

Air Traffic Management

Defence

Maritime

Public Transport

Public Safety

# FREQUENTIS

FOR A SAFER WORLD

ATM Networks  
MEVA TMG31 - Jamaica  
2016

## Agenda Item 3.2

MEVA Network Operation and Performance: 05/2015-05/2016

### Network Transmission:

- IP-/ Data Circuits (Radar, AMHS/AFTN)
- Voice Circuits (ATS, PAMA, DAMA)

### Network Topology:

- Meshed / Fully Meshed (MF-TDMA)

### Network Availability:

- 99,90%



## Agenda Item 3.2

MEVA Network Operation and Performance: 05/2015-05/2016

### Network Capabilities:

- PAMA Voice (VHF): **53 circuits**
- DAMA Voice (E&M/FXS/E1): **115 circuits**
- AMHS IP (serial): **14 circuits**
  - 2 active, 2 under preparation, 10 hardware implemented (ready to use)
- AFTN (async): **6 circuits**
  - 4 sync / async (PAD)
- AFTN (sync): **28 circuits**
- Radar / AIDC / Remote Radio Link (serial): **18 circuits**

## Agenda Item 3.2

MEVA Network Operation and Performance: 05/2015-05/2016

### Scope of Services:

- SLA
  - Fault Reporting: 24/7 (Hotline)
  - Fault Processing: 24/7 (Partner, FRQ)
  - Service Time (on-site): 24/7 (Partner)
  - NOC max. response time: 45 minutes (Hotline, FRQ)
  - Max. restoration time for on-site services (excluding response, travel time and spare part delivery time): 8 hrs (Partner)
  - MTTR: 2 hrs
  - Pro-active monitoring (FRQ)

## Agenda Item 3.2

MEVA Network Operation and Performance: 05/2015-05/2016

### On-going Duties:

- Monthly Reporting > On-going
- Yearly local preventive maintenance > On-going, started in March 2016
- 2<sup>nd</sup> level support (24/7 1<sup>st</sup> level by Newcom) > On-going
- On-site maintenance > Case-by-Case
- Spare part stocking > On-going
- Yearly participation TMG meetings abroad > On-going

## Agenda Item 3.2

MEVA Network Operation and Performance: 05/2015-05/2016

### Operational Issues:

- CPI BUCs replacement
  - All of the BUCs were replaced twice
    - Hardware issue
    - Software issue
- Space-Segment issues
  - We faced several times interference
  - Final carrier design had to be changed (now QPSK)

## Agenda Item 3.2

MEVA Network Operation and Performance: 05/2015-05/2016

### Operational Issues (cont.):

- T1's in Miami turns out to be terminated in a single DSU
  - Problems to move into different configuration with provider
- Hotline
  - Introduction of new number
  - Better caller identification
- Webpage
  - Temp. unavailable due to "attack"

## Agenda Item 3.2

MEVA Network Operation and Performance: 05/2015-05/2016

### Organizational Issues:

- Insolvency of COMSOFT
  - 100% takeover of MEVA III obligations by FREQUENTIS
- NEWCOM bought by Speedcast
  - Speedcast International has acquired 100% of the shares in Newcom International. Any contract that Newcom has with customers or vendors will not be affected.
  - In the near future Newcom will start to do business as Speedcast Americas, but the legal entity will remain as Newcom International, therefore not affecting any contracts.

## Agenda Item 3.3

### Results of MEVA III 2015 Annual Maintenance visits

The following items are applicable to all sites. Items for individual sites are presented on subsequent slides.

