INTERNATIONAL CIVIL AVIATION ORGANIZATION

RLA/03/901

TWENTY NINTH MEETING OF THE COORDINATION COMMITTEE (RCC/29)

REPORT

(Lima, Peru, 13 to 17 March 2023)

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HISTORY OF THE MEETING

ii-1. PLACE AND DURATION OF THE MEETING

The Twenty Ninth Meeting of the Coordination Committee of Project RLA/03/901 - *REDDIG Management System and Satellite Segment Administration*, was carried out in Lima, Peru from 13 to 17 March 2023. For those who could not be present in person, the possibility to participate in the meeting was provided through the Zoom teleconference platform.

ii-2. OPENING

Mr. Oscar Quesada, Deputy Regional Director of the ICAO South American Regional Office, welcomed the participants, pointing out the importance of the topics to be dealt with and wishing success in the deliberations. Thereafter, he inaugurated the meeting.

ii-3. WORKING LANGUAGES

The meeting working languages for the discussions and documentation were Spanish and English. Documentation was presented in both languages.

ii-4. PARTICIPANTS AND ORGANIZATION

The Meeting was attended by 32 participants of 13 member States (Argentina, Brazil, Chile, Colombia, Ecuador, Guyana, Panama, Paraguay, Peru, Suriname, Trinidad & Tobago, Uruguay and Venezuela) y COCESNA, 2 companies from the industry (Cirion and Frequentis), and ICAO specialists. The list of participants is being presented in page iii-1.

Mrs. Veronica Chavez, Technical Assistance Officer acted as Secretary assisted by Mr. Francisco Almeida, CNS Regional Officer and by Mr. Javier Vittor, REDDIG Administrator.

ii-5. LIST OF CONCLUSIONS

LIST OF PARTICIPANTS

ARGENTINA (virtual)
1. Hernán Aguirre

BRAZIL
2. Bruno Pacheco Santos Azevedo Costa
3. Valdileide Freire de Lima

CHILE
4. Christian Vergara

COLOMBIA (virtual)
5. Robinson Quintero
6. Andrés Colmenares

ECUADOR (virtual)
7. E. Bolívar Dávalos
8. Washington Quinde
9. Lauro Gallardo
10. Martha Paez

GUYANA (virtual)
11. Mortimer Salisbury

PANAMA (virtual)
12. Raymundo Ledezma

PARAGUAY
13. Juan Félix Estigarribia
14. Alexander Aguayo
15. Víctor Morán (virtual)

PERU (virtual)
16. Luis Silva Gárate
17. José Alberto Díaz

SURINAME (virtual)
18. Jurgen Cicilson

TRINIDAD & TOBAGO (virtual)
19. Rupnarine Baboolal
20. Naresh Seeparsad

URUGUAY
21. Miguel Vera
22. Ricardo Clavijo

VENEZUELA
23. Willy Rojas
24. Jarumy Castillo

COCESNA
25. Roger Alberto Pérez

Cirion (March 15th session)
26. Jorge Nano
27. Karina Lobato
28. Luis Ladera
29. Francelys Figueroa

Frequentis (March 15th session)
30. Adriana Candez
31. Matthias Gerlich
32. Stefan Pemmer

ICAO
33. Verónica Chávez
34. Francisco Almeida
35. Cristian Javier Vittor

Agenda Item 1: Approval of the agenda and of the meeting schedule

1.1 Under this Agenda Item, the Meeting reviewed and approved the agenda and meeting schedule included as **Appendixes A** and **B** to this part of the Report.

- END -

APPENDIX A

PROVISIONAL AGENDA

Agenda Item 1:	Approval of the agenda and meeting schedule
Agenda Item 2:	Review of the Report of the Twenty-eighth Meeting of the Coordination Committee (RCC/28)
Agenda Item 3:	Report of the activities carried out to date since the last meeting of the Coordination Committee
Agenda Item 4:	Work plan for 2023 and approval of the REDDIG III Technical Specifications
Agenda Item 5:	Financial situation of the project and approval of the budget
Agenda Item 6:	Annual project evaluation
Agenda Item 7:	Other matters

EXPLANATORY NOTES TO THE PROVISIONAL AGENDA

Agenda Item 1: Approval of the agenda and meeting schedule

The provisional Agenda and the Schedule proposed by the Secretariat for the Twenty-ninth Meeting will be presented for the consideration and approval of the Coordination Committee.

Agenda Item 2: Report of the Twenty-eighth Meeting of the Coordination Committee (RCC/28)

The Committee will review the report of its Twenty-eighth Meeting (RCC/28) held in Lima, from 02 to 04 Maty 2022. Likewise, the Committee will analyze the status of implementation of conclusions formulated during said meeting, as well as of conclusions in force from previous meetings.

Agenda Item 3: Report of the activities carried out to date since the last meeting of the Coordination Committee

Under this agenda item, will analyze the activities carried out since the last meeting of the Committee regarding:

a) Monitoring of the performance of REDDIG II;
b) REDDIG II training program; and,
c) New services and activities in REDDIG II.

Agenda Item 4: Work plan for 2023 and approval of the REDDIG III Technical Specifications

The Committee will analyze the work program planned for 2023:

a) New REDDIG II activities and services;
b) Training programme for 2023; and,
c) REDDIG III Technical Specifications

Agenda Item 5: Financial situation of the project and approval of the budget

The Committee will consider the status of the cost-sharing contributions to the project and a summary of the obligations assumed during 2022, as well as the project budget for 2023 for approval.

Agenda Item 6: Annual evaluation of the project

The Committee will take note of the project's situation at the end of the previous year, including the management and outputs indicators, as well as the monitoring and control of the project with regard to the approved work plan for 2022, shown in the corresponding forms, concluding with the review of the survey conducted among participant States concerning their annual project evaluation.

Agenda Item 7: Other business

Under this Agenda item, the Committee may examine any other related matter that it deems appropriate.

APPENDIX B

MEETING SCHEDULE

HOUR	**Monday** 13 March 2023	HOUR	**Tuesday** 14 March 2023	**Wednesday** 15 March 2023	**Thursday** 16 March 2023	**Friday** 17 March 2023
08:30 09:00	Registration	09:00 10:30	Agenda Item 3	Agenda Item 4	Agenda Item 6	Review of the preliminary report
09:00 09:15	Opening					
09:15 09:30	***Coffee Break***	10:30 10:45	***Coffee Break***	***Coffee Break***	***Coffee Break***	***Coffee Break***
09:30 12:30	Agenda Item 1	10:45 12:15	Agenda Item 4	Agenda Item 4	Agenda Item 7	Review of the preliminary report and closure of the meeting
12:30 13:30	***Lunch Break***	12:15 13:00	***Lunch Break***	***Lunch Break***	***Lunch Break***	
13:30 15:00	Agenda Item 2	13:00 14:00	Agenda Item 4	Agenda Item 5	Preparation of the preliminary report	

Agenda Item 2: Review of the report of the Twenty-eighth meeting of the Coordination Committee (RCC/28)

2.1 Under this agenda item, the Meeting reviewed the following working paper:

- WP/02 – *Review of the report of the Twenty-eighth meeting of the REDDIG Coordination Committee* (presented by the Secretariat).

2.2 Under this agenda item, the Meeting reviewed and approved the report of the Twenty-eighth meeting of the REDDIG Coordination Committee (RCC/28) that was held in Lima, on 2-5 May 2022. The meeting was attended by 57 participants from 13 REDDIG II member States (Argentina, Brazil, Colombia, Chile, Ecuador, France, Guyana, Paraguay, Peru, Suriname, Trinidad & Tobago, Uruguay and Venezuela) and COCESNA, 2 Observer States (United States and Panama), 3 firms from the industry (AIREON, LUMEN and SITA), including ICAO experts.

2.3 The RCC/28 meeting formulated the following conclusion:

RCC/28-1 Approval of the budget of project RLA/03/901 rev "X".

2.4 After reviewing the conclusions formulated by previous meetings, the RCC/29 Meeting considered that the following conclusions were still valid: 8-8, 22-3, 22-4 and 24-3.

2.5 The following conclusions were considered finalized: 26-1, 27-1 and 28-1.

2.6 The **Appendix** to this part of the report presents the conclusions that remain valid, including those formulated by this Meeting.

- END -

APPENDIX

VALID CONCLUSIONS ADOPTED BY REDDIG COORDINATION MEETINGS AND THEIR STATUS OF IMPLEMENTATION

No.	Title	Content	Status	Remarks
8-8	REDDIG Administration	That, until such time that the institutional aspects related to the management of multinational systems for the provision of air navigation services are more clearly defined, the States agree that, for the next two years, starting 15 October 2005, REDDIG will continue to be managed through the ICAO technical cooperation mechanism, as an extension of Regional Project RLA/03/901.	Valid	Taking into account that the establishment of the South American Air Navigation and Safety Organisation, a multinational system with the capacity to manage REDDIG, continues undefined, the RCC/28 meeting (Lima, Peru, 02-04 May 2022) approved Rev X of the RLA/03/901 project document, extending the management of REDDIG until 2025.
22-3	Study to replace REDDIG II connectivity equipment and to update the IOS of network routers	That the REDDIG II Administrator: a) Coordinate the conduction of a study to replace connectivity equipment, mainly the NETGEAR switches, and also to update the IOS of network routers	Valid	All IOS of network routers were updated in 2019. Trials on the use of CISCO switches to replace Netgear switches are scheduled for 2020 in the Curitiba and Asuncion nodes. The Netgear B switch will be replaced in each planned node with a Fortinet switch purchased together with the firewalls. Task to be performed during the year 2023.
22-4	Acquisition of firewall equipment for REDDIG II	That the Secretariat: a) At the request of REDDIG member States, and together with the ICAO TCB, purchase firewall equipment for REDDIG II; b) The initial budget assigned for this acquisition would be USD 375,000.00.	Valid	The bidding process was completed and training was provided. The SAM Office will be sending the purchased equipment to the respective nodes.

No.	Title	Content	Status	Remarks
24-3	Interconnection of regional IP networks	That: a) The Secretariat proceed with the necessary administrative procedures for carrying out a meeting in Lima, with the participation of ICAO officers and telecommunication providers of the APAC, EUR and SAM regional IP networks. b) The participation of the Secretary of the Communications Panel (CP) be ensured using resources of Regional Project RLA/03/901 (air tickets and DSA).	Valid	Two teleconferences were held with the participants of the APAC regional IP network (CRV) on 21 January and 24 February 2021. An interconnection proposal is expected from the MPLS service providers. Cirion representatives presented an interconnection proposal in RCC/29, which will be forwarded, by the Secretariat, to the APAC Office for review of CRV network participants.
~~26-1~~	~~Implementation of REDDIG II ground network (MPLS) nodes in States of other Regions~~	~~That the Secretariat:~~ ~~Take the necessary measures for the hiring and installation of REDDIG II ground network (MPLS) nodes in States of other Regions, as described below:~~ ~~a) One node in Madrid (Spain), based on interest expressed by Argentina, Brazil and Venezuela, for the establishment, initially, of AMHS communications with the Madrid COM centre. The cost will be shared by the three States concerned; and~~ ~~b) One node in Johannesburg (South Africa), based on interest expressed by Argentina, for the establishment of voice and data communications with the ANSP of the Johannesburg FIR. The cost will be charged toArgentinaś annualfee.~~	~~Completed~~	~~The Madrid node was installed in late 2022 (December) and the Johannesburg node was installed in February 2023.~~
~~27-1~~	~~Implementation of REDDIG II ground network (MPLS) nodes in States of the CAR Region~~	~~That the Secretariat:~~ ~~Take the steps described below, with a view to the implementation of REDDIG II (MPLS) nodes in CAR States:~~ ~~a) Confirm with Panama its intention to join Regional Project RLA/03/901 or the hiring of the service directly from the~~	~~Completed~~	~~The MIII-RII/INTERCON/2 meeting (Lima, 5- 6 May 2022) will discuss the implementation of the nodes with the CAR States involved.~~ ~~The proposal was not accepted by all CAR States involved, thus making the implementation unfeasible.~~

No.	Title	Content	Status	Remarks
		~~telecommunication provider (Lumen);~~ ~~b) Following confirmation of item a), make arrangements for the implementation of REDDIG II (MPLS) nodes in the following CAR States: Aruba, Curaçao, Jamaica, and Puerto Rico; considering that the cost must not exceed USD 5,100.00 per month for the hiring of all nodes without AOSC.~~ ~~c) Prioritise the hiring of the nodes of Curaçao, Jamaica, and Puerto Rico, in case the value of item b) is higher than established and provide a technical solution for communications with Aruba.~~ ~~d) Costs will be covered by the States participating in Regional Project RLA/03/901.~~ ~~e) Coordinate, with the support of the NACC Office, the granting of authorisation by CAR States concerned for the implementation of the nodes.~~ ~~f) Contract 22501528 concerning the MEVA III nodes in Bogota and Caracas shall be cancelled, as soon as the REDDIG II nodes are established in the CAR States.~~		
~~28-1~~	~~Approval of the budget of Project RLA/03/901 rev. "X"~~	~~That the Secretariat:~~ ~~After completing the accession process of Panama or before 1August, 2021, prepare a proposal for revision X of Project RLA/03/901 that includes the revision and update of expenses and fees. This proposal~~	~~Valid~~ Superseded	Conclusion RCC/29-4 supersedes the approval of Revision X of the project.

No.	Title	Content	Status	Remarks
		~~must be circulated to member States for their corresponding acceptance and subsequently~~ ~~start the process of approval by ICAO Headquarters, for subsequent submission to REDDIG member States.~~		
29-1	Ad hoc group to study and propose an advanced standard configuration for the acquired firewall equipment.	That: RLA/03/901 Member States form an *Ad hoc* group, with cybersecurity experts, to study and propose an advanced standard configuration for the firewall equipment acquired by Project RLA/03/901.	Valid	Ad hoc Group constituted in RCC/29, with representatives of the following States: Argentina, Brazil, Chile, Colombia, Paraguay and Venezuela. The representative of Brazil will coordinate the activities of the group.
29-2	Management and administration of the Regional Project RLA/03/901 with the implementation of REDDIG III.	That: a) The REDDIG III Ad hoc Group evaluate the proposal to improve the management and administration structure of the project, which includes as a possible core in its Management and Administration: ✓ Project Manager: responsible for the management and administration of the Regional Project; ✓ Administrative Assistant: responsible for the administrative support to the Project Manager; and ✓ Network Administrator: responsible for the technical-operational management of the regional network. b) The REDDIG III Ad-Hoc Group must include in its proposal the functions and responsibilities of the personnel, as well as the budget required for the same. The proposal must be submitted for approval	Valid	The REDDIG III Ad hoc Group, made up of representatives from Argentina, Brazil, Chile, France (French Guiana), Paraguay and Venezuela, will evaluate the proposal to improve the management and administration structure of the network. The group will be coordinated by the representative of Chile.

No.	Title	Content	Status	Remarks
		by the RLA/03/901 Project Coordination Committee prior to the implementation of REDDIG III.		
29-3	Implementation of REDDIG III	That: The Meeting approved that the implementation of REDDIG III be in two phases: - Phase 1 WAN Infrastructure: Contracting of services, to start operations in January 2025, of a telecommunications service provider (MPLS) with redundancy of last mile links, according to the approved technical specifications. - Phase 2 LAN infrastructure: Modernization of connectivity equipment, with the necessary interfaces for connection of existing aeronautical services at each node and adaptation of the cybersecurity equipment acquired to the new architecture of the LAN part of the regional network. This phase should be planned to start operations in January 2027.	Valid	The REDDIG III Ad hoc Group will prepare the Technical Specifications of REDDIG III (Phase 1), until March 31, 2023. The Ad hoc Group will study and propose the activities of Phase 2 of REDDIG III implementation. The REDDIG III Ad Hoc Group, made up of representatives of Argentina, Brazil, Chile, France (French Guiana), Paraguay and Venezuela, will be coordinated by the representative of Chile.
29-4	Approval of the budget of Project RLA/03/901 rev. "X"	That the Secretariat: a) Consult with Headquarters on the possibility of the use of Project RLA03901 for the procurement of telecommunications service (MPLS) with last mile link redundancy by 2025 and the approximate cost thereof. b) If the above conclusion is positive, before July 1, 2023, to include such procurement in the proposal for revision X of Project RLA/03/901. This proposal should be		

No.	Title	Content	Status	Remarks
		circulated to the Member States for their acceptance and subsequently initiate the approval process by ICAO headquarters, for subsequent submission to the REDDIG Member States. c) If point a) cannot be met, take the pertinent actions to allow approval of the revision of Draft RLA/03/901, by ICAO headquarters, for its subsequent submission to REDDIG Member States, which can be found in Appendix A to this part of the Report.		

Agenda Item 3: Report of the activities carried out since the last meeting of the Coordination Committee

3.1 Under this agenda item, the Meeting reviewed the following papers:

- WP/03 - *Report of the activities carried out since the last meeting of the Coordination Committee (presented by the Secretariat); and*
- IP/01 - *Interconnection status of the AMHS system of Venezuela (presented by Venezuela)*.

3.2 The Meeting reviewed the following activities agreed upon at the Twenty-eighth meeting of the Coordination Committee (RCC/28):

a) REDDIG II performance monitoring;
b) REDDIG II training programme;
a) Operation of REDDIG II and analysis of the implementation of new services.

REDDIG II PERFORMANCE MONITORING

Network availability

3.3 The Meeting took note that network availability in 2022 had been 99.9895 %. **Appendix A** to this part of the report shows network availability up until 2022.

Logistics

3.4 **Appendix B** to this part of the report shows the logistics organised from the Regional Office during 2022.

Satellite network spare parts

3.5 The Secretariat highlighted that REDDIG equipment had already exceeded half of its useful life cycle, so it was normal to have occurrences that required more frequent shipping, repair and replacement of equipment.

