



APNIC

Asia Pacific Network Information Centre



IPv6 Allocation Status Report

APNIC 19,
IPv6 Technical SIG
Kyoto, Japan



Overview

- RIR IPv6 Statistics
- Allocation/Assignment Statistics
- IPv6 Routing Table
- Whois Database Registrations



IANA IPv6 Allocations to APNIC

- 2001:0200::/23 (Jul 99)
- 2001:0C00::/23 (May 02)
- 2001:0E00::/23 (Jan 03)
- 2001:4400::/23 (Jun 04)
- 2001:8000::/19 (Nov 04)
- 2001:A000::/20 (Nov 04)

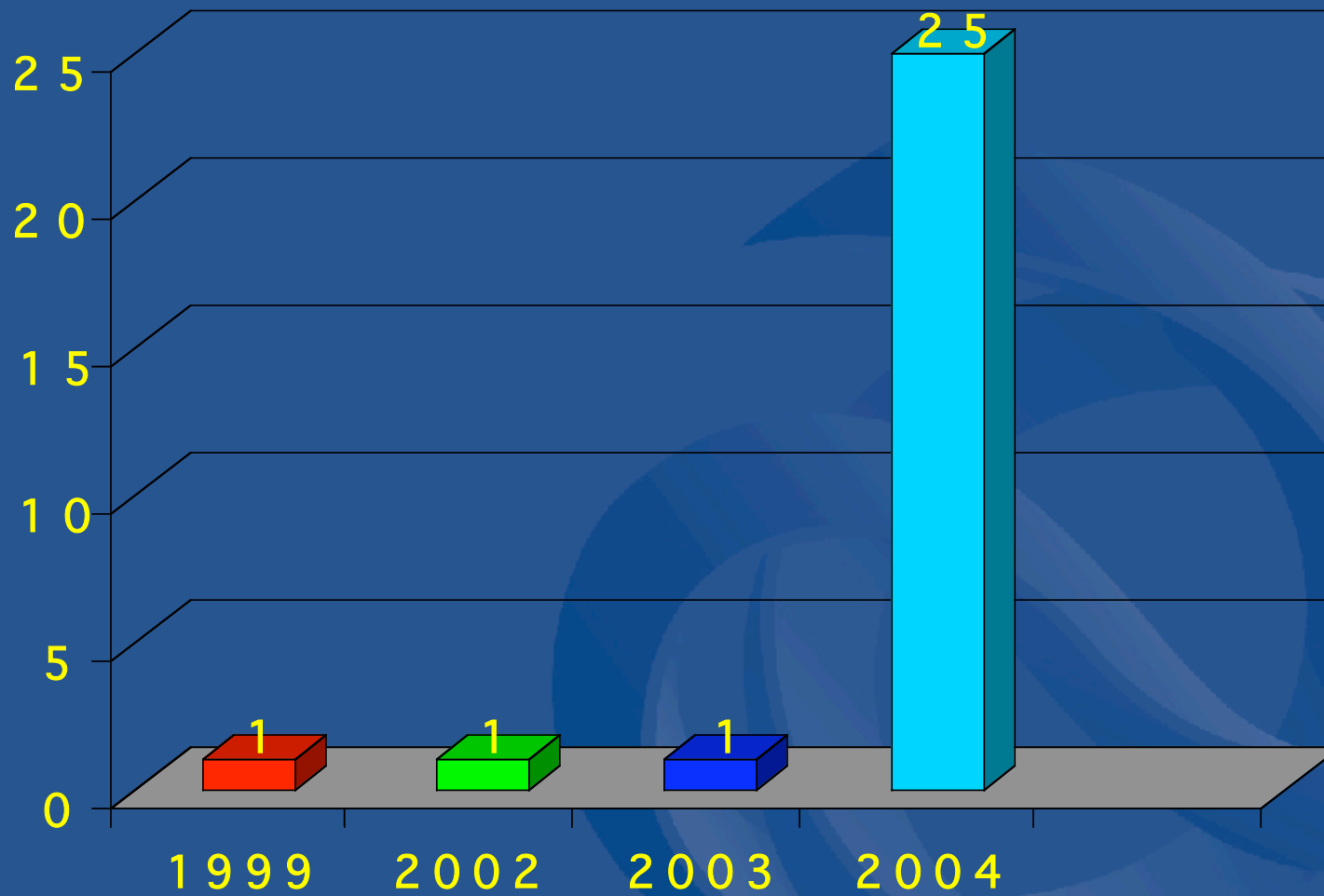


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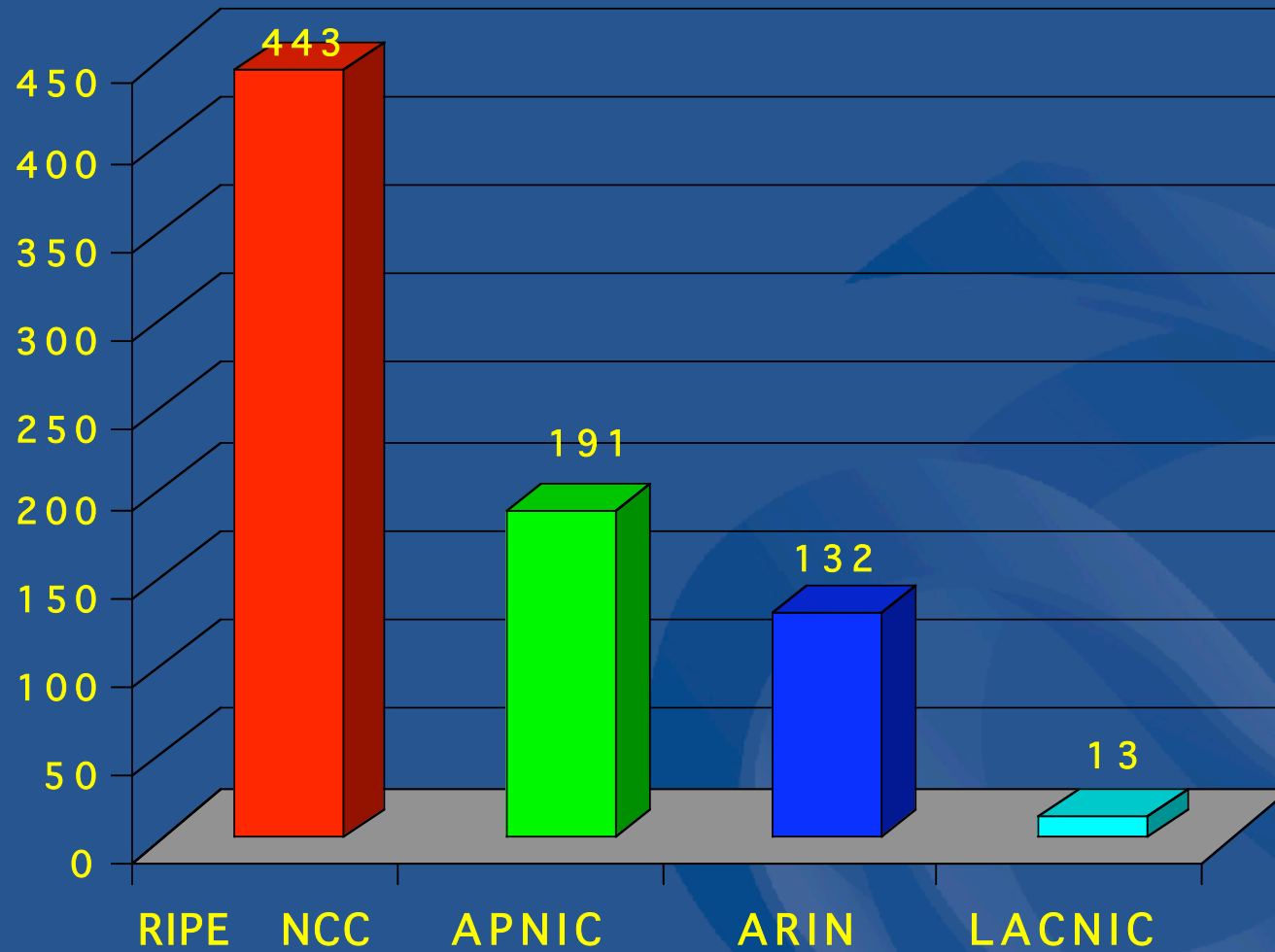
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IANA IPv6 Allocations to APNIC



