



MR/8

INTERNATIONAL CIVIL AVIATION ORGANIZATION

**EIGHTH MEVA II / REDDIG
COORDINATION MEETING**

(MR/8)

FINAL REPORT

Lima, Peru, 17 to 18 May 2010

INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE EIGHTH MEVA II / REDDIG COORDINATION MEETING

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INDEX

Contents	Page
Index	i-1
Historical	ii-1
ii.1 Duration and Site of the Meeting	ii-1
ii.2 Opening Ceremony	ii-1
ii.3 Organization, Officers and Secretariat	ii-1
ii.4 Working Languages	ii-1
ii.5 Agenda	ii-1
ii.6 Schedule and Work Mode	ii-1
ii.7 Attendance	ii-2
ii.8 Conclusions	ii-2
ii.9 List of Working Papers, Presentations and Information Papers	ii-2
List of Participants	iii-1
List of Participants – General Information	iv-1
Report on Agenda Item 1	
Performance of MEVA II and REDDIG networks	1-1
Report on Agenda Item 2	
Analysis to the performance of the MEVA II/ REDDIG interconnection	2-1
Report on Agenda Item 3	
Follow-up to the implementation of future requirements/services regarding MEVA II / REDDIG interconnection	3-1
Report on Agenda Item 4	
Follow up to the integration of MEVA II and REDDIG networks	4-1
Report on Agenda Item 5	
Other matters	5-1

HISTORICAL

ii.1 **Duration and Site of the Meeting**

The Eighth MEVA II / REDDIG Coordination Meeting (MR/8) was held at the Centro de Instrucción de Aviación Civil (CIAC) (Civil Aviation Training Centre) of the Corporación Peruana de Aviación Comercial S.A. (CORPAC), in Lima, Peru, from 17 to 18 May 2010.

ii.2 **Opening Ceremony**

Mr. Onofrio Smarrelli, RO/CNS of the ICAO South American Office, gave the opening remarks for the Meeting and welcomed the participants; he emphasized the works and agreements reached in order to achieve the MEVA II / REDDIG regional networks interconnection.

ii.3 **Organization, Officers and Secretariat**

Mrs. Dulce Roses from the United States acted as Chairperson; Mr. Onofrio Smarrelli, Regional Officer for Communications, Navigation and Surveillance from the ICAO SAM Regional Office acted as Secretary with the assistance of Mr. Julio César Siu, Regional Officer for Communications, Navigation and Surveillance from the ICAO NACC Regional Office, and Mr. Luis Alejos, REDDIG Administrator.

ii.4 **Working Languages**

The working languages of the Meeting were Spanish and English. The documentation and the Report of the Meeting were available to participants in both languages.

ii.5 **Agenda**

- Agenda Item 1: Performance of MEVA II and REDDIG networks
- Agenda Item 2: Analysis to the performance of the MEVA II/ REDDIG interconnection
- Agenda Item 3: Follow-up to the implementation of future requirements/services regarding MEVA II / REDDIG interconnection
- Agenda Item 4: Follow up to the integration of MEVA II and REDDIG networks
- Agenda Item 5: Other matters

ii.6 **Schedule and Work Mode**

The Meeting agreed to hold its sessions from 09:00 to 15:00 hours, with adequate breaks. The Meeting also agreed to work in plenary.

ii.7 Attendance

The Meeting was attended by 25 participants from 12 States/Territories, and one International Organization Members of the MEVA II and REDDIG VSAT networks. The MEVA II Service Provider and the REDDIG Administrator also attended the Meeting. A list of participants is shown in pages iii-1 and iv-1.

ii.8 Conclusions

Number	Title	Page
8/1	Implementation of activities pending in the MEVA II / REDDIG interconnection	2-4
8/2	Analysis to operational requirements on the basis of future requirements and services in the MEVA II / REDDIG interconnection	3-2

ii.9 List of Working Papers, Presentations and Information Papers

Working Papers/Presentations

Number	Agenda Item	Title	Presented by
WP/01	--	Proposal on the Agenda, Explanatory Notes, Modality, Working Methods, Organization and Schedule	Secretariat
WP/02	1	Performance of MEVA II and REDDIG networks. MEVA II NETWORK PERFORMANCE	Secretariat
WP/03	1	Performance of MEVA II and REDDIG networks. REDDIG PERFORMANCE SINCE LAST MEVA II / REDDIG COORDINATION MEETING	Secretariat
WP/04	2	Analysis to the performance of the MEVA II/ REDDIG interconnection. FOLLOW-UP TO MEVA II / REDDIG INTERCONNECTION ACTIVITIES	Secretariat
WP/05	2	Analysis to the performance of the MEVA II/ REDDIG interconnection (Power Point Presentation)	SES World Skies
WP/06	3	Follow-up to the implementation of future requirements/services regarding MEVA II / REDDIG interconnection. FOLLOW-UP TO THE IMPLEMENTATION OF NEW SERVICES REGARDING MEVA II / REDDIG INTERCONNECTION AND TO THE STUDY ON REGIONAL NETWORKS OPTIMIZATION IN TERMS OF BAND WIDTH AND EQUIPMENT	Secretariat
WP/07	4	Follow up to the integration of MEVA II and REDDIG networks. FOLLOW-UP TO THE STUDY OF THE REDDIG ADMINISTRATION ON MEVA II / REDDIG INTEGRATION	Secretariat
WP/08	4	Agenda Item 4: Follow up to the integration of MEVA II and REDDIG networks. ANALYSIS AND PROPOSED ACTION PLAN FOR THE INTEGRATION OF THE MEVA II/REDDIG NETWORKS	MEVA TMG
WP/09	3	Follow-up to the implementation of future requirements/services regarding MEVA II / REDDIG interconnection. EVALUATION ON THE PROPOSED MR/07 FUTURE REQUIREMENTS/SERVICES REGARDING THE MEVA II/REDDIG INTERCONNECTION	MEVA TMG

Information Papers

Number	Agenda Item	Title	Presented by
IP/01	--	General Information	Secretariat
IP/02	--	List of Working and Information Papers	Secretariat
IP/03	5	World Area Forecast System (WAFS) Internet File Service (WIFS)	USA

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Agenda Item 1: Performance of MEVA II and REDDIG networks*Performance of the MEVA II Network*

1.1 The Meeting took note, upon reviewing WP/02, that the MEVA VSAT Telecommunication Network was implemented in 1996, as a regional collaboration project among the States and Territories in the Central Caribbean, with the goal of providing AFS voice and data communications between its members. It was also noted the modernization of the MEVA network since November 2006 and that up to date, the MEVA II network service has satisfied the agreed service levels and requirements as established in the MEVA II Service Level of Agreement (SLA), and maintained an overall 99.9% of availability in most of the MEVA nodes.

1.2 In addition, the Meeting was informed on the results of the MEVA TMG/21 meeting held in the ICAO NACC Regional Office from 19 to 20 April 2010, highlighting the following:

- a) based on the 2009 failure report the major failure reports were related with the equipment, and, under the equipment, MEMOTEC is the one generating the most failures;
- b) the increase in bandwidth use;
- c) meeting the required availability of 99.9% in 2009, and in the first quarter of 2010;
- d) completion of preventive maintenance visits for 2009;
- e) installation of MEVA II / REDDIG interconnection sites;
- f) network availability improvement;
- g) less number of failures;
- h) availability of information through the new MEVA II website;
- i) verification of the satisfaction of operational requirements existing in the Air Navigation Plan (Doc 8733); and
- j) use of the MEVA II network in the achievement of the performance objectives established in the NAM/CAR RPBANIP.

1.3 Regarding technical improvements in MEVA II network, the following was commented:

- a) The new MEVA Network Operation Centre (NOC) services, English and Spanish, will be provided by Harris Corporation from their NOC located in Melbourne, Florida, United States;
- b) The adoption of MEVA II technical contingency procedures;
- c) The agreements on the operation of the Memotec 960e:
 - Continuing with the use of Memotec equipment since the MEMOTEC manufacturer has committed that service support will continue to be provided. Memotec projects that July 2015 will be the end-of-service date for the MEMOTEC Multiplexor model 960e.
 - Extension of the service agreement with MEMOTEC for trouble solving and support.
 - Purchasing of enough equipment parts for all current MEVA stations and new nodes to be implemented (three nodes).
 - Availability of enough spares parts to support the operation of the network for at least two years.

- Evaluation of possible replacement for MEMOTEC 960e is an ongoing task.
- d) The agreements reached for the ViaSat equipment – Linkway modem:
 - The equipment will not be replaced as long as the Linkway manufacturer, ViaSat, continues providing support. The ViaSat end-of-service date for the Linkway is still to be determined by ViaSat.
 - The purchase of enough parts, similarly to the MEMOTEC parts situation, to provide support and expansion for at least two years.
 - States that purchased spare parts can replace the existing equipment by sending it back to them for repair.
 - Currently there are enough spares parts to support the operation of the network for at least two years.

1.4 The Meeting was informed on the activities carried out in the satellite transition from IS-1R to IS-14, as well as of the availability of the MEVA II network Web site (www.mevaii.net), its contents, and on the inclusion of the following information, as it becomes available:

- a) up-to-date information on the availability of enough spare parts of the Central spare pool (including the MEMOTEC and Linkway equipment); and
- b) trial results being conducted by MEVA Service Provider on MEMOTEC potential equipment replacement and any relevant news regarding the equipment replacements and manufacturing issues.

1.5 The Meeting noted on the expansion of the MEVA network, with the new nodes required and the increase in bandwidth demand to satisfy the operational services as well as the planning for the AMHS trials:

- a) new node implementation in Atlanta, USA collocated with the KATL center;
- b) new node in Cap-Haitien, Haiti;
- c) third shout down line between Havana and Miami;
- d) new voice and data circuits in Port-of-Prince MEVA node;
- e) radar/surveillance data circuit implementation in Cuba, Jamaica, Haiti, Dominican Republic and COCESNA MEVA nodes for sharing/exchange of information; and
- f) voice and radar data circuit requirement for Dominican Republic and Netherland Antilles MEVA nodes.

Performance of REDDIG since the last MR/7 coordination meeting

1.6 The Meeting was informed that REDDIG presents a 99.99% availability since its start-up, at the end of 2003. In this respect, **Appendix A** to this part of the Report presents a chart with statistics on the network's availability from 2004 to April 2010.

1.7 The Meeting took note of the main activities carried out since the last coordination meeting, MR/7, towards keeping REDDIG in its current quality of service and network availability levels, such as:

- a) Optimisation of the Memotec FRAD equipment, purchasing of spare parts for the Viasat Linkway Modem and upgrading of NCC SUN servers;
- b) REDDIG NCC and Management Centre operation alternation;

- c) Logistics and spare parts management;
- d) Migration to IS-14 satellite;
- e) Implementation of new services; and
- f) Study on bandwidth increase.

