International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Tenth Meeting of the GREPECAS Aeronautical Meteorology Subgroup (AERMETSG/10)
Buenos Aires, Argentina, 19 to 23 October 2009

Agenda Item 2: Implementation of the World Area Forecast System (WAFS)

b) Review of the status of implementation of ISCS

USE OF THE PUBLIC INTERNET TO ACCESS AERONAUTICAL METEOROLOGICAL DATA

(Presented by the United States of America)

SUMMARY

The United States is in the process of developing a File Server that can be used to access Operational Meteorological Data (OPMET) and World Area Forecast System (WAFS) products via the public Internet. Development of a File Server will support access to WAFS products and demonstrate that the public Internet can be used as a principal communication medium to access and retrieve aeronautical meteorological information.

1. Introduction

1.1 The Air Navigation Commission in 2003 established the Aviation Use of the Public Internet Study Group for the purpose of providing guidelines to States on the use of the public Internet in support of aeronautical meteorological services. The following is excerpted from the Air Navigation Bureau Working Paper 7965 which set the basis for evaluating the use of the public Internet in support of providing aeronautical data to users.

> "*The Air Navigation Commission (161-12), in its review of the report of the Meteorology*
> *(MET) Divisional Meeting (2002) (Recommendations 4/5 and 4/6 refer), agreed that the subject of the use of the public Internet which had been addressed by the aforementioned meeting only from a MET viewpoint, should be considered in a wider context taking into account all aeronautical data. The Commission agreed that the issue should be progressed by a new communications, navigation, and surveillance (CNS) study group, in coordination with the Aeronautical Information and Charts Section (AIS/MAP) and MET…. Subsequently, the Commission (162-10) approved the executive summary for a new task (ANC Task No. CNS-0301) to conduct the necessary studies and to develop appropriate ICAO provisions on the subject of the aviation use of the public Internet. The Commission further agreed on the*

establishment of the Aviation Use of the Public Internet Study Group (AUPISG) to assist the Secretariat in undertaking the necessary studies and developing ICAO guidelines on the subject."

1.2 The Study Group (SG) completed its work and issued ICAO Doc 9855, *Guidelines on the Use of the Public Internet for Aeronautical Applications.*

1.3 Similarly, the SG made a recommendation to the Secretary to amend Annex 3 to allow for the use of the public Internet to access non-time-critical aeronautical meteorological data. Amendment 75 to Annex 3 will recognize the use of the public Internet, but with limitations.

1.4 It is the purpose of this paper to discuss the need to allow for the use of the public Internet without restrictions. Use of the public Internet should lead to improved efficiency of services in the Region by using existing communication services without investing in development of new circuits.

2. Discussion

2.1 The United States, as a WAFS Provider State, provides aeronautical information via satellite broadcast. The information provided is OPMET and WAFS-specific products. The U.S. is currently undertaking a project to provide an alternative means to receive these products. The development of a WAFS Internet File Server (WIFS) will support all the WAFS products and OPMET data.

2.2 This service will comply as a Qualified Internet Communication Provider (QICP) in accordance with FAA's Advisory Circular 00-62 which is similar to the ICAO Doc 9855, using the Hypertext Transfer Protocol Secure (HTTPS) protocol to deliver WAFS data products. WIFS will provide access to WAFS products which are stored in directories, grouped by type. This data is accessed by the WAFS workstation vendors using the GNU "wget", a free software package for retrieving files using HTTPS, a widely-used secure Internet protocol. This open-source package is available for Windows or Linux Operating Systems.

2.3 Under the current provisions of Annex 10 Vol. II, only non-time-critical data can be provided via the public Internet. Maintaining that protocol delays improvements in service capabilities to States. The public Internet can accommodate ICAO service needs, especially with the planned introduction of graphics that require broadband capabilities. Even though ICAO, in collaboration with States, has planned upgrades for existing AFS circuits, such as the Aeronautical Message Handling System (AMHS), there is no reason why existing Internet capabilities cannot be used to support the exchange of meteorological information.

2.4 The issue that confronts ICAO is whether States have access to a reliable Internet Service Provider. It is noted that in the ICAO deficiency register, only a handful of States have difficulties in meeting the operational service needs of Annex 3 and Annex 10. Furthermore, it is suggested that States that do not have an Internet Service Provider are likely to have similar issues with existing AFTN circuits. As ICAO migrates to a new global air traffic management (ATM) System, States will need to implement new capabilities, in particular the exchange of certain aeronautical information via the pubic Internet. The NetCentric dissemination of weather data will be dependent on Internet Protocol.

2.5 The planned implementation of the Washington WAFC File Server in early calendar year 2010 will allow States, through the use of the public Internet, to have access to all WAFS-related services

via the public Internet. The U.S. invites States to use the public Internet once this system becomes operational. The U.S. will monitor the number of users, seek feedback from States and other authorized users of these services on the quality of service, and report back to ICAO regarding our findings.

2.6 In that the public Internet is a viable means to provide access and forward aeronautical meteorological information, it is appropriate that ICAO review the existing policy on the use of the public Internet for time-critical data. Current guidance in Annex 10, Vol. II and ICAO Doc 9855 indicates that aeronautical meteorological products that are categorized as being time-critical are not to be provided via the public Internet. ICAO's view is that accessing these products should not be relied upon via the public Internet in that they are deemed as flight safety messages. It should be noted that all the time-critical aeronautical meteorological products available via a WIFS such as text SIGMETs would also be distributed via Aeronautical Fixed Services (AFS); thus there would be no degradation in service.

2.7 At one time there was a rationale to categorize time-critical and non-time-critical products, but this is a dated protocol that needs to be re-examined. In other words, the categorization of these products was a function of the technological capability of AFS circuits that operated at very slow speeds such as 300 baud. At that time, it was important to categorize products based on priority for flight safety.

2.8 Over ten (10) years ago ICAO agreed to eliminate the 2-hour rule, an obsolete protocol for exchanging METAR and TAF reports as central dispatch became the normal operating procedure. ICAO, recognizing the changes in airline operations, agreed that this protocol was no longer required and removed the standard. Today, we have global dissemination of OPMET data. The next step is to make all aeronautical information available via the public Internet now that there is no need to differentiate between time-critical and non-time-critical with the public Internet.

3. Recommendation

3.1 Taking into consideration the above, the following conclusion could be formulated:

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CONCLUSION 10/ XX USE OF PUBLIC INTERNET TO ACCESS OPMET AND WAFS FORECAST

That OPMET data and WAFS forecast currently distributed through the ISCS, used for flight planning, can be considered non-time critical in this context and therefore, be accessed through the pubic Internet.

Note: Relevant ICAO guidance will be updated accordingly.

4. Action required

4.1 The Meeting is invited to:

a) take note of the information presented in this paper; and

b) decide on the formulation of a draft conclusion for the Meeting report.

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