3.6 According to the REDDIG II Manual, States that have received spare parts but have not sent the original faulty equipment for factory maintenance will not be able to request more spare parts until they comply with the procedure specified in the aforementioned conclusion.

3.7 **Appendix C** to this part of the report presents the inventory of spare parts kept in the storeroom of the Regional Office.

Status of the nodes

3.8 **Appendix D** to this part of the report shows statistics obtained during the year 2022 on service provided and breakdowns.

3.9 The Meeting took note that the nodes of Ilopango (El Salvador - COCESNA, 28/03), Madrid (5/12, Spain - ENAIRE) and ARSAT (Benavidez, Buenos Aires, 13/12) had been added to the REDDIG MPLS network in 2022. Likewise, the node in Johannesburg (South Africa - ATNS) had been installed on 9 March 2023.

3.10 The Secretariat highlighted the opportunity to use the ground segment (MPLS) of REDDIG as the primary means of transmission, keeping the satellite segment as secondary means (backup). Currently, most of the circuits between nodes with communication requirements are over the ground network. **Appendix E** to this part of the Report presents the terrestrial network (MPLS) availability for each node, during 2022.

3.11 The Meeting took note of the current topology of REDDIG II, with the following distribution of nodes, by access type:

- **Satellite and MPLS:** Asunción, Bogotá, Brasilia, Cayenne, Curitiba, Ezeiza, Georgetown, Guayaquil, La Paz, Lima, Maiquetía, Manaus, Montevideo, Paramaribo, Piarco, Recife and Santiago. **Subtotal: 17**

- **Only MPLS:** Aireon (Virginia), ARSAT (Buenos Aires), Atlanta, Cochabamba, ICAO SAM, Ilopango, Johannesburg, Madrid, Panama, Río de Janeiro and Salt Lake City. **Subtotal: 11**

- **Only satellite**: Tegucigalpa (MEVA antenna). **Subtotal: 1**

- **MPLS in project stage**: SITA. **Subtotal: 1**

Total: 30 Operational: 29 Planned: 1

3.12 **Appendix F** to this part of the report illustrates the current topology of REDDIG II.

Transfer of the REDDIG Bogota node

3.13 The Secretariat reported that the relocation of the Bogotá node to the new facilities at El Dorado airport had been completed in late February. The REDDIG II node in Bogotá continued to operate normally through the two network segments (ground and satellite).

3.14 The only inconvenience observed after the transfer of the equipment was a failure in the MEVA III network modem, which did not allow the reestablishment of communications through this network.

3.15 The SAM Office has consulted the Technical Cooperation Bureau (TCB) on procedures to support the Colombian Administration in the maintenance of the equipment, in order to restore MEVA III network communications.

3.16 Colombia stated that it was awaiting the outcome of the consultation to decide whether it would use ICAO support or carry out maintenance with its own resources.

Network security equipment

3.17 The Meeting was informed that the Technical Cooperation Bureau (TCB) had carried out the process to purchase the firewall equipment, as set out in Conclusion RCC/22-4 of the Coordination Committee of regional Project RLA/03/901.

3.18 All the equipment has been delivered to the SAM Office in Lima and, in November 2022, training on firewalls was provided at the SAM Office. The Secretariat noted that, unfortunately, several RLA/03/901 member States did not attend this training.

3.19 The Secretariat also reported that, during the training, a basic initial configuration of the firewall equipment was selected, with one firewall unit dedicated to the protection of the LAN part of the node and the second unit focused on the protection of the WAN (MPLS) part of the node. This basic configuration was adopted to expedite the prompt installation and activation of security measures in a homogeneous manner, even in the nodes of the States that did not participate in the training.

3.20 The REDDIG Administration will send the equipment to the participating States as soon as possible and will coordinate the installation of the equipment with the technicians of each node.

3.21 Brazil suggested that a group of experts be set up to study and propose a more optimised configuration, taking better advantage of the functionalities of the equipment acquired, providing greater resilience to potential attacks. The proposal was supported by other participating States, and the following conclusion was formulated:

<table>
<tr><td colspan="2">Conclusion
RCC/29-1 *AD HOC* GROUP TO STUDY AND PROPOSE AN ADVANCED STANDARD CONFIGURATION FOR THE FIREWALLS ACQUIRED</td></tr>
<tr><td>That:

RLA/03/901 member States form an *ad hoc* group, with cybersecurity experts, to study and propose an advanced standard configuration for the firewall equipment acquired by Project RLA/03/901.</td><td>Expected impact:

☐ Political / Global
☐ Interregional
☐ Economic
☐ Environmental
☒ Technical/Operational</td></tr>
<tr><td colspan="2">Why:
To optimise the initial basic configuration, taking better advantage of the functionalities of the equipment purchased, increasing the resilience of the network to potential attacks.</td></tr>
<tr><td>When:
As of April 2023.</td><td>Status:
Approved by RCC/29</td></tr>
<tr><td colspan="2">Who:
States concerned.</td></tr>
</table>

3.22 The following States expressed interest in participating in the *ad hoc* group: Argentina, Brasil, Chile, Colombia, Paraguay and Venezuela. A representative of Brazil will coordinate the Ad hoc Group.

REDDIG II TRAINING PROGRAMME

3.23 The Meeting noted that, during the year 2022, taking into account the particularities of the pandemic and other factors, the following training activities had been planned:

a) **Recurrent training on REDDIG operation and maintenance**:
It is a regular task of the REDDIG Administrator to deliver this training during the annual visits to the nodes. It was only possible to carry out this activity during the mission to Cayenne (27 August to 3 September);

b) **Course on security policies and firewall configuration and Advanced course on firewall management and monitoring**:
As previous explained in this working paper, training was provided according to the specifications of the equipment purchased.

c) **Training for the Manaus NCC staff on IP packet analysis using *sniffer* (RADAR, AMHS, etc)**:
This activity could not be carried out due to COVID-19 restrictions.

Technical-Operational Meeting (RTO/09)

3.24 The Meeting took note that the RTO/09 meeting had been held virtually on 13-14 October 2022. The link below provides access to information on the event:

https://www.icao.int/SAM/Pages/MeetingsDocumentation.aspx?m=2022-REDDIG-RTO

REDDIG II OPERATION AND ANALYSIS OF THE IMPLEMENTATION OF NEW SERVICES

Activities and new services in the MEVA III – REDDIG II interconnection

3.25 The Meeting was informed that the Second MEVA III - REDDIG II Interconnection Coordination Meeting (MIII-RII/INTERCON/02), was held in Lima, Peru, on 5-6 March 2022. Those who could not be attend had the possibility of participating through the Zoom teleconferencing platform.

3.26 The meeting was attended by 54 participants from 9 member States of the NAM/CAR Regions (Aruba, Bahamas, Cuba, Curaçao, Dominican Republic, Haiti, Jamaica, Mexico, Trinidad & Tobago), 9 States of the SAM Region (Argentina, Brazil, Colombia, Chile, Ecuador, France, Guyana, Paraguay, Peru, Suriname, Trinidad & Tobago, Uruguay and Venezuela), 2 observer States (United States and Panama) and COCESNA, including ICAO experts.

3.27 The meeting was presented with WP/2, containing a summary of the proposal made by the Coordination Committee of Regional Technical Cooperation Project RLA/03/901 for changing the interconnection scheme, which involved the implementation of REDDIG II nodes (MPLS) in Aruba, Curaçao, United States (Puerto Rico) and Jamaica, at no cost to these States, including the provision of

interfaces as could eventually be required, to replace MEVA III satellite links with REDDIG II ground links (MPLS).

3.28 The Meeting formulated Conclusion MIII-RII/INTERCON/02-01, *Implementation of the new MEVA-REDDIG interconnection scheme*, establishing that the actions to implement the nodes in the CAR States would be subject to the acceptance of the CAR States involved within a period of time that allowed for the necessary transactions to take place.

3.29 **Appendix G** to this part of the report presents Conclusion MIII-RII/INTERCON/02-01.

3.30 The documents of the MIII-RII/INTERCON/02 Meeting can be accessed through the link below:

https://www.icao.int/SAM/Pages/MeetingsDocumentation.aspx?m=2022-REDDIG-MIII-RII-INTERCON02

3.31 Subsequently, a letter was sent through the NACC Office encouraging CAR States concerned to express their approval by 1 July 2023, noting that if there was no response, the proposal would be deemed not to have been accepted and implementation would be rendered unfeasible.

3.32 Since one of the States did not respond to the proposal on a timely basis, missing the corresponding time window, the implementation of the nodes in the CAR States became unfeasible.

Support to coordination of inter-regional interconnections

3.33 The Administration of Project RLA/03/901 has participated actively in the interconnection of AMHS systems, as well as in different services exchanged between States, such as tests with the Brasilia OPMET bank, AIDC connections and the exchange of surveillance information (ADS-B and SSR).

3.34 Usually, all available tools are used to provide the necessary support to accomplish the interconnections, exchanges, transport of different services and information, and also to capture and analyse traffic information in order to find solutions to issues encountered in the services, and to coordinate tasks carried out jointly with the Administration of the MEVA III network.

3.35 Venezuela submitted a paper reporting the status of the Caracas AMHS interconnections, highlighting the latest results obtained with the implementation of the REDDIG II (MPLS) node in Madrid. Currently, the AMHS/AFTN system of the Caracas COM centre has thirteen (13) international interconnections and since its implementation, major achievements have been made with AMHS interconnections (P1) with the following States of the SAM Region (in chronological order):

- Lima (Peru) November/2017
- Bogotá (Colombia) December/2017
- Brasilia (Brazil) February/2018
- Quito (Ecuador) September/2018
- Paramaribo (Suriname) March/2019
- Georgetown (Guyana) May/2019
- Cayenne (French Guiana) January/2020
- Piarco (Trinidad and Tobago) September/2020
- Atlanta (United States) November/ 2021
- Ezeiza (Argentina) June/2022 (extra plan)
- COCESNA November/2022 (extra plan)

- Madrid (Spain) February/2023

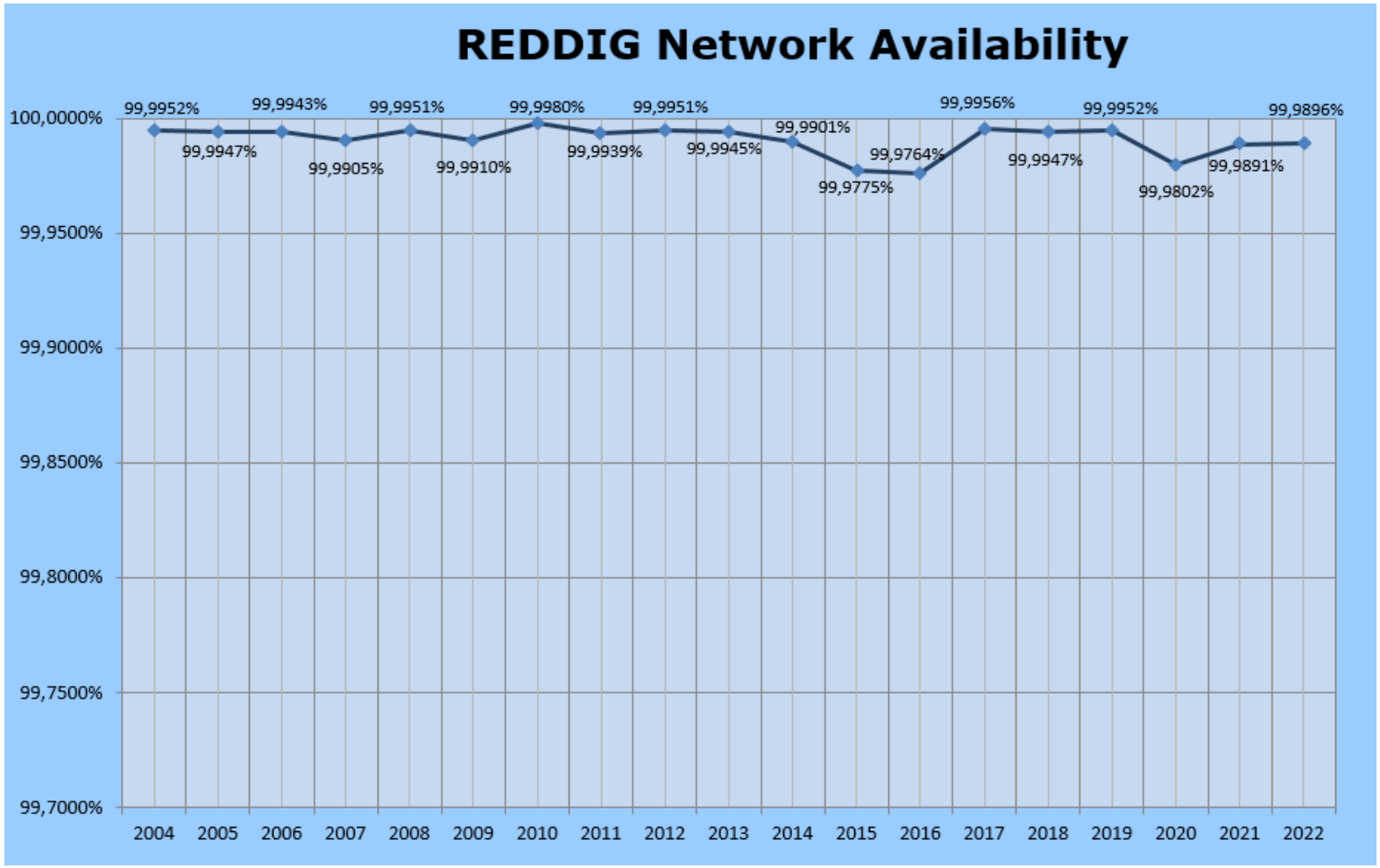
3.36 Furthermore, the Caracas COM centre still maintains an AFTN circuit with the Curaçao COM centre via MEVA III network channels.

3.37 **Appendix H** to this part of the report shows all the AMHS interconnections established so far by SAM States.

– END –

APÉNDICE / APPÉNDIX A

Disponibilidad de la REDDIG / REDDIG Availability



APÉNDICE B / APPENDIX B

Movimientos Logísticos / Logistic Movements

EQUIPOS ENVIADOS PARA REPARAR EN FÁBRICA DURANTE 2022 / EQUIPMENT SHIPPED FOR FACTORY REPAIR DURING 2022

MODEM SKYWAN 1070		
EQUIP.	**S.N.**	**NODO / NODE**
IDU 1070B	#00:40:71:F0:51:02	Cayena (Francia)
IDU 1070B	#00:40:71:F0:52:22	Maiquetia (Venezuela)
IDU 1070B	#00:40:71:F0:51:C2	Recife (Brasil)
IDU 1070B	#00:40:71:F0:51:C2	spare (OACI)
IDU 1070B	#00:40:71:F0:2C:3C	La Paz (Bolivia)
IDU 1070B	#00:40:71:F0:2C:3C	La Paz (Bolivia)

EQUIPOS RF TERRASAT / TERRASAT RF EQUIPMENT		
IBUC 80W	TE 5022353	Bogotá (Colombia)
IBUC 80W	TE 5022357	Cayena (Francia)
IBUC 80W	TE 5022342	Recife (Brasil)
RX 1+1	TE 6010447	Cayena (Francia)
RX 1+1	TE 6010441	La Paz (Bolivia)

APÉNDICE C / APPENDIX C

Repuestos REDDIG II 2022 / REDDIG II Spare Parts

Description	Qty	Unit Price USD	Total Price USD
INDOOR Equipment			
~~IDU 1070 19¨ NS + PS AC~~	~~1~~	20,664.00	20,664.00
~~License Key Mesh Topology~~		included	
GORGY TIMING Equipment			
~~GPS Master Clock – RT9s including on outdoor GPS~~	1	3,289.00	3,289.00
Antenna and cable			
GPS standalone outdoor Antenna for RT9s (without cable)	1	937.00	937.00
LAN Port Server			
NPORT 5610-8	1	1,230.00	1,230.00
10 MHz Redundancy Equipment			
BIAS-T switch (10MHz redundancy system)	1	2,125.00	2,125.00
Passive DC-Block (Power injector 10MHz pass)	4	542.00	2,168.00
Passive DC-Block (RF Bandwidth)	4	130.00	520.00
Passive Splitter (2 Port RF Bandwidth)	2	265.00	530.00
Spare Parts for HPE PROLIANT DL160 Server			
Fans for HPE PROLIANT DL160 Server	5	124.00	1,240.00
Hot-Plug HP Midline HDD 500GB 7.2K SATA	2	405.00	810.00
OUTDOOR Equipment			
RF Equiment			
~~IBUC 80W~~	~~1~~	18,653.00	18,653.00
~~Tx 1+1 switching system~~	~~1~~	8707.00	8707.00
~~Rx 1+1 switching system~~	~~1~~	9,523.00	9,523.00
Waveguide Switch (CPRG flange) + Control cable	1	3,528.00	3,528.00
LNB with external 10MHz reference	1	804.00	804.00
RF filter (for LNB path)	1	676.00	676.00
N-Female Type coaxial connector (for CNT/LMR-400 Type coaxial cable)	4	45.00	180.00