- Annual maintenance program: Dates of performance are listed per country.
- OJT: Listed where took part. Not all members wished to receive add. OJT
- Protocols are available at MEVA webpage.
- Status Definition:
  - Red – High priority
  - Orange – Medium Priority
  - Green – No action required

## Agenda Item 3.3

### Results of MEVA III 2015 Annual Maintenance visits

| Site                                   | Circuit Status<br>(i.e.: FXS, E&M,<br>AFTN)         | Protocol                           | On-the-Job<br>Training                             | Comment  | Date on Site                                       |
|--|---|------------------------------------|--|--|--|
| Aruba<br>Dual Chain<br>Configuration   | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b>      | OJT provided to<br>customer<br><b>Status Green</b> | Replaced power stripe,<br>insert PAD<br><b>Status Green</b><br>PAD spare needs<br>config, not on site.<br><b>Status Orange</b> | April 6 <sup>th</sup> 2016<br><b>Status Green.</b> |
| Cuba<br>Single Chain<br>Configuration  | All circuits<br>operational.<br><b>Status Green</b> | Schedule open<br><b>Status Red</b> | Schedule open<br><b>Status Red</b>                 | Got BUC delivery<br>confirmation. Planning<br>joint action /BUC&AM<br><b>Status Red</b>  | Schedule open<br><b>Status Red</b>                 |
| Atlanta<br>Dual Chain<br>Configuration | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b>      | Not requested<br><b>Status Green</b>               | No comments<br><b>Status Green</b>   | May 4 <sup>th</sup> 2016<br><b>Status Green.</b>   |

## Agenda Item 3.3

### Results of MEVA III 2015 Annual Maintenance visits

| Site   | Circuit Status<br>(i.e.: FXS, E&M,<br>AFTN)         | Protocol                           | On-the-Job<br>Training                             | Comment   | Date on Site  |
|--|---|------------------------------------|--|---|---|
| Miami<br>Dual Chain<br>Configuration                 | All circuits<br>operational.<br><b>Status Green</b> | Schedule open<br><b>Status Red</b> | Schedule open<br><b>Status Red</b>                 | AM done at Teleport<br><b>Status Green</b><br>AM schedule open for<br>FAA site<br><b>Status Red</b> | Schedule open<br><b>Status Red</b>                  |
| Dominican<br>Republic<br>Dual Chain<br>Configuration | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b>      | OJT provided to<br>customer<br><b>Status Green</b> | No comments<br><b>Status Green</b>  | April 27 <sup>th</sup> 2016<br><b>Status Green.</b> |
| Haiti<br>Dual Chain<br>Configuration                 | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b>      | OJT provided to<br>customer<br><b>Status Green</b> | Replaced defective<br>WG<br><b>Status Green</b>   | April 20 <sup>th</sup> 2016<br><b>Status Green.</b> |

## Agenda Item 3.3

### Results of MEVA III 2015 Annual Maintenance visits

| Site   | Circuit Status<br>(i.e.: FXS, E&M,<br>AFTN)         | Protocol                      | On-the-Job<br>Training                             | Comment  | Date on Site  |
|--|---|-------------------------------|--|--|---|
| Jamaica<br>Single Chain<br>Configuration               | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b> | OJT provided to<br>customer<br><b>Status Green</b> | Re-installed antenna<br>grounding<br><b>Status Green</b> | April 19 <sup>th</sup> 2016<br><b>Status Green.</b> |
| Grand<br>Cayman<br>Single Chain<br>Configuration       | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b> | OJT provided to<br>customer<br><b>Status Green</b> | No comments<br><b>Status Green</b>                       | April 11 <sup>th</sup> 2016<br><b>Status Green.</b> |
| COCESNA<br>(Honduras)<br>Single Chain<br>Configuration | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b> | OJT provided to<br>customer<br><b>Status Green</b> | BUC swapped<br><b>Status Green</b>                       | April 15 <sup>th</sup> 2016<br><b>Status Green.</b> |

