NRO/ASO Status Report
ICANN Marrakech
29 June 2006

Prepared by
Regional Internet Registries

Overview

- **Organization**

- **Internet Number Resource Status Report**

- **Policy Discussions**

ORGANIZATION

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.

Structure

Executive Council
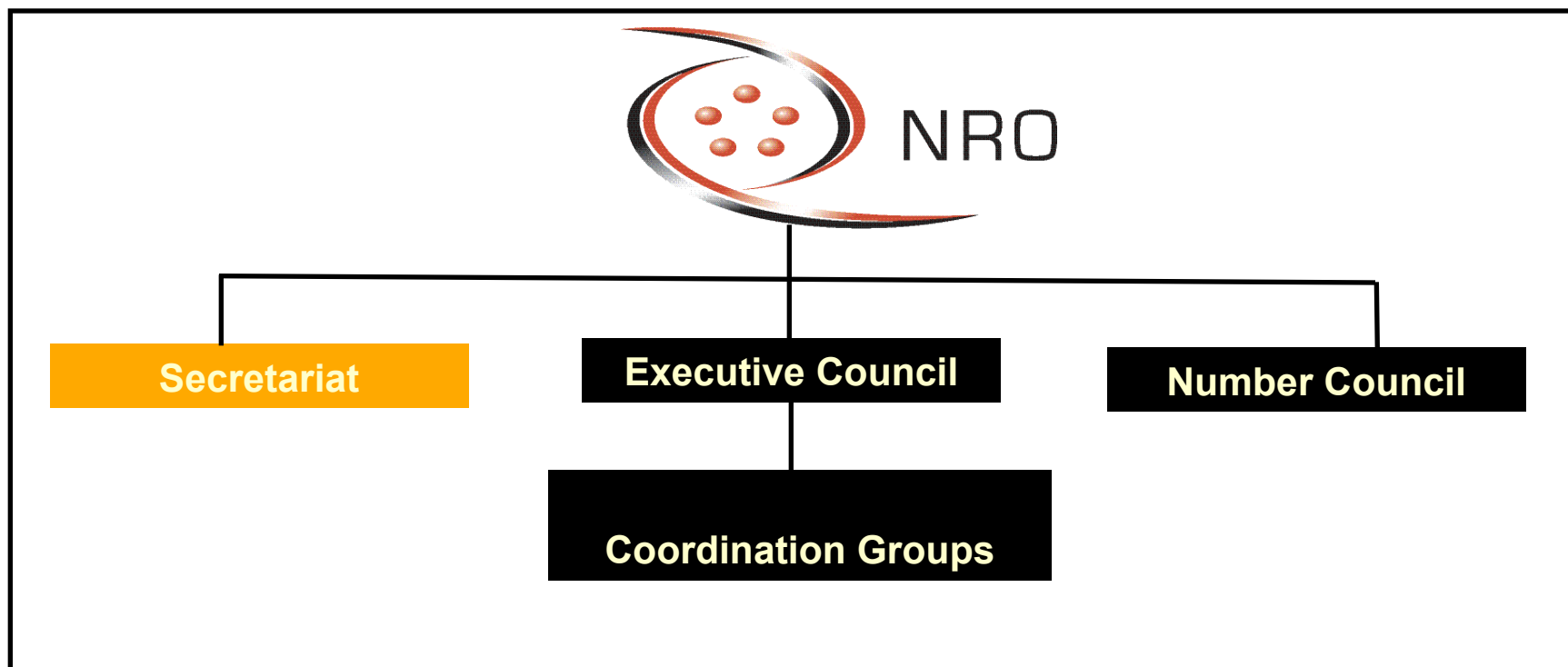
LACNIC	Raúl Echeberría	Chair
ARIN	Ray Plzak	Secretary
APNIC	Paul Wilson	Treasurer
AFRINIC	Adiel Akplogan	
RIPE NCC	Axel Pawlik	

The offices rotate every year.

