IPv6 deployment: Trend in Asia and the world

6th May2013
Vietnam IPv6 Launch
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A/Chair
Asia Pacific IPv6 Task Force

Agenda

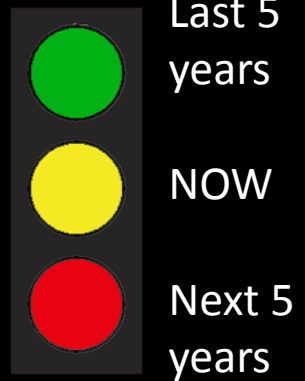
- IPv4 address exhaustion - issues arising
- IPv6 deployment status update
  - Economy update: anecdotal stories
  - IPv6 deployment in Asia (by Miwa from APNIC)
- IPv6 Next Challenges
  - The Enterprise
  - The Internet of Things

APIPv6TF Objectives

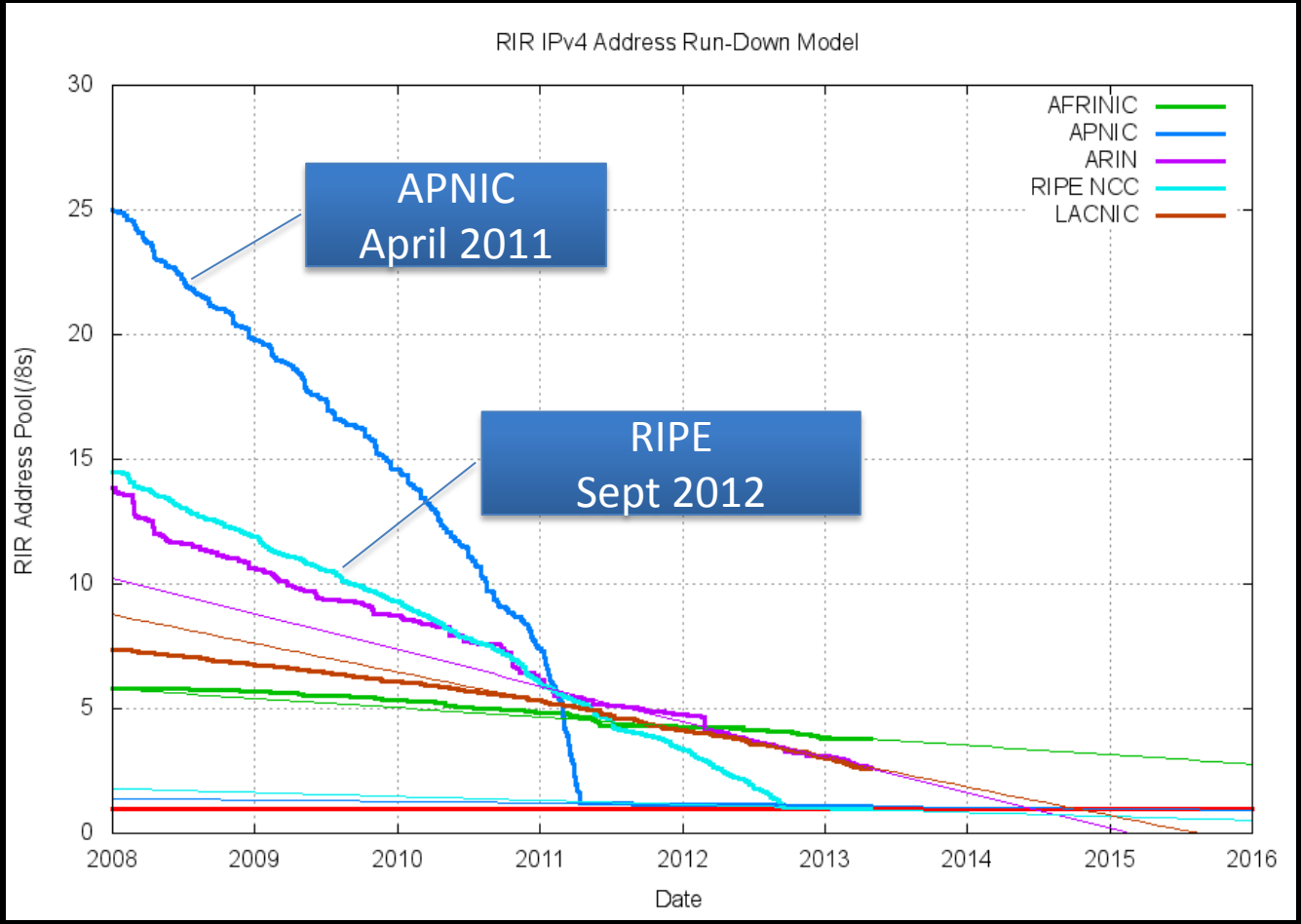
- To support IPv6 deployment in the industry
- To encourage international discussion and collaboration
- Facilitating the means to promote IPv6
- Developing guidelines
- Investigating and publicising IPv6 deployment status
- Promoting high-level awareness activities

