

# IPv6 and the RIRs

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# Overview

- \* IPv6 Policy History
- \* Current IPv6 Policies
- \* Requesting IPv6 Address Space
- \* IPv6 Statistics

# IPv6 Policy History

- \* Apr 1999 – IPv6 Allocations Begin
  - ▶ Provisional IPv6 Policies Used
  - ▶ Joint RIR consensus
- \* Oct 1999 – Policy Review Begins
  - ▶ Micro-allocations
  - ▶ Size of reassignments
- \* Jun 2001 – Global Consensus
  - ▶ Policy and Technical Boundaries
  - ▶ End Site Assignments [RFC 3177]
- \* May 2002 – Global Consensus
  - ▶ Initial Allocation Size to LIR
  - ▶ Initial Allocation Criteria

# Current IPv6 Policies

# Initial Allocation

## \* Size

- ▶ Minimum: /32
- ▶ Maximum: None

## \* Criteria

- ▶ Be an LIR (ISP)
- ▶ Not an End Site
- ▶ Plan to Provide
  - ▶ IPv6 Connectivity
  - ▶ /48 Assignments  
200 in 2 years

# Subsequent Allocation

## \* Criteria

- ▶ Assignments Registered
- ▶ Utilization Threshold (HD Ratio)

## \* Size

- ▶ Minimum: /32
- ▶ Maximum: None

# Assignments by ISP (LIR)

## \* LIR to End Site

- ▶ /48
  - ▶ Usual Assignment Size
  - ▶ 16 bits for subnets
- ▶ /64 only one subnet
- ▶ /128 only one device connecting

## \* ISP infrastructure

- ▶ /48 per POP

RFC 3177 “IAB/IESG Recommendations on IPv6 Address Allocations to Sites”

# ARIN Micro-Allocation Policy

ARIN will make micro-allocations to critical infrastructure providers of the Internet, including public exchange points, core DNS service providers (e.g. ICANN-sanctioned root, gTLD, and ccTLD operators) as well as the RIRs and IANA. These allocations will be no longer than a /24 using IPv4 or a /48 using IPv6. Multiple allocations may be granted in certain situations.

