

ASO/NRO Status Report

ICANN Marrakech

26 June 2006

Prepared by
Regional Internet Registries



- **Organisation**
- **Internet Number Resource Status Report**
- **Policy Discussions**

ORGANISATION

Number Resource Organization 24 October 2003



Formed by the Regional Internet Registries to formalise their cooperative efforts, the NRO exists to protect the unallocated Number Resource pool, to promote and protect the bottom up policy development process, and to act as a focal point for Internet community input into the RIR system.

Address Supporting Organization

21 October 2004



The NRO Fulfils The:

- Role
- Responsibilities
- Functions

Of the ICANN ASO

Who is it?	<ul style="list-style-type: none">• The NRO Number Council
What is it?	<ul style="list-style-type: none">• Number Resource Policy Advisory Body
How is it Organised?	<ul style="list-style-type: none">• 15 Members [3 From Each Region]<ul style="list-style-type: none">– 2 Elected at Large– 1 Appointed by RIR Board• RIR & ICANN Observers
Term of Office?	<ul style="list-style-type: none">• Three (3) years, staggered
What Does it Do?	<ul style="list-style-type: none">• Advise ICANN Board• Select ICANN Board Members (2)• Select ICANN NomCom member (1)

REGION	Member
	<p>Alan Barrett* Jean Robert Hountomey Sylvia Geha Kezengwa</p>
	<p>Dr. Kenny S. Huang* Hyun-joon Kwon Mao Wei*</p>
	<p>Sanford George Martin Hannigan* Louis Lee</p>
	<p>Sebastian Bellagamba [Chair] Hartmut Glaser* Francisco Obispo</p>
	<p>Hans Petter Holen Sabine Jaume Wilfried Woeber*</p>

ICANN Board Members

Appointed by ASO AC

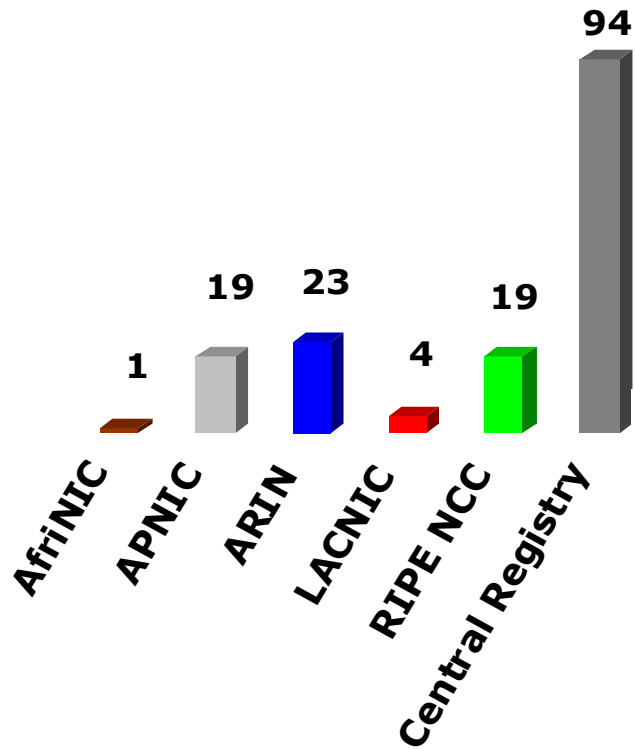
Name	Term
Raimundo Beca	MAY 2004 – MAY 2007
Mouhamet Diop	JUN 2003 – JUN 2006
David L. Wodelet (member-elect)	JUN 2006 – JUN 2009

