Government of India
Ministry of Communications & IT
Department of Telecommunications
Networks and Technologies Cell

Dated 3rd May, 2011

Minutes of Meeting

Sub: **Minutes of Oversight Committee Meeting for IPv6 Policy Implementation held on 28th April 2011.**

First meeting of the Oversight Committee under the India IPV6 task force was held on 28th April, 2011 in Sanchar Bhawan under the Chairmanship of Secretary (T), DoT. It was attended by the Oversight Committee members and the Leads of all working groups. Shri R.M. Agarwal, DDG (NT), DoT welcomed Secretary (T), Member (T), Member (S), Member (F) and all other distinguished participants. He informed the Oversight Committee that India IPv6 Task Force was formed in December 2010 for timely implementation of IPv6 as per policy guidelines in the country and since its formation regular meetings are being held by different working Groups. One Steering committee meeting was also held in the last week of February 2011.

2.   Member (T) addressed the gathering and stressed the importance of migration from IPv4 to IPv6. He informed that targets have been fixed for service providers and government departments as December 2011 and March 2012 respectively. He further said that this meeting is basically Apex body meeting to review the timely implementation of the policy and number of steps have already been taken for implementation of IPv6 policy in government sector viz. Letters to Chief Secretaries of State governments and Secretaries of central Government departments informing them about the decisions of the government of India in the National IPv6 deployment Roadmap' for implementation of policy decision, Several meetings with central and state nodal officers and Secretary (IT)/Principal Secretary(IT) of states were held. Number of meetings and actions have been initiated with the major service providers for timely migration to IPv6.He was sure that all the working groups of IPv6 task force will work together, supplement need of one another and give required momentum to service providers and government organisations in achieving their targets.

3.   Secretary (T) in his address said that we are now on the threshold of major increase in connectivity of broadband services. National broadband policy has been released and he expects increase in connectivity and numbers of users that's why we need to have a very large chunk of IP addresses to meet out our future requirements in all areas of telecom services as well in other areas. He further said that though different working groups of IPv6 task force has been set up and their roles have been well defined but it is important to know that what work has been done and how much migration has

taken place and how different WGs are working towards this task. He expressed wish to hear and learn from all of you in this oversight committee.

4.   Shri R.M. Agarwal, started proceeding of the meeting with responsibilities and brief of actions taken so far by various working groups of IPv6 Task Force till date. He stated that as the working groups are working as per already defined roles and responsibilities. He briefly informed about the different responsibilities and work done by them. Mr. Agrawal stated that as per the requirement of central & states/UTs Government Organizations, DoT is in the process of short listing the IPv6 Consultants for Government Organizations and expecting that by July end consultants for the same will be empanelled. He further stated that a committee for IPv6 Address Policy have been formed and hope that report of the same will be submitted shortly. NT Cell DOT is organizing the meetings with all Central/States nodal officers, service providers and content providers for   resolving various issues in connection with the timely implementation of the IPv6 in India.

4.1 He presented the overview of the different activities being done by **action plan and IPv6 network implementation (WG-2)** being lead organisation and stated that as far as working group-2 is concerned DOT already had recent meeting with major service providers on 1st March, 2011 and questionnaire for IPv6 readiness circulated to the service providers and discussed. All major service providers had assured to meet the deadline by December 2011.

4.2 Being also the Lead in **IPv6 implementation in government sector (WG-9) Sh. Agarwal** stated that various letters, circulars and guidelines have been issued by DoT by Secretary (T), Member (T) and Advisor (T) for timely implementation of IPv6 in government sector and many important meeting were also held in this regard. Nomination for nodal officers from some states/Union territories and central ministries/departments are still pending and Time frame of activity as an activity sheet by government sector has already been sent to all the government sector offices and still the **response for the same is not encouraging, that may be due to (i) lack of IPv6 awareness, unaware of availability of IPv6 consultants and technical knowhow,(ii) No provision of Budgets in their annual plans and requires budgetary support from DoT to meet out implementation cost.**

        Shri R.M. Agarwal also discussed that proposal for specialised training, development of IPv6 lab infrastructure in the training centres of BSNL, budgetary support from DoT for consultancy services by the empanelled consultants to States/UTs and Central Government departments and release of the required amount to DIT to conduct the survey of the smart building are under process in DoT. Secretary (T) enquired about the availability of the contents for the awareness of masses on DOT websites.

