



ICAO

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WORKING PAPER

NACC/WG/4 — WP/14
05/03/14

**Fourth North American, Central American and Caribbean Working Group Meeting
(NACC/WG/4)**

Ottawa, Canada, 24 to 28 March 2014

**Agenda Item 3: Follow-up on the progress of the NAM/CAR Regional Performance-Based
Air Navigation Implementation Plan (NAM/CAR RPBANIP)
3.3 ANI/WG progress report and other regional group progress reports**

**ANI/WG ATS MESSAGE HANDLING SYSTEM (AMHS) IMPLEMENTATION TASK FORCE
PROGRESS REPORT**

(Presented by ANI/WG AMHS Task Force Rapporteur)

EXECUTIVE SUMMARY

This working paper presents the progress achieved by the AMHS Task Force since its creation in the ANI/WG/01 Meeting. Following the work programme of the Task Force and its deliverables, the note includes the results for these deliverables and recommendation for improving the Task Force function and coordination.

Action:	The suggested action is presented in Section 3
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency• Environmental Protection
<i>References:</i>	<ul style="list-style-type: none">• RPBANIP• First NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/1), Mexico City, Mexico, 29 July to 1 August 2013• III Workshop/Meeting on the Follow-up to the Implementation of the ATS Message Handling System (AMHS) in the NAM/CAR Regions (III AMHS-IMP), Boca Chica, Dominican Republic, 24 to 26 September 2013• GREPECAS CAR Project D - ATN infrastructure in the CAR Region and its ground-ground and ground-air applications, Boca Chica, Dominican Republic, 27 September 2013

1. Introduction

1.1 During the ANI/WG/01 Meeting and based on the NAM/CAR Air Navigation Implementation Working Group (ANI/WG) Terms of Reference (ToRs) and Work Programme, the Group considered the various existing Ad hoc Groups that were working in support of the implementation working groups, such as the ADS-B Ad hoc Group, the AMHS Implementation Group, etc., and considered necessary to group them under the ANI/WG structure, including any other specific implementation task force, with the aim of providing continuity. In this regard, seven topics were identified to be addressed through various Task Forces under the ANI/WG.

1.2 Initial Terms of Reference (ToRs), preliminary membership and Rapporteurs for each Task Force were agreed upon at the ANI/WG/01 Meeting. In this regard, Decision ANI/WG/1/3 *Terms of Reference, Work Programme and Membership of the ANI/WG Task Forces* were formulated.

2. AMHS TF Progress and results

Terms of Reference and Work programme

2.1 The revised ToR and Work programme are presented under **Appendices A and B** of this Working Paper.

Activities carried out by the Task Force

2.2 After the III Workshop/Meeting on the Follow-up to Implementation of ATS Message Handling System (AMHS) in the NAM/CAR Regions, the GREPECAS CAR Project D – ATN infrastructure in the CAR Region and its ground-ground and ground-air applications- was held defining and clarifying the necessary deliverables of the AMHS TF (work programme) and its relation with the GREPECAS CAR Project D.

2.3 The AMHS TF work has continued with communication among the members and ICAO. Close coordination with the GREPECAS CAR D Project is kept to avoid coordination and improve results of each group.

Deliverables and results

2.4 Making a follow-up to the activities for the achievement of the deliverables, the following may be informed:

- **AMHS Regional Implementation Plan for ATN Ground-Ground Applications (AMHS)** – The matrix for the implementation schedule was reviewed and updated during the AMHS Workshop held on 24-26 September 2013 in Dominican Republic. The TF will update the matrix periodically.
- **CAR/SAM Router Plan** – The Router Plan was last reviewed during the fifth GREPECAS CNS Subgroup ATN Task Force (ATN/TF/5) Meeting. At the time, the ATN TF considered that changes to the ATN CAR/SAM backbone were not necessary. Since then, the implementation of AMHS has started. Several routers are operational and several regional networks of the CAR Region have evolved to an Internet Protocol (IP)-based infrastructure. Revision of the proposed changes to the current router plan was assigned to the TF.

