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**International Civil Aviation Organization
South American Regional Office**

**THIRD WORKSHOP/MEETING OF THE SAM IMPLEMENTATION GROUP (SAM IG/3)
REGIONAL PROJECT RLA/06/901**

Lima, Peru, 20 to 24 April 2009

Agenda Item 6: Assessment of operational requirements in order to determine the implementation of communications and surveillance (CNS) capabilities improvement for en-route and terminal area operations

ATN REGIONAL IMPLEMENTATION AND APPLICATIONS RATING OVER IT

(Presented by Argentina)

SUMMARY

This working paper presents information over the ATN implantation activities and their applications in SAM Region.

References:

- CAR/SAM Regional air navigation plan, Doc. 8733;
- Amendment 83 to Annex 10, Volume III;
- ATN/TF/3 Meeting Report;
- ATM/CNS/SG/6 Meeting Report
- GREPECAS/15 Meeting Report;
- SAM/IG/2 Report; and
- REDDIG RCC/12 Report.

1. Background

1.1 In order to not repeat information and conclusions contained and sufficiently indicated in the mentioned references, in which to SAM Region it is incumbent on, and in which to the CNS implementation activities corresponds, these last can be resumed as follow:

- a) Establishment of the intra-regional ATN.
- b) IPv6 address for connections between different regions.
- c) Establishment of national or local AMHS systems.
- d) Pre operational AMHS Tests between States, inside and outside the region, using the available networks.
- e) Establishment of the regional AMHS addressing Plan.

- f) Pre operational OLDI and AIDC tests in those States that have this application.
- g) Pre operational voice over IP tests.
- h) Radar data transmission over ATN.

1.2 Analyzing each activity carried out, we observed that:

1.2.1 *Intra-regional ATN*: it has begun to be established between some States, being used the Plan of adopted private IPv4 Address, the one that is transformed as follows:

IP Direction: YYYYY.YYYYYZZZZ.ZZZZZZZZ
Sub mask: 255.255.240.0

where:

X= Region (16 allowed regions)
Y= States/Territories (256 States/allowed Territories)
Z= host (4096 hosts allowed)

To date, satisfactory tests have taken place between Ezeiza/Asuncion, Ezeiza/Lima and Ezeiza /Manaos.

1.2.2 *IPv6 address*: at the moment the necessary coordinations are being done to carry out the first tests between Ezeiza and Madrid.

1.2.3 *AMHS systems Establishment*: in SAM Region are operational the national systems of Argentina and Paraguay, the partially nationally in Peru and locally in Ecuador. Other States have informed the imminence of new facilities installation.

1.2.4 *Pre operational AMHS Tests between States*: the status at this moment is the following one:

- a) Argentina - Paraguay (via REDDIG): successfully carried out the first run of tests, now we are coordinating to carry out a new series of operational tests.
- b) Argentina - Peru (via REDDIG): we are looking for a probable execution date.
- c) Argentina - Brazil/Manaos (via REDDIG): idem previous.
- d) Argentina - Spain/AENA (via CAFSAT): idem previous, using IPv6 (for it, AENA will temporarily assign some of their addresses), probable tests date: May 2009.

1.2.5 *AMHS Regional addressing plan*: According to the coordination that the CNS Section and the ICAO Regional Offices maintain, the parts of the preliminary plan of world-wide address AMHS corresponding to each Region will be updated by the corresponding Regional Office; consequently, the SAM Office will update the parts corresponding to its respective Region. Later, ICAO will publish the AMHS global addressing plan.

1.2.6 *OLDI and AIDC Tests*: between last 09 to 20 of March, AIDC pre operational tests (based on AMHS) were carried out in Argentina between the Ezeiza's ACC and Cordoba's ACC, which were highly satisfactory. To date, we are working in the necessary agreements to turn this application into operational. On the other hand, in the knowledge that Uruguay and Chile count (or will count) with OLDI facility systems, we hope that these States confirm the availability of their systems to initiate the corresponding pre operational tests.

1.2.7 *Voice over IP (via REDDIG)*: according to that informed by Brazil during REDDIG RCC/12, the tests carried out between Ezeiza, Manaus and Curitiba (using simple and double satellite jump, as corresponds) demonstrate that the use of VoIP in the REDDIG is possible.

1.2.8 *Radar data over the ATN*: although to date radar information tests exchange over the ATN between States does not exist (it exists operational interchange by conventional way), we presume it interesting to inform to the meeting that in Argentina, in Ezeiza's FIR in particular, the information generated by three new operational secondary radars (located in Neuquen, Santa Rosa and Quilmes) is entered as IP to the national ATN and obtained and displayed at the ACC Ezeiza area control operators. Also, although the new radar of Cordoba (FIR and ACC Cordoba) is not yet operational, IP information generated by the same is routed by the ATN and it is received in the Ezeiza's ACC simulator.

2. **Discussion**

2.1 The information until here presented clearly indicates the benefits that the implementation of the regional ATN and the emergent applications of CNS/ATM concept entail.

2.2 In that order, and to accelerate these CNS implementations, our Administration understands that the States, in the measurement that is possible:

- a) would have to advance in the construction of their national ATN IP.
- b) if it is not possible, to at least install its border router to support IPv6, following the established IP address plan, so the SAM ATN begins to take real form.
- c) To install AMHS systems.
- d) Where one State has an AMHS system, to carry out pre operational tests with adjacent States, whereas those that already did them, pass to the operational phase.
- e) To carry out OLDI and/or AIDC tests where these applications are available.
- f) To advance in the communications tests of IP voice between the different States.

3. **Suggested action**

3.1 The Meeting is invited to

- a) take note from the information presented in this working paper.
- b) set out its points of view with respect to matters raised here.

- c) recommend any consequential action.
- d) if it corresponds, to insist to their respective authorities to carry out the activities here indicated.

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