INTERNACIONAL CIVIL AVIATION ORGANIZATION

RLA/06/901

RLA/06/901 – Third Workshop/Meeting of the Interoperability Task Force Subgroups

(GT INTEROP/3)

SUMMARY OF DISCUSSIONS

(FINAL)

(Teleconferences, 14 - 17 March 2022)

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HISTORY OF THE WORKSHOP/MEETING

ii-1 MEETING DETAILS

The Third Workshop/Meeting of the Subgroups of the Interoperability Task Force (TF INTEROP/3), was held via teleconferences (Zoom), from 14 to 17 March 2022.

ii-2 OPPENING

Mr. Francisco Almeida, CNS Regional Officer of the ICAO South American Regional Office, welcomed the participants, highlighted the issues to be addressed and wished success in the deliberations. He then opened the Workshop/Meeting.

ii-3 LANGUAGES

The working languages of the meeting were Spanish and English (simultaneous interpretation). Documentation was submitted in both languages.

ii-4 PARTICIPANTS AND ORGANIZATION

The Meeting was attended by representatives of 13 States of the SAM Region and one State NAM/CAR, a representative of IATA, Industry representatives and ICAO Officers, totaling 99 people. The list of participants appears on page iii-1.

Mr. Francisco Almeida, CNS Regional Officer, acted as Secretary of the Meeting.

LIST OF PARTICIPANTS

ARGENTINA
1. Moira Callegare
2. Diego Frigerio
3. Hector Marcelo Cancinos
4. Gustavo D' Antiochia
5. Diego Agüero
6. Sandra Naumovitch
7. Andres Espina
8. Ruben Moccia
9. Raul Drandich
10. Darioa Alberto Aquino
11. Silvia Ruz
12. Marcos Lemos

BOLIVIA
13. Jaime Yuri Alvarez

BRASIL
14. Hebert dos Santos
15. José Izidro Apolinario
16. Kleiffer Cunha
17. Euler Florencia da Costa
18. Marcelo Melo Fagundes
19. Wallace Gutemberg
20. Antonio Carlos Fernandes
21. Vahé Yaghdjian
22. Jorge Silva

CHILE
23. Francisco Uzieda
24. Hector Ibarra
25. Edmundo Cortés Mancilla
26. Francisco Gálvez
27. Christian Vergara
28. Alfonso de La Vega
29. Raúl Fernandez
30. Lucio Lopez
31. Pedro Pastrian
32. Gustavo Cárceres

COLOMBIA
33. Harlen Mejia Oliveros
34. Jaime Burbano
35. Jhon Sabogal
36. Carlos Alberto Gaitán Zárate
37. Breiner Medina
38. Xabier Beitia Rojas

COLOMBIA
39. Adriana Murillo
40. Wilbert de Jesús Hernandez
41. Robinson Quintero
42. Roberto Garcia
43. Henry Andrés Cordoba
44. Xabier Beitia Rojas
45. Katherine Roa
46. Nicolas Fernado Béltran
47. Yasmin Araque
48. Claudia Mena Perez
49. Yonatan Montoya
50. Juan Carlos Pulido

ECUADOR
51. Jorge Zuñiga
52. Juan Poalasin
53. Marcelo Valencia
54. Darwin Yazbeck
55. Arturo Lomas
56. José Paredes
57. Edison Lagos
58. Alba Cecilia Cifuentes Pinto
59. Luis Tarira Veliz
60. Miguel Olmedo
61. Cesar Maldonado

PANAMA
62. Nimio Alvarez

PARAGUAY
63. Diego Aldana
64. Nelson Cardozo

PERU
65. Giuliano Guzman
66. Hugo Rosado
67. Raúl Anastacio Granda
68. Henry Loza Campos
69. Dante Samaniego
70. Wifredo Meza
71. Ananias Gerardo Huaytalla

PERU
72. Johnny Carlos Avila Rojas
73. Jorge Merino
74. Luis Ojeda
75. Martin Carrán
76. Edson Yataco
77. Mario Luis Matos Rivera

SURINAM
78. Jurgen Cicilson
79. Lorenso Kasmani
80. Radha Atwaroe
81. Sjiefajet Ali Hoeseni
82. Ranoe Bidesie

UNITED STATES
83. Raul Chong

URUGUAY
84. Henry Diaz
85. Mary Casaña
86. Alicia Padilla
87. Andrea Vives
88. Andrés Barboza

VENEZUELA
89. Jarumy Castillo
90. Kender Ferrer
91. Maribel Mayora

AIREON LLC
92. Athayde Frauche

ATECH
93. Edson Fagundes Gomes
94. Mariana Panzarini Marques
95. Antonio Dias
96. Kaori Yamaguchi

IATA
97. Julio Cesar Pereira

ICAO
98. Francisco Almeida
99. Javier Vittor

ATM/FPL Roadmap

1.1 The ATM/FPL Roadmap document was updated to add the DOF (Day of Flight) element to the ACK message. Version 2.2 of the ATM/FPL Roadmap can be accessed at the link below:

https://www.icao.int/SAM/Documents/2022-RLA06901-GTINTEROP3/Roadmap%20ATM_FPL%20rev%2009%20Mar%202022%20VERSION%202.2.pdf

Methodology for quantifying FPL errors

1.2 The participants of the Subgroup have identified the need to establish a common methodology to quantify errors in flight plans and associated messages, in order to obtain indicators to measure the level of mitigation achieved, with the application of the measures indicated in the ATM/FPL Roadmap. The participants were invited to submit proposals to establish a common methodology.