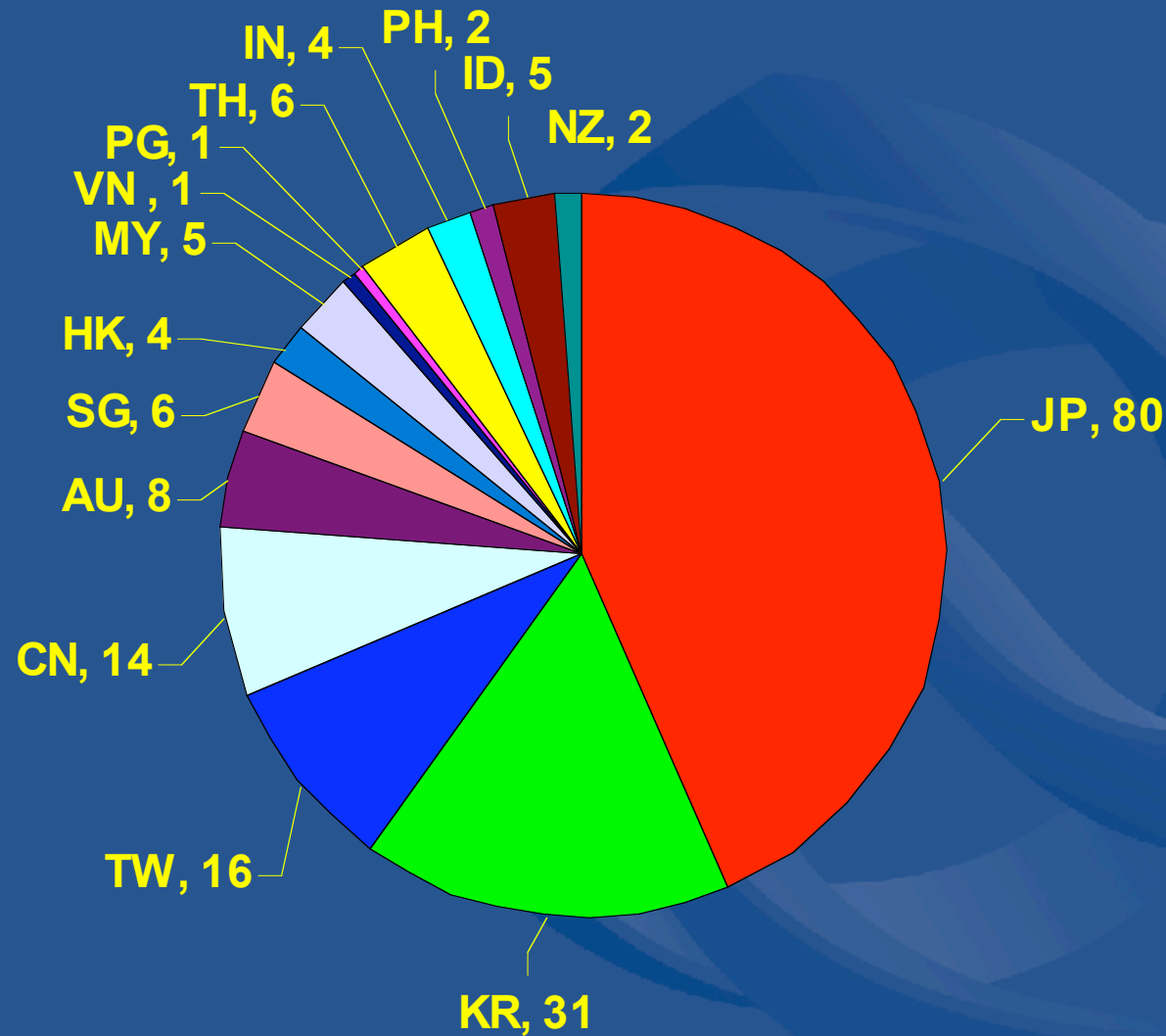
RIR IPv6 Allocations



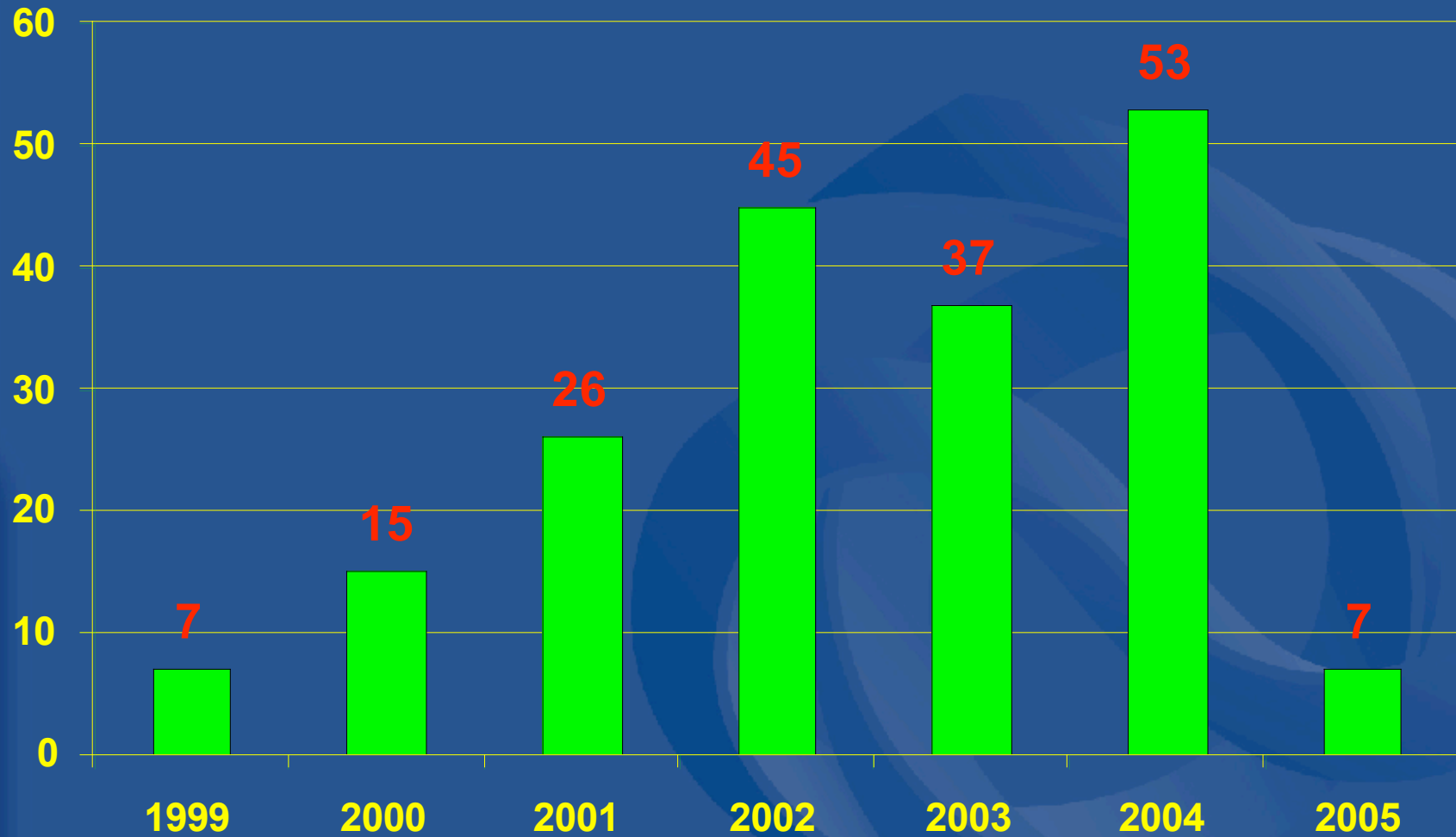
Note: number of “various sizes” allocations



Total APNIC IPv6 Allocations by Economy



APNIC IPv6 Allocations by Year





Large IPv6 Allocations

- IPv6 allocations to IPv4 networks
 - /28 JP - VECTANTNET
- Expansion of the initial alloc space for existing v6
 - /21 + /30 JP (kept initial /30) - NTT
 - /20 AU (renumbering initial /32) - Telstra

IPv6 Implementation (Telstra)