## Agenda Item 3.3

### Results of MEVA III 2015 Annual Maintenance visits

| Site  | Circuit Status<br>(i.e.: FXS, E&M,<br>AFTN)         | Protocol                      | On-the-Job<br>Training                             | Comment   | Date on Site  |
|---|---|-------------------------------|--|---|---|
| Bahamas-<br>Freeport<br>Single Chain<br>Configuration | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b> | OJT provided to<br>customer<br><b>Status Green</b> | Replaced LNB, station<br>was down at arrival –<br>Customer aware of.<br>BUC swap<br><b>Status Green</b> | April 13 <sup>th</sup> 2016<br><b>Status Green.</b> |
| Bahamas-<br>Nassau<br>Single Chain<br>Configuration   | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b> | Not requested<br><b>Status Green</b>               | No comments<br><b>Status Green</b>  | April 22 <sup>th</sup> 2016<br><b>Status Green.</b> |
|   |   |                               |  |   |   |

## Agenda Item 3.3

### Results of MEVA III 2015 Annual Maintenance visits

| Site                                       | Circuit Status<br>(i.e.: FXS, E&M,<br>AFTN)         | Protocol                      | On-the-Job<br>Training                             | Comment  | Date on Site  |
|--|---|-------------------------------|--|--|---|
| Curacao<br>Single Chain<br>Configuration   | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b> | OJT provided to<br>customer<br><b>Status Green</b> | FAD 8400 swap<br>BUC swap<br><b>Status Green</b>                               | April 8 <sup>th</sup> 2016<br><b>Status Green.</b>  |
| Panama<br>Single Chain<br>Configuration    | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b> | Not requested<br><b>Status Green</b>               | No comments.<br>Customer installed<br>own Cisco in rack<br><b>Status Green</b> | April 4 <sup>th</sup> 2016<br><b>Status Green.</b>  |
| Puerto Rico<br>Dual Chain<br>Configuration | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b> | OJT provided to<br>customer<br><b>Status Green</b> | One of red. PS at<br>ODU replaced<br>(defective)<br><b>Status Green</b>        | April 26 <sup>th</sup> 2016<br><b>Status Green.</b> |

## Agenda Item 3.3

### Results of MEVA III 2015 Annual Maintenance visits

| Site   | Circuit Status<br>(i.e.: FXS, E&M,<br>AFTN)         | Protocol                           | On-the-Job<br>Training                             | Comment   | Date on Site  |
|--|---|------------------------------------|--|---|---|
| Venezuela<br>Indoor Unit<br>only             | All circuits<br>operational.<br><b>Status Green</b> | Schedule open<br><b>Status Red</b> | Schedule open<br><b>Status Red</b>                 | AM schedule open (no<br>answer from customer)<br><b>Status Red</b>  | Schedule open<br><b>Status Red</b>                  |
| Colombia<br>Indoor Unit<br>only              | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b>      | Not requested<br><b>Status Green</b>               | Facility movement<br>planned in May 2016<br>(no official note from<br>customer received)<br><b>Status Green</b> | April 1 <sup>st</sup> 2016<br><b>Status Green.</b>  |
| St. Maarten<br>Single Chain<br>Configuration | All circuits<br>operational.<br><b>Status Green</b> | Signed<br><b>Status Green</b>      | OJT provided to<br>customer<br><b>Status Green</b> | WG needs to be<br>replaced (defective)<br>Planned re-visit: 31th<br>May 2016<br><b>Status Red</b>               | April 29 <sup>th</sup> 2016<br><b>Status Green.</b> |

## Agenda Item 3.3

Results of MEVA III 2015 Annual Maintenance visits

### **Annual Maintenance:**

- All protocols are available for review at MEVA Webpage
  - Documents/Annual Maintenance/2016/Protocol
- OJT was provided at stations interested in

## Agenda Item 3.4

Improvements to MEVA III node performance

### Improvements:

- Early 2016 sun-outage
  - Whole outage within expected period
- PAD Colombia
  - Lima (online)
  - Manaus still not operational (link is ready to use...)