N-Male Type coaxial connector (for CNT/LMR-400 Type coaxial cable)	4	44.00	176.00
N-Male Type coaxial connector (for CNT/LMR-600 Type coaxial cable)	4	67.00	268.00
EQUIPOS Y PIEZAS DE REPUESTO EN GENERAL			
~~Modem Satelital~~	~~1~~		
Cable de energia	1		
Tarjeta MOD	1		
Tarjeta SIC/DEMOD	1		
Tarjeta FPG	1		
Tarjeta UIM	1		
Cable de consola	1		
Cable de RF N-SMA Macho	1		
~~ROUTER Cisco 2901~~	~~1~~		
Two port Async-Sync Serial WAN interface card	1		
Two port Async-Sync Serial WAN interface card	1		
~~two port voice interface card FXS~~	~~1~~		
~~ROUTER Cisco 2911~~	~~1~~		
24 PORT RJ45 PATCH PANEL	1		
01 TARJETA EVM-HD TELEFONICO	1		
Cable serial CISCO V.24 DTE DB25	1		
Cable serial CISCO V.24 DCE DB25	1		
Cable telefonico RJ11 cross over	1		
High density 8 port analog and digital extension module	1		
~~ROUTER Cisco 2901~~	~~1~~		
Two port Async-Sync Serial WAN interface card	1		
~~two port voice interface card FXS~~	~~1~~		
Cable serial CISCO V.24 DCE DB25	1		
~~Rx 1+1~~	~~1~~		
~~Handheld Terminal with 2 m cable~~	1		
~~Accesorios para RX 1+1~~	1		
~~Cables de energia~~	2		
~~Cable Coaxial de RF con conectores tipo N 6m.~~	1		
~~Cable de Gestion para LNB~~	1		
~~Cable Coaxial de RF con conectores tipo N 30 cm.~~	2		

Wave Guide Switch for LNB	1		
LNB Banda C	1		
LNB Banda C	1		
~~Switch Netgear de 26 Puertos~~	~~1~~		
Cable USB	1		
~~Switch Netgear de 26 Puertos~~	~~1~~		
~~IBUC 40W~~	~~1~~		
~~IBUC 40W~~	~~1~~		
1+1 Interface	1		
Switch de Guia de Onda	1		
Cable Coaxial con conectores tipo N 30cm	2		
Cables de gestión con conector tipo Militar	2		
Cable de gestión tipo ethernet	1		
Cable de Energía	2		
Manuales de Curso de Rio de Janeiro			
Documentos Oficiales REDDIG II			
Manuales REDIG II			
Documentos Oficiales REDDIG II			
~~IBUC Terrasat 80 W~~	~~1~~		
~~IBUC Terrasat 80 W~~	~~1~~		
Tarjeta Serial MOXA de 8 Puertos RS-232 PCI	1		
Disco Duro Externo IOMEGA NAS 2 Tb	1		
Fuente para Disco Duro	1		
Manuales	1		
UPS Eaton Eclipse ECO 1200 VA	1		
Cable Multipuerto Moxa 8 puertos	1		
Cable Cisco V.24 DTE	5		
Cable Cisco V.24 DCE	11		
Cable DB25 Male-Female	6		
Cable Patch Cord ethernet RJ45	6		
Cable Multiple Cisco 8 puertos ethernet con adaptadores a DB25	2		
Two port Async-Sync Serial WAN interface card	1		
Four port Async-Sync Serial HWIC	1		

Four port Async-Sync Serial HWIC	1		
Eight port Async interface card	1		
~~Two Port Voice Interface Card FXS.~~	~~1~~		
~~Two Port Voice Interface Card FXS.~~	~~1~~		
~~Two Port Voice Interface Card FXS.~~	~~1~~		
~~Two Port Voice Interface Card FXS.~~	~~1~~		
~~Two Port Voice Interface Card FXS.~~	~~1~~		
~~Two Port Voice Interface Card FXS.~~	~~1~~		
~~Two Port Voice Interface Card FXS.~~	~~1~~		
~~Two Port Voice Interface Card FXS.~~	~~1~~		
~~Two Port Voice Interface Card FXS.~~	~~1~~		
~~Two Port Voice Interface Card FXS.~~	~~1~~		
~~Four Port Voice Interface Card FXS~~	~~1~~		
~~Four Port Voice Interface Card FXS~~	~~1~~		
~~Four Port Voice Interface Card FXS~~	~~1~~		
~~Four Port Voice Interface Card FXO~~	~~1~~		
One Port 2nd Gen Multiflex trunks Voice Wan Interface Card E1/T1	1		
High Density voice/fax external Module	1		
Two Port 2nd Gen Multiflex trunks Voice Wan Interface Card E1/T1	1		
Eight port Async-Sync interface card	1		
Module Adapter for SM Slot on CI	1		
Module Adapter for SM Slot on CI	1		
Impresora Laser Jet Pro 400 M401dn	1		
Cables de Energía	1		
8 Port Device Server 10/100 eth	1		
~~RSS 16 SLOT 4U Chasis~~	~~1~~		
Power Module	1		
Network Control Card	1		
Dual 8 wire Module Jack A/B card	1		
Dual 8 wire Module Jack A/B card	1		
D25 A/B Card	1		
D25 A/B Card	1		
D25 A/B Card	1		

D25 A/B Card	1		
~~RSS 16 SLOT 4U Chasis~~	~~1~~		
~~Power Module~~	~~1~~		
~~Network Control Card~~	~~1~~		
~~Dual 8 wire Module Jack A/B card~~	~~1~~		
~~Dual 8 wire Module Jack A/B card~~	~~1~~		
~~D25 A/B Card~~	~~1~~		
~~D25 A/B Card~~	~~1~~		
High density 8 port analog and digital extension module	1		
High density 8 port analog and digital extension module	1		
Cable de consola de Cisco	2		
KVM Extender	1		
Convertidor USB – Serial	1		
Telefono IP DEPAEPE	1		
Mouse Optico USB Negro	1		
Regleta electrica con 05 tomas	2		
Teclado Estandar K120	1		
Filtro RF	1		
Filtro RF	1		
Barras de Anclaje de acero	3		
Bloques de anclaje de plastico negro	6		
Tornillos de sujecion de acero	20		
Blank panel para RSS	3		
Regleta electrica con 05 tomas	2		
Adaptadores Cambia genero DB25	15		
Pantalla LCD 27"	1		
HP ProLiant DL160 Gen8 Base – Server	1		
~~NTP Time Server Master Clock~~	~~1~~		
GPS Antenna + Cable	1		
Router Cisco 2901	1		
Router Cisco 2901	1		
Router Cisco 2901	1		
~~IBUC Terrasat 80 W~~	~~1~~		

Firewall NETGEAR Prosafe VPN Dual Wan Gigabit	1		
~~VSAT Terminal IDU SkyWan 1070 19"~~	~~1~~		
REPUESTOS REDDIG I			
Fuente de Poder para CX950	1		
Fuente de Poder para CX950	1		
Fuente de Poder para CX950	1		
Fuente de Poder para CX950	1		
Fuente de Poder para CX950	1		
Fuente de Poder para CX950	1		
Fuente de Poder para CX950	1		
Fuente de Poder para CX950	1		
Dual Analog Voice Card	1		
Dual Analog Voice Card	1		
Dual Analog Voice Card	1		
Dual Analog Voice Card	1		
Dual Analog Voice Card	1		
Dual Analog Voice Card	1		
Dual Analog Voice Card	1		
Fast Ethernet 10/100 Card	1		
Fast Ethernet 10/100 Card	1		
Fast Ethernet 10/100 Card	1		
Fast Ethernet 10/100 Card	1		
Fast Ethernet 10/100 Card	1		
Fast Ethernet 10/100 Card	1		
Fast Ethernet 10/100 Card	1		
10 Base-T Ethernet Card	1		
10 Base-T Ethernet Card	1		
ISDN Card	1		
Digital Voice Processor	1		
Digital Voice Processor	1		
Digital Voice Processor	1		
Digital Voice Processor	1		
Digital Voice Processor	1		

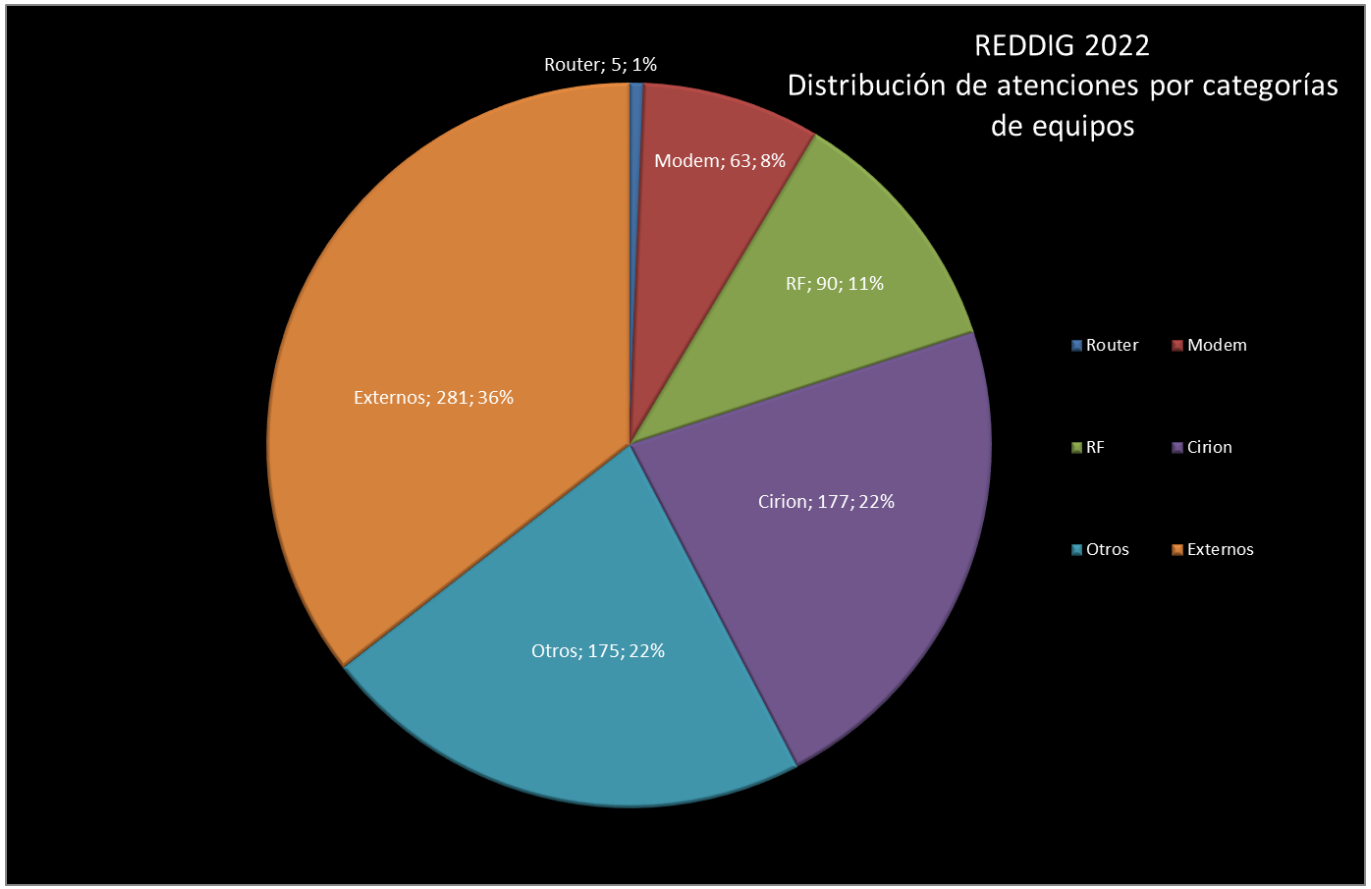
Digital Voice Processor	1		
E1 Expansion	1		
V.35 H	1		
Multi I/O V.24	1		
Multi I/O V.24	1		
Multi I/O V.24	1		
Multi I/O V.24	1		
Multi I/O V.24	1		
Multi I/O V.24	1		
Modulo Ram 32 MB	1		
Modulo Ram 32 MB	1		
Modulo Ram 64 MB	1		
Modulo Ram 64 MB	1		
Modulo Ram 64 MB	1		
Modulo Ram 64 MB	1		
Slim Card E&M	1		
Slim Card E&M	1		
Slim Card E&M	1		
Slim Card E&M	1		
Slim Card E&M	1		
Slim Card E&M	1		
Slim Card E&M	1		
Slim Card E&M	1		
Slim Card E&M	1		
Universal I/O	1		
Universal I/O	1		
Universal I/O	1		
Universal I/O	1		
Universal I/O	1		
Universal I/O	1		
Ring Generator	1		
Ring Generator	1		
Ring Generator	1		

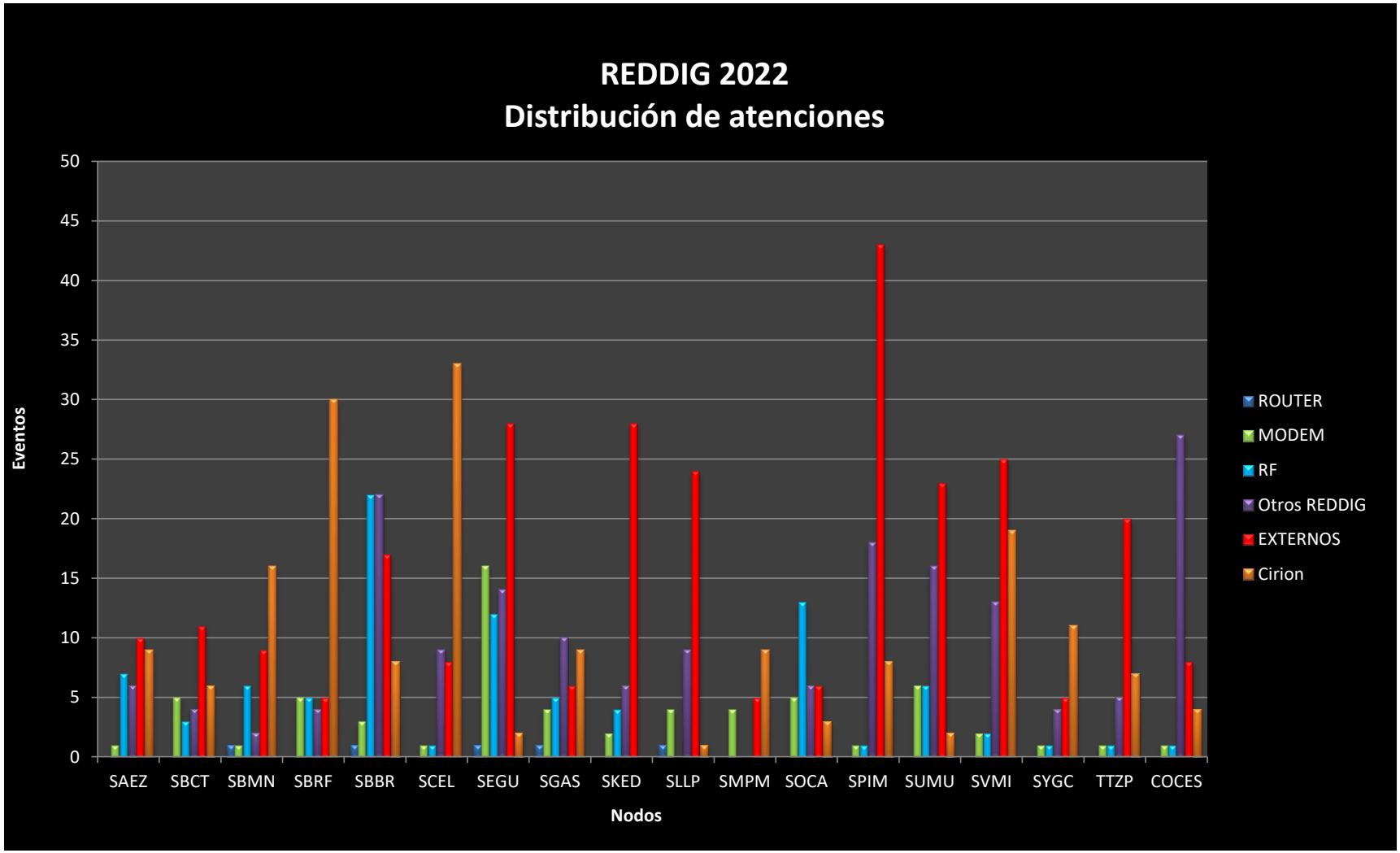
Ring Generator	1		
Ring Generator	1		
Ring Generator	1		
Chasis CX950	1		
Multiplexor CX950e Chasis+Placa Madre	1		
Multiplexor CX950e Chasis+Placa Madre	1		
Modem Linkway 2100	1		
Tarjeta MODEM	1		
Tarjeta Ethernet	1		
FR TIA	1		
Fax CANON H12130	1		
Telefono analogico CONAIRPHONE	1		
SSPA 40 W	1		
SSPA 40 W	1		
Fuente para Modem Linkway	1		
Fuente para Modem Linkway	1		
Fuente para Modem Linkway	1		
Fuente para Modem Linkway	1		
Fuente para Modem Linkway	1		
Fuente para Modem Linkway	1		
Fuente para Modem Linkway	1		
Fuente para Modem Linkway	1		
Fuente para Modem Linkway	1		
Fuente para Modem Linkway	1		
Rollo de cable ASSy 3 x 2.5 50 m	1		
Rollo de cable Multipar 50 m	1		
Rollo de cable Multipar 50 m	1		
LNB Banda C	1		
Cables Patch Cord Ethernet 3m	1		
Cables DB9-DB25 3m	1		
Rollo de Cable Coaxial 50R 50m	1		
SSPA 40 W	9		

GPS Datum	2		
Cable de consola Cisco	1		
Cable de Gestion SSPA Paradise	1		
Concectores Tipo N 50R sin ensamblar	1		
Pulsera anti estatica	1		
Paquete de Placas vacias para equipos Memotec.	1		
Combinador-Divisor de RF	4		
Convertidos RS232-RS485	1		
Paquete de instalacion SUN SOLARIS	1		
Tarjeta Multipuerto Serial	1		
Cable multipuerto DB25 para Multi I/O Memotec	1		
Cable Patch Cord Ethernet RJ45 5m	2		
Cable de consola Memotec	1		
Adaptador DB9-DB25	2		
Adaptador DB25-M34	2		
Cable de energía	1		
Cable RF Coaxial N-SMA Male	2		

