IPv6 Address Allocation APNIC

IPv6 Summit
July 2-6 2001, Korea

Anne Lord, APNIC

Overview

- **Address Policy**
  - Gobal policy document status
  - Current issues

- **Deployment Status**
  - Allocation analysis
  - Database registrations
  - Routing announcements

Policy Development
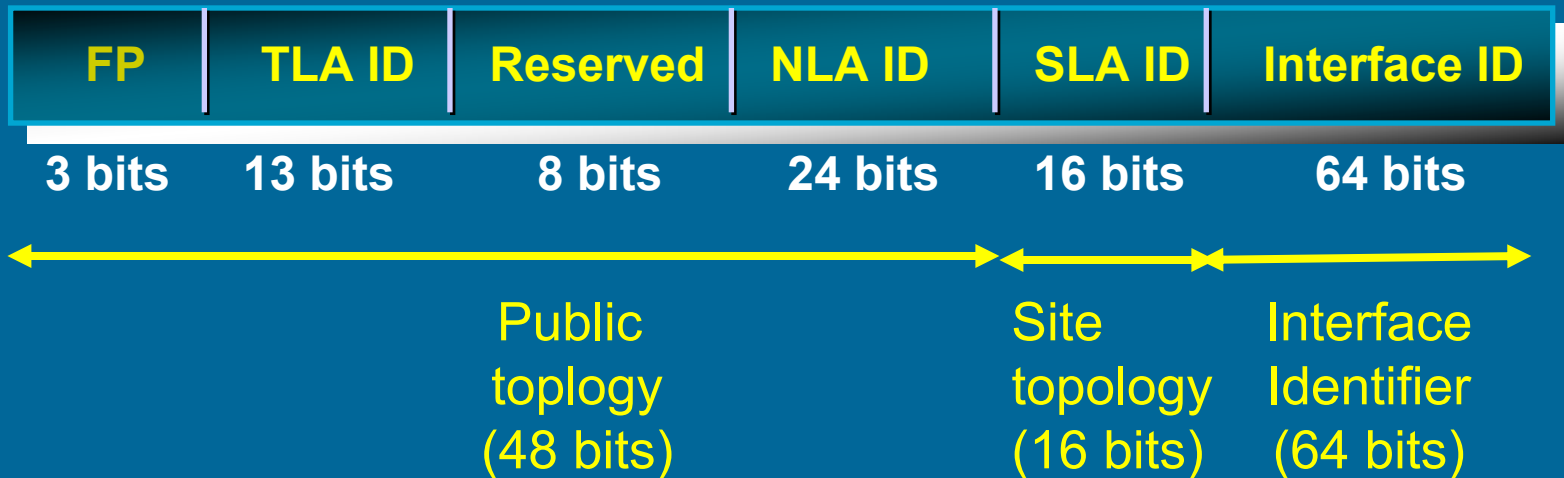
- Oct 1998   Initial discussions RIRs/IETF and RIR communities
- Jul   1999   Provisional policy document released
- Aug 1999   IPv6 allocation service began
- Oct 1999   Review of policy document after early deployment experience
- 2001   Revised policy document to be published following extensive IETF/community input
- 2002…   Policies <u>always</u> subject to change

