

**INTERNATIONAL CIVIL AVIATION ORGANIZATION
NORTH AMERICAN, CENTRAL AMERICAN AND CARIBBEAN OFFICE**

SEVENTH MEVA NETWORK MEETING
(Grand Cayman, Cayman Islands 15-17 May 2000)

Agenda Item 3: Analysis of the Report of the MEVA Informal Working Group

REPORT OF THE MEVA INFORMAL WORKING GROUP

(Presented by the MEVA Working Group Rapporteur)

Summary

This working paper presents the outcome of the work carried out by the MEVA Informal Working Group members.

1. Introduction

1.1 The Informal Working Group of the MEVA Network met on 21-22 July 1999, and 22-24 March 2000 in Miami, FL to carry out the tasks indicated at the last MEVA/6 meeting held in Varadero, Cuba on 19-20 April 1999. The Working Group also discussed additional tasks that emerged in the past year, including Y2K transition (**Attachment**).

2. Report of the Informal MEVA Working Group

2.1 The Working Group discussed the tasks assigned by the MEVA/6 Group, additional tasks that emerged, and reviewed various papers that were presented during the meetings. The result of the Working Group analysis is presented in the following synopsis of recommendations.

2.1.2 Under Conclusion 6/1 – Implementation of Small SATCOM Stations as alternative, and MEVA Network Y2K Contingency, the Working Group was to make the necessary arrangements to implement a small SATCOM station at each ATC unit, and at the MEVA Control Center as an alternative routing and MEVA Y2K Contingency. These action items were completed.

2.1.3 The Y2K effort by the MEVA States/Territories/Organizations succeeded in making the Y2K rollover a non-event. During this time, a single line back-up satellite telephone station was implemented at each ATC unit, and at the MEVA Network Control Center as an alternative routing as part of FAA MEVA Y2K Contingency Plan. As a result, the following recommendation was adopted for consideration by MEVA/7 Meeting:

**RECOMMENDATION 7/X – THE USE OF SATCOM STATIONS AS
EMERGENCY BACKUP SYSTEM IN
THE MEVA NETWORK**

That,

- a) a single line SATCOM Stations be used as an emergency back-up system in the MEVA Network;
- b) FAA will issue Memorandum of Agreement (MOA) to each Organization on lending SATCOM Stations contingency phone equipment. Each Organization will be responsible for maintenance and cost incurred during usage of equipment;
- c) use of MEVA ATS speech circuits and satellite phones as back-up service be incorporated in the Letter of Agreement of ATC Centers.

2.3 Conclusion 6/4 and 6/7 – Publication of failures and Traffic Statistics Records, of the MEVA Network Communications and Surveillance on Occurrence, of MEVA Network Congestion were combined by the MEVA Working Group, due to the close relation between them. Based on the conclusion agreed at the MEVA/6 Meeting, FAA, United States created a Web Site where traffic statistics records are analyzed and published on a monthly basis. Individual passwords were provided to each MEVA State/Organization to access the information.

2.3.1 The telephone switch at the satellite hub in Opa Locka, FL processed over 40,000 calls per month. In November of 1999 a MEVA site was installed in Cuba and in early 2000 another site will be installed in St Maarten, NA, which should bring the traffic over 50,000. The FAA MEVA Program Office has agreed to take this raw data from the Service Provider Switch each month and produce a file for each MEVA Organization to be analyzed by the State/Organization. Each Organization's CDR are to be considered private. Based on the above information, the Working Group adopted the following recommendation for consideration by MEVA/7 Meeting:

**RECOMMENDATION 7/X - ANALYSIS OF TRAFFIC STATISTICS
RECORDS FOR PLANNING,
UPDATING CAPACITY AND
SURVEILLANCE OF THE NETWORK.**

That,

- a) a quick examination of the Master Call Listing showing telephone numbers receiving more than 1000 calls per month be performed by each State/Organization to see if they are experiencing congestion;
- b) request for other Organization's records should go directly to that Organization;
- c) SCSi provides additional records for December 1999 onward. Records should be provided on a monthly basis.

