

New Internet (IPv6) Workshop

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Internet Protocol Evolution

- **1975:** Computers started to be connected to the Internet with current Internet Protocol version 4 (IPv4)
- **1993:** new Internet Protocol version 6 (IPv6) was first known as “IPng”, but soon re-named to “IPv6”
- **1999:** Internet Engineering Task Force (IETF) started to roll out IPv6 plans
- **2001:**
 - European Commission (EC) launched the IPv6 TF to foster IPv6 in Europe and ensure global co-ordination, and fund IPv6 projects for more than 180 MEuros (50% financed from industry)
 - Japan started IPv6 deployment through metropolitan networks & mobile communications
- **2001-2003:** Europe, US, China, India, Brazil, Korea, Taiwan started to deploy new services requiring IPv6 (VoIP, video-conference, wireless services)

IPv4 vs IPv6

- **IPv4** has mainly limitations regarding address space and security
- **IPv6** has a large address space, crucial for services requiring permanent end-to-end connection to the network, better QoS support, and embedded security (IPsec)
- **IPv6** supports new applications (mobile, broadband, GRID computing, data centers)
- **IPv6**, the protocol adopted by IETF, 3GPP
- Transition to **IPv6**
 - Only a matter of time, no specific date fixed for (**v4**) addresses depletion !
 - **v4** and **v6** co-existence will enable a smooth *Transition*

IPv6 is not an enhanced IPv4 !

What does IPv6 offer?

- Unlimited Internet address space (2^{128} bit)
- Enhanced support for mobility ("always-on")
- End-to-end model
- Plug-and-play thru auto-configuration
- Embedded security
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Information Society Benefits

- **IPv6** empowers end-users with end-to-end model
- **IPv6** allows innovation, new applications and enhanced mobile access, which will result in sustainable development and wealth for all
- **IPv6** enables developing nations to overcome infrastructure barriers while empowering citizens
- Third generation wireless roll-out, with the adoption of **IPv6**, will empower new multimedia communications
- **IPv6** represents an **opportunity** for developing areas
- **IPv6** represents a new paradigm that provides **opportunities** for new global solutions igniting new cultural and socio-economic challenges

Cultural & Social Challenges

- Equitable access to IP addresses by info-poor and info-rich (“addresses for all”)
- New ways to access information, education programs and sharing knowledge
- Cultural heritage and linguistic diversity protection
- Governments’ new perception of security, privacy, data flow and contents has changed, creating new challenges for the information society
- Is IPsec the solution to ensure citizens privacy, confidentiality, data protection & liability?
- Are services concerning data access to locate people, citizen’s health status and cyber-identity (personal IDs), tagging people & animals?

A decorative graphic consisting of overlapping yellow, red, and blue squares with a black crosshair.

EC IPv6 TF Mission

- Commits that European Governments take **IPv6** deployment on priority
- Ensures Europe's competitiveness in wireless technology is not jeopardized by the lack of an **IPv6** road map
- Creates a liaison among European industries, academics, standards organizations and related bodies on **IPv6**
- Establishes collaboration relationships with similar initiatives being launched in other geographical regions
- Provides recommendations pertaining to **IPv6** implementation by relevant ICT sectors
- Promotes global IP penetration, particularly in **developing regions of the world** ("Internet is for everybody")

EC IPv6 TF

(Specific Objectives)

- Develops a better understanding of IPv6 and its “**technical and social impact**” for the information society
- Brings together Governments, international organizations, industry leaders and civil society to promote **IPv6**
- Ensures co-ordination on **IPv6** aspects with industry leaders and academics around the globe
- Identifies issues that create barriers to **IPv6** deployment
- Promotes advanced applications and global solutions
- **2001**
 - EC IPv6 TF supported WSIS events
 - Undertook a series of studies, particularly in the privacy area e.g. “Discussion document from the European Commission IPv6 Task Force to Article 29 Data Protection Working Group”

EC IPv6 TF Proposal (General)



- **WSIS** plays an important role in the IPv6 advocacy
- **WSIS** Plan of Action and Declaration of Principles documents should promote with priority:
 - Governments takes **IPv6** deployment as a priority in their national strategies
 - Ensure the understanding of technical and social implications at the national level
 - The impact on citizens, private businesses, NGO's induced by the implementation of **IPv6** needs to be properly evaluated
 - Raise awareness on **IPv6** benefits and challenges for civil society

EC IPv6 TF Proposal (Specific)



- **IPv6 TF** aims to support WSIS Secretariat (2003-2005)
 - Work in key policy aspects with national decision-makers (e.g. privacy, security, IP addresses allocation)
 - Participate in WSIS events and/or in panels with Governments
 - Share knowledge and expertise to reinforce the WSIS Plan of Action
 - Support projects that promote **IPv6** deployment e.g. video-conference, VoIP, security, video-games, etc
 - Carrying out case studies that implies new emerging technologies



Thanks

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