- A teleconference between TF Members from United States and the Central American Corporation for Air Navigation Services (COCESNA) was held on 15 November 2013 to review the router portion of the NAM-CAR IPv4 Addressing Plan. Several possible options to remedy the deficiencies of the plan were discussed and it was agreed that the plan should be reviewed as a whole. A teleconference including the Dominican Republic, United States and COCESNA will be scheduled to coordinate a holistic review of the Plan. **Appendix C** presents the revised /updated IPv4 plan for CAR Region version 1.0. In this regard the following draft conclusion is proposed:

DRAFT CONCLUSION

NACC/WG/04/xx

APPROVAL OF IPV4 ADDRESSING SCHEME, VER 1.0

That, in order to expedite and facilitate the implementation of the IPv4 ATN in the CAR Region, States/Territories of the CAR Region:

- a) approve the revised version of the CAR IPv4 Addressing scheme, version 1.0;
 - b) implement their Aeronautical Telecommunication Networks (ATNs) in accordance to the IPv4 addressing scheme ver 1.0, where applicable; and
 - c) report its use/planned use to the ICAO NACC Regional Office no later than Dec 2015.
- **Plan for an IP ATN CAR backbone network configuration** – In revising the CAR IPv4 addressing scheme, Dominican Republic presented a review of the IPV4 addressing scheme for the inter/intraregional ground-ground links of the CAR/SAM Regions, and pointed out some errors detected in this scheme, as well as some inconsistencies that prevent its correct implementation. The presentation indicated that only the permitted addresses are used, without the network and broadcast addresses, eliminating the redundant links and proposing that the current network be studied to know how many additional links are required. This was assigned to the Dominican Republic TF Member to review and updated the Plan accordingly removing redundancies. Action was completed.
 - **Training** – It was agreed to include a task for the AMHS TF to periodically identify AMHS training, as needed.

2.5 With this information the status of progress for each deliverable is:

Task - Revision of CAR IPv4 Addressing Scheme –

Deliverables

- Revised/updated IPv4 plan for CAR Region to remove redundancies – COMPLETE
- Study results of configuration of IP Backbone Network – PENDING

Task - CAR Router Plan

Deliverable - Revised router plan based on requirements from Member States – PENDING

Task - AMHS Transition Plan

Deliverable - Revised and updated ATN Transition Plan - PENDING

Task – Training

Deliverable - Periodically identify AMHS training matters as needed – ON GOING

3. Action by the Meeting

3.1 The Meeting is invited to:

- a) review and approve the AMHS TF ToR and work programme;
 - b) evaluate the progress of the AMHS TF;
 - c) review and approve the draft conclusion for the new IPv4 Addressing scheme as presented in paragraph 2.4; and
 - d) propose any other action or task, as deemed necessary.
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APPENDIX A
TERMS OF REFERENCE OF THE
ATS MESSAGE HANDLING SYSTEM (AMHS) IMPLEMENTATION TASK FORCE

1. Background

During the first ANI/WG meeting, an AMHS Implementation Task Force was formed in order to streamline related air navigation implementation activities. This Task Force shall complete AMHS implementation in accordance with the Regional AMHS Implementation Plan as well as update and report progress to the ANI/WG based on the action plan for these tasks.

2. Responsibilities

The Task Force is responsible for:

- a) Work Programme Management
- b) Coordination, implementation and trials of ATN ground applications/AMHS implementation (AMHS Regional Plan)
- c) Revising and updating the IPv4 address plan and other CAR Region technical implementation issues in accordance with ICAO technical principles and guidelines

3. Working Methods

The Task Force will:

- a) Present its work programme containing activities in terms of objectives, responsibilities, deliverables and timelines
- b) Avoid duplicating work within the ANI/WG and maintain close coordination among the existing entities to optimize use of available resources and experience
- c) Designate, as necessary, Ad hoc Groups to work on specific topics and activities and organize clearly defined tasks and activities
- d) Coordinate tasks to maximize efficiency and reduce costs via electronic means including emails, telephone and teleconference calls, and convene meetings as necessary
- e) Report on and coordinate the progress of assigned tasks to the ANI/WG

4. Work Programme – included in Appendix B.

5. *Membership*

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**APPENDIX B
WORK PROGRAMME**