APÉNDICE D / APPENDIX D

Atenciones y Averías / Attentions and Faults



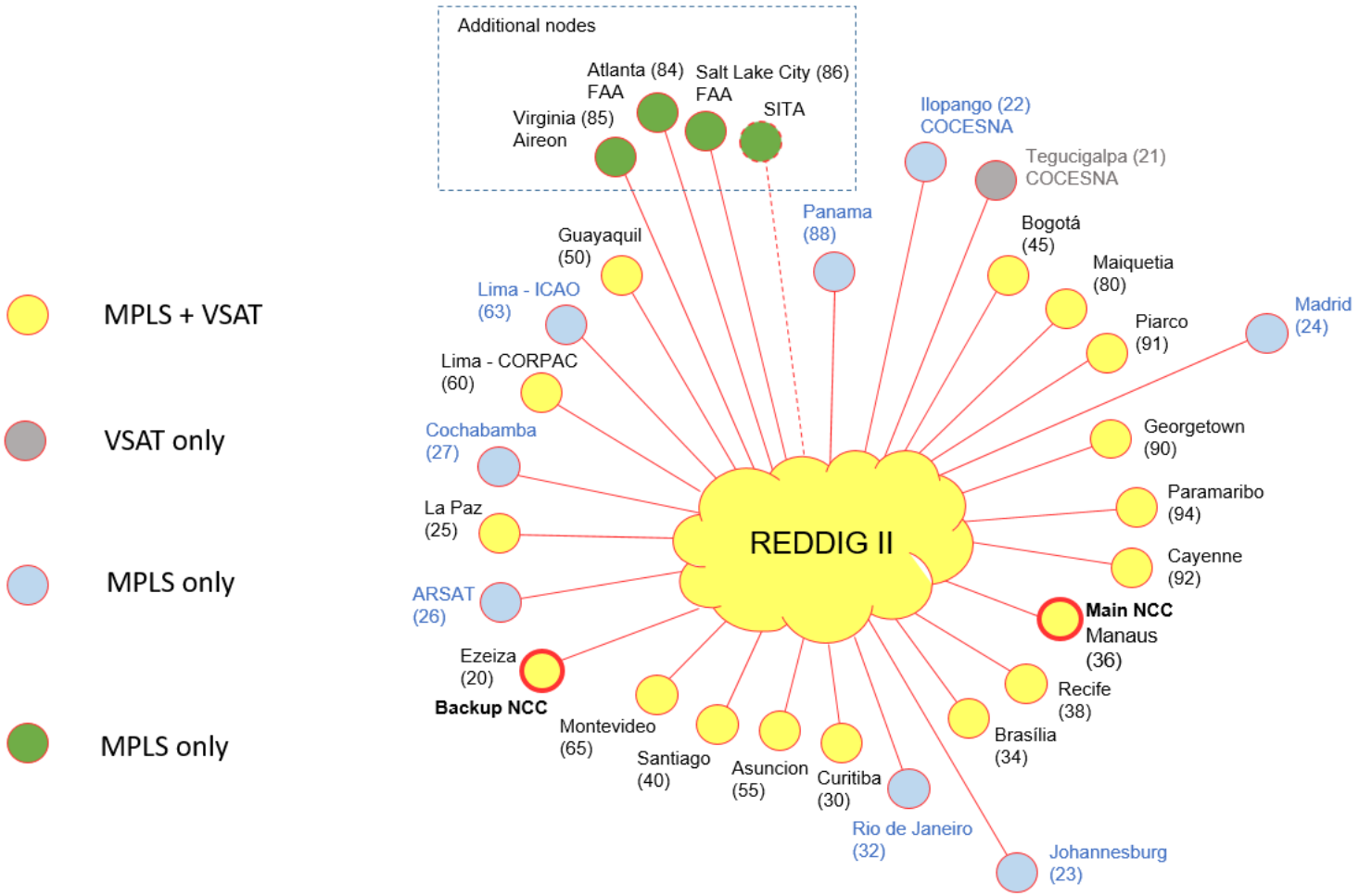

REDDIG 2022
Distribución de atenciones
Eventos
50
45
40
35
30
25
20
15
10
5
0
SAEZ
SBCT
SBMN
SBRF
SBBR
SCEL
SEGU
SGAS
SKED
SLLP
SMPM
SOCA
SPIM
SUMU
SVMI
SYGC
TTZP
COCES
Nodos
ROUTER
MODEM
RF
Otros REDDIG
EXTERNOS
Cirion

APÉNDICE E / APPENDIX E

DISPONIBILIDAD DE LUMEN DURANTE EL AÑO 2022 / AVAILABILITY Lumen DURING THE YEAR 2022

	January 2022		February 2022		March 2022		April 2022		May 2022		June 2022		July 2022		August 2022		September 2022		October 2022		November 2022		December 2022		TOTAL
	Availability	USD Credit	Availability	USD Credit	Availability	USD Credit	Availability	USD Credit	Availability	USD Credit	Availability	USD Credit	Availability	USD Credit	Availability	USD Credit	Availability	USD Credit	Availability	USD Credit	Availability	USD Credit	Availability	USD Credit	USD Credit
SAEZ											98,89%	USD 6,42													USD 6,42
SBBR													99,40%	USD 2,36	98,844	USD 6,76			99,50%	USD 1,58					USD 10,70
SBCT			99,56%	USD 1,08																					USD 1,08
SBMN	92,95%	USD 56,40	99,31%	USD 3,26											97,68%	USD 16,86	98,17%	USD 12,82							USD 89,34
SBRF	99,02%	USD 5,34	99,26%	USD 3,48	97,20%	USD 19,75							99,36%	USD 2,68					97,55%	USD 17,00	84,13 %	USD 123,03	94,34 %	USD 42,38	USD 213,66
SCEL			66,31%	USD 273,84			98,48%	USD 10,00	97,72%	USD 16,28	98,77%	USD 7,59	98,94%	USD 6,27											USD 303,98
SEGU							98,63%	USD 8,77																	USD 8,77
SGAS	99,32%	USD 7,05					98,69%	USD 18,94					99,58%	USD 2,33									99,56 %	USD 2,72	USD 31,03
SKED																									
SLLP																									
SMPM													98,45%	USD 49,45							99,63%	USD 2,68			USD 52,13
SOCA					98,50%	USD 31,92																			USD 31,92
SPIM													99,04%	USD 4,56											USD 4,56
SUMU																	94,07%	USD 122,15							USD 122,15
SVMI															99,39%	USD 8,81									USD 8,81
SYGC			99,38%	USD 15,04															98,59%	USD 52,36	92,26%	USD 351,96			USD 419,36
TTZP													98,25%	USD 12,91											USD 12,91
																									USD 1.316,83

APÉNDICE F / APPENDIX F



APPENDIX G

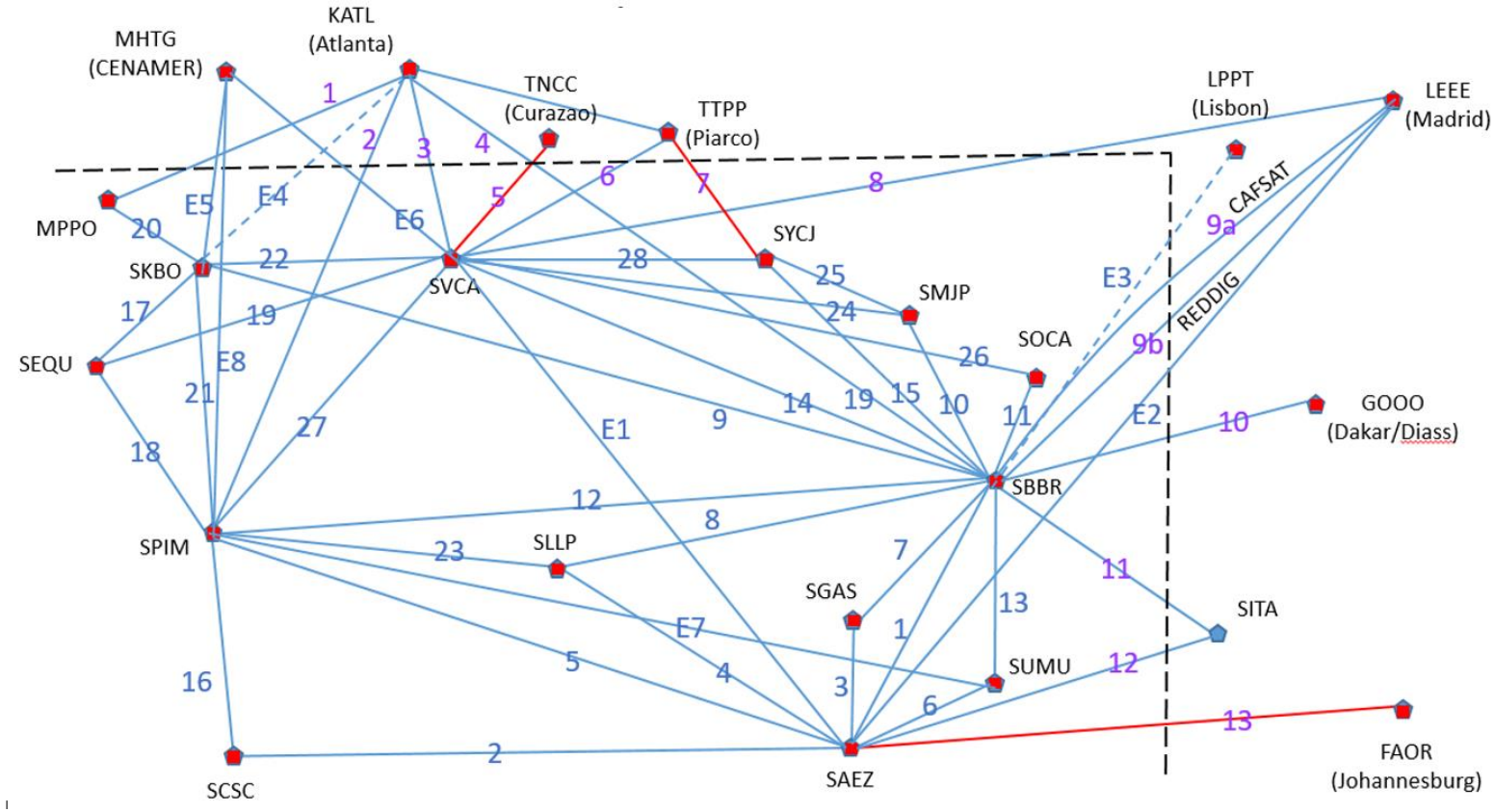
CONCLUSION MIII-RII INTERCON/02-01

<table>
<tr><td colspan="2">Conclusion
MIII-RIII INTERCON/02-01 IMPLEMENTATION OF THE NEW MEVA-REDDIG INTERCONNECTION SCHEME</td></tr>
<tr><td>That the Secretariat of Project RLA/03/901:

Once the consent of the States involved (Aruba, Curaçao, United States and Jamaica) has been received for the installation of the MPLS terrestrial network nodes of REDDIG II, proceed to take the necessary actions for the acquisition and start-up of the nodes. These actions must ensure the continuity of the service, and will be subject to the acceptance of the States within a period of time that allows said transition to take place.</td><td>Expected impact:

☐ Political / Global
☒ Inter-regional
☒ Economic
☐ Environmental
☒ Technical/Operational</td></tr>
<tr><td colspan="2">Why:
To provide better communications at the interface of the CAR and SAM Regions, through a new interconnection scheme.</td></tr>
<tr><td>When:
As of June 1st, 2022.</td><td>Status:
Approved at the MIII-RII/INTERCON/02 Meeting</td></tr>
<tr><td colspan="2">Who:
Secretariat</td></tr>
</table>

APÉNDICE H / APPENDIX H



Agenda Item 4: Work plan for the year 2023 and approval of the REDDIG III Technical Specifications.

4.1 The following Study Notes were presented for this agenda item:

- WP/04 - *Planned activities for the period 2022* (Submitted by the Secretariat).
- WP/07 - *REDDIG III Concept* (Submitted by the Secretariat)

WORK PLAN FOR 2023

4.2 The Meeting discussed the following activities to be carried out in 2023:

a) New REDDIG II activities and services;
b) Training program 2023;
c) Proposals for activities formulated during RTO/9.

NEW REDDIG II ACTIVITIES AND SERVICES

4.3 The participants received information from the Secretariat on the activities to be carried out in 2023, which basically consist of the effort to increase the useful life of the satellite network and the development of the technical specifications of REDDIG III.

4.4 The participants were requested to consider the proposal to leave a single chain in operation at the nodes, in order to preserve the useful life of the satellite station equipment. States adopting this procedure should coordinate with the Network Administrator to establish the timing of equipment shutdown, maintenance phases and alternation of operation.

4.5 Participants were also urged to:

a) Verify that the stations are registered with the frequency spectrum regulatory bodies and report the situation. Recall that a change of carrier frequencies has been carried out;
b) Update the Focal Points for the Project through an official written communication addressed to the Regional Office. **Appendix A** of this part of the Report presents the List of REDDIG Focal Points; and,
c) The areas responsible for the electrical installations are again urged to check the condition of the installations, the UPS of each of the nodes and the grounding system.

Incorporation of firewall equipment into the network

4.6 The Meeting noted that, in 2023, the firewall equipment that was acquired by the RLA/03/901 Project will be routed to the nodes and the Project Management will coordinate the installation of the equipment with the basic configuration, defined during the training held in 2022.

4.7 According to Conclusion RCC/29-1 (see Agenda Item 3), an Ad-hoc group will study an advanced configuration for the firewall equipment, in order to increase the resilience of the network, taking better advantage of the functionalities of the acquired equipment.

Tenth REDDIG II Operational Technical Meeting (RTO/10)

4.8 The Secretariat informed the participants that it was coordinating with the Administration of Paraguay to hold the RTO/10 Meeting in Asuncion. Once the RLA/03/901 Project completes 20 years of existence in September of this year, the Project Administration suggests having a space during the RTO/10, to hold a commemorative event, bringing together the participants of the RTO/10 and other invited people who, in some way, were involved with the RLA/03/901 Project.

4.9 In this regard, the Secretariat has proposed to hold the RTO/10 at the SAM Regional Office in Lima, from September 4 to 8, 2023, in order to provide better logistical support for the event, as well as to gather a larger number of guests.

4.10 The Paraguayan delegates graciously declined to hold the RTO/10 in Asunción and supported the Secretariat's proposal.

Preventive maintenance scheduling

4.11 By 2023, REDDIG Management intends to resume the preventive maintenance program for all REDDIG node equipment. **Appendix B** to this part of the Report describes the schedule to be carried out.

Visit to REDDIG II nodes

4.12 The Meeting took note that the nodes to be visited by the Network Administrator in 2023 will be the nodes of Guayaquil (Ecuador) and Piarco (Trinidad & Tobago), which will be coordinated with the respective States.

Interconnection with other regional networks

4.13 Cirion representatives provided information to the Meeting on the proposed CRV - REDDIG II interconnection scheme, coordinated with the CRV network telecommunications service provider (PCCW Global).

4.14 The CRV network provider has a presence within the Cirion Data Center in Santiago, where it would connect to REDDIG II. A PCCW Global link from a CRV node in New Zealand (Auckland or Christchurch) to the Cirion Data Center in Chile (Santiago) would be implemented. **Appendix C** to this part of the Report presents a schematic of the proposed interconnection and a quotation of the link to be implemented, for 5 Mbps bandwidth.

4.15 The Meeting took note of the information provided and the Secretariat informed that it will contact the NHA Officers of the APAC Office to coordinate a meeting with the members of the VRC to discuss the proposal.

4.16 Cirion representatives also informed that all the REDDIG II nodes (MPLS) contracted so far have been delivered; that a new monitoring platform (Cirex) for alarms and service performance is being implemented and that the REDDIG Administration will be able to participate in the training that will be provided. They also stated about the company's interest in continuing to provide services in the REDDIG III version of the regional network.

Alternation of NCC and REDDIG management center operation

4.17 In 2023, the operation of the NCCs and the Manaus REDDIG management center should be alternated, as long as conditions permit, and considering that it would be desirable for the Administrator to move to the Ezeiza NCC during the alternation (planned, one week). The Project Management will coordinate for the realization of the activity, after compatibility with the schedule of other activities and the available budget.

REDDIG II TRAINING PROGRAM

Recurrent on REDDIG II Operation & Maintenance

4.18 It was reported that this activity, suspended due to the restrictions of the pandemic, will be resumed during the scheduled visits to the nodes by the Administrator.

Course on security policies and firewall configuration

4.19 The Meeting took note of the request made by RTO/09 to conduct a new training on FortiGate equipment with the same methodology as that developed in the Regional Office during 2022.

4.20 In this regard, it was recommended that the Ad-hoc Group constituted by Conclusion RCC/29-1 (see Question 3 of the Agenda of this Report) evaluate and propose how to carry out this training. The priority for this training would be from the States that could not participate in the training carried out in 2022.

Training for NCC Manaus personnel on IP packet analysis with sniffer (Radar, AMHS, etc).

4.21 This training is oriented to the personnel working at NCC Manaus and its function is to support the network, ensure data transport and data integrity and will be coordinated and scheduled by the Network Administrator.

