



APNIC

ARIN  
American Registry for Internet Numbers



# Regional Internet Registries

## Statistics



## &

## Activities



## IETF 59

Prepared By  
NRO  
(APNIC, ARIN, LACNIC, RIPE NCC)

# Overview

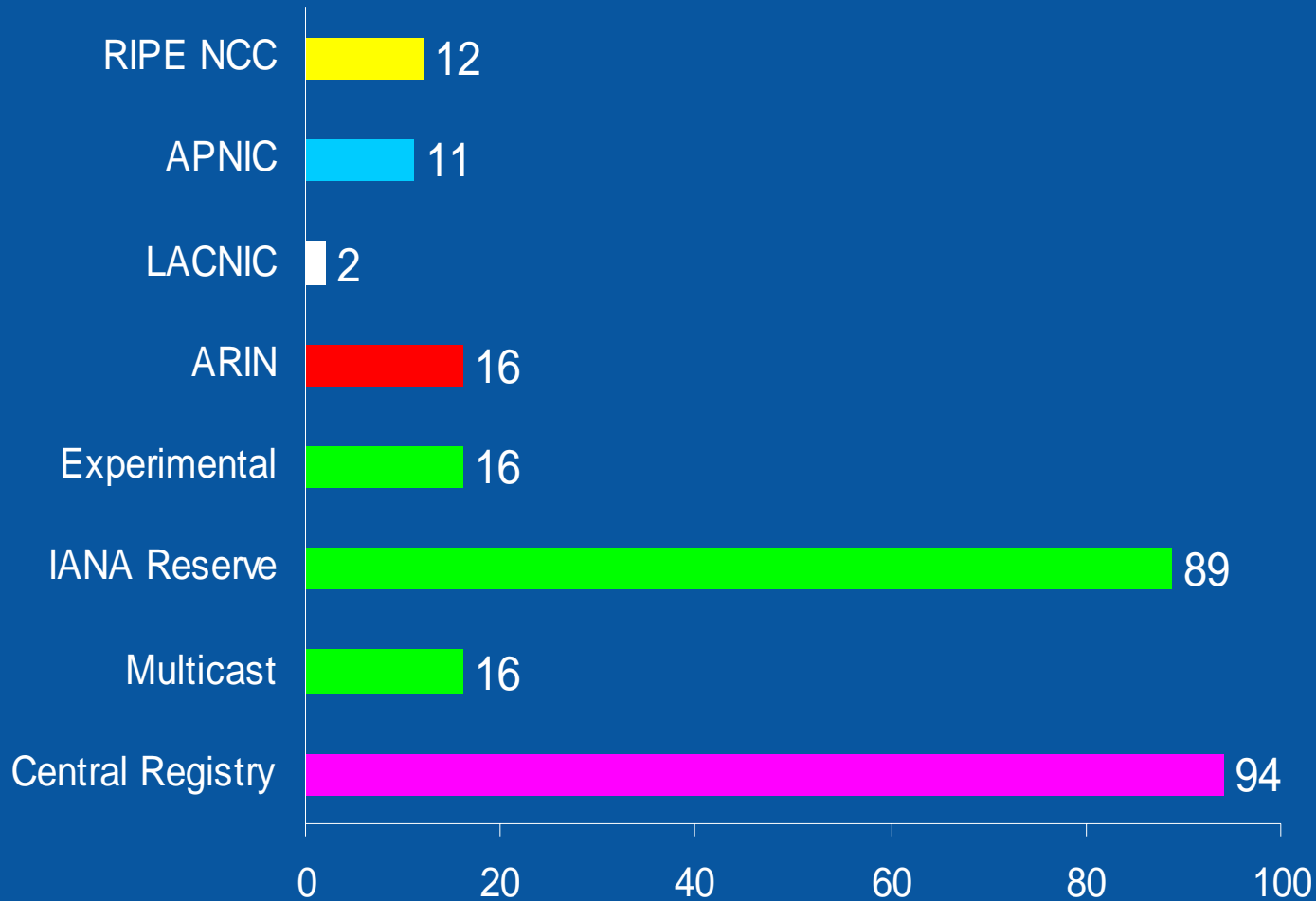
- Internet Number Resource Status Report
- RIR Activities
  - Joint
  - Number Resource Organization [NRO]
  - APNIC
  - ARIN
  - LACNIC
  - RIPE NCC
  - Emerging AfriNIC