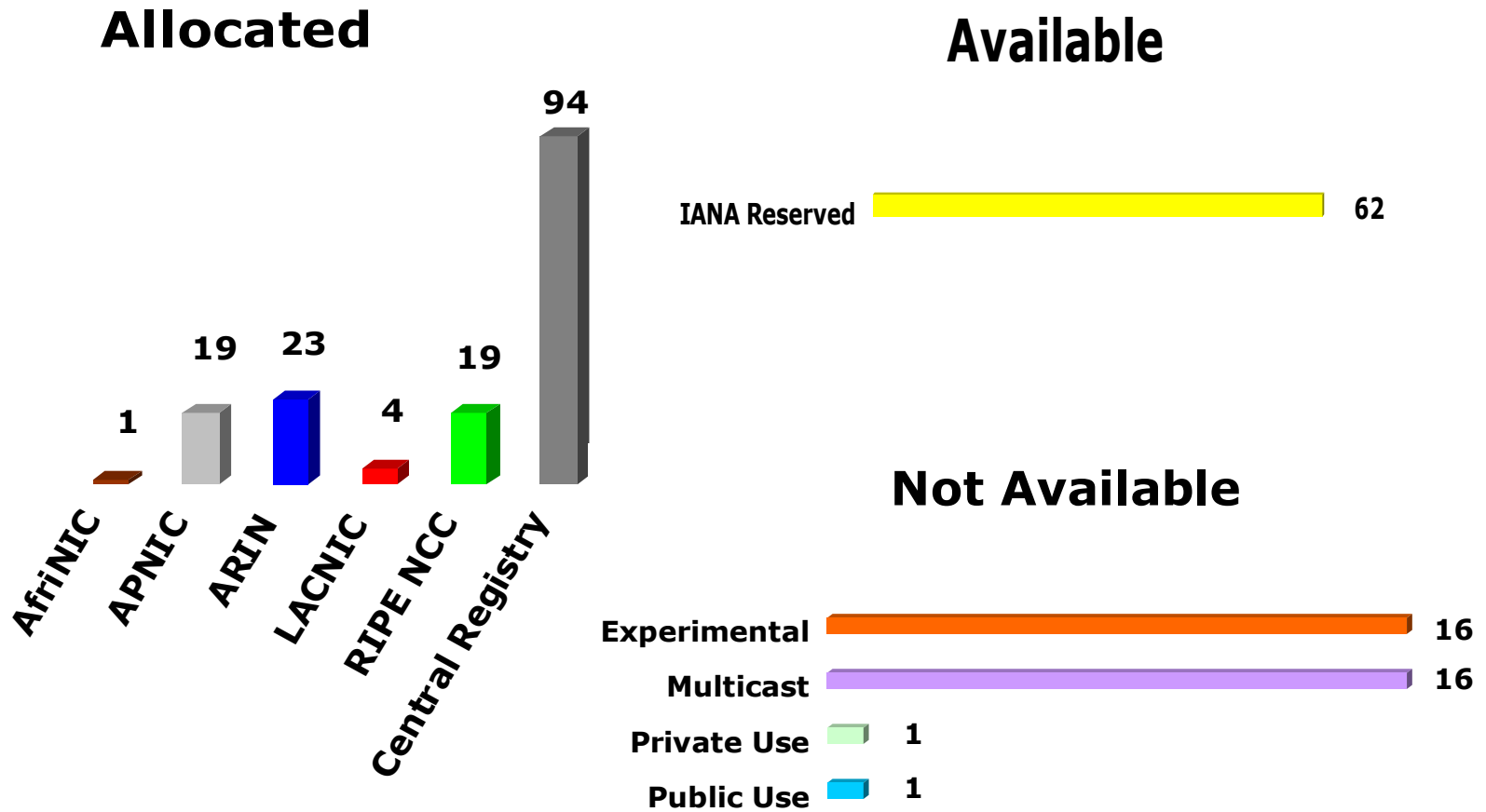# NRO – Current Main Topics

- **ICANN**
  - **Services Contract**
  - **Strategic Plan**
  - **Budget**
  - **Global IPv6 Policy Proposal**
  - **Relationship with GAC**
- **IGF**
  - **IGF Meeting Advisory Group**
  - **IGF Meeting – Athens**
- **ITU**
  - **Liaison**
  - **Plenipotentiary Meeting – Antalya**