- What is the current status of IPv6 roll-out and future deployment plans?
 - Enable ipv6 on Network Core
 - Dual stacked core (v6 & v4 ships in the night routing)
 - /64 for loopbacks, for PtP links and LANs
 - Deploy IPv6 enabled IGP (IS-IS or OSPFv3) for topology distribution
 - Use MBGP4+ address family ipv6 for prefix distribution
 - Follow existing IPv4 routing policies and practices

IPv6 Implementation (Telstra)

- What is the current status of IPv6 roll-out and future deployment plans?
 - Enable selected edge boxes for dual stacked connection
 - IPv6 native from client service to network edge (supported over Ethernet, POS, ATM, Frame, Serial)
 - Deploy tunnel terminators on each POP (clients that cannot have native connections can 'ipv6ip' tunnel to their local POP, this avoids un-necessary overlay tunnels)
 - Acquire multiple tunneled transit paths until native is offered (native IPv6 to US/Europe currently an issue)

IPv6 Implementation (Telstra) Cont...

- What is the current status of IPv6 roll-out and future deployment plans?
 - Once National Network is IPv6 enabled & bedded down
 - 6 month timeframe
 - Push into internal product groups (when IPv6 is enabled, barrier to entry for internal product groups is reduced such as consumer broadband products DSL/Cable and 3G Mobiles)

IPv6 Implementation (Telstra) Cont...

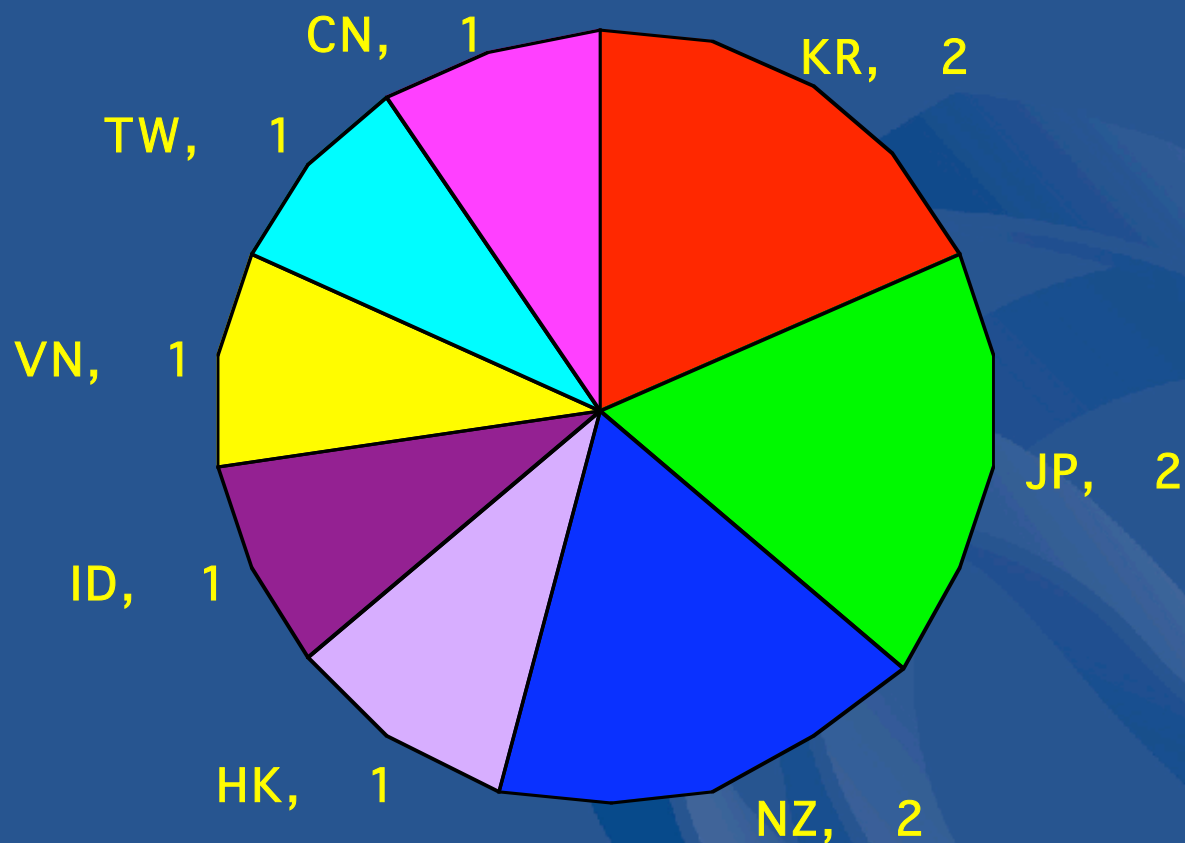
- What are the issues/difficulties?
 - Have to logically rebuild the entire network in IPv6
 - Operationally the existing topology needs to be recreated in IPv6
 - Separate IPv6 IGP needs to be deterministically set to recreate existing ipv4 forwarding paths
 - Operationally very difficult to debug if forwarding path behaviours differ between v4 & v6 protocols
 - More skill-set and training required for operational
 - Upgrade operational systems to allow customer IPv6 prefixes
 - Allow AAAA records in DNS via client GUI
 - Integrate IPv6 syntax in IP allocation systems



