

IPv6 Deployment Overview



Leo Vegoda
Number Resources Manager

September 2009

APEC TEL 40 /Cancún, MX

Overview

- Proportion of economies with IPv4 & IPv6 address space
- Proportion of LIRs (ISPs) with IPv6 address space
- Diversity of IPv6 routing for ccTLDs' nameservers
- IPv6 glue registration

APEC Members with IPv4 & IPv6

IPv4

APEC Members with IPv4
100%

APNIC

APEC Members with IPv6
100%

RIRs serving APEC Members

AU	APNIC	US	ARIN
BN	APNIC	TW	APNIC
CA	ARIN	HK	APNIC
ID	APNIC	CN	APNIC
JP	APNIC	MX	LACNIC
KR	APNIC	PG	APNIC
MY	APNIC	CL	LACNIC
NZ	APNIC	PE	LACNIC
PH	APNIC	RU	RIPE NCC
SG	APNIC	VN	APNIC
TH	APNIC		

Percentage of LIRs with IPv6

IPv6 routing table

More Numbers

21

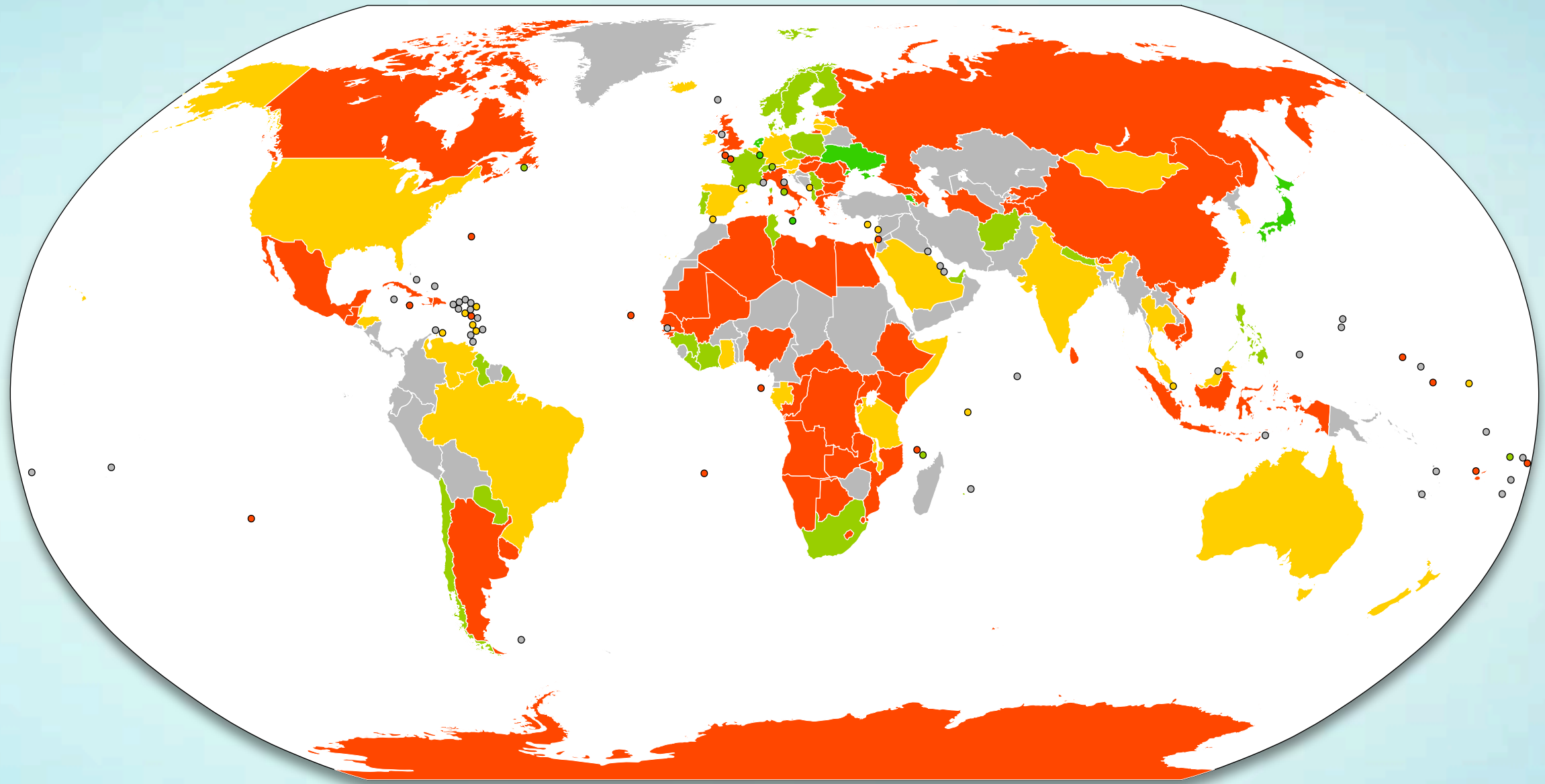
Numbers: RIRs, Allocations, ...