Internet Number Resource Status Report

As of 31 March 2006

**Prepared by
Regional Internet Registries
AfrINIC, APNIC, ARIN, LACNIC and the RIPE NCC**

Allocated



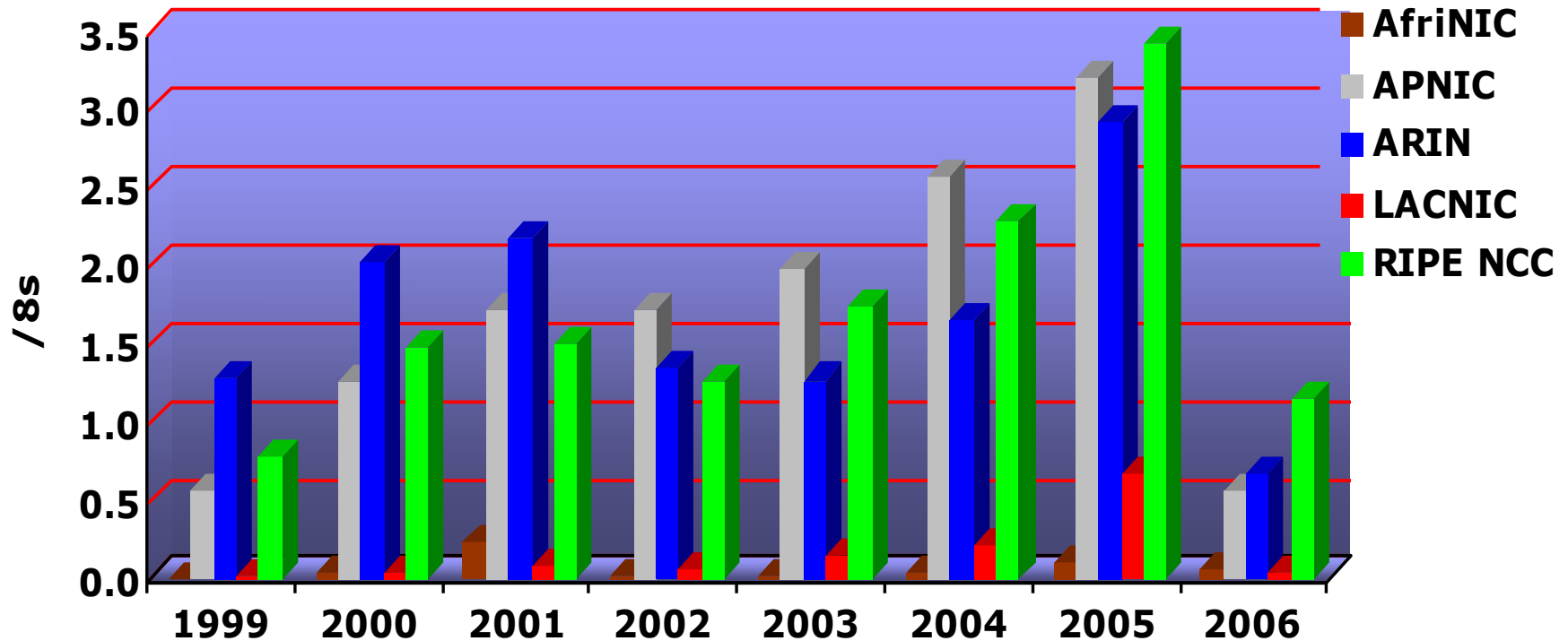
Available



Not Available

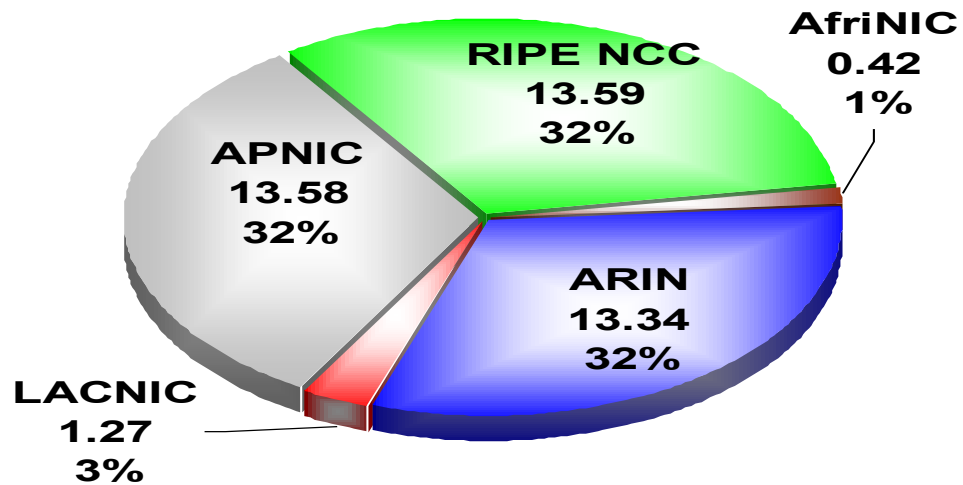


IPv4 Allocations from RIRs to LIRs/ ISPs Yearly Comparison

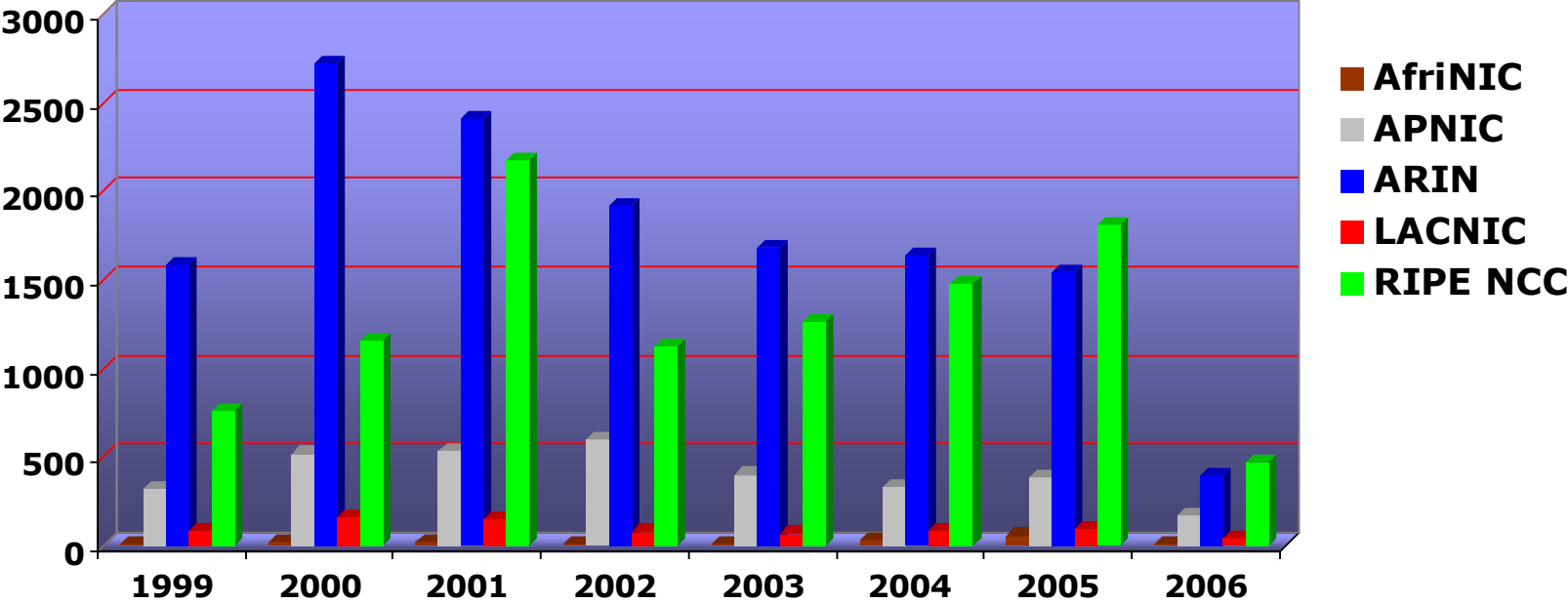


IPv4 Allocations RIRs to LIRs/ISPs

Cumulative Total (Jan 1999 – Mar 2006)