5. BSNL being lead **Working group for training and awareness** targeted various programme in the country. Shri Neeraj Verma, GM (Trg.) BSNL presented the training and awareness progress and other further plan for conducting the awareness workshops throughout the country.

   (i) Awareness Programme in state Capitals at WG-1 (BSNL) facilities – DoT's awareness workshop in coordination with BSNL.

   (ii) Awareness Programme in ALTTC and Other training centers at WG-1 (BSNL) facilities

   (iii) Awareness Programme at Clients facilities

   (iv) Courses/workshops for Management Level participants at WG-1 (BSNL) Facilities

   (v) Courses for Working Executives at WG-1 (BSNL) Facilities

   He mentioned that awareness workshop are being conducted in all state capital using their infrastructure, they planned these awareness programme in ALTTC Ghaziabad which would run continuously. He further mentioned that proposal submitted for hosting of IPv6 task force website has already been submitted to DoT, this will provide all the features of IPv6 and showcase the progress made by Task Force. He further stated that support from DoT is required for the following: Budget Provisioning of IPv6 Training as agreed in the Steering committee, Setting up of IPv6 Test Lab at ALTTC Ghaziabad and other training centers of BSNL, Hosting of website

6. **Presentation by standard and specification working group-3 lead TEC**: Shri B.K. Nath, Director (IC), TEC presented the progress and achievements of working group-3. He discussed the technical details of the iPv6 specifications and roll of IETF and other international agencies involved in IPv6 activity. He further mentioned that IPv6 ready logo programme for IPv6 standards is to be developed by TEC. He mentioned that in India there are no recognized lab facilities for ready logo for IPv6 conformance inter operability and test results. TEC has already released IPv6 standard documents on 25th March, 2011. For implementation of the standards for product testing currently none of the IPv6 forum recognized labs in India. It needs to encourage existing labs to get themselves recognized by the IPv6 forum and encourage setting up of more IPv6 testing labs in the country. He further mentioned that MOU between TEC and IPv6 promotion council, Japan to facilitate standardization and certification activities. **Secretary (T) enquired about IPv6 test bed to be installed by TEC.**

   7. IPv6 Pilot project group-4 lead by DIT: Mrs. Tulika Pandey, Addl. Director, DIT has presented the progress made by working group-4 and mentioned that there are lot many Ipv6 deployment areas in our country like - Intelligent buildings, Healthcare, Citizen services, Agriculture, Smart-Grid and Education. She further discussed proposed pilot projects of DIT for: IPv6 based Energy Efficient Smart buildings – DIT/DOT/TEC buildings, Aadhar Integrated IPv6 based Telemedicine Maternity and Neo-natal Care – HP,Aadhar Integrated Birth and Death Certificate – HP, IPv6 Based Energy Efficient Data Center – Karnataka.

In continuation of presentation of Mrs. Tulika Pandey, **Sh. N Ravishankar Jt. Sec (DIT) stated that these shall be discussed in their working groups meeting for finalising the proposals** and DoT member will also be included in their WG for evaluation purpose. **On this Sh. R M Agarwal, DDG (NT) requested to DIT to submit the firm proposals after confirmation/finalising the state/DIT contributions** and he also requested for monthly review meeting for the proposed proposals. **Secretary (T) enquired that how DoT proposes to provide funding to the pilot projects. DDG (NT) responded that as most of the projects pertaining to rural area ,may be funded through USO fund**. Secretary (T) further said that there should be proper co-ordination between DoT and DIT and have monthly review meetings. **A standing committee may be formed consisting of officers from DOT/DIT.**

During the discussion of other points Sh. R M Agarwal stated that formation of NIR (National Internet Registry) action was to be taken by DIT and this issue has been raised in many meetings by different stakeholders. On this Sh. N Ravishankar, Jt. Sec (DIT) updated latest status of formation of NIR in the country and further Dr. Govind CEO, NIXI stated that they are shortly setting up NIR, team had already been formed for the same and will be sent to APNIC for further necessary action and team will be visiting APNIC shortly for NIR.

