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Government of India
Ministry Of Communications & Information Technology
Department of Telecommunications

India IPv6 Policy & its Implementation in India

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Only 34 million IPv4 addresses for a population of 1.2 billion in India.

- ➔ But the requirement for IP addresses will keep increasing with new services, new networks, new applications.
- ➔ Telecommunications will be largest consumer of IP addresses in coming years (Broadband, 3G, NGN, 4G, LTE etc.)
- ➔ IPv4 is a **diminishing resource** and is very costly compared to IPv6 right now and will be more costlier with passage of time

IPv6 is the only solution !



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Release of Policy Document on IPv6

The Government of India released the
“**National IPv6 Deployment Roadmap**”

In July-2010, which is the guiding document for deployment of IPv6 in India by all stakeholders in private and Government sector



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POLICY DECISIONS

- All major Service providers (having at least 10,000 internet customers or STM-1 bandwidth) will target to handle IPv6 traffic and offer IPv6 services by December-2011.
- All central and State government ministries and departments, including its PSUs, shall start using IPv6 services by March-2012.
- Formation of the India IPv6 Task Force

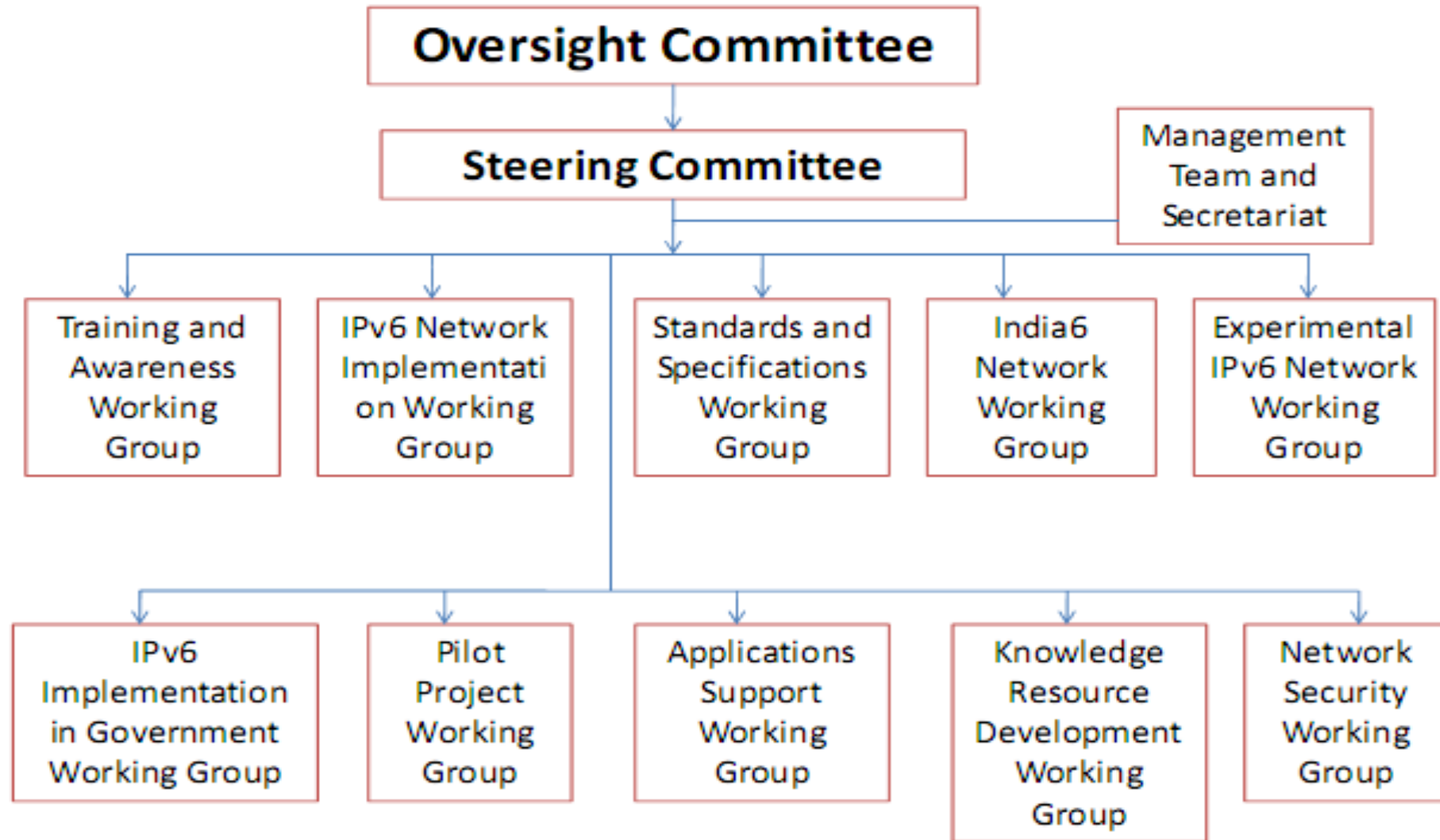


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- 1. Formation of IPv6 Task Force was approved by Government. The IPv6 Task Force has the following committees & working Groups.**
 - Oversight Committee
 - Steering Committee
 - 10 working groups
- 2. Membership of the task Force Approved by Government in December 2010**



Structure of "India IPv6 Task Force"





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WG No.	Name of Group	Lead Organizations	Proposals and Projects	Action Taken/Remarks
WG-1	Training & awareness	BSNL	1. Awareness Workshops & specialized trainings 2. IPv6 Test Bed for training	a) Proposal for 5/26 awareness workshops approved by DoT b) Item-2 under process in DoT
WG-2	Action Plan & IPv6 Network implementation	NT Cell ,DoT	Questionnaires for Assessment of IPv6 readiness circulated to all service providers	a) Major service providers are being pursued to meet the deadline of 31.12.2011 b) Recent meeting with major Service Providers & Content providers held on 14 th July, 2011.
WG-3	Standards & Specifications	TEC	IPv6 Standards released	
WG-4	India6 Network	Tata Communications	IPv6 network information has been sought by Tata Communications from all major service providers	Proposals from some Service Providers still Awaited
WG-5	Experimental IPv6 Network	Sify	Proposal of Experimental IPv6 Lab received	
WG-6	Pilot Project	DIT	1. Proposal of Smart buildings for TEC and Electronics Niketan submitted. 2. Initial Proposals on rural healthcare and distance education of HP government received. However, financial contribution was not committed by the State Govt. & DIT	A proposal for initial Budgetary support of Rs. 2,90,000 to DIT to conduct the survey of these buildings and preparing project reports.



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Government of India