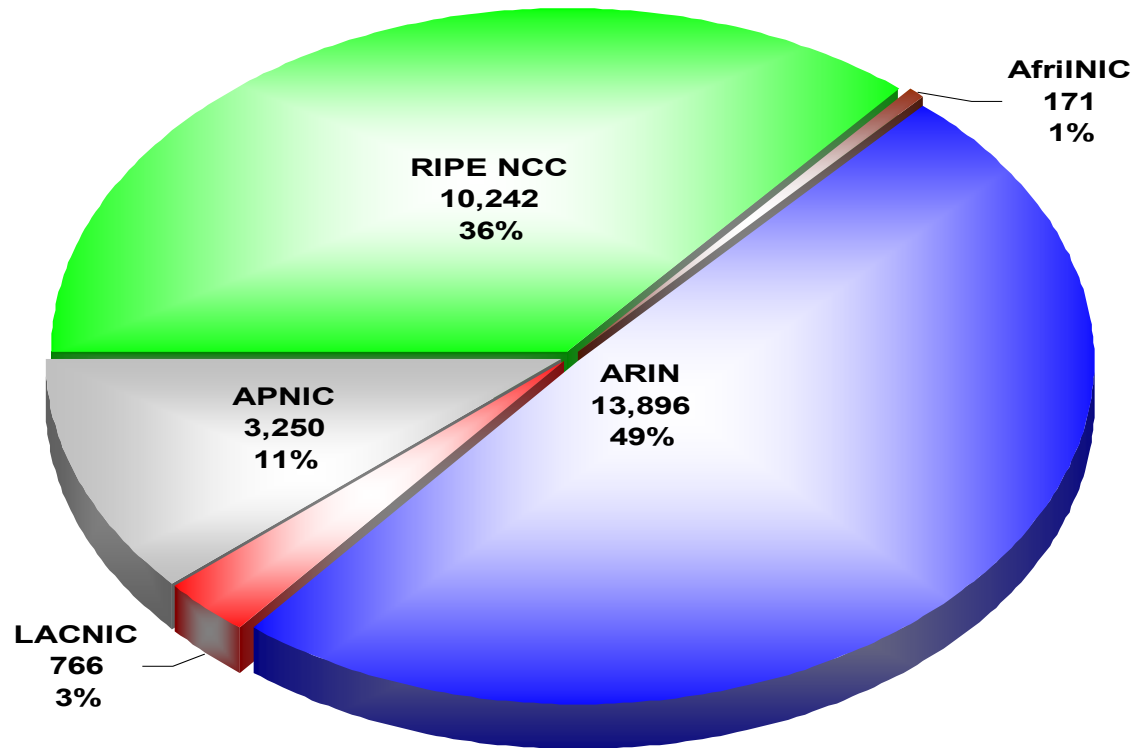


ASN Assignments RIRs to LIRs/ISPs Yearly Comparison

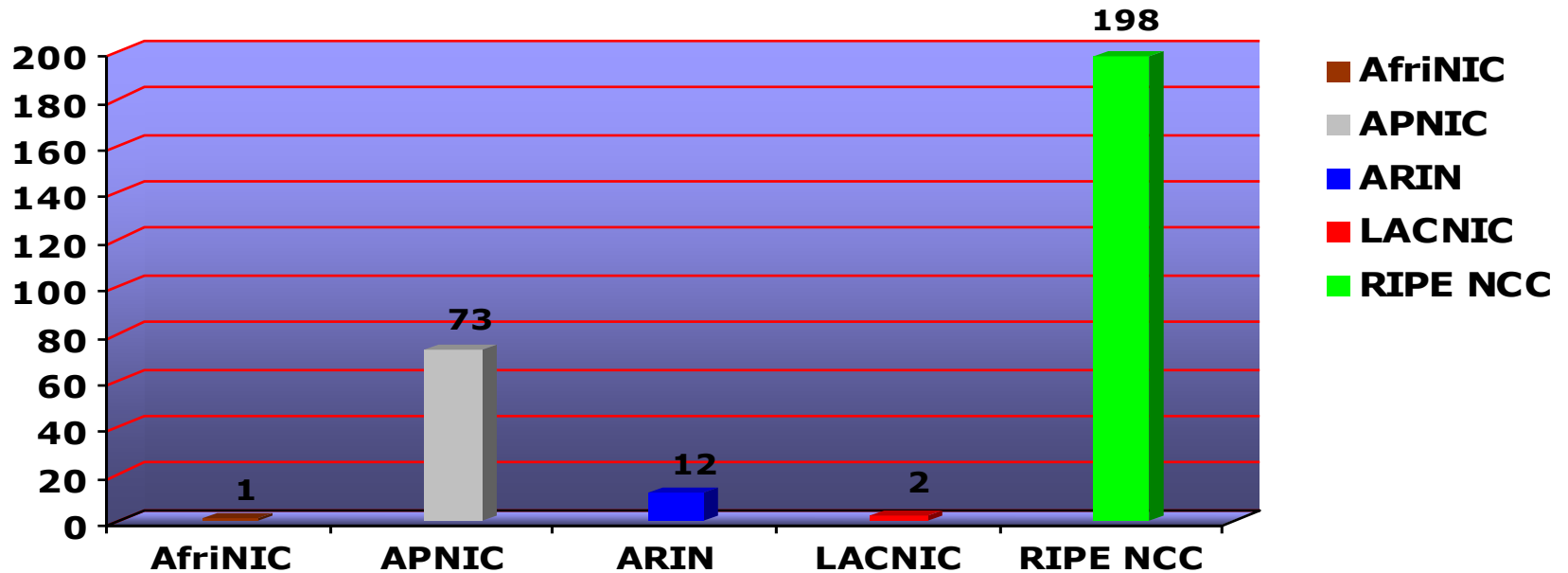


ASN Assignments RIRs to LIRs/ISPs