Optimisation of the Memotec FRAD equipment, purchasing of spare parts for the Viasat Linkway Modem and upgrading of NCC SUN servers

Optimisation of Memotec FRAD equipment

1.8 Since the manufacturing of the Memotec FRAD equipment, presently operating on the REDDIG, are no longer manufactured since 31 July 2009, the Meeting was informed that the REDDIG Administration had prepared a plan for the optimisation of the REDDIG FRAD equipment in stations where this is applicable, which consist in using only one FRAD MPS equipment instead of the two FRAD MUX+MPS, and keeping all services offered in the stations.

1.9 After carrying out an analysis, the stations that can be optimized are:

SBCT – Curitiba, Brazil
SBRF – Recife, Brazil
SCEL – Santiago, Chile
SGAS – Asuncion, Paraguay
SLLP – La Paz, Bolivia
SOCA – Cayenne, French Guyana
SMPB – Paramaribo, Suriname
SYGC – Georgetown, Guyana
TTZP – Piarco, Trinidad and Tobago

1.10 The Meeting was informed that, to date, the optimization of the FRAD equipment has been carried out at the following stations:

SBRF – Recife, Brazil
SGAS – Asuncion, Paraguay
SMPM – Paramaribo, Suriname
SYGC – Georgetown, Guyana
SOCA – Cayenne, French Guiana

In 2010, optimization to the remaining four stations would be completed.

1.11 The Meeting was informed that, from a global point of view, this optimisation to the FRAD equipment would yield eighteen (18) basic CX-950 units, each consisting of a motherboard, a power supply and a ringing generator, some of which, subject to administrative arrangements, could be used as spare parts for any of the stations

Upgrading of the NCC SUN servers

1.12 The Meeting was informed that in late 2008, the REDDIG Administration coordinated with the technical areas of the Argentine and Brazilian Administrations to determine whether or not it was possible to obtain SUN equipment as a loan, with a better hardware version than that of the Ultra5 equipment, for use as NCC servers.

1.13 Both Argentina and Brazil answered promptly and positively and made the corresponding internal coordination. Each Administration has made available to the REDDIG one (1) SunBlade 150 unit on loan. The REDDIG Administration fully installed the Unix SUN Solaris8 operating system on both units, in Manaus and Ezeiza, and the LINKWAY NCC application.

1.14 The Meeting was informed that since 27 April 2009 the Sunblade 150 equipment currently in Manaus is satisfactorily operating as an NCC, with the SunBlade 100 equipment serving as hot stand-by. The SunBlade 150 located in Ezeiza first needs to be tested off-line and then commissioned as NCC in 2010, when the Management Centre is temporarily moved to Ezeiza.

REDDIG NCC and Management Centre operation alternation

1.15 The Meeting took note that in February 2009, due to a failure in the Manaus external watch subsystem (GPS time base reference), the Ezeiza, Argentina NCC became operational (SUN equipment). The Ezeiza NCC was kept operational for eleven (11) weeks, working satisfactorily until the end of April, when the Manaus NCC (SUN equipment) became again operational. During the time which the Ezeiza NCC was operating, the Management Centre was kept in Manaus providing attention to calls, specialized network support, logistics and network management.

Logistics and spare part management

1.16 The Meeting was informed that in 2009, twenty-four logistics operations were conducted. **Appendix B** presents a summary of equipment and part failures and statistics for 2009 on the numbers of the main repairs of network nodes as well as their distribution in terms of type of equipment requiring the service.

1.17 An aspect highlighted during the Meeting was that the level of failure diagnosis available to the REDDIG Administration has permitted the identification of a failure, when this happens, in one of the power supply sources of the Linkway2100 MODEM equipment. Accordingly, units from that power supply were purchased as a preventive measure, and the broken equipment could be quickly repaired and put back into operation, thus attaining significant savings, since there was no need to send the whole equipment to the manufacturer for this type of repair.

Migration to IS-14 satellite

1.18 The Meeting was informed that on 15 December at 06:45 UTC, Intelsat migrated to the IS-14 satellite. The migration was carried out with no inconveniences at the REDDIG nodes, being the operation transparent for REDDIG. The transponder of the IS-14 satellite in which REDDIG operates is the A28CV/A28CV with AMCV/AMCV beam and V/V polarization.

Implementation of new services

1.19 The Meeting took note that the following services and circuits were implemented since the last MR/7 coordination meeting:

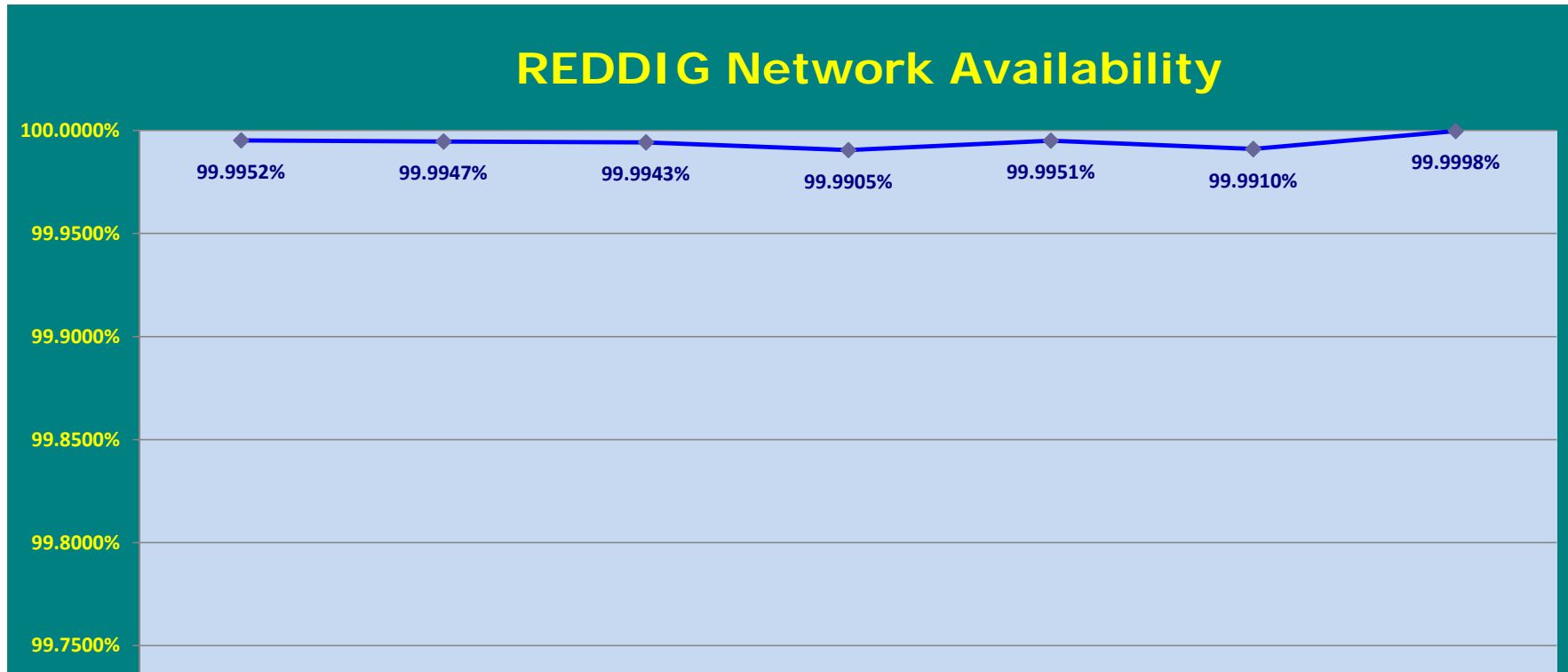
- a) Implementation of the backup network, , via international ISDN circuit, for the Piarco, Trinidad & Tobago;
- b) Implementation of permanent virtual circuits (PVC) between Argentina-Brazil, Argentina-Paraguay, Argentina-Peru, Colombia-Peru and Chile-Peru for the interconnection of AMHS systems;

- c) Implementation of a PVC circuit between Argentina (Quilmes) and Uruguay (Durazno) for the exchange of radar data. To date, radar information from Quilmes is available at the Montevideo ACC.

Study on the increase of bandwidth

1.20 The Meeting was informed that, since the study on REDDIG bandwidth requirements has not been completed, the REDDIG members approved, in the last meeting of the REDDIG Committee Coordination Meeting (RCC/13), a budgetary prevision to increase the current carrier's bandwidth from 0.625 Msym/sec to 1.25 Msym/sec., to count with three 1.25 Msym/sec carriers. The final study on bandwidth requirements is scheduled to be ready by the end of 2010.

APPENDIX A / APENDICE A



APPENDIX B / APENDICE B

SUMMARY OF EQUIPMENT AND SPARE PARTS FAILURES AND ATTENTION TO NODES

**RESUMEN DE AVERÍAS DE EQUIPOS Y PARTES Y ATENCION A LOS NODOS
EQUIPMENT AND SPARE PARTS FAILURES / AVERIAS DE EQUIPOS Y PARTE**

FRAD ***Manufatcurer/Fábrica: Memotec***

- | | | |
|-----|---------------------|--------------------------------|
| (1) | Power Supply Module | : (1) SLLP |
| (4) | Universal I/O Card | : (1) SAEZ, (2) SBMN, (1) SKED |
| (2) | Motherboard CX950 | : (1) SGAS, (1) SAEZ |
| (1) | E&M SLIM Card | : (1) SVMI |
| (3) | FXS SLIM Card | : (3) SYGC |
| (1) | DAV Card | : (1) SBRF |
| (4) | Internal Fan | : (2) SBMN, (2) SAEZ |

MODEM ***Manufacturer/Fábrica: ViaSat***

- | | | |
|------|------------------|--|
| (13) | Quad Output P.S. | : (2) SPIM, (2) SEGU, (3) SKED, (2) SCEL, (1) SBRF
(1) SGAS, (1) SOCA, (1) SVMI |
| (1) | Terminal LW2100 | : (1) SUMU |

