

**4-3/2011-NT**

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

**Dated: 23rd January, 2012**

**Sub: Workshop for application and content migration to IPv6 held on 13<sup>th</sup> January, 2012- Minutes thereof.**

First workshop of the working group 7 under India IPV6 task force was held on 13<sup>th</sup> Jan 2012 in Sanchar Bhawan under the Chairmanship of Advisor (T), DoT. It was attended by the members of working group 7 and the representatives of around 30 organizations from various domains including, VAS, content and application providers, banking and aviation etc. Shri R.M. Agarwal, DDG (NT), DoT welcomed Advisor (T), and all other distinguished participants. He delivered the welcome address and started the proceedings with the brief introduction of the members.

2.0 Advisor (T) addressed the gathering and stressed the importance of transition from IPv4 to IPv6. He said that Service providers as well as Government organizations are being pursued for taking necessary actions. He said that this is the first workshop with Content and Application developers, however earlier 5-6 content providers have participated in the Major Service Providers meeting, but this is the special and first meeting for taking some decision. He said to the participants that the IPv6 standards have already been released by TEC and all concerned should benefit by using them. The same is available at TEC. He further said that as the usage of smart phones are there in the market, handset of which are V6 compliant and percentage increasing every day, further in mobile/ Broad band sector some of the CPEs are also Ipv6 ready and some of the websites are also available on IPv6. So now we should focus on utility services like Railway, Banks and other need to gear up, as content and application are very important parameter in this so we should decide to work on these as fast as we can and this meet is also in line with this need of Major Service Providers, Government Organizations and other vendors.

3.0 Dir (NT) Sh N Ram gave presentation to participants on the activity of DoT NT cell and the India IPv6 task force. He gave presentation about the progress of the Major Service Providers and Government Organization in this regards.

3.1 Working Group 7 Application Support Group introduced their team and Sh Avinash joshi of Tech Mahindra gave presentation on the strategy need to be adopted to move ahead for developing Application and Content accordingly. Tech Mahindra team members also gave presentation on application testing on

IPv6 conducted by Tech Mahindra and supported by DoT, ERNET and Airtel. During the presentation following queries were raised:

3.11 Participant from Air India asked whether some of the Government websites are available on IPv6. DDG (NT) said that NIC, ERNET and NKN websites are available on IPv6 and besides this many global websites are available on IPv6 for testing and other purpose. He also asked about the efficiency of NAT and its effect on customer experience and Mr Joshi from Tech Mahindra said that as like any additional component in network, NAT will introduce some delay.

3.12 Sh Manish Verma from Rediff asked what exactly mean by India6 network and Mr. Navin Dhar from TCL said that India6 network is not a separate network but it signifies that IPv6 connectivity is available across the country by one or another operator.

3.13 State bank of Patiala representative asked whether IPv6 compliant hardware is available in the market and how could he knows that it is compliant or not. DDG (NT) said that Government has already issued guidelines to all Government organization long back to procure future ICT Equipment only IPv6 compliant and these must be IPv6 ready LOGO certified. As TEC is setting up Test Bed for it very soon it will also be available in India to test the IPv6 readiness of the hardware as well as software. Participants also discussed issues related to Tunneling and dual stacking and they shared that dual stacking is emerging as a preferred option.

3.14 Participant from Niksun said that they are working with NTT Docomo and other players in Japan on IPv6 performance monitoring and security area and they are willing to work closely with working group 7 in this direction.

3.15 Tata Communications and Flipkart representatives said that the delay in NAT and ALG may also depend on the type of NAT (open source or licensed version). Issues related to Application level gateway, its need and its impact on performance was also discussed. Sh Amod Malviya from Flipkart mentioned that as on date most of the payment gateways are not IPv6-ready and expect an IPv4 address only. He also mentioned that Flipkart's own payment gateway is IPv6-ready. Additionally, Sh Malviya mentioned that it is still difficult to do peering in IPv6, inspite of service providers being ready. It was felt that at least basic services should start while the payment gateway issue is resolved.

3.16 Representative of Naukri also asked about compatibility of payment gateways. It was felt that a special discussion on ecommerce can be arranged to discuss this issue in detail.

4.0 After this discussion, the representatives of all the participating organizations was asked by DDG (NT) to discuss about their IPv6 migration plans:

4.1 Representative from Union Bank of India said that they have started migration to IPv6 and they plan to migrate at least one application by 31<sup>st</sup> March 2012. He also said that they are planning to migrate their internet banking website to IPv6. Representative from Union Bank also raised issues of VSAT that it is not compliant to IPv6.