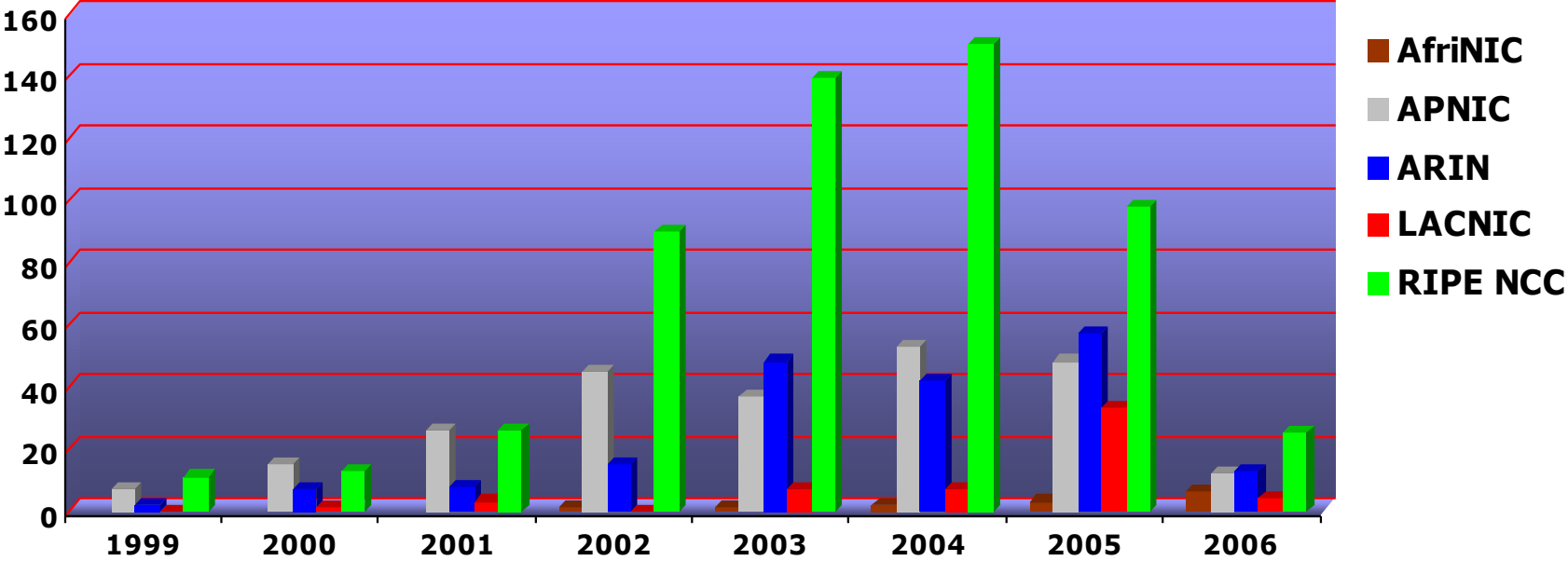
Cumulative Total (Jan 1999 – Mar 2006)



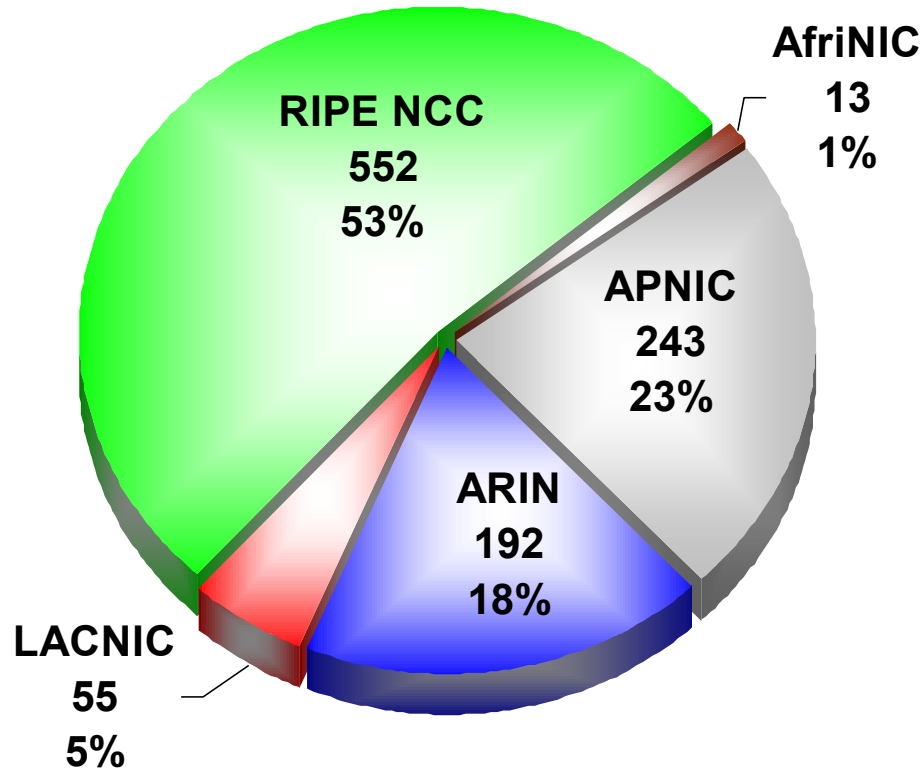
IANA IPv6 Allocations to RIRs (no of /23s)



