

# Minutes of PRSG Meeting held on 24<sup>th</sup> August 2013 at IIT Madras

**Title of the project:** Village Communication Network by Rural Internet Service Provider leveraging on Fibre to the Village

**Date:** 24/08/2013  
**Time:** 15.00 – 15.30  
**Venue:** IC&SR, IIT Madras

## **Committee Members:**

Timothy A Gonsalves, IIT Mandi  
Uday B Desai, IIT Hyderabad (co-opted)<sup>1</sup>  
Rajat Moona (through Video Conference), C- DAC, Pune  
G. Venkatesh (through Video Conference), IIT Madras and Sasken

## **Project Coordinator:**

Ashok Jhunjhunwala, IIT Madras  
Bhaskaran Raman, IITB  
Abhay Karandikhar, IIT B

## **Project Staff:**

Jyothi Purohit ,TCoE, IITM

## **I. Presentation**

Understanding the provision of broadband connectivity to a rural area based on low cost WiFi platforms to make a wireless mesh with TDMA protocol using existing WiFi integrated chips. The TDMA based approach is adopted as it helps optimise bandwidth usage and guarantees QOS (quality of service) for high speed data delivery.

- Abhay Karandikar and Bhaskaran Raman of IIT Bombay presented the project status on the broadband access provision based on low cost WiFi hardware, Wi Fi PHY based link, Multi-hop mesh network running TDMA-based LiT MAC
- Further discussions also reviewed the advantages of setting up wifi over general running cables; the installed performance evaluation setup and the results of testing this set up on versions of Aakash 1, 2 and 3.
- It was also noted that Mesh network coverage required is for 2-3 km in a village
- Hardware being used (Ubiquity Bullet) is cost effective and can be deployed outdoor.
- The presentation has been attached for reference.

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<sup>1</sup> In view of his relevant expertise, Prof. Uday B. Desai (Director, IIT-Hyderabad and Professor, Electrical Engg) was co-opted.

- **Accounts of the current usage of funds were presented.**

**For IITM:**

Out of the total funds of Rs 1 Crore sanctioned, a mobilisation advance of Rs 30 Lakhs was obtained and a sum of Rs. 22.34 Lakhs (including commitments in August and expenditure till July 2013) has been spent. The project is awaiting the further release of funds.

**For IITB:**

Out of the total funds of Rs 1 Crore sanctioned, a mobilisation advance of Rs 30 Lakhs was obtained and a sum of Rs. 34.84 Lakhs (including commitments and expenditure till July 2013) has been spent. The project is awaiting the further release of funds.

## **II. Discussions**

- It was noted that, 20MHz bandwidth channel gives 4.5 Mbps throughput, which indicates very poor utilization of the spectrum.
- Dr. Uday Desai suggested to get user feedback of browsing/video streaming experience with 10 to 15 users since the current throughput is not adequate for these applications.
- Dr. Rajat Moona commented that the percentage of the fund utilized is very less.
- As far as the connectivity provision is concerned it was brought out that more ground level information is to be made available and conducting evaluations of usage and efficiency must be considered.

## **III. Recommendations**

The committee felt that the project has to sharpen its objectives. The performance of TDMA based LitMAC needs to be compared with that of WIFI alone. The committee also recommended that the pace of the work has to be increased. A release of Rs 50 lakhs has been recommended for IITB in this regard. Since there is a funds balance further release of funds was not recommended for IITM.

– signed –  
Prof. T.A. Gonsalves  
Chair, PRSG  
10/9/2013