Ministry Of Communications & Information Technology
Department of Telecommunications

WG-7	Application Support	Tech Mahindra	Proposal received for pan-India workshops with the Content providers, application providers and other vendors	
WG-8	Knowledge Resource Development	ISPAI	Proposal received for pan-India workshops with the universities, colleges and others	
WG-9	IPv6 Implementation in the Government Network	NT Cell ,DoT	<ol style="list-style-type: none">1. Draft Expression of Interest for short listing IPv6 Consultants for government organizations is under approval.2. A Committee for National IPv6 Address policy formed .	
WG-10	Network Security group	Security Cell, DoT	Define security policies, technical architectures and best practices for IPv6 security adoption in India.	This group has been formed recently and first meeting of the working group members will be held shortly.



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Ministry Of Communications & Information Technology
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- To monitor the Progress of IPv6 Policy implementation, DoT has issued a IPv6 implementation activity sheet to all Government Organization and same is being reviewed.



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Ministry Of Communications & Information Technology
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Timeframe of Activities by Government Sector to meet Target Dates

Sl. No.	Activity	Proposed Target Date
1.	Appointment of State Nodal Officer , Nodal officers from central government departments	31.8.2010
2.	Circulation of letters, guidelines, checklist etc. to all ministries / organizations / educational institutions / PSUs etc. and orders on appointment of departmental nodal officers to all Departments	15.9.2010
3.	Appointment of Next level Departmental Nodal Officers	30.9.2010
4.	Form a "State Transition Team" consisting of concerned officers & experts from stakeholders like service provider, vendors, software developers etc.) for giving technical advice and look into issues concerned with transition to IPv6	31.10.2010
5.	Call a meeting of all ministries, organizations, educational institutions, PSUs etc. and discuss the following issues – a) Instructions issued by DoT b) Checklists issued by TEC c) Annexure 'A' & 'B' of Roadmap d) Preparation of equipment reports	30.11.2010



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Timeframe of Activities by Government Sector to meet Target Dates

Sr. No.	Activity	Proposed Target Date
6.	Reports preparations based on activities in Sr. No. 5	31.12.2010
7.	Audit of Equipment Reports by other Agency	15.01.2011
8.	Based on the Equipment Audit Reports, prepare an Equipment replacement plan to phase out non-compliant hardware and software. Assistance may be taken from "State Transition Team"	15.02.2011
9.	Based on the replacement plan, prepare a procurement plan for different ministries / departments	15.03.2011
10.	Identify persons for IPv6 training and send them on training (Parallel Activity)	A continuous process
11.	Float tenders for procurement of hardware and software as per the plans	15.04.2011
12.	IPv6 Address Allocation Policy	30.06.2011
13.	Set up a pilot test network either centrally or in each department for testing and training	31.07.2011