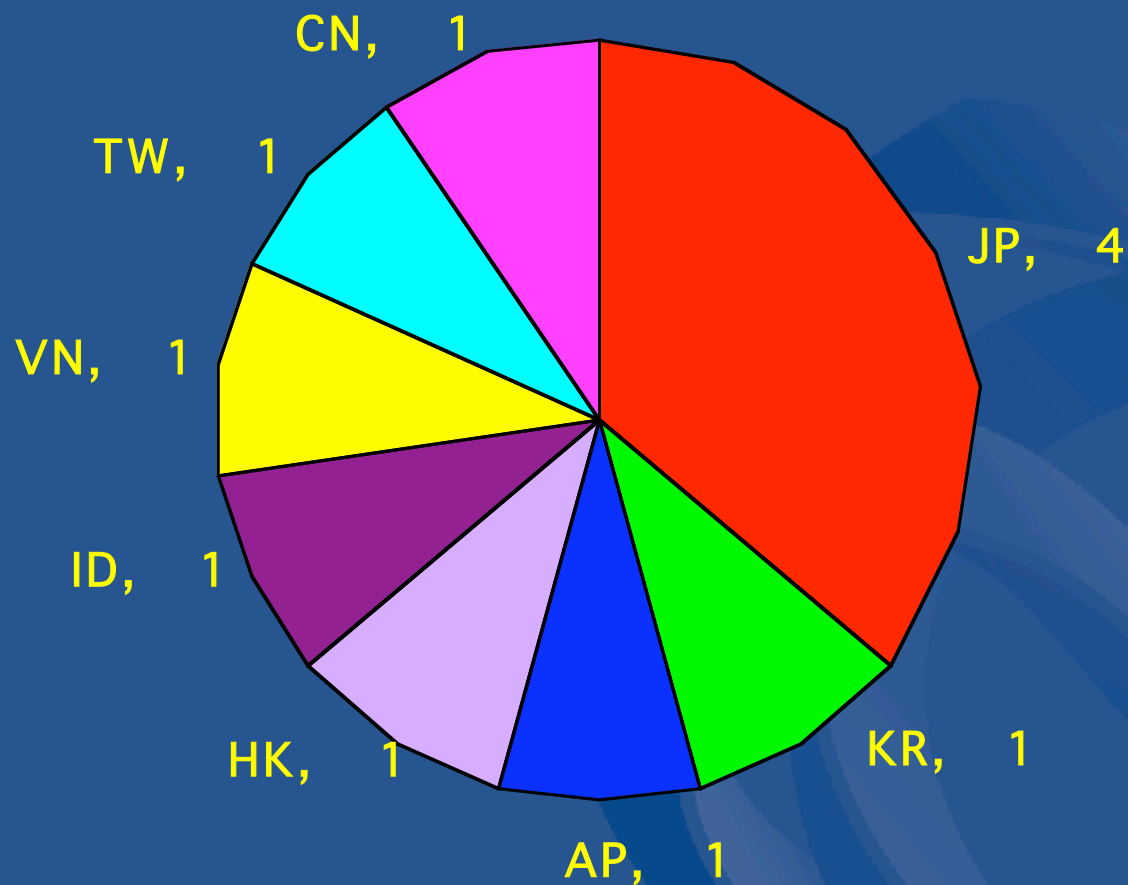
Experimental Allocations

- Experimental Networks
 - /32 Allocation for WIDE Japan
 - IPv6 allocation for a field test of v6 DNS service with anycasting
 - Document of the experiment will soon be published at the following URL:
http://www.apnic.net/services/ipv6_guide.html