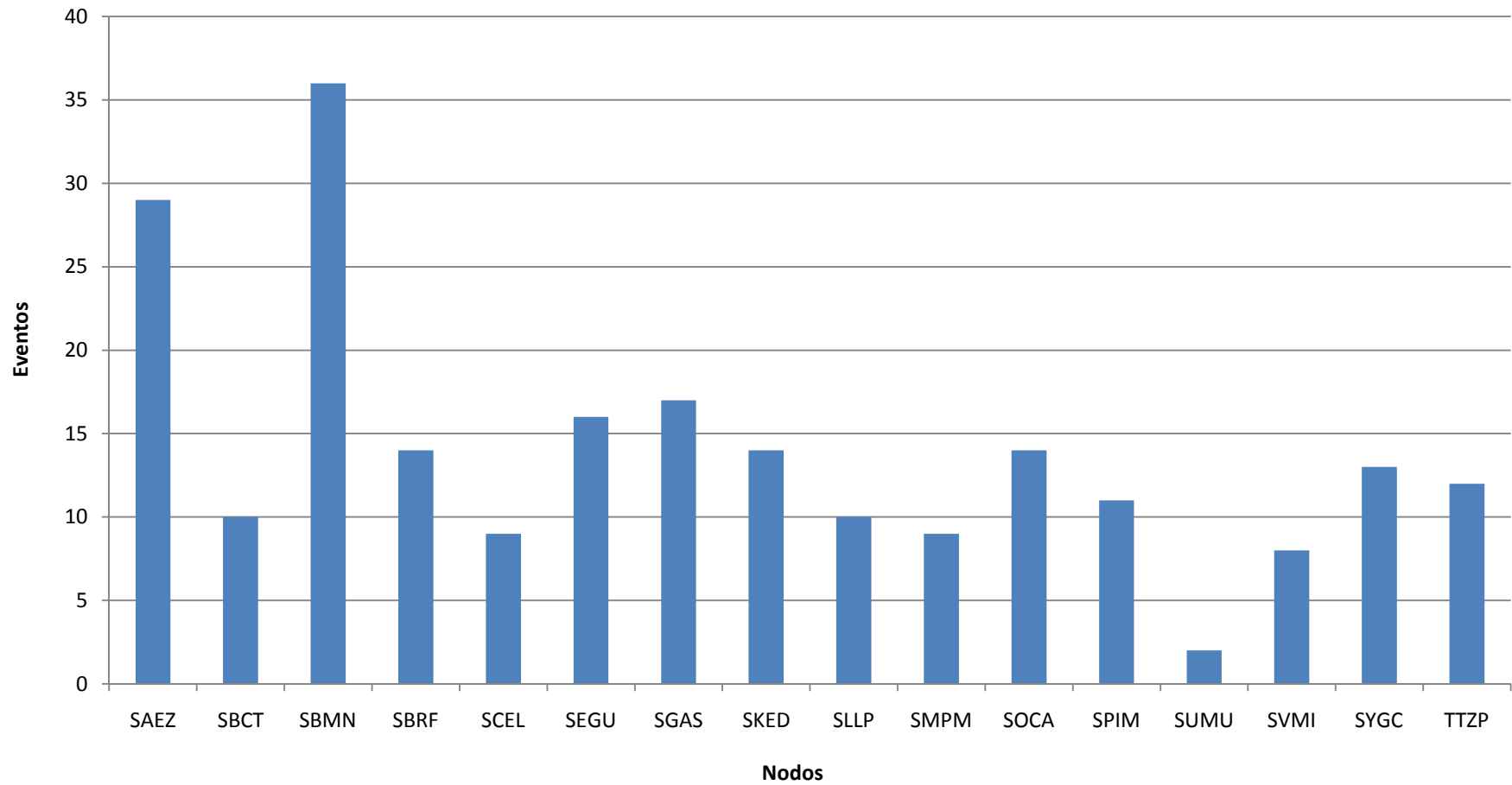
SSPA ***Manufacturer/Fábrica: Paradise Datacom***

- | | | |
|-----|----------|--------------------|
| (2) | SSPA M&C | : (1) SBMN (1) ADM |
|-----|----------|--------------------|

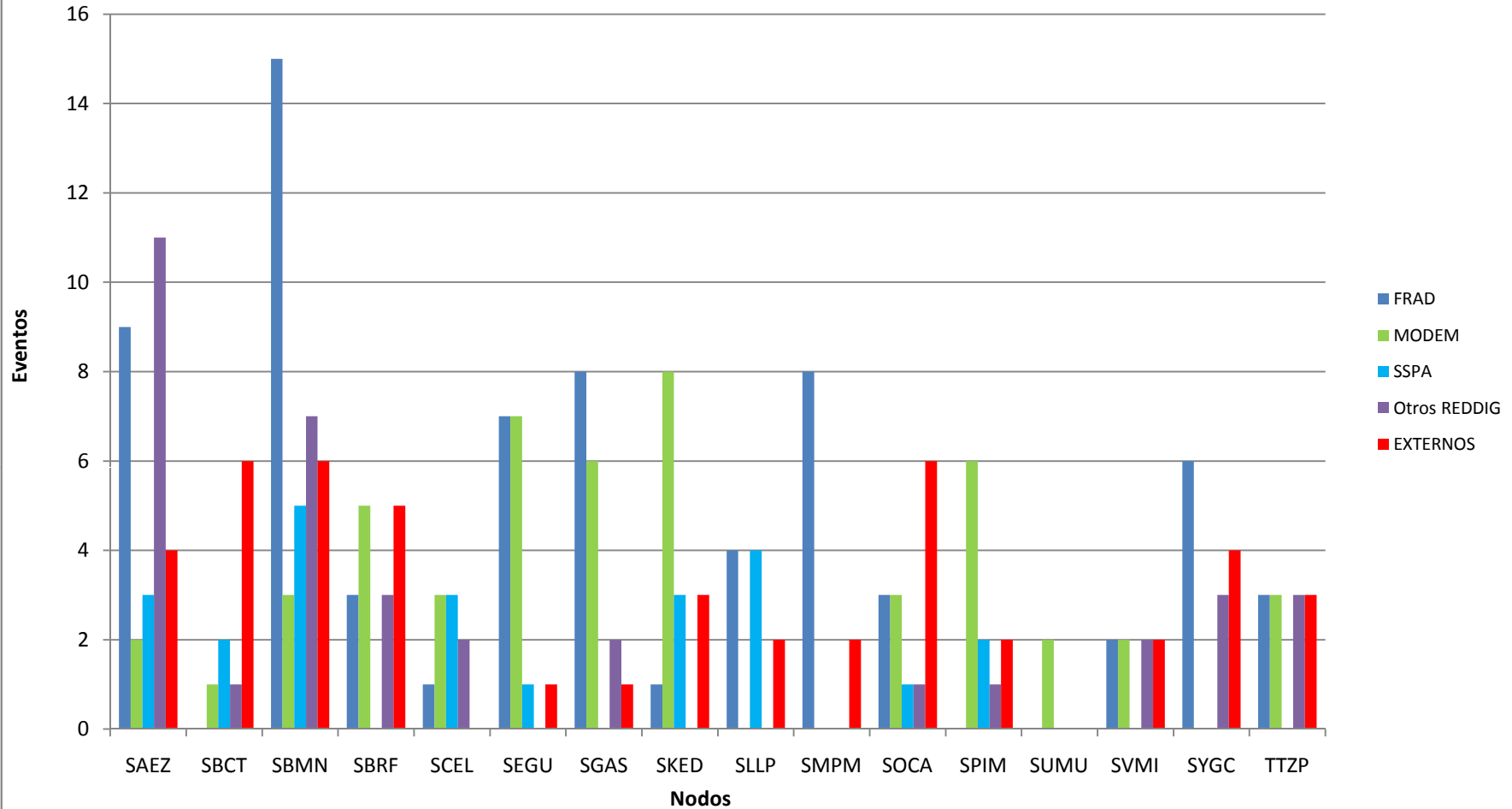
Others REDDIG / Otros REDDIG

- | | | |
|-----|--------------------|------------|
| (1) | Time Reference GPS | : (1) SBMN |
| (1) | I/O Card PC Linux | : (1) SCEL |

REDDIG 2009
Attention to Nodes / Atenciones a los Nodos = 224



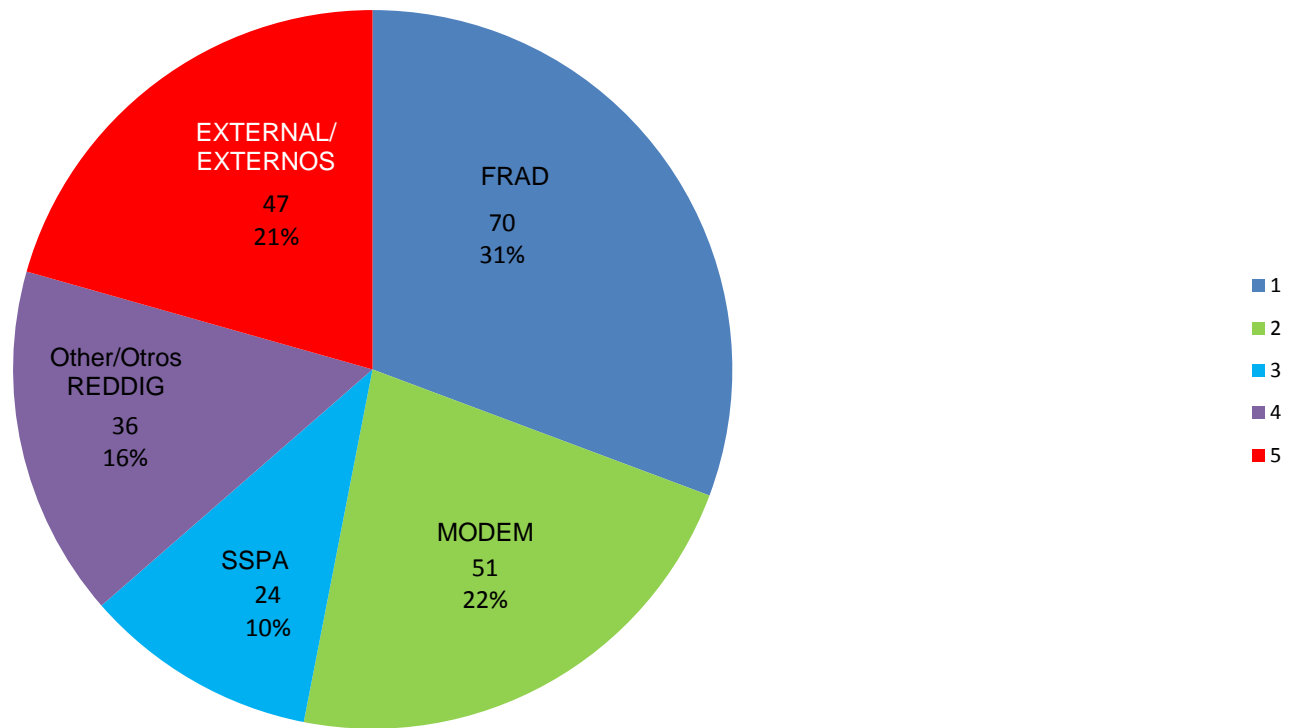
REDDIG 2009 Distribution of Attentions / Distribución de Atenciones



REDDIG 2009

Distribution of Attention by Equipment Category

Distribución de Atención por Categoría de Equipo



Agenda Item 2: Analysis to the performance of the MEVA II / REDDIG interconnection

2.1 The Meeting analysed the progress made in the MEVA II / REDDIG interconnection pending activities specified in the MEVA II / REDDIG interconnection plan that had been presented in Appendix A to WP/04 of this meeting:

- a) Purchasing and delivery of MEVA II / REDDIG interconnection equipment and cards;
- b) Review, approval and signature of the agreement between ICAO and COCESNA for the MEVA II / REDDIG interconnection;
- c) Results of the MEVA II / REDDIG interconnection works;
- d) MEVA II / REDDIG interconnection pending activities; and
- e) Focal points for the MEVA II / REDDIG interconnection.