  - **World Telecom – Hong Kong**
- **Joint RIR Activity**
  - **Certification Issues**
  - **Harmonization of IP allocation practices**
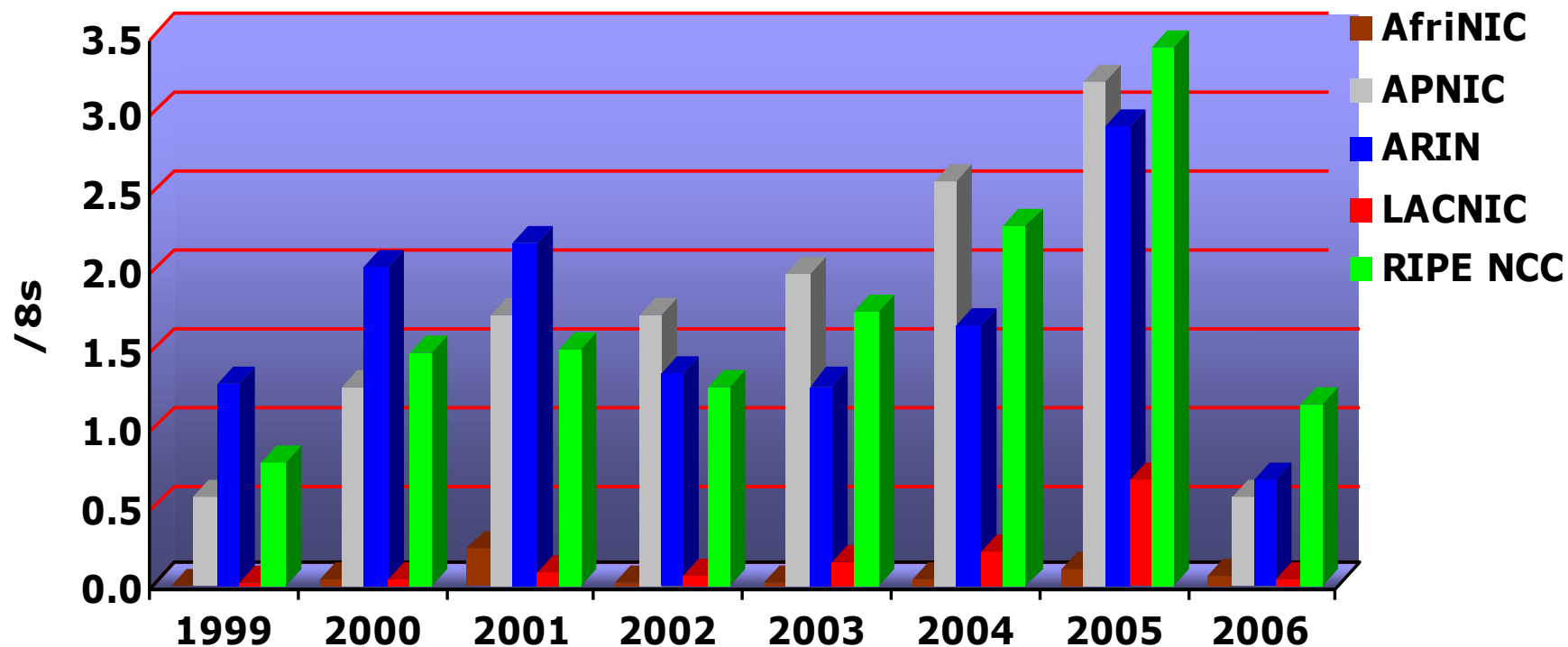 - **NRO Incorporation**

Internet Number Resource Status Report

As of 31 March 2006

Prepared by
Regional Internet Registries
## AfriNIC, APNIC, ARIN, LACNIC and the RIPE NCC

