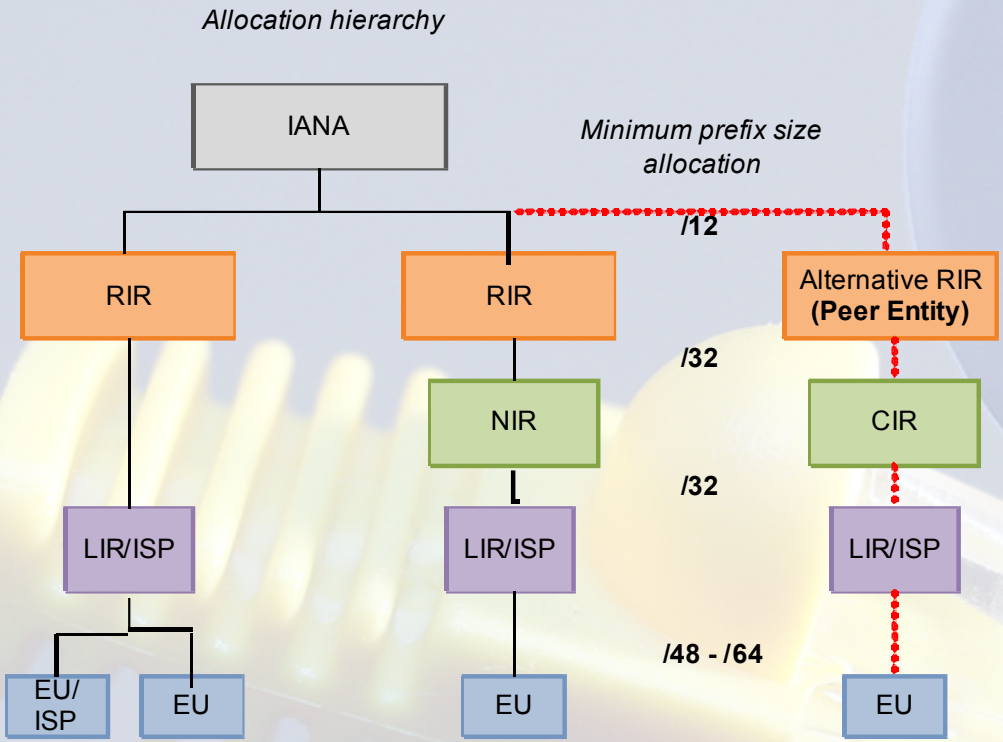


Proposed Country Internet Registry (CIR) model



- 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



IANA – Internet Assigned Number Authority
RIR – Regional Internet Registries
ITU – International Telecommunication Union
NIR – National Internet Registries
CIR – Country based Internet Registries
LIR – Local Internet Registries
ISP – Internet Service Providers
EU – End User

The CIR model (1/4)

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

- The policies followed by the CIRs would be in close cooperation with the leadership of the local ISPs, specifically to meet the interest to satisfy the local needs of the users.

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

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 model would not impact or threaten the global Internet stability and routability.*

The CIR model (3/4)

A CIR being closer to the user

- The CIR as an organization, would potentially be setup by an organization of local ISPs.

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

- The ISPs could then obtain potentially cheaper, even free allocation of IPv6 Addresses. This will really help the developing countries in the region grow their Internet.

The CIR model (4/4)

- The CIRs (headed by the ISPs) 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.

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 ISPs have a freedom of choice
  - Potentially, a cheaper Internet for ISPs.

"The proposed CIR model will only work, if openly and correctly discussed, and implemented in the greater interest of the Internet, ISPs and the netizens.

Our believe in USM

To help the developing nations

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