

IPv6 : Making it happen in India

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Nov 2006 – Cannes, France



Agenda

- Importance of Internet to India
- Ministry's stand on IPv6 for India
- IPv6 related progress in 2005 - 2006
- 2007 – the Road ahead

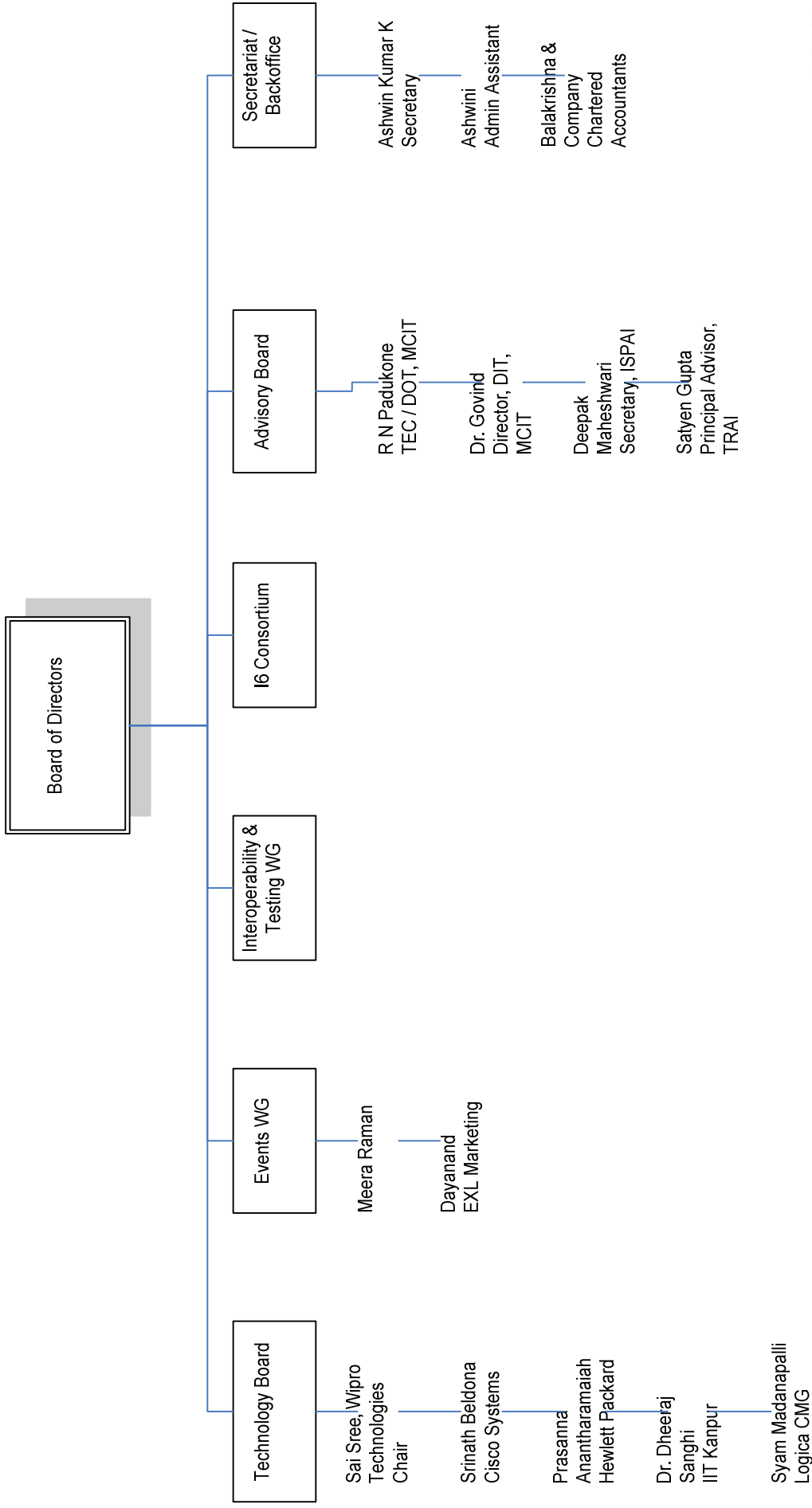
Importance of Internet to India

- The Internet has a crucial role to play in the socio-economic aspects of India's future – IPv6 can help enable some of those objectives
- The Internet is well on the path to becoming a critical piece of infrastructure of the Nation – with the implications that it progressively needs a tremendous amount of attention
- More and more Indian business have an “Internet” side to them – their physical & financial growth have a direct bearing on the “Internet” aspects as well
- Hence future GDP growth – especially that linked to exports has a direct bearing on the presence of Indian businesses on the Internet
- This means that India's Internet needs to scale and should be built for this long haul
- The Government is cognizant of the fact that an asymmetric growth of the Internet could widen the Digital Divide; the Ministry is concerned and is taking steps in this direction

Ministry's stand on IPv6 for India

- Union IT Minister H.E Dayanidhi Maran declares IPv6 deployment as National Priority #6 in Ten Point Agenda in May 2004 (upon assuming office)
- IPv6 is a scalable Internet technology with a potential to help the Internet reach 1.1 billion people of India
- IPv6 is the future and the way to go – it is no longer about 'if' or 'whether' but 'NOW' and 'how'
- The Ministry acknowledges that USA, EU, Japan and other countries are deploying IPv6 today
- Role of IPv6 is not limited to Internet access alone but is important in Defence, e-Governance and other crucial Government projects
- The Ministry intends to be an active catalyst in deploying IPv6 in India

IPv6 Forum India Org Chart



IPv6 related progress in 2005 – 2006

Building National Mandate

- TRAI released consultation paper on IPv6 transition in August 2005
- TRAI organised Open Houses in Delhi and Bangalore to debate and discuss transition to IPv6
- TRAI came up with draft recommendations in late 2005 followed by final recommendations by the end of the year
- India based MNCs developed IPv6 stacks, sought and obtained IPv6 Ready logos
- An increasing number of Indian MNCs and India based MNCs are engaged in IPv6 efforts in worldwide markets

IPv6 related progress in 2005 (contd.)