Purchasing and delivery of MEVA II / REDDIG interconnection equipment and cards

2.2 The Meeting noted that in reference to the acquisition and delivery of equipment and cards required for MEVA II / REDDIG interconnection shown in Appendix B to WP/04, the only pending matter was the acquisition of two L-band port dividers, and two L-band port combiners for the COCESNA MEVA II node. This equipment will be acquired through the ICAO Procurement Section of its Technical Cooperation Bureau (TCB).

Review, approval and signature of the agreement between ICAO and COCESNA for the MEVA II / REDDIG interconnection

2.3 The Meeting was informed that the Agreement between ICAO and COCESNA for the MEVA II / REDDIG interconnection, Project RLA/09/901, had been signed by the ICAO Secretary General and by COCESNA authorities.

2.4 The Meeting recalled that the project defined the technical, service, and economic aspects for the implementation of the interconnection of the COCESNA MEVA II node with the REDDIG. Initial services envisaged by the project are the ATS speech circuits between the COCESNA ACC (CENAMER) and the Bogota and Guayaquil ACCs.

2.5 To this end, the Meeting reviewed a preliminary implementation programme to carry out the COCESNA MEVA II node interconnection works, prepared by the REDDIG Administration. These dates were adjusted taking into account the time required for the acquisition and shipment of the missing equipment for the interconnection of the COCESNA MEVA II node to the REDDIG, the shipment of the MODEM equipment and the coordination of the REDDIG administration, the MEVA II Service Provider and the COCESNA technical personnel. **Appendix A** to this part of the report presents the action plan for the interconnection of the COCESNA MEVA II node to the REDDIG.

Results of the MEVA II / REDDIG interconnection works

2.6 The Meeting took note that installation works for the interconnection of REDDIG nodes to the MEVA II network in Bogota and Caracas were carried out from 1 to 17 March 2010, as programmed in the agreement between ICAO and the MEVA II Service Provider (N° 22500187).

2.7 The Meeting was informed that a Viasat Linkway 2100 modem, two DVP2 E-1 cards for the FRAD MEMOTEC CX 950 equipment (1 for the MPS A and 1 for the MPS B), three two-port L-band dividers, and three L-band combiners, had been installed in Bogota; and a Viasat Linkway 2100 modem, 4 DAV cards for the FRAD MEMOTEC CX 950 equipment (2 for the MUX A and 2 for the MUX B), three two-port L-band dividers, three two-port L-band combiners and two Datacom Standard 75 Watt C-band amplifiers, had been installed at the Caracas (Maiquetia) REDDIG node.

2.8 The Meeting took note that the MEVA II Service Provider, prior to installing the equipment at the Bogota and Caracas REDIG node, had installed the cards required in the FRAD Memotec equipment at each of the MEVA II nodes involved in the MEVA II / REDDIG interconnection (Aruba, Curacao, Jamaica, Miami, Panamá and San Juan). Also, REDDIG Administration had installed the respective cards in the FRAD MEMOTEC equipment at the Guayaquil REDDIG node.

2.9 Also, the Meeting was informed that the MEVA II Service Provider and the REDDIG Administration proceeded to upload the new software archives pertaining to the interconnection with the MEVA II network, at the FRAD Memotec CX 950 equipment and Viasat Linkway 2100 modem in the Bogota and Caracas nodes and successfully carried out all satellite link trials with Intelsat IS-14.

2.10 Once the MEVA II Service Provider, in coordination with REDDIG Administration, had completed the installation of the equipment at the Bogota and Caracas REDDIG nodes, proceeded to carry out the trials on voice and data circuits (AFTN) planned in the implementation for MEVA II / REDDIG interconnection, which are shown in Appendix E to WP/04.

2.11 The Meeting noted that as a result of the trials carried out after the installation work, the following results were obtained regarding ATS speech circuits and AFTN circuits.

2.12 With respect to trials with ATS speech circuits, the Meeting took note that communications could be successfully established in both ways in ATS speech circuits foreseen in the MEVA II / REDDIG interconnection, except for the circuit Josefa Camejo (via Caracas) and Aruba, where the communication could be established from Caracas to Aruba, but not from Aruba to Caracas.

2.13 Similarly, after the evaluation of their respective ATS speech circuits, the Colombian and Venezuelan administrations informed that currently the following situation exists:

- a) Barranquilla-Kingston does not have two-way connection.
- b) Colombia-Panama only has connection circuit to Panama, but not from Panama to Colombia.
- c) Barranquilla-Curaçao only has connection from Barranquilla to Curaçao, but not from Curaçao to Barranquilla.
- d) Bogota-CENAMER only has connection from Bogota to CENAMER but not from CENAMER to Bogota.
- e) Caracas-San Juan may establish connection only from Caracas to San Juan, but not from San Juan to Caracas.
- f) Josefa Camejo (Via Caracas)-Aruba may establish connection from Caracas to Aruba, but not from Aruba to Caracas.

2.14 In this same sense, both the Colombian and the Venezuelan Aeronautical Administrations informed that, in spite of having available a numbering plan for ATS speech communications, the exact number that the ATS units of Colombia and Venezuela had to dial to communicate with the respective units of Aruba, Curaçao, Jamaica, Panama and San Juan, was not known. Similar doubt was presented by the MEVA members, upon being unaware of the numbering plan for the users of Colombia (Bogota/Barranquilla) and Venezuela (Josefa Camejo/Maiquetia).

AFTN circuits

2.15 With regard to AFTN circuits, foreseen in the MEVA II / REDDIG interconnection, the Meeting took note that the same were initially programmed in the Memotec equipment, but were unable to be tested due to compatibility problems between the protocol used by the instrument equipment (fire bird 6000 test set) and the protocol configured in the Memotec equipment, in accordance to information contained in the on-site acceptance document prepared by the AGS installer.

2.16 Also, the Meeting was informed that local works that connected the exit to AFTN switch to the corresponding entry points of the Memotec, each one of the MEVA II and REDDIG nodes involved in the interconnection had not been completed.

2.17 The Meeting was also informed that the MEVA II Service Provider during the installation works for the interconnection of the Bogota and Caracas REDDIG nodes to MEVA II, had delivered a basic on-the-job training to the technical personnel in charge of REDDIG maintenance at the indicated sites, as established in the contract signed between ICAO and the MEVA II Service Provider.

MEVA II / REDDIG interconnection pending activities

2.18 The Meeting, taking into account the information on ATS speech circuit performance, as well as the AFTN provided by the Aeronautical Administrations of Colombia, Venezuela, MEVA TMG, REDDIG Administration and the MEVA II Service Provider, agreed upon the following actions in order to complete the pending activities.

- a) The Aeronautical Authorities of Aruba, Colombia, Curaçao, United States (San Juan), Jamaica, Panama and Venezuela, through their corresponding focal points, taking into account the telephone numbering plan prepared by the MEVA II Service Provider and by the REDDIG Administration, presented in **Appendices B and C** to this Agenda Item, should establish the corresponding telephone extensions between each ATS unit (i.e. Maiquetia ACC should dial 1805 to call San Juan ACC, and the San Juan ACC to communicate with Maiquetia should call 8003), and update, if necessary, the telephone numbering plan. This activity should be carried out and informed to the involved focal points and to ICAO not later than 27 May 2010;
- b) With the information from the above item, the ATS speech circuit trials, with the definition of the numbering system, will be held from 27 to 31 May. During these trials, the REDDIG Administrator, as well as the MEVA II Service Provider, should participate jointly with States involved;
- c) For the Guayaquil-CENAMER speech circuit, Ecuador should assign the corresponding telephone extension. These activities must be carried out and informed to the COCESNA focal point and to ICAO not later than 11 June 2010;

- d) The Aeronautical Administrations of Brazil, Colombia, Curaçao, United States, Panama, Peru and Venezuela, through coordination of their focal points should complete local connections among AFTN switching centres, and the corresponding Memotec equipment. Same should be completed by 26 May 2010. The circuits are shown in Appendix E to WP/04;
- e) On the basis of the agreement on the type of AFTN circuit to be implemented (asynchronous, X.25, etc.), the MEVA II Service Provider, jointly with the REDDIG Administration, will review and adjust the configuration of Memotec equipment for AFTN circuits specified in Appendix E to WP/04. These should be completed also for 28 May 2010; and
- f) End-to-end trials will be carried out from 28 to 31 May 2010.

2.19 The Meeting took note that the activities pending for the interconnection of the COCESNA MEVA II node to REDDIG would be carried out as per the indications in Appendix A to this part of the report, formulating the following conclusion:

Conclusion MR/8-1 Implementation of activities pending in the MEVA II / REDDIG interconnection

That, with the aim of completing the activities pending in the MEVA II / REDDIG interconnection, the States involved in the MEVA II interconnection, as well as the MEVA II Service Provider and the REDDIG Administration, carry out the activities considered in paragraphs 2.18 and 2.19 to this Agenda Item.

2.20 The Meeting took note that the MEVA II Service Provider should deliver the plans and circuit diagrammes, as well as the changes made in the configuration of the FRAD Memotec and Modem Linkway equipment, as specified in the contract established between ICAO and the MEVA II Service Provider.

Focal points for the MEVA II / REDDIG interconnection

2.21 **Appendix D** to this part of the report presents a list of focal points updated during the Meeting.

Action plan updated for MEVA II / REDDIG interconnection

2.22 Taking into account the pending activities described before, the Meeting updated the action plan for the MEVA II / REDDIG interconnection, which is presented as **Appendix E** to this part of the report.

APPENDIX A

INTERNATIONAL CIVIL AVIATION ORGANIZATION



**INTERCONNECTION OF THE COCESNA MEVA II NODE TO
REDDIG**

IMPLEMENTATION PROGRAMME

REV. 3

May 2010

CONTENTS

	Page
1. Executive summary.....	3
2. References for the implementation	3
2.1 RLA/09/901 project.....	3
2.2 Technical specifications.....	3
2.3 Services to be provided.....	4
3. Coordination	5
a) ICAO – SAM Regional Office.....	5
REDDIG Administration – ADM.....	5
b) COCESNA.....	5
c) SES World Skies.....	5
4. Activities for the activation of the COCESNA node for REDDIG	6

INTERCONNECTION OF THE COCESNA MEVA II NODE TO REDDIG IMPLEMENTATION PROGRAMME

1. Executive summary

1.1 On the basis of communications requirements of the COCESNA node for the interconnection of the MEVA II / REDDIG nodes and on the technical specifications indicated in the proposal, the integral solution consists in the provision, installation and test of the equipment described in 2.3.1, as well as the operation of the COCESNA node in REDDIG, hereon COCESNA/REDDIG node, with the highest service availability, reliability and quality standards to pass through the network.

1.2 The solution presented takes into consideration the maximum use of the equipment currently available at the COCESNA/MEVA II node to optimize investment costs. An additional Linkway 2110 modem will be used with the current RF chain, decision which is backed by the link budget analyses carried out to this effect. In addition, the slots available in the current FRAD equipment to install additional carts to support the COCESNA/REDDIG node communications channels.

1.3 In addition to the two ATS exclusive voice channels, an on-net administrative voice channel will be configured for the carrying out of tasks and maintenance coordinations, with the consequent savings in international long distance calls.

