



*International Civil Aviation Organization*

**THE THIRD MEETING OF IONOSPHERIC  
STUDIES TASK FORCE (ISTF/2)**

15 – 17 October 2013, Seoul, Republic of Korea



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**Agenda Item 5: Review of progress of tasks and related action items**

**(a) Task 1- Data Collection**

**DATA SERVER FOR DATA SHARING AND POSSIBLE MEANS OF  
DATA TRANSFER FOR DATA EXCHANGE**

(Presented by Japan)

**SUMMARY**

In response to the Action Items 6a and 6b identified by the second meeting of the Ionospheric Studies Task Force (ISTF/2), this working paper introduces the data server for data sharing installed at ENRI, Japan. This paper also proposes possible means of data transfer to and from the server for data exchange.

**1. INTRODUCTION**

1.1 The second meeting of the Ionospheric Studies Task Force held in Bangkok, Thailand from 15 to 17 October 2013 identified an Action Item:

**ACTION ITEM 6:** Data server sponsored by ENRI needs to be ready to receive/compile the data. Period of analysis could start from discussing what can be the key parameters for identifying such periods. States like India, Japan which have already carried out some level of analysis are requested to suggest these periods/parameters based on their experience. Data formats need to be reviewed and updated for their applicability for the purpose of analysis:

- a) Setting up of Server – Japan (January 2013)
- b) Finalizing data format – Japan (January 2013)
- c) Key parameters to categorize data – ROK – (January 2013)

1.2 This working paper presents introduces the data server for data sharing installed at ENRI, Japan corresponding to the Action Item 6a. This paper also proposes possible means of data transfer to and from the server for data exchange.

## **2. DISCUSSION**

2.1 The data server has already been installed at ENRI, Japan. The server has 27 TB disk space configured as RAID6 with 9 hard disk drives (HDDs) with 3 TB capacities for data, 2 HDDs for parity, and 1 HDD for hot spare. The CPU is Intel Xeon E5620 at 2.40GHz which has 8 logical cores (4 physical cores).

2.2 The disk space is divided into two directories, one for the observation data, and one for the analyzed data. The detailed directory structures will be finalized very soon and announced at ISTF Forum.

2.3 Although the power source of the server is backed up by an uninterruptible power source (UPS) for power failure or sudden change of voltage, the UPS is not enough to support the operation of the server for power cut for tens of minutes or longer. Thus, the server will be shut down when power cut continues. ENRI will have a few times of scheduled power cuts for a day for maintenance every year. The shutdown of the server for the scheduled power cuts will be announced through the ISTF Forum well before the power cuts.

2.4 The server is ready to be connected to the internet with a 1 Gbps optical fiber network. The IP address to access the server has not been fixed yet, and will be announced to the ISTF members later. The server will be accessed by ISTF members for uploading and downloading data. It will be accessed from limited IP addresses based on applications. The draft application form can be found as Attachment 1. The access protocols will include FTP, and SSH (supporting SFTP).

2.5 Although the sever is connected to a high speed internet, it may not be enough for huge amount of data that has been accumulated and is being accumulated. Therefore, following strategy with three phases are proposed:

Phase 0: Accumulated data is transferred to the server via physical media at ISTF/3.

Phase 1: Identify the key periods of data for analysis in the past and transfer the data only in the period to the server via internet or in physical media including DVD, HDD, or Silicon Memory

Phase 2: Identify the expected key periods in the future and transfer the data when they become available. In events of solar storms, magnetic storms, or any events where ionospheric disturbances are expected, ISTF may ask special data collection campaign.

## **3. ACTION REQUIRED BY THE MEETING**

3.1 The meeting is invited to do the following:

- a) note the information presented in this paper; and
- b) discuss any relevant matters as appropriate.

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**ATTACHMENT 1**

**APPLICATION FORM FOR ACCESS TO