IPv4 /8 Address Space Status

Allocated

Available

IANA Reserved	62

AfriNIC 1
APNIC 19
ARIN 23
LACNIC 4
RIPE NCC 19
Central Registry 94

Not Available

Experimental	16
Multicast	16
Private Use	1
Public Use	1

27 June 2006

Marrakech

IPv4 Allocations from RIRs to LIRs/ISPs Yearly Comparison

/8s

Legend:
- AfriNIC
- APNIC
- ARIN
- LACNIC
- RIPE NCC

Years: 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006

IPv4 Allocations
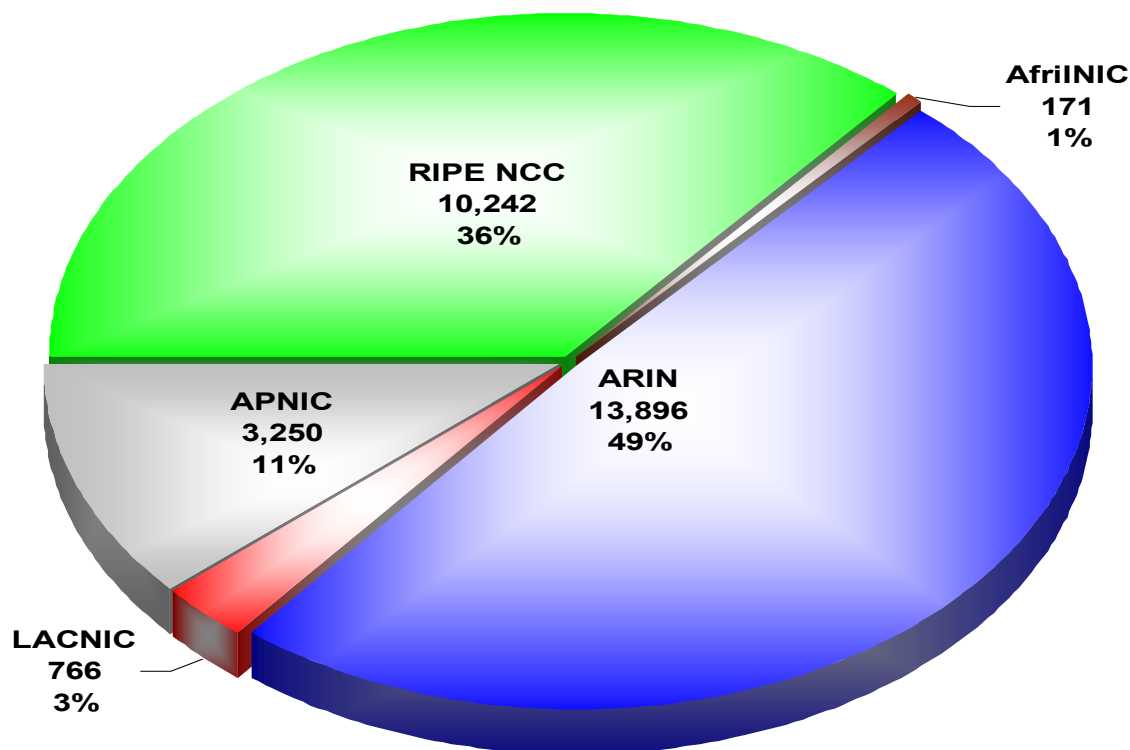# RIRs to LIRs/ISPs
Cumulative Total (Jan 1999 – Mar 2006)
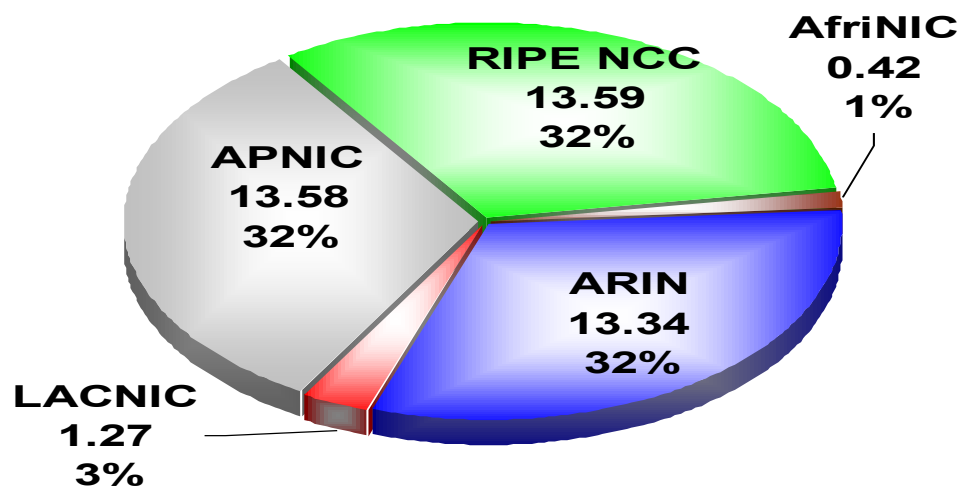
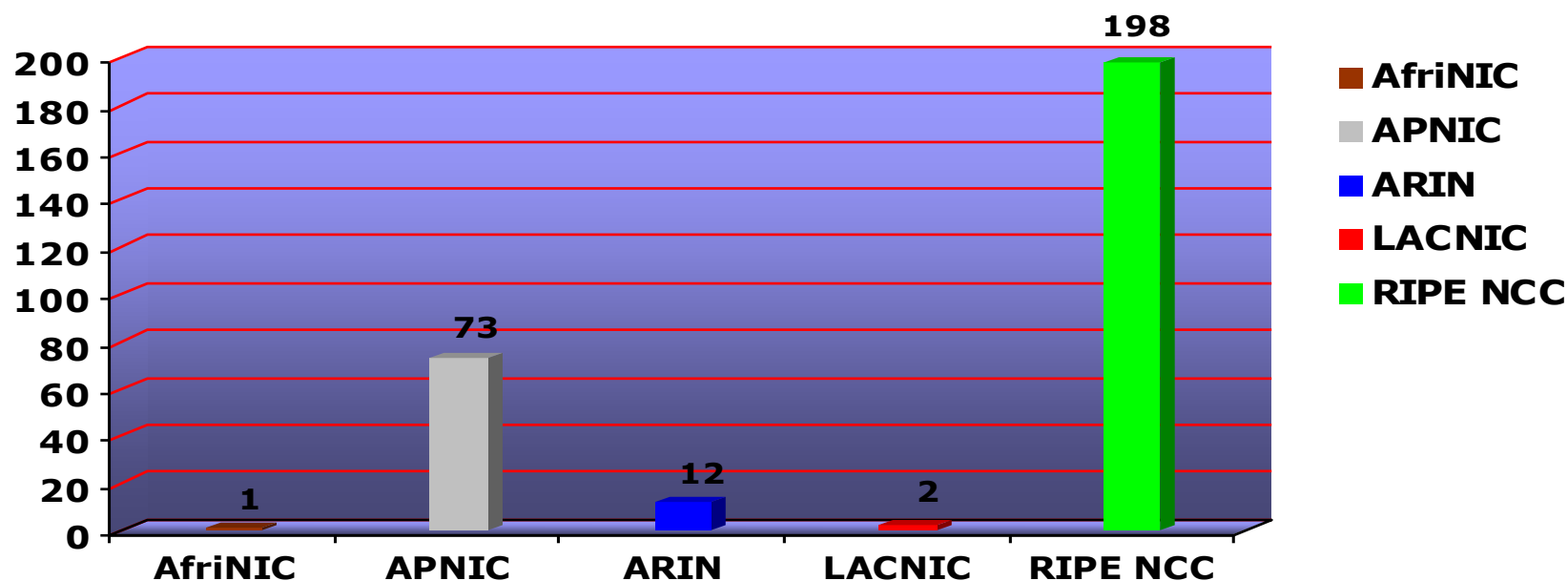# ASN Assignments
RIRs to LIRs/ISPs
Yearly Comparison