Current Status

- ◆ Consensus on
  - ◆ /48 for a "site"
    - ◆ If no need for subnets, less can be used
- ◆ Discussion ongoing
  - ◆ Almost 100 SubTLA's allocated
    - ◆ End of bootstrap period?
  - ◆ PI assignments
    - ◆ Policy needed in IPv6?
  - ◆ Address architecture
    - ◆ IETF/RIR recommendations – revision of rfc2374
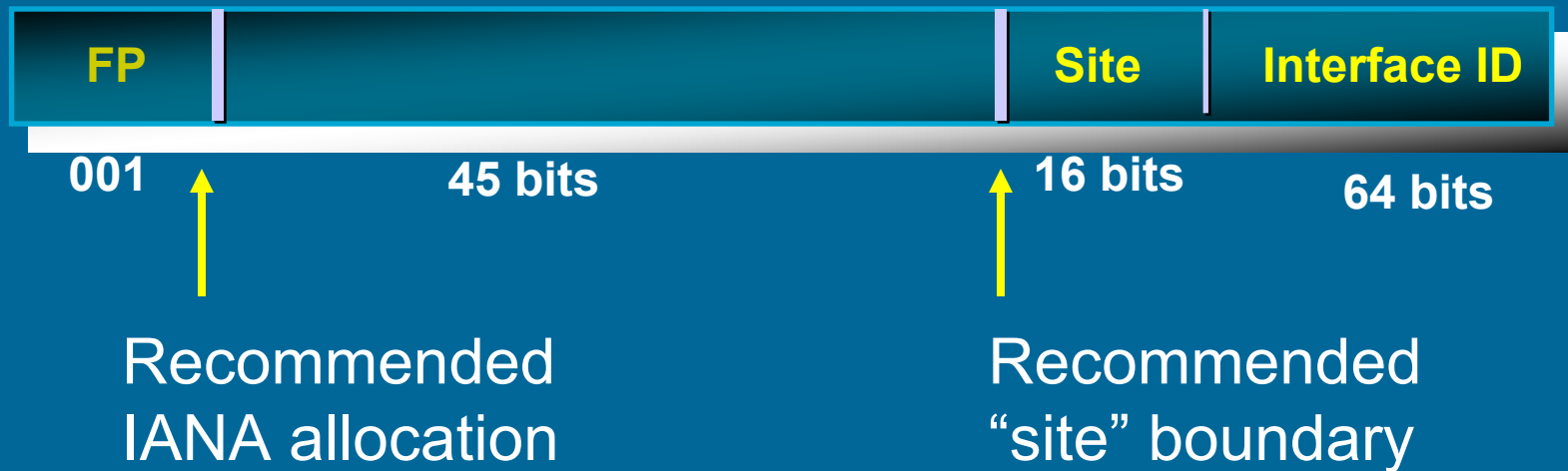
IPv6 Addressing – RFC2374

◆ Aggregatable Global Unicast Format

◆ RFC2374 (FP001)

◆ 128 bit addresses

FP	TLA ID	Reserved	NLA ID	SLA ID	Interface ID
3 bits	13 bits	8 bits	24 bits	16 bits	64 bits

Public toplogy (48 bits) ⟷ Site topology (16 bits) ⟷ Interface Identifier (64 bits)

