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

**b) Review of the status of implementation of ISCS**

**DEVELOPMENT OF FILE SERVER IN SUPPORT OF INTERNATIONAL  
SATELLITE COMMUNICATION SYSTEM**

(Presented by the United States of America)

**SUMMARY**

The United States is in the process of developing a 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. This paper will highlight how the File Server will operate.

**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.

**2. Discussion**

2.1 As a WAFS provider State, the United States provides aviation weather forecast data in accordance with Annex 3 to the 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 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 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 which 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 – **GR**Idded **B**inary (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 work stations will have to make some modifications to their work stations 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 work station to ensure they will be able to access the WIFS via the Internet.

3.5 A user guide will be developed to provide guidance on accessing the WIFS.

4. **Action required**

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

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