Tasks	Deliverables	Start Date	End Date	Responsible	Status	Remarks/ Follow-Up
Revision of CAR IPv4 Addressing Scheme	Study Results of Configuration of IP Backbone Network	27 Sept 2013	Feb 2014	Dominican Republic, United States, COCESNA	Valid	Study pending review of current IPv4 address allocation
	Revised/updated IPv4 plan for CAR Region to remove redundancies	27 Sept 2013	Feb 2014	Dominican Republic (Fernando Casso)	Completed	Final version to be sent to ICAO: April 2014
Coordination, implementation and trials for ATN ground applications/AMHS implementation (AMHS Regional Plan)	Updates AMHS Regional Plan	Feb 2014	October 2015	United States	Valid	
	Assistance to AMHS implementing States	Feb 2014	October 2016	All	Valid	
	Recommendations for facilitating implementation of AMHS	Jan 2014	Oct 2014	Dominican Republic, United States	Valid	
CAR Router Plan	Revised router plan based on requirements from Member States	18 Nov 2013	April 2014	Dominican Republic, United States COCESNA	Valid	United States-COCESNA Teleconference held on November 2013. Action: United States, Dominican Republic and COCESNA, will continue reviewing plan
AMHS Transition Plan	Revised and updated ATN Transition Plan	18 Nov 2013	April 2014	Cuba, Dominican Republic, United States, COCESNA	Valid	
Training	Periodically identify AMHS training matters as needed	27 Sept 2013	Sept 2016	All		On-going

APPENDIX / APÉNDICE C
PROPOSAL OF IP PLAN FOR T-T ROUTERS BETWEEN STATES OF THE NAM/CAR
REGION / PROPUESTA DE PLAN DE IP PARA ROUTERS T-T ENTRE ESTADOS DE
LA REGIÓN NAM/CAR

Network / Red: 10.31.224.0/19

No.	Subnet	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
1	10.31.224.0/30	Anguila	E/CAR	Network Address / Dirección de Red	10.31.224.0/30
				Trinidad & Tobago (Piarco)	10.31.224.1/30
				Anguila	10.31.224.2/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.3/30
2	10.31.224.4/30	Antigua and Barbuda / Antigua y Barbuda	E/CAR	Network Address / Dirección de Red	10.31.224.4/30
				Trinidad & Tobago (Piarco)	10.31.224.5/30
				Antigua	10.31.224.6/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.7/30
3	10.31.224.8/30	Aruba	MEVA	Network Address / Dirección de Red	10.31.224.8/30
				Jamaica (Kingston)	10.31.224.9/30
				Aruba	10.31.224.10/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.11/30
4	10.31.224.12/30	Bahamas / Nassau	MEVA	Network Address / Dirección de Red	10.31.224.12/30
				Haiti (Port-au-Prince)	10.31.224.13/30
				Bahamas / Nassau	10.31.224.14/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.15/30
5	10.31.224.16/30	Barbados	E/CAR	Network Address / Dirección de Red	10.31.224.16/30
				Barbados	10.31.224.17/30
				Trinidad & Tobago (Piarco)	10.31.224.18/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.19/30
6	10.31.224.20/30	Belice / Belize	CAMSAT	Network Address / Dirección de Red	10.31.224.20/30
				Belice / Belize	10.31.224.21/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.22/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.23/30
7	10.31.224.24/30	British Virgin Islands / Islas Virgenes Británicas - Tortola	MEVA	Network Address / Dirección de Red	10.31.224.24/30
				British Virgin Islands / Islas Virgenes Británicas - Tortola	10.31.224.25/30
				United States / Estados Unidos (Miami)	10.31.224.26/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.27/30
8	10.31.224.28/30	Cayman Islands / Islas Caimanes	MEVA	Network Address / Dirección de Red	10.31.224.28/30
				Cayman Islands / Islas Caimanes	10.31.224.29/30