# Internet Number Resource Status Report

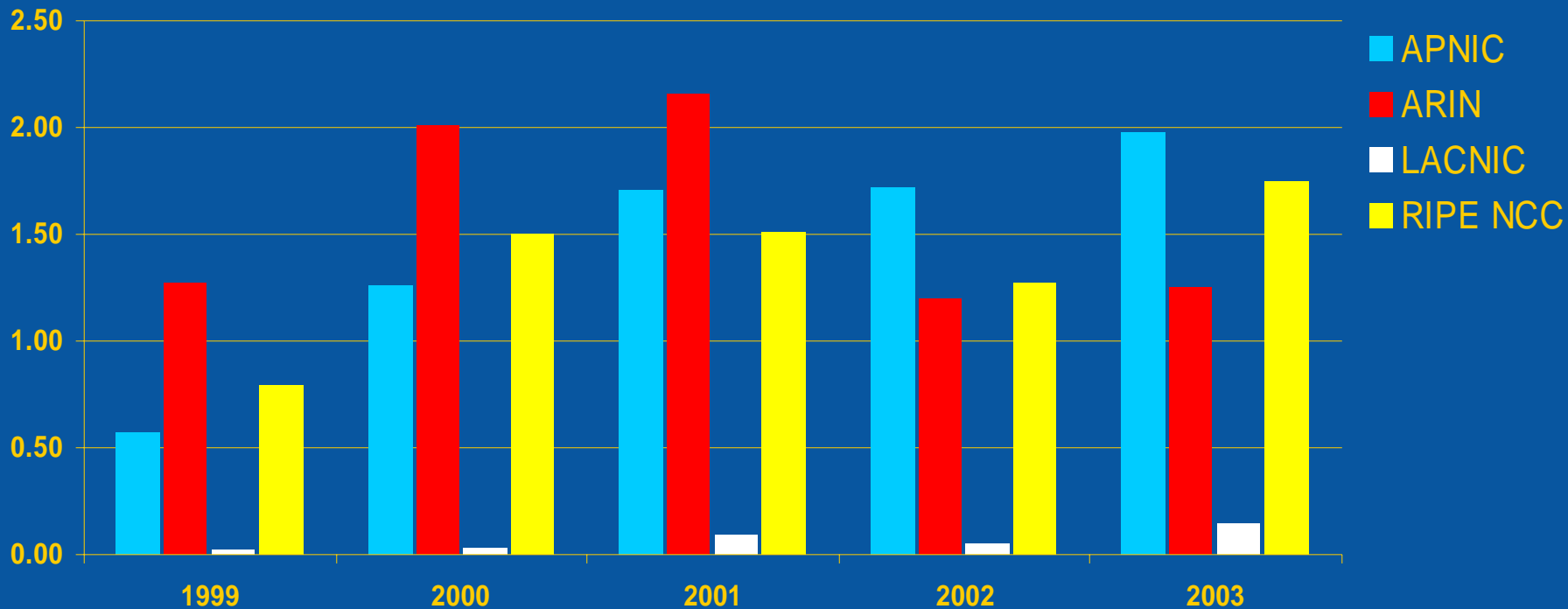




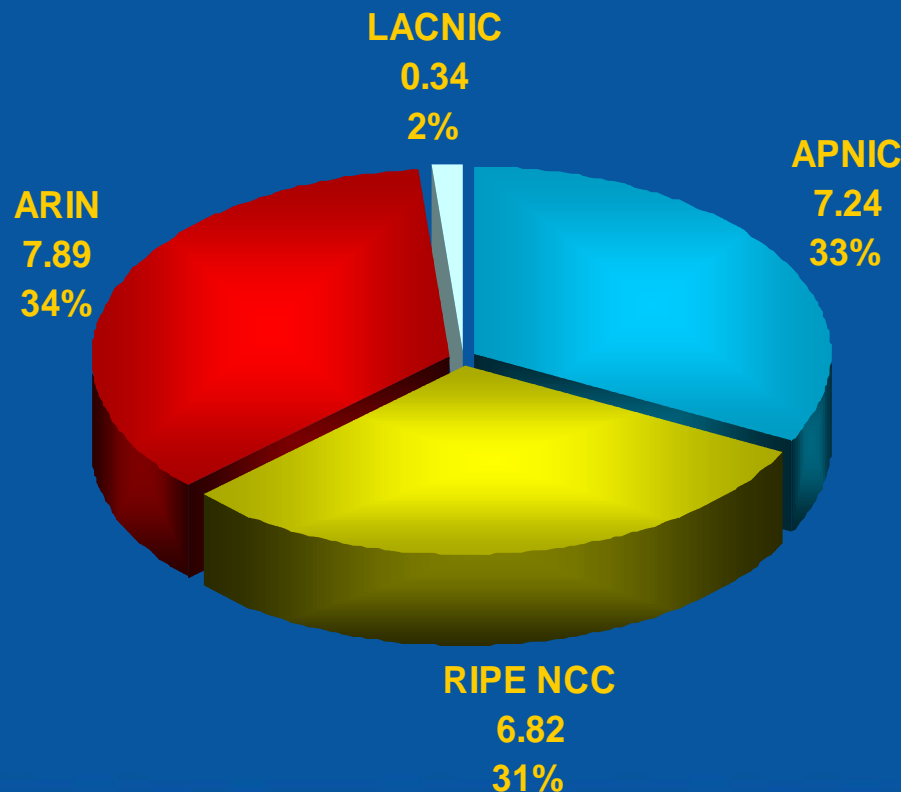
# IPv4 /8 Address Space Status (Dec 31, 2003)



