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1. Executive Summary

In this report we are sharing the experiences and outcomes of the Internet Engineering Task Force (IETF) 96 meeting at Berlin, from July 17th to 22nd 2016 by our IIREF fellows Mr. S.V.R. Anand (Network Labs, ECE Department, and IISc) & Shri Lijo Thomas (Senior Engineer, CDAC Thiruvananthapuram). This report summarizes the major developments in IETF 96 and also his perceptions.

A noteworthy aspect of the IETF96 is the extent of interest shown by IETF in developing Internet standards for IoT. Which is also in line with the Smart City initiative taken up by our government. This is reflected in the number of WGs spanning across wide spectrum of areas including routing, internet, transport, application, security, that are working towards IoT standards. For instance, 6lo, roll, 6tisch, core, bier, cose, t2trg, and detnet are some of the working groups (WGs) to mention. A BOF on Low Power-WAN where representatives from NB-IoT, Lora, SIGFOX, WiSUN alliance made presentations to seek collaboration with IETF is one of the highlights of IETF this time.

There are several benefits and learnings that Mr. Anand and Shri Lijo Thomas gained from the visit which otherwise could not have been possible. In addition to the exposure to the way IETF meetings get conducted and the processes involved, it is the face-to-face meetings with the 6TiSCH members, Detnet/6TiSCH WG chairs, members from other WGs that were very useful. Such direct interactions help us in building rapport with them and provided opportunities for future collaboration.

2. MAJOR DISCUSSIONS IN DIFFERENT WORKING GROUPS

2.1 6lo WG meeting

There were more than eight drafts presented in this well gathered 6lo WG meeting. The main highlights include IPv6 support on Bluetooth Low Energy mesh networks, IPv6 on NFC, and compression schemes proposed by Pascal Thubert.

2.2 6TiSCH WG meeting

In this 6tisch meeting, there were presentations on the ongoing WG drafts. Xavi has presented his updated version of 6top protocol. Following this, Diego Dujovne described the new 01 version of his SF0 draft. There was a long debate on the SF0's cell allocation policy. Maria Rita Palatella has updated the group on the ETSI 6TiSCH plugtest results.

2.3 LP-WAN BOF

After the 6tisch meeting, BOF session on low power WAN. In this presence of packed audience, representatives from NB-IoT, Lora, WiSUN, SIGFOX alliances made presentations on the current status of their respective sub-GHz long distance technologies and solutions. They opened up a discussion on how IETF can make contributions in making IPv6 and higher layer stack available on their layer 2 stack. There was acceptance from the audience to start a new charter, lp-wan in IETF.



Figure 1: With 6TiSCH team members: From left, S.V.R.Anand, Satish Anamalamudi, Thomas Watteyne, Xavier Vilajosana and Lijo Thomas

2.4 ROLL WG meeting

The last session of the day was roll, Routing over Low power and Lossy networks ROLL WG.

The AODV-RPL draft which was co-authored by Mr. Anand with Satish and Charles Perkins has been presented by Charles. Immediately following the meeting, there was a discussion on the mailing list on the use of stored mode of RPL which is critical for the AODV-RPL draft.



Figure 2: IETF96 Indian community with Nalini Elkins

2.5 Interaction and future collaboration

There were numerous occasions to meet participants of different regions involved in different working groups with different levels of contribution to IETF activities. Here, Mr. Anand would like to share that one particular chance meeting with someone working in the area of LP-WAN has been very useful as it triggered mail

exchanges which can potentially result in future collaboration in IETF work in the newly created lp-wan WG.

3. IIREF fellowship

IREF is being carried out as a project by C-DAC (Center for Development of Advanced Computing), Bangalore, sponsored by the Internet Governance Division of Department of Electronics & Information Technology (DeitY), Ministry of Communications and IT, Government of India.

The fellowship applications for each IETF meeting was called through the IIREF portal and the received applications were sent to MeitY constituted committee for selection of candidates for the fellowship. IIREF provides fellowship to attend IETF events. IIREF invites applications from qualified internet professionals from Academia, Industries, and Research labs for participation in upcoming IETF Events.

4. Acknowledgement

We would like to thank Internet Governance Division, Ministry of Electronics and Information Technology (MietY), Government of India for supporting the IIREF fellowship to participate in IETF96 meeting.