International Civil Aviation Organization
CAR/SAM REGIONAL PLANNING IMPLEMENTATION GROUP (GREPECAS)
First Meeting of the Communications, Navigation and Surveillance / Air Traffic Management Subgroup (CNS/ATM/SG/1)
(Lima, Peru, 15-19 March 2010)

Agenda Item 6: Other matters

DEVELOPMENT OF FILE SERVER IN SUPPORT OF INTERNATIONAL SATELLITE COMMUNICATION SYSTEM

(Presented by the United States of America)

SUMMARY

The United States presented its proposal for File Server in lieu of a File Transfer Protocol (FTP) server that can be used to access OPMET and World Area Forecast System Products via the Public Internet at the Tenth Meeting of the GREPECAS Aeronautical Meteorology Subgroup (AERMETSG/10). The AERMETSG/10 has adopted an establishment of the Task Force for WAFS Internet File **S**ervice (WIFS) transition. This paper will highlight how the File Server will operate and the status of WIFS development.

ICAO strategic objectives:	*A - Safety* *D - Efficiency*

1. Introduction

1.1 The International Satellite Communication System (ISCS) provides Operational Meteorological Data (OPMET) and World Area Forecast System (WAFS) products to authorized users. The US National Weather Service (NWS) has a File Transfer Protocol (FTP) capability that can serve as backup to the satellite broadcast, but the FTP as currently configured is not user-friendly. The NWS, in collaboration with the FAA, plans to build a File Server that will allow access to all WAFS products in a user-friendly format in place of the existing FTP service.

1.2 It is expected that the File Server will be operational in the first quarter of calendar year 2010 and provide an improved capability over the FTP. This paper provides an overview of this new service.

1.3 The AERMETSG/10 has established a Task Force to support the transition to WIFS platform.

1.4 The current International Satellite Communication System 2nd Generation (ISCS-G2) contract will expire 30 June 2010. The FAA has extended this contract until 30 June 2012.

1.5 The extension of the ISCS-G2 contract will allow sufficient time for User States to transition to WIFS.

2. Discussion

2.1 As a WAFS provider State, the United States provides aviation weather forecast data in accordance with Annex 3 to the Chicago Convention on International Civil Aviation via the **ISCS** to WAFS work stations around the world. There is also a need to add an Internet communications capability. This new program is referred to as the WAFS Internet File Service or WIFS.

2.2 This service will comply as a Qualified Internet Communication Provider (QICP) in accordance with Federal Aviation Administration's (FAA) Advisory Circular (AC) 00-62, which is similar to the ICAO Doc 9855, Guidelines on the Use of the Public Internet for Aeronautical Applications, using the Hypertext Transfer Protocol Secure (HTTPS) protocol to deliver WAFS data products. WIFS will provide access to WAFS products that 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 The WAFS workstations currently receive weather data via a satellite broadcast. The WIFS service provides an Internet capability to download the same information. Also, utilizing the Internet allows ISCS Users to access WAFS products via alternative communication medium, however, the initial operating capability of WIFS will not push out WAFS products, as is under the current configuration of the satellite broadcast. Scripts can be written for WAFS Work Stations to automatically retrieve products.

2.4 WIFS is to be provided by the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS). The WIFS will have access to all WAFS products from the National Weather Service Telecommunication Gateway that supports the ISCS.

2.5 The WIFS is a distributed architecture designed to minimize the likelihood of failure to ensure compliance with FAA AC 00-62.

3. Access and user information

3.1 On initial rollout, the HTTPS connection will be configured for unrestricted access but will be in a test and evaluation mode to complete an initial user assessment. A number of users will be contacted to participate in the test and provide feedback.

3.2 Following the test and evaluation period, access restrictions will be implemented to restrict connections to known and registered ISCS users through the establishment of user accounts. Authorized ISCS users who are not registered may request access authorization from the FAA. If approved, they will then provide the NWS ISCS Program Office with the necessary contact and system IP information.

3.3 Data formats on the WIFS are of the same type as the products obtained via ISCS WAFS broadcast:

(a) OPMET– Text format.

(b) Significant Weather (SIGWX) Charts – GRIdded Binary (GRIB); see 3.d. below.

(c) BUFR encoded high and medium level SIGWX information – BUFR; FM 94 BUFR (Binary Universal Form for the Representation of meteorological data).

(d) GRIB encoded wind, temperature, and humidity information.

3.4 Users of WAFS workstations will have to make some modifications to their workstations to access the File Server via the Internet. In discussion with selected WAFS workstation vendors, there will be a cost to make the changes to the workstation. It is our understanding that there will be no cost for users who have maintenance contracts. We encourage users to contact their vendor for more information on maintenance and costs associated with upgrading the WAFS workstation to ensure they will be able to access the WIFS via the Internet.

3.5 The FAA will provide related WIFS Implementation documents to support the transition such as Interface Control Document, Check Lists, and User Guidelines.

3.6 The FAA will coordinate a WIFS terminal test with various vendors in the near future and expected to have WIFS be operational readiness by first quarter of calendar year 2010.

4. **Action required**

4.1 The Meeting is invited to note the information in this paper and take appropriate action.

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