Reinvigoration of the **IPIG – IPv6 Implementation Group** in Feb 2006 with the following members

1. Secretary, DIT - Chairman
2. Additional Secretary, DIT - Vice Chairman
3. Rep from Telecom Regulatory Authority of India
4. Rep from National Security Council Secretariat
5. Sh. Pankaj Agrawala, Jt. Secretary, DIT
6. Sh. Ajeer Vidya, JS&FA, DIT
7. Rep from Cellular Operators Association of India
8. Rep from Defence Research & Development Organisation
9. Rep from Dept Of Telecom
10. Rep from Institute for Dev & Research in Banking Technologies, Hyderabad
11. Prof. Dheeraj Sanghi, IIT Kanpur
12. Prof. Rahul Banerjee, BITS, Pilani
13. Hemanth Dattatreya, IPv6 Forum India
14. Rep from ISP Association of India
15. Dr. Govind, Director, DIT – Member Secretary

IPv6 related progress in 2005 (contd.)

Constitution of a **National Task Force for IPv6 Roadmap preparation (sub-committee of IPIG)**

1. Shri Pankaj Agrawala, Joint Secretary, DIT -Chairman
2. Shri S.N. Gupta, Advisor, TRAI - Member
3. Dr. Gulshan Rai, ED, ERNET - Member
4. Shri Y.K. Sharma, DDG, NIC - Member
5. Cdr. Mukesh Saini, National Security Council Sectt. - Member
6. Shri Deepak Maheshwari, Secretary, ISPAI - Member
7. Shri Hemanth Dattatreya, IPv6 Forum India - Member
8. Shri T.V. Ramachandran, DG, COAI - Member
9. Dr. Govind, Director, DIT
Convenor - Member

IPv6 related progress in 2005 (contd.)

Broad guidelines and objectives of the National Task Force

- To Draft a new roadmap for transition from IPv4 to IPv6 mixed environment and plan for complete transition to IPv6 for the year 2010 along with cost elements in migration to IPv6.
- To identify R&D project in all earnest for IPv6 especially for security features such as firewalls and Intrusion Detection Systems (IDSs).
- To suggest from IT perspective, identify major R&D, hardware upgrades, training and awareness programme to be undertaken by the Department of Information Technology and Indian industry.
- To make suitable recommendations to DIT for considerations/approval.

IPv6 related progress in 2005 (contd.)

IPv6 events held in the financial year 2005-2006

1. Workshop was organised at IIT Kanpur on 1st and 2nd April'05. Around 60 participants attended the workshop
2. SANOG 07 - A Workshop was organised by ISPAI at Mumbai during 17-24 January 2006. Around 200 participants from R&D industry and users attended the workshop
3. South Asian IPv6 Summit, Bangalore – April 2006, around 200 participants attended this Summit

2007 Top Priorities

1. India-6 Advanced Internet (I6) Consortium
 - University cluster
 - Operator cluster
 - Vendor and SI
2. IPv6 Interoperability, Testing & Ready Logo Center
in partnership with Telecom Engineering Center,
DOT / MCIT

2006 / 2007 – Work in Progress

- International Cooperation: To seek formal cooperation agreements with other nations
 - Ministry is keen to collaborate with the European Union on IPv6
 - Ditto with United States, Korea, China, Taiwan and Japan
 - Would like to enhance cooperation in R&D, operational matters of IPv6 and knowledge sharing
- Government of India related
 - Establishment of National Internet Registry of India
 - Through the IPIG / National Task Force the Ministry seeks to investigate deployment of IPv6 in Union e-governance networks and begin steps to operationalise the same
 - Ministry of Defence / Home Affairs related efforts
 - Massive internal awareness campaign to polarise government staff on importance of IPv6

Deployment status in India

- BSNL's National Internet Backbone (NIB) is already IPv6 ready
- VSNL has become the world's second largest IPv6 ISP after acquiring Teleglobe Canada
- Sify was India's first Tier-1 ISP to offer commercial IPv6 services in India in March 2005
- ERNET India backbone supports IPv6 and is connected to GEANT and INTERNET2

Development status in India

- Much of global IPv6 R&D of multinational companies happens in India (as part of offshore R&D of companies for global customers)
 - Eg: HP, IBM, Sun, Microsoft, Cisco, Juniper, Samsung, LG, Huawei, Infineon, Wipro etc)
- India is the home of IPv6 “trench work” and Indians are active in the IETF
- Indian Institute of Technology, Kanpur and BITS Pilani are pioneers in IPv6 R&D and are academic beacons
- Many universities are now applying for government funds for IPv6 R&D after government’s call for participation

Thank you !

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