Challenges for IPv6 Adoption

- **Phase 1** – Sufficiently Develop the Standards and Deploy in the Core Tier 1 networks with supporting infrastructure; DNS, Routing, Security
- **Phase 2** – Deploy in commercial ISPs and edge Internet content providers; Google, Akami etc.
- **Phase 3** – Enterprise users
  - Government
  - Business
  - Home end users, mobile networks
  - Internet of Things , Machine to Machine, ITS



IPv4 address exhaustion

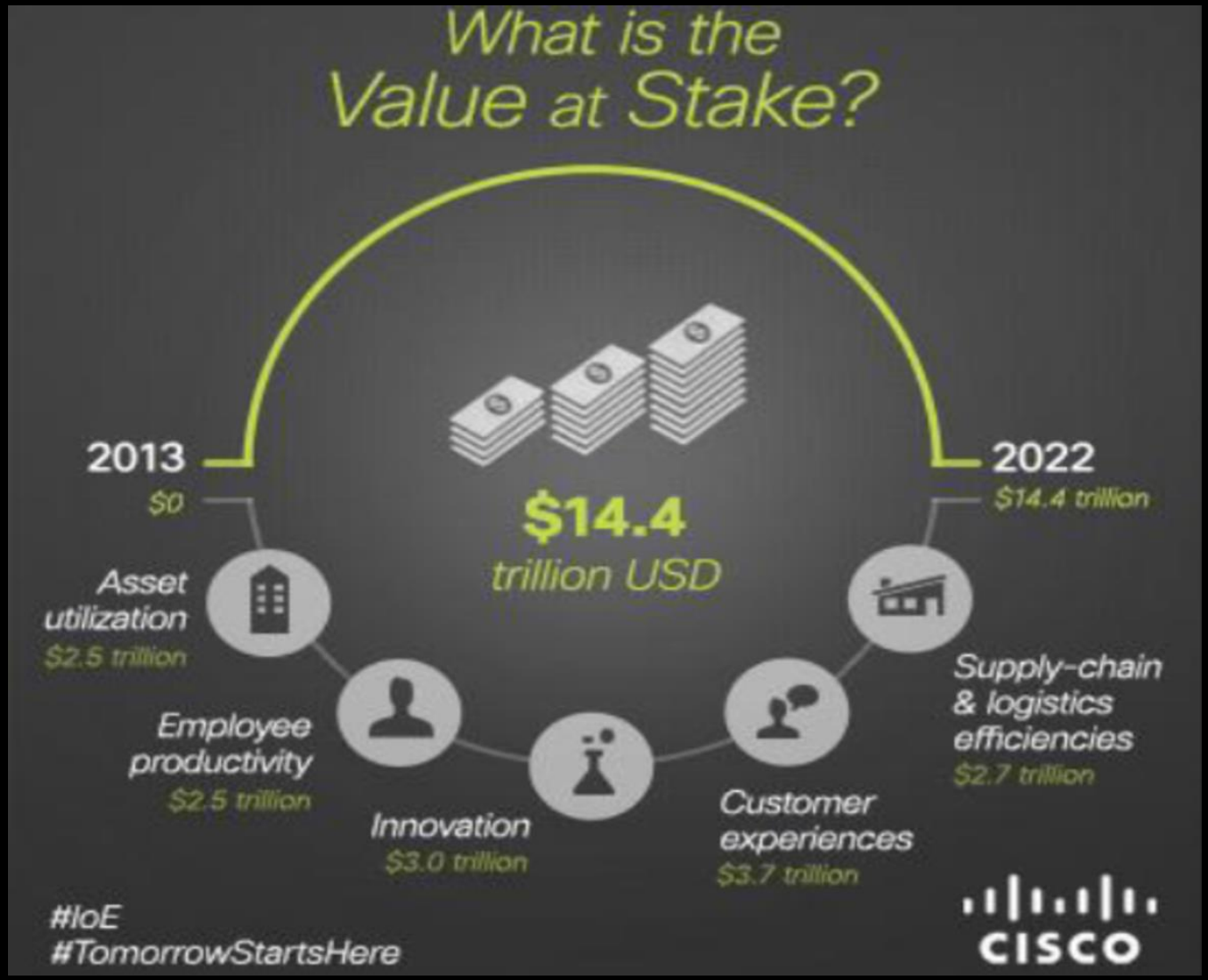


Projected RIR address exhaustion dates

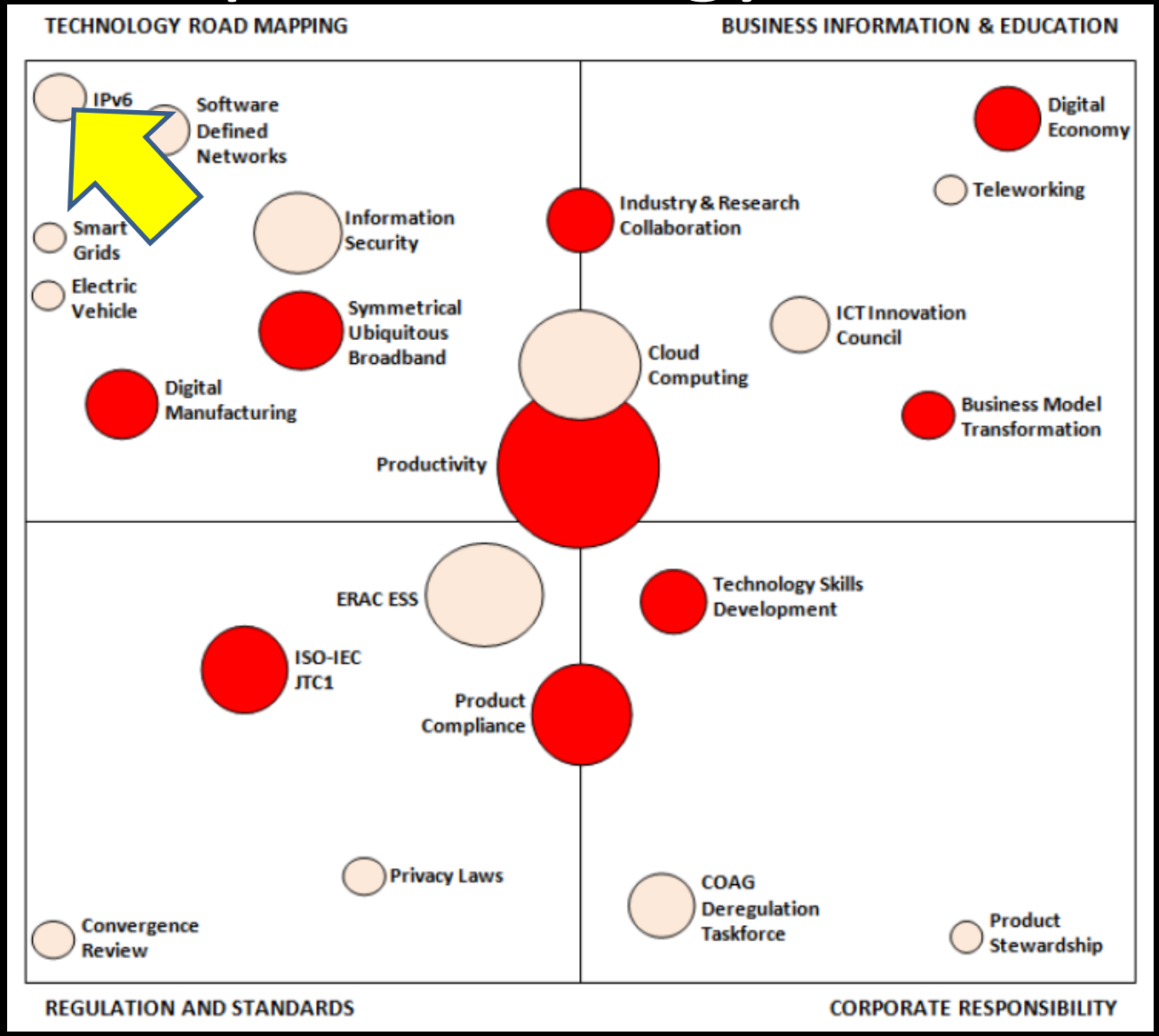
- ARIN: April 2014
- LACNIC: Aug 2014
- AfriNIC: Jul 2020

