



IPv6 Task Force Input

July 18th, 2001

Network Laboratories Heidelberg

Heinrich Stüttgen, stuttgen@ccrle.nec.de

Adenauerplatz 6, D69115 Heidelberg



Why to support IPv6 in Europe?

- Pressure to move to IPv6 is bigger in Europe and Asia than in the US, due to
 - Lack of available addresses
 - Higher address consumption (population, 3G, ...)
 - **But:** pressure builds up slowly
- Leading the IPv6 introduction will strengthen long term economic prospects of early adopters
- A **large scale IPv6 introduction** will only happen if IPv6 advantages are apparent to a large number of users
 - Network infrastructure roll-out must be accelerated
 - Frequently used existing network applications must be made available from the beginning
 - **New applications demonstrating IPv6 benefits are needed**
 - Strong incentives for new IPv6 applications and transport have to be initiated



IPv6 Technical Strength

- huge address space
- robust security mechanisms
- advanced mobility support
- some multimedia support
- multicast support
- **operational advantages**
 - plug and play
 - routing table management
- **But:**
 - V4/v6 transition
 - lack of management toolscould delay introduction



How to demonstrate IPv6 Strength

define network scenario - applications and infrastructure

Applications

- phase 1: exploit security, multimedia, ease of use
- phase 2: mobility and pervasiveness

Infrastructure

1. **open** to everybody to connect
2. **attractive** in terms of connection **cost**
remember: the Internet (v4) was also heavily supported in the beginning
3. **well connected to** the global **v4 Internet**
4. **high performance** with **QoS management** (NGN.....)
5. **mobility platform**



Phased Plan

Phase 0 (half year)

- deploy basic IPv6 islands
- make standard applications available for v6
- define Phase 1 & 2 scenarios and applications

Phase 1 (one year)

- develop phase 1 applications with multimedia, multicast, security
- deploy basic, large, open IPv6 infrastructure
- interconnect with non-European IPv6 networks

Phase 2 (one year)

- develop phase 2 applications (mobility, pervasive,...)
- deploy QoS management in IPv6 backbone
- define next phase(s)



Political Actions

- **combine existing resources** to implement phased plan
- line up
 - vendors,
 - operators, ISPs,
 - national research networks,...for support and participation
- strengthen **collaboration and coordination with non-European IPv6 organizations**
- **require IPv6 support for all new R&D projects!**
- initiate **Open Source IPv6 application base**