1.4 The installation of the equipment in the node will be carried out in coordination with COCESNA and SES, with the aim of reducing to a minimum the communications services interruption lapse in the node. The satellite line up tests and the start up of the COCESNA/REDDIG node will be carried out under the coordination and supervision of the REDDIG Centre of Operations.

1.5 The COCESNA/REDDIG node will have the technical facilities as REDDIG has, such as 24X365 technical support from the Manaus, Brazil, Centre of Operations, the network's master reference terminal geographical redundancy, the local redundancy of both Manaus, Brazil, and Ezeiza, Argentina, NCCs and, in the event required, the activation of the alternate Centre of Operations in Ezeiza.

2. References for the implementation

2.1 RLA/09/901 project

2.1.1 Services Management Agreement subscribed between the Corporación Centroamericana de Servicios de Navegación Aérea (COCESNA) and ICAO.

2.2 Technical specifications

2.2.1 On the basis of the communications requirements of the COCESNA node for the interconnection of the MEVA II / REDDIG Networks, the solution consists in the equipment provision, installation and tests, as well as the operation of the COCESNA MEVA II node in REDDIG, with the highest service availability, reliability and quality standards to pass through the network.

2.2.2 The technical solution is to maximize the use of the equipment currently installed in the COCESNA node, with the additional equipment necessary for the node to operate in REDDIG. The Memotec cards, one V.35H and two DAV with three FXS interfaces will be provided and installed in the COCESNA CX960e equipment, upon request.

2.2.3 In addition to the configuration of the two exclusive ATS voice channels, an on-net administrative voice channel will also be configured, for the carrying out of tasks and maintenance coordination.

2.2.4 The installation of the equipment in the node will be made in coordination with COCESNA and the MEVA II Service Provider, with the aim of reducing to a minimum the communications services interruption time in the node. The satellite line-up tests and the start-up of the COCESNA/REDDIG node will be carried out under the coordination and supervision of the REDDIG Centre of Operations.

2.2.5 The COCESNA/REDDIG node will have available the technical facilities that the REDDIG counts with, such as 24x365 technical support from the Manaus, Brazil, Centre of Operations, the network's master reference terminal geographical redundancy, the local redundancy of the NCCS in both Manaus, Brazil, and Ezeiza, Argentina, and in the event required, the activation of the alternate Centre of Operations in Ezeiza.

2.2.6 The Communications requirements of the COCESNA node are:

- (1) ATS speech channel at the Bogota, Colombia, control centre; and
- (1) ATS speech channel at the Guayaquil, Ecuador control centre.

2.2.7 The performance expected is to count with all-round free and available channels with a 0.05 (5%) call loss probability at the COCESNA/REDDIG node speech channel traffic flow.

2.3 **Services to be provided**

2.3.1 The COCESNA/REDDIG node implementation programme will comprise the carrying out of related services until the activation of the COCESNA/REDDIG node, then automatically and transparently passing over to the Operation Service.

Equipment to be provided:

- (1) One Linkway 2100 modem with AC feeding source
- (1) One serial ground interface with frame relay protocol
- (1) One V.35 cable
- (2) Two band L combiners/dividers
- (1) One coaxial cable lot, connectors and adaptors

2.3.2 The installation of the equipment will be carried out under the implementation programme, in coordination with COCESNA and the MEVA II service provider, with the aim of reducing to a maximum the interruption of services.

2.3.3 Satellite access and line up tests will be made to the Linkway 2100 modem, together with the current RF chain, with the aim of obtaining the nominal potential of the satellite downlink that REDDIG has contracted.

2.3.4 The administration of REDDIG will provide the COCESNA/REDDIG node, under the 24H x 365D modality, the following services and facilities during the whole period of the contract. It is important to mention that the services and facilities which the COCESNA/REDDIG will count with are the same that all States member of REDDIG receive.

2.3.5 Configuration

- a) Configuration of the COCESNA/REDDIG node on the basis of the REDDIG NCC data base.
- b) Configuration of the CX-960e Memotec equipment with the functions required for the interconnection.
- c) Configuration of the CX-950 Memotec equipment with the Guayaquil, Bogotá, Manaus and Ezeiza nodes with the functions required for the interconnection, as well as administrative/maintenance purposes.
- d) End to end tests and activation of the COCESNA/REDDIG node.

2.3.6 Operational support: The REDDIG administration has a Centre of Operations in Manaus, Brazil, that provides operational maintenance support to the REDDIG nodes, under a 24H x 365D modality. This support includes, among other main activities, to preventively report the nodes of any anomaly detected by the NCC, to receive calls from the nodes, to carry out troubleshooting procedures, to carry out operational tests, to make necessary coordinations and tests with the counterpart nodes with the objective of keeping operational the node requiring support.

3. Coordination

3.1 The REDDIG administration will coordinate all aspects necessary with the COCESNA and SES Service Provider representatives for the carrying out of the present implementation programme.

3.2 To obtain this objective, the focal points will be the following:

a) **ICAO – SAM Regional Office**

Focal Point: Onofrio Smarrelli
CNS Regional Officer – SAM
Place: Lima, Peru
Telephone: 51 1 611-8686
E-mail: osmarrelli@lima.icao.int

REDDIG Administration – ADM

Focal Point: Luis Alejos
REDDIG Administrator – SAM
Place: Manaus, Brazil
Telephone: +55 92 3652-5714
E-mail: lalejos@lima.icao.int

b) **COCESNA**

Focal Point:
Place:
Telephone:
E-mail:

c) **SES World Skies**

Focal Point:
Place:
Telephone:
E-mail:

4. **Activities for the activation of the COCESNA node for REDDIG**

1. Purchasing of equipment and parts
 - Responsible: ICAO
 - Status of activity: Completed
2. On site inspection
 - Start: 7 June 2010
 - Duration: 2 days
 - Responsible: ADM¹
3. Remittance of equipment and parts to COCESNA node
 - Start: 11 June 2010
 - Duration: 20 days
 - Responsible: ICAO
4. Satellite configuration of COCESNA node at REDDIG NCC
 - Start: 28 June 2010
 - Duration: 5 days
 - Responsible: ADM
5. Configuration of COCESNA CX960e Memotec equipment
 - Previous action:
 - a) Deliver ICAO ADM the archive (.cxt) with the latest configuration of the CX-960e equipment
 - b) Install 2 DAV+1V.35H with CX960e equipment
 - Target date: 21 June 2010
 - Responsible: SES, COCESNA
 - Start: 28 June 2010
 - Duration: 5 days
 - Responsible: ADM
6. Configuration of Memotec equipment at SEGU, Guayaquil-Ecuador
 - Previous action: Install 1 DVP2 in each equipment
 - Target date: 21 June 2010
 - Responsible: ADM
 - Start: 28 June 2010
 - Duration: 5 days
 - Responsible: ADM
7. Configuration of Memotec equipment at SKED, Bogotá-Colombia
 - Previous action: Deliver ICAO ADM the archive (.cxt) with the latest SKED configuration, including the circuits with MEVA II
 - Target date: 21 June 2010
 - Responsible: SES
 - Start: 28 June 2010
 - Duration: 5 days
 - Responsible: ADM

¹ ADM = REDDIG Administration

-
8. Configuration of Memotec equipment at SAEZ and SBMN
 - Start: 28 June 2010
 - Duration: 5 days
 - Responsible: ADM

 9. Installation of the Linkway2100 at COCESNA node
 - Previous action: Linkway2100 equipment available at site of installation
 - Target date: 12 July 2010
 - Responsible: COCESNA
 - Start: 19 July 2010
 - Duration: 1 day
 - Responsible: ADM, SES, COCESNA

 10. Satellite line up of Linkway 2100 at COCESNA node
 - Start: 19 July 2010
 - Duration: 1 day
 - Responsible: ADM, SES

 11. End to end tests and activation of COCESNA node with REDDIG
 - Start: 19 July 2010
 - Duration: 2 days
 - Responsible: ADM

 12. Communications evaluation
 - Start: 19 July 2010
 - Duration: 2 days
 - Responsible: ADM, COCESNA

 13. Service acceptance
 - Start: 21 July 2010
 - Duration: 1 day
 - Responsible: COCESNA

APPENDIX B / APENDICE B

Miami	Freeport	Nassau	Aruba	Curacao	COCESNA	Cuba
1905	1010	2700	2900	2200	2100	2300
1906	1001	2701	2901	2201	2101	2301
1907	1002	2702	2902	2202	2102	2302
1908	1003	2703	2903			2303
1909		2704				2304
1910		2705				2305
1911		2706				
1912		2707				
1913						
1700 (Tamiami)						
1701 (Tamiami)						
1702 (Tamiami)						
Grand Cayman	Haiti	St. Maarten	Jamaica	Panama	Puerto Rico	Dominican Republic
2500	2800	3500	3000	3901	1800	2600
2501	2801		3001	3902	1801	2601
2502	2802		3002	3903	1802	2602
2503	2803		3003	3904	1803	2603
2504	2804			3900	1804	2604
2505	2805				1805	2605
	2806				1806	
	2807				1807	

Note: Maintenance extensions are identified with "00" in their last 2 digits.

APPENDIX C / APENDICE C

D N O D E S D E L A T A N O D O / D O	Node/Nodo: SKED		City/Ciudad: Bogotá - COLOMBIA			
	Address/Dirección:		Aeropuerto Internacional El Dorado, Centro Nacional de Aeronavegación			
	Tel:		571 2663102 y/o 571 2662272			
	Fax:		571 2663481			
	E-mail:		carlos.mayorga.flechas@aerocivil.gov.co; csua@aerocivil.gov.co			
	Administrative network telephones/ Teléfonos red administrativa:		4501 / 4502/ 45258			
	Technical Personnel/ Personal Técnico		Post / Cargo	REDDIG Telephone/ Teléfono REDDIG	Public Telephone Network/ Teléfono Red Pública	Cellular / Celular
	Carlos A. Mayorga F.		Técnico Aeronáutico	4501 / 45258	571 2663102	
	Ciro Sua		Técnico Aeronáutico	4501 / 45258	571 2663102	
	Fernando Lineros		Técnico Aeronáutico	4501 / 45258	571 2662272	

A T S	USER / USUARIO		REDDIG Telephone/ Teléfono REDDIG	Remarks/ Observaciones
	ACC SWP Bogotá (SKBO)		4545	
	ACC NWP Bogotá (SKBO)		4550	
	ACC NEP Bogotá (SKBO)		4551	
	ACC SWP Bogotá (SKBO)		4552	
	ACC SER Bogotá (SKBO)		4553	
	ACC Supervisor Bogotá (SKBO)		4560	
	ACC Barranquilla (SKEC)		4531	
	ACC Sector Sur Barranquilla (SKEC)		4554	
	ACC Centro de Información de Vuelo Barranquilla (SKEC)		4555	
	ACC Supervisor Barranquilla (SKEC)		4556	
	TWR Pasto (SKAN)		4518	
	ACC Cali (SKCL)		4541	
	TWR Leticia (SKLT)		4546	
	APP Cucuta (SKCC)		4557	

