INTERNATIONAL CIVIL AVIATION ORGANIZATION

Sixth Meeting of the APIRG Communications Sub-group
Nairobi, 24-26 September 2002

Agenda Item 4: Aeronautical fixed services

CAFSAT two hop link test on voice communication

(Presented by Spain)

Summary

Information on CAFSAT two hop link test on voice communication

1.Introduction

Realising the growing dependence on the new technologies , the concept of "Network interoperability" will have, or already have, an important role in the future of Aeronautical Community. The fact of connecting two nodes from different networks will have to be achieved in line to this concept .

To be realistic , and an example of what is happening , we have noticed that the interest shown by some states to join the "CAFSAT Network" just freeze at the moment they realise that a switch to another network will be needed to implement a point to point "voice requirements" .... in fact , it is not a usual practise taking into account the two satellite hops communication when a voice link is under study.

But depending on the scenario we have to face , and on the real requirements we have to implement, this configuration may appear as a safe and cheap solution.

Focusing on three main factors , operative, technical and cost/benefit, we may imagine , for a low operative demand voice channel, a high technical performance circuit, with a high cost/benefit ratio (and, of course, with a proper and pay per demand backup system).

2. The test

In last SAT10 held in Dakar , Spain and Brasil agreed to collaborate together to carry out a test to achieve the quality of service to be met on a two hop VSAT voice communication. Although it was not possible to count with the participation of Brasil (the installation and configuration of Recife CAFSAT Node was on the way) Spain, in the interest of the SAT group, with the collaboration of Cape Verde, carried out the demanded test.

The CAFSAT technical voice channel that links Las Palmas ACC and SAL was used to perform the test. The signal was uplinked on a loop in Las Palmas Node before transmitting to Cape Verde (Sal) , so a real two hop voice communication link was "on the air" . The delay introduced on both cases was measured , although the most important conclusion was to realise that a clear voice communication was achieved .

One hop delay on voice 387 msec **Two hop delay on voice 677 msec**

3. Action by the meeting

The meeting is invited to note the information provided in this paper.