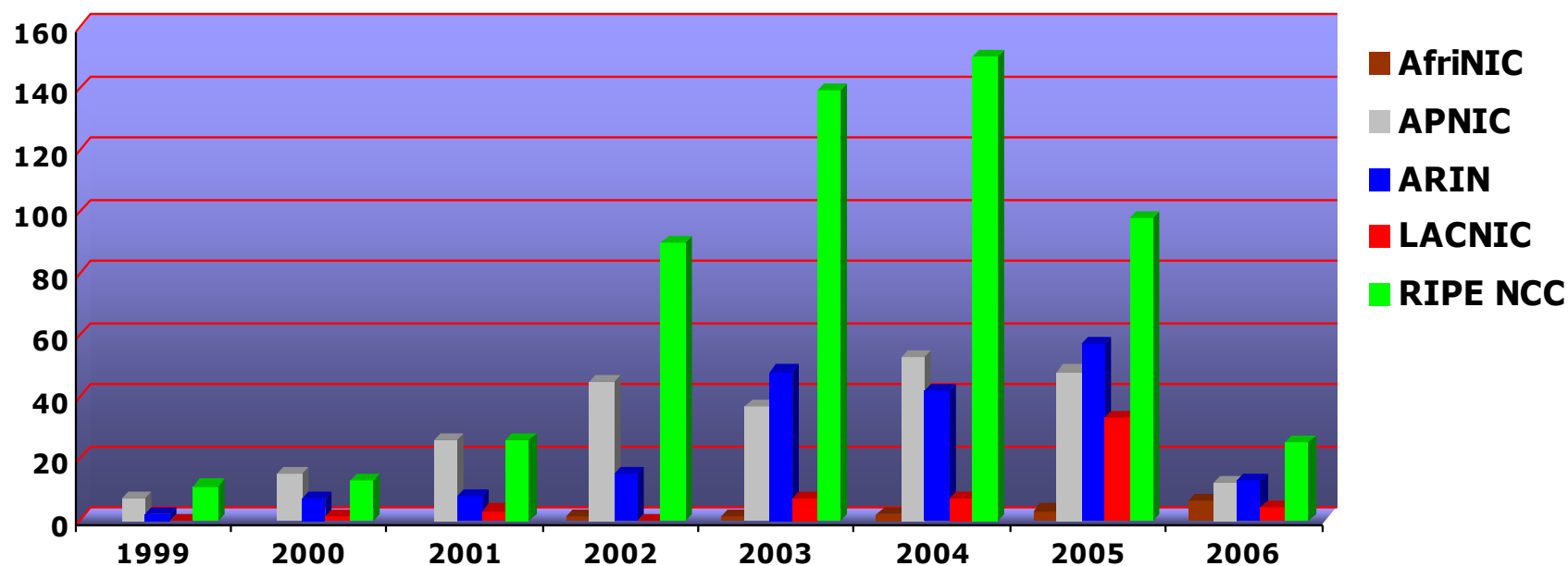# ASN Assignments
RIRs to LIRs/ISPs
Cumulative Total (Jan 1999 – Mar 2006)

