

**Athens, 21 May 2009**

# **ITU and IPv6**

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**Telecommunication Standardization Bureau (TSB)  
International Telecommunication Union (ITU)**

**4<sup>th</sup> International Conference  
“Convergence of Broadband  
Telecommunications and Media”**



# ITU

- Specialized UN agency for information and communication technologies (ICT)
- 191 Governments and 700 Private Sector Entities
- Organization in three sectors
  - Radiocommunication (ITU-R)
  - Standardization (ITU-T)
  - Development (ITU-D)



# Global Standards: Supporting Innovation

- ITU standards work done in 10 Study Groups:
  - SG 2, 3, 5, 9, 11, 12, 13, 15, 16, 17
- Produce Recommendations = standards
  - Example: G992.1 (ADSL), G993.1 (VDSL)
- Partnership of private sector & government
  - Private sector plays major role
- Global consensus, flexible process



# ITU Technical Work Related to IPv6

## **SG 2 (Service definition, numbering & routing)**

Handbook on IP-based networks

## **SG 3 (Telecommunication economic issues)**

Economic aspects of migration from IPv4 to IPv6

## **SG 13 (Next Generation Networks)**

A suite of 4 Recommendations; Impact of IPv6 on NGN

## **SG 16 (Multimedia terminals, systems and applications)**

Evolution of the H.323 system (widely used for VoIP) for compatibility with IPv4/IPv6,  
Media Gateway Protocol (H.248) operation in IPv6

## **SG 17 (Security)**

DNSSEC

Many ITU Recommendations  
take into account IPv6



# Workshops on IPv6 (1)

## Questions raised during ITU workshop on IPv6 September 2008

- Different options for re-allocating unused IPv4 addresses, including IP transfer market
- ITU role
- Impact of the growing scarcity of IPv4 addresses
- Security issues associated with NAT usage
- Capacity building for IPv6 deployment

<http://www.itu.int/ITU-T/worksem/ipv6/index.html>



# Workshops on IPv6 (2)

Results from the ITU workshop on IPv6  
September 2008

- Needs of developing countries, with a specific focus on capacity building aspects
- Importance of the role of governments
- Market driven transition process from IPv4 to IPv6
- Need to share best practice of IPv6 deployment
- Possibility of some alternative migration scenarios



# ITU Mandates on IP Address Issues

## **PP.Resolution 101 (Rev. Antalya 2006)**

Internet Protocol-based networks

## **PP.Resolution 102 (Rev. Antalya 2006)**

ITU's role with regard to international public policy issues pertaining to the Internet and the management of Internet resources, including domain names and addresses

## **PP. Resolution 133 (Rev. Antalya 2006)**

Role of administrations of Member States in the management of internationalized (multilingual) domain names

## **ITU Council 2007 Resolution 1282 (Mod)**

ITU's role in implementing the outcomes of the World Summit on the Information society

## **WTSA Resolutions 64 (Rev. Johannesburg, 2008)**

IP address allocation and encouraging the deployment of IPv6

## **WTSA Resolution 75 (Rev. Johannesburg, 2008)**

ITU-T's contribution in implementing the outcomes of the World Summit on the Information Society, and the establishment of a Dedicated Group on Internet related Public Policy Issues as an integral part of the Council Working Group on the World Summit on the Information Society

## **WTDC Programme 3 (Rev. Doha, 2006)**

E-strategies and ICT applications

## **WTDC Resolution 20 (Rev. Doha, 2006)**

Non-discriminatory access to modern telecommunication and information technology facilities and services

## **WTDC Resolution 30 (Rev. Doha, 2006)**

Role of the ITU Telecommunication Development Sector in implementing the outcomes of the World Summit on the Information Society

# WTSA-08 Resolution 64: IP-address allocation and encouraging the deployment of IPv6

instructs ITU to

1. initiate a project to assist developing countries
  - TSB Questionnaire issued in 03.2009 (deadline: **12 June 2009**)  
<http://www.itu.int/md/T09-TSB-CIR-0030/en>
  - APNIC published their Response  
<http://archive.apnic.net/community/research/ipv6/tsb-ipv6-survey-apnic.pdf>
2. establish a website providing information about IPv6
3. promote awareness about the importance of IPv6
4. study IPv6 address allocation for interested members (especially developing countries)

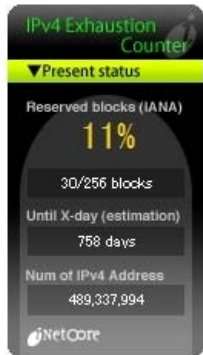
[http://www.itu.int/dms\\_pub/itu-t/opb/res/T-RES-T.64-2008-PDF-E.pdf](http://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.64-2008-PDF-E.pdf)