Secretary (T) directed that all nodes of NIXI to be upgraded and make IPv6 compliant.

8. **Application support working group -5 lead by Tech Mahindra:** Shri Srinivas Guddipudi, Director has presented the progress made so far by this working group and he stated that goals of application migration are derived as Provide Consultancy and roadmap for organization – IPv6 Application transition/Migration, Adopt or Roll out new Application architectures - IPv6 adoption/transition, Demonstrate IPv6 applications and solutions and Provide support for IPv6 application support across organizations . He further stated that phased approach is needed for application support and said that there are lot many IPv6 applications in all most all the industry verticals like Communication, energy, transport, media, defense, etc. Shri Srinivas has also mentioned that IPv6 solution showcase lab in Bangalore, Hyderabad, Mumbai, Noida and Pune are in place. He also mentioned that IPv6 application conference/seminars to be held across the various metros in the coming months and they are interested for **the global IPv6 summit in India** to focus on showcase and innovations in India in regard to products, applications and deployments and this summit may act as an IPv6 business exchange summit. **He requested for initial funding for global IPv6 summit of Rs. 10 Lakhs. Sh R M Agarwal, DDG (NT) replied to submit the firm proposal for the same.**

9. **India6 Network working group lead by Tata Communications Limited**: Shri Naveen Dhar, AM has presented the objective of the India6 Working Group is to: Build a "Transition Pipe" for carrying IPv6 traffic from one IPv6 network to another IPv6 network, The absence of such a "transition pipe" is hampering the growth of IPv6 in India, There exist similar networks in all the countries, which are at the forefront of the IPv6 revolution, e.g. CNGI (China Next Generation Internet). In India also this type of network can be built and can be named as "India6 network", another perceived benefit of having the IPv6 "Transition Pipe" in

place is that it would facilitate the penetration of broadband in our country, since future development of broadband in India will depend on IPv6 only.

ISOC – World IPv6 Day Event has been scheduled on June 8th 2011. During this day World's leading Content Providers will provide Content on IPv6 and participating service providers will provide IPv6 Connectivity. Tata Comm. will participate in this event as a Network Operator. As part of the India6 WG it will be good to jointly represent various Indian IPv6 Service Providers in India in the "World Ipv6 Day". This will demonstrate India's Leadership in IPv6 deployment.

DDG (NT) enquired about the progress and achievement of the report for which TATA was assigned to do "to carry out a study on the pan India IPv6 available infrastructure owned by various Service Providers and to prepare the report covering the missing link and suggesting the areas in which the network needs to be expanded. On this TCL conveyed that despite best effort by TCL and DDG (NT) DOT, only Airtel & TATA shared their IPv6 network information data and considering only these data it will not be possible to show true picture. **On this DDG (NT) briefed the Sec (T) and Member (T) regarding this issue and requested to all Service Providers including BSNL/MTNL to share the data within 10 days positively. Secretary (T) and Member (T) asked the reason for the delay in providing the information.**

10. **Knowledge resource development working group-8 lead ISPAI:** Shri Rajesh Chharia has presented the progress made so far by this working group and he stated that Mandate as per National IPv6 Plan is to develop the IPv6 knowledge base in the country with active participation of the educational institutes. Members will be drawn from educational institutes, who will be actively involved in the change of curriculum to include IPv6 as a subject, Pursue with the Ministry of HRD to take up study of IPv6 related issues by educational institutes involve in basic research on IPv6 etc. He stated the strategy to be adopted as to apprise and sensitize all the Stake holders about important and urgency of the matter and to create a platform and do the necessary background work for the T & A Group. Coordinate with Private as well as Government sector and work closely with following Working Groups: Training & Awareness Group Application Support IPv6 Implementation in Government Network.

He also stated that ISPAI in association with its members and other experts shall depute two – three professionals for this task. Four days of every month i.e. First and Third have been ear-marked for these Meetings. It may wary depending up on the appointment / convenience of the respective departments.