No.	Subnet	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
				Jamaica (Kingston)	10.31.224.30/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.31/30
9	10.31.224.32/30	Costa Rica (San José)	CAMSAT	Network Address / Dirección de Red	10.31.224.32/30
				Costa Rica (San José)	10.31.224.33/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.34/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.35/30
10	10.31.224.36/30	Cuba /Havana - La Habana	MEVA	Network Address / Dirección de Red	10.31.224.36/30
				Cuba (Havana / La Habana)	10.31.224.37/30
				Haiti (Port-au-Prince)	10.31.224.38/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.39/30
11	10.31.224.40/30	Cuba /Havana - La Habana	MEVA	Network Address / Dirección de Red	10.31.224.40/30
				Cuba (Havana / La Habana)	10.31.224.41/30
				Jamaica (Kingston)	10.31.224.42/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.43/30
12	10.31.224.44/30	Cuba /Havana - La Habana	MEVA	Network Address / Dirección de Red	10.31.224.44/30
				Cuba (Havana / La Habana)	10.31.224.45/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.46/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.47/30
13	10.31.224.48/30	Cuba /Havana - La Habana	TBD	Network Address / Dirección de Red	10.31.224.48/30
				Cuba (Havana / La Habana)	10.31.224.49/30
				México (Mérida)	10.31.224.50/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.51/30
14	10.31.224.52/30	Curaçao / Curazao	MEVA	Network Address / Dirección de Red	10.31.224.52/30
				Curaçao / Curazao	10.31.224.53/30
				Dominican Republic / República Dominicana	10.31.224.54/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.55/30
15	10.31.224.56/30	Curaçao / Curazao	MEVA	Network Address / Dirección de Red	10.31.224.56/30
				Curaçao / Curazao	10.31.224.57/30
				Haiti (Port-au-Prince)	10.31.224.58/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.59/30
16	10.31.224.60/30	Curaçao / Curazao	MEVA	Network Address / Dirección de Red	10.31.224.60/30
				Curaçao / Curazao	10.31.224.61/30
				Puerto Rico (San Juan)	10.31.224.62/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.63/30

No.	Subnet	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
17	10.31.224.64/30	Dominican Republic / República Dominicana	MEVA	Network Address / Dirección de Red	10.31.224.64/30
				Dominican Republic / República Dominicana (Santo Domingo)	10.31.224.65/30
				Haiti (Port-au-Prince)	10.31.224.66/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.67/30
18	10.31.224.68/30	Dominican Republic / Santo Domingo	MEVA	Network Address / Dirección de Red	10.31.224.68/30
				United States / Estados Unidos (Miami)	10.31.224.69/30
				Dominican Republic / Santo Domingo (Santo Domingo)	10.31.224.70/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.71/30
19	10.31.224.72/30	Dominica	E/CAR	Network Address / Dirección de Red	10.31.224.72/30
				Dominica	10.31.224.73/30
				Trinidad & Tobago (Piarco)	10.31.224.74/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.75/30
20	10.31.224.76/30	El Salvador / San Salvador	CAMSAT	Network Address / Dirección de Red	10.31.224.76/30
				El Salvador	10.31.224.77/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.78/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.79/30
21	10.31.224.80/30	French Antilles / Antillas Francesas (Guadeloupe) / Point-a-Pitre	E/CAR	Network Address / Dirección de Red	10.31.224.80/30
				French Antilles / Antillas Francesas (Martinique) / Fort-de-France	10.31.224.81/30
				Trinidad & Tobago (Piarco)	10.31.224.82/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.83/30
22	10.31.224.84/30	French Antilles / Antillas Francesas (Guadeloupe) / Point-a-Pitre	E/CAR	Network Address / Dirección de Red	10.31.224.84/30
				French Antilles / Antillas Francesas (Guadeloupe) / Point-a-Pitre	10.31.224.85/30
				Trinidad & Tobago (Piarco)	10.31.224.86/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.87/30
23	10.31.224.88/30	Grenada	E/CAR	Network Address / Dirección de Red	10.31.224.88/30
				Grenada	10.31.224.89/30
				Trinidad & Tobago (Piarco)	10.31.224.90/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.91/30
24	10.31.224.92/30	Guatemala (La Aurora)	CAMSAT	Network Address / Dirección de Red	10.31.224.92/30
				Guatemala (La Aurora)	10.31.224.93/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.94/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.95/30
25	10.31.224.96/30	Haiti / Port-au-Prince	MEVA	Network Address / Dirección de Red	10.31.224.96/30
				Haiti (Port-au-Prince)	10.31.224.97/30
				Jamaica (Kingston)	10.31.224.98/30