A D M I N	USER / USUARIO		REDDIG Telephone/ Teléfono REDDIG	Remarks/ Observaciones
	Dirección General Aerocivil		45122	
	Subdirector General		45299	
	Secretario Técnico		45260	
	Director de Telecomunicaciones		45277	
	Director SKED		45277	
	Técnico Mantenimiento REDDIG		4501 / 4502	
	Técnico Mantenimiento REDDIG		45258	
	Técnico Planta HARRIS (Técnico grupo teléfonos)		4590	
	Técnico Planta HARRIS (Técnico grupo teléfonos)		45200	
	Comunicaciones AFTN (Operador)		45268 / 4503	
	Técnico BOGOTA (Técnico grupo comunicaciones)		45281	

Notes/
Notas:

1. For ATS, dial the exit prefix corresponding to the node starting the call / Para ATS, marcar el prefijo de habilitación de salida correspondiente del nodo que inicia llamada
2. For ADMIN, dial the exit prefix corresponding to the node starting the call / Para ADMIN, marcar el prefijo de habilitación de salida correspondiente del nodo que inicia llamada

D N O D S D E L T A N O D O	Node/Nodo:	SVMI	Ciudad: Maiquetía - VENEZUELA		
	Dirección:	Edificio ATC, 2do Piso, Depto de Comunic., Maiquetía, Edo. Vargas, Venezuela			
	Teléfono:	58212 3552143 / 58212 3551412			
	Fax:	58212 3551412			
	E-mail:	vfffiore@cantv.net			
	Teléfonos Red Administrativa:	8001			
	Technical Personnel/ Personal Técnico	Post / Cargo	REDDIG Telephone/ Teléfono REDDIG	Public Telephone Network/ Teléfono Red Pública	Cellular / Celular
	Vicente Fiore	Jefe Reg. MIQ	8001	58212 3551412	4127080132
	Luis Escobar	Jefe COMS	8001	58212 3552143	
	Oraima Guillén		8001		
César Chacón		8001			

	USER / USUARIO	REDDIG Telephone/ Teléfono REDDIG	Remarks/ Observaciones
A T S	RCC - TODOS	8041	
	ACC 5 - ATS-W	8043	
	ACC 3 - ATS-W	8043	
	ACC 4 - ATS-E	8044	
	ACC 6 - ATS-E	8044	
	ATSd con Piarco - Trinidad & Tobago	Hot Line	+47 80942
	CURAÇAO (MEVA II)	8001	
	ARUBA (MEVA II)	8002	
	SAN JUAN (MEVA II)	8003	

	USER / USUARIO	REDDIG Telephone/ Teléfono REDDIG	Remarks/ Observaciones
A D M I N	Mantenimiento REDDIG	8001	

Notes/ 1. For ATS, dial the exit prefix corresponding to the node starting the call / Para ATS, marcar el prefijo de habilitación de salida correspondiente del nodo que inicia llamada
Notas:

2. For ADMIN, dial the exit prefix corresponding to the node starting the call / Para ADMIN, marcar el prefijo de habilitación de salida correspondiente del nodo que inicia llamada

APPENDIX D / APENDICE D

**PUNTOS FOCALES PARA COORDINAR LA IMPLANTACIÓN DEL PLAN DE ACCIÓN
 PARA LA INTERCONEXIÓN MEVA II/REDDIG**

**FOCAL POINTS FOR COORDINATING THE IMPLEMENTATION OF THE ACTION PLAN
 FOR MEVA II/REDDIG INTERCONNECTION**

ESTADO ORGANIZACION/ STATE ORGANIZATION	NOMBRE-TITULO/ NAME-TITLE	DATOS DE CONTACTO/ CONTACT INFORMATION
ARUBA	Joselito Correia de Andrade Actg Chief CNS/ATM Systems	Department of Civil Aviation of Aruba Sabana Berde 73B Tel +297 583 2665 / +297 582 4330, Ext 223 Fax +297 582 3038 Email Joselito.CorreiaAndrade@aruba.gov.aw
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ESTADO ORGANIZACION/ STATE ORGANIZATION	NOMBRE-TITULO/ NAME-TITLE	DATOS DE CONTACTO/ CONTACT INFORMATION
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ESTADO ORGANIZACION/ STATE ORGANIZATION	NOMBRE-TITULO/ NAME-TITLE	DATOS DE CONTACTO/ CONTACT INFORMATION
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UPDATED ACTION PLAN FOR IMPLEMENTATION OF MEVA II AND REDDIG INTERCONNECTIONS
PLAN DE ACCIÓN ACTUALIZADO PARA LA IMPLANTACIÓN DE LAS INTERCONEXIONES MEVA II Y REDDIG

Date/Fecha: February/Febrero 2010

Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
1	RFP Completion/Finalización del RFP	COCESNA	30 April 2007/ 30 Abril 2007	Completed / Finalizado
2	Required connections: / Conexiones requeridas: Aruba COCESNA Ecuador Colombia Peru Venezuela Brazil / Brasil Panama United States / Estados Unidos Jamaica Curacao / Curazao	MEVA II Service Provider and REDDIG Administration / Proveedor Servicio MEVA II y Administración REDDIG	30 April 2007/ 30 Abril 2007	Completed / Finalizado
3	Identification of Current Equipment / Identificación de Equipo Actual	MEVA II Service Provider and REDDIG Administration / Proveedor Servicio MEVA II y Administración REDDIG	28 September 2007/ 28 Septiembre 2007	Completed / Finalizado
4	Completion of SLA / Finalización de SLA	MEVA II Service Provider and REDDIG Administrator / Proveedor Servicio MEVA II y Administración REDDIG	25 March 2009/ 25 Marzo 2009	Completed/Finalizado The contract between ICAO and MEVA II communications service provider for the implementation of MEVA II / REDDIG was signed on 25 March 2009. El 25 de marzo de 2009 se firma el contrato entre la OACI y el Proveedor de servicio de la MEVA II para la implantación de la interconexión MEVA II / REDDIG.

APPENDIX E / APENDICE E

Legend / Leyenda:

MoU: Memorandum of Understanding / Memorando de Entendimiento

RFP: Request for Technical and Economic Proposal / Solicitud de Propuestas Técnicas y Económicas

SLA: Service Level Agreement / Acuerdo de Nivel de Servicio

Item No.	Action / Acción		Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2		3	4	5
5	Review of RFP / Revisión de RFP		MEVA II and REDDIG Members / Miembros MEVA II y REDDIG	29 June 2007/ 29 Junio 2007	Completed / Finalizado The RFP was reviewed and approved by all MEVA II / REDDIG Member Administrations. El RFP fue revisado y aprobado por todas las Administraciones miembros de las redes MEVA II y REDDIG.
6	Proposals response / Respuesta de propuestas		MEVA II Service Provider and REDDIG Administration / Proveedor Servicio MEVA II y Administración REDDIG	26 September 2007/ 26 Septiembre 2007	Completed / Finalizado The response for the RFP from the MEVA II Service Provider and REDDIG Administration was presented at the MR/5 Meeting. Las respuestas al RFP por parte del Proveedor de Servicio MEVA II y la Administración de la REDDIG se presentaron en la Reunión MR/5.
7	Proposals review / Revisión de propuestas		Coordination meeting / Reunión de coordinación	5 October 2007/ 5 Octubre 2007	Completed / Finalizado The proposal was reviewed in the MR/5 meeting. La propuesta se revisó en la reunión MR/5.
8	Focal nomination / Nominamiento Point / Punto Focal	Send a letter to MEVA II / REDDIG Member Administrations / Envío carta a las Administraciones miembros de las redes MEVA II y REDDIG.	ICAO Regional Offices / Oficinas Regionales OACI	15 October 2007/ 15 Octubre 2007	Completed / Finalizado The ICAO Regional Offices sent to the States/Organization involved in the MEVA II REDDIG interconnection a letter in order to nominate focal points. Las oficinas regionales de la OACI enviaron una carta invitando los Estados/Organización involucrados en la interconexión la nominación de puntos focales.

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Item No.	Action / Acción		Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2		3	4	5
		Focal point designation/ Designación punto focal	MEVA II and REDDIG Members involved / Miembros de MEVA II y REDDIG involucrados	30 October 2007/ 30 Octubre 2007	Completed / Finalizado All the States/Organization members of MEVA II and REDDIG network involved in the interconnection nominated focal points. Todos los Estados/Organización miembros de la REDDIG y MEVA II involucrados en la interconexión nominaron puntos focales.
9	Application of MoU reviewed / Aplicación del MoU revisado		MEVA II / REDDIG Member Administrations / Administraciones miembros de las redes MEVA II y REDDIG	30 October 2007/ 30 Octubre 2007	Completed / Finalizado States/Organization members of MEVA II REDDIG reviewed the MoU application. Los Estados/Organizaciones miembros de la MEVA II y REDDIG revisaron la aplicación del MoU.
10	Review and acceptance of equipment costs for the MEVA II / REDDIG interconnection by the REDDIG Member Administrations / Revisión y aceptación por parte de las Administraciones Miembros de la REDDIG sobre costo de equipamiento para la interconexión MEVA II / REDDIG		All the REDDIG Member States/ Todos Estados miembros de REDDIG	30 October 2007/ 30 Octubre 2007	Completed / Finalizado No comments were received. No se recibieron comentarios al respecto
11	Review and acceptance of equipment costs for the MEVA II / REDDIG interconnection by the MEVA II Member Administrations involved / Revisión y aceptación por parte de las Administraciones Miembros de la MEVA II involucradas sobre costo de equipamiento para la interconexión MEVA II / REDDIG		Aruba, Curaçao, Jamaica, Panama, USA (Miami and Puerto Rico) and COCESNA / Aruba, Curaçao, Jamaica Panamá, USA (Miami y Puerto Rico) y COCESNA	30 October 2007/ 30 Octubre 2007	Completed / Finalizado No comments were received. No se recibieron comentarios al respecto.
12	Review and acceptance of proposed recurrent costs for the MEVA II / REDDIG interconnection/ Revisión y aprobación costos recurrentes propuestos para la interconexión MEVA II REDDIG		MEVA II/ REDDIG Member Administrations involved / Administraciones Miembros de la MEVA II y REDDIG involucradas	30 October 2007/ 30 Octubre 2007	Completed / Finalizado No comments were received. No se recibieron comentarios al respecto.

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Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
13	Revised MoU Signature / Firma del MoU Revisado	MEVA II and REDDIG Members / Miembros MEVA II y REDDIG	30 November 2007/ 30 Noviembre 2007	Completed / Finalizado All the States REDDIG members signed the MoU reviewed. For MEVA II only Cuba, COCESNA and United States signed the MoU the rest of MEVA II States informed that they have reviewed and accepted the MoU. Todos los Estados miembros de la REDDIG firmaron el MoU revisado. Para la MEVAII solamente Cuba, COCESNA y Estados Unidos firmaron el MoU el resto de los Estados miembros de la MEVA II informaron que habían revisado y aceptado el MoU revisado.
14	Review, approval and signing of contracts or contract amendments to carry out the MEVA II / REDDIG interconnection presented by the MEVA II Service Provider / Revisión, aprobación y firma de los contratos o enmienda de los mismos para llevar a cabo la interconexión MEVA II/REDDIG presentada a través del Proveedor de Servicio de la MEVA II	MEVA II Member Administrations involved and REDDIG Administration / Administraciones Miembros de la MEVA II involucradas y Administración REDDIG	25 March 2009/ 25 Marzo 2009	Completed/Finalizado The 25 March 2009 between ICAO and MEVA II communication service provider is signed the contract to carry out the MEVA II REDDIG interconnection. El 25 de marzo de 2009 se firmó el contrato entre la OACI y el proveedor de servicios de comunicaciones de la MEVA II para llevar a cabo la interconexión MEVAII / REDDIG.

