

IPv6: The State of Play

David Malone <David.Malone@nuim.ie>

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Addresses

- Devices on the Internet need an address.
- In the 90s people realized they would run out.
- Stop-gap measures introduced: put clients behind one address.
- IPv6 developed as long term solution.
- The time bought by the stop-gap is running out: 690 days.
- After that, no addresses remain for new servers or clients.

Who Cares?

- Not man on street: e-mail, web browsing, skype, ...
- What about next facebook?
- We have technology for real personalization, ...
- ... but held up by stop-gap.
- Existing business may care about contacting new partners.
- Technical people care.

What are the options?

1. Denser and denser NAT deployment.
2. Reclaiming unused address space.
3. Deploying IPv6.

Only sustainable solution is IPv6.

Only realistic solution retains IPv4 for near future.

Do I care?

- Do you carry network traffic?
- Do you sell equipment that carries network traffic?
- Does your software have a box for hostname/IP?
- Do your support people answer questions involving IP addresses?
- Does your business depend on others who do the above?

If you answer yes, then you should have someone to hand who knows what IPv6 means to you.

What to do?

- All but the tiniest businesses cannot move to IPv6 in 690 days.
- Need to start getting IPv6 deployed.
- Need to be ready for IPv6 customers, partners and suppliers.
- Need to know risks associated with IPv4 exhaustion.
- Need to plan for higher cost/unavailability.

Why isn't this all fixed?

1. Cost: Long term investment vs. current costs (equipment/people).
2. Features: Incremental features and no killer app.
3. Incompatibility: IPv6 can't talk directly to IPv4.
4. Demand: Cheap IPv4 implies no demand.

Analogies with peak oil and alternative energy.

Any good news?

- Still time for early adopter advantage?
- Chance for reduced operational cost because of reduced NAT.
- May be business chances for higher layer functions.
- Room for work on CPE.

Isn't IPv6 a big experiment?

- Experiment started in 90s.
- Experiment ended in 2006.
- People now complain if IPv6 busted.
- Protocol is stable.
- Implementations have been matured by academics, research networks and labs.
- Development on longer-than-expected coexistence.

Who is on board?

- Internet bodies (IANA, ICANN, RIRs, ...).
- EU, various national bodies, OECD, ...
- Various multinationals: HP, Google, ...
- Our ISPs in relatively good position.
- OS Vendors (MS, Apple, Linux, *BSD, Embedded guys, ...).
- Infrastructure services (Apache, DNS, SMTP, ...).

Conclusion

- IPv6 is inevitable.
- Advantage in planning now.
- Risk in waiting (unless you like paying Y2K consultants).

Sources

ICANN IPv6 Factsheet <http://www.icann.org/en/announcements/factsheet-ipv6-26oct07.pdf>

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