Standard procedure for publication in the AIP

1.3 The Rapporteur of the Subgroup indicated that it is important to establish a standardized format to include the information in the Aeronautical Information Publication (AIP) of the States that adopt the measures recommended in the ATM/FPL Roadmap. The participants were invited to submit proposals for the adoption of a single format.

Request for establishment of direct flights

1.4 Likewise, the Rapporteur of the Subgroup has indicated that the Airlines, through the representatives of IATA, have requested more direct flights for fuel savings due to the high prices, caused by the recent crises of the pandemic and the conflict in Europe. This implies a challenge for the Subgroup, in the revision of the syntax of the routes by coordinates, to verify if it is accepted by the automated systems.

Situation in the SAM States

1.5 The Rapporteur of the Subgroup and the Secretariat requested the participants to state succinctly on the adoption of the measures recommended in the ATM/FPL Roadmap and the degree of implementation in each State. The following is the information provided by the States that submitted their comments.

Argentina

1.6 Currently, the replacement of the AMHS system is in process, with its commissioning scheduled for April 2022. With the implementation of the new AMHS system, it is expected to reduce the number of errors in flight plans, according to the tools available to the new system. The updating of ATM systems is also contemplated in the planning, in order to be able to continue with the activities contained in the Roadmap approved in Conclusion SAM/IG/25-06.

1.7 At the moment, although it is not possible to implement the use of ACK and REJ messages in the short/medium term in Argentina, the service provider continues to work on the implementation of the service that allows the sending of ACK and REJ messages. As for the FPLs that enter with the SID and STAR encoded in 6 characters, work is being done on how the corrections of the flight plans with errors will be made.

1.8 The centralization of the flight plan is not yet contemplated in the national planning.

Bolivia

1.9 The representative of Bolivia at the Workshop/Meeting had indicated that there were changes in the Bolivian Air Navigation Service Provider and that, in due course, a representative for the ATM/FPL Subgroup would be indicated.

Brasil

1.10 Brazil has implemented, in 2021, an automated system for the centralized management of flight plans that complies with providing feedback messages to FPL originators, sending acceptance messages (ACK) or rejection (REJ) of the submitted flight plans. The Secretariat stressed that the format adopted in Brazil does not exactly comply with the format indicated in the document prepared by the ATM/FPL Subgroup, because the Brazilian system was developed before the publication of the ATM/FPL Roadmap. Brazil was urged to analyze the possibility of adapting the system to the format proposed in the ATM/FPL Roadmap.

1.11 The Secretariat noted that at the Workshop/Meeting GT INTEROP/2 (2021), the representative of the company that has developed the automated system in Brazil, signed up to make a more detailed presentation on the system implemented and the experience gained with the operation of the system. Atech's representative at the Workshop/Meeting confirmed the availability to make this presentation and will coordinate with representatives of the Brazilian administration to set a date.

Chile

1.12 The representative of Chile of the Coordination Nucleus of the Interop TF stated that Chile was in agreement with the adoption of the measures provided for in the ATM/FPL Roadmap. He also reported that since the migration of IATWin terminals to Frequentis CADAS-ATS terminals, an ATS messaging quality control system has been implemented, taking advantage of the capabilities of these terminals to automatically perform syntactic and semantic analysis, allowing to reduce errors in FPLs, in addition to detecting through message switching analysis, errors in message routing.

1.13 As a reporting mechanism, operational bulletins have been issued with analysis of FPLs and indications of improvement and compliance with FPL elaboration procedures. As a result, there is a decrease in errors by users.

1.14 Reports have been sent to IATA focal points to mitigate errors in FPLs and address lines caused by operators sending messages via FPL management companies.

1.15 A system of error reporting has been implemented to the ARO Offices of the country and an instruction plan is being carried out for all staff for the correct use of FPL forms.

Colombia

1.16 The representative of Colombia at the Workshop/Meeting stated that he had contacted the relevant sectors internally to designate representatives for the ATM/FPL Subgroup.

Ecuador

1.17 The representative of Ecuador reported that they do not yet have an automated system, but

they are directing the acceptance (ACK) and rejection (REJ) messages manually, they continue with the presentation of flight plans by the airlines, having a team to verify the correctness of all the fields, achieving a good result with this process. On the other hand, there are still difficulties with the duplication/multiplicity of flight plans, because other control centers or AIS sectors generate another flight plan.

1.18 Also, the increase of new structures and new exits with the PBN airspace that increased the SID and STAR codes, having cases of SID that immediately connect with STAR and, consequently, the FDP system does not validate this data. As a mitigation, those cases are corrected directly in the database so that the flight plan enters. In future updates of the automated system, the manufacturer will be asked to review the algorithm so that there is no error.

1.19 Another representative of Ecuador has reported that when there is an LRM alert in the AIDC coordination, normally, the centers try to forward the flight plan, not looking at the LRM category (which are several). This practice causes more problems of flight plans duplication/multiplicity.