DDG (NT) stated that in the upcoming workshops by DoT being organized by BSNL, the speakers /panelist from ISPAI & IAMAI to be included in the workshops. This has already been discussed among 3 Working Groups (WGs- 1, 7 & 8) meeting held on 13th April 2011, and agreed by these groups it was discussed and decided to save the resources and cost both. However further proposal for specific trainings, awareness programmes and visits may be sent to DoT by ISPAI & IAMAI in next 10 days time.

ISPAI further informed the members that APRICOT is being hosted in Feb 2012 in New Delhi and ERNET is hosting APNIC meetings in August 2011, in N. Delhi.

11. **Experimental IPv6 Network working group lead by Sify:** Shri Shyam Nair, PRO has presented purpose and proposed plan and mentioned that this group will plan and build an "Experimental IPv6 Network", which can then be used for experimentation by different vendors and organizations both from the public and the private sector. This "Experimental Network" can also be used for training of personnel for operating IPv6 networks." He further mentioned that Experimental IPv6 Network Working Group, Next Steps are to: Discuss the proposed plan and methodology in the discussion forum of task force, Develop experiments for general demonstrations, Get a agreement from the stake holders, Understand the process for resourcing and funding, Take-up Phase-I proposal for execution.**DDG NT asked to Sify that they should send firm proposal to NT Cell after internal discussion with their group members within 10 days.**

12. **IPv6 network security working group – 10 lead by Security wing, DoT**: Shri Ram Narain, DDG –Security has presented the progress made so far.   He stated that this group has recently been   formed and in real sense it is yet to formed because nominations for the group has not been received despite persuasion and requested that **volunteers from all the stakeholders including Tata, Sify, ISPAI, COAI, BSNL, MTNL, C-DoT, TEC, Tech Mahindra etc. may be sent** to us immediately so that meetings can be organized and action on security issues can be taken immediately. He further presented the security issues and comparison of security matters between IPv4 and IPv6 and he told that IPv6 will definitely more secure than IPv4. However, further studies yet to be done.

13. After having presentations from all the lead organization, Shri R.M. Agarwal asked for the any other point to be discussed, **Secretary (T) asked that whether task force and DoT are on the right track to meet out the targeted timelines for IPv6 implementation by the service providers** and asked to have comment from all the service providers present in the meeting.

13.1 Sify has said that the services offered by them are internet and VPN and they encourage consumers to go to IPv6. **ISPAI & COAI said that major service providers will be ready by the targeted date however tier-2 is to be followed**, targets for same is yet to decide. Sh. Jain, ACTO said that tier-2 ISPs can't be ready by Dec 2011, as target for Tier-I ISPs are Dec 2011 and they need 3-4 months for migration. On this Sec (T) conveyed that tier-2 should make their plans and be ready in advance.DDG (NT) appraised to all members that target Dec 2011 is for starting Ipv6 services by Major Service Providers only. Member (F) said that during workshop consumer should be involved for awareness.   ISPAI said that they are involving the consumer groups and consumers are ready to get on IPv6.

13.2 Tata communications said that they are ready and some of the ISPs are getting with us from the enterprise perspective and core network perspective we are ready.

13.3 The IPv6 forum president Sh. K Jaychanda said that besides awareness training and all good works being done DoT and India IPv6 task force, **PR-ship is also necessary for wide publicity, updating national and international community** and there should be some more pilot projects in addition to proposed by DIT. On this DDG (NT) said to send firm proposal for both within next 10 days time.13.4 Sh. Rajesh Chharria, ISPAI said that lot of equipment has to be upgraded from IPv4 to IPv6, and manufacturing are charging abnormally high for these up gradation this should be looked into. **Secretary (T) directed TEC to look into this problem and come out with details and possible solutions on which action may be initiated by DoT.**

13.5 IPv6 related Workshops held by DOT/TEC with the support of CMAI were appreciated in the meeting and it was requested by DDG (NT) to all association and lead/co-lead working groups of the Task Force to hold national and international seminars/workshop on the same lines.

Secretary (T) desires IPv6 implementation with the service providers should be reviewed on monthly basis and a monthly IPv6 newsletter should also be released in electronic form.