## Agenda Item 3.4

Improvements to MEVA III node performance

### Improvements (cont.):

- Monthly Report
  - ERLANG B calculation
  - “Wheathermap” introduced
- Ticket System
  - Introduction of manual ticket closing date/time

## Agenda Item 3.4

### Improvements to MEVA III node performance

#### Improvements to be reached in near future:

- Not all MEVA members accepted contract novation
  - Related thereto: invoices...
- Mexico
  - Still not involved...

| Country                          | Mail sent | Answer | Approval   |
|----------------------------------|-----------|--------|------------|
| Aruba                            | yes       | yes    | yes        |
| Kuba                             | yes       | no     | -          |
| Bahamas                          | yes       | no     | -          |
| Cayman Islands                   | yes       | yes    | open       |
| Curacao                          | yes       | no     | konkludent |
| USA                              | yes       | yes    | yes        |
| Honduras                         | yes       | yes    | yes        |
| Canada                           | yes       | yes    | yes        |
| Dominikanische Republik          | yes       | no     | -          |
| Jamaica                          | yes       | no     | konkludent |
| Haiti                            | yes       | yes    | yes        |
| Panama                           | yes       | yes    | yes        |
| Sint Marteen                     | yes       | no     | -          |
| Participants in Telco of 29.1.16 |           |        |            |

## Agenda Item 3.4

Improvements to MEVA III node performance

### Improvements to be reached in near future:

- Q & A
  - FRQ to clarify questions on
    - Insolvency letters
    - Bank Accounts
    - ....



## Agenda Item 3.5

### MEVA III Monitoring and Reporting

#### SWV:

- April 2016: 27.464 calls
- March 2016: 36.891 calls
- February 2016: 38.090 calls
- January 2016: 26.971 calls

## Agenda Item 3.5

### MEVA III Monitoring and Reporting

#### ERLANG B:

##### Calculations on ERLANG B blocking

Most busy day: 3 March 2016  
Most busy hour: 6:00 PM  
Calls during busy hour: 152  
Av. call dur. (busy hour): 66,72 seconds

Calculation: duration x calls / 3600 seconds

SWV BW reserved for 6 lines Changed from 5 lines to 6 due to higher volume (1.Oct. 2015)

Blocking  
max

5 %

Open System  
PABX

Closed System  
SkyWAN

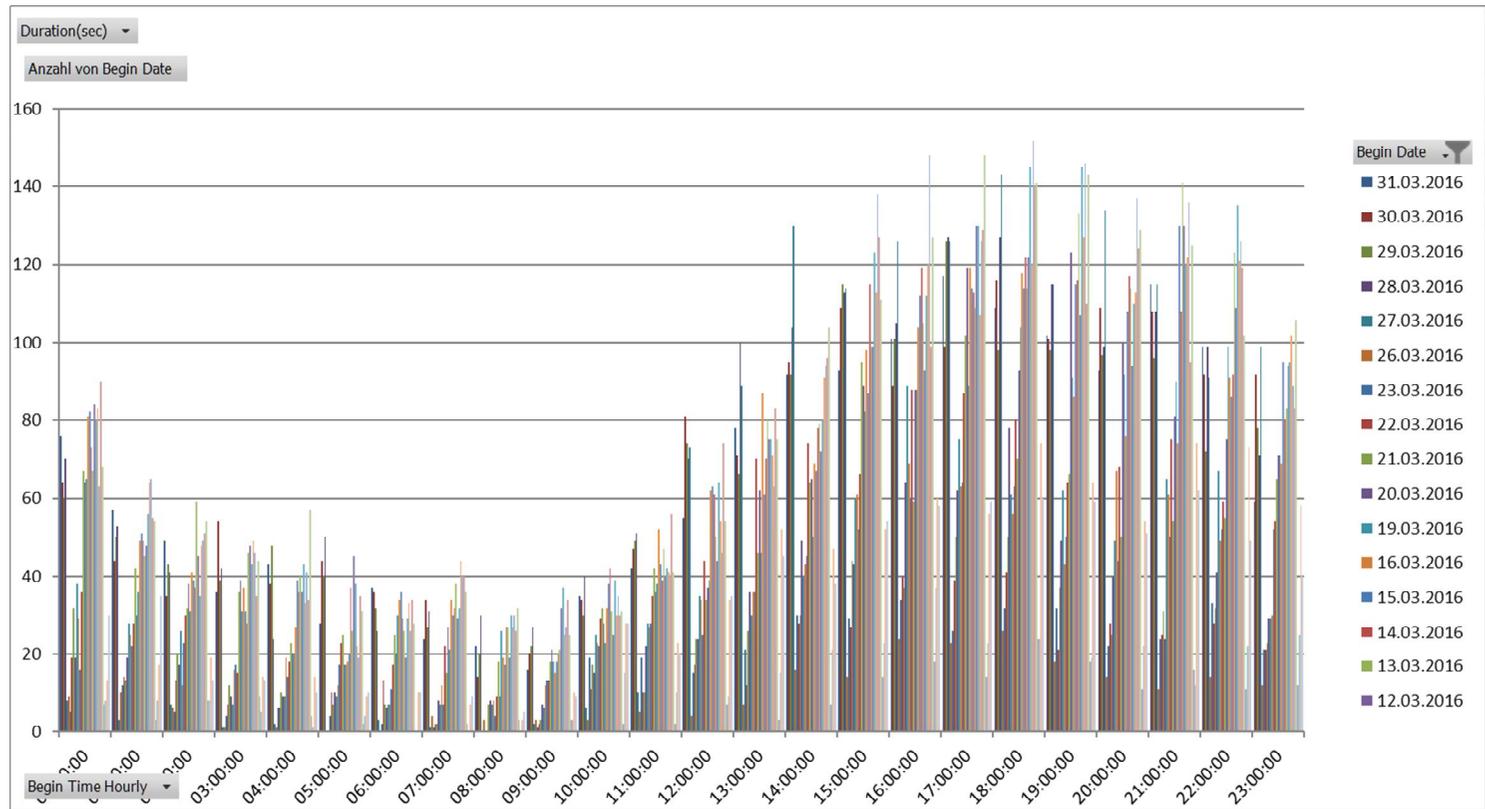
USED ERLANG 2,82 ERLANG > Blocking better then: 4,30% 2,15%

