



## **SATELLITE DISTRIBUTION SYSTEM OPERATIONS GROUP (SADISOPSG)**

### **THIRTEENTH MEETING**

**Dakar, Senegal, 27 to 29 May 2008**

#### **Agenda Item 6: Development of the SADIS**

##### **6.1: Report of the SADISOPSG Gateway Development Team**

### **CHANGES IN THE OPERATIONS AT THE NATIONAL WEATHER SERVICE TELECOMMUNICATION GATEWAY**

(Presented by the ISCS Provider State)

#### **SUMMARY**

This paper presents an overview of the United States National Weather Service Telecommunication Gateway (NWSTG) located in Silver Spring, Maryland.

## **1. INTRODUCTION**

1.1 The National Weather Service Telecommunication Gateway (NWSTG) has undergone several software and hardware upgrades in the past several years. In addition, a transition to NOAA Net will enhance and bring even more capabilities to the NWSTG. This paper attempts to re-familiarize current/future data distribution capabilities to the user community.

## **2. DISCUSSION**

2.1 The NWSTG provides national and global near real-time data exchange services. Using automated communication resources and transmitting a wide variety of environmental data types. The Gateway is operated 24/7 to acquire data, process observations, construct messages, and disseminate messages, files of observations, model analysis, and forecast products. Though message switching, “the ability to get data to different locations” is probably the most recognized feature.

2.2 The NWSTG is a Regional Telecommunications Hub (RTH) of the World Meteorological Organization (WMO) Global Telecommunication System (GTS) communications network. It also provides the data and products to the International Satellite Communication System (ISCS) in support of the ICAO World Area Forecast System (WAFS). The WAFS distribution is through a satellite broadcast to geographical areas located over two-thirds of the globe.

2.3 Specifically the Gateway supports and drives the US portion of the WAFS and ISCS (International Satellite Communication System). ISCS provides support for GTS (Global Telecommunication System) service to Caribbean, Mexico and Central American nations [a.k.a.WMO Region IV Meteorological Telecommunications Network (ISCS/RMTN)] as part of cooperative efforts between NWS and WMO. The goal is to improve meteorological data and information dissemination within WMO Region IV.

2.4 Additionally, RMTN allows for two-way exchange of meteorological information between the United States and nations of WMO Region IV (Caribbean Islands, Colombia, Mexico and Central America.

2.5 The GTS connects meteorological centers throughout the world for the exchange of weather related data. It is comprised of a variety of terrestrial and satellite based weather related telecommunications circuits, operated by WMO Member countries.

2.6 The NWSTG operates the ICAO Operational Meteorological (OPMET) data bank which contains aviation METAR, TAF, and SIGMET data. The OPMET data bank supports the International Civil Aviation Organization (ICAO) World Area Forecast Centres (WAFC).

2.7 NWSTG operates web and file servers to support the free distribution of meteorological data. The web and file servers store all nationally-generated forecast products and globally received observational data. The web service provides browser access to retrieve data and forecasts. The file servers provide a file transfer service for retrieval of operational model forecasts and observational data. Users can request new data services through standard WMO protocols. The Gateway also supports the FOS (Family of Services) and allows direct connections for commercial vendors for their data feeds

2.8 The NWSTG is in the process of transitioning to an enterprise network (NOAAnet) for all external communications by the end of 2009.. NOAAnet will be the backbone network to provide secure communications among NOAA's over 200 geographically dispersed locations. The network provides Multi Protocol Label Switching (MPLS) technology to provide traffic separation over independent Virtual Private Networks (VPNs), and enable communications as needed among any NOAA locations. It is planned that NOAAnet will support all of NOAA's internal Wide Area Communications requirements other than those associated with high band width communications among research super computers by the end of Fiscal 2009. NOAAnet will provide economies of scale in network operations, both access costs and management that will be applied to provide more complete network management (consistent 24x7 monitoring and coverage for all locations. configuration management, fault isolation and resolution, performance management and security management). In addition to greater network availability (proactive management and decreased Mean Time to Repair), NOAAnet will eliminate wide area network based single points of failure, and support security requirements by enforcing security policies, simplifying enterprise management, and reducing external gateways to NOAA assets thereby simplifying and strengthening Intrusion Detection and Protection.

2.9 The Gateway can handle any of the following protocols from users.

- X.25
- *Asynchronous*
- *Dial up*
- FTP – <http://weather.gov/tg/ftpingest.html>
- Email – <http://weather.gov/tg/emailingest.html>
- Web - <http://weather.gov/tg/bullguid.html>
- IP / Sockets / Frame Relay

2.10           New data requirements and the subsequent testing for users and vendors ingest software can be done via the Gateway. For example the NWS is establishing a test bed for the 30 hour TAF where users can come and get the TAF. See the following URL...  
[http://www.weather.gov/os/aviation/taf\\_testbed.shtml](http://www.weather.gov/os/aviation/taf_testbed.shtml)

2.11           Con-currently, the Gateway will be pushing out a sample 30 hour TAF at the end of each month through GTS. This capability allows users and vendors to be pro-active in testing new software ingest/decoders. Agreements between the Washington OPMET databank and other databanks will be needed to fully test global transmissions. This is currently ongoing process.

### 3.       **ACTION BY THE SADISOPSG**

3.1           The group is invited to note the information contained in this paper.

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