- On 2008-10-12, 2122 LIR blocks (2000::/4) allocated by RIRs:

RIR	alloc.	members	perc.	on 2008-05-04
ARIN	487	~ 3200	15.2%	408 (+19%)
APNIC	430	~ 2863	15.0%	366 (+17%)
RIPE	1052	~ 5920	17.7%	878 (+20%)
LACNIC	101	~ 1006	10.1%	95 (+6%)
AfriNIC	52	~ 347	15.0%	43 (+21%)

- note: not counting /48 microallocs and /35⇒/32 extentions
- actual *percentage* with IPv6 similar among regions
- 949 (R56: 799) allocations visible in routing table (*only 45%!*)

IPv6 Network Diversity in ccTLDs

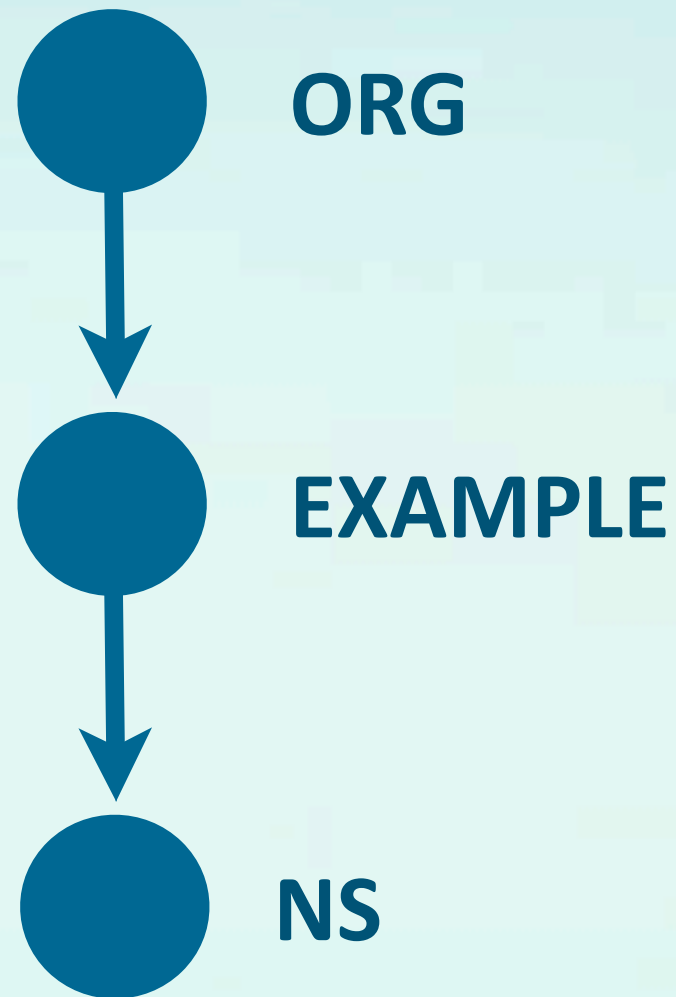


● None ● 1 Link ● 2 Links ● 3+ Links

How to encourage support for IPv6

- Difficult to deploy without paying customers.
Demand can be generated.
 - Australia, looking at procurement policy in 2009
 - US DoD requires IPv6 support from network equipment suppliers
 - EU Communication suggests members make sure contract renewals include IPv6 support

Glue Registration in DNS



Glue Registration in DNS



IPv6 glue registration in DNS

- Needs support from domain registries
- Needs support from domain registrars
- Needs support from re-sellers
- Not all registrars support IPv6 glue registration
- ICANN regularly reaches out to registrars on this issue

IPv6 support from TLD registries

“ICANN wants all registry operators to support IPv6, and is planning (subject to community and Board review) to require operators of new gTLD registries to accept IPv6 addresses as glue records and to offer IPv6 transport for its name servers, Whois and SRS”

IPv6 Content at ICANN in Seoul

- IPv6 deployment discussions
- Registries, registrars and others



References

- RIR daily statistical files
 - <ftp://ftp.lacnic.net/pub/stats/>
 - <ftp://ftp.apnic.net/pub/stats/>
- Gert Doering's IPv6 routing table analysis, RIPE 58
 - <http://www.space.net/~gert/RIPE/R58-v6-table/>
- Sixxs Registrar IPv6 Glue Support Page
 - <http://www.sixxs.net/faq/dns/?faq=ipv6glue>

Thank you