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Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
15	To ensure that all MEVA II and REDDIG nodes work with IS-IR Satellite, using Band C transponder with US/Latin America hemispheric beam and Co-Linear Vertical polarization / Asegurar que todos los nodos de la MEVA II y REDDIG operen en el satélite IS-1R, empleando transpondedores de banda C con haz hemisférico US/Latin America y polarización co-lineal vertical.	MEVA II Service Provider and REDDIG Administration/ Proveedor Servicio MEVA II/ Administración REDDIG	November/Noviembre 2008	Completed / Finalizado In the month of November 2008 AGS proceeded to change the polarity from horizontal to vertical of the MEVA II nodes. With this implementation all the preliminary requirements for the interconnection were satisfied. En el mes de noviembre de 2008 AGS procedió a la implantación del cambio de polaridad de horizontal a vertical de los nodos de la MEVA II. Con esta implantación todos los requerimientos preliminares para la interconexión MEVAII/REDDIG están satisfechos.
16	Equipment and spare parts acquisition for MEVA II/REDDIG interconnection/ Adquisición de equipamiento y repuestos para la interconexión MEVA II / REDDIG.	REDDIG Administration and MEVA II involved Member Administrations / Administración de la REDDIG y Administraciones Miembros de la MEVA II involucradas	March/Marzo 2009	Completed/Completado ICAO acquired the equipments and cards required for REDDIG nodes involved in the MEVA REDDIG interconnection. Also acquired the equipments for the COCESNA MEVA II node. The rest of the States of MEVA II involved in the interconnection acquired the equipments and cards through MEVA II service provider. OACI adquirió los equipos y tarjetas requeridas para la interconexión MEVA II REDDIG en los nodos REDDIG involucrados. También adquirió los equipos para el nodo MEVA II de COCESNA. El resto de los Estados MEVA II involucrados en la interconexión adquirió los equipos y tarjetas a través del proveedor de servicio de MEVA II.

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Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
17	Site survey for Bogota and Caracas / Inspección sitio para Bogotá y Caracas	MEVA II Service Provider / Proveedor MEVA II y	May/Mayo 2009	Completed/Completada From 27 to 1 May 2009 AGS completed the Site Survey in the REDDIG nodes of Bogotá and Caracas. Desde el 27 al 1 de mayo de 2009 AGS completo la inspección en sitio en los nodos REDDIG de Bogotá y Caracas.
18	Site Survey for Tegucigalpa Honduras	REDDIG Administration/ Administración REDDIG	June/Junio 2010	ICAO COCESNA project signed on 14 May 2010. Proyecto OACI COCESNA firmado el 14 de mayo de 2010.
19	Site preparation for equipment installation for MEVA II / REDDIG interconnection / Preparación de los sitios para albergar equipamiento para la interconexión MEVA II / REDDIG	Colombia, Venezuela & COCESNA	July/Julio 2009	Completed / Completado

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Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
20	Delivery of purchased equipment at the required sites. / Entrega de equipamiento adquirido en los sitios requeridos	MEVA II Service Provider / Proveedor de Servicio MEVA II	July/Julio 2009	<p>Completed/ Completado</p> <p>The equipment necessary for the MEVA II REDDIG interconnection in REDDIG nodes were acquired by ICAO, reviewed by MEVA II service provider and delivered to the REDDIG nodes involved in the MEVA II REDDIG interconnection.</p> <p>The equipment for MEVA II nodes involved in the interconnection except COCESNA were acquired and delivered by MEVA II service provider to the respective nodes.</p> <p>Los equipos para la interconexión MEVA II REDDIG en los nodos REDDIG fueron adquiridos por OACI, revisados por el proveedor de servicio de MEVA II y enviados a los nodos REDDIG involucrados en la interconexión MEVAII / REDDIG.</p> <p>Los equipos para los nodos MEVA II involucrados en la interconexión excepto COCESNA fueron adquiridos y entregados por el proveedor de servicio MEVA II a los respectivos nodos.</p>
		REDDIG Administration / Administración REDDIG	June /Junio 2010	<p>The equipment for COCESNA MEVAII node was acquired and reviewed by REDDIG Administration. The equipment will be delivered to COCESNA MEVAII node according to the action plan specified by the REDDIG Administration.</p> <p>Los equipos para el nodo MEVAII de COCESNA fueron adquiridos y revisados por la administración de la REDDIG. Los equipos serán enviados al nodo MEVA II de COCESNA de acuerdo al plan de acción especificado por la Administración de la REDDIG.</p>

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Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
21	Equipment installation / Instalación equipamiento	MEVA II Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	March/Marzo 2010	MEVAII service provider completed the equipments installation for MEVA II / REDDIG interconnection in the REDDIG nodes of Bogota and Caracas the 15 March 2010. El proveedor de servicio MEVA II completó la instalación de los equipos para la interconexión MEVA II / REDDIG en los nodos REDDIG de Bogotá y Caracas el 15 de marzo del 2010.
			July/Julio 2010	The equipment installation in COCESNA MEVA II network will be implemented according to the action plan specified by the REDDIG Administration. La instalación de los equipos en el nodo MEVA II de COCESNA de acuerdo al plan de acción especificado por la Administración de la REDDIG.
22	Satellite line-up, configuration of site equipment and NCC for the interconnection/ Line-up satelital, configuración equipamiento en sitio y NCC para interconexión	MEVA II Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	March/Marzo 2010	MEVAII Service Provider complete the satellite line-up, the configuration of site equipment and of the NCC for MEVA II REDDIG interconnection in Bogotá and Caracas REDDIG nodes El proveedor de servicio MEVA II completó la alineación del enlace satelital, la configuración del equipamiento en el sitio y del NCC para la interconexión MEVA II REDDIG en los nodos de Bogotá y Caracas.

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Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
			July/Julio 2010	<p>The REDDIG Administration will complete the satellite line-up, the configuration of site equipment and of the NCC for MEVA II REDDIG interconnection in the MEVA II node of COCESNA according to the action plan specified by the REDDIG Administration.</p> <p>La Administración de la REDDIG completará la alineación del enlace satelital, la configuración del equipamiento en el sitio y del NCC para la interconexión MEVA II REDDIG en el nodo MEVA II de COCESNA de acuerdo al plan de acción especificado por la Administración de la REDDIG.</p>
23	End-to-end trials for voice and data circuits / Pruebas de extremos a extremos para los circuitos de voz y datos	MEVAII Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	31May/31Mayo 2010	<p>Partially implemented/Parcialmente implantado</p> <p>The MEVA II Service provider implemented the end to end trials for voice circuit, but are pending all the trials for end to end AFTN circuits.</p> <p>El proveedor de servicio MEVA II implantó las pruebas extremo a extremo de los circuitos de voz pero están pendientes todas las pruebas extremo-extremo de los circuitos AFTN.</p>
			July /Julio 2010	<p>The REDDIG Administration will implement the end to end voice circuits according to the action plan specified by the REDDIG Administration.</p> <p>La Administración de la REDDIG implantará las pruebas de los circuitos de voz extremo a extremo de acuerdo al plan de acción especificado por la Administración de la REDDIG.</p>

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Item No.	Action / Acción	Responsible / Responsable	Completion Date / Fecha de Finalización	Status- Encountered Difficulties / Estado-Dificultades encontradas
1	2	3	4	5
24	System Performance Evaluation / Evaluación de la performance del sistema	MEVA II Service Provider and REDDIG Administration / Proveedor de Servicio MEVA II y Administración REDDIG	Junio/June 2010	Not completed /No completado The MEVA II Service provider will evaluate the system performance according to the MEVA II REDDIG aspects included in the contract between ICAO and MEVA Service Provider. (Project N° 22500187). El proveedor de servicio MEVA II evaluará la performance del sistema de acuerdo a lo indicado en el contrato firmado entre la OACI y el Proveedor de Servicio MEVA II (Proyecto N° 22500187).
			July/Julio 2010	The REDDIG Administration will evaluate the system performance according to the action plan specified by the REDDIG Administration. La Administración de la REDDIG evaluará la performance del sistema de acuerdo al plan de acción especificado por la Administración de la REDDIG.
25	Service acceptance / Aceptación de los servicios /	MEVA II / REDDIG Member Administrations / Administraciones miembros de las redes MEVA II y REDDIG	July/Julio 2010	No completado/No completed Acceptance of new services specified in the Project N° 22500187. Aceptación de los nuevos servicios especificados en el Proyecto N° 22500187.
			August/Agosto 2010	Acceptance of new services specified in the Project RLA/09/901. Aceptación de nuevos servicios especificados en el proyecto RLA/0/901.
26	MEVA II / REDDIG Interconnection Implementation / Implantación de la interconexión MEVA II / REDDIG	MEVA II / REDDIG Member Administrations, MEVA II Service Provider and REDDIG Administrator / Administraciones miembros de las redes MEVA II y REDDIG, Proveedor Servicio MEVA II y Administración REDDIG	August/Agosto 2010	Not completed /No completado It is foreseen that the entire implementation of MEVA II REDDIG interconnection will be in August 2010. Se tiene prevista la completa implantación de la interconexión MEVA II REDDIG en agosto del 2010.

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Agenda Item 3: Follow-up to the implementation of future requirements/services regarding MEVA II / REDDIG interconnection

3.1 With reference to Conclusions MR/7-2, related to conducting a study for a proper network configuration to optimize the use of equipment and required bandwidth to satisfy future requirements/ services (interconnections of the SAM/NAM AMHS systems -Brazil, Colombia, Panama, Peru, United States and Venezuela- and the implementation of automatic data transfers) that will be made through the MEVA II / REDDIG interconnection, the Meeting analysed WP/06 and WP/09.

3.2 In attention to the Conclusion MR/7-2, the MEVA TMG carried out the following activities:

- a) review and verify the initial future circuit requirements list, and
- b) research and make recommendations for optimum use of bandwidth and hardware for new requirements

Review and verify the initial future circuit requirements list

3.3 In the review and verification of the list for future requirements for circuits defined during MR/7 meeting, it was considered that, in addition to the initial circuits taken under consideration, account should be taken in the implementation of new circuits permitting the automatic transfer of ATS data and messages between the automated systems installed at adjacent ACCs, through the use of the AIDC, as planned and operationally required in the CAR/SAM FASID Table CNS 1Bb, cf GREPECAS Conclusion 15/36, such as the Bogota ACC-Panama ACC, Barranquilla ACC-Panamá ACC, Bogotá ACC-COCESNA ACC, Barranquilla ACC-Kingston ACC, Barranquilla ACC-Curacao ACC, COCESNA ACC-Guayaquil ACC, Maiquetía ACC-Curaçao ACC, Maiquetía ACC-San Juan ACC could be studied upon. **Appendix A** to WP/06 offers additional details on these AIDC requirements.