2.4 Conclusion 6/5 and 6/7– Procedures for the resolution of the circuit problems supported by the MEVA Network, and Adoption of the corrective failures procedures in the Data and Voice Circuits of the MEVA Network were combined during discussions. At this time, 80% of the AFTN circuits have been successfully transition to the MEVA Network. The Network has demonstrated reliable transport of AFTN message traffic; however, there are deficiencies with failure detection and restoration procedures that need to be resolved.

2.4.1 Also, under Conclusion 6/12 – Action to resolve difficulties encountered in the MEVA Network, the Working Group reviewed several alternatives that were presented. The Group agreed that there must be a commitment from SCSi in providing adequate restoral time for service.

2.4.2 The Working Group also reviewed information presented by SCSi on troubleshooting AFTN circuits, including detailed diagrams of MEVA AFTN connectivity's to each State/Region. These diagrams are to be reviewed by the States/Regions for accuracy. The meeting agreed that these diagrams are a good source of information to be used while troubleshooting the Network.

2.4.3 Several meetings and conferences on both technical and managerial issues where held by MEVA members and Service Providers. These meetings resulted in some landmark agreements and understandings as well as the identification of issues that need further study and discussion. Based on the above information the Working Group adopted the following recommendation for consideration by MEVA/7 Meeting:

**RECOMMENDATION 7/X - SERVICE RESTORATION
PROCEDURES FOR VOICE AND
DATA**

That,

- a) the capability of detecting a data and voice line failure at the users end be provided by SCSi and vendor(s);
- b) for AFTN data circuit failures, the CAA will coordinate with the NADIN Office in Atlanta. A telephone number and point of contact in Atlanta be provided to each Organization;
- c) for voice circuits failure, the Organization will call SCSi Teleport in Opa Locka. A trouble ticket will be opened and SCSi will respond within 30 minutes;
- d) SCSi will coordinate with each Civil Aviation Authority (CAA) before performing any maintenance on the Network;
- e) weekly teleconferences take place between Service Providers and MEVA CAA's;
- f) the States/Regions review the diagrams of MEVA connectivity's for accuracy.

2.5 Under Conclusion 6/11 – AFTN Circuits implementation through the MEVA Network, the Group was tasked with making the necessary arrangements to implement AFTN circuits planned through the MEVA Network.

2.5.1 As mentioned earlier in this report, 80% of the AFTN circuits have been successfully transition to the MEVA Network. Aruba/Curacao, Grand Cayman/Kingston, and Aruba/United States are pending. Based on the information provided, the Working Group agreed on the following recommendation for consideration by MEVA/7 Meeting:

**RECOMMENDATION 7/X - IMPLEMENTATION OF AFTN
CIRCUITS**

That the States/Organizations and Service Providers make the necessary arrangements to complete the implementation of AFTN circuits in the Network.

2.6 Conclusion 6/13 – Y2K Compliance certificate in the MEVA Network. During the last year, the MEVA States/Organizations worked with the service providers to obtain the Y2K compliance certificates for their respective equipment. The US/FAA developed a programme plan divided into four phases to support Y2K transition. The Assessment, Renovation, Validation and Implementation Phases, in addition to an end-to-end Phase test for international ATC systems were implemented. Also, a MEVA beta network was assembled for testing.

2.6.1 The Validation and Implementation phase identified and replaced equipment with Y2K problems. The beta network was installed in Hampton, VA and is now been used as backup to the MEVA System. An Integrated System Integrity Test (ISIT) was performed between States/Organizations and FAA, and copies were made available to participating MEVA States/Organizations. The Y2K effort by the MEVA States/Territories/Organizations succeeded in making the Y2K rollover a non-event.