Peru

1.20 Peru will continue with the process started in 2020, reinforcing the talks for people who are returning after the pandemic period and promoting the creation of the centralized unit for the treatment of flight plans. Likewise, it will designate personnel to work on the syntax of the messages, as well as to make the statistics of errors/duplicity for the establishment of indicators, in order to have a comparative measure, to evaluate the results of the actions taken to mitigate the errors/duplication of the flight plans.

Venezuela

1.21 A representative of Venezuela recognized the importance of the work of the Subgroup and the need for a representative of Venezuela to be a member of the Subgroup. He informed that the Air Navigation Management will direct the data of the Venezuela's representative. He also commented that the creation of a flight plan treatment center, at the regional level, could be a more effective solution.

1.22 In this regard, the Secretariat reported that in 2021 two workshops were held with representatives of EASA and Eurocontrol, which presented the characteristics of the system implemented in Europe, with a regional approach. Likewise, the topic was discussed in the Workshop/Meeting GT INTEROP/2, but the indication provided is that each State will implement the centralized management of flight plans particularly.

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Reference document for the implementation of the AIDC

2.1 Workshop/Meeting participants noted that the reference document for AIDC implementation in the SAM Region is the PAN Regional (NAT and APAC) Interface Control Document for ATS Interfacility Data Communications (PAN AIDC ICD), version 1 of September 2014. The link below allows access to the PAN AIDC ICD document:

https://www.icao.int/SAM/Documents/2022-RLA06901-GTINTEROP3/3.%20PAN%20ICD%20NAT-APAC%20v1%200%20-%202014.pdf

AIDC Connections

2.2 The Secretariat reported that there were no new AIDC connections established in 2021, but it can be considered that there were some advances with the identification and solution of several aspects of interoperability between the systems of Brazil, Colombia, Peru and Venezuela.

2.3 The AIDC operational connections are:

Brazil (9 of 25)

Center A	Center B
Amazon ACC	Brazilia ACC – 1
	Curitiba ACC – 2
	Recife ACC – 3
	Atlantic ACC – 4
Atlantic ACC	Amazon ACC – (4)
	Curitiba ACC – 5
	Recife ACC – 6
Brazilia ACC	Amazon ACC – (1)
	Curitiba ACC – 7
	Recife ACC – 8
Curitiba ACC	Amazon ACC – (2)
	Atlantic ACC – (5)
	ACC Brazilia – (7)
	ACC Recife – 9
Recife ACC	Amazon ACC – (3)
	Atlantic ACC – (6)
	Brazilia ACC – (8)
	Curitiba ACC – (9)

Chile (2 of 11)

Center A	Center B
Iquique ACC	Lima ACC – 1
Puerto Montt ACC	Punta Arenas ACC – 2
Punta Arenas ACC	Puerto Montt ACC – (2)

Colombia (4 of 13)

Center A	Center B
Barranquilla ACC	Bogotá ACC– 1
	Panamá ACC– 2
Bogota ACC	Barranquilla ACC – (1)
	Guayaquil ACC – 3
	Lima ACC – 4

Ecuador (3 of 3)

Center A	Center B
Guayaquil ACC	Bogotá ACC – 1
	Lima ACC – 2
	CENAMER ACC – 3

Panamá (1 of 6)

Center A	Center B
Panamá ACC	CENAMER ACC – 1

Perú (3 of 6)

Center A	Center B
Lima ACC	Bogotá ACC – 1
	Iquique ACC – 2
	Guayaquil ACC – 3

2.4 The representative of Atech informed that the corrections identified last year have already been implemented and the new SAGITARIO version will be installed in the ACCs of Brazil, Paraguay and Venezuela. This new version is not possible to be installed remotely, being necessary coordination with the States for the installation, due to the restrictions imposed by the pandemic.

Situation in the SAM States

2.5 The Rapporteur of the Subgroup and the Secretariat requested the participants to state succinctly on the adoption of the measures recommended in the ATM/FPL Roadmap and the degree of implementation in each State. The following is the information provided by the States that submitted their comments.

Argentina

2.6 At the moment, there are no AIDC links implemented and operational on the 17 projected links (6 national, 10 regional, 1 intraregional). As a result of the errors detected in the implementation of the AIDC, it continues to be suspended in the disabled ACCs until the inconveniences can be solved to achieve interconnections with the ACCs, prioritizing interconnection at the national level, and that once the situation is resolved, progress will be made in the international framework.

2.7 As a result of the errors detected in the implementation of the AIDC, the AIDC functionality in the area control centers continues to be suspended, until the inconveniences can be solved to achieve interconnections with the adjacent ACCs, prioritizing interconnection at the national level, and that once the situation is resolved, progress will be made in the international framework.

2.8 The AMHS system is currently being replaced, with the start of service expected in April of this year. The Air Navigation Services Plan Period 2020-2024 presented by the air navigation service provider (EANA S.E) to the aeronautical authority (ANAC) contemplates the renewal of automated ATM systems.

Bolivia

2.9 Bolivia/NAABOL has scheduled the acquisition of a new version of the THALES system for the FIR La Paz (SLLF) in the course of this administrative management (2022). This new version must incorporate what is necessary for the implementation of the AIDC relegating the use of the AFTN, thus initiating the Bolivian State the route to automation harmonized with the Region.

