

IPv6 Status in Australia

Tony Hill

Internet Society of Australia
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Australian IPv6 Developments



- Launch of IPv6 Forum Downunder – 2004
- Participation in IPv6 Summits, Washington DC – 2004 & 2005
- Formation of ISOC-AU SIG - 2005
- Australian National ICT Industry Alliance - 2005
 - ◆ Endorsement of national discussion of IPv6
- Engagement with Australian Government – 2005
- Keynote speaker at Global IPv6 Summit 2005, Korea
- Australian IPv6 Summit 2005
 - ◆ Awareness of international developments

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IPv6 for 2006 & 2007 in Australia



- IPv6 World Congress Meeting Feb 2006
- IPv6 for e-Business Project
 - ◆ Funding from Australian Government through their IT Online Program (ITOL)
- IPv6 Summit 2006
 - ◆ transition and business planning
- ACT Government Business Mission to India – 2007
- AP IPv6 Summit, Bali – Feb 2007

Key International IPv6 Issues for Australia



- Key Trading & Strategic Partners
 - ◆ Japan: developing since 1998, commercial IPv6 offerings
 - ◆ South Korea: IT839 mandating IPv6 by 2010
 - ◆ China: IPv6 demonstration projects by 2008
 - ◆ USA: defence & government backbones IPv6 by 2008

Key IPv6 Issues for 2007



- NICTIA endorsement of early adoption of IPv6
- IPv4 address exhaustion projected 2010: Geoff Huston, CTO, APNIC
- North America IPv6 transition mandated: ARIN
- ICANN:
 - ◆ "...supporting the future growth of the Internet by encouraging the timely deployment of IPv6"

Nation ICT Alliance



- 10 year strategic vision
 - ◆ Launched on 21 May 2007
- 20 National organisations contributed
 - ◆ Industry, professional, user, technology development
- Vision Statement 9 – ICT Infrastructure
 - ◆ *Be one of the first nations to gain the benefits from migrating to IPv6*
 - ◆ *the Australian IPv6 Summit and the ITOL IPv6 for e-Business project have begun this process*

Australian Computer Society Information Age



Stoking the IPv6 debate



Australia lags behind in IPv6 adoption, but its prospects are gaining heat

By Tony Hill

DEBATE ABOUT a next generation Internet Protocol began early in the 1990s, even before the mature worldwide uptake of the Internet. Internet Protocol version 4 (IPv4) is the current protocol and Internet Protocol version 6 (IPv6) has been developed in secret. Over the last decade the value

case, IPv6 transition planning and will allow further detailed planning and discussion of IPv6 benefits and transition issues. ITOL IPv6 for e-Business The ITOL IPv6 for e-Business project will enable Australian businesses to take advantage of the benefits of IPv6.

to map the status of IPv6 in Australia. It has established a Web site — <http://www.ipv6.org.au> — to provide information on IPv6 for Australia, and will develop additional elements of essential infrastructure. It will provide business tools for the uptake of IPv6, including business planning tools, transition

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New Australian Web Site: www.ipv6.org.au



IPv6 for e-Business



[Home](#) | [Background](#) | [Mapping](#) | [Enabling](#) | [Awareness](#) | [Infrastructure](#) | [Standards](#) | [Contact](#)

IPv6 for
e-Business
Consortium



Internet Protocol v6 is on the way!

For twenty years Internet Protocol version 4 has been the brilliant workhorse of network technology. Its successor, IPv6, is being phased in by Australian trading partners and defence allies. IPv6 has the potential for:

- almost unlimited IP addresses
- built-in security protocols
- simpler address administration
- widespread mobility support
- Quality of Service capabilities

[Click here for more about the basics of IPv6](#)

The IPv6 for e-Business Project

IPv6 for e-Business is a project for documenting, developing business tools, raising awareness and assessing readiness for Internet Protocol version 6, to build Australian capacity to take advantage of future innovation, especially in the area of

Please help us by
completing the
**Australian IPv6
Readiness Survey**

IPv6 Standards

Since work first began on IPv6, the Internet Engineering Task Force has created and defined all of its standards. Here is a list of IETF IPv6 working groups and documents

Useful Sites

The IPv6 Forum
[go6.net Community Portal](#)
[The IPv6 Portal](#)
[IPv6DISS](#)
[IPv6 Forum Downloader](#)

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Business Value Points



- Massively increased address space
- Expansion of Internet interoperable capabilities
- Compliance with government mandates
- Ease of implementation
- Security ease of implementation
- Direct addressing of all devices – no NAT
- Increased potential for remote sensing

Potential for Innovation based on IPv6



Potential for:

- Interoperability between IPv6 and RFID
- Explosion of Internet enabled mobile phones
- Potential of broadband over power lines
- Growth of WiMax
- VoIP expansion
- Desktop applications as a mobile hand-held PC

IPv6 Innovation & Opportunity



Potential for:

- Quad-play content
 - ◆ data, voice, video, & wireless – information diversity and mobility
- Social interaction
 - ◆ email, messaging, games, peer-to-peer, markets, online communities
- Device networks
 - ◆ inventory logistics, building control, sensor networks, security monitoring
- Ubiquitous computing
 - ◆ the Internet via every medium, everywhere, for everyone!