ASO

NRO

AfriNIC
171
1%

RIPE NCC
10,242
36%

ARIN
13,896
49%

APNIC
3,250
11%

LACNIC
766
3%

27 June 2006

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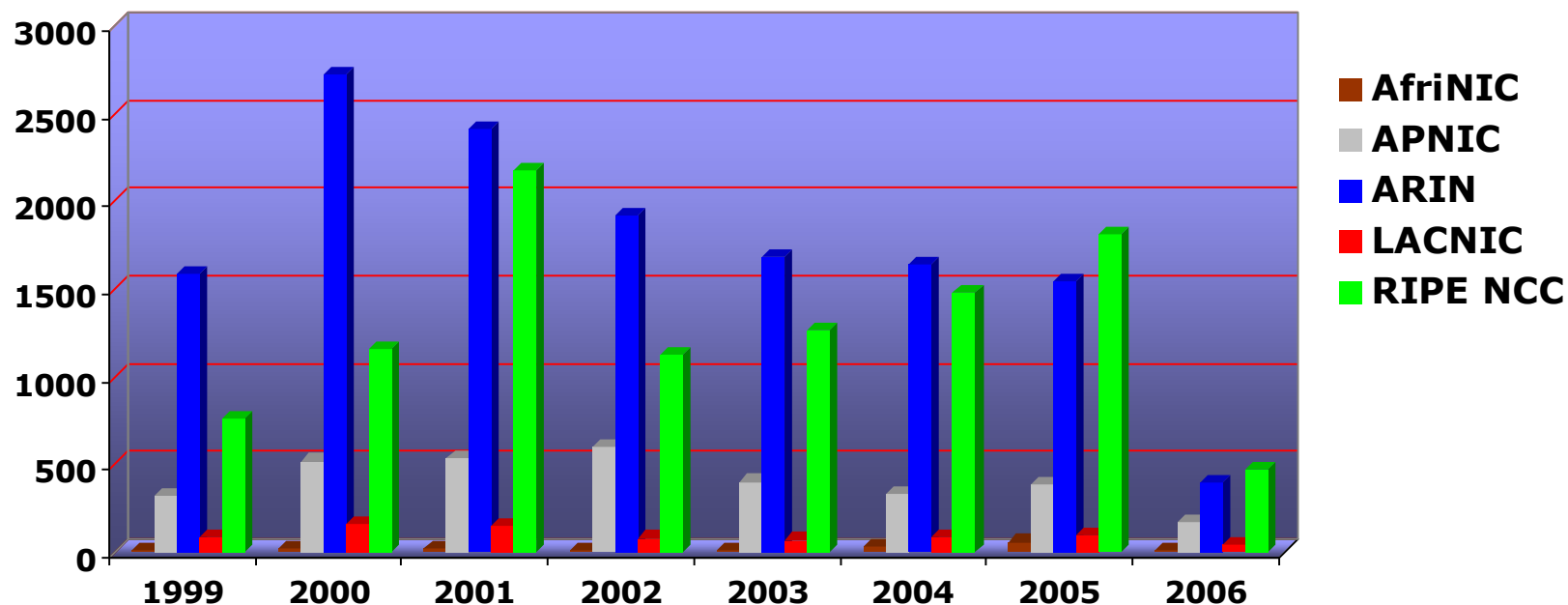
IANA IPv6 Allocations to RIRs (no of /23s)