2.7 Under Conclusion 6/15 – Augmentation of the aeronautical communication services in the MEVA Network, the Working Group was tasked to study the technical aspects of using the MEVA Network for other ATS services besides the existing ATS-ATC speech and AFTN data. The Working Group discussed the possibilities of routing other voice circuits and aeronautical data. The group also agreed on the need to review the existing contract for possible modification before service can be expanded and agreed on the following recommendation for the MEVA/7 Meeting's consideration:

**RECOMMENDATION 7/X - USE OF MEVA NETWORK FOR
OTHER ATS SERVICES.**

That,

- a) the MEVA Network be used for other ATC applications not to include commercial communications services.
- b) Members should review the existing contract for possible modification of the document of agreement to expand the service.

2.8 Conclusion 6/1 – Study of Achieving the connectivity among the CAR and SAM Digital Networks requested that a technical group of CAR and SAM Regions be constituted to study the feasibility, and make technical orientations to achieve the connectivity among the CAR/SAM Region. During the meeting, the Working Group reviewed a paper presented by ICAO Representative providing information on the CAR/SAM/3 RAN Meeting held in Buenos Aires last year.

2.8.1 At that meeting under Conclusion 9/8 and 13/28 it was agreed that a review of the current and further development and capacities of international/national digital networks of CAR/SAM border be done, and also formulate solution to met AFS communication requirements between users from different digital communication networks. Based on that information, ICAO scheduled a CAR/SAM 01/00 CNS Informal Meeting in Mexico City on 26-29 June to review the above-mentioned task.

2.8.2 The MEVA Working Group recognized the importance for the MEVA Informal Working Group be prepared to participate at that meeting and agreed on the following recommendation for the MEVA/7 Meeting's consideration:

RECOMMENDATION 7/X - CREATION OF A MEVA TECHNICAL COMMITTEE.

That a Technical Committee under the MEVA Informal Working Group be instituted to assist in recommending and reviewing the CAR/SAM regional and domestic connectivity" to:

- a) prepare information regarding the new MEVA Network planning and
- b) study the outstanding problems to meet AFS communication requirements between users from MEVA and other different digital communication network, and to formulate solutions for those problems.

3. The Working Group also discussed another issue of great importance, such as the Renewal of the Service Agreement.

3.1 Expiration and Renewal of MEVA Service Agreement including:

- a) technical Review for MEVA Service Agreement Renewal and**
- b) Sub-Group Assignment to review Service Agreement.**

3.1.2 The MEVA Working Group reviewed a working paper presented describing the quality and level of service that is being provided by the MEVA vendor, including system reliability, performance and maintenance. The working paper highlighted the following primary findings:

- a) DAMA VSAT technology is being used effectively to substantially reduce the monthly recurring charges.

- 7 -

- b) MEVA's hub/star single-hop network topology provides full mesh connectivity and low end-to-end transmission delay for all circuits.
- c) Excellent voice quality is being achieved by the use of 8 KBPS speech compression technology.
- d) The system has adequate capacity to be expanded to accommodate additional circuits and VSAT earth terminals.
- e) Equipment being used by SCSi is commercially available off the shelf and well supported by manufacturers.
- f) The network is capable of providing reliable voice, data and AFTN messaging service.
- g) All MEVA satellite links are currently meeting ICAO service specification of 99.7 percent circuit availability from user demarc to demarc, as measured over the trailing 12 month period.
- h) SCSi response time to repair and return equipment to operational status at some MEVA sites in the Caribbean has been slower than specified in the Service Agreement resulting in extended service outages.

3.1.3 The existing Document of Agreement expires in July 2002. The service should be re-completed or, as an alternative, the service contract be reviewed to implement improvement in areas that would benefit all member states and then included in terms of reference for the five one year contract extensions to the contract with SCSi.

3.1.4 The advantages of a recompetition would be lowering of monthly recurring charges for circuit usage and cost of subscriber earth terminal equipment and maintenance. Also, improve system maintenance and operational support along with increasing system performance through technology refreshment. The disadvantages of recompeting would be that a new service provider would provide his/her own Teleport and satellite system incurring in high cost that would have to be borne by the ICAO Member States/Organizations. It would required 90 days after the award of new contract to put equipment in place, etc.