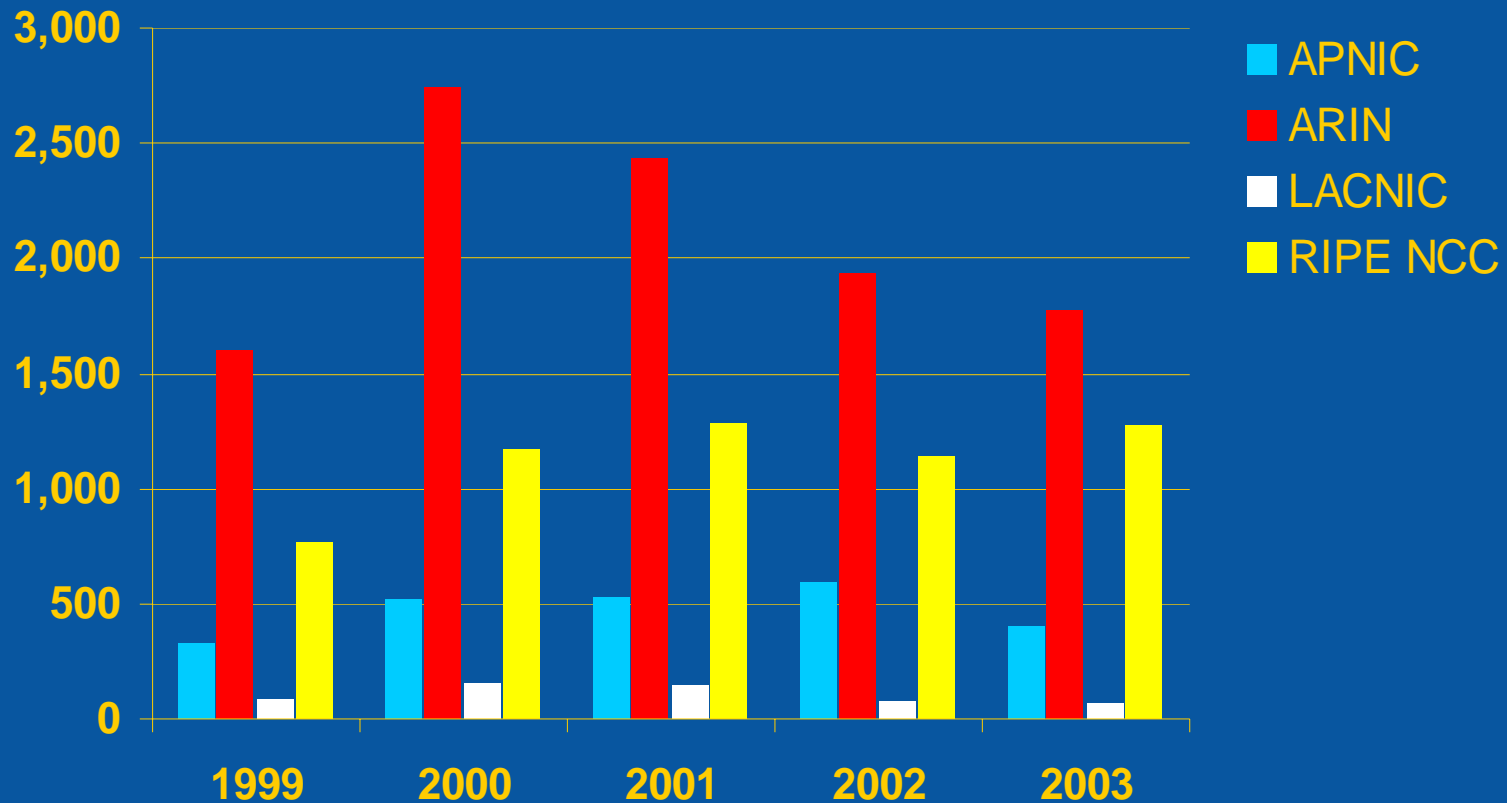
# IPv4 Allocations from RIRs to LIRs/ISPs Yearly Comparison