IPv6 Allocations
RIRs to LIRs/ISPs
Yearly Comparison

Legend:
- AfriNIC
- APNIC
- ARIN
- LACNIC
- RIPE NCC

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

AfriNIC 13 1%

RIPE NCC 552 53%

APNIC 243 23%

ARIN 192 18%

LACNIC 55 5%

Links to RIR Statistics
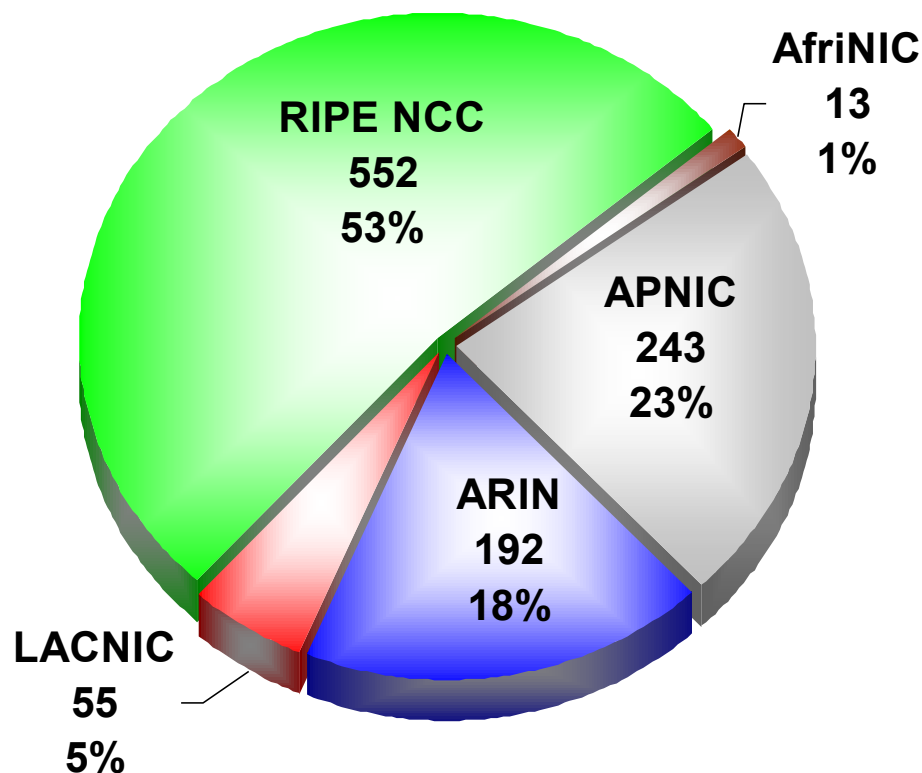
- **RIR Statistics:**
  http://www.nro.net/statistics/

- **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-address-assignments

Address **S**upporting **O**rganization

Address Supporting Organization
21 October 2004

NRO + ICANN = **ASO**

5 RIRs
8269 NIR, LIR, ISP

The NRO Fulfils The:

- **Role**
- **Responsibilities**
- **Functions**

Of the ICANN ASO

Address Council

Who is it?	• **The NRO Number Council**
What is it?	• **Number Resource Policy Advisory Body**

How is it Organized?	• **15 Members [3 From Each Region]**
	  – **2 Elected at Large**
	  – **1 Appointed by RIR Board**
	• **RIR & ICANN Observers**

Term of Office?	• **Three (3) years, staggered**
What Does it Do?	• **Advise ICANN Board** • **Select ICANN Board Members (2)** • **Select ICANN NomCom member (1)**