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IPv6 for e-Business Project



- Mapping Australian IPv6 Capability
- Enabling
 - ◆ developing business tools
- Raising awareness
- Assessing readiness
 - ◆ Australian IPv6 infrastructure

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IPv6 for e-Business Team



- Kate Lance, (former) ED of ISOC-AU
- Narelle Clark, VP of ISOC-AU
- Mike Biber, IPv6 Forum
- Tony Hill, President of ISOC-AU
- Holly Raiche, new ED of ISOC-AU

Sponsors, Hosts & Endorsement



The IPv6 for e-Business project is supported by the Australian Government through the Information Technology Online (ITOL) Program of the Department of Communications, Information Technology and the Arts.

Hosts:



Endorsing Bodies:



IPv6 for e-Business Project



- **Mapping**
- Enabling
- Raising awareness
- Infrastructure

Mapping



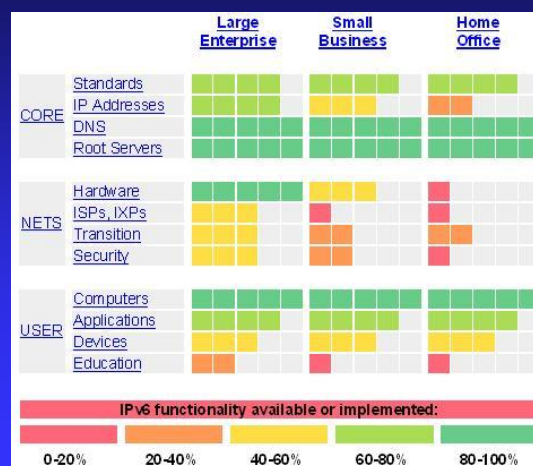
- Estimate the level of support for IPv6 implementation
- Compare existing IPv6 infrastructure
- Critical gaps in resources

Mapping Analysis



- Three sizes of business
 - ◆ Large
 - ◆ Medium
 - ◆ SOHO – small office, home office
- Three levels:
 - ◆ Core: central Internet infrastructure
 - ◆ Nets: hardware, services, transition, security
 - ◆ User: systems, applications, devices, etc

IPv6 Readiness – August 2006



Service Providers for Australia



Service providers with IPv6 addresses advertised in the last 12 months:

- Telstra
- AARNet
- NTT Australia
- IPv6 Data FX
- Pacific Internet
- CityLink (NZ)
- UUNet
- iiNet
- AusRegistry

IPv6 Summit 2006 connectivity provided through AARNet

IPv6 for e-Business Project



- Mapping
- **Enabling**
- Raising awareness
- Infrastructure

Enabling Tools



- Business Case Scenarios
- The ROI Evaluator
 - ◆ Return on Investment
- The Transition Guide
- The Easy Access Device

Business Case Scenarios



- The 'do nothing' case
- It's inevitable, may as well go with the flow
- Competitive differentiation
- Competitive protection
- Return on investment
- Known opportunities - understood and tangible
- Unknown opportunities - preparing fertile ground

ROI Evaluator



- Evaluating net present value
- Return on investment
- Payback period

The Transition Guide



- **Assess** business requirements, risks and benefits
- **Survey** existing network infrastructure
- **Educate** technical staff professionally
- **Resource** network and security infrastructure
- **Phase-in** and test IPv6-capable devices
- **Inform** and set policies for general staff
- **Monitor** and maintain procedures and infrastructure

Easy Access Device



- Development of a device that can be used by businesses to gain IPv6 connectivity no matter what their service provider offers
- Developed prototype device

IPv6 for e-Business Project



- Mapping
- Enabling
- **Raising awareness**
- Infrastructure

Raising Awareness



- Information: IPv6 Basics, awareness website and resources, first phase
 - ◆ Print-ready brochure
- Promotion: publicity for website, brochures, seminars via the IPv6 Summit 2006
 - ◆ Industry Workshops with ADIESA
- Seminars: presentations for business and SMEs in six major cities
- Updates: website and resources, second phase - progress, outcome of activities

IPv6 for e-Business Project



- Mapping
- Enabling
- Raising awareness
- **Infrastructure**

Infrastructure



- IPv6 Testbed Development
 - ◆ collaboration with auDA & AusRegistry
- IPv6 Infrastructure Directions
 - ◆ issues affecting acceptance and deployment of IPv6 at fundamental infrastructure levels

IPv6 Survey – Nov 2006



- 86% interested in IPv6
- 80% have implemented or are learning
- 63% will offer to customers or partners by 2008
- Key barriers – top three:
 - ◆ Lack of connectivity
 - ◆ Lack of business case
 - ◆ Lack of customer demand
- 63% expect connectivity by 2008

n > 100

Australian IPv6 Summit



Dates for 2007:
Canberra
20-21 November

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