



International Civil Aviation Organization

**EIGHTEENTH MEETING OF THE
COMMUNICATIONS/NAVIGATION/SURVEILLANCE
SUB-GROUP (CNS SG/18) OF APANPIRG**

Beijing , China, 21 – 25 July 2014

Agenda Item 4: Aeronautical Fixed Service (AFS)

4.2) Review and adoption of the Pan Regional AIDC ICD and other AFS related issues

**IP-VPN GROUND/GROUND COMMUNICATION NETWORK
USING COMMERCIALY AVAILABLE MPLS NETWORK**

(Presented by India)

SUMMARY

This paper summarizes the Indian plans for introducing IP-VPN ground/ground communication network using commercially available MPLS network

1. INTRODUCTION

1.1 Air Traffic Management (ATM) extensively and increasingly depends on the availability of real-time or near real-time, accurate, relevant and quality information to make timely decisions.

1.2 ICAO “Global Plan Initiatives-22” (GPI-22) under Global Air Navigation Plan (Doc 9750) envisions and supports for a wholly dependable and reliable communications infrastructure to support such a dynamic ATM communications. With Global Air Navigation Plan (GANP 4th edition) , such initiative will support the technological roadmap, facilitation in turn B0- FICE and B0-NOPS and enabling VOIP and B1-SWIM.

1.3 In order to align with this Global Plan Initiative, India has plans to introduce a single, secure and robust ground/ground communications network infrastructure based on IP-VPN using commercially available MPLS based network.

2. DISCUSSION

2.1 To accommodate the growing ATM demands, the aeronautical communication network infrastructure, in which all stakeholders can seamlessly participate, is essential for appropriate aeronautical data/information collection and exchange

2.2 This strategic framework planned by India is aimed at taking advantage of advanced technologies, services and products offered by the telecommunication industry.

2.3 The proposed communication network infrastructure will help to overcome the current limitations viz. limited bandwidth, multiple and fragmented networks, heterogeneity of equipment's and service providers, security threats, different technologies, half circuit arrangements & lackadaisical support etc. will provide a cost-effective, efficient and secure infrastructure for the deployment of emerging ATM applications.

2.4 The proposed Pan-India MPLS network will provide enhanced efficiency and capacity to support various communication and surveillance services to meet increasing ATM requirements.

2.5 The MPLS network will provide a robust cloud on which communication services shall be provided using IP based VCCS and IP Radio and surveillance services shall be provided by RADAR, MSSR, Multilateration and ADS_B. The IP network shall enable Indian airspace to function as a seamless space continuum to facilitate effective and efficient air traffic services. The network shall also facilitate effective restructuring of airspace by enabling reduction of ACCs from 11 to initially 4 and finally 2 within India.

2.6 As part of basic architecture the network will have its own NOCC and SOCC for efficient control and maintenance.

2.7 The proposed common IP-MPLS based pan- India network is expected to facilitate easy integration with the planned CRV network dedicated to the Asia-Pacific Region.

2.8 The overall objective is aimed at efficient communication network infrastructure for providing the desired services with the performance and interoperability required for aviation safety levels at a minimum cost.

2.9 The tendering action for the proposed network has been initiated and the network is likely to be in place in phased manner.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the proposed IP-VPN communication infrastructure network based on MPLS network planned by India.