# IPv4 Allocations from RIRs to LIRs/ISPs Cumulative Total (1 January 1999 – 31 December 2003)

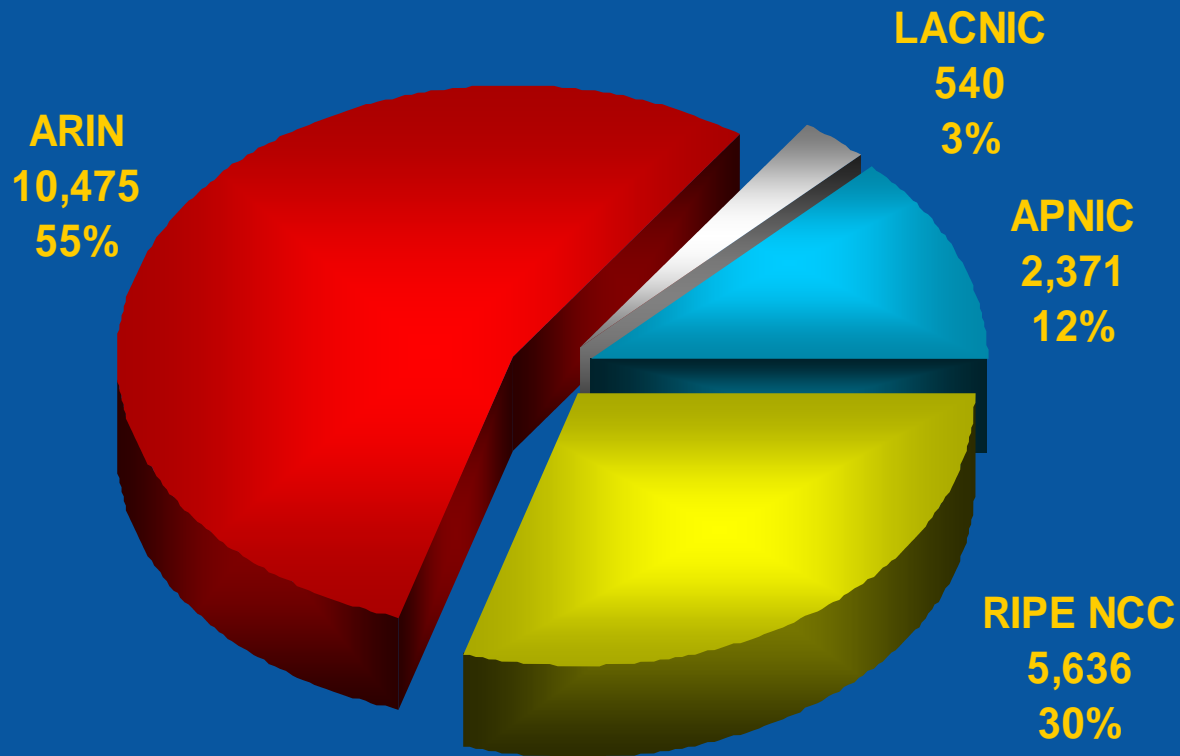


# ASN Assignments from RIRs to LIRs/ISPs Yearly Comparison

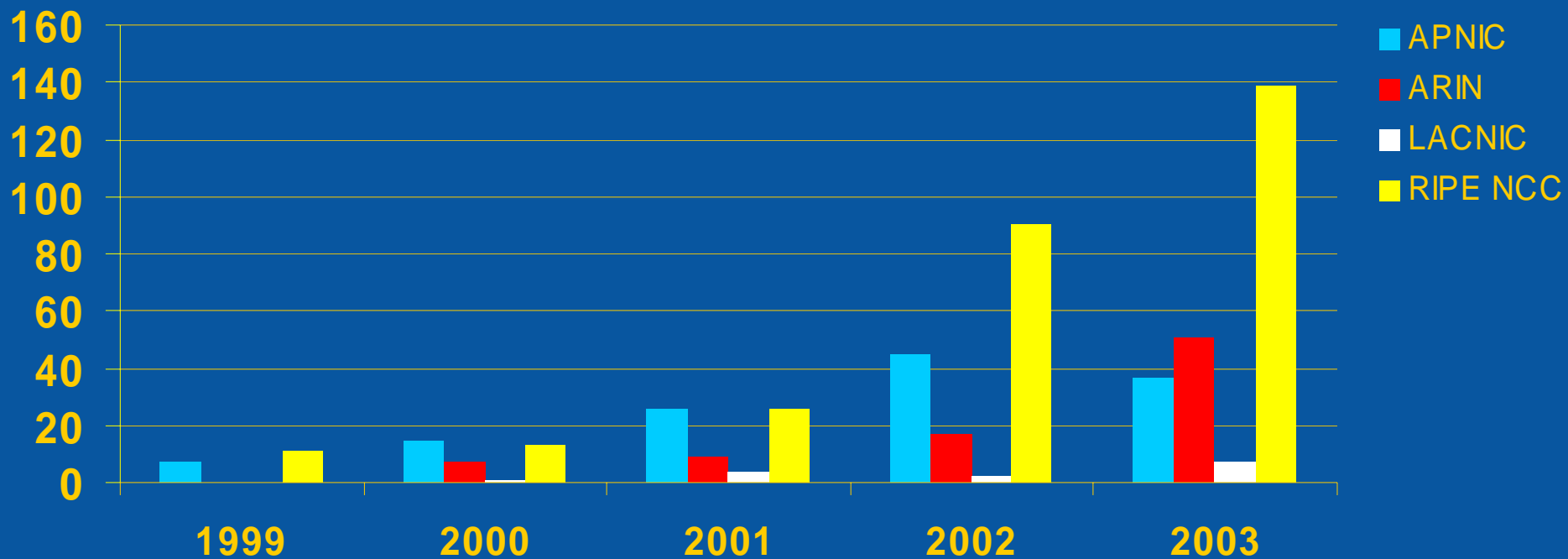