IPv6 Allocations RIRs to LIRs/ISPs Yearly Comparison



IPv6 Allocations RIRs to LIRs/ISPs Cumulative Total (Jan 1999 – Mar 2006)



- **RIR Statistics:**

<http://www.nro.net/statistics/>

- **Raw Data/Historical RIR Allocations:**

<http://www.aso.icann.org/stats>

<http://www.iana.org/assignments/ipv4-address-space>

<http://www.iana.org/assignments/as-numbers>

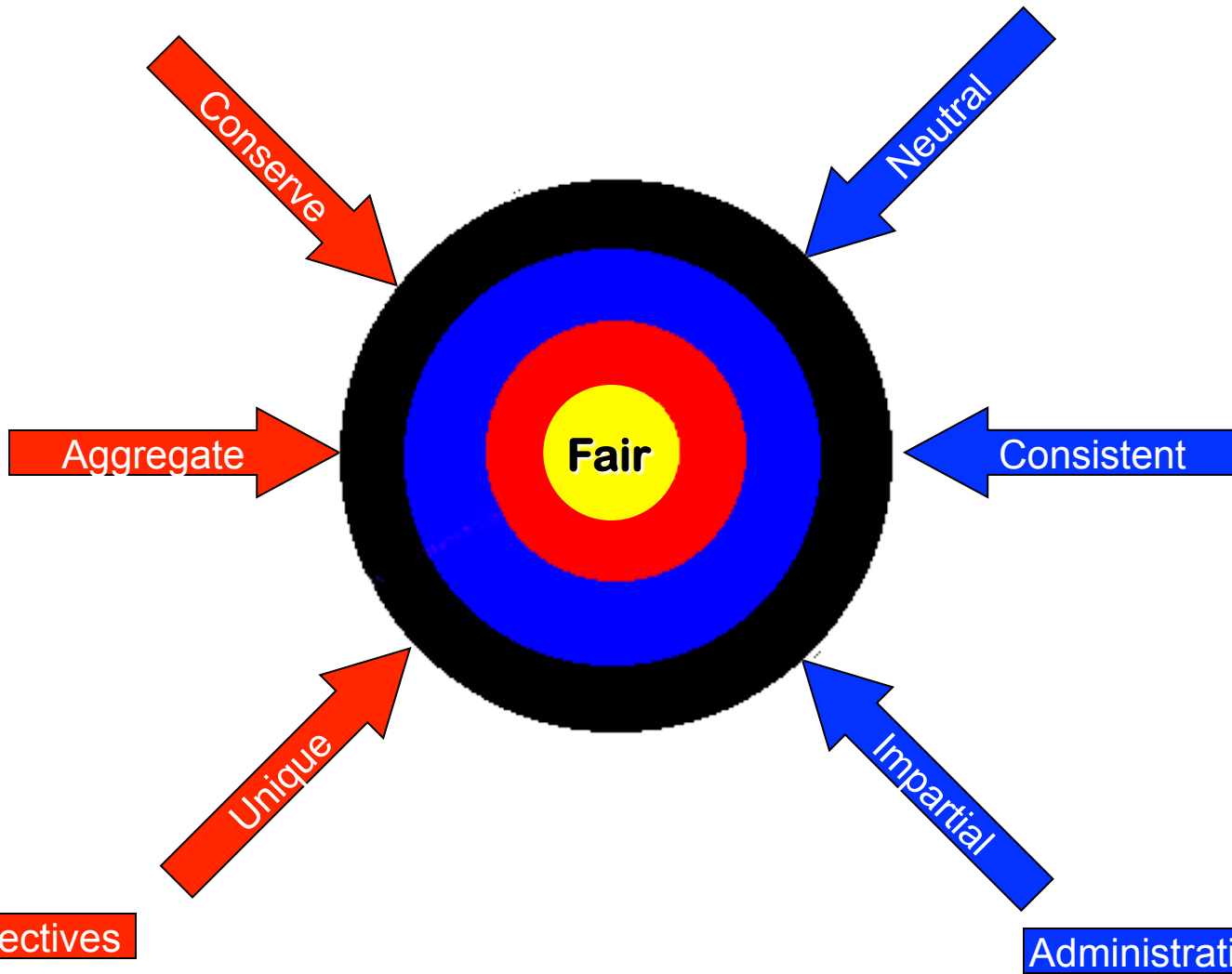
<http://www.iana.org/assignments/ipv6-unicast->

How is Internet Number Resource Policy Made?