3.1.5 Another approach would be to consider extending the present service contract on a year-to-year basis for the next five years. The requirements of the extended service agreement should be modified to incorporate specific changes and improvements. An ad-hoc group was formed at the meeting with members from Bahamas, Jamaica, Grand Cayman, COCESNA, Dominican Republic and US/FAA to review the existing MEVA Service Agreement, and identify issues that would improve the service in the Network. These changes will have to be implemented in the new or incorporated in the existing Service Agreement.

3.1.6 The Working Group agreed that what ever decision is made by the MEVA Members, on whether to recompetite or renew the existing service contract, would required the issuance of a Request for Service (RFS) or the modification of the existing Service Agreement. It was also recognized that both alternatives involve resources and time.

3.1.7 The meeting discussed the benefit of issuing a Request for Information (RFI) that would provide, based on the response received by different vendors that could be interested in competing for service, more information to the Group while making a decision.

3.1.8 Based on the above mentioned information, the Working Group agreed on the following recommendation for the MEVA/7 Meeting's consideration:

**RECOMMENDATION 7/X - CREATION OF A TASK FORCE TO
REVIEW EXPIRATION AND
RENEWAL OF EXISTING MEVA
SERVICE AGREEMENT**

That,

- a) a task force of the MEVA Member States/Organization is formed under the MEVA Informal Working Group to review the expiration and renewal of the MEVA Service Agreement;
- b) a Request for Information (RFI) for the MEVA Network be issued by ICAO Office.

4. Recommendation

4.1 The Working Group is adopting a more proactive position in resolving issues encountered in the Network and would like to propose that the aforementioned recommendations be approved for implementation in the MEVA Network.

MEVA IWG Action Items			
Num.	Title	Status	Remarks
2/1	MEVA Satellite Redundancy		The Working Group should review information provided by the Service Provider, study aspects related to the redundancy implementation to the space segment and provide a recommendation.
2/2	Actions to resolve difficulties encountered in the MEVA Network	On-Going	
	a) To hold a weekly teleconference between SCSi and the MEVA members to review service and discuss outstanding issues.	Completed	Bi-weekly / as needed Teleconferences are being done.
	b) To review the equipment sparing.		SCSi should provide list of spare equipment.
	c) Local technicians need to be trained twice yearly.		
	d) The rapporteur will contact the service provider to explain the need for better service.	Completed	MEVA Rapporteur addresses the issue with the Service provider.
2/3	Augmentation of the aeronautical communication services in the MEVA Network.	Completed	The Network should be appropriate used to assure that the ATS speech circuits established through the Network be used only for ATC purpose assuring the compliance of the requirements established in the CAR/SAM ANP.
	b) All members will review the contract for possible modification of the document of agreement to expand the service and provide recommendation at MEVA/7.	On-Going	The MEVA Contract expires in 2002 and the Sub-Group will review the Service Contract.
	c) Review and identify the type of services and equipment required to route other services and request an estimated cost for the proposed expanded services from SCSi.	On-Going	Will be reviewed by the Sub-Group.

	MEVA IWG Action Items		
Num.	Title	Status	Remarks
2/4	Planning of the connectivity between the CAR and SAM digital networks	Completed	A MEVA Technical Group was formed to assist in recommending a reviewing connectivity of regional and Domestic CAR/SAM Region.
2/5	Contingency Communications Satellite Telephone Usage		All members supported a plan for usage of the contingency communications for satellite phones.
	FAA will formally submit a memorandum of agreement to all member States on the loaning of the equipment after the year 2000.		The Member States/Regions will be responsible for cost incurred on usage of equipment as well as maintenance.
	c) Publish the procedures for verbal communications coordination as part of the contingency training.	Completed	
2/6	MEVA FlyAway Terminal Issues		
	a) Examine the procedures for an "Insurance fund for the Fly-Away terminal".		Will be reviewed by the Sub-Group.
	b) Examine the sparing of critical items of equipment (long lead-time).		Will be reviewed by the Sub-Group.
2/7	Y2K International Interface Testing Report		
	b) Prior notice should be given to FAA by member States to schedule a test date, or whether a particular State considers it necessary.	Completed	MEVA Y2K preparations and plans were successfully executed.
	c) State members to provide information on the equipment and connection type beyond the demarc as soon as possible to Mr. Don Rickerson, or Ms. Dulce Roses.	Completed	MEVA Y2K preparations and plans were successfully executed.
	d) FAA will provide NADIN database to DSA for the preparation of live testing.	Completed	MEVA Y2K preparations and plans were successfully executed.
	e) FAA will let the States know when the NADIN is ready to schedule a test.	Completed	MEVA Y2K preparations and plans were successfully executed.