PROPOSALS FOR ACTIVITIES FORMULATED DURING RTO/9

4.22 In this item, the RCC/29 Meeting took note of several matters discussed during the RTO/9 (Virtual, September 13-14, 2022). The following issues should be highlighted:

a) 100% of interconnections will be IP and moving to VoIP is an inevitable trend. There are already States that have made significant investments to support VoiP operational telephony using SIP protocol, and highlighting the criticality of recording as a requirement.

b) Some States expressed interest in making changes to the node (antenna relocation, increase in router interfaces and acquisition of new items), and the Secretariat informed that the entire process begins with the submission of a letter to the Director of the South American Regional Office requesting the necessary support. The SAM Office will make the appropriate routing, to obtain the quotations for the applicant's approval. If resources are available in the Project, the amounts will be added to the annual quota of the State requesting the support. If resources are not available, the applicant must provide the necessary amounts to carry out the requested support.

c) In relation to voice services, there are cases where the States have all users configured as operational, and no administrative/maintenance network users. Since the users of the operational network and the administrative/maintenance network have different usage characteristics, this may generate difficulties for the ATS users to coordinate with adjacent centers. States that have not implemented REDDIG administrative/maintenance network users were urged to take actions to adapt this situation as soon as possible. The Secretariat informed that it will circulate a communication to the States that would be in this situation.

Other relevant topics

4.23 With the incorporation of the MPLS node in Panama, during RTO-09, its representatives expressed their motivation and the opportunity to achieve, in the short term, the integration of voice and data services with the SAM Region.

4.24 During 2023, COCESNA will implement REDDIG as one of the links used for the provision of the ADS-B Satellite service, receiving surveillance information through Aireon's REDDIG II node (MPLS).

4.25 Colombia offered to share with Ecuador (and other interested States) a solution for voice communication, which has already been implemented with Venezuela for communication between Cúcuta and Táchira and is currently operational.

4.26 The current Bogota PBX has a functionality that allows the implementation of remote extensions through the Internet. An application can be installed on a computer or cell phone allowing the assignment of an extension (terminal) of the Bogota PBX, connected through the Internet. **Appendix D** to this part of the Report illustrates the communication provided.

4.27 Representatives from Venezuela stated that the solution is working satisfactorily and that they intend to apply it in other remote locations.

Approval of the Technical Specifications for REDDIG III

4.28 The Secretariat has submitted a study note (WP/07), providing, first, a history of the implementation of the Digital Network of the SAM Region, through the Regional Technical Cooperation Project RLA/98/019, and the establishment of the Regional Technical Cooperation Project RLA/03/901 - REDDIG Management System and Satellite Segment Administration for ICAO to provide the participating States, for a period of 5 years, the management and administration of the regional network, until such time as the States establish a Multilateral Regional Organization (MRO) that would assume the final management and administration of the regional network.

4.29 As various difficulties were raised in the negotiations for the establishment of the MRO the REDDIG participating States, through meetings of the REDDIG Coordination Committee, have renewed in 2008, 2013 and 2018 the agreement with ICAO to keep the RLA/03/901 Project in force until 2025. Thus, in September 2023, 20 years of existence of this regional project will be completed.

4.30 The Meeting noted that, in addition to network management and operation activities, the RLA/03/901 project is also aimed at implementing CNS/ATM applications in accordance with regional air navigation plans, taking over the leasing of satellite/ground segments, and taking the necessary measures to modernize the network infrastructure in accordance with operational needs and available technological advances.

4.31 In addition to the above activities, this project is maintaining the interconnection with the NAM/CAR network (MEVA); REDDIG was upgraded in 2015 (REDDIG II) to have a terrestrial network (MPLS) as a backup to the main IP network (satellite); and provides ongoing support for the implementation of new applications such as AMHS (ATS Message Handling System), AIDC (ATS Interfacility Data Communication) and ADS-B (Automatic Dependent Surveillance - Broadcast). The Regional Project has also implemented cybersecurity equipment (firewalls and related equipment) to improve the security resilience of the network.

4.32 To carry out these activities, the regional project was structured as follows:

- Project Coordination Committee: Made up of representatives of the States and whose function is to approve, define, follow up and evaluate the activities carried out by the project and its budget in order to achieve the objectives set.

- Technical and administrative management of the project:
  - Responsible: Director of the SAM Regional Office; supported by the Communications Officer and the Technical Assistance Officer of the Regional Office.
  - Network administrator, in charge of the technical operation of the network; based in Manaus, Brazil.
  - Shared administrative support with other regional projects and also from the Regional Office.

4.33 The Meeting recognized that, in the absence of a clear indication from the participating States of the formation of the MRO to manage and administer the regional network, it was concluded that they should renew the agreement and keep Project RLA/03/901 in force for another 5 years. Thus, the SAM Office would continue to manage and administer the regional network for the participating States of Project RLA/03/901.

4.34 Although operating and maintaining aeronautical systems are the responsibility of each State, within the framework of specific agreements, such as Project RLA/03/901, ICAO is exceptionally carrying out these tasks in support of the Member States, which are providing the necessary means for ICAO to carry out the commitments undertaken.

4.35 The increase in the scope of the network and the complexity of the new systems/services supported by the regional network require that the necessary means be provided for those responsible for its management and administration to meet the expectations of the participating States.

Proposal for a new project management and administration

4.36 The Meeting took note of the proposal on the need for increased human resources dedicated exclusively to project activities, in order to ensure continuity of efficient management, without overburdening the ICAO SAM Office.

4.37 In this sense, the participating States highlight the need to evaluate the management resources that will be required to manage and administer the future REDDIG III configuration. The possibility proposed during the Meeting was the inclusion of a Project Manager, who would be exclusively responsible for the management of the regional project, with the support of an Administrative Assistant. It should be clarified that this proposal maintains the figure of the Regional Director as the person responsible for the RLA/03/901 Project and therefore the support of the Regional Office for the project.

4.38 The Project Manager and his/her Administrative Assistant would work at the SAM Regional Office premises, receiving direct support from the CNS and Technical Cooperation Officers, as well as from the other members of the Regional Office, as appropriate. As a reference to this proposal it was noted that the annual cost of the project manager would be approximately USD 150,000.00 and the annual cost of an administrative assistant would be USD 30,000.00; costs to be confirmed with the final structuring proposal.

4.39 To this proposal, the Meeting considered it appropriate to analyze and evaluate the suggested new structure, with the roles and responsibilities of the staff, such as the structuring of the costs of the administrative support part of the project. Therefore, it was agreed that the REDDIG III Ad hoc Group should initiate this evaluation, prepare the profile and functions of the proposed personnel and that this proposal should be considered to be implemented at the beginning of the implementation of REDDIG III. The proposed new structure with functions and responsibilities should be submitted for approval by the RLA/03/901 Project Coordination Committee.

4.40 Uruguay stated that the professional proposed by TCB to occupy the position of Project Manager should have the approval of the participating States of REDDIG at a meeting of the Project Coordination Committee RLA/03/901.

4.41 In this regard, the Meeting concluded as follows:

<table>
<tr><td colspan="2">Conclusion
RCC/29-2 MANAGEMENT AND ADMINISTRATION OF THE REGIONAL PROJECT RLA/03/901 WITH THE IMPLEMENTATION OF THE REDDIG III</td></tr>
<tr><td>That:

a) The Ad-hoc Group REDDIG III evaluates the proposal to improve the structure of the management and administration of the project, which includes as a possible nucleus in its Management and Administration:
✓ Project Manager: responsible for the management and administration of the Regional Project;
✓ Administrative Assistant: responsible for administrative support to the Project Manager; and
✓ Network Administrator: responsible for the technical-operational management of the regional network.

b) The REDDIG III Ad-Hoc Group in its proposal should include the roles and responsibilities of the staff, as well as the budget required for it. The proposal must be submitted for approval by the Project Coordination Committee RLA/03/901 prior to the implementation of REDDIG III.</td><td>Expected impact:

☐ Political/Global
☐ Inter-regional
☒ Economical
☐ Inter-regional
☒ Technical-operational</td></tr>
</table>

Why: Ensure efficient management and administration of Project RLA/03/901, with the necessary human resources dedicated exclusively to project activities.	
When: As of March 2023.	**Status:** Approved at RCC/29
Who: Participating States of the Regional Project and SAM Office.	

4.42 The REDDIG III Ad-hoc Group is made up of representatives from Argentina, Brazil, Chile, Colombia, France (French Guiana), Paraguay and Venezuela. The group is coordinated by the representative of Chile.

REDDIG III Concept

4.43 The Meeting agreed that, with REDDIG II, the experience obtained with the contracting of the MPLS service, through a telecommunications service provider (TSP), showed that the telecommunications infrastructure has improved considerably in the region, and that it was no longer necessary to implement a telecommunications system of its own, as was the case with the satellite network (VSAT) of REDDIG I and REDDIG II.

4.44 The analyses carried out by the REDDIG III Ad-hoc Group found that the high CAPEX (Capital Expenditure) to modernize the satellite network, as well as the considerable OPEX (Operational Expenditure) to operate and maintain the satellite network during its useful life, are no longer justified, once telecommunications services are already provided at more reasonable costs and with media redundancy.

4.45 The concept for REDDIG III is for the MPLS service provider to provide, at a minimum, a priSAMy link (preferably fiber optic) and a redundant link that can be fiber optic, radio link, satellite link, or other available technology that meets the technical requirements. **Appendix E** to this part of the Report illustrates the architecture concept for REDDIG III.

4.46 It is important that the redundant link does not share the infrastructure used by the main link, allowing the existence of a common point of failure. For example, if the redundant link is also by optical fiber, it should have a totally different route from the main link, not sharing common duct or aerial infrastructure.

4.47 For some nodes the contracting of the secondary link will be optional, depending on the availability required and the costs proposed by the telecommunications service provider (TSP).

Interconnection with other regional networks

4.48 The Meeting noted that another important concept applied in REDDIG III is for the telecommunications service provider to ensure interconnection with other regional IP networks in the aeronautical context.

4.49 The Contractor must make the necessary arrangements with other telecommunications service providers, which provide services in other ICAO regions, to ensure communication between REDDIG III nodes and existing regional IP network nodes. Figure 3 illustrates this requirement.

REDDIG II VSAT Network

4.50 The Secretariat informed that the contract with the space segment provider (Intelsat) of the REDDIG II satellite communication network (VSAT) has been renewed until December 31, 2025.

4.51 Thus, in addition to the links implemented by the telecommunications service provider of the future REDDIG III, the participating States will have the support of the current REDDIG II VSAT network at the nodes where the equipment is installed.

REDDIG III Implementation Phases

4.52 After discussing the information contained in the WP/07, the Meeting agreed on two phases. The first phase would consist of working on the WAN part of the network, contracting services from a telecommunications service provider (MPLS) with last mile link redundancy. The second phase would consist of working on the LAN part of the network, modernizing connectivity equipment, the necessary interfaces for connecting the existing aeronautical services at each node and adapting the cybersecurity equipment acquired to the new architecture of the LAN part of the network.

4.53 In this regard, the Meeting reached the following conclusion:

<table>
<tr><td colspan="2">Conclusion
RCC/29-3 REDDIG III IMPLEMENTATION</td></tr>
<tr><td>That:

The Meeting approved that the implementation of REDDIG III be in two phases:

- Phase 1 WAN infrastructure:
Contracting of services, to start operations in January 2025, of a telecommunications service provider (MPLS) with redundancy of last mile links, according to the approved technical specifications.

- Phase 2 LAN infrastructure:
Modernization of connectivity equipment, with the necessary interfaces for connection of existing aeronautical services at each node and adaptation of the cybersecurity equipment acquired to the new architecture of the LAN part of the regional network. This phase should be planned to start operations in January 2027.</td><td>Expected impact:

☐ Political/Global
☐ Inter-regional
☒ Economical
☐ Environmental
☒ Technical/Operational</td></tr>
<tr><td colspan="2">Why:
Ensure a harmonious and homogeneous transition from the current regional network (REDDIG II) to the new network infrastructure called REDDIG III.</td></tr>
</table>

When: As of March 2023.	**Status:** Approved at RCC/29
Who: Participating States of the Regional Project and SAM Office.	

4.54 The Meeting has initiated the revision of the technical specifications for the procurement of telecommunication services (MPLS) in accordance with the network architecture concept (WAN) for REDDIG II.

4.55 The Secretariat will organize, through a teleconference platform, the necessary meetings to obtain the final text of the technical specifications before March 31, 2023.

4.56 In this regard, the Meeting agreed to hold the first meeting on March 22, 2023 from 13:30 UTC to 16:30 UTC.

4.57 The Meeting also agreed that the REDDIG III Ad-hoc Group should carry out the necessary analyses and prepare the technical specifications for implementing Phase 2 of REDDIG III development.

- END-

APÉNDICE A / APPENDIX A

Puntos Focales REDDIG II / REDDIG II Focal Points

STATE / ESTADO	Name / Nombre	Position/ Cargo	E-Mail / Correo-e	Telephone / Teléfono	Address / Dirección
ARG	María Malena Reinoso, EANA	Jefa Departamento Comunicaciones – Gerencia CNS	mreinoso@eana.com.ar	(5411) 4320-2384	EANA S.E. Av. Rivadavia 578, Piso 5 Buenos Aires, Argentina
	Facundo Gatti, EANA	Gerente Ejecutivo Sistemas y CNS	fgatti@eana.com.ar	(5411) 4320-2384	EANA S.E. Av. Rivadavia 578, Piso 5 Buenos Aires, Argentina
BOL	Javier Osvaldo Campos Gonzáles, DGAC	Inspector CNS	jcampos@dgac.gob.bo	(5912) 7152-0131	
	Hernando Lara, AASANA	Jefe Unidad Nacional CNS AASANA	nanos_24@hotmail.com	(5912) 212-7959	Aeropuerto Internacional El Alto, Bloque Técnico AASANA
	Remigio Blanco, AASANA	Responsable de Telecomunicaciones AASANA	rblanco@aasana.bo	(5912) 237-0340	Aeropuerto Internacional El Alto, Bloque Técnico AASANA
BRA	Bruno Pacheco Santos Azevedo Costa	Asesor de Comunicaciones DECEA	pachecobpsac@decea.mil.br	(5521) 21016684	Avenida General Justo, 160 Rio de Janeiro, Brasil
	Valdileide Freire de Araújo	Asesor de Comunicaciones DECEA	valdileidevfa@decea.mil.br	(5521) 21016658	Avenida General Justo, 160 Rio de Janeiro, Brasil

STATE / ESTADO	Name / Nombre	Position/ Cargo	E-Mail / Correo-e	Telephone / Teléfono	Address / Dirección
CHI	Christian Vergara Leyton, DGAC	Supervisor de Mantenimiento Técnico Centro de Control de Santiago	cvergara@dgac.gob.cl	(562) 836-4005; (562) 836-4011; (562) 644-8345	Avenida San Pablo 8411, Comuna de Pudahuel, Santiago, Chile
	Pedro Pastrián Céspedes, DGAC	Supervisor de Mantenimiento Técnico Centro de Control de Santiago	ppastrian@dgac.gob.cl	(562) 836-4005; (562) 836-4011; (562) 644-8345	Avenida San Pablo 8411, Comuna de Pudahuel, Santiago, Chile
COL	Andrés Colmenares	Ingeniero Grupo de Comunicaciones y Redes Aeronáuticas - Dirección de Telecomunicaciones y Ayudas a la Navegación Aérea	andres.colmenares@aerocivil.gov.co	(+57) 601 241-2038 (+57) 317 860-6289	Aeropuerto Internacional El Dorado, Av. El Dorado N° 112-09 Edif. C.N.A. (Centro Nacional de Aeronavegación)
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FRA	Serge Cupoli	Jefe de la Subdivisión Técnica	serge.cupoli@aviationcivile.gouv.fr	(594) 694-403331	Aviation Civile, Aeroport de Cayenne Félix Eboué, 97351 Matoury, Guyane Francaise
GUY	Mortimer Salisbury, Guyana Civil Aviation Authority	Manager CNS and Technical Support	mbsalisbury2000@yahoo.com	(592) 261-2569	Control Tower complex, Cheddi Jagan International Airport, Timehri, East Bank Demerara, Guyana
	Sewchan Hemchan, Guyana Civil Aviation Authority	Electrical Engineer	sewchan_hemchan@yahoo.com	(592) 261-2569	Control Tower complex, Cheddi Jagan International Airport, Timehri, East Bank Demerara, Guyana

STATE / ESTADO	Name / Nombre	Position/ Cargo	E-Mail / Correo-e	Telephone / Teléfono	Address / Dirección
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	Juan Felix Estigarribia, DINAC	Gerente de Telecomunicacioens y Electronica	jfe2406@gmail.com	(59521) 758-52019, mobile +595971627227	
	Alexander Aguayo, DINAC	Jefe de Dpto. Comunicaciones	alexanderaguayo97@gmail.com	(595-21) 758-5201, Mobile +595981567951	
PER	Luis Silva Gárate, CORPAC	Jefe del Equipo encargado de la Operac. y Mantto. del Nodo REDDIG-Lima	lsilva@corpac.gob.pe	(511) 515-3015; (511) 414-1514	Aeropuerto Internacional Jorge Chávez, Callao, Perú
SUR	Cicilson Jurgen	Acting Chief of CADSUR CNS Division	jurmaja@hotmail.com and cns@cadsur.sr	(597) 531288; (597) 498898; (597) 325123, Mobile: (597) 8792810	J. A. Pengel International Airport, Zanderij, district Para, Zorg en Hoop Airport, Paramaribo
	Kofi Orlando	CNS Supervisor	oomken80@gmail.com	(597) 531288; (597) 498898; (597) 325123, Mobile: (597) 8531923	J. A. Pengel International Airport, Zanderij, district Para, Zorg en Hoop Airport, Paramaribo
TRI	Rohan Garib, Civil Aviation Authority	Executive Manager Air Navigation Services	rgarib@caa.gov.tt	Office: (1 868) 669 4806 Cell: (1 868) 689 4889	P.O. Box 2163 National Mail Centre Golden Grove Road Piarco – Trinidad
	Veronica Ramdath, Civil Aviation Authority	Manager Communication Navigation Surveillance	vramdath@caa.gov.tt	Office (1 868) 669 4806 Cell: (1 868) 774 4180	P.O. Box 2163 National Mail Centre Golden Grove Road Piarco – Trinidad

STATE / ESTADO	Name / Nombre	Position/ Cargo	E-Mail / Correo-e	Telephone / Teléfono	Address / Dirección
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	Ricardo Clavijo, DINACIA	Director de Electrónica	rclavijo@dinacia.gub.uy		
VEN	Jarumy Castillo, SNA, INAC	Gerente SNA	ja.castillo@inac.gob.ve	(58212) 355-2143; (58424) 354-99.24	Edificio ATC, 2do piso, Gerencia de Mantenimiento SNA, Maiquetía, Edo. Vargas, Venezuela.
	Juan Carlos Aparicio, INAC.	Coordinador CNS	Juan.aparicio@inac.gob.ve	(58426) 433-24.03	Edificio ATC, 2do piso, Gerencia de Mantenimiento SNA, Maiquetía, Edo. Vargas, Venezuela.
COCESNA	Roger Perez	Gerente Senior ACNA (Agencia Centroamericana de Navegación Aérea)	roger.perez@cocesna.org	(504) 22757090 (504) 99266191	COCESNA, 150 metros al sur aeropuerto Toncontin, Tegucigalpa, Honduras.
	Jose Manuel Flores	Gestor Tecnico Supervisor	manuel.flores@cocesna.org	(504) 22757090 (504) 22757150 (504) 94877702	COCESNA, 150 metros al sur aeropuerto Toncontin, Tegucigalpa, Honduras.