Brazil

Amazon ACC – Lima ACC

2.10 Last tests carried out between 28/06 and 29/07/2021. A high rejection of ABI messages sent from ACC-AZ to Lima was observed. 94% of ABI messages generated by ACC-AZ received a logical rejection message (LRM) in response.

2.11 The Subdepartment of Operations (SDOP) analyzed the errors pointed out by the LRM produced by the Lima system and found that the content of the indicated FPL fields was not inconsistent. The result of the analysis was presented to those in charge of the Lima center, confirming error in the interpretation of the fields' contents by the Lima system.

2.12 In August 2021, Lima reported the problem for the analysis of the system provider, the company Indra. DECEA expects, from this moment, the correction of errors in the Indra system to later schedule new tests between the Manaus and Lima Centers.

Amazon ACC – Maiquetia ACC

2.13 Pre-operational tests carried out in the first half of February 2022. The transfers of control made between the two centers were, for the most part, successful.

2.14 The Amazon ACC, based on a report generated by SAGITARIO (Brazilian system), is in the process of analyzing the failures that occurred. The generated report will serve as a subsidy for any adjustments in the system configuration, in the operating procedures agreed with Maiquetía and for requests for correction of the software with the provider.

Curitiba ACC – Asuncion ACC

2.15 Initiated, by the Subdepartment of Operations of DECEA, the negotiations with the heads of the Asuncion Center, for the elaboration of the Memorandum of Understanding between the two centers, which will contain the parameters and norms for the realization of the pre-operational tests.

Atlantic ACC – Dakar ACC

2.16 Between 13 and 15/12/2021, the Atlantic ACC received representatives of the Dakar Center to discuss the implementation of the AIDC with Atlantic ACC. The meeting was also attended by representatives of the Operations and Technical Subdepartments of DECEA.

2.17 It was agreed, between the Centers, the preparation of some documents with the parameters and schedule of the tests to be carried out, as well as the future operation of the AIDC connection.

2.18 At the beginning of 2022, pre-operational tests began and, in the current phase, the errors obtained by both parties are being evaluated for subsequent correction and configuration adjustments.

Chile

2.19 The representative of Chile has indicated the state of progress of the contract the AIDC System (version 3.0 ASIA/PAC) for the Control Centers of Santiago and Oceanic:

- The implementation is awaiting continuity due to the restrictions decreed by the health authority due to the state of the COVID-19 pandemic;
- Estimation of a possible restart of work from June 2022 on.

Colombia

2.20 In Colombia, in the past year, there was not much progress due to some existing pendency on the part of the adjacent international centers. Information on the progress made in the implementation of AIDC is shared in a share point, accessible to all those involved in the issue in Colombia.

2.21 In February, pre-operational tests were carried out between Bogota ACC and CENAMER ACC that were successful. At the beginning of March, the operational tests were carried out, CENAMER personnel have requested to carry out the operational tests throughout the month of March, because there are only two flights (in the early morning) making it difficult to carry out the tests. It is being coordinated for the effective execution of these tests and it is estimated that, by the end of April, the connection will be officially operational.

2.22 The Barranquilla ACC – Kingston ACC connection is suspended due to administrative issues in Jamaica (version update), which is not allowed to continue with the process.

2.23 The Bogotá ACC – Panama ACC AIDC connection is pending an ATM (airspace structure) issue and in the pandemic period there was a reduction in the personnel available to carry out the tests.

2.24 The Barranquilla ACC – Maiquetia ACC connection is pending the update of the SAGITARIO system in Venezuela. After this connection is established, we will move to the Bogota ACC – Maiquetia ACC connection, which has a more complex airspace and greater traffic. The strategy is to work first with Barranquilla, to solve the issues of interoperability between the systems, and then move more quickly in the connection with Bogota.

2.25 With Brazil and Curaçao there was still no progress, but it is estimated that, with the advance of connections with Venezuela, it will be possible to progress more quickly the connection between Bogota –Amazon ACC once the center of Brazil uses the same system of Venezuela (Atech). The Secretary informed that the connection of the Barraquilla ACC –Curaçao ACC would be pending on the establishment

of an AMHS (P1) interconnection between the COM AMHS Center of Caracas and the COM Curaçao Center, which may occur in 2023, if the proposal to install a REDDIG II node (MPLS) in Curaçao is accepted.

2.26 Colombia has requested support from the representatives of Ecuador, to share the experience obtained with the internal connections of APP centers with the ACC center. The representative of Ecuador informed that would be pleased to cooperate with this process.

Ecuador

2.27 Ecuador has established all the connections of the adjacent international centers and, likewise, two internal connections between APP centers with the ACC Guayaquil.

France (French Guyana)

2.28 France said that the Cayenne Center already has the AIDC functionality implemented and the priority is to establish the AIDC connection with Dakar, which uses a circuit of the AFISNET (satellite) network. Until the connection with Dakar is established, it will not be possible to move forward with the other FIRs.

Paraguay

2.29 Since September 2021, Paraguay is operating with the new SAGITARIO system as the main means of air traffic management of the Asuncion ACC. Subsequently, in December 2021, a software update was made (version 2.4.3.17), with the technical and operational part complying with the adaptation program for familiarization with the system. It is estimated that from the second semester on, the tests could begin between the Asuncion ACC – Curitiba ACC.