◆ Mixes technology and policy

IPv6 Addressing - Proposal

◆ IPv6 Unicast Addressing

◆ Proposal: Separate technology and policy

FP		Site	Interface ID

001   45 bits   16 bits   64 bits

Recommended IANA allocation

Recommended "site" boundary

Next APNIC Meeting

- **APNIC 12, Taipei**
  - http://www.apnic.net/meetings
- **Policy discussions**
  - Joint IPv6/Address Policy SIG
    - Wed 29th August
- **A warm welcome!**
  - To anyone with interest in IPv6 policy development especially this community
  - Feedback and input requested
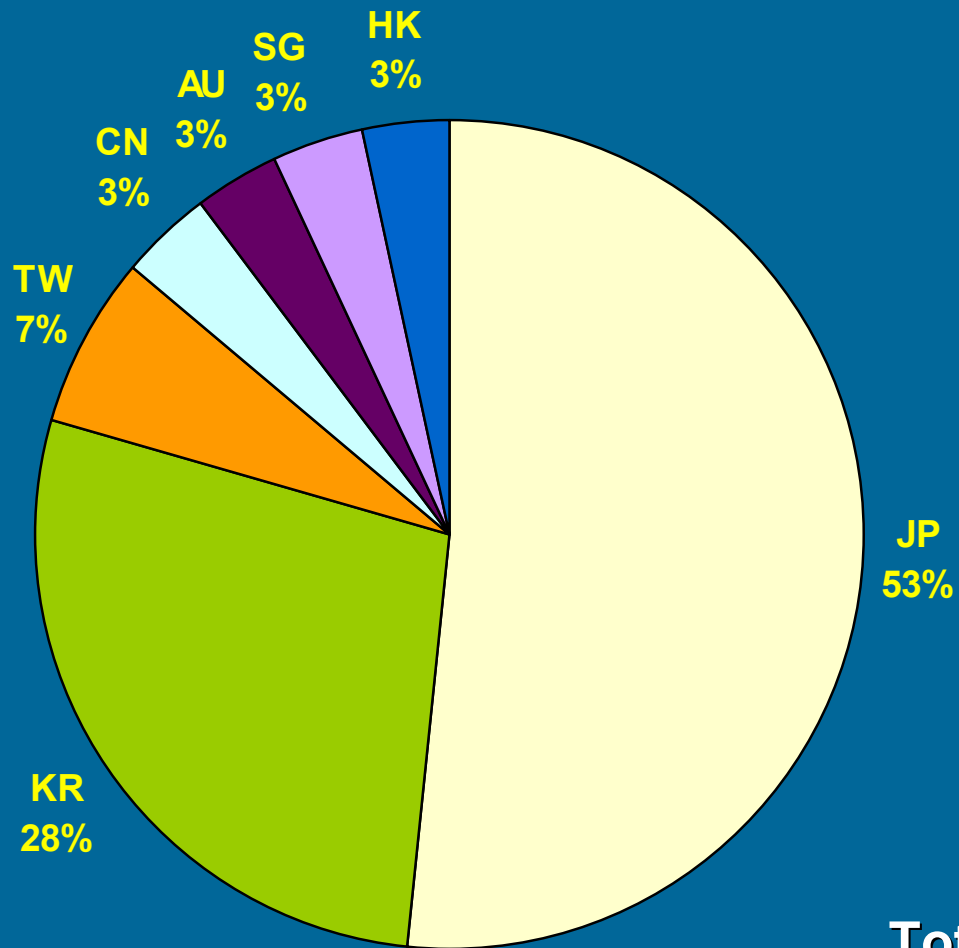
IPv6 Allocations

In the Asia Pacific Region

IPv6 Allocations by RIRs

- ## APNIC   2001:0200::/23
  - ### 29 allocations (/35)

- ## ARIN   2001:0400::/23
  - ### 17 allocations (/35)

- ## RIPE NCC   2001:0600::/23
  - ### 37 allocations (/35)

APNIC Allocations by Country

IPv6 Allocations Over Time

- ## APNIC allocations to 18 June 2001
  - ### Since August 1999
    - 7 in 1999
    - 15 in 2000
    - 7 in 2001
  - ### By organisation
    - 6 Research ISPs
    - 3 Government ISPs
    - 20 Commercial ISPs

Registry Coordination

- **Request evaluation**
  - **Peer review by all RIRs of IPv6 SubTLA requests**
    - Ensures global consistency
    - Accuracy
  - **Discussion of difficult cases**
    - Consult with 6Bone
  - **Policy document**
   - Needs global agreement on policy

IPV6 Members Update

- ◆ **Feedback from members > 1 year**
  - ◆ Type of services being provided
    - ◆ IPv6 connectivity, interoperability tests, experimental services, ftp servers , web browsing
  - ◆ Connectivity
    - ◆ Connected to 6TAP and other IPv6 networks in the region
  - ◆ Network implementation
    - ◆ Native IPv6 & tunneling