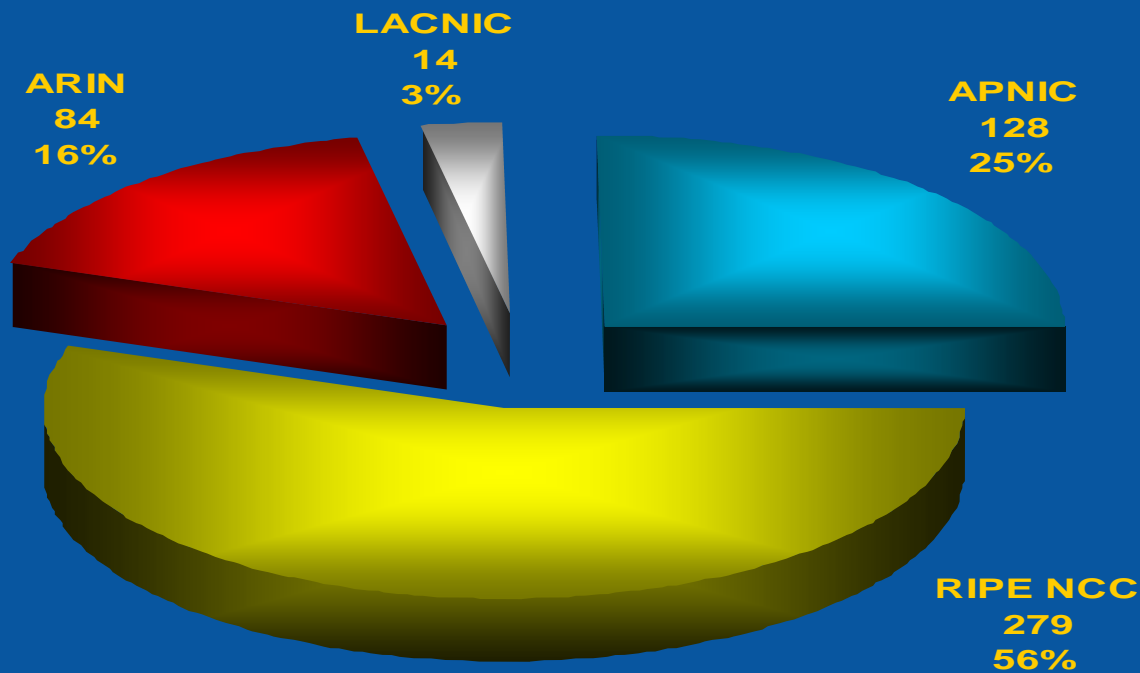
# ASN Assignments from RIRs to LIRs/ISPs Cumulative Total (1 January 1999 – 31 December 2003)



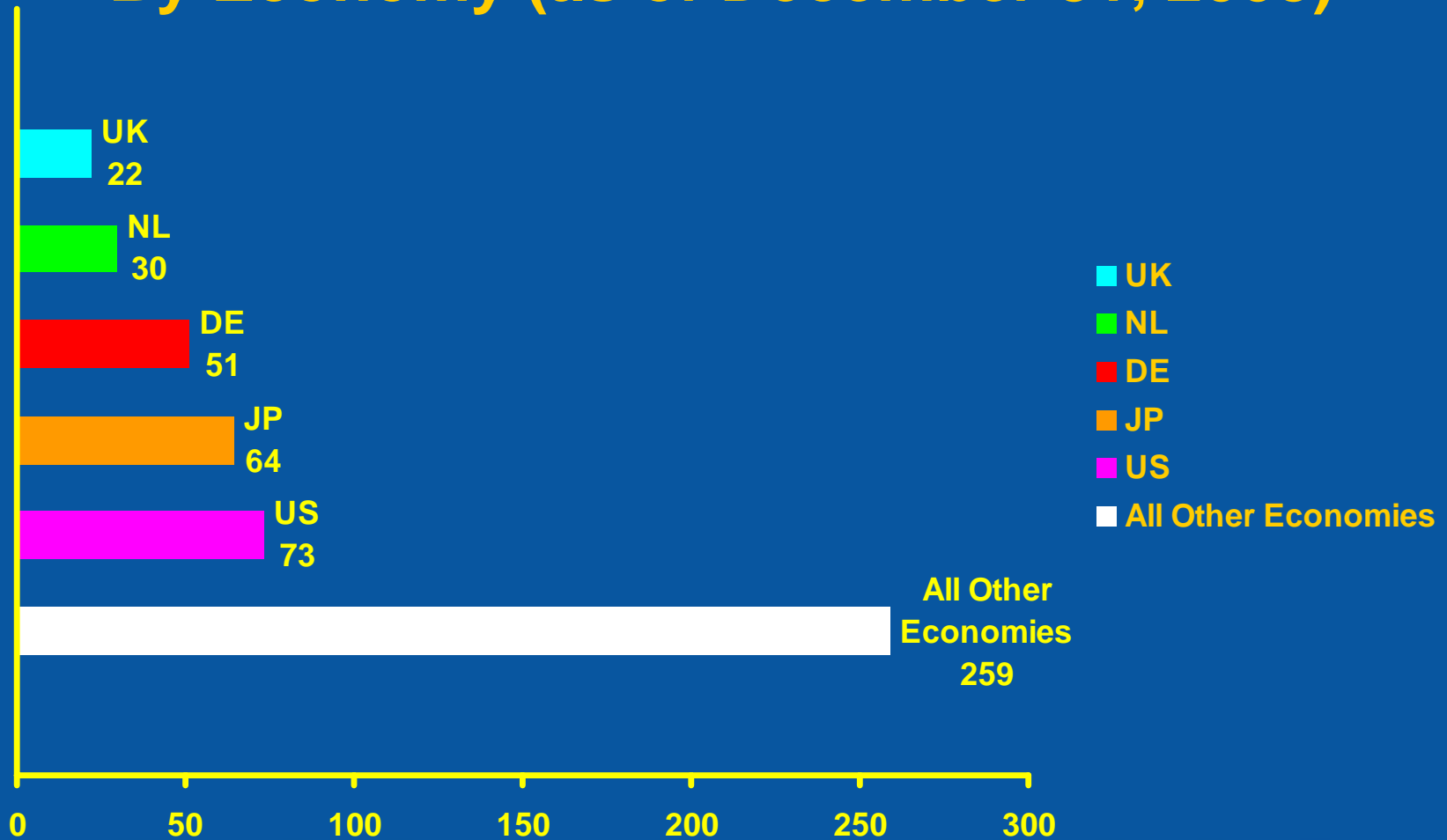
# IPv6 Allocations from RIRs to LIRs/ISPs Yearly Comparison