Diagramación tareas REDDIG para 2023

Mar 22, 2023

http://icao.int

Administración REDDIG - CNS - ICAO SAM

Project manager	
Project dates	Apr 3, 2023 - Dec 2, 2023
Completion	0%
Tasks	76
Resources	0

Tareas programadas para ser desarrolladas durante el año 2023 en NCCs y estaciones de la REDDIG.

Tasks

Name	Begin date	End date
NCC	4/3/23	12/1/23
Routers	4/3/23	6/2/23
Backup configuraciones // Backup configurations	4/3/23	4/21/23
Verificar configuraciones // Verify configurations	4/24/23	5/12/23
Verificar diagramas y cableado // Verify diagrams and cabling	5/15/23	6/2/23
Verificar identificaciones // Verify identifications	5/15/23	6/2/23
Capacitación // Training	4/3/23	12/1/23
VERIFICAR NROS DE SERIE DE EQUIPOS Y ESTADO DE INVENTARIO // Verify serial numbers of equipment and inventory status	4/3/23	6/1/23
Switches	6/5/23	6/23/23
Backup configuraciones // Backup configurations	6/5/23	6/9/23
Verificar configuraciones // Verify configurations	6/12/23	6/16/23
Verificar diagramas y cableado // Verify diagrams and cabling	6/19/23	6/23/23
Verificar identificaciones // Verify identifications	6/19/23	6/23/23
AMHS -AFTN - AIDC Check	6/26/23	6/30/23
ATS - ADMIN - MANT Check	7/3/23	7/7/23
Verificar WUG // Verify WUG	7/10/23	7/14/23
Externos (ADS-C, otros) // External (ADS-C, others)	7/17/23	7/21/23
VERIFICACIÓN EQUIPOS INDOOR // Indoor equipment verification	7/24/23	8/4/23
Registro fotográfico // Photographic record	7/24/23	8/4/23
Cotejo de diagramas // Compare diagrams	7/24/23	8/4/23
Backup	8/1/23	8/4/23
Servers Local y Global	8/7/23	8/11/23
GPS	8/14/23	8/18/23
MODEM SKWAN A	8/21/23	8/25/23
MODEM SKYWAN B	8/28/23	9/1/23
LINE-UP-MANAGER	9/4/23	9/8/23
ANTENA	9/11/23	11/3/23
Registro fotográfico // Photographic record	9/11/23	9/15/23
Cotejo de diagramas // Compare Diagrams	9/18/23	9/22/23
Backup	9/18/23	9/22/23
LNB A	9/25/23	9/29/23

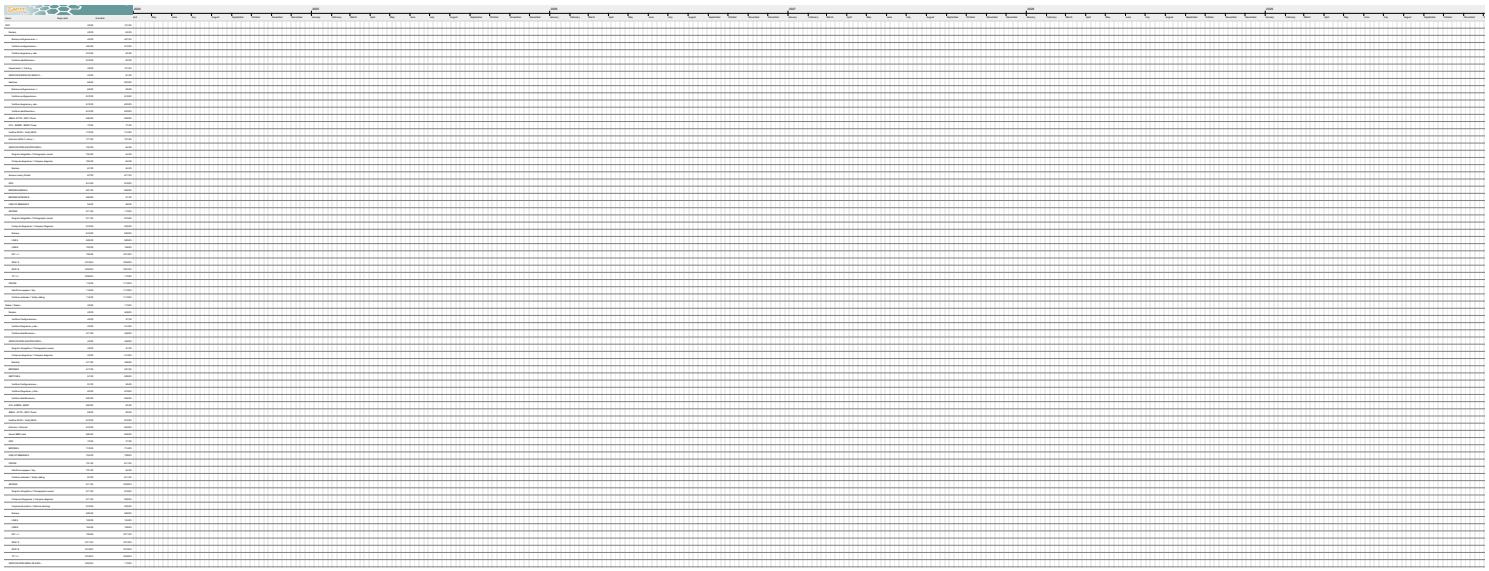
Tasks

Name	Begin date	End date
LNB B	10/2/23	10/6/23
RX 1+1	10/9/23	10/13/23
IBUC A	10/16/23	10/20/23
IBUC B	10/23/23	10/27/23
TX 1+1	10/30/23	11/3/23
CIRION	11/6/23	11/10/23
Identificar equipos // Equipment identification	11/6/23	11/10/23
Verificar cableado // Verify cabling	11/6/23	11/10/23
Nodos // Nodes	4/3/23	11/3/23
Routers	4/3/23	4/28/23
Verificar Configuraciones físicas y lógicas // Verify physical and logical configurations	4/3/23	4/7/23
Verificar Diagramas y cableado // Verify diagrams an cabling	4/3/23	4/14/23
Verificar Identificaciones // Verify identifications	4/17/23	4/28/23
VERIFICACIÓN EQUIPOS INDOOR // Indoor equipment verification	4/3/23	4/28/23
Registro Fotográfico // Photographic record	4/3/23	4/7/23
Cotejo de diagramas // Compare diagrams	4/3/23	4/14/23
BackUp	4/17/23	4/28/23
MODEM B	4/17/23	4/21/23
SWITCHES	5/1/23	5/26/23
Verificar Configuraciones físicas y lógicas // Verify physical and logical configurations	5/1/23	5/5/23
Verificar Diagramas y Cableado // Verify diagram and cabling	5/3/23	5/19/23
Verificar Identificaciones // Verify identifications	5/22/23	5/26/23
ATS -ADMIN - MANT	5/29/23	6/2/23
AMHS - AFTN - AIDC Check	6/5/23	6/9/23
Verificar WUG // Verify WUG	6/12/23	6/16/23
Externos // External	6/19/23	6/23/23
Server NMS Local	6/26/23	6/30/23
GPS	7/3/23	7/7/23
MODEM A	7/10/23	7/14/23
LINE-UP-MANAGER	7/24/23	7/28/23
CIRION	7/31/23	8/11/23
Identificar equipos // Equipment identification	7/31/23	8/4/23
Verificar cableado // Verify cabling	8/7/23	8/11/23

Tasks

Name	Begin date	End date
ANTENA	9/11/23	10/20/23
Registro Fotográfico // Photographic record	9/11/23	9/15/23
Cotejo de Diagramas // Compare diagrams	9/11/23	9/22/23
Limpieza de antena // Antenna cleaning	9/18/23	9/22/23
Backup	9/25/23	9/29/23
LNB A	10/2/23	10/4/23
LNB B	10/4/23	10/6/23
RX 1+1	10/9/23	10/11/23
IBUC A	10/11/23	10/13/23
IBUC B	10/16/23	10/18/23
TX 1+1	10/18/23	10/20/23
VERIFICACIÓN NROS DE SERIE DEEQUIPOS Y ESTADO DE INVENTARIO // Verify serial numbers of equipment and inventory status	10/23/23	11/3/23

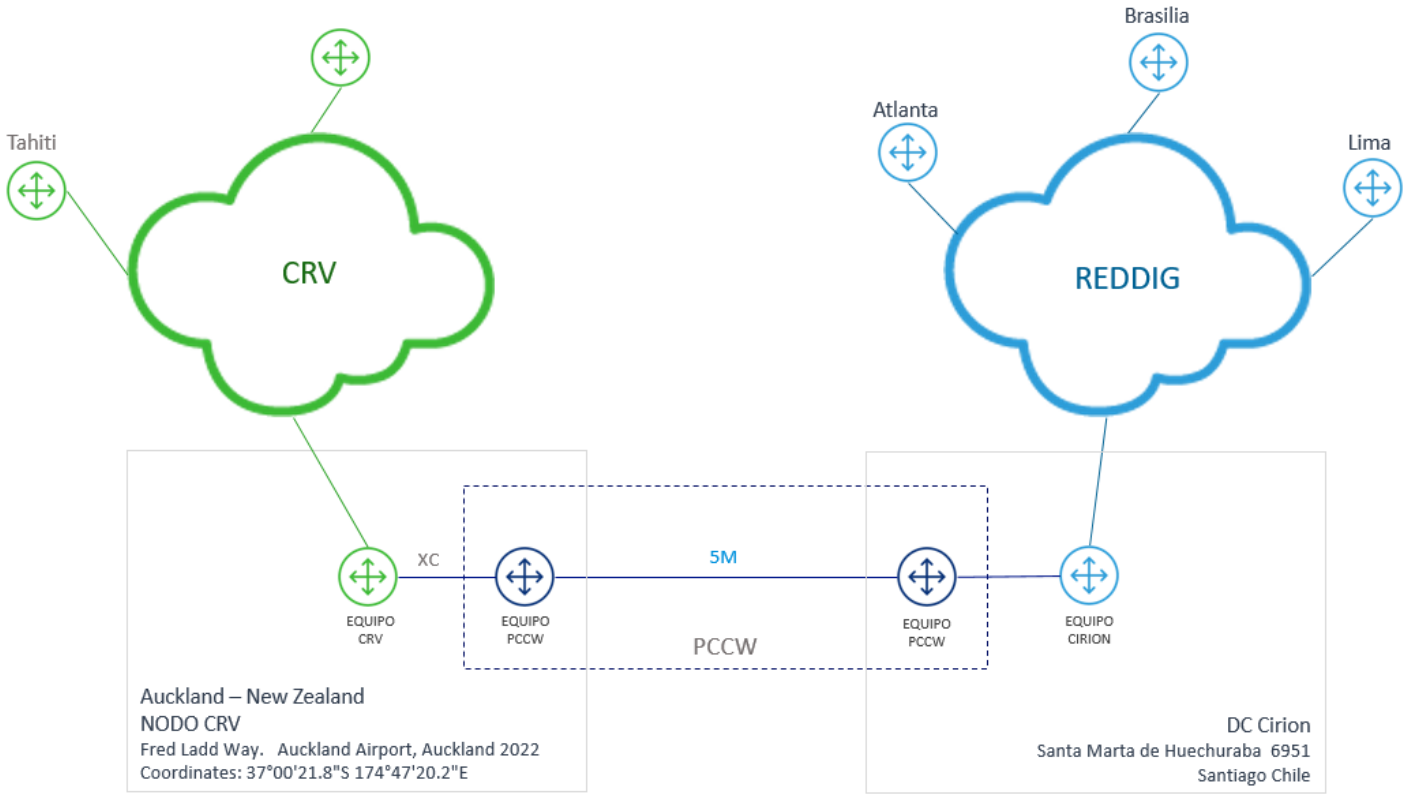
Gantt Chart



Resources Chart

APÉNDICE C / APPENDIX C

Propuesta de Interconexión CRV-REDDIG / CRV-REDDIG Interconnection Proposal



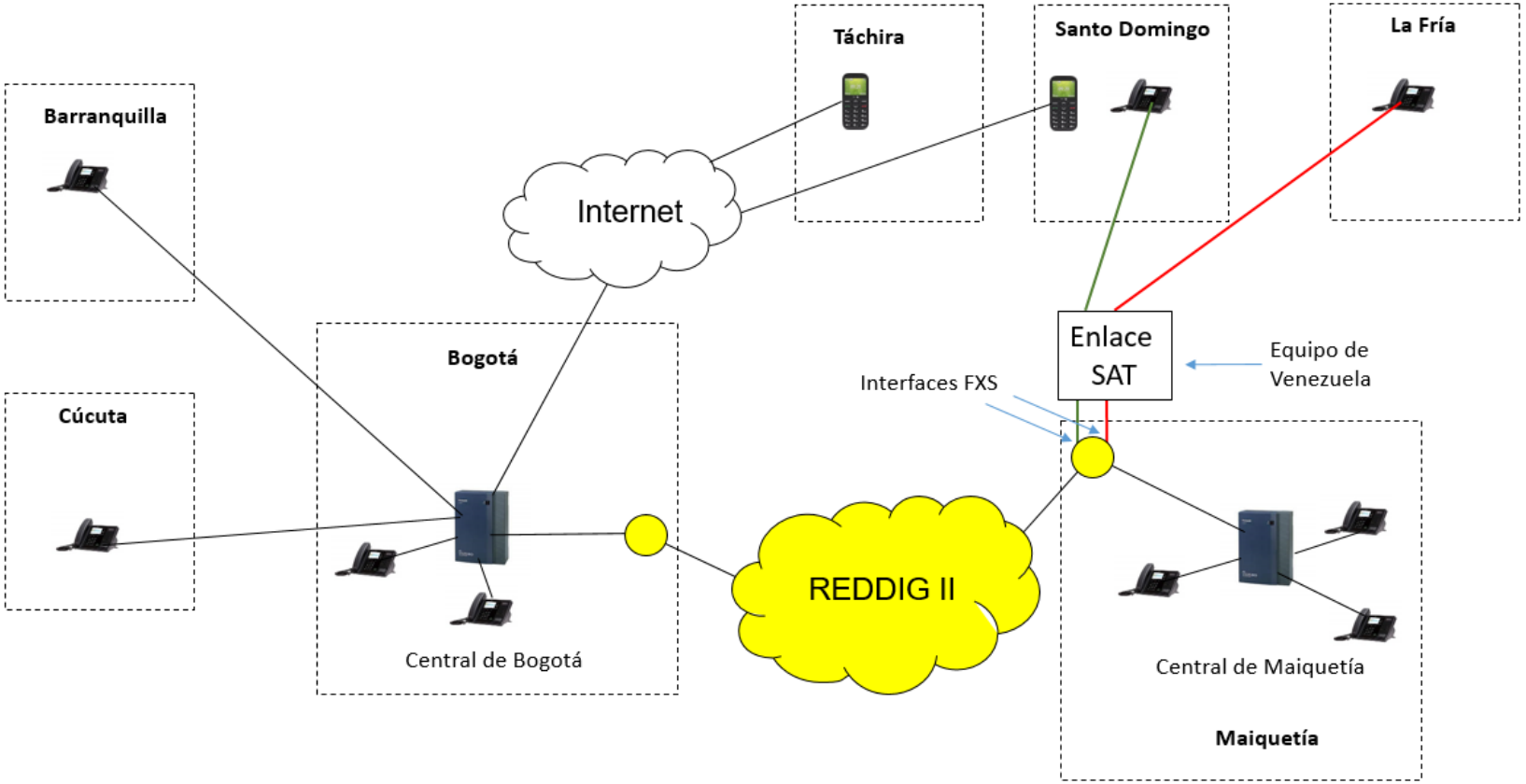
Location	Address	Service	Bandwidth	12 months contract
Chile	Santa Marta de Huechuraba 6951, Santiago/Chile	VPN	5 Mbps	Monthly cost: USD 1,900 Installation cost: USD 1,000
New Zealand	Fred Ladd Way. Auckland Airport, Auckland 2022. Coordinates: 37°00'21.8"S 174°47'20.2"E	VPN	5 Mbps	

Considerations:

- Prices expressed in dollars and do not include taxes.
- Does not include cross-connection or rights-of-way on the New Zealand side.
- Includes cross-connection on the Chile side.
- Subject to feasibility.