No.	Subnet	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
				Broadcast Address / Dirección de Multidifusión	10.31.224.99/30
26	10.31.224.100/30	Honduras / Tegucigalpa (COCESNA)	CAMSAT	Network Address / Dirección de Red	10.31.224.100/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.101/30
				Honduras (San Pedro Sula)	10.31.224.102/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.103/30
27	10.31.224.104/30	Honduras / Tegucigalpa (COCESNA)	CAMSAT	Network Address / Dirección de Red	10.31.224.104/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.105/30
				Panamá	10.31.224.106/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.107/30
28	10.31.224.108/30	Honduras / Tegucigalpa (COCESNA)	CAMSAT	Network Address / Dirección de Red	10.31.224.108/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.109/30
				United States / Estados Unidos (Miami)	10.31.224.110/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.111/30
29	10.31.224.112/30	Honduras / Tegucigalpa (COCESNA)	MEVA	Network Address / Dirección de Red	10.31.224.112/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.113/30
				México (Mérida)	10.31.224.114/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.115/30
30	10.31.224.116/30	Honduras / Tegucigalpa (COCESNA)	CAMSAT	Network Address / Dirección de Red	10.31.224.116/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.117/30
				NAM (Atlanta)	10.31.224.118/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.119/30
31	10.31.224.120/30	México / Mérida	TBD	Network Address / Dirección de Red	10.31.224.120/30
				México (Mérida)	10.31.224.121/30
				NAM (Atlanta)	10.31.224.122/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.123/30
32	10.31.224.124/30	Montserrat	E/CAR	Network Address / Dirección de Red	10.31.224.124/30
				Montserrat	10.31.224.125/30
				Trinidad & Tobago (Piarco)	10.31.224.126/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.127/30
33	10.31.224.128/30	Puerto Rico / San Juan	E/CAR	Network Address / Dirección de Red	10.31.224.128/30
				Puerto Rico (San Juan)	10.31.224.129/30
				United States / Estados Unidos (Miami)	10.31.224.130/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.131/30
34	10.31.224.132/30	Puerto Rico / San Juan	MEVA / REDDIG	Network Address / Dirección de Red	10.31.224.132/30
				Puerto Rico (San Juan)	10.31.224.133/30

No.	Subnet	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
				SAM (Caracas)	10.31.224.134/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.135/30
35	10.31.224.136/30	Saint Kitts and Nevis / San Kitts y Nevis	E/CAR	Network Address / Dirección de Red	10.31.224.136/30
				Saint Kitts and Nevis / San Kitts y Nevis	10.31.224.137/30
				Trinidad & Tobago (Piarco)	10.31.224.138/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.139/30
36	10.31.224.140/30	Saint Kitts and Nevis / San Kitts y Nevis	E/CAR	Network Address / Dirección de Red	10.31.224.140/30
				Saint Kitts and Nevis / San Kitts y Nevis	10.31.224.141/30
				Trinidad & Tobago (Piarco)	10.31.224.142/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.143/30
37	10.31.224.144/30	Saint Lucia / Santa Lucia	E/CAR	Network Address / Dirección de Red	10.31.224.144/30
				Saint Lucia / Santa Lucia	10.31.224.145/30
				Trinidad & Tobago (Piarco)	10.31.224.146/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.147/30
38	10.31.224.148/30	Sint Marteen	MEVA	Network Address / Dirección de Red	10.31.224.148/30
				Sint Marteen	10.31.224.149/30
				United States / Estados Unidos (Miami)	10.31.224.150/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.151/30
39	10.31.224.152/30	Sint Marteen	E/CAR	Network Address / Dirección de Red	10.31.224.152/30
				Sint Marteen	10.31.224.153/30
				Trinidad & Tobago (Piarco)	10.31.224.154/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.155/30
40	10.31.224.156/30	Saint Vincent and the Grenadines / San Vicente y las Granadinas	E/CAR	Network Address / Dirección de Red	10.31.224.156/30
				Saint Vincent and the Grenadines / San Vicente y las Granadinas	10.31.224.157/30
				Trinidad & Tobago (Piarco)	10.31.224.158/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.159/30
41	10.31.224.160/30	Turks & Caicos Islands / Islas Turcas y Caicos - Grand Turk	MEVA	Network Address / Dirección de Red	10.31.224.160/30
				Turks & Caicos Islands / Islas Turcas y Caicos - Grand Turk	10.31.224.161/30
				United States / Estados Unidos (Miami)	10.31.224.162/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.163/30
42	10.31.224.164/30	Trinidad & Tobago / SAM (Venezuela)	E/CAR	Network Address / Dirección de Red	10.31.224.164/30
				Trinidad & Tobago (Piarco)	10.31.224.165/30
				SAM (Caracas)	10.31.224.166/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.167/30
43	10.31.224.168/30	CAR/SAM (TBD)	E/CAR	Network Address / Dirección de Red	10.31.224.168/30