http://www.potaroo.net/tools/ipv4/index.html 1/05/2013

Enterprise IPv6 Adoption



Ai Group Technology Issues Map

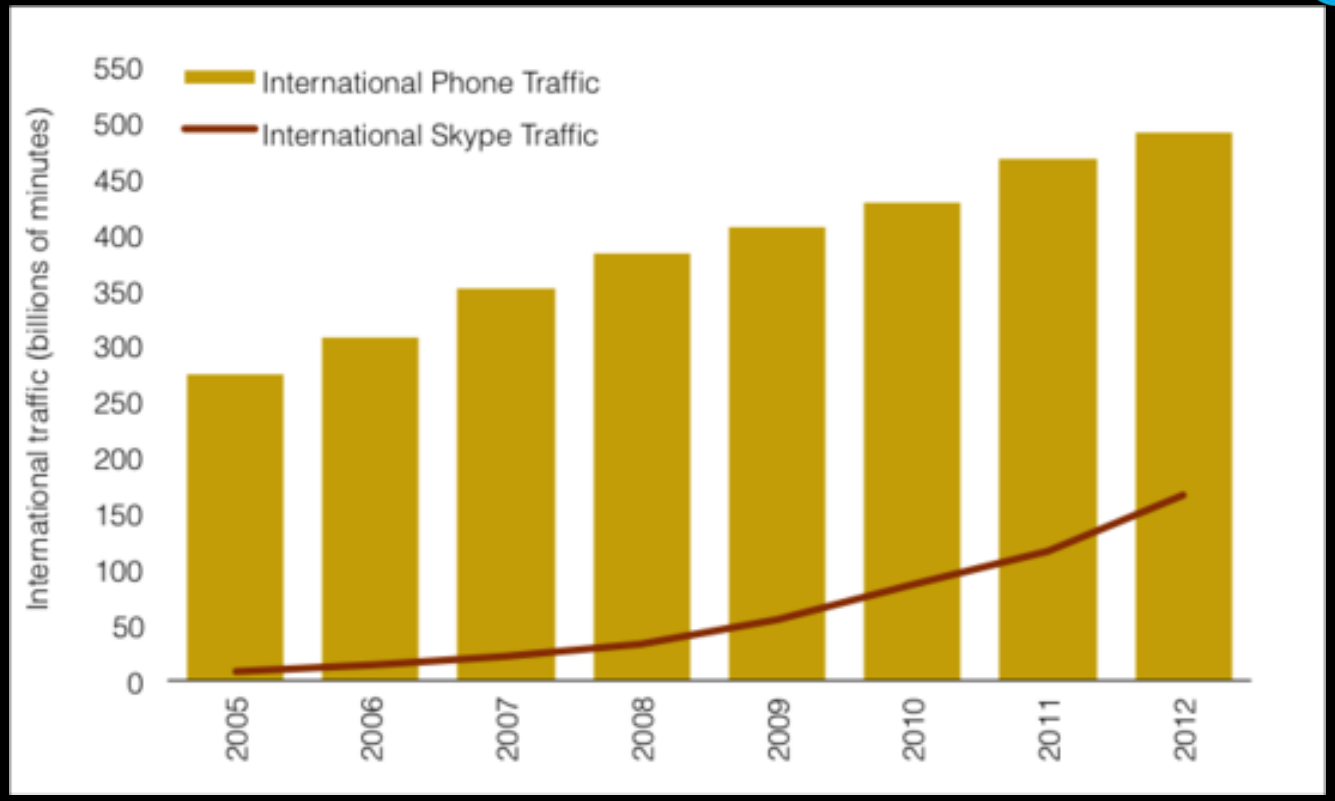


Source: Ai Group Telecommunications Industry Development Council [*TIDCCouncilPaper_14APR13*]

The World is Going IP

Skype calls now equivalent to one-third of global phone traffic

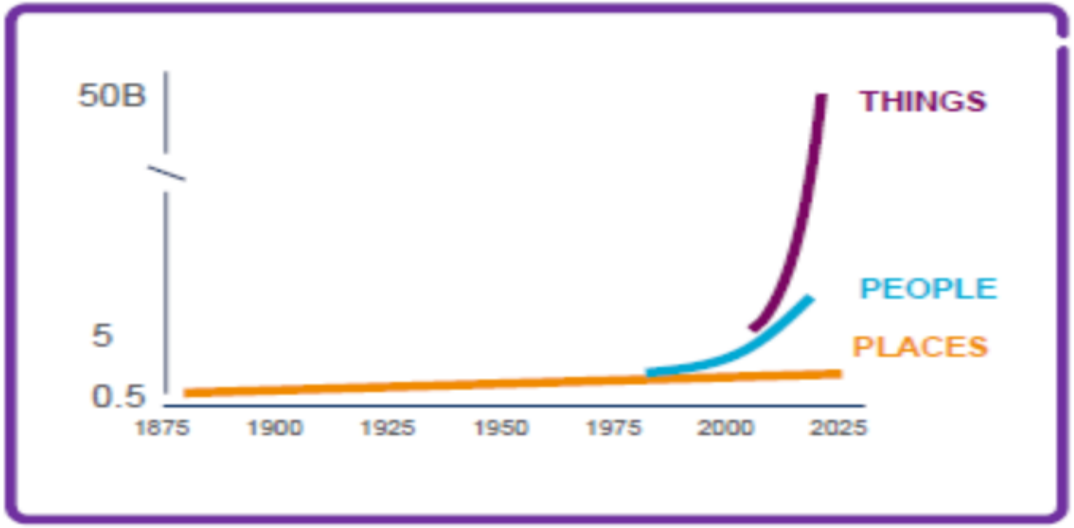
Microsoft is launching new capabilities in its Lync communication platform that ties Lync and Skype together to enable audio call and Instant Messaging interoperability as well as shared presence.



