



ICAO

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WORKING PAPER

MEVA/TMG/33 — WP/06
11/05/18

Thirty Third MEVA Technical Management Group Meeting (MEVA/TMG/32)
Willemstad, Curazao, 29 – 31 May 2018

- Agenda Item 2: Operation and Performance of the MEVA III Network**
2.1 MEVA Network operation and performance: 05/2017-04/2018

STATISTICS STUDY FOR THE VOICE SWITCHED LINES AND RECOMMENDATIONS

(Presented by Cuba)

EXECUTIVE SUMMARY	
This working paper presents a follow-up and summary concerning the conclusion Switched voice lines performance, TMG 32/6	
Action:	Included in Section 4.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency• Security & Facilitation
<i>References:</i>	<ul style="list-style-type: none">• MEVA web page monthly reports• Thirty Second MEVA Technical Management Group Meeting (MEVA/TMG/3), Havana, Cuba 10 to 12 May 2017.

1. Introduction

1.1 During the MEVAIII network operation the performance of the switched voice network has proven to be an effective and non-expensive way to communicate if the agreed requirements are met.

1.2 In October 2015 the number of switched was increased from 5 to 6 lines to meet the blocking of 5% contracted.

1.3 To keep the service at the limit contracted is necessary to watch how the net are working through the statistics.

1.4 During the MEVA TMG32 held in Havana Cuba the meeting arrived to conclusion TMG 32/6, this is to increase one more line from 6 to 7 to meet the blocking of 5% contracted. Cuba and the service provider will evaluate the switched performance once the additional trunk line is added.

2. Discussion

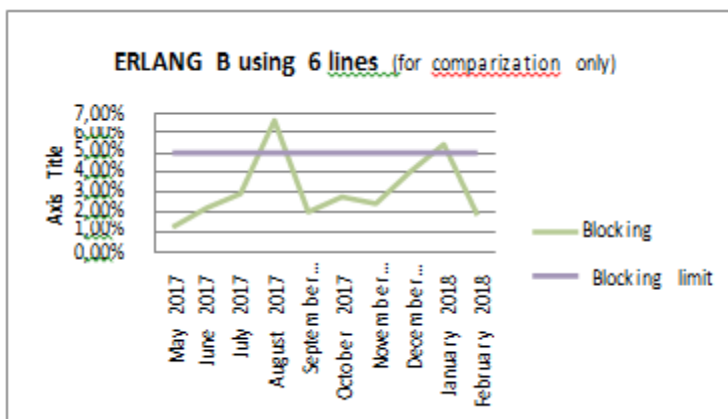
2.1 The service provider adds the line at the end of May 2017, the result after this is reflected at the table 1.

Monh	Calls during busy hour	Av. call dur. (busy hour)	ERLANG (open system)	Reserved Lines (Oct 2015)	Blocking	Reserved Lines (May 2017)	Blocking	Blocking limit
May 17	130	56,22	2,03	6	1,28%	7	0,37%	5,00%
June 2017	149	56,72	2,35	6	2,25%	7	0,75%	5,00%
July 2017	147	61,97	2,53	6	2,95%	7	1,05%	5,00%
August	166	70,34	3,24	6	6,62%	7	2,98%	5,00%
September 2017	113	72,95	2,29	6	2,05%	7	0,66%	5,00%
October 2017	113	79,41	2,49	6	2,79%	7	0,98%	5,00%
November 2017	126	68,76	2,41	6	2,46%	7	0,84%	5,00%
December 2017	138	72,38	2,77	6	4,05%	7	1,58%	5,00%
January 2018	144	75,97	3,04	6	5,43%	7	2,30%	5,00%
February 2018	135	59,63	2,24	6	1,87%	7	0,59%	5,00%

As we can see the comparison before and after shows the benefit of the increase.

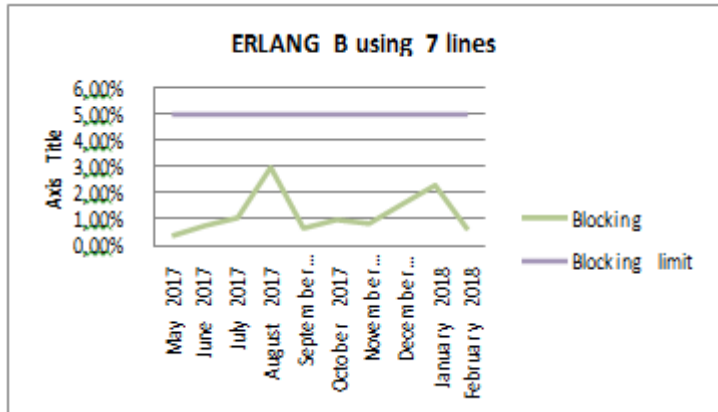
In the figures below we may see a graphic at both 6 and 7 lines, 6 lines just for comparison if we didn't do the increment.

August 2017 and January 2018, if the increase is not implemented, the blocking is over the 5% limit as may be seen at the 6 lines graphic below.



At the graphic below may be seen the difference, once the 7 line is implemented.

The 5% blocking line is far away from the service provided. The maximum blocking % is 3 % at August 2017.



The calculations are based in the following :

Erlangs = calls per hour x seconds /3600

Pb block probability:

$$P_b = B(A, m) = \frac{\frac{A^m}{m!}}{\sum_{i=0}^m \frac{A^i}{i!}}$$

m number of trunks or links

A = traffic Erlangs

Pb x 100 =grade of service %

2.2 On the other hand following the statistics data we may saw what the tendency is now:

2.3 During the MEVAIII bidding, the estimated call per hours at the busiest hour was 50 the duration 60 seconds, Erlangs 0,833.

2.4 At last 10 Months as average at peak hour: 136 calls, 67 seconds, Erlang 2,82.

2.5 The number of calls is more than twice at 2014, the duration just seven seconds more (short durations are typical in air traffic control).

2.6 The use of the switched calls is much more at the nodes without direct lines and heavy traffic border relationships.

2.7 These countries are Dominican Republic (calls: Puerto Rico and Miami), Miami (calls: Dominican Republic and Bahamas), Curacao (calls: Venezuela and Jamaica) , Puerto Rico (calls: Sint Maarten, Dominican Republic, Venezuela), Panama (calls: Colombia, Jamaica, COSESNA), Colombia (Panama, Jamaica, Curacao).

3. Conclusion

3.1 The 7th line increase was enough to compensate the switched traffic increase at this moment of the net.

3.2 The tendency of the switch lines use is to grow, for heavy traffic is better to have direct shout down lines, which are more reliable for RADAR transfers and air traffic voice coordination.

4. Suggested Actions

4.1 The Meeting is invited to:

- a) Recommend to close the conclusion TMG32/6; and
- b) suggest consider to the affected nodes implement new direct lines:
 - Dominican Republic: Miami and Puerto Rico.
 - Miami: Dominican Republic and Bahamas.
 - Curacao: Venezuela and Jamaica.
 - Panamá: Colombia, Jamaica, COSESNA.