2.30 The Secretariat encouraged the representatives of Brazil and Paraguay to begin coordination to deal with administrative aspects (focal points, review of agreements, schedule, etc.), before the tests were carried out.

2.31 Another aspect highlighted by the Secretariat, to be considered by the SAM States, mainly among control centers that use the same system, would be the possibility of establishing the AIDC through end-to-end TCP/IP circuits between the systems, using the regional REDDIG II network. AIDC connections via aeronautical messaging (AMHS) would remain redundant.

Peru

2.32 In 2021, there was no establishment of new connections, but there were advances in the identification of some interoperability issues in the AIDC connection between Amazon ACC – Lima ACC. It is necessary a small correction in the Indra system of Lima, so as not to occur rejection of some ABI messages of the Amazon ACC, due to the order that comes the letters of the equipment listed in box 10. The situation has already been reported to Indra and the Lima personnel is waiting for a solution.

2.33 With regard to the connections of the ACC Lima with the ACC La Paz and ACC Santiago, the indication of Bolivia and Chile to start the process is awaited.

Surinam

2.34 The system in Paramaribo is new and has the ability to establish AIDC connections. However, there are still some administrative issues that are preventing progress with the establishment of AIDC connections.

Uruguay

2.35 The representative of Uruguay reported that work was being done on the implementation of the AMHS system of the COM Center in Montevideo, and then moving forward with the AIDC connections. By the second half of 2022, the new COM Center in Montevideo will already be fully implemented and it will be possible to begin coordination with Brazil, to establish the AIDC connections of the Montevideo ACC with the Atlantic and Curitiba ACCs.

Venezuela

2.36 Venezuela reported that the pandemic has greatly affected aeronautical activities, and with the work to establish AIDC connections, it was no different. However, it was sought to identify the interoperability issues and the delivery of the new version of the SAGITARIO system is awaited, as already indicated by the representative of Atech.

Support of the ATM/AIDC Subgroup with the work of the CNS/AIP Subgroup

2.37 The Secretariat indicated that within the framework of the work to be carried out by the CNS/ANP Subgroup to review the information in Volume II of the ANP CAR/SAM, a new table should be added reflecting the implementation of the AIDC. In this sense, the members of the ATM/AIDC Subgroup should support the preparation of the CNS II-5 Table – ATS Interfacility Data Communication (AIDC) Plan.

2.38 The Secretariat will circulate a proposal of the new CNS Table II-5 for review by the members of the ATM/AIDC Subgroup, to be consolidated by the members of the CNS/ANP Subgroup with the other information in Volume II.

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Not implemented AMHS (P1) interconnections

3.1 The Secretariat reported that, of the 28 intraregional interconnections, only 2 had not yet been established:

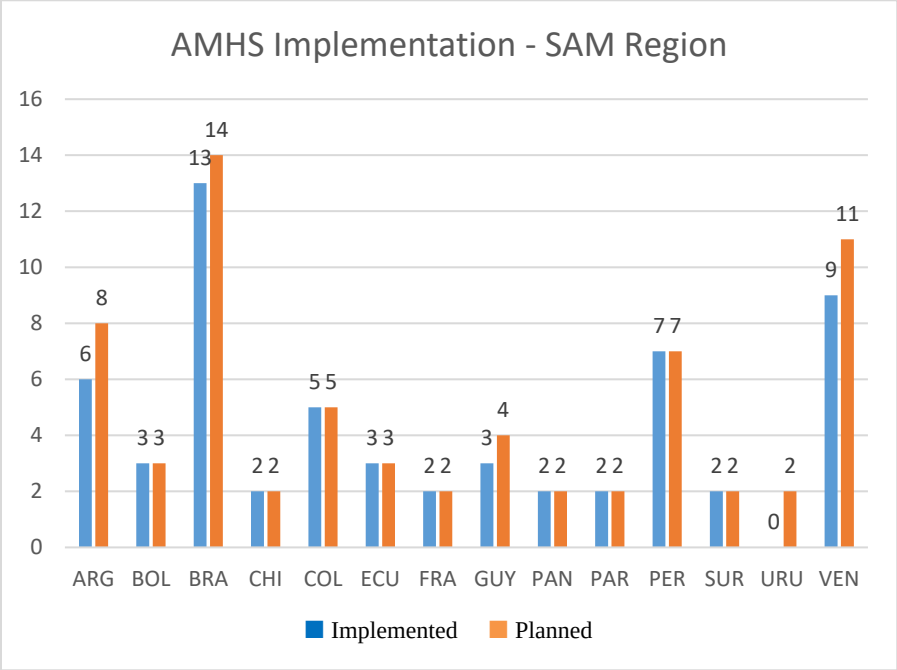
- Brasilia COM Center –Montevideo COM Center (SBBR – SUMU); and
- Ezeiza COM Center – Montevideo COM Center (SAEZ – SUMU).

3.2 Uruguay reported that a new system has already been acquired for the COM AMHS Center of Montevideo, and the installation must occur in the first semester, and should be operational in the second half of 2022.

3.3 With regard to interregional interconnections, the following need to be implemented:

- Caracas COM Center – Curaçao COM Center (SVCA – TNCC);
- Caracas COM Center – Madrid COM Center (SVCA – LEEE);
- Ezeiza COM Center – Johannesburg COM Center (SAEZ – FAOR);
- Gerogetown COM Center –Piarco COM Center (SYCJ – TTPP).