IPv6 IX Assignments (/64 & /48)

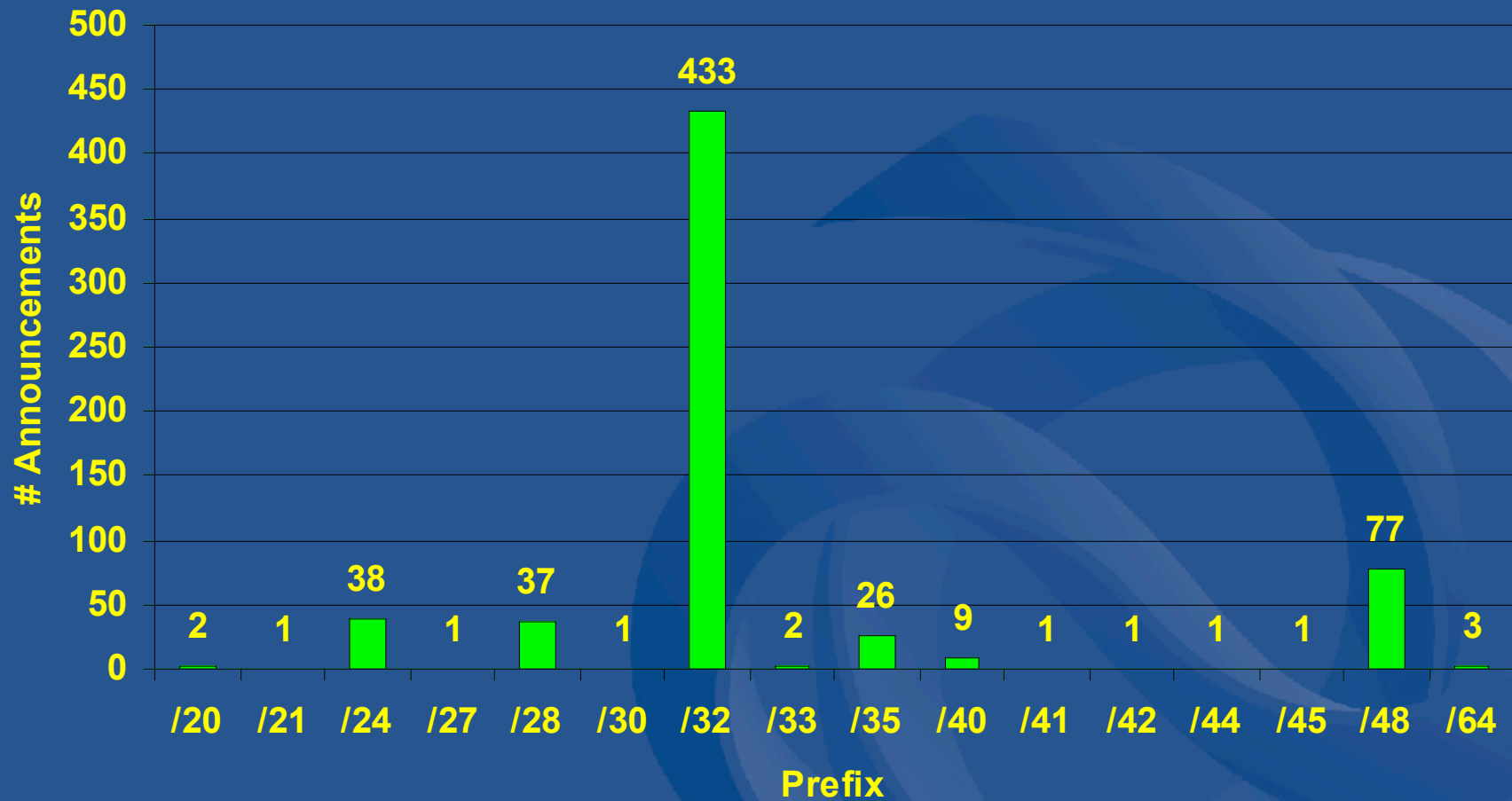


IPv6 Critical Infrastructure Assignments (/32)

