



ICAO

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WORKING PAPER

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**Thirty Sixth MEVA Technical Management Group Meeting
(MEVA/TMG/36)**
On-line, from 1 to 3 June 2021

Agenda Item 4: MEVA Phase IV
4.4 Strategies about next step of CANSNET development

SUGGESTED STRATEGIES FOR THE CARIBBEAN AIR NAVIGATION SERVICES NETWORK (CANSNET)

(Presented by United States)

EXECUTIVE SUMMARY	
This working paper reviews the impact of COVID-19 on traffic volumes and feature development coupled with responses to the CANSNET RFI, to suggest a revised strategy for CANSNET.	
Action:	Suggested actions are presented in section 4.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency
<i>References:</i>	<ul style="list-style-type: none">• MEVA TMG34/P01, Miami 2019.

1. Introduction

1.1 COVID-19 has impacted both traffic volumes and the introduction of new functionality. As the timescales for CANSNET requirements have changed, a revised strategy to match these changes may be necessary.

2. Discussion

2.1 To provide the widest scope for responses, the CANSNET Request for information (RFI) asked for “satellite and/or terrestrial” solutions. Some responses paired a desirable terrestrial solution with an undesirable satellite solution and vice versa. The RFI Ad-Hoc team identified that this may have adversely influenced and constrained the information received.

2.2 RFI responses were unclear about how many of the CANSNET members could be provided with terrestrial MPLS service. One response was “about half” and others offered satellite access to join the MPLS network where terrestrial access was uncertain. Given the uncertainty, it would seem prudent to continue satellite services, while terrestrial options are explored and exercised.

2.3 Since the schedule for increased bandwidth has slipped and CANSNET members may have varying timescales for adoption of new functionality, a solution where members can expand terrestrial services, as required, may be optimal. Following the experience of the Asia-Pac CRV network, identification of a group of ‘pioneer’ States ready to implement terrestrial services may be a Request for proposal (RFP) approach.

2.4 Support of communications essential for air safety (e.g. voice and messaging associated with flight planning, flight progress, weather, NOTAMs and search and rescue) are currently identified for ATN transport. Other informational data (e.g. ATFM, AIM, SWIM) that are larger in bandwidth, currently use the Internet. If the latter is to be transitioned to private networking, care should be taken not to impact the ‘ATN traffic’.

2.5 The RFI process identified no new technologies that would force an acceleration of the CANSNET RFP process. However, there were interesting offerings of SWIM/XML services that could be network-based. While in the formative stages, it should be recognized that these may provide a useful stepping stone toward regional and global SWIM connectivity, especially for States preferring to access SWIM as a service rather than investing in dedicated equipment and software.

2.6 ICAO recommendations for data security and integrity are still in the formative stages but likely to be at the application level. These should not preclude sensible network level data isolation techniques such as MPLS network tunnelling.

3. Conclusions

3.1 From the RFI responses there are no new technology drivers that would force an accelerated CANSNET RFP schedule.

3.2 MEVA III is operating well. Frequentis’ service has been excellent. Frequentis has demonstrated the accommodation of additional IP traffic (e.g. AIREON) and can provide additional bandwidth¹ for existing links that would cover near-term demand. There are no reasons to discontinue the service in 2022.

3.3 Additional significant bandwidth demand is unclear and most likely delayed until the 2023- 2025 timeframe, at the earliest.

3.4 With increased time-dependent exchanges the need for network diversity/redundancy may become significant.

¹ Reference 1

3.5 A CANSNET RFP for both satellite and terrestrial services may not be in the best interests of the region. Instead, separating the acquisition of terrestrial connectivity from a satellite solution may provide the most competitive responses and a clearer picture of how all the CANSNET members would be serviced.

3.6 Any new informational network data flows should be logically separated and not impact bandwidth for services essential for ATN air traffic safety services (i.e. flight data, flight progress, weather, NOTAMs, search and rescue).

3.7 Data identity and integrity functions should be targeted at the application level but do not preclude implementing data isolation functions (e.g. tunnelling) at the network level.

4. Suggested actions

4.1 The meeting is respectfully encouraged to:

- a) review the information presented in this Working Paper; and
- b) discuss its contents and take appropriate action