3.4 The graph below presents the implementation situation in the States of the SAM Region:



Additional AMHS (P1) interconnections

3.5 Argentina has already expressed interest in implementing the following interconnections additionally, with Spain and Venezuela:

- Ezeiza COM Center – Caracas COM Center (SAEZ – SVCA); and
- Ezeiza COM Center – Madrid COM Center (SAEZ – LEEE).

3.6 Brazil has reported that it has carried out successful tests to establish an AMHS (P1) interconnection with Portugal and awaits the completion of the contracting procedures of the definitive communication link:

- Brasilia COM Center – Lisbon COM Center (SBBR – LPPT).

3.7 Colombia has also expressed its intention to establish an interconnection with the United States (Atlanta):

- Bogota COM Center –Atlanta COM Center (SKED – KATL).

3.8 The Secretariat has indicated that the additional connections should be treated in common agreement between the States involved and if they are not planned (extra plan), the respective amendment to the Regional Air Navigation Plan (ANP CAR/SAM) should be requested.

3.9 The Secretariat also highlighted the need for States to migrate all users (human and automated) from the AFTN environment to the AMHS context.

3.10 Chile has reported that the AMHS system (AIDA-NG) was installed in 2019, in the premises of the Santiago ACC, as well as the OPMET/NOTAM Data Bank implemented in 2012. The topology is in the star, with AMHS servers (AIDA-NG) and CADAS servers centralized in Santiago.

3.11 Regarding the progress of the replacement of the WINIAT application (AFTN) by CADAS terminals (AMHS) in Chile, of the 100 terminals to be installed nationwide, 86 are already installed, leaving only 14 to be installed.

3.12 Closing the session of the CNS/AMHS Subgroup, the Secretariat asked the participants to support the members of the CNS/ANP Subgroup in reviewing the constant information in Table CNS II-1 of the Regional Air Navigation Plan (ANP CAR/SAM) Volume II.

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Meeting/Workshop ADSB/ANP/1

4.1 The participants noted that, in the period from March 02 to 04, 2022, the First NAM/CAR/SAM Meeting/Workshop on Planning the Implementation of Automatic Dependent Surveillance – Broadcasting (ADS-B/ANP/1) was held virtually, with the participation of representatives of 22 States of the NAM/CAR/SAM Regions and COCESNA, two international organizations, two companies and ICAO Officers, totaling 107 people.

4.2 The documents and presentations of the MEETING/Workshop ADS-B/ANP/1 are available at the following link:

https://www.icao.int/SAM/Pages/MeetingsDocumentation.aspx?m=2022-RLA06901-ADSBYADSBANP1

Terrestrial ADS-B implementation in the SAM Region

4.3 The following SAM states have implemented ADS-B stations: Brazil, Chile, Colombia, Guyana, Panama, Paraguay and Peru. Currently, only in Brazil is the use of ADS-B OUT as the primary means of surveillance information, in the TMA Macaé, to support the operation of helicopters in the Campos oil basin.

4.4 Colombia intends to use ADS-B OUT operationally from April 2022 on. Areas in which the information presented to the controller comes exclusively from ADS B, either because there is no radar coverage in it or because there is a failure of the radar system, the controller may use the information from ADS B to maintain surveillance on the fly of air traffic, in order to obtain:

- Better position information regarding aircraft under control;
- Supplementary information regarding other transit;
- Information on any significant deviation of aircraft, with respect to the relevant air traffic control authorizations, including authorized routes and flight levels where applicable;
- No separation by surveillance shall apply; and
- No vector guidance will be provided.

4.5 Argentina has a technological upgrade project of 22 secondary radars manufactured by INVAP, currently operational. The modernization includes incorporating Mode S and ADB-B in the surveillance stations of Comodoro Rivadavia and Cordoba FIRs and 5 ADS-B stations to expand aeronautical surveillance coverage. The planning contemplates that the implementations of the sensors will begin in 2023 and will be developed progressively until 2025.

4.6 The planned improvement of the existing radars incorporating the S mode and ADS-B technology and the addition of new ADS-B systems and stations, will allow to progressively incorporate experience in the use of ADS-B.

Space-based ADS-B Implementation in the SAM Region

4.7 The Secretariat reported that since the Meeting GT INTEROP/2 (Virtual, August 09 to 13, 2021) and SAM/IG/26 (Virtual, September 20 to 23, 2021) there was no substantial progress in the implementation of Satellite ADS-B (Space-based ADS-B), through a Regional Technical Cooperation Project, using REDDIG II (MPLS) as a platform for the distribution of surveillance information.

4.8 The three States that expressed interest in the proposal (Chile, Panama and Trinidad & Tobago), continue to evaluate the possibility, considering the strong impact caused by the pandemic on the planning and prioritization of projects under development in the States.

4.9 The Secretariat indicated that the administration of Panama has expressed its intention to participate in the Regional Technical Cooperation Project RLA/03/901 (Chile and Trinidad & Tobago are already participants), which will facilitate administratively in a potential contracting of the service, within the framework of Project RLA/03/901.