APNIC IPv6 Dissemination

- **Training courses**
  - Expanded module on IPv6 architecture
- **Open seminars**
  - Introduction to IPv6
- **Tutorials**
  - In conjunction with APNIC meetings
- **FAQ**
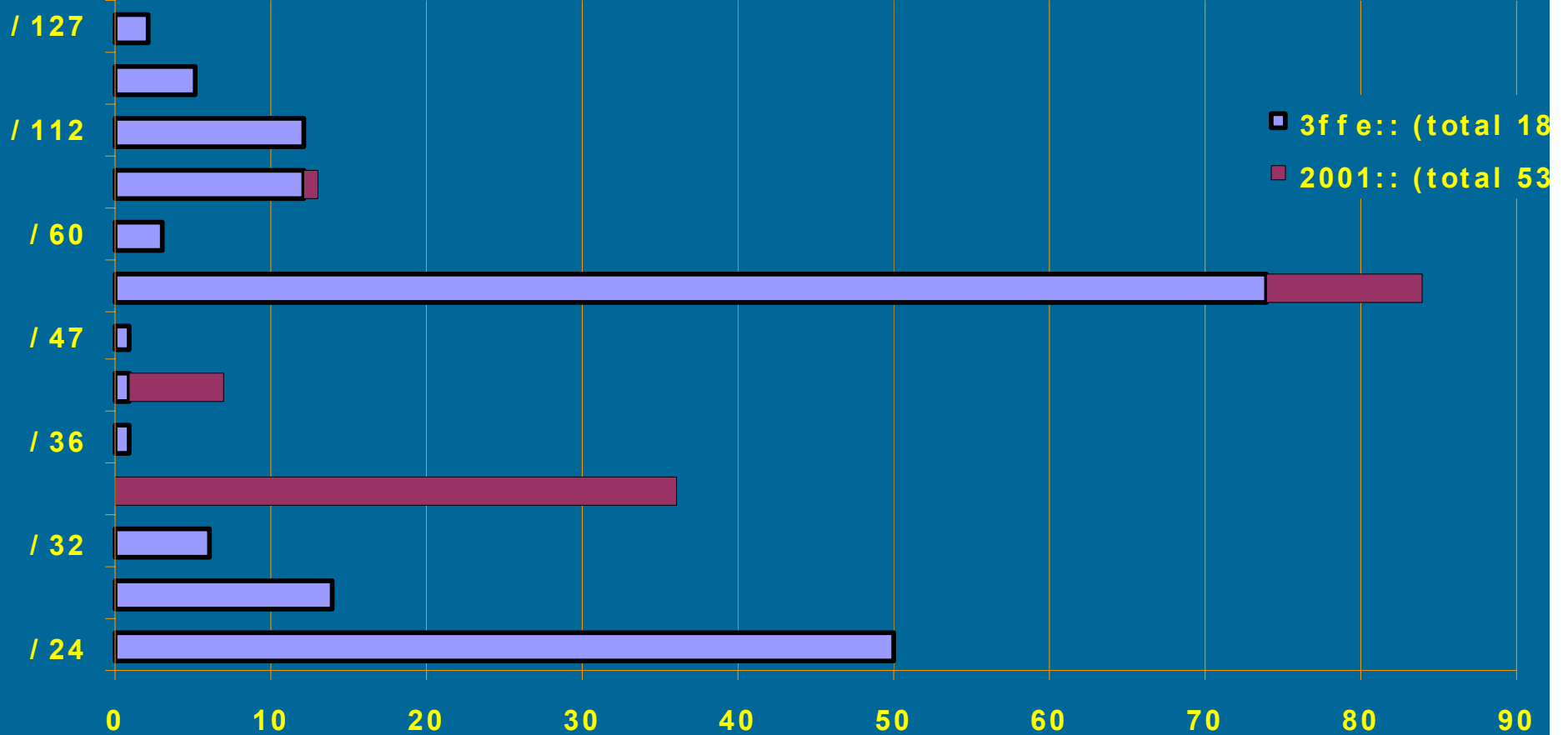 - http://www.apnic.net/faq/IPv6-FAQ.html