- 3 -

MEVA IWG Action Items			
Num.	Title	Status	Remarks
	f) FAA will provide updated information on the NADIN test schedule at the upcoming teleconference.	Completed	MEVA Y2K preparations and plans were successfully executed.
2/8-3/2	Call Records of MEVA Network	On-Going	The Working Group agreed on the use of the Call Record Analysis Tool for management purposes. Request for other State's records should go directly to that State.
	a) SCSI to provide additional records for December 1999 onward.		Awaiting data from Service provider.
3/3	Resolving Difficulties Encountered in the MEVA Network	On-Going	
	a) SCSI to coordinate with each Civil Aviation Authority (CAA) before performing any maintenance on the Network.	Completed	The Service Provider has agreed to this procedure.
	b) Weekly teleconferences will take place between Service Providers and MEVA CAA's.	Ongoing	The MEVA Working Group is coordinating teleconferences as necessary.
3/4	Troubleshooting Data and Voice Circuits in the MEVA Network		
	a) The capability of detecting a data and voice line failure at the users end be provided by SCSI and vendor(s).		
	b) When a failure occurs in an AFTN data circuit, the CAA will coordinate with the NADIN Office in Atlanta. A telephone number and point of contact in Atlanta will be provided to each Organization.		
3/5	MEVA Y2K and Leap Year Results Report	On-going	
	a) FAA will issue Memorandum of Agreement to each State on lending contingency phone equipment. Each State will be responsible for maintenance and usage of equipment.		
	b) The use of MEVA ATS speech circuits and satellite phones as back-up service be incorporated in the Letter of Agreement of ATC Centers.		

	<i>MEVA IWG Action Items</i>		
Num.	Title	Status	Remarks
3/6	Sub-group Appointment for integration of CAR / SAM Networks	Completed	A Technical Working Group was appointed with member from Bahamas, Jamaica, Grand Cayman, Dominican Republic and US/FAA.
3/7	MEVA FlyAway Terminal Issues		That the Working Group conducts a full review of the procedures for deployment and cost of deployment and report to the next MEVA meeting the recommendations.
3/8	Task of the MEVA Technical Working Group on Expiration and Renewal of MEVA Service Agreement		
	a) Review and develop the following issues:		
	1) Improve the maintenance support with training of local technicians		
	2) Improve monitoring and control of the equipment in SCSITeleport in Opa-Locka, FL.		
	3) Improve system spares at the local network level.		
	4) Improve the measuring and reporting of network performance.		
	5) Provide for a transition of MEVA to ATN according to ICAO SARPS guidelines.		
	6) Provide for the connection of MEVA to other CAR/SAM regional and domestic networks.		
	7) Provide a service review based on usage and network performance incentives.		
	8) Provide for service performance penalties		
	9) Create a scheduled monthly teleconference for review of service and network changes.		
	10) Provide regular scheduled site visits for maintenance and inspections.		
	11) Provide for back-up satellite system.		
	12) Structure redundancy procedures by SCSIT		

- 5 -

	<i>MEVA IWG Action Items</i>		
Num.	Title	Status	Remarks
	13) Improve coordination between user and vendor(s)		
	14) Provide formal training on trouble reporting procedures		
	b) Review in details the technical parts of the Document of Agreement of MEVA Network for necessary modifications / change.		

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