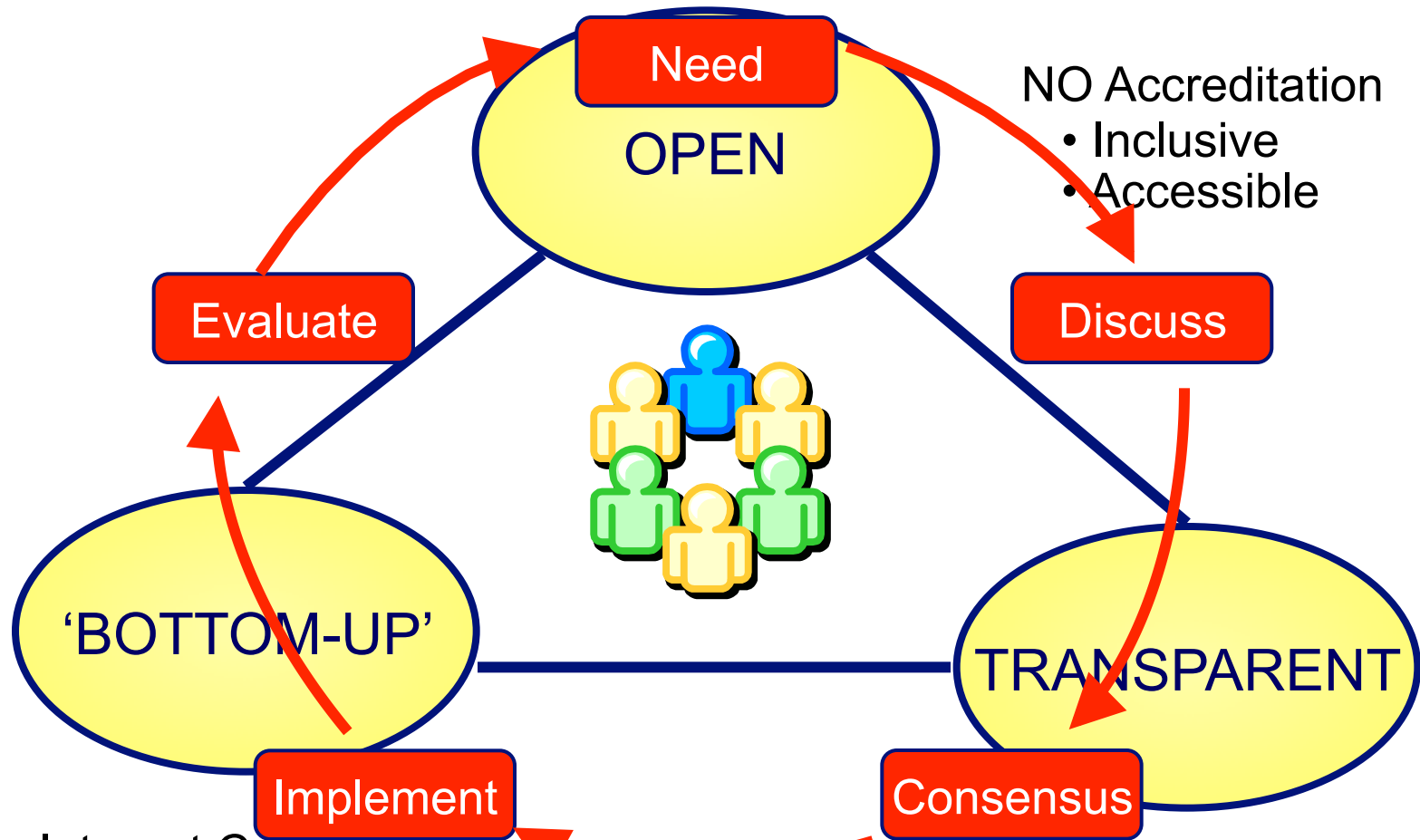
Address Space Constraints Require Good Stewardship

- **Technical Requirements**
 - Defined Characteristics Create a Finite Common Resource
 - Network Topology Realities
- **Prevent Capricious Consumption**
- **Ensure Fair Distribution and Equitable Access to All**

The Business of an RIR Managing Number Resources



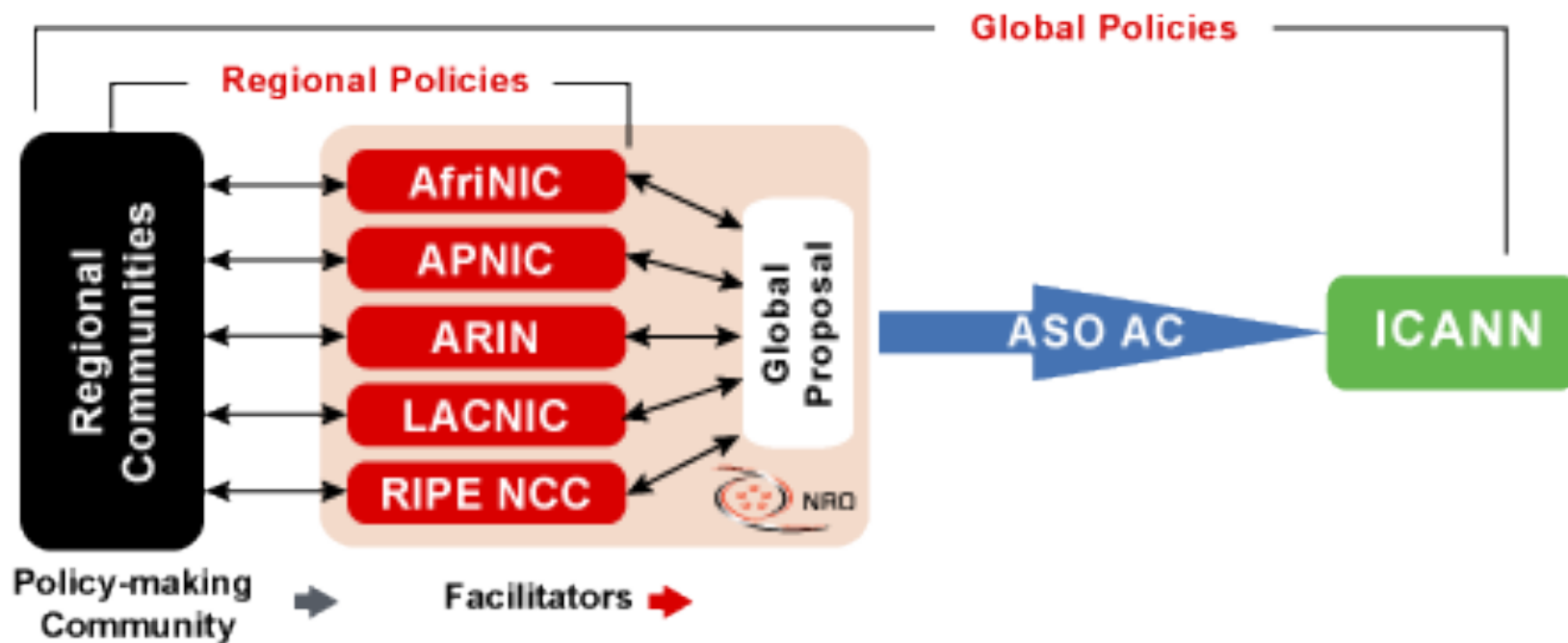
RIR Policy Development Process (Predates ICANN PDP)