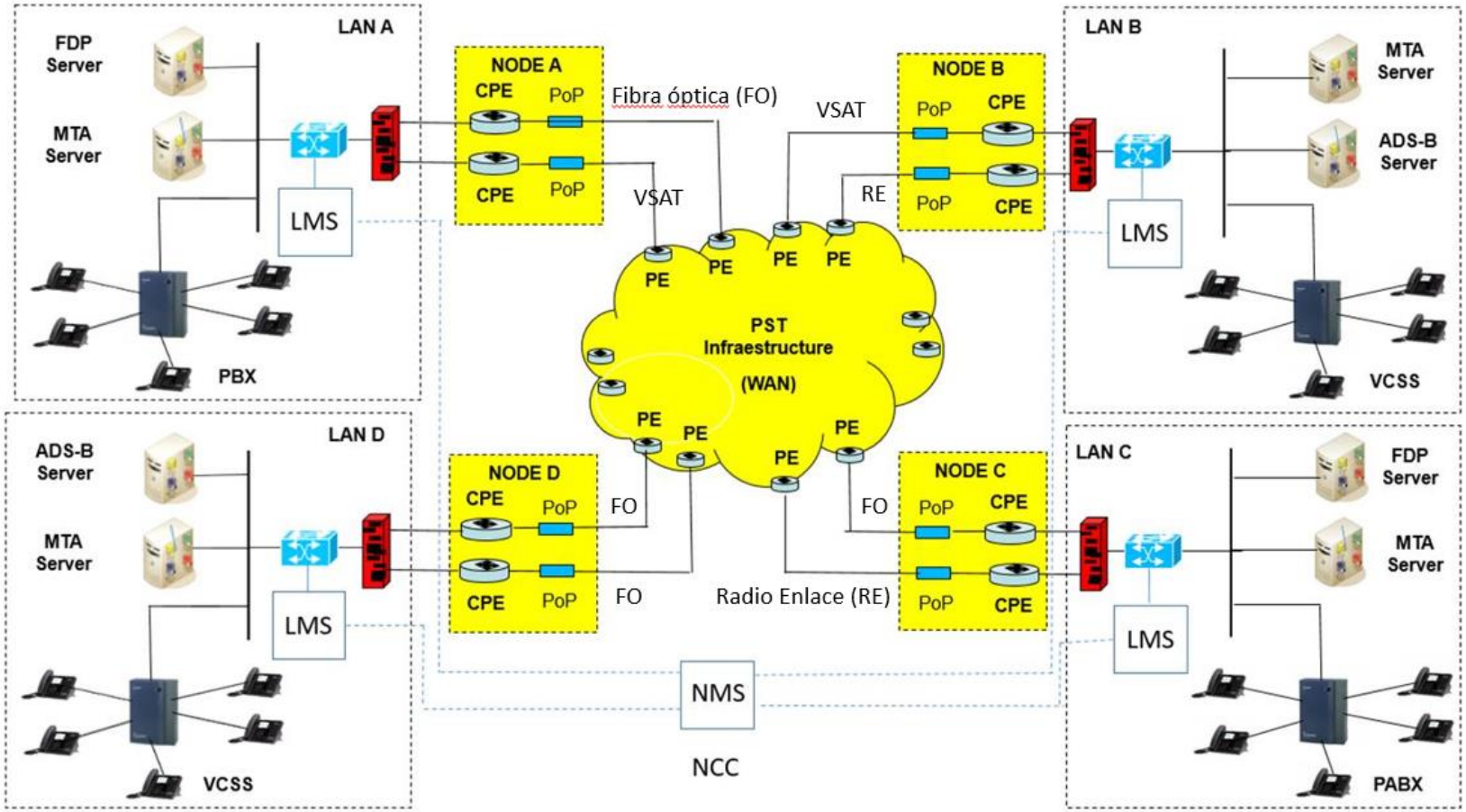
APÉNDICE D / APPENDIX D

FUNCTIONALITY OF THE BOGOTA TELEPHONE EXCHANGE



APÉNDICE E / APPENDIX E

Concepto REDDIG III / REDDIG III Concept



Agenda Item 5: Financial situation of the project and approval of the budget

5.1 Under this agenda item, the Meeting received information on the financial situation of the project and the revision of the project budget in WP/05 - *Financial situation of the project and approval of the 2023 budget*, presented by the Secretariat.

5.2 Upon starting discussions, Panama was welcomed as a member of the project; its accession was completed on 20 April 2022, at which time it already had an active ground node. This brought the number of project members to 15 States.

Financial situation

5.3 The Meeting took note that the Project had spent **USD 756,538** in 2022, and a total of **18,956,582** from 2003 to 2022. The detailed breakdown of expenditures as of December 2022 is shown in Table 1, and in Table 2 of WP/05. The amounts presented are approximate pending the financial statements as of 31 December 2022.

5.4 Regarding contributions, it was noted that total contributions amounted to **USD 20,529,879** (including interest and other contributions), which, subtracting expenses of **USD 18,956,582**, gave a balance of **USD 1,573,297.** This positive balance was committed to the MPLS ground network service contract, the satellite segment service, firewalls, the pending amount of the Bogotá node (USD 174,040), Argentina's fund and other administrative expenses.

5.5 In this sense, note was taken of the importance of collecting overdue contributions and those corresponding to 2023 as soon as possible, so as not to affect the execution of the project.

Budget revision X

5.6 The Meeting was informed that Revision X of the project budget had been updated in accordance with Conclusion RCC/28-1. There had been administrative delays in its approval, reason why it was being submitted again to the Meeting. In this revision of the budget, costs had been updated and project surplus apportionment had been eliminated (applied since budget revision "R").

5.7 Regarding this revision, the Meeting noted that, for the acquisition of a telecommunication service (MPLS) with last-mile link redundancy, it would be necessary to know this year the amount required to be deposited to start said process. It was also necessary to confirm whether this project could be used for said acquisition. If so, the Secretariat would need to confirm these possibilities and, accordingly, after consulting with the States on the definite costs of implementing the MPLS backup network, budget revision X should be circulated before 1 July for approval by the States:

<table>
<tr><td colspan="2">Conclusion
RCC/29-4 APPROVAL OF BUDGET REV “X” OF PROJECT RLA/03/901</td></tr>
<tr><td>That the Secretariat:

a) Consult with Headquarters on the possibility of using Project RLA/03/901 for the procurement of the telecommunication service (MPLS) with last-mile link redundancy by 2025 and the approximate cost of the same.
b) If the above literal is affirmative, before 1 July 2023, include such acquisition in the proposed revision X of Project RLA/03/901. This proposal should be circulated to member States for their acceptance and subsequently start the approval process in ICAO Headquarters for subsequent submission to REDDIG member States.
c) If point a) cannot be fulfilled, take relevant action to obtain the approval by ICAO Headquarters of the revision of Project RLA/03/901, as it appears in Appendix A to this part of the report, for its subsequent submission to REDDIG member States.</td><td>Expected impact:

☐ Political / Global
☐ Interregional
☒ Economic
☐ Environmental
☒ Technical/Operational</td></tr>
<tr><td colspan="2">Why:
To fulfil REDDIG management activities.</td></tr>
<tr><td>When:
As of 2023</td><td>Status:
Ongoing activity</td></tr>
<tr><td colspan="2">Who:
Secretariat</td></tr>
</table>

- END -

Agenda Item 6: Annual project evaluation

6.1 Under this agenda item, the Meeting took cognisance of the information presented in WP/06 on the Project evaluation documents, namely:

a) Project status as of 31 December of each year and management and output indicators (WP/06, Appendix A);
b) Project monitoring and control, 2023 work plan (WP/06, Appendix B); and
c) Survey on management and output indicators (WP/06, Appendix C).

6.2 The 2022 survey on management and output indicators was answered by 10 States (Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Uruguay and Venezuela) whose comments and ratings gave an average of 4.66 points out of a maximum of 5 of the rating scale, implying that it "exceeds the requirements" with respect to the programme of activities implemented in 2022. The consolidated information is presented in the **Appendix** to this agenda item.

6.3 Regarding the attainment of project objectives and project management, the remarks referred to the need to improve the provision and return of spare parts, as far as the project was concerned. It was recalled that this service worked in the sense of a loan of equipment while the State equipment was under repair, and that the State was responsible for all the procedures involving bringing the equipment into the country. In addition, a proposal was made to create groups to monitor project schedules, or some mechanism for quick access to information on the status of sub-projects being implemented in REDDIG.

6.4 Regarding lessons learned, it was noted that a proposal for the implementation of firewall equipment should have been better coordinated among the States prior to the training conducted in 2022. Note was also made of the need to have a schedule or plan of activities for new implementations, to be prepared by the *ad hoc* group assigned to it.

6.5 The Coordination Committee also noted the good level of communication obtained through the use of teleconferences for addressing situations and coordinating the resolution of problems. Likewise, mention was made of the need to maintain the working groups of the States to give continuity to the tasks, and to start the renewal of personnel.

- END -

APPENDIX

SURVEY ON MANAGEMENT AND OUTPUT INDICATORS

Section I: Evaluation of current project
Section II: Assessment of compliance with objectives
Section III: Evaluation of implementation and delivery of services by ICAO
Section IV: Lessons learned

5.0	Exceptional results beyond project requirements
4.5	Exceeds requirements
4.0	Project objectives were achieved in all cases
3.5	Most of the project's objectives were achieved
3.0	Some quality results were achieved and implemented
2.5	Some quality results were achieved but are not implementable
2.0	Some results were achieved with little impact and quality
1.5	Below the expected results
1.0	Well below the expected results

Total	**4.66**

SURVEY ON MANAGEMENT INDICATORS AND RESULTS
I. PROJECT EVALUATION

1.-Project objectives **Do you think that project objectives are properly established, in line with the development priorities of your State in relation to the national air navigation plan, to address the reality of civil aviation?**		**Rating**
ARG		
BOL	Project objectives are in line with the priorities of our State	4.5
BRA	Yes	5
CHI	Yes, they are in line with the priorities of the national navigation plan of our State	5
COL		4.5
ECU	Yes	5
FRA		
GUY		4.5
PAR	The project objectives are aligned with the priorities of our State in relation to the national air navigation plan	4.5
PER	Yes, the objectives are correctly established	5
SUR		
T&T		
URU	The objectives of the projects address the priorities of our State in relation to the national air navigation plan	4.5
VEN	Yes, they are in line with the priorities of our State in relation to the national air navigation plan. The objectives support aviation security and facilitation management improvements, thus contributing to the economic development of air transport	4.5
	AVERAGE	**4.7**

2.-Support at regional and global level **Do you think that the project responds to and supports your administration's commitments *vis-a-vis* the regional and global air navigation plans?**		**Rating**
ARG		
BOL	Yes, it is very useful for air operations in our country	4.5
BRA	Yes, in particular with the contracting of links with non-REDDIG States and the establishment of AMHS connections	5
CHI	Yes, it supports our administration's commitments*vis-a-vis* both the regional and global ANP	5
COL		5
ECU	Yes	5
FRA		
GUY		4.5
PAR	The Project strongly supports our State's commitments*vis-a-vis* the regional and global air navigation plans	5
PER	Yes, and it does so in a timely manner	5
SUR		
T&T		
URU	We consider that it responds to and supports our administration´s commitments*vis-a-vis* the regional and global air navigation plans	4.5
VEN	Yes, it responds to and supports the commitments acquired by our Administration, since it helps to improve civil aviation safety. It also provides the tools to manage air navigation capacity and efficiency	4.5
	AVERAGE	**4.8**

3.-Comments of the State(s)		Rating
Do you have any comments on project management?		
ARG		
BOL	Project management is consistent with the established objectives	5
BRA	The Project Management is also working together with the States to ensure the success of REDDIG	
CHI	Project management is satisfactory and in line with the established objectives	5
COL	MANAGEMENT BY THE WORK TEAM OF THE SAM OFFICE IS EXCELLENT	5
ECU	None	5
FRA		
GUY		4.5
PAR	Project Management is fully committed to the objectives of the Project and encourages participation	4.5
PER	The benefits that can be provided to States are always kept in mind	5
SUR		
T&T		
URU	The project management meets the objectives of the project to the full satisfaction of our Administration	5
VEN	The understanding of the conceptual basis of the tasks and/or activities of the project should be strengthened in ANS authorities so that the States that really know their domestic needs can make specific commitments that are attainable over time	4.5
	AVERAGE	**4.8**

4.-Strategy and vision		Rating
Do you consider that the project is in line with your institution's long-term strategy and vision?		
ARG		
BOL	Yes, it meets our requirements and expectations	4
BRA	Yes, the vision of a network that allows for the addition of new ATS applications and the development of network security aspects is in line with Brazil's strategy	5
CHI	The project responds to the long-term strategy and vision of our administration.	4.5
COL		4.5
ECU	Yes	5
FRA		
GUY		4.5
PAR	It fully meets the requirements of our State	4.5
PER	Yes. States decide what activities are to be carried out, which guarantees support to the States	4.8
SUR		
T&T		
URU	The project responds to the long-term strategy and vision of our Administration	4.5
VEN	It does respond to a large extent to the long-term strategy and vision of our institution. This project offers opportunities for improvement, *e.g.* for optimising project-level relations with the Region	4.5
	AVERAGE	**4.6**

5.- Project quality How do you rate the content of this project in terms of achieving the expected objectives?		Rating
ARG		
BOL	The quality of the project is as expected and covers what is required to achieve the objectives	4.5
BRA		5
CHI	The project responds to the long-term strategy and vision of our administration	4.5
COL	WITH THIS PROJECT WE ARE IN CONSTANT COMMUNICATION WITH ICAO STAFF AND WITH COLLEAGUES FROM THE OTHER COUNTRIES FOR COORDINATION PURPOSES	5
ECU	The project works and maintains connectivity for the exchange of information	5
FRA		
GUY		4.5
PAR	The content of the project is fully in line with the objectives	4.5
PER	It is consistent. Much better than the initial draft because it has ground backup	5
SUR		
T&T		
URU	The content of the project is as expected for the established objective	4.5
VEN	It is appropriate, since the results obtained in our institution meet the expectations of the national administration. Accordinaly, we consider that the project is well structures, has well-defined activities, and the expected results are fully consistent with the established objectives	5
	AVERAGE	**4.8**

6- Project resources Do you consider that the financial, physical and human resources agreed for attaining the objectives established in the project document are adequate?		Rating
ARG		
BOL	Yes, they are adequate; the staff of each REDDIG node must be constantly trained	4
BRA	Yes, they are adequate	5
CHI	Yes, they are adequate	4.5
COL	THE STAFF OF THE ICAO SAM OFFICE MAKES A GREAT EFFORT TO COVER ALL CIVIL AVIATION ISSUES PERTAINING TO EACH COUNTRY	5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	The budget for training the technical experts should be reviewed at each RCC meeting, ensuring their fullest participation	4.8
SUR		
T&T		
URU	The financial, physical and human resources established for the project are adequate	4.5
VEN	We consider that the financial, physical and human resources are adequate to achieve the objectives established in the project document. However, more efforts should be made to seek greater contributions or to seek other entities to provide resources, in order to obtain a greater participation of professionals from the varios States of the Region	4.5
	AVERAGE	**4.6**

7.-Project participants Do you consider that all parties that should be involved in the project are present? If not , who else should be involved?		Rating
ARG		
BOL	All those involved must participate actively	4
BRA	All the parties required for the development of the project are already involved	5
CHI	Yes	4.5
COL	THE STAFF ASSIGNED TO THE PROJECT IS VERY COMPETENT	5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes, we consider that all those involved meet the requirements	4.5
PER	Yes	5
SUR		
T&T		
URU	All the parties involved are the appropriate ones	5
VEN	We consider that all the parties concerned in the project are involved. However, in those States where the CAA and the ANSP are separate entities, it would be ideal to involve both parties more actively from the point of view of commitments and fulfilment of common objectives	4.5
	AVERAGE	**4.7**

8.-Project effectiveness Is the project cost-effective as compared to similar programmes or projects?		Rating
ARG		
BOL	The project meets its objectives	4
BRA	Compared to the cost of maintaining point-to-point links with neighbouring States, REDDIG is more cost-effective	5
CHI	Yes	4.5
COL		4
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	Quite effective	5
SUR		
T&T		
URU	This project is appropriate and effective, like other similar projects	5
VEN	It is effective, taking into account that cost-sharing with other countries in the Region is a more efficient use of resources	4.5
	AVERAGE	**4.6**

9.-Modification of project objectives What modifications to the objectives and scope of the project would you propose?	
ARG	
BOL	The supply of spare parts and the return of parts sent to the factory for repair must be better managed
BRA	At this stage, we have no proposals to change the objectives
CHI	None
COL	NO MODIFICATION
ECU	None
FRA	
GUY	No comments
PAR	None
PER	
SUR	
T&T	
URU	The objectives and scope of the project are the appropriate ones
VEN	We consider that a modification could involve giving support to the updating of the air navigation plans of each State, considering the adoption of the ASBU methodology, *i.e.* to ensure that the regional plan is supported individually by each State

10.-Other information	
Please provide any other information that may support or clarify your perception of the scope of the current project	
ARG	
BOL	Further training of technical staff responsible for REDDIG nodes
BRA	Brazil proposes the creation of groups, made up by REDDIG States, to monitor project timetables, and for all States to have access to project data at any time
CHI	None
COL	WE ARE VERY GRATEFUL TO ICAO STAFF FOR THEIR CONSTANT COMMITMENT TO THE COLOMBIAN STAFF
ECU	None
FRA	
GUY	No comments
PAR	No comments or clarifications from our side
PER	
SUR	
T&T	
URU	The scope of this project meets expectations and will serve as the basis for other projects in the future
VEN	Considering that States have participated in Project RLA/06/901 in an active and productive manner, its implementation is generating very positive expectations in terms of scope and progress.