When Does It Meet?	• **Telephonic – Monthly**
	• **Physical**
	  ➢ **APR 2006 – Istanbul [RIPE 52]**
	  ➢ **DEC 2006 – São Paulo [ICANN]**

Address Council

REGION	Member
AfriNIC — The Internet Numbers Registry for Africa	**Alan Barrett*** **Jean Robert Hountomey** **Sylvia Geha Kezengwa**
APNIC	**Dr. Kenny S. Huang*** **Hyun-joon Kwon** **Mao Wei***
ARIN — American Registry for Internet Numbers	**Sanford George** **Martin Hannigan*** **Louis Lee**
LACNIC	**Sebastian Bellagamba [Chair]** **Hartmut Glaser*** **Francisco Obispo**
RIPE NCC	**Hans Petter Holen** **Sabine Jaume** **Wilfried Woeber***

27 June 2006

* Appointed by RIR Board

Marrakech

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

Policy Discussions

Worldwide Look
IPv4 Policy Discussions

NRO

RIR	TOPIC	STATUS
AfriNIC	• End User Assignment Criteria • Temporary/Critical Infrastructure Assignments	• Adopt • Adopt
APNIC	• HD Ratio	• Abandon
ARIN	• Micro Allocation for Anycast	• Abandon
LACNIC	• International ISPs • Allocation Period	• Abandon • Discuss
RIPE NCC	• Anycast Services • HD Ratio	• Discuss • Abandon

Worldwide Look
IPv6 Policy Discussions

RIR	TOPIC	STATUS
AfriNIC	• Direct Assignments for End Sites	• Discuss
APNIC	• Direct Assignments for End Sites • HD Ratio	• Discuss • Adopt
ARIN	• Direct Assignments for End Sites • Assignment and Utilisation • Micro Allocation for Infrastructure	• Adopt • Adopt • Discuss
LACNIC	• Direct Assignments for End Sites • HD Ratio • Assignment and Utilisation	• Discuss • Discuss • Discuss
RIPE NCC	• End Site Definition • HD Ratio • Number of Required Customers	• Discuss • Adopt • Discuss

Worldwide Look
Other Policy Discussions

RIR	TOPIC	STATUS
AfriNIC	• ASN Assignment Criteria • 4 Byte ASN	• Adopt • Adopt
APNIC	• 4 Byte ASN	• Adopt
ARIN	• 4 Byte ASN • Capturing Route Origins • Residential Customer Privacy	• Adopt • Discuss • Discuss
LACNIC	• 4 Byte ASN • Unused Resource Recovery • WHOIS Privacy	• Discuss • Discuss • Discuss
RIPE NCC	• 4 Byte ASN	• Discuss

Public Policy Meetings

RIR	DATE	LOCATION
AfriNIC	27 – 28 November 2006	Mauritius
APNIC	5 – 8 September 2006	Taiwan
ARIN	11 – 13 October 2006	St. Louis, MO
LACNIC	21 – 25 May 2007	TBD
RIPE NCC	2 – 6 October 2006	Amsterdam

Policy Archives

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**
ARIN — 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/**

27 June 2006

Marrakech

Global Policy Proposal

IANA to RIR IPv6 Allocation

Overview

- **What is the proposed policy?**

- **Is it fair?**

- **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: •Make Announcements •Update Websites
Unit Size: /12* 0.02% of Total [1 IPv4 /8 = 0.4%]	**OR** Available Space is < 9 Month Necessary Space		
	OR Special Need Exists		

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

Is It Fair?

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**

Policy Status

Develop			Advise	Ratify
Policy Community	**Proposed**	**Adopted**	**Address Council**	**ICANN**
AfriNIC	**1 AUG 05**	**15 MAY 06**	**Received 6 JUN 06 From NRO (Must Act Prior to 5 AUG 06)**	**Receipt From ASO AC ≈ 7 JUL 06**
APNIC	**1 SEP 04**	**25 NOV 05**		
ARIN	**20 SEP 04**	**16 JUN 05**		
LACNIC	**2 SEP 04**	**17 OCT 05**	**Action Point 5 JUL 06**	**Action Point within 60 Days of Receipt**
RIPE NCC	**4 AUG 04**	**19 APR 06**		

27 June 2006

Marrakech

Thank You