Internet Community Proposes, Discusses, & Approves Policy

Documented, Published & Accessible PDP, Policies, & Procedures

The Global PDP (Defined in ASO MoU)








Integrates RIR PDP with ICANN PDP

Public Policy Meetings






RIR	DATE	LOCATION
 <p>Afrinic The Internet Numbers Registry for Africa</p>	27 – 28 November 2006	Mauritius
 <p>APNIC</p>	5 – 8 September 2006	Taiwan
 <p>ARIN American Registry for Internet Numbers</p>	11 – 13 October 2006	St. Louis, MO
 <p>LACNIC</p>	21 – 25 May 2007	TBD
 <p>RIPE NCC</p>	2 – 6 October 2006	Amsterdam

Policy Discussions

Worldwide Look IPv4 Policy Discussions






RIR	TOPIC	STATUS
 <p>Afrinic The Internet Numbers Registry for Africa</p>	<ul style="list-style-type: none"> • End User Assignment Criteria • Temporary/Critical Infrastructure Assignments 	<ul style="list-style-type: none"> • Adopt • Adopt
 <p>APNIC</p>	<ul style="list-style-type: none"> • HD Ratio 	<ul style="list-style-type: none"> • Abandon
 <p>ARIN American Registry for Internet Numbers</p>	<ul style="list-style-type: none"> • Micro Allocation for Anycast 	<ul style="list-style-type: none"> • Abandon
 <p>LACNIC</p>	<ul style="list-style-type: none"> • International ISPs • Allocation Period 	<ul style="list-style-type: none"> • Abandon • Discuss
 <p>RIPE NCC</p>	<ul style="list-style-type: none"> • Anycast Services • HD Ratio 	<ul style="list-style-type: none"> • Discuss • Abandon






Worldwide Look IPv6 Policy Discussions

RIR	TOPIC	STATUS
	<ul style="list-style-type: none"> • Direct Assignments for End Sites 	<ul style="list-style-type: none"> • Discuss
	<ul style="list-style-type: none"> • Direct Assignments for End Sites • HD Ratio 	<ul style="list-style-type: none"> • Discuss • Adopt
	<ul style="list-style-type: none"> • Direct Assignments for End Sites • Assignment and Utilisation • Micro Allocation for Infrastructure 	<ul style="list-style-type: none"> • Adopt • Adopt • Discuss
	<ul style="list-style-type: none"> • Direct Assignments for End Sites • HD Ratio • Assignment and Utilisation 	<ul style="list-style-type: none"> • Discuss • Discuss • Discuss
	<ul style="list-style-type: none"> • End Site Definition • HD Ratio • Number of Required Customers 	<ul style="list-style-type: none"> • Discuss • Adopt • Discuss

Worldwide Look

Other Policy Discussions

RIR	TOPIC	STATUS
	<ul style="list-style-type: none"> • ASN Assignment Criteria • 4 Byte ASN 	<ul style="list-style-type: none"> • Adopt • Adopt
	<ul style="list-style-type: none"> • 4 Byte ASN 	<ul style="list-style-type: none"> • Adopt
	<ul style="list-style-type: none"> • 4 Byte ASN • Capturing Route Origins • Residential Customer Privacy 	<ul style="list-style-type: none"> • Adopt • Discuss • Discuss
	<ul style="list-style-type: none"> • 4 Byte ASN • Unused Resource Recovery • WHOIS Privacy 	<ul style="list-style-type: none"> • Discuss • Discuss • Discuss
	<ul style="list-style-type: none"> • 4 Byte ASN 	<ul style="list-style-type: none"> • Discuss

RIR	LINK
 Afrinic The Internet Numbers Registry for Africa	http://www.afrinic.net/policy.htm
 APNIC	http://www.apnic.net/docs/policy/proposals/archive.html
 American Registry for Internet Numbers	http://www.arin.net/policy/proposals/proposal_archive.html
 LACNIC	http://lacnic.net/en/politicas/desarrollo.html
 RIPE NCC	http://www.ripe.net/ripe/policies/proposals/

Global Policy Proposal

IANA to RIR IPv6 Allocation

Overview

- **What is the proposed policy?**
- **Is it fair?**
- **What is the history of this policy?**
- **What is the current status?**

What is the Proposed Policy?