3.4 Also, the Meeting recognised that currently several implementation and trial activities concerning ATN ground-ground applications, such as AMHS, are being carried out in the CAR and SAM Regions, which have been identified within the MEVA II network performance evaluation/ expansion of each one of the MEVA II and REDDIG, as well as that there may be more requirements not listed such as other AMHS circuit for example Trinidad & Tobago –USA / Atlanta, etc.

3.5 In this regard, the Meeting agreed that a more thorough analysis of these future operational requirements involving the MEVA II / REDDIG Interconnection should be considered under the work programme of the MEVA II and REDDIG Administrations, for which the corresponding coordination with the operational counterparts and this task should be carried out as part of each network expansion activities. Appendix B to WP/09 presented several remarks to these future operational requirements.

3.6 So that States involved in MEVA II / REDDIG interconnection can start the process of interconnecting automated systems between adjacent ACCs, MoU examples were facilitated to the meeting, to implement interconnection of automated systems (radar, flight plans) and other, for the interconnection of the AMHS systems available in Appendices B and C to WP/06.

Conclusion MR/8-2 Analysis to operational requirements on the basis of future requirements and services in the MEVA II / REDDIG interconnection

That the aeronautical administrations members of MEVA II and REDDIG include in their work programme, the analysis of the operational requirements specified in paragraphs 3.3. to 3.6 to this Agenda Item, in coordination with their respective operational counterparts.

3.7 In reference to the study to draft a network configuration permitting to optimize the use of the equipment and band width for the implementation of future circuits, the Meeting was informed on the following comments of each Administration:

- a) SAM Region has started with the study for a regional IP network that, together with REDDIG, would define the regional ATN. This study is scheduled to be completed by the end of 2010. For the optimization of the band width use, the SAM Region has carried out preliminary tests to determine the minimum bandwidth required for the transmission of AMHS messages between two MTAs. It is expected that these trials will be completed by the end of June 2010.

- b) MEVA TMG. Considering that the initial future circuit requirements listed with the MR/7 Conclusion are established as data Frame-Relay circuits, the current bandwidth management employed in the MEVA II Network already has an optimum use of the network bandwidth. As regards the hardware use for these future circuit requirements the TMG determined that with the recent implementation of additional hardware, several of the MEVA nodes have capacity for these circuits. It was also determined that hardware optimisation may be accomplished but with the implementation of other types of circuits such as IP LAN connection or a complete IPS network. In this respect, the corresponding cost-benefit and technical evaluations shall be made.

3.8 In this connection, the Meeting agreed that each Administration should facilitate the results of their evaluations and trials for the implementation of these future operational requirements or others that might be identified, managing its implementation within the work programmes of each network Administration, as per the defined priority, and with the corresponding coordination agreed between both networks.

Agenda Item 4: Follow up to the integration of MEVA II and REDDIG networks

4.1 Under this AgendaItem, the Meeting recalled that the managements of the MEVA and REDDIG networks, in order to improve the efficiency of air traffic communications in and between the CAR and SAM regions, had implemented under the coordination of the ICAO NACC and SAM offices, the interconnection of these networks which consists in the adjustment of the REDDIG nodes located in Colombia and Venezuela and the MEVA II node of COCESNA. Also, the agreement that at the conclusion of the five year contract, once the interconnection is implemented, integration of the networks could be possible, for which a study and planning should be made.

4.2 Also, the Meeting highlighted that the Seventh MEVA II / REDDIG (MR/7) Meeting had considered it too premature to start with preliminary studies with regard to operational, administrative and institutional aspects for MEVA II / REDDIG integration, in view that the installation of MEVA II / REDDIG had yet to be implemented and there was no operational experience with regard to interconnection.

4.3 In this regard, and following the MEVA II / REDDIG Conclusion MR 7/3, that the REDDIG and MEVA II administrations presented the results of the initial study made for the integration of the MEVA II/REDDIG networks, and agreed a draft action plan to achieve this integration, taking into account the exchange of information related with the studies made and other considerations pertinent to possible changes to the MEVA II and REDDIG networks current platform.

4.4 The Meeting considered that the initial document presented in the Seventh MEVA II / REDDIG Coordination Meeting was a good initial draft document that shall be reviewed according to the dates established in the draft action plan.

4.5 This document should be considered a living document subject to updates and modifications by either party as the integration activities advances, based on the knowledge and lessons learned from the interconnection activities of both networks and considering the on-going technical/operational changes in the networks.

4.6 The meeting also considered that the update to this document shall be carried out through the exchange of information as the following:

- a) Exchange of information, and when necessary the holding of meetings for discussions to identify needs and most suitable technical solutions within the alternatives and options to achieve the integration of the MEVA II and REDDIG networks.
- b) Exchange of memos, technical reports and documentation between the Administrative Groups of MEVA and REDDIG, shall be necessary to ensure successful and timely completion of the agreed tasks.
- c) Communication and technical coordination with service providers, equipment manufacturers and others involved in the MEVA II and REDDIG project, as needed.

4.7 The meeting was informed that the REDDIG, in view of the possible bandwidth increase due to the implementation of new services, the years of service of the network and the unavailability in the market of important equipment part of the network, has drafted a preliminary action plan for the study and implementation of improvements or a new SAM digital network. The action plan for the study of this new network is shown in the Appendix to WP/07. The agreement for MEVA II / REDDIG networks integration has been considered in this plan.

4.8 In reference to the draft action plan for the integration, to be considered within the work programme for each administration of the networks, the agreed 5–years term, beginning with the operation of the MEVA II / REDDIG interconnection, the integration activities should include and not be limited to:

- a) Analysis on the convenience (advantages/disadvantages) of the integration on the basis of MEVA II / REDDIG interconnection performance, cost requirements, coordination procedures and administrative arrangements required;
- b) suitability study in the use of current equipment of both the REDDIG and MEVA networks and updates that would be necessary for the integration or the complete renovation of the equipment;
- c) on-going improvements and expansion works on both network, including the operational agreements supporting these works;
- d) identification of operation requirements involving the integration;
- e) evaluation of new technologies or options that may facilitate and optimize the integration; and
- f) evaluate service provider-user contract impacts from the integration: bandwidth costs, operational considerations.

4.9 In this regard, the draft action plan for the MEVA II / REDDIG integration activities is presented in **Appendix** to this part of the report. The plan may be modified or updated in a coordinated manner between the administrations of both networks.

4.10 Depending on the progress of the studies for a possible implementation of the integration of MEVA II and REDDIG networks, will maybe be implemented for 2012 or 2013 meetings to specifically analyse the integration implementation works.

ID	Task Name	Start	Finish	Deliverables/ Entregables	Resource Names	2010		2011		2012		2013		2014		2015		20
						tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
1	Periodic evaluation of interconnection performance	Wed 12/1/10	Mon 6/2/14															
2	Evaluation 1 of interconnection performance	Wed 12/1/10	Wed 12/1/10	Evaluation of performance and identification of relevant results	MEVA TMG/REDDIG													
3	Evaluation 2 of interconnection performance	Wed 6/1/11	Wed 6/1/11	Evaluation of performance and identification of relevant results	MEVA TMG/REDDIG													
4	Evaluation 3 of interconnection performance	Fri 6/1/12	Fri 6/1/12	Evaluation of performance and identification of relevant results	MEVA TMG/REDDIG													
5	Evaluation 4 of interconnection performance	Mon 6/3/13	Mon 6/3/13	Evaluation of performance and identification of relevant results	MEVA TMG/REDDIG													
6	Evaluation 5 of interconnection performance	Mon 6/2/14	Mon 6/2/14	Evaluation of performance and identification of relevant results	MEVA TMG/REDDIG													
7	Analysis of network improvements and expansion	Wed 6/1/11	Mon 6/3/13															
8	Analysis 1 on network improvements and expansion	Wed 6/1/11	Wed 6/1/11	Exchange of relevant information	MEVA TMG/REDDIG													
9	Analysis 2 on network improvements and expansion	Mon 6/3/13	Mon 6/3/13	Exchange of relevant information	MEVA TMG/REDDIG													
10	Review of administrative Network issues	Fri 1/6/12	Thu 3/29/12	Updates to service contract	MEVA TMG													
11	Inform of the administrative network arrangement for RMO	Fri 6/1/12	Thu 7/25/13	RMO	REDDIG													
12	Discussion on technical issues for integration	Mon 6/3/13	Fri 9/6/13															
13	Evaluation of technical improvements issues relevant for integration	Mon 6/3/13	Fri 7/12/13	Identification of technical issues for integration	Ad-hoc Group MEVA REDDIG													
14	Evaluation of technical expansion issues relevant for integration	Mon 6/3/13	Fri 7/12/13	identification of future technical expansion topics for integration	Ad-hoc Group MEVA REDDIG													
15	evaluation of new technologies or options that may facilitate and optimize the integration	Mon 6/3/13	Fri 9/6/13	Recommendations	MEVA TMG/REDDIG													

Project: APENDIX ASUNTO 4
Date: Mon 5/17/10

Task		Progress		Summary		External Tasks		Deadline	
Split		Milestone		Project Summary		External Milestone			

Agenda Item 5: Other matters*MEVA II / REDDIG Coordination Meetings*

5.1 The Meeting considered that, in view that the works for MEVA II / REDDIG interconnection had been completed, it was not necessary, for the time being, to continue with the holding of new MEVA II / REDDIG coordination meetings.

5.2 To this end, the Meeting considered that, in order to be able to evaluate the performance of the interconnection of MEVA II / REDDIG networks, the implementation of new services, the exchange of studies for the implementation of new digital regional network, as well as the follow-up of the activities of integration, the MEVA II TMG coordination meetings, as well as the REDDIG coordination meetings, would be utilised. The Meeting was informed that the REDDIG Administration or REDDIG Member States, as per the indications of those States part of the REDDIG, will participate in the MEVA II (TMG) Coordination Meeting, and COCESNA will participate in the REDDIG coordination meetings.

Development of a back-up server in support to the international satellite communications systems to obtain OPMET and WAFS products

5.3 The Meeting received information that the current WAFS ISCS-G2 service has only been extended until June 2012. Its replacement, the WAFS Internet File Service (WIFS), is now operational and existing WAFS users are now being notified to start the transition process to WIFS.

Invitation to the facilities of the new AMHS System in Peru

5.4 The Meeting, thanks to the invitation of the Peruvian Aeronautical Administration (CORPAC), visited the facilities of the new AMHS center.

Change of name of the MEVA II Service Provider

5.5 The Meeting was informed that since 9 April 2010, the name of the MEVA II Service Provider changed from Americom Government Services (AGS) to SES World Skies.