Source: TeleGeography

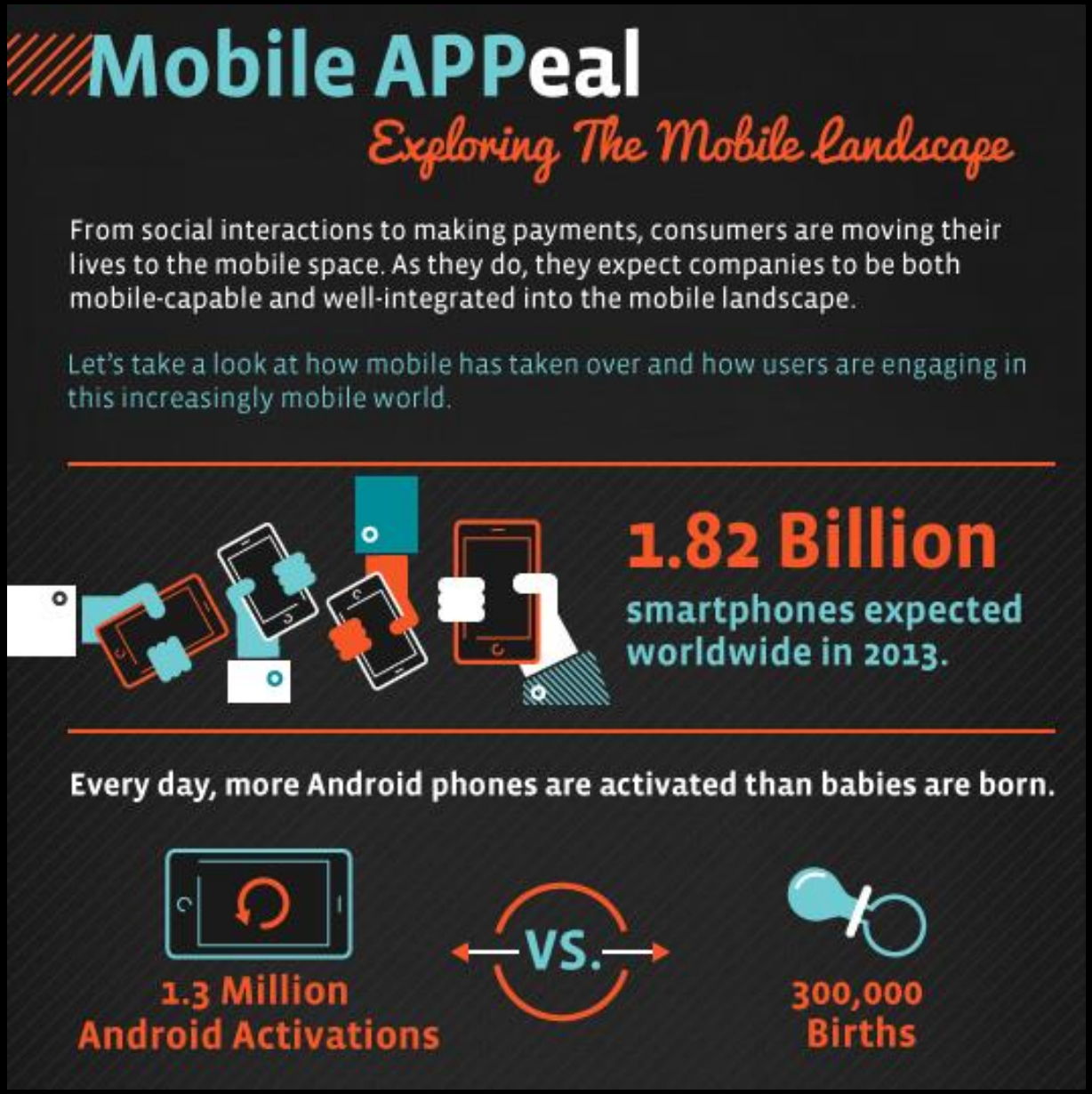
IoT needs Addresses

50 BILLION CONNECTED DEVICES

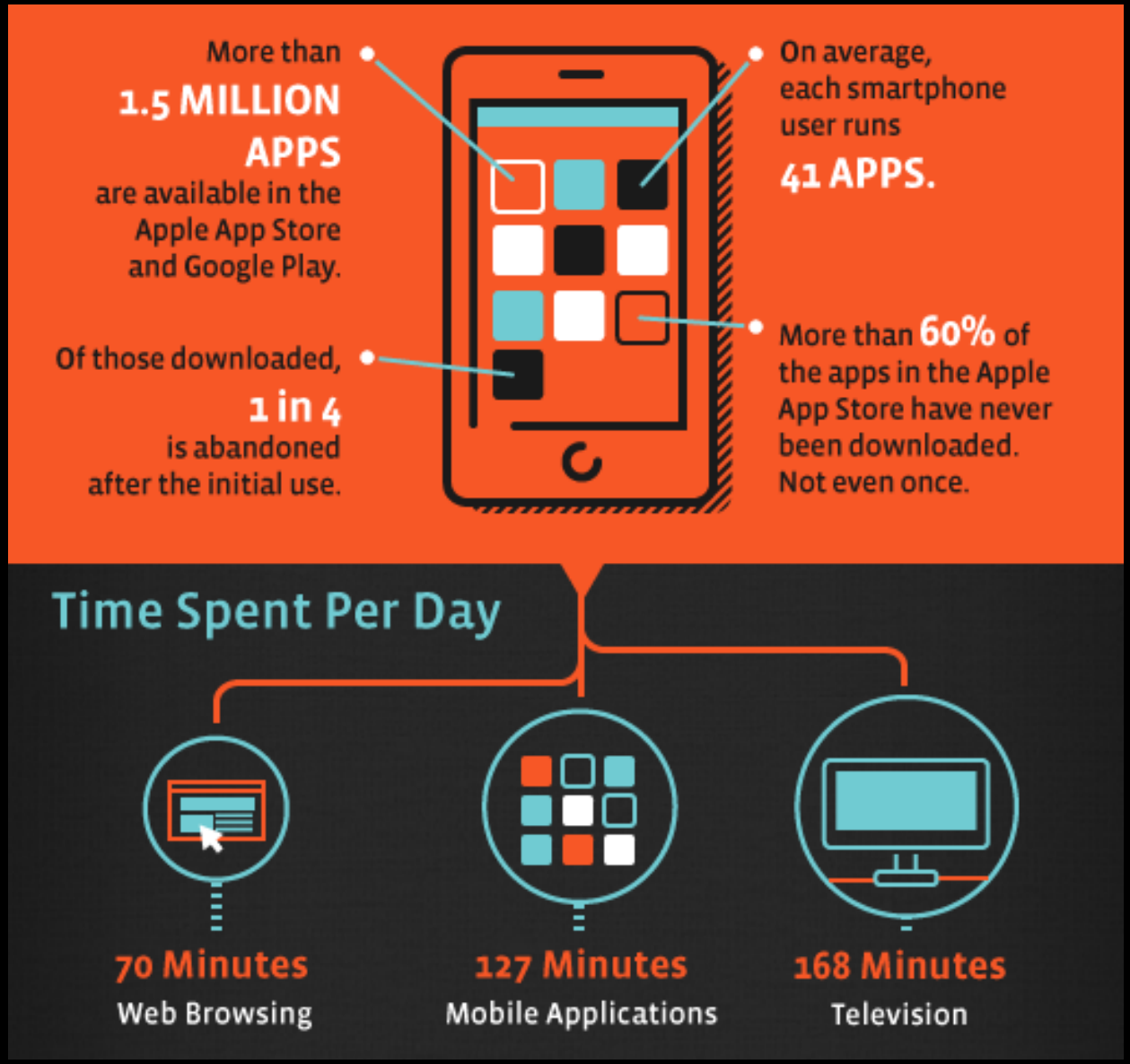


Everything that benefits from being connected will be connected

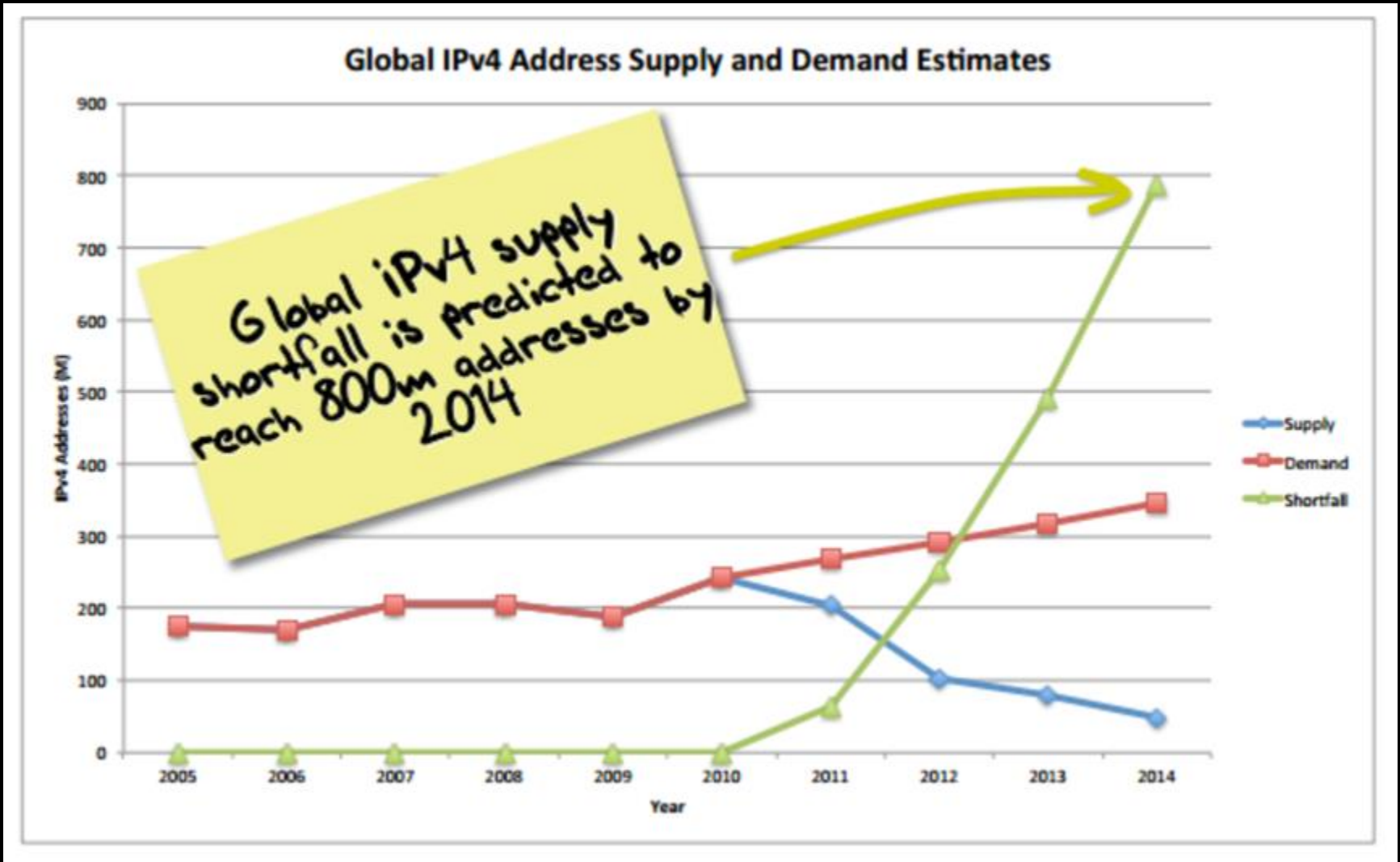
Smartphones for Example



Smartphones for Example