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Timeframe of Activities by Government Sector to meet Target Dates

Sr. No.	Activity	Proposed Target Date
14.	Equipment Procurement and deployment in the network	31.10.2011
15.	Testing of hardware and software and migration of applications	28.02.2012
16.	Launch of IPv6 Services	31.03.2012



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- All Government department have been directed to procure only IPv6 compliant ICT equipments.
- Formation of National Internet Registry (NIR).
- All Nodes of NIXI made IPv6 compliant.
- All Government Websites to be made IPv6 ready.
- Release of India IPv6 Task Force newsletter.
- IPv6 Address allocation Committee.



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STATUS OF THE MAJOR SERVICE PROVIDERS AS ON June, 2011

Sl. N.	Major Service Provider	Presence	Status as on June, 2011.	Remarks
1	BSNL	Pan India except Delhi & Mumbai	Received	Assured to Comply on time.
2	MTNL	Delhi & Mumbai	Received	Assured to Comply on time.
3	Reliance Communication Infra	Pan India	Received	Assured to Comply on time.
4	Airtel	Pan India	Received	Assured to Comply on time.
5	Hathway		Received	Assured to Comply on time.
6	YOU Telecom India (P) Ltd			
7	Tata Internet Services Ltd.			
8	Tikona Digit.Networks Pvt.Ltd			
9	Sify Technologes Ltd	Pan India	Received	Assured to Comply on time.
10	Data Infosys Ltd	Rajasthan	Received	Assured to Comply on time.
11	Asianet Sat. & Commus Ltd			
12	HFCL Infotel Ltd		Received	Assured to Comply on time.
13	Beam Cable System Pvt.Ltd	Hyderabad	Received	Assured to Comply on time.
14	Tata TeleServices Ltd	Pan India	Received	Assured to Comply on time.
15	Spectranet		Received	Assured to Comply on time.
16	Ortel Communications Ltd		Received	Assured to Comply on time
17	HCL Infinet Ltd		Received	Assured to Comply on time.
18	Ankhnet Informations Pvt.Ltd		Received	Assured to Comply on time.
19	Broadband Pacenet (I) Pvt.Ltd			
20	Vodafone		Received	Assured to Comply on time.
21	Shyam Internet Services Ltd		Received	Assured to Comply on time.
22	Indusind Media & Commn Ltd		Received	Assured to Comply on time
23	Hughes Commn India Ltd		Received	Assured to Comply on time.
24	Tata Communications	Pan India	Received	Assured to Comply on time.
25	Southern Online Bo Tech Ltd	Andhra Pradesh	Received	Assured to Comply on time.
26	IOL Netcom Limited			



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Proposal for Changing APNIC IPv6 Address allocation Policy

- Right now IPv6 addresses are being allocated by APNIC to individual telecom Service Providers/internet service providers and other organizations just like allocation of IPv4 addresses in which telecom Service Providers/internet service providers and other organizations specially in India are not having contiguous IP address blocks.
- This causes inefficiencies in routing table as well as creating problems to Indian law enforcement agencies in tracing out the IP address of the end users.
- So taking cue from this problem Government of India (Department of Telecommunications) set up a 15 members committee for formulation of the National IPv6 address policy having national and international members from all stakeholders.
- In the 2nd meeting of the committee held on 18th July 2011 in New Delhi members were of the opinion that India as a whole should ask for a bigger block of IPv6 address from APNIC.



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- The exact requirement of this block will be worked out on the basis of IPv6 address allocated to various organizations such as telecom Service Providers/ internet service providers and other organizations and new entrants like other central Government departments, State Government departments, public sector units, universities, colleges, hospitals and other sectors in the country and their future requirement of IP addresses for next 20 years at least (as IPv6 addresses are not going to be exhausted in these years).
- As right now APNIC policy does not allow address block to be allocated country wise, we are seeking a change in the policy for allocation of IPv6 address country wise rather than individual organizations wise.
- In case of IPv6 Addresses there is huge availability of IP addresses ,so in India we want to have one big block of IPv6 Addresses say e.g./16 wanted to be reserved for us and allocated to Indian NIR.
- This Address space will take care of requirement of all TSPs/ISPs industries and other organizations.



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Thank You