4.10 Likewise, the Secretariat reported that the additional node of REDDIG II (MPLS) was implemented by Aireon in Virginia, contracting directly from the telecommunications provider of the network, allowing the connection to any REDDIG II node of the States that future contract the SB ADS-B service.

4.11 A representative of Aireon made a presentation with the latest information on the use of ADS-B Satellite for aeronautical surveillance and the possibility of using the Digital Network of the SAM Region (REDDIG II) for the transport of surveillance data. The link below allows access to the presentation:

https://www.icao.int/SAM/Documents/2022-RLA06901-GTINTEROP3/5.%20GT_Interop_SUR_Aireon_V2.pdf

4.12 Finalizing the topics of the CNS/SUR Subgroup, the Secretariat has requested the participants of the Subgroup to support the members of the CNS/ANP Subgroup in the revision of the constant information in Table CNS II-CARSAM-5 (Surveillance Systems Plan) of the ANP CAR/SAM Volume II.

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Tests carried out with the OPMET Regional Data Bank (RODB) of Brasilia

5.1 Participants were informed that the following States have already conducted tests with the Regional OPMET Data Bank (RODB) of Brasilia: Argentina, Cuba, Guyana and Venezuela. In addition, complete and successful tests have already been carried out between the RODB of Brasilia with the RODB of Brussels and Vienna.

5.2 The Secretariat informed that the reference for the implementation of the new IWXXM format was the document Guidelines for the Implementation of OPMET Data Exchange Using IWXXM – Fourth Edition, which could be accessed through the link below:

https://www.icao.int/SAM/Documents/2022-RLA06901-GTINTEROP3/4.%20IWXXM%20Guidelines%20v4.pdf

5.3 To facilitate understanding, an (unofficial) version in Spanish was prepared by the South American Regional Office and can be accessed through the link below:

https://www.icao.int/SAM/Documents/2022-RLA06901-GTINTEROP3/5.%20Guia%20Implem%20IWXXM_nov2020.pdf

Web Service of the RODB of Brasilia

5.4 A representative of Atech made a presentation with the aim of encouraging the States of the CAR/SAM Region to develop integration with the web service of the OPMET Regional Data Bank of Brasilia.

5.5 She informed that there is a possibility, which is being discussed with DECEA, for the development of an application example to teach how to use the web service of the RODB of Brasilia. The application example would allow the use of temporary users for testing, explain the necessary configurations, create scenarios for using the web service for the search and insertion of meteorological messages and all documentation, scripts and source code would be available to interested parties.

5.6 The Secretariat reported that a letter from the SAM Regional Office had already been circulated, communicating the guidelines for the exchange of information via web service, together with the Interface Control Document (SICD) of the system implemented in Brasilia.

5.7 States interested in implementing the exchange of information with the RODB of Brasilia, via web service, must request, through the SAM Regional Office, the registration of user and password to obtain the token.

5.8 The representative of Chile reported that the technology necessary for the transmission of information in XML format had not yet been implemented in the State. The AMHS is in the process of being installed in the MET information production centers. At the moment, there is no capacity to convert from TAC to XML, and efforts to link with Brazil's web service have not yet initiated.

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Activation of the CNS/ANP Subgroup

6.1 The Secretary stressed that in addition to the preparation of Volume III, the work assigned by GREPECAS includes the review and updating of Volumes I and II of the Regional Air Navigation Plan CAR/SAM (ANP CAR/SAM).

6.2 In this regard, during the SAM/IG/26 Meeting (Virtual, September 20-23, 2021), Conclusion SAM/IG/26-3 was formulated:

<table>
<tr><td colspan="2">Conclusion SAM/IG/26-03 Review of the CNS tables of Vol. II of the CAR/SAM Air Navigation Plan and support in the preparation of Vol. III of the CAR/SAM ANP, on CNS issues</td></tr>
<tr><td>That:
a) The CNS/ANP Subgroup, activated at the SAM/IG/26 Meeting, review the CNS tables contained in Vol. II of the CAR/SAM Air Navigation Plan, referring to the information of the SAM States and provide support in the preparation of Vol. III of the CAR/SAM ANP, on CNS issues;

b) The Secretariat circulate a letter to the SAM States for them to nominate participants of the CNS/ANP Subgroup; and

c) The SAM States nominate representatives in a sufficient number to carry out the tasks assigned to the CNS/ANP Subgroup.</td><td>Expected impact:

☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Technical/Operational</td></tr>
<tr><td colspan="2">Why:
Update the information in Vol. II of the CAR/SAM Air Navigation Plan and provide support in the preparation of Vol. III of the CAR/SAM ANP, which concerns CNS planning aspects.</td></tr>
<tr><td>When: Immediately</td><td>Status: Adopted by SAM/IG/26</td></tr>
<tr><td colspan="2">Who:
☒ Coordinators ☒ States ☒ ICAO SAM Secretariat ☐ Others:</td></tr>
</table>

6.3 The SAM Regional Office has addressed to the States of the Region the SA5479 Charter, on October 20, 2021, communicating the approval of Conclusion SAM/IG/26-3 and requesting the designation of participants for the CNS/ANP Subgroup.

Rapporteurship of the CNS/ANP Subgroup

6.4 During the session of the CNS/AP Subgroup, the Secretariat requested that participants indicate a person to be Rapporteur of the Subgroup.