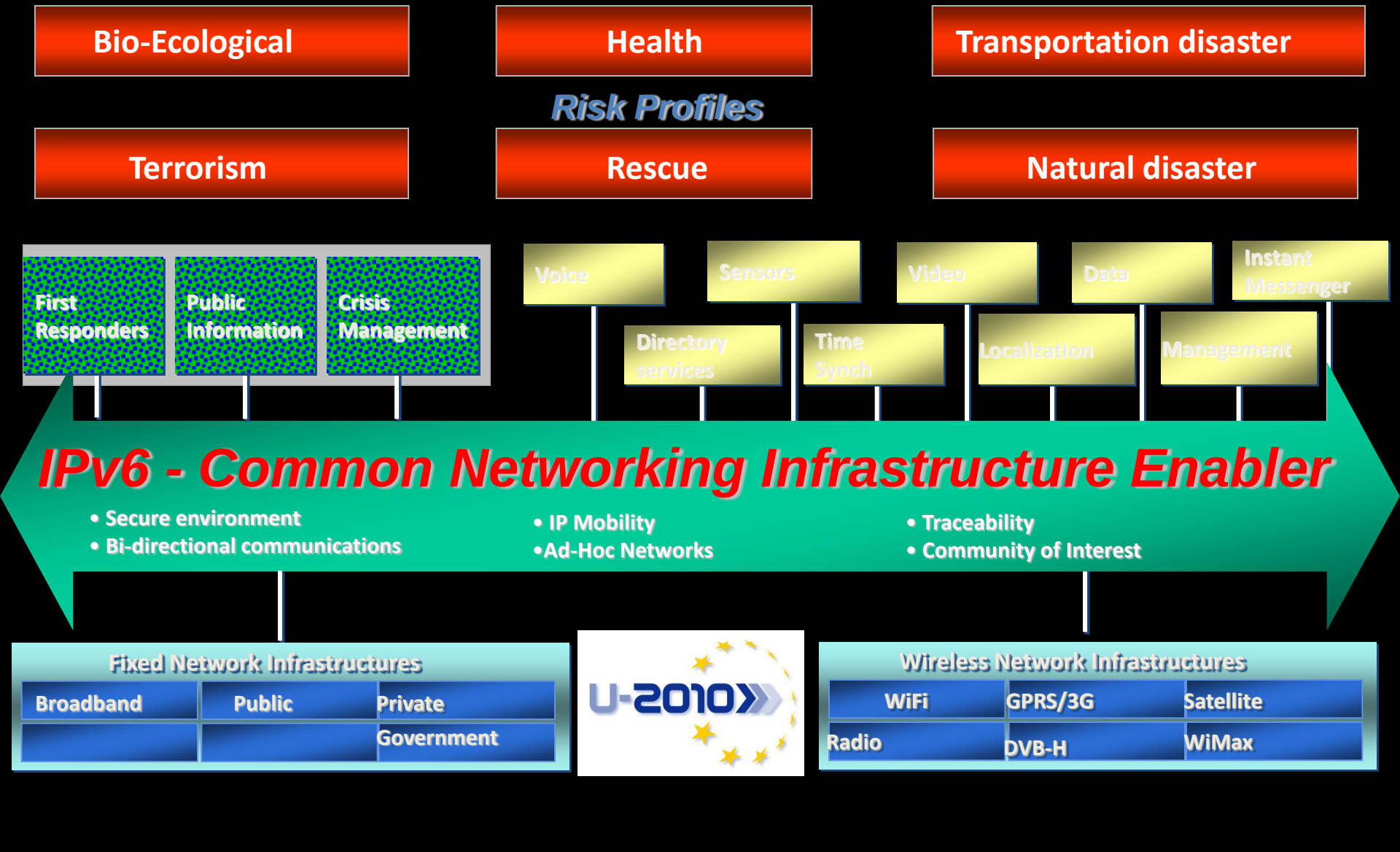


IoT Needs IPv6



Source: Geoff Huston APNIC

IPv6 is being recognised as Enabler



The Open Group Platform 3.0

- Platform 3.0 Standards Forum
  - Process data “in the **Cloud**”
  - Integrate **mobile** devices with enterprise computing
  - Incorporate new sources of data, including social media and sensors in the **Internet of Things**
  - **Manage and share data** that has high volume, velocity, variety, and distribution
  - Turn the data into usable information through **correlation, fusion, analysis, and visualization**
  - **Tbc: a recognition that this can only be IPv6 only.**

