



ICAO

*International Civil Aviation Organization***THE FIFTEENTH MEETING OF THE COMMON
AERONAUTICAL VIRTUAL PRIVATE
NETWORK OPERATIONS GROUP (CRV OG/15)***Mumbai, India, 15-19 June 2026***Agenda Item 9: States/Administrations CRV Implementation****FAA IWXXM via AMHS Testing Update**

(Presented by the United States of America)

SUMMARY

This paper presents the ongoing effort by the FAA to conduct IWXXM testing over AMHS to progress towards operational dissemination of OPMET data.

1. INTRODUCTION

1.1 ICAO Meteorological Information Exchange Model (IWXXM) format has been internationally adopted as a standard for exchanging meteorological information for aviation and supports the ICAO Global Air Navigation Plan (GANP).

1.2 The Asia Pacific (APAC) region (and other regions) is in the process of implementing the transfer of IWXXM data. This operational meteorological (OPMET) information will be exchanged between Air Navigation Service Providers (ANSPs) using the ATS Message Handling System (AMHS) until the eventual migration to a total System Wide Information Management (SWIM) environment.

1.3 Delivery of IWXXM data is not supported by the Aeronautical Fixed Telecommunications Network (AFTN), but AMHS is not subjected to the limitations of AFTN, which makes it ideal for this type of weather information exchange. ICAO guidance identifies AMHS as a mechanism for IWXXM exchange.

1.4 Ultimately, the various types of weather information (Terminal Area Forecast [TAF], METeorological Aerodrome Report [METAR], and Significant METeorological Information [SIGMET]) will be integrated into SWIM to enhance situational awareness, coordination, and operational efficiency.

1.5 Presently, the United States FAA Technical Center is conducting interoperability IWXXM testing with Cuba.

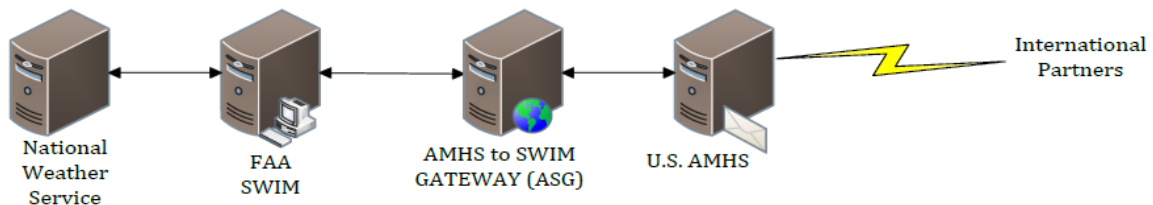
2. DISCUSSION

2.1 In its test environment, the FAA has deployed an AMHS-to-SWIM Gateway (ASG) that supports the exchange of weather information in XML format to be transported over the AMHS.

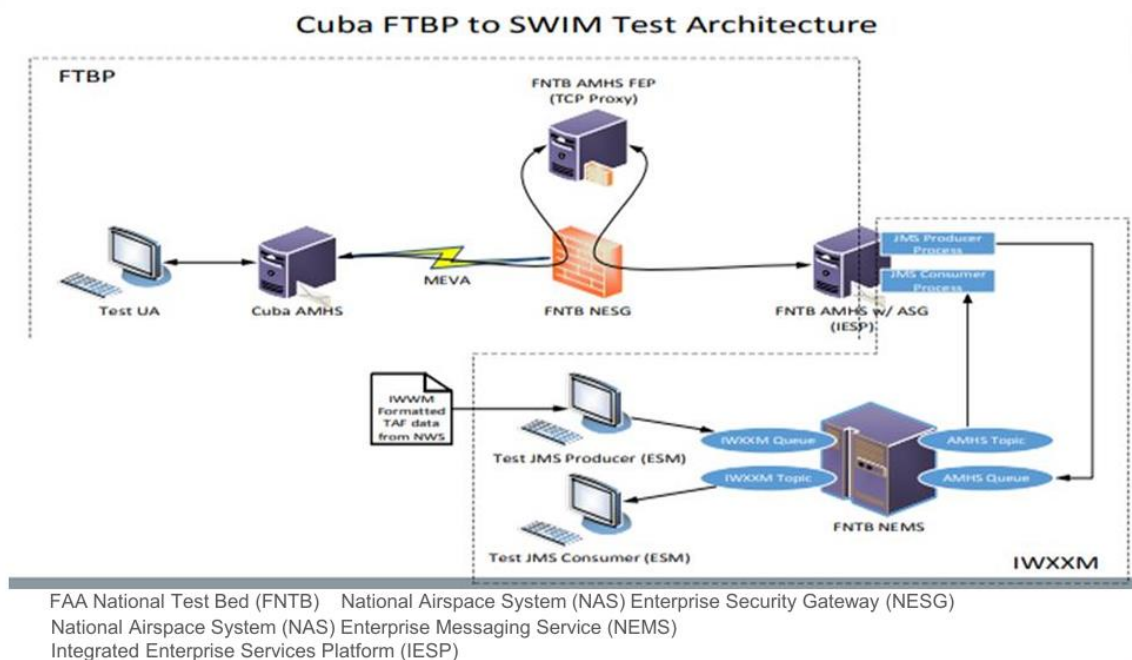
2.2 Cuba also has an IWXXM test platform. National OPMET Centers (NOCs) of the Caribbean are expected to disseminate their IWXXM data to the OPMET Regional Center in

Washington, United States. Cuba is leading the testing effort for the North America, South America, Caribbean (NACC) region. Successful testing in this region will help the U.S. expand IWXXM testing and implementation in other regions, too, such as in Asia Pacific (APAC).

2.3 OPMET Extensible Markup Language (XML) data is delivered to the FAA from the US National Weather Service (NWS) via SWIM. From SWIM the weather information is then packaged into a File Transfer Body Part to be sent to our international partners using the AMHS-to-SWIM Gateway (ASG) and SWIM components to enable the exchange.



2.4 For the Cuba testing, a separate test session was established over the MEVA link which does not impact the operational AMHS traffic. The session connects the Cuba and FAA test environments.



2.5 The ASG has a dual role: it connects to the AMHS Message Transfer Agent (MTA) to send/receive messages to/from Cuba via the Mejoras al Enlace de Voz Air Traffic Services (MEVA) network (used in Central America and the Caribbean), as well as it connects to SWIM to consume and produce the IWXXM messages. Essentially, it allows SWIM-native weather data from NWS to be repackaged and sent to AMHS partners that aren't using SWIM.

2.6 Presently, the United States FAA Technical Center is conducting interoperability IWXXM testing with Cuba.

2.7 The U.S. and Cuba have successfully conducted interoperability tests, phases I through III, which have validated the exchange of IWXXM traffic. Phase IV testing is planned for the near future in an effort to transition to operational dissemination of OPMET data.

2.7.1. Phases I through III – identified system limitations testing with large volumes of message traffic, behavior of the systems under stress, link bandwidth, and network capacity were observed. Each party (Cuba and U.S.) initiated 100 messages compressed to an average size of 3.5 KB. Traffic into Cuba was observed with peak bandwidth of ~ 50 kbps while outbound from Cuba observed at peak levels of ~ 30 kbps. Traffic observations were made by the MEVA provider, Frequentis, at Cuba's interface.

2.7.2. Phase IV – more testing planned and proposed timeline will be developed for progress towards full implementation.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matter as appropriate