No.	Subnet	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
				CAR	10.31.224.169/30
				SAM (Caracas)	10.31.224.170/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.171/30
44	10.31.224.172/30	Aruba	MEVA	Network Address / Dirección de Red	10.31.224.172/30
				Aruba	10.31.224.173/30
				Curaçao / Curazao	10.31.224.174/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.175/30
45	10.31.224.176/30	Bahamas / Nassau	MEVA	Network Address / Dirección de Red	10.31.224.176/30
				Bahamas / Nassau	10.31.224.177/30
				United States / Estados Unidos (Miami)	10.31.224.178/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.179/30
46	10.31.224.180/30	Cayman Islands / Islas Caimanes	MEVA	Network Address / Dirección de Red	10.31.224.180/30
				Cayman Islands / Islas Caimanes	10.31.224.181/30
				Cuba (Havana / La Habana)	10.31.224.182/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.183/30
47	10.31.224.184/30	Cuba /Havana - La Habana	MEVA	Network Address / Dirección de Red	10.31.224.184/30
				Cuba (Havana / La Habana)	10.31.224.185/30
				United States / Estados Unidos (Miami)	10.31.224.186/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.187/30
48	10.31.224.188/30	Curaçao / Curazao	MEVA	Network Address / Dirección de Red	10.31.224.188/30
				Curaçao / Curazao	10.31.224.189/30
				Jamaica (Kingston)	10.31.224.190/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.191/30
49	10.31.224.192/30	Dominican Republic / República Dominicana Santo Domingo	MEVA	Network Address / Dirección de Red	10.31.224.192/30
				Dominican Republic / República Dominicana (Santo Domingo)	10.31.224.193/30
				Puerto Rico (San Juan)	10.31.224.194/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.195/30
50	10.31.224.196/30	Honduras / Tegucigalpa (COCESNA)	CAMSAT	Network Address / Dirección de Red	10.31.224.196/30
				Honduras (COCESNA) Tegucigalpa	10.31.224.197/30
				Nicaragua (Managua)	10.31.224.198/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.199/30
51	10.31.224.200/30	Puerto Rico / San Juan	E/CAR	Network Address / Dirección de Red	10.31.224.200/30
				Puerto Rico (San Juan)	10.31.224.201/30
				Trinidad & Tobago (Piarco)	10.31.224.202/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.203/30

No.	Subnet	Admin & local host / Admin y Receptor local	Via	Links / Enlace	IPv4 Address / Dirección IPv4
52	10.31.224.204/30	Vacant / Vacante		Network Address / Dirección de Red	10.31.224.204/30
				Vacant / Vacante	10.31.224.205/30
				Vacant / Vacante	10.31.224.206/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.207/30
53	10.31.224.208/30	Vacant / Vacante		Network Address / Dirección de Red	10.31.224.208/30
				Vacant / Vacante	10.31.224.209/30
				Vacant / Vacante	10.31.224.210/30
				Broadcast Address / Dirección de Multidifusión	10.31.224.211/30
...
			
			
			
2048	10.31.255.252/30	Vacant / Vacante		Network Address / Dirección de Red	10.31.255.252/30
				Vacant / Vacante	10.31.255.253/30
				Vacant / Vacante	10.31.255.254/30
				Broadcast Address / Dirección de Multidifusión	10.31.255.255/30

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