Database Registrations by RIR
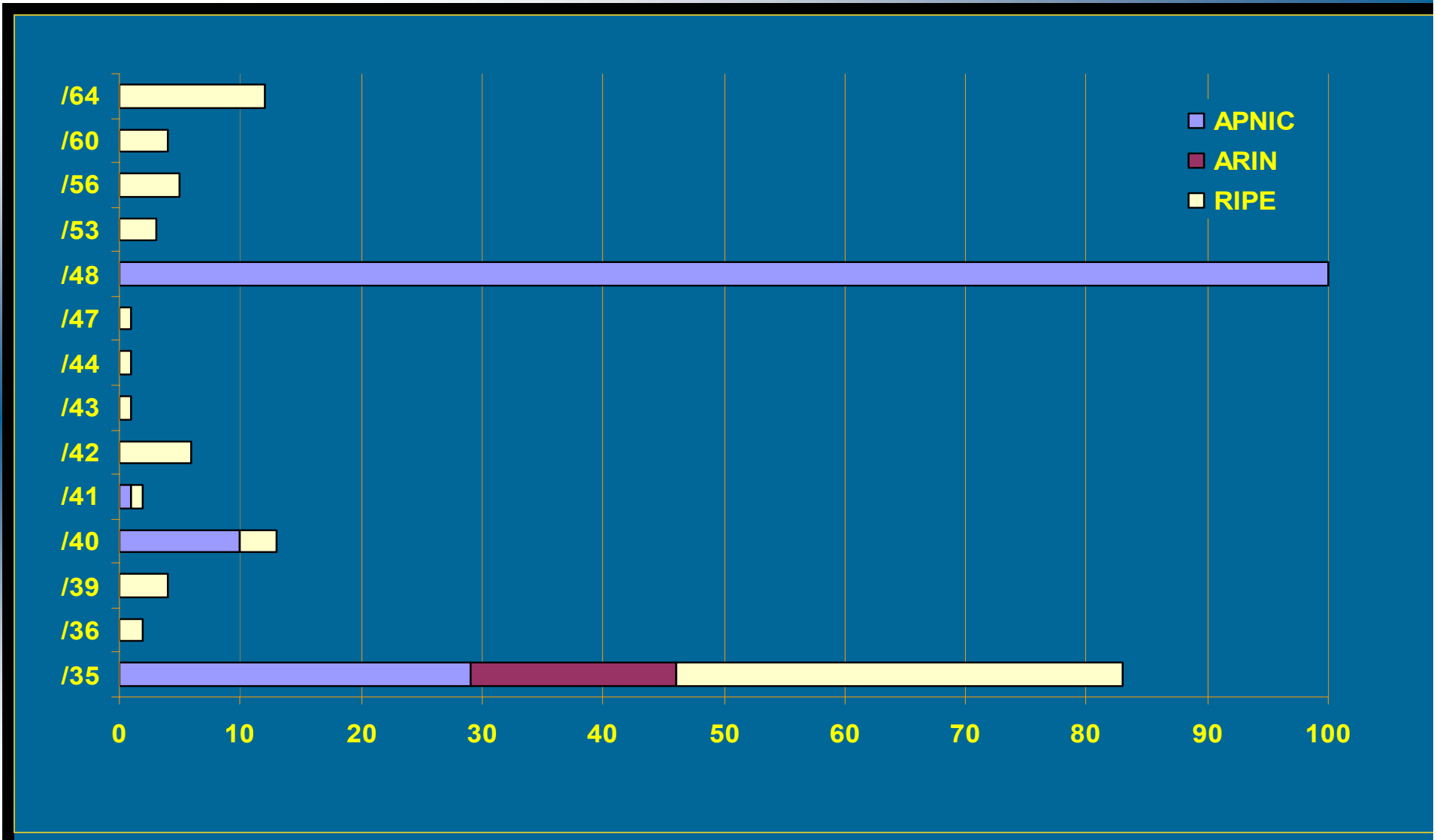
Routing Table Analysis

- **Registration does not indicate usage**
  - Allocation records are reliable to determine who "might" use address space
  - Assignment records may be incomplete
- **Actual usage shown by routing tables**
  - However, this is a subjective view depending on point of observation
  - Also, view changes constantly with time

Questions?