Enterprise IPv6 - Still the Challenge

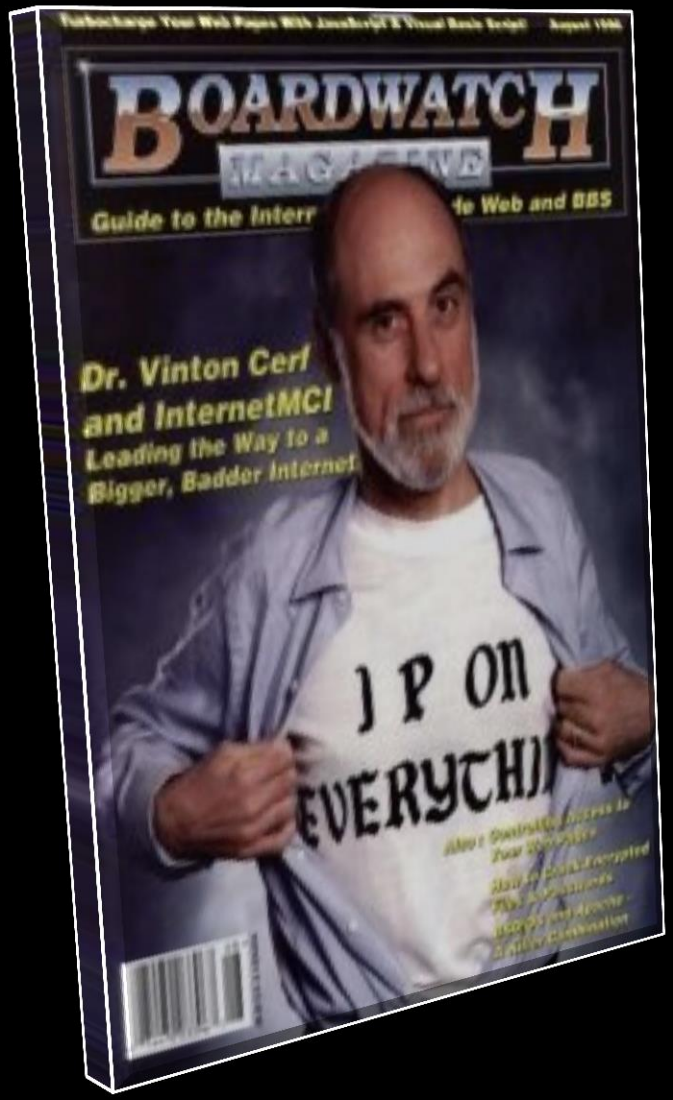
- SolarWinds customer survey of their IPv6 implementation intentions, “found the vast majority of responders have no immediate plans to proceed”
- "The findings indicate that there is a disconnect between IT and top management. Some wonder why they should have to re-engineer their network just because there is something wrong with the Internet.“
- "The benefits are not totally understood"

Source: Patrick Hubbard, SolarWinds' senior technical marketing manager.

Tunnels – IPv6's Dark Matter!

- A significant portion of the IPv6 Internet isn't measured by the current tools
- Tunnels running in IPv4 hide their IPv6 content
- Studentnet – IPv6 tunnels used by 12,000+ student logons in NSW alone (about 30% of NSW High School student body)
- Mobile providers in Japan, Europe, China and the US tunnel IPv6 over their IPv4 infrastructure
- **This will continue until native IPv6 is deployment more widely**

The Future?


BOARDWATCH
Guide to the Interr
de Web and BBS
Dr. Vinton Cerf
and InternetMCI
Leading the Way to a
Bigger, Badder Internet

Hopefully We Can Avoid

APIPv6TF: Supporting IPv6 deployment in the Region

- Providing a forum to exchange positive IPv6 stories at APIPv6TF Meeting
  - 2 meetings in a year in conjunction with APRICOT and APNIC conferences

    http://www.ap-ipv6tf.org/events
    - APRICOT2012 and APNIC33, New Delhi, India, Feb 2012
    - APNIC34, Phnom Penh Cambodia, Aug 2012
    - APRICOT2013 APNIC35, Singapore, February 2013
    - **APNIC36, Xi'an City China, August 2013**
  - Shared positive IPv6 stories and experiences from the Internet multi stakeholders of many economies in the AP region

Way forward

- ✓ International knowledge and information sharing
- ✓ Avoid reinventing the wheel
  - ➢ Including reaching out to other stakeholders than the technical stakeholder
- ✓ Possible international collaboration, e.g.,
  - ➢ Support economies without IPv6 organizations such as their own national IPv6 TF

APIPv6TF activities in the Region

- Representing the view of APIPv6TF
  - IPv6 – Application and Technology for Vietnam, May 2012, Vietnam (Miwa)
  - ISOC HK: World IPv6 Launch, HK, June 2012
  - Australian IPv6 Summit, Oct 2012

  - And now our great pleasure to be at **VIETNAM IPV6 DAY 2013**

Thank you!

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