Max Available ERLANG 2,95 ERLANG > Blocking contrated: 5,00%

# Agenda Item 3.5

## MEVA III Monitoring and Reporting

### ERLANG B:



## Agenda Item 3.5

### MEVA III Monitoring and Reporting

#### Space Segment:

- Frequentis has implemented a IP capable spectrum analyser to monitor space-segment
- Automatic alarm generation when carrier degrades



## Agenda Item 3.5

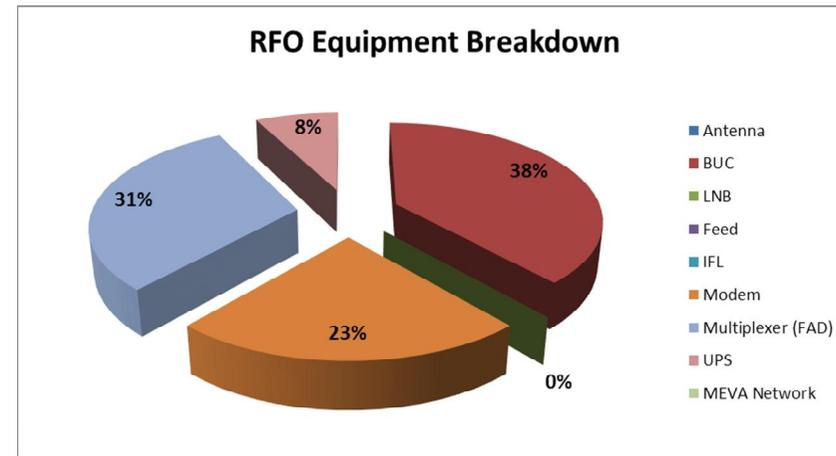
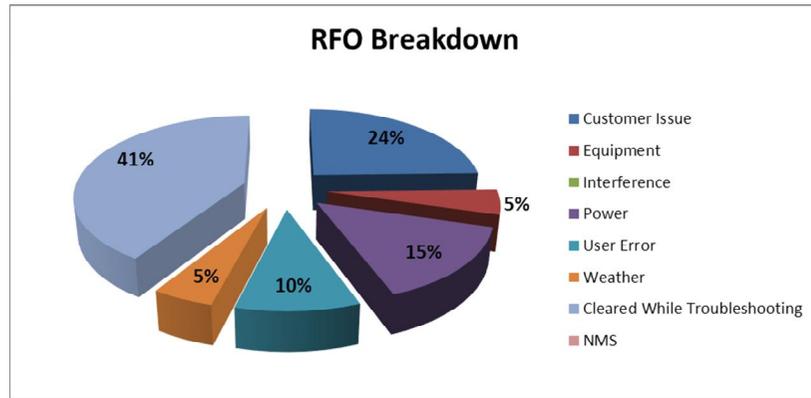
### MEVA III Monitoring and Reporting