# IPv6 Allocations from RIRs to LIRs/ISPs Cumulative Total (1 January 1999 – 31 December 2003)



# Total IPv6 Allocations from RIRs to LIRs/ISPs By Economy (as of December 31, 2003)





## Links to RIR Statistics

### Raw Data/Historical RIR Allocations:

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

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

### RIR Stats:

<http://www.apnic.net/info/reports/index.html>

<http://www.arin.net/statistics/index.html>

<http://www.lacnic.net/en/est.html>

<http://www.ripe.net/ripenncc/pub-services/stats>

# Joint Activities



# Joint Activities

- ASO Secretariat Support
  - 2003: APNIC
  - 2004: Ripe NCC
- Outreach
  - WSIS participation
- Coordination
  - NRO MoU
  - Policy
    - IANA to RIR (IPv4 & IPv6)
    - RIR to ISP/LIR IPv6
    - ERX project
    - Staff exchange
    - RIR / ICANN MoU



# Number Resource Organization [NRO]



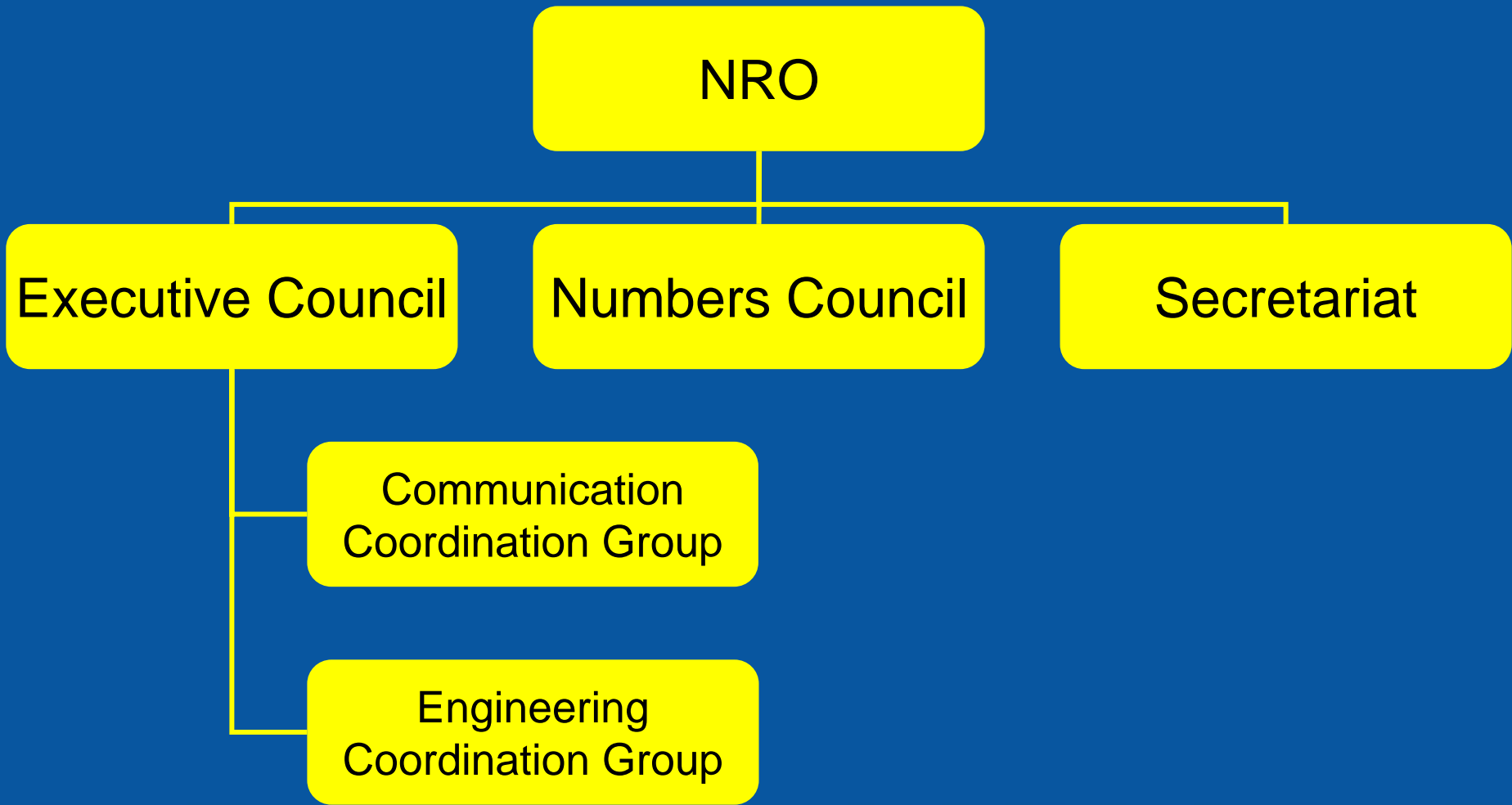


24 October 2003  
NRO MoU Signed



Formed by the Regional Internet Registries to formalize 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.

# Organization



# APNIC



# Hostmaster & Technical Activities

- Hostmaster Services
  - Response time
    - one day turnaround for all requests
  - Account management for more personal service
  
- Technical
  - MyAPNIC v.1.3
    - ‘looking glass’, whois data pre-loading, on-line voting
  - Improvements in X.509 CA
    - Hardware token engine in deployment
      - Ongoing analysis of PKIX/s-BGP
  - Anycast mirror servers (agreement with “F”, “I”, “K”)
    - HK , KR, CN , TW, SG & AU all live, planning others
  - Database cleanup
    - Unreferenced and unprotected objects
    - ERX/Historical data cleanup



# Policy Proposals at APNIC17

- [prop-014-v001](#) A proposal to lower the IPv4 minimum allocation size (to /21) and initial allocation criteria in the Asia Pacific region
- [prop-015-v001](#) Should APNIC allocate global unicast IPv6 address space to 'unconnected' networks
- [prop-016-v001](#) IPv6 allocations to IPv4 networks
- [prop-017-v001](#) Proposal to recover unused address space
- [prop-018-v001](#) Protecting Historical Records in APNIC Whois Database

Each of these policy proposals reached consensus in their respective SIG and were endorsed at the AMM

# APNIC Meetings

- APNIC 17  
Held in Kuala Lumpur last week in conjunction with APRICOT 2004
- APNIC 18  
September 2004  
Nadi, Fiji



# ARIN



# Activities

- \* **Stronger Authentication**
- \* **ERX**
- \* **Services over IPv6**
- \* **Web Site Improvements**
- \* **Improved Statistics & Graphs**
- \* **Template Translations**
- \* **Policy Catalogue**
- \* **NANOG / ARIN Meeting Coordination**
