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

EVALUATION ON THE PROPOSED MR/07 FUTURE REQUIREMENTS/SERVICES REGARDING THE MEVA II/REDDIG INTERCONNECTION

(Presented by the MEVA TMG)

SUMMARY

This paper presents the evaluation carried out by the MEVA TMG about the future requirements/services regarding MEVA II / REDDIG interconnection, including the analysis of bandwidth and equipment optimization for the implementation of these new requirements and proposes several actions to be carried out in this respect.

References:
MEVA TMG/21 Meeting Report
MR/7 Meeting Report

Strategic Objective(s)	*This working paper is related to Strategic Objectives: D – Efficiency*

1. Introduction

1.1 During the Seventh MEVA II / REDDIG Coordination Meeting (MR/7), held in Mexico City, on 10-11 June 2009, both administrations of the MEVA II Network and the REDDIG Network, agreed on several conclusions to continue the interconnection and integration activities of both network and that these tasks be considered as part of the work programme of each administration.

1.2. One of these conclusions of the MR/7, Conclusion MR/7/2, was to conduct a study for a proper network configuration to optimize the use of equipment and required bandwidth to satisfy future requirements/ services (interconnections of the SAM/NAM AMHS systems -Brazil, Colombia, Panama, Peru, United States and Venezuela- and the implementation of automatic data transfers) that will be made through the MEVA II/REDDIG interconnection. Under this conclusion, an initial circuit requirements (bandwidth) list for the implementation of these services was made. This list is presented as **Appendix A** to this paper.

2. Discussion

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

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

Review and verify the initial future circuit requirements list

2.2 MEVA TMG recognized that currently several implementation and trial activities concerning ATN Ground-ground applications, such as AMHS and AIDC, are being carried out in the CAR and SAM Regions, which have been identified within the MEVA II Network Performance evaluation/ expansion issues such the case of the AMHS trial plans for Dominican Republic, COCESNA and Jamaica. The need to improve the current situational awareness within the CAR Region through the sharing/exchange of radar data is an on-going task developed by the MEVA TMG such as the case of Cuba-COCESNA, Jamaica-COCESNA, etc. Also the implementation of the AIDC application is an on-going task of the CAR Working Groups.

2.3 The Group determined that all the initial future circuit requirements listed with the MR/7 Conclusion, need to be reviewed by the users and operational parties and the corresponding operational agreements shall be identified and planned. On **Appendix B** to this paper are the results of this revision.

2.4 The Group was of the opinion that there may be more requirements not listed such as other AMHS circuit for example Trinidad & Tobago –USA/ Atlanta, AIDC circuits, etc.

2.5 In this regard, a more deep analysis of operational requirements involving the MEVA II REDDIG Interconnection should be consider under the work programme of the MEVA II and REDDIG Administrations, for which the corresponding coordination with the operational working groups such as the C/CAR/WG shall be made. This task can also be carried out as part of the network expansion activities discussed on each Network Administration.

Research and make recommendations for optimum use of bandwidth and hardware for new requirements

2.6 Considering that the initial future circuit requirements listed with the MR/7 Conclusion are established as data Frame-Relay circuits, the current bandwidth management employed in the MEVA II Network already has an optimum use of the network bandwidth.

2.7 Regarding the hardware use for these future circuit requirements listed with the MR/7 Conclusion, the Group determined that with the recent implementation of additional hardware, several of the MEVA nodes have capacity for these circuits.

2.8 The Group was of the opinion that bandwidth and hardware optimization may be accomplished but with the implementation of other types of circuits such as IP LAN connection or a complete IPS network. In this respect, the corresponding cost-benefit and technical evaluations shall be made.

3. Suggested Actions:

3.1 The Meeting is invited to:

a) review the comments provided to the initial future circuit requirements list as shown in paragraphs 2.2 to 2.4 and appendix B;
b) take into consideration the recommendations given on paragraph 2.5, and
c) take action as deem necessary considering the recommendations made by the MEVA TMG concerning optimum use of bandwidth and hardware for new requirements, contained in paragraphs 2.6 to 2.8.