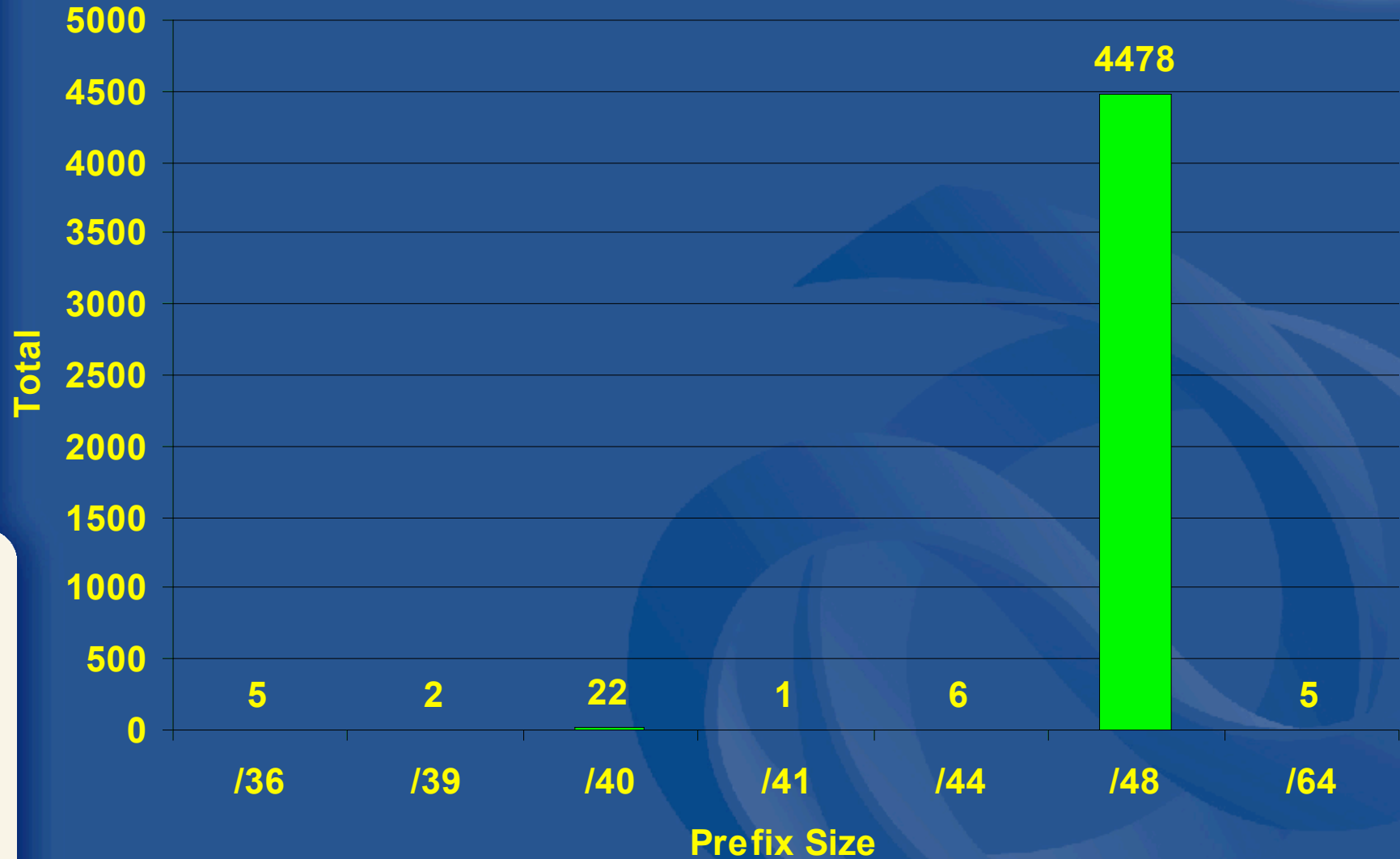




IPv6 Routing Table



APNIC Database Registrations



Note: There were 4265 /48s registered as of last August 2004



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Questions?