Minimum Allocation*	Allocation Criteria	New RIR Allocation	Announcements
= 18 Months of Necessary Space	Available Space: < 50% of 1 Allocation Unit	/12 Regardless of Utilization or Transferred Space	IANA, NRO, RIRs will: <ul style="list-style-type: none"> •Make Announcements •Update Websites
Unit Size: /12*	<u>OR</u> Available Space is < 9 Month Necessary Space		
0.02% of Total [1 IPv4 /8 = 0.4%]	<u>OR</u> Special Need Exists		

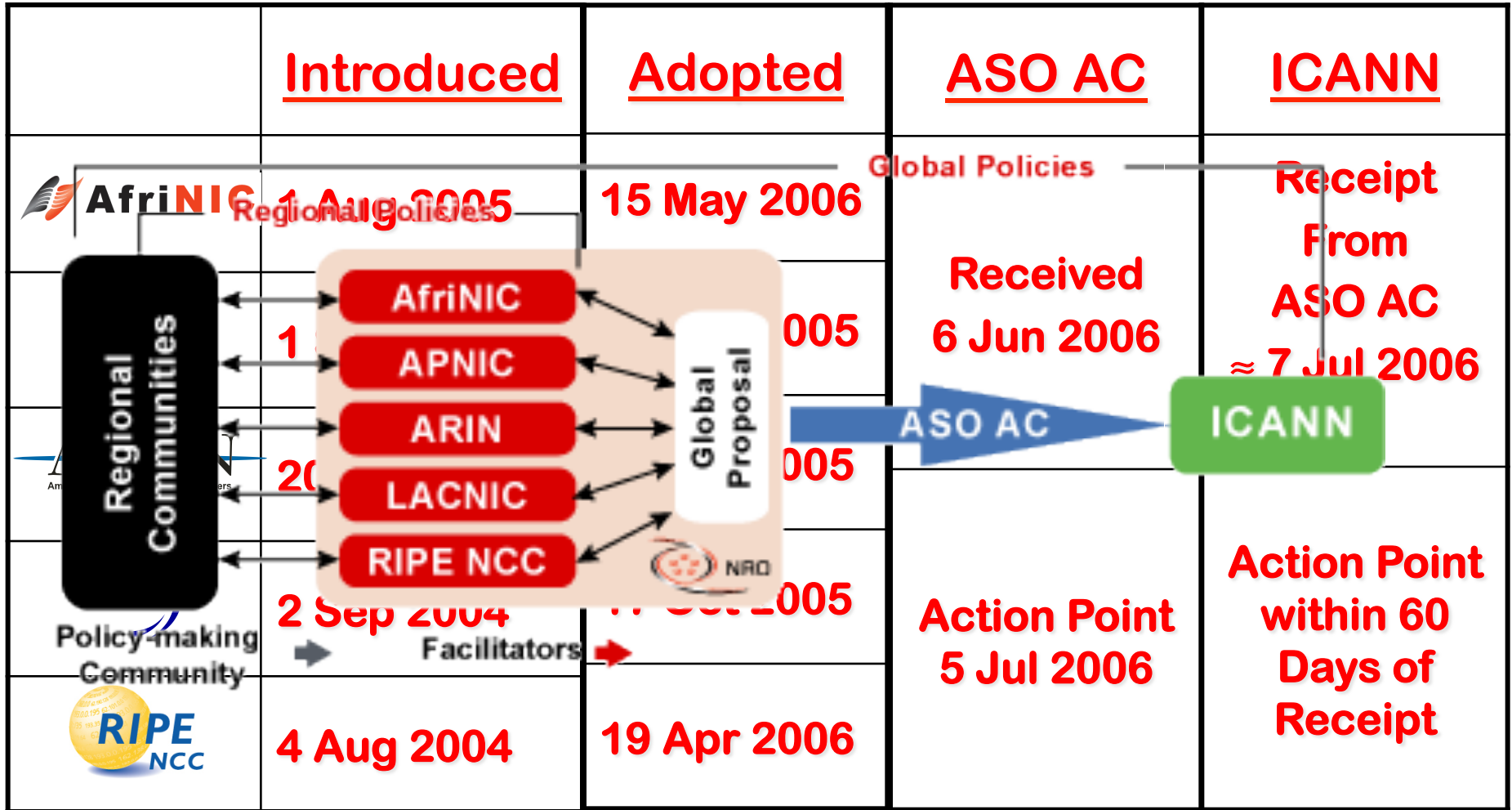
***Upon policy inception, each RIR receives a /12 if it has < /12 on hand.**

YES!

- **Minimum Allocation Size**
 - Not Dependent on Regional Market Size
 - Contributes to Regional Aggregation
 - Best Conserves Address Space
- **Allocation Criteria**
 - Provides Objectivity
 - Satisfies Demonstrated Needs
 - Provides Accountability

What is the History Of This Policy?

Need	<ul style="list-style-type: none">• Current policy promulgated by IETF in 1999• Precedes global PDP
Discuss	<ul style="list-style-type: none">• Discussed in all regions on mailing lists• Discussed in all Regional Fora
Consensus	<ul style="list-style-type: none">• Reached in all Regional Communities
Implement	<ul style="list-style-type: none">• Impact Analysis• Liability Analysis
Evaluate	<ul style="list-style-type: none">• Enabled by Statistical Collection



Thank You