- \* **On-Demand Training**



# Recent Policy Proposals

2002- 3:	Micro-Assignments for Multi-homed Networks	Ratified
2003-13:	Six Month Supply of IP Addresses	Ratified
2003-14:	Remove /13 Maximum Allocation	Ratified
2003-15:	IP Address Allocation for Africa Portion of ARIN	Ratified
2002- 2:	Experimental Internet Resource Allocations	Pending Last Call
2003- 3:	Residential Customer Privacy	Pending Ratification
2003- 5:	Distributed Information Server Use Requirements	Pending Last Call
2003- 4:	IPv6 Policy Changes	Active for ARIN XIII
2003- 9:	WHOIS Acceptable Use	Active for ARIN XIII
2003-16:	POC Verification	Active for ARIN XIII
New:	Unique IP Addresses for Private Networks	
New:	Purpose and Scope of ARIN WHOIS Directory	
New:	Use of HD-Ratio for IPv4 Allocations	
New:	Defining Utilization of IPv4 Addresses	

# HEADING NORTHWEST TO

ARIN XIII



VANCOUVER, B.C.

April 18-21, 2004

# LACNIC





# LACNIC POLICY'S UPDATE

- LACNIC IV in Santiago Chile in April 2003 (ASO General Assembly)

## New Policies

- Bulk Whois Copy Distribution
- IPv6 Microallocation
- Multihomed end user microallocation

- LACNIC V in La Havana, Cuba in November 2003.

• New Policies approved in LACNIC V - **Last call for comments** finished 23rd January. These proposals and comments will be analyzed by the Board in its next meeting. (February)

- Experimental Allocations
- IPv6 Policy
- Multihomed end user microallocation (modification)

- The Policy Development Process is under revision. The discussion will continue in LACNIC VI .
- The resolution in the proposal for a new policy in Lame Delegation was postponed for LACNIC VI.



# LACNIC POLICY'S UPDATE

1. New Policy in *"Internet Resources Experimental Allocation"*.
2. Changes in the *"IPv6 Policy for LACNIC Region"*.
  - **3 New Requirements for initial allocations.**
    - c. Document a detailed plan for the services and IPv6 connectivity to be offered to other organizations (clients).
    - d. Announce a single block in the Internet inter-domain routing system, aggregating the total IPv6 address allocation received, within a period not longer than 12 months.
    - e. Offer IPv6 services to clients physically located within the region covered by LACNIC within a period not longer than 24 months.
  - **2 previous requirements were deleted.**
    - c. Plan to provide IPv6 connectivity to organizations to which it will assign /48s, by advertising that connectivity through its single aggregated address allocation; and
    - d. Have a plan for making at least 200 /48 assignments to other organizations within two years.
3. Changes in the policy *"Microallocation for Multihomed End Users"*.