14. **Summary of Actionable points**-

   i.   TEC website to be updated on regular basis for all IPv6 related activities and a link of the same to be given in DoT website.
   ii.   DIT to submit the firm proposals for ongoing pilot projects
   iii. A standing committee to be formed consisting of officers from DOT/ DIT and committee to meet on monthly basis.
   iv.   All Nodes of NIXI to be upgraded and make IPv6 compliant earliest possible
   v.   T**he global IPv6 summit in India** to focus on showcase and innovations in India in regard to products, applications and deployments. A proposal to be submitted by Application support group.
   vi.   All service providers to share their IPv6 network information with TCL within 10 days time to enable them to prepare a Report.
   vii. In IPv6 awareness workshop of DoT being organized by BSNL, the speakers /Panelist from ISPAI & IAMAI to be included and target audience to be intimated by ISPAI & IAMAI. All 3 working groups to work in close coordination.
   viii. Nomination for Security working groups by Tata, Sify, ISPAI, COAI, BSNL, MTNL, C-DoT, TEC, Tech Mahindra etc. to be sent immediately.
   ix.   DoT's Security wing to have specific case study for the security issues in IPv6.

x. To focus on PR ship for wide publicity, updating national and international community.

xi. IPv6 implementation with the service providers to be reviewed on monthly basis and a monthly electronic news report to be released.

xii. For up gradation from IPv4 to IPv6, the ISPAI raised that equipment venders are charging abnormal rates, TEC to come out with details and possible solution.

xiii. It is proposed to fund the rural based IPv6 pilot project through USO fund.

The meeting ended with vote of thanks by Shri Ram Narain, DDG-Security, DoT.

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Copy for Information to:
1. Secretary (T)
2. Member (T)
3. Member (S)
4. Member (F)
5. Administrator (USOF)
6. Advisor (T)
7. All participants & members of Oversight Committee
8. All members of Steering Committee.
9. All Lead Organizations.

Sub:- Minutes of Meeting of Oversight Committee for IPv6 implementation.

First meeting of the Oversight Committee under the **India IPV6 task force** was held on 28th April, 2011 in Sanchar Bhawan under the Chairmanship of Secretary (T), DoT. It was attended by the Member (T), Member (S), Member (F) and all the members of Oversight Committee and the Leads of all working groups. The Oversight Committee under India IPv6 Task Force was formed in December 2010 as apex body of the task force for timely implementation of IPv6 policy guidelines in the country.

2. The minutes of the meeting (DFA) are placed at ------. The important actionable points which emerged out from the discussions in meeting are as follows-

i.   TEC website to be updated on regular basis for all IPv6 related activities and a link of the same to be given in DoT website.

ii.   DIT to submit the firm proposals for ongoing pilot projects

iii.   A standing committee to be formed consisting of officers from DOT/ DIT and committee to meet on monthly basis.

iv.   All Nodes of NIXI to be upgraded and make IPv6 compliant earliest possible

v.   T**he global IPv6 summit in India** to focus on showcase and innovations in India in regard to products, applications and deployments. A proposal to be submitted by Application support group.

vi.   All service providers to share their IPv6 network information with TCL within 10 days time to enable them to prepare a Report.

vii.   In IPv6 awareness workshop of DoT being organized by BSNL, the speakers /Panelist from ISPAI & IAMAI to be included and target audience to be intimated by ISPAI & IAMAI. All 3 working groups to work in close coordination.

viii.   Nomination for Security working groups by Tata, Sify, ISPAI, COAI, BSNL, MTNL, C-DoT, TEC, Tech Mahindra etc. to be sent immediately.

ix.   DoT's Security wing to have specific case study for the security issues in IPv6.

x.   To focus on PR ship for wide publicity, updating national and international community.

xi.   IPv6 implementation with the service providers to be reviewed on monthly basis and a monthly electronic news report to be released.

xii. For up gradation from IPv4 to IPv6, the ISPAI raised that equipment venders are charging abnormal rates, TEC to come out with details and possible solution.

xiii. It is proposed to fund the rural based IPv6 pilot project through USO fund.

3. We may send these minutes to all members of Oversight Committee, Steering committee and Lead Organizations.

Accordingly DFA is submitted for approval, Please.

(N. Ram)
Director (NT)

DDG (NT)

Advisor (T)

Member (T)

Secretary(T)