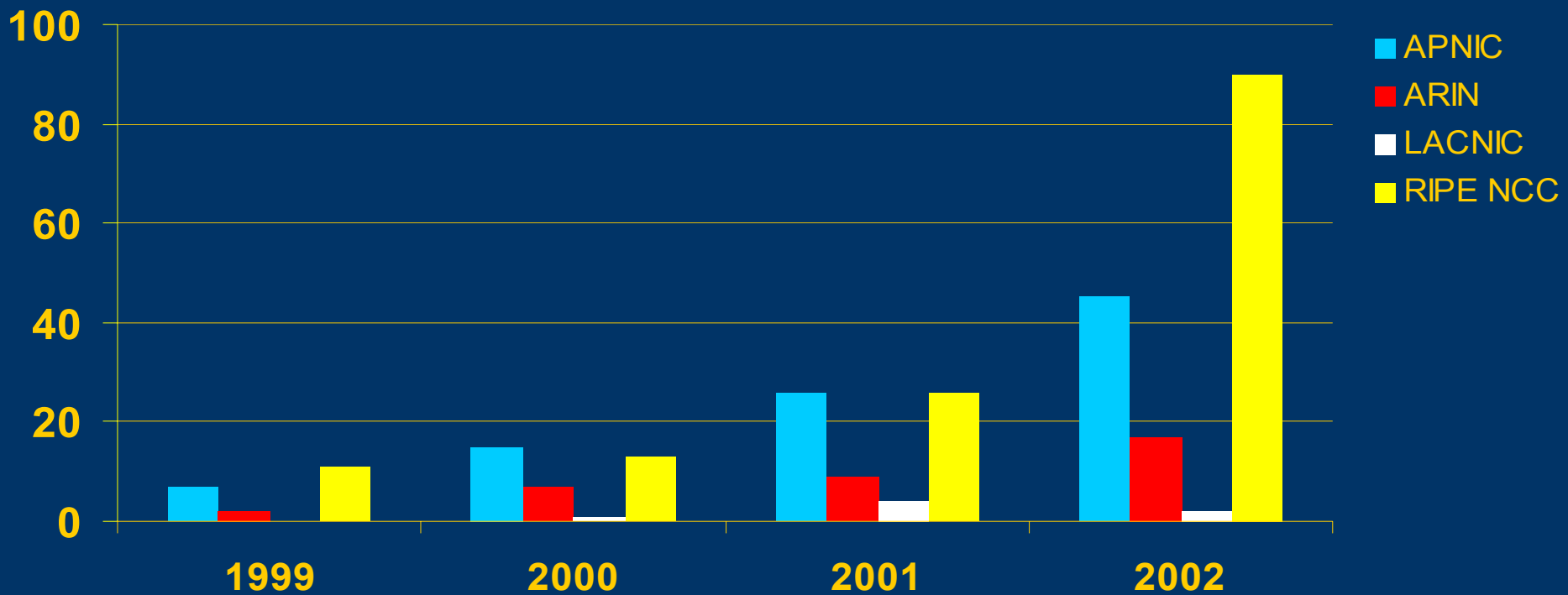


# Requesting IPv6 Address Space

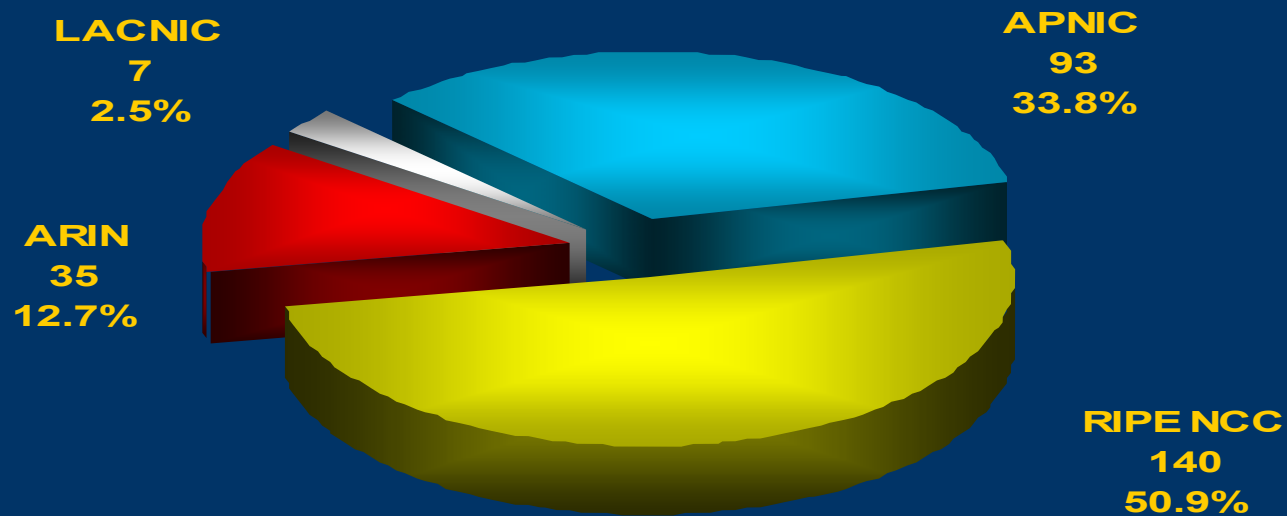
**See ARIN Website**

# IPv6 Statistics

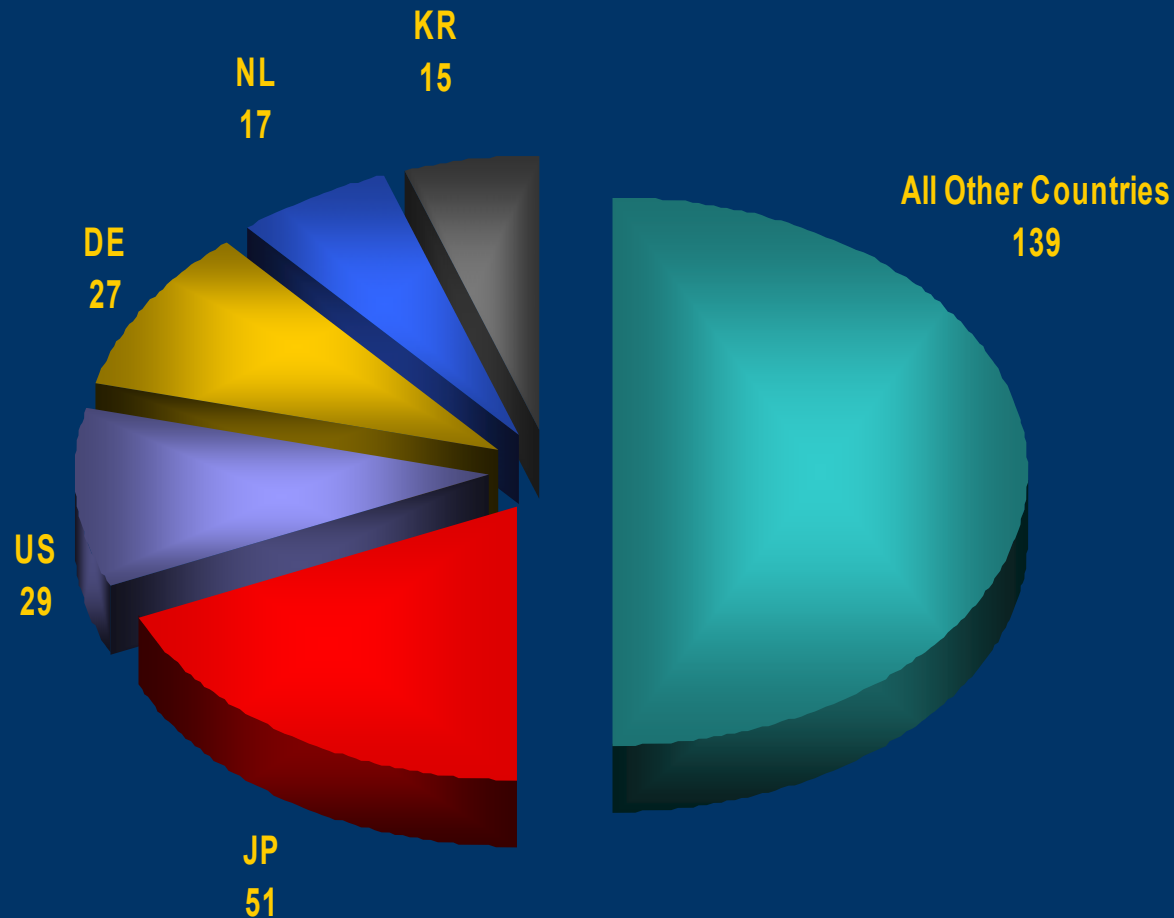
# IPv6 Allocations from RIRs to LIRs/ISPs Yearly Comparison



# IPv6 Allocations from RIRs to LIRs/ISPs Four-Year Cumulative Total (1999 – 2002)



# Total IPv6 Allocations from RIRs to LIRs/ISPs By Country



# ARIN Region Specifics

67 direct IPv6 registrations:

/32 networks: 47

/35 networks: 6

/48 networks: 14

18 reassignments registered in ARIN DB:

/40 networks: 5

/48 networks: 12

/64 networks: 1

Breakdown by Country (/32s, /35s):

43 USA, 7 CA, 3 ZA

*Thank You*