Report on Ad Hoc IPv6 Concertation Session

13 March 2001
Centre de Conférence Albert Borschette 4/11
Brussels, Belgium

An ad hoc concertation meeting was held on 13 March 2001 at Centre Albert Borschette to discuss issues related to the deployment of Internet Protocol version 6 (IPv6). The main purpose of the meeting was to identify mechanisms and strategies that had the potential to accelerate adoption and deployment of IPv6 in Europe. The meeting was attended by a significant number of the industrial and telecommunication companies with an interest in deployment of IPv6, by representatives of the IPv6 and UMTS fora and the European network research community. A number of presentations were made on behalf of organisations representing these constituencies. These presentations included a status report on the deployment of IPv6 in Japan. This was followed by a period of open discussion. The issues raised and recommendations are identified.

1. Main Issues identified in Presentations

Individuals that gave presentations are identified in this section.

European Network Research Community (Tim Chown, Dai Davies, Peter Kirstein, Bernard Tuy representing DANTE, JISC, UKERNA, RENATER, University College London and University of Southampton). The following points were raised by representatives of the Research Community:

- IPv6 standards have been developed. However, these standards have not yet been incorporated into commercial applications, middleware, telecommunication networks or GRIDs. Most of the products are still pre-release.
- The potential lack of IPv6 infrastructure could lead to many national research centres ceasing to be able to support internationally competitive research, as the networking infrastructure they need will not be available; The deployment of IPv6 over National Research and Education Networks (NRENs) needs to take account of the GÉANT project if a seamless European Research Area is to be established.
- No European NREN has yet deployed an IPv6 operational network.

IPv6 and UMTS fora and industry (Latif Ladid, Bosco Fernandes, representing IPv6 and UMTS fora and Munechika Sumikawa representing HITACHI). The following points were raised:

- The lack of IPv6 networks in Europe (NRENs, governmental or commercial) may threaten the future of 3G mobile investments (€ 300 billion approx.) already made by industry in Europe; If a seamless IPv6 network is not deployed very soon, European industry will be unable to develop the required range of new products and services. An IPv6 network needs to be available by 2005 at the latest. For example, Korea is making about € 90 billion investment to develop IPv6 network by 2003.
- European research and education networks have the potential to make a valuable contribution to the deployment of IPv6. This would be through:
  - Early adoption of IPv6 over their networks;
  - Demonstration of benefits of IPv6 (testbeds) and their rapid incorporation into operational services.
- Japan is introducing an IPv6 commercial network service (with initially the basic features of the standards). Features not being implemented at this point include Quality of Service, Multicast, Security Features, etc. The network has been developed, and deployed, to support

limited version of IPv6, using the dual-stack approach and using IPv6 as a key differentiator. The last 'mile' to the home equipment (ADSL modems, CATV modems, and ISDN routers) still require deployment. All other aspects of the network are operational.

2. Issues raised by Industry during discussion (all industrial participants)

- There are currently 600 million mobile cellular users world wide (some 235 million in the EU). New services require an increase in number of IP addresses. This is only possible if IPv6 is adopted.
- European mobile telecommunication operators have invested € 130 billion in securing UMTS licences.
- European network providers are currently making massive infrastructure investments (approx. € 200 billion) in mobile networks.
- If IPv6 is not promoted and an IPv6 network in Europe not secured, products and services for the next generation network (Internet) are likely to be developed elsewhere.
- There is currently no strategic deployment plan for IPv6 in Europe. Deployment plans are required at the international and European levels. This needs to take account of fixed and mobile development perspectives. Industry would support development of deployment strategies which would need to be co-ordinated at the European level.

3. Issues raised by European Research Community during Discussion

- The co-ordination of IPv6 deployment needs to be secured.
- If IPv6 network is not deployed the value of research in centres of higher education to industry will become increasingly limited.
- New educational services will not be made available competitively if a European IPv6 network is not available.

4. Conclusions from the panel (Industry and Research)

- An IPv6 taskforce should be established and an action plan for the deployment of IPv6 by explicitly taking into account the foreseeable requirements of the wireless and wired sectors should be proposed.
- It should be ensured that National Research and Education Networks make use of IPv6. This should be co-ordinated with GÉANT and seek to secure:
  - Strategic awareness (e.g. Head of State level) of the issues,
  - Better co-ordination between industry, NRENs, ISPs, etc,
  - Better understanding of issues and deployment route for applications.
- A European IPv6 backbone testbed should be established. Its size should be sufficient to support the widest possible number of IPv6 applications.
- Increased concertation on IPv6 between National Research and Education Networks, the research community and industry at European level should be ensured.

5. Participants

Participants at Ad Hoc IPv6 Concertation Session 13 March 2001

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