A new requirement was added.

  - ✓ Require an allocation equivalent to a /25 previously allocated by the applicant's Internet Service Provider in order to qualify for the microallocation of IPv4 address space to Multihomed End Users.

# LACNIC VI



Montevideo

Uruguay

29th March – 1st April  
2004



<http://lacnic.net/en/lacnicVI.html>

# RIPE NCC





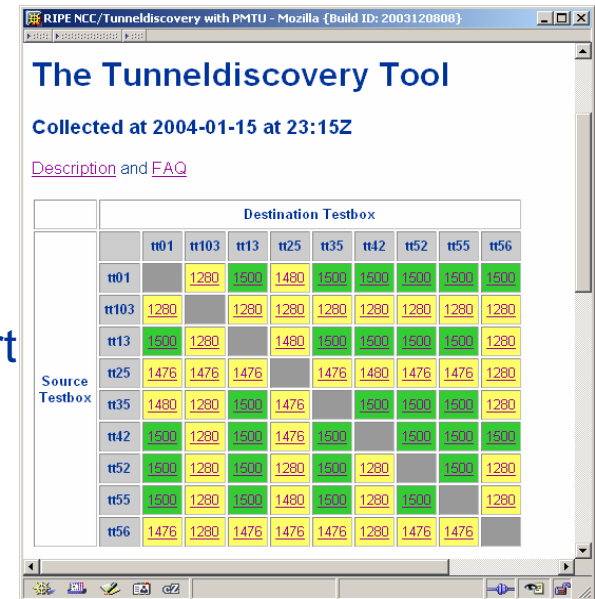
# Policy / Registration Services

- /21 minimum allocation implemented on 1 Jan 2004
- AfriNIC proposal to halve minimum allocation for African LIRs (to /22) under discussion
- RIR Comparative policy overview update due mid-year
- Low and stable turnaround to resource requests: two day maximum
- 285 allocations of IPv6 blocks
  - Including /31 and /27
- RIPE NCC regional meetings
  - Dubai: great success, good participation
  - Next meetings: Moscow, June, and Nairobi, July



# Technical Activities

- LIR Portal 2.0
  - PA assignment wizard
  - Multiple LIRs per user
  - Syntax checking web forms
- In progress: X.509 authentication
  - S/MIME research
- k rootserver anycast
  - Local node deployed at DE-CIX, Frankfurt
- Test Traffic Measurements
  - IPv6 tunnel detection
  - IPv6 on 39 boxes / 21 sites
- dnsmon.ripe.net nearing production
  - Agreement needs drafting
  - Start date to be set
  - Good interest from ccTLDs



The screenshot shows a web browser window titled "RIPE NCC/Tunneldiscovery with PMTU - Mozilla {Build ID: 2003120808}". The page content includes the title "The Tunneldiscovery Tool", the collection date "Collected at 2004-01-15 at 23:15Z", and links for "Description" and "FAQ". Below this is a table titled "Destination Testbox" with a "Source Testbox" column on the left. The table shows connectivity between various testboxes (tt01, tt103, tt13, tt25, tt35, tt42, tt52, tt55, tt56) with IP addresses and status indicators (green for success, yellow for failure).

		Destination Testbox								
		tt01	tt103	tt13	tt25	tt35	tt42	tt52	tt55	tt56
Source Testbox	tt01		1280	1480	1480	1480	1480	1480	1480	1480
	tt103	1280		1280	1280	1280	1280	1280	1280	1280
	tt13	1480	1280		1480	1480	1480	1480	1480	1280
	tt25	1476	1476	1476		1476	1480	1476	1476	1280
	tt35	1480	1280	1480	1476		1480	1480	1480	1280
	tt42	1480	1280	1480	1476	1480		1480	1480	1480
	tt52	1480	1280	1480	1280	1480	1280		1480	1280
	tt55	1480	1280	1480	1480	1480	1280	1480		1280
	tt56	1476	1280	1476	1476	1476	1280	1476	1476	

# RIPE 48

3 - 7 May 2004

Amsterdam

No Ice – No Snow!



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# AFRINIC



# Hosting Countries

- **Mauritius**  
Corporate Headquarters
- **South Africa**  
Technical operations
- **Ghana**  
Training Coordination
- **Egypt**  
Mirroring and disaster recovery



# Activities

- **Space Allocated from 196 /8**
- **Allocation Policy**
  - ◆ ARIN Policy 2003-15
  - ◆ RIPE NCC Under Discussion
- **Transition Plan**

# Meetings

- **AfrinIC I**
  - ◆ Dakar
  - ◆ 23 – 24 May
- **RIR Sub Region**
  - ◆ ARIN
  - ◆ RIPE NCC



감사합니다

Kamsahamnida  
THANK YOU