SURVEY ON MANAGEMENT AND OUTPUT INDICATORS
II. ASSESSMENT OF COMPLIANCE WITH OBJECTIVES

1.-Project objectives		
In terms of project management by ICAO, do you think that project objectives are being met?		**Rating**
ARG		
BOL	Yes	4.5
BRA	Project management meets the established objectives	5
CHI	Yes, they are being met with a high degree of professionalism and excellent management	5
COL		5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes, they are being met	4.5
PER	Yes	5
SUR		
T&T		
URU	We believe that management by ICAO is meeting the objectives of the project and reaching success	4.5
VEN	We are convinced that project management has been appropriate and objectives are objectives are being achieved	4.5
	AVERAGE	**4.8**

2.- Project timetable		
Do you think that project objectives are being met or have been met in a timely basis in accordance with your expectations?		**Rating**
ARG		
BOL	On a regular basis	3.5
BRA	Yes	5
CHI	Yes	4.5
COL		4.5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes, they are being met to the extent possible	4.5
PER	Training of technical staff must be strengthened to compensate for the effects of the pandemic	4.7
SUR		
T&T		
URU	Project objectives are being met and all issues are being successfully resolved in accordance with our expectations	5
VEN	The project objectives have been planned and adjusted to the needs of the project. Timetables were designed to meet the requirements expressed by the States, which contributes to a good use of available resources	4.5
	AVERAGE	**4.6**

3.-Use of resources Do you consider that resources are being used or have been used efficiently in the fulfilment of the objectives?		Rating
ARG		
BOL	Objectives are well managed, and resources are normally administered	4
BRA	Yes	5
CHI	Yes	4.5
COL		5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	It is efficient	5
SUR		
T&T		
URU	Resources have been efficiently used to achieve the desired objectives	5
VEN	The resources available to the Project have been used efficiently	5
	AVERAGE	**4.8**

4.- Project cost Do you consider that the costs related to the achievement of the objectives are or have been appropriate?		Rating
ARG		
BOL	They are appropriate	4
BRA	Yes	5
CHI	Yes, they have been appropriate	4.5
COL		4
ECU	Yes	4.5
FRA		
GUY		4.5
PAR	Yes	4.5
PER		4.8
SUR		
T&T		
URU	Costs involved in the achievement of objectives have been adequate	5
VEN	Costs involved in the achievement of objectives are and have been appropriate, since any implementation or modernisation has its estimate. The Project has well-defined strategies to attain the established objectives for the benefit of the entire Region	4.5
	AVERAGE	**4.5**

5.- Major achievements What are the main achievements of the project in relation to the expected results?		Rating
ARG		
BOL	Coordination with adjacent countries for problem-solving	5
BRA	The acquisition of firewall equipment	
CHI	International coordination for problem-solving	4.5
COL	THE INTERCONNECTION AT NETWORK LEVEL OF THE SOUTH AMERICAN REGION WITH CENTRAL AMERICA, MADRID, SOUTH AFRICA WILL BRING MANY BENEFITS FOR CIVIL AVIATION IN OUR COUNTRIES BECAUSE IT WILL ENABLE OUR COUNTRIES TO IMPLEMENT NEW AERONAUTICAL SERVICES	5
ECU	Providing connectivity to the Region and ensuring network availability	5
FRA		
GUY		4.5
PAR	The availability, the qualified technical team created and user satisfaction	4.5
PER	The optimal availability (connectivity) that characterises the network	5
SUR		
T&T		
URU	The expected results have been achieved in an effective manner with an appropriate project management	4.5
VEN	The detailed SAM ATS route network optimisation study, the workshop on airspace planning, the training courses,	5
	AVERAGE	**4.8**

6.-Major problems and their resolution What are the main problems affecting the achievement of the expected results and how should they be resolved?		Rating
ARG		
BOL	Delays in administrative processes in each country. Events are needed to raise awareness on the administrative side	4
BRA	Equipment replacement time is a problem for the operation of the network. It is necessary to look for alternatives, such as buying more spare parts or hiring a company in Lima to provide maintenance. Another option for REDDIG III is to hire the satellite communication service instead of maintaining a station of its own.	
CHI	Differences in the timing of administrative and logistical processes in each country, as well as exceptional external factors	4.5
COL	LOGISTICS BOTH FOR THE PARTICIPATION IN FACE-TO-FACE MEETINGS AND FOR THE EXCHANGE OF NETWORK SPARE PARTS, AS EACH COUNTRY HAS TO COMPLY WITH INTERNAL LEGISLATION, WHICH REQUIRES TIME AND APPROVALS	4
ECU	Logistics for the distribution of spare parts associated to customs	5
FRA		
GUY	There were no major issues during the past year	4.5
PAR	Delays in customs for the provision/return of spare parts in the various States. This delay could be reduced through optimised management by focal points	4
PER		5
SUR		
T&T		
URU	Problems with logistics due to delays in customs clearance and unexpected technical problems, but they have been overcome through excellent management and handling	4.5
VEN	The absence of some SAM States in RLA/06/901 activities is an obstacle for the implementation of some activities. The financial limitations of the Administrations of each State impair decision-making and implementation agreements	4
	AVERAGE	**4.4**

7.- Other comments Please include other comments related to the compliance of project objectives	
ARG	
BOL	The objectives are being achieved with professionalism and dedication
BRA	The main objective of the REDDIG was achieved, which is to offer a reliable network for the exchange of voice and data among the States of the SAM Region. The next objectives are to upgrade the network and improve cyber security
CHI	The objectives have been achieved with professionalism and dedication by State and project management staff
COL	
ECU	None
FRA	
GUY	No comments
PAR	None
PER	
SUR	
T&T	
URU	Objectives are being met due to excellent management by the Administrator and the work of maintenance personnel of the administrations
VEN	No comments

8.- Risks What new events, if any, are likely to affect the achievement of project results? What do you recommend in response to these events?	
ARG	
BOL	Lack of spare parts; more spare parts must be procured
BRA	Network equipment is about 10 years old and there are no spare parts. It is necessary to purchase spare parts.
CHI	Designation of suitable staff to work on REDDIG to replace those who have retired.
COL	
ECU	Cyber attacks. It is suggested to increase network security
FRA	
GUY	No comments
PAR	Delays in customs for the provision/return of spare parts in the various States. This delay could be reduced through optimised management by focal points
PER	
SUR	
T&T	
URU	Absenteeism due to retirement of ICAO communication experts in all the administrations; this will probably affect the results of the project
VEN	Failure to implement the programme in accordance with its initial planning. The financial situation of each State

9.- Other information Please provide any other information that may support or clarify your assessment regarding compliance with the objectives of the project	
ARG	
BOL	None
BRA	None
CHI	None
COL	
ECU	None
FRA	
GUY	No comments
PAR	None
PER	
SUR	
T&T	
URU	Excellent communication, dedication and professionalism of all those involved result in a positive evaluation
VEN	A more in-depth analysis of the real progress of each of the project's objectives in each State should be carried out in order to

SURVEY ON MANAGEMENT AND OUTPUT INDICATORS
III. EVALUATION OF PROJECT IMPLEMENTATION AND PROVISION OF SERVICES BY ICAO

1.-Decision-making **Do you consider that the decision-making process within the project is appropriate?**		**Rating**
ARG		
BOL	Yes, it is appropriate	4.5
BRA	Yes, it is appropriate because all States participate in committee meetings	5
CHI	Yes, it is appropriate	4.5
COL		4.5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	Yes, it is appropriate	5
SUR		
T&T		
URU	The decisions made, especially under unforeseen or emergency circumstances, have been the appropriate ones	5
VEN	It is appropriate and decisions are aimed at achieving the objectives. However, there are some difficulties when a State does not attend the meetings	4.5
	AVERAGE	**4.7**

2.-Product quality **Do you think that the quality of the products produced is appropriate?**		**Rating**
ARG		
BOL	Fair	3.5
BRA	Yes, because it is decided and reviewed at the annual meetings	5
CHI	Yes, it is appropriate	4.5
COL		4.5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER		5
SUR		
T&T		
URU	Yes, the quality of the products has been the result of excellent study and analysis of each of them	5
VEN	In theory, it is excellent, but the problem arises when putting things into practice and the scheduling of dates on some occasions undermines compliance	4.5
	AVERAGE	**4.6**

3.-Orientation Do you think that there is compliance with guidance towards achieving project outputs?		Rating
ARG		
BOL	It is compliant, it is result-oriented	4.5
BRA	Yes	5
CHI	Yes, it is complying	4.5
COL	THE CONSTANT SUPPORT AND COORDINATION OF THE WORK TEAM OF THE SAM OFFICE HAS BEEN KEY TO RESOLVING ALL THE ISSUES REQUESTED BY COLOMBIA	5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	Yes	5
SUR		
T&T		
URU	Yes, it is being followed, and on track to excellent results	4.5
VEN	There is undoubtedly good guidance that has been key for achieving the results to reach the objectives set forth in the Global air navigation plan	4.5
	AVERAGE	**4.7**

4.- Organisation and prioritisation Do you think the organisation and prioritisation of the project are appropriate?		Rating
ARG		
BOL	They are appropriate and prudent	4.5
BRA	Yes	5
CHI	Yes, they are appropriate	4.5
COL	WE HAVE ALWAYS RECEIVED A RESPONSE FROM THE WHOLE PROJECT TEAM	4.5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	Yes	5
SUR		
T&T		
URU	We believe that the agenda and the priorities are appropriate and prudent	4.5
VEN	We consider that the organisation and prioritisation have been the most appropriate with regard to the implementation of a project	4.5
	AVERAGE	**4.7**

5.-Change management Do you think that change management and the degree of flexibility in project management are appropriate?		Rating
ARG		
BOL	They are appropriate	4
BRA	Yes	5
CHI	Yes, they are appropriate	4.5
COL	THE PROJECT MANAGEMENT ALWAYS LISTENS TO THE STATES AND TO NEW IDEAS AND IF POSSIBLE IMPLEMENTS THEM	5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	Quite appropriate	5
SUR		
T&T		
URU	Change management and flexibility are very good and appropriate	4.5
VEN	We consider that the degree of flexibility that has been adopted to make the necessary updates to RLA/06/901, as well as change management, are appropriate	4.5
	AVERAGE	**4.7**

6.- Service to the State Do you think that the service provided to your State is appropriate?		Rating
ARG		
BOL	Acceptable	3.5
BRA	Brazil is concerned about equipment replacement times	4.5
CHI	Yes, it is appropriate	4.5
COL	IN ACCORDANCE WITH THE COMMITMENTS FOR THE YEAR 2022, AS A STATE, WE HAVE RECEIVED ALL THE NECESSARY SUPPORT AND ADVICE FROM ICAO	5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	It is appropriate	5
SUR		
T&T		
URU	Yes, it is appropriate and we believe is equitable to all States	5
VEN	In reference to training, orientation and guidance in our updating process	4.5
	AVERAGE	**4.6**

7.- Communication Do you think that the level of communication within and outside the project is adequate?		Rating
ARG		
BOL	Communication must be strengthened	4
BRA	Yes	5
CHI	Yes, it is adequate	4.5
COL		5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	It is adequate	4.8
SUR		
T&T		
URU	Communication has been one of the strengths, conducive to success	5
VEN	Yes, teleconferencing is considered to have made an exellent contribution; it has optimised meetings, making them more efficient in terms of the time employed	4.5
	AVERAGE	**4.7**

8.-Conflicts Do you believe that conflict management is adequate?		Rating
ARG		
BOL	Coordination among countries is noteworthy	4.5
BRA	Yes	5
CHI	Yes, it is adequate	4.5
COL	TO DATE WE HAVE NOT PERCEIVED ANY CONFLICTS	5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	It is adequate. The results show it	5
SUR		
T&T		
URU	Conflicts are properly solved based on their importance and priority	4.5
VEN	The project's handling of the COVID-19 pandemic generated controversies that were fully repairable through the intervention of the focal points accompanying the project. The work carried out at SAM/IG meetings are proof of this	4.5
	AVERAGE	**4.7**

9.- Use of resources Do you think that project resources are being used efficiently to produce the expected results?		Rating
ARG		
BOL	Yes, they are properly used	4.5
BRA		5
CHI	Yes, they are used efficiently	4.5
COL		5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	Available resources are used efficiently	5
SUR		
T&T		
URU	Yes, resources are bein used efficiently and with moderation	4.5
VEN	Yes, resources are being used efficiently	4.5
	AVERAGE	**4.7**

10.- Relevance of mechanisms Do you think that management mechanisms of the project are relevant?		Rating
ARG		
BOL	Fair	4
BRA		5
CHI	Yes, they are relevant	4.5
COL		5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	The results obtained are satisfactory, therefore the mechanisms are relevant	5
SUR		
T&T		
URU	Yes, they are relevant and appropriate	4.5
VEN	We consider that project management mechanisms are relevant	4.5
	AVERAGE	**4.7**

11.- Work plan timing Based on your work plan, how would you rate the timing of the project as regards the delivery of products, results and inputs?		Rating
ARG		
BOL	Good	4.5
BRA	The State must keep control of equipment repair requests in terms of time and cost	4.5
CHI	Good, both in delivery time, products and results	4.5
COL		4.5
ECU	Satisfactory	5
FRA		
GUY		4.5
PAR	Very good	4.5
PER		4.7
SUR		
T&T		
URU	Timing has been excellent due to good management of resources, times and technical monitoring	4.5
VEN	The work plan was adopted in an appropriate and timely manner for the delivery of outputs, outcomes, etc.	4.5
	AVERAGE	**4.6**

12.-Direction		
Do you consider that the activities and products developed through the project are in line with the directives issued by ICAO, the Regional Offices and the air navigation plans?		**Rating**
ARG		
BOL	They are aligned	4.5
BRA		5
CHI	Yes, they are	4.5
COL		4.5
ECU	Yes	5
FRA		
GUY		4.5
PAR	Yes	4.5
PER	ICAO guidelines have always been followed	5
SUR		
T&T		
URU	Activities and products are aligned with the air navigation plans, the Regional Offices and ICAO	4.5
VEN	They are undoubtedly related and aligned to ICAO directives, the Global air navigation plan, and the Regional air navigation plan	4.5
	AVERAGE	**4.7**

13.- Other information	
Please provide any other information that may support or clarify your assessment on products and services provided through the project	
ARG	
BOL	None
BRA	The State must conduct on-line monitoring of the equipment repair process
CHI	The products and services through the project have been appropriate
COL	
ECU	None
FRA	
GUY	No comments
PAR	No comments
PER	
SUR	
T&T	
URU	Products and services provided by the project through REDDIG have been excellent
VEN	No comments

SURVEY ON MANAGEMENT AND OUTPUT INDICATORS
IV. LESSONS LEARNED

1.-Positive lessons learned from the project	
Provide a brief description of the positive lessons learned from project implementation	
ARG	
BOL	Teamwork, with the active participation of technical staff from the States and the Regional Office
BRA	Coordination among the participating States is very important for the success of the project. And the Lima workshop, as an impartial entity, was able to understand the interests of all and to coordinate integration with other Regions
CHI	Teamwork, with the active participation of staff from the States and the Regional Office
COL	THE CONSTANT PARTICIPATION AND COORDINATION WITH ICAO ADDS VALUE TO THE SERVICES WE PROVIDE AS ANSP
ECU	Prioritising network security/Managing a high-availability network
FRA	
GUY	Excellent communication with other States
PAR	Good communication through the use of teleconferencing for the handling of situations and coordination for problem-solving. The human capital developed by each State participating in the project
PER	
SUR	
T&T	
URU	It would hardly have been possible to create and implement the project with so many administrations, without the active mediation of ICAO, generating close technical collaboration among all States
VEN	We should highlight that the most positive aspect in the implementation of the project is the methodology used in the preparation of the documents, which are presented at SAM/IG meetings. The recruitment of experts to develop certain issues to be included in the agenda of the Implementation Group provides State representatives with a deeper knowledge of the issue to be discussed at the meeting, and the decisions or results expected at the meetings are more agile. We also believe that the project has maximised human resources and budgets. Significant progress has been achieved in interconnections, services, etc.

2.-Opportunities for improvement	
Provide a brief description of the opportunities for improvement identified during project implementation	
ARG	
BOL	None
BRA	A proposal for the implementation of firewall equipment should have been coordinated among States prior to training in 2022
CHI	Turnover of staff that ceases to work in the project
COL	
ECU	Promoting among contracting States the implementation of the principles contained in Annex 9 (Facilitation)
FRA	
GUY	Voice and Data communication was satisfactory
PAR	Constant training to have a technical team effectively prepared to deal with problems. The implementation of training tools. Constant innovation in the delivery of face-to-face and virtual training. Propose laboratories with link and connectivity simulation tools
PER	
SUR	
T&T	
URU	Difficulties have always been overcome through close communication and support among all the technical areas and the project administrator
VEN	It is important for all States to participate in all the activities of the project, with stable work teams capable of maintaining continuity in the tasks assigned or training provided by the project

3.- Strategy to implement the opportunities for improvement identified	
Provide a brief description of the strategy that you would propose to implement the opportunities for improvement identified	
ARG	
BOL	Develop coordination timetables for the execution of tasks to ensure the sustainability of the project in each State
BRA	The *ad hoc* group established for a specific purpose (*e.g.* procurement of firewall equipment) must present a plan of all activities required to reach success
CHI	Maintain the working groups in the States, providing continuity of tasks and initiating processes for staff renewal
COL	
ECU	
FRA	
GUY	No comments
PAR	Maintain the same strategy, since it was optimised based on the experience gained during the course of the project, and implement the same work system for the REDDIG III project
PER	
SUR	
T&T	
URU	As an imperative strategy, maintain and increase links among participants from the administrations, and support REDDIG II management and administration by applying lessons learned in the implementation of REDDIG II.
VEN	Urge States to maintain these stable teams, by area of activity, and study the possibility of increasing the number of training scholarships, to be financed by an adjustment of State fees, so as not to divert resources from substantial activities