4.2 Naukri representative said that they will start building IPv6 based applications but network should be compliant completely otherwise performance issue will come up. Representative from Naukri.com also said that their Data Centre is in US and there is no migration roadmap there, but they are doing testing in India.

4.3 Representative from Air India said that though they will discuss internally to migrate end user facing applications to IPv6 but some legacy applications could remain on IPv4. This would be based on cost benefit analysis. Air India's network group has recently got trained on IPv6 and they will come up with migration plan. Representative from Air India asked whether IPv6 addresses would be allocated geography wise, and what would be the role of MAC address. They were informed that there are three kind of IPv6 address

1. Link Local - Link Local address are formed by adding prefix of fe80::/64 to the [MAC address](#) of the interface.
2. Site Local – These are like IPv4 private address but they are deprecated now.
3. Global – Assigned by five RIR located in different geographies of the world.

Representative from Huawei said that their packet core, SGSN and GGSN are compliant, including MSC, Media Gateway, Firewall and IPRAN. When asked about RNC, Huawei representative said that he would need to check and get back.

4.4 Rediff said that Tata Comm's Data centre routers are not IPv6 ready though their NOC routers are ready. Mr Naveen Dhar informed that now their Data centre routers are also ready. Sh Manish Verma from Rediff mentioned that his organization started migration in March 2011, study was done. They faced some issues in DNS, auto assignment. The work is still on and all new future developments will be IPv6 compliant. The issue of MPLS and IPv6 was discussed and it was said that 6VPE is required for MPLS VPN on IPv6

4.5 Representative from State Bank of Travancore said that their migration depends on SBI policy. DDG (NT) said that representative from SBI should be

called for next meeting and SBT should finalise their plan in consultation with SBI.

4.6 Representative from GAIL said that they will discuss the issues raised in workshop with their management and will come up with the migration plan.

4.7 Representative from Kingfisher Airlines said that migration to IPv6 would depend on cost factors involved.

4.8 Representative from HDFC said that they will start assessment and as of now they do not have a plan in place but will plan in future for the same.

4.9 Representative from Percept Pictures said as of now they do not have migration plans in place.

4.10 Representative from State Bank of Patiala also said that their migration depends on SBI policy.

4.11 Handygo Technologies said they do not have migration plan as of now. But will do needful in this regard and inform accordingly.

4.12 Sh M. Prashanth from IMI Mobile said most of the users are on IPv6 now and they will plan as IPv6 user base will grow.

4.13 Sh Rohan Mitra from Yahoo said that they have been ready since 2 years, but business case is the driver for IPv6. Geo targeting, geo restriction and abuse prevention are some of the applications where IPv6 use has a very good business case.

5.0 Representative from Tech Mahindra's Sh Raj Sahakari gave presentation post lunch on IPv6 migration strategy. He discussed the same in detail.

5.1 Sh Manish Verma of Rediff gave a presentation on Rediff's experience in Application migration. He said that peer to peer communication will increase by IPv6. Some of the issues discussed were how to define PTR records. DNS Sec and anycast capabilities were also discussed.

5.2 DDG (NGN) said that TEC test bed will be ready by March and it will have remote testing capabilities also.

6.0 Advisor (T) and DDG (NT) finally requested to all the participants to complete the questionnaire send by NT cell and return the same at the earliest. Advisor (T) asked about status of location based services based on GPS in view of IPv6. Issues related to various platforms of GPS were discussed. He also said that DoT has shortlisted consultants for IPv6 consulting and migration work and

the banks and others can use their services as and when required. At last Sh. N Ram Director (NT) gave vote of thanks to all distinguished members for sparing their valuable time and making the discussions fruitful.

**(N. Ram)**  
Director (NT), DoT  
+91 9868811933  
dirnt-dot@nic.in

**Copy for Information to:**

1. Sr. PPS to Secretary (T), DoT.
2. Sr. PPS to Member (T), DoT.
3. Sr. PPs to Advisor (T), DoT.
4. Sr. DDG, TEC
5. All members of Oversight Committee.

**Copy for information and necessary action to:**

1. All members of Steering Committee
2. All Lead organizations
3. All Associations
4. All participants
5. Central and State Nodal Officers
6. All Service Providers.
7. Director (IT), DoT & Director (I), TEC to kindly upload the same on the respective website under IPv6 Activity link.

(This minutes as well as all other information are also available on [www.dot.gov.in](http://www.dot.gov.in) and [www.tec.gov.in](http://www.tec.gov.in) under IPv6 activity link).