# Website on IPv6

Home : ITU-T Home : IPv6

- Overview
- Activities
- Articles & Documents
- Useful Links
- Case Studies



## Welcome to this IPv6 Website

With the massive deployment of Internet-related resources worldwide and the integration of IP-enabled consumer devices connected directly to the network, the issue of the depletion of IPv4 (Internet Protocol, version 4) addresses is becoming pertinent. In addition to other features, IPv6 (Internet Protocol, version 6) with its 128 bit address space is aimed at addressing the current shortage of public IPv4 addresses. However, the transition from IPv4 to IPv6 is going at a rather slow rate.

During the World Telecommunication Standardization Assembly (WTSA-08, Johannesburg 2008), ITU Member States and Sector Members reached consensus and adopted [Resolution 64](#) 'IP address allocation and encouraging the deployment of IPv6' to promote awareness of the availability of IPv4 addresses and the deployment of IPv6.

The purpose of this website is to provide information about global activities related to IPv6, thus facilitating awareness-raising of IPv6 deployment, as well as providing information related to training events being undertaken by relevant entities in the Internet community, as requested by WTSA-08 Resolution 64.

## What's New?

In order to collect information and structured feedback of ITU members' needs, an [ITU-TSB Questionnaire on IPv6 address allocation and encouraging the deployment of IPv6](#) was issued on 27 March 2009.

## IPv6 News

Issues ...

[NGN standards event: Sri Lanka](#)  
mercredi, 18. mars 2009  
ITU together with the Commonwealth Telecommunications Organisation (CTO) will hold a Forum on Next Generation Network (NGN) ...

[World Assembly heralds new era in setting global ICT standards](#)  
lundi, 3. novembre 2008  
The World Telecommunication Standardization Assembly (WTSA-08) drew to a close yesterday in Johannesburg, South Africa with ...

 [View all IPv6 News](#)

## Events

- Upcoming:**
- ICANN 35, 21 - 26 June 2009, Sydney, Australia
  - ITU Council Working Group - WSIS: Implementation of Outcomes, 22-24 June 2009, Geneva, Switzerland

[More...]

# WTPF-09 Opinion 5

## on Capacity Building in Support of Adoption of IPv6

invites the ITU to

1. accelerate activities associated with WTSA-08 Resolution 64
2. gather information for capacity building purposes and promote awareness via the ITU website,
3. provide information on options to facilitate the co-existence between IPv4 and IPv6,
4. assist Member States in identifying cost implications of implementing and adopting IPv6.

[http://www.itu.int/md/dologin\\_md.asp?lang=en&id=S09-WTPF-C-0004!R1!MSW-E](http://www.itu.int/md/dologin_md.asp?lang=en&id=S09-WTPF-C-0004!R1!MSW-E)

*C.f.* ITU activities in Human Capacity  
Building on IPv4/IPv6 Transition

<http://elearningcentre.itu.int/public/05cEUR003/index.html>



# Collaboration

- Long-standing collaboration with the IETF
- Close collaboration with the IPv6 Forum, ICANN, and RIRs
- Partnership agreement with leading private companies on capacity building such as Cisco (Cisco Network Academy)
- Cooperation agreements with over 70 standards bodies



# Conclusion

## *ITU actively*

*Provides information  
about global activities related to IPv6*

*Assists developing countries,  
responding to their regional needs*

*Promotes awareness  
of the importance of IPv6*

*Provides platform  
for ongoing discussions including  
public policy issues*

*Contributes in the area of  
technical and standardization issues  
as appropriate*



# Links

## ITU Website on IPv6

<http://www.itu.int/net/ITU-T/ipv6/>

## WTSA-08 Resolution 64

[http://www.itu.int/dms\\_pub/itu-t/opb/res/T-RES-T.64-2008-PDF-E.pdf](http://www.itu.int/dms_pub/itu-t/opb/res/T-RES-T.64-2008-PDF-E.pdf)

## TSB Questionnaire

<http://www.itu.int/md/T09-TSB-CIR-0030/en>

## ITU Study Groups

<http://www.itu.int/ITU-T/studygroups/>

## ITU Workshops

<http://www.itu.int/ITU-T/worksem/ipv6/index.html>

## Online Course on IPv6

<http://elearningcentre.itu.int/public/05cEUR003/index.html>