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APPENDIX A

FUTURE INITIAL FRAME RELAY CIRCUIT REQUIREMENTS
MEVA II AND REDDIG NETWORKS

SITE	FRAME RELAY CIRCUIT	AMOUNT
From Caracas (Venezuela) to:		
Curacao	64Kbits/sec duplex AMHS data channel	1
	9.6 Kbps-16 Kbps duplex radar data channel	1
Aruba	9.6 Kbps-16 Kbps duplex radar data channel	1
Puerto Rico	64Kbits/sec duplex AMHS data channel	1
From Bogota (Colombia) to:		
Curacao	9.6 Kbps-16 Kbps duplex radar data channel	1
Aruba	9.6 Kbps-16 Kbps duplex radar data channel	1
Panama	64Kbits/sec duplex AMHS data channel	1
	9.6Kbits/sec duplex radar data channel	1
COCESNA	9.6 Kbps-16 Kbps duplex radar data channel	2
Miami	64Kbits/sec duplex AMHS data channel	2*
From COCESNA to:		
Bogota	9.6 Kbps-16 Kbps duplex radar data channel	2

* Both circuits correspond to the AMHS circuits:
Lima (Peru) - Atlanta (USA)
Brasilia (Brazil) - Atlanta (USA)

APPENDIX B

Revision of the Initial Future Circuit Requirements List involving MEVA II REDDIG Interconnection

Site	Frame Relay Circuit	Amount	Comments/ Observations
From Caracas (Venezuela) to:			
Curacao	64Kbits/sec duplex AMHS data channel	1	Operation requirement to be validated. Curacao is upgrading its current AFTN system and Operational agreement shall be planned/implemented
	9.6 Kbps-16 Kbps duplex radar data channel	1	Operation requirements (FL-coverage) to be validated Determination if circuit shall be half-duplex or full-duplex and Operational agreement shall be planned/implemented
Aruba	9.6 Kbps-16 Kbps duplex radar data channel	1	Operation requirements (FL-coverage) to be validated Determination if circuit shall be half-duplex or full-duplex and and Operational agreement shall be planned/implemented
Puerto Rico	64Kbits/sec duplex AMHS data channel	1	1. Operation requirement to be validated and 2. Operational agreement shall be planned/implemented
From Bogota (Colombia) to:			
Curacao	9.6 Kbps-16 Kbps duplex radar data channel	1	1. Operation requirement (FL-coverage) to be validated 2. Determination if circuit shall be half-duplex or full-duplex and 3. Operational agreement shall be planned/implemented The operational requirement would be implemented through the Bogota MEVA/REDDIG Node to have the radar data that involves the Curacao FIR (Barranquilla ACC in Colombia).

Site	Frame Relay Circuit	Amount	Comments/ Observations
Aruba	9.6 Kbps-16 Kbps duplex radar data channel	1	1. Operation requirement (FL-coverage) to be validated 2. Determination if circuit shall be half-duplex or full-duplexand 3. Operational agreement shall be planned/implemented The operational requirement would be implemented through the Bogota MEVA/REDDIG Node to have the radar data that involves service volume of Aruba APP (Barranquilla ACC in Colombia).
Panama	64Kbits/sec duplex AMHS data channel	1	1. Operation requirement to be validated and 2. Operational agreement shall be planned/implemented
	9.6Kbits/sec duplex radar data channel	1	1. Operation requirement (FL-coverage) to be validated – could be more than one radar data source 2. Determination if circuit shall be half-duplex or full-duplex and 3. Operational agreement shall be planned/implemented The operational requirement would be implemented through the Bogota MEVA/REDDIG Node to have the radar data that involves service volume of Panama ACC (Bogota and Barranquilla ACCs in Colombia).
COCESNA	9.6 Kbps-16 Kbps duplex radar data channel	2	1. Operation requirement to be validated 2. Determination if the circuits shall be half-duplex or not and 3. Operational agreement shall be planned/implemented These requirements are projected for exchanging radar data from the Guayaquil FIR (Ecuador) and San Andres Radar.
Miami	64Kbits/sec duplex AMHS data channel	2	Trial plans on-going. Considering USA FAA Plans for the implementation of a new MEVA node in Atlanta, this requirement shall be modify to Bogota-Atlanta.
From COCESNA to:			
Bogota	9.6 Kbps-16 Kbps duplex radar data channel	2	1. Operation requirement to be validated 2. Determination if the circuits shall be half-duplex or not and 3. Operational agreement shall be planned/implemented These requirements are projected for exchanging radar data from the Guayaquil FIR (Ecuador) and San Andres Radar.