6.5 Chile stated that it could make the indication of a representative to act as rapporteur and, subsequently, through Letter Nº 04/4/0420/3465, of April 4, 2022, appointed Mr. Edmundo Cortés Mancilla as the Rapporteur of the CNS/ANP Subgroup.

6.6 The initial formation of the CNS/ANP Subgroup is as follows:

- **CNS/ANP Subgroup**
  - **Rapporteur: Edmundo Cortés Mancilla, ecortes@dgac.gob.cl, Chile**
    - Andrés Espina, aespina@anac.gob.ar, Argentina
    - Diego Frigerio, dfrigerio@anac.gob.ar, Argentina
    - Carlos Rey, crey@anac.gob.ar, Argentina
    - Jaime Yuri Álvarez Miranda, jalvarez@dgac.gob.bo, Bolivia
    - Wallace Gutemberg Medeiros Luz, gutembergwgml@decea.mil.br, Brazil
    - Vahe Antoine Yaghdjian, vahevay@decea.mil.br, Brazil
    - Edmundo Cortés Mancilla, ecortes@dgac.gob.cl, Chile
    - Javier Leal Pavez, jleal@dgac.gob.cl, Chile
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    - Jaime Contreras, jcontreras@corpac.gob.pe, Perú
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    - Henry Loza, hloza@corpac.gob.pe, Perú
    - Horacio Berreta, hberreta@dinacia.gub.uy, Uruguay
    - Jarumy Castillo, ja.castillo@inac.gob.ve, Venezuela
    - Luis Escobar, l.escobar@inac.gob.ve / escoguil5@gmail.com, Venezuela

Work to be done and support from participants of other Subgroups

6.7 The Secretariat reported on the list of constant tables in Volume II of the ANP CAR/SAM that need to be reviewed and updated:

– Table CNS II-1:
  • Aeronautical Fixed Telecommunications Network (AFTN) Plan (support from the CNS/AMHS Subgroup)

– Table CNS II-2:
  • Required ATN Infrastructure Routing Plan

– Table CNS II-3:
  • ATS Direct Speech Circuits Plan

– Table CNS II-4:
  • HF Network Designators

– **Table CNSII-5 (new table):**
  • **ATS Interfacility Data Communication (AIDC) Plan** (support from the ATM/AIDC Subgroup)

– Table CNS II-CARSAM-1:
  • ATN IPV4 Addressing Scheme

– Table CNS II-CARSAM-2:
  • Aeronautical Mobile Service and AMSS

- Table CNS II-CARSAM-3:
  - Radio Navigation Aids Plan

- Table CNS II-CARSAM-4:
  - ASTERIX SAC Code Assignment Plan

- Table CNS II-CARSAM-5:
  - Surveillance Systems Plan (support from the CNS/SUR Subgroup)

- Table CNS II-CARSAM-6:
  - AM(R) VHF Geographical Separation Criteria

- Table CNS II-CARSAM-7:
  - AM(R) VHF Sub-bands Allotment Table

6.8 The CNS/ANP Subgroup should hold virtual meetings for the review of Part III (CNS) of Volume II and the associated tables. The Secretariat will provide the extracts from the tables in separate files to facilitate the revision work.

6.9 It was highlighted that the Regional Air Navigation Plan is CAR/SAM, involving States from another Region, as well as another ICAO Regional Office (NACC). Thus, the intention is to consolidate the changes proposed by the SAM States and, subsequently, to have some coordination meetings with the CAR States, before formulating the proposals for amendment (PfA) of the ANP CAR/SAM.

6.10 Participants noted that the CNS/AMHS Subgroup has conducted a prior revision of Table CNS II-1. For this table, there is a proposal to change the title of **Table CNS II-1 - Aeronautical Fixed Telecommunications Network (AFTN) Plan** for **Table CNS II-1 - Aeronautical Message Service (AMHS/AFTN) Plan**.

6.11 Likewise, the ATM/AIDC Subgroup has prepared a new table to be included in the ANP CAR/SAM Vol II, reflecting the planning of the implementation of the AIDC (ATS Interfacility Data Communication). The new table will be reviewed and consolidated by the CNS/ANP Subgroup for further coordination with the CAR States, for the future elaboration of the amendments.

6.12 The participants of the CNS/ANP Subgroup should carry out a critical review of which tables should be included in the Plan, as well as propose changes in the formats of the tables, if necessary, in order to have a document that better reflects the planning of the States, taking into account that the Plan describes the planning of the States of two regions (CAR and SAM).

6.13 The strategy to be adopted is to approve the review and updating of the information contained in Volume II, referring to the SAM States, at a Meeting of the SAM Region Implementation Group (SAM/IG). In this regard, the Secretariat indicated that the SAM/IG/27 Meeting is scheduled for the period from May 30 to June 3, 2022, to be held virtually.

6.14 The Secretariat suggested that after completing the task of revising Volume II, the CNS/ANP Subgroup could work on updating the COM Frequency Assignment List (radio aids, VHF, etc.), using the Frequency Finder application with a tool.

6.15 In this sense, coordination will be resumed with the Secretariat of the Frequency Spectrum Management Panel (FSMP), to carry out a training for the use of this application by all the States of the SAM Region.

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