#### RFO Breakdown:

| RFO                           | #  | Equipment         | # |
|-------------------------------|----|-------------------|---|
| Customer Issue                | 15 | Antenna           |   |
| Equipment                     | 3  | BUC               | 5 |
| Interference                  |    | LNB               | 2 |
| Power                         | 9  | Feed              |   |
| User Error                    | 6  | IFL               |   |
| Weather                       | 3  | Modem             | 3 |
| Cleared While Troubleshooting | 25 | Multiplexer (FAD) | 4 |
| NMS                           |    | UPS               | 1 |
|                               |    | MEVA Network      |   |

## Agenda Item 3.5

### MEVA III Monitoring and Reporting



## Agenda Item 3.5

### MEVA III Monitoring and Reporting

#### **Ticket System:**

- Tickets accounted April 1<sup>st</sup> 2015 to Mai 14<sup>th</sup> 2016
  - 193 Tickets accounted
    - Ca. 90% Tickets resolved remotely
    - Ca. 10% needs site activity (FRQ technician)

## Agenda Item 3.5

### MEVA III Monitoring and Reporting

#### Webpage structure:

- Documents

#### Index of /SecuredArea/Ablage/Folders/Documents/

| Name                                     | Last Modified        | Size | Type      |
|--|----------------------|------|-----------|
| <a href="#">Parent Directory/</a>        |                      | -    | Directory |
| <a href="#">Annual Maintenance/</a>      | 2016-May-12 23:26:21 | -    | Directory |
| <a href="#">BUC replacement report/</a>  | 2015-Sep-07 08:51:05 | -    | Directory |
| <a href="#">CDRL/</a>                    | 2015-Sep-28 09:36:28 | -    | Directory |
| <a href="#">Circuit ID/</a>              | 2015-May-28 20:33:48 | -    | Directory |
| <a href="#">Graphs/</a>                  | 2016-Jan-03 17:44:54 | -    | Directory |
| <a href="#">Helpdesk Test Procedure/</a> | 2015-Sep-07 08:58:33 | -    | Directory |
| <a href="#">MEVA POC/</a>                | 2015-Jun-02 08:36:25 | -    | Directory |
| <a href="#">Manuals/</a>                 | 2015-May-05 09:32:38 | -    | Directory |
| <a href="#">Monthly Reports/</a>         | 2016-May-12 17:23:05 | -    | Directory |
| <a href="#">SDD/</a>                     | 2016-Apr-02 10:44:42 | -    | Directory |
| <a href="#">SNMP Access Local/</a>       | 2015-May-29 14:15:28 | -    | Directory |
| <a href="#">Station Documentation/</a>   | 2015-Apr-22 16:14:12 | -    | Directory |
| <a href="#">Sun Outage Prediction/</a>   | 2014-Dec-11 21:14:45 | -    | Directory |

## Agenda Item 3.5

### MEVA III Monitoring and Reporting

#### **Webpage open-issues:**

- TMG30 conclusion
  - Copy data/documents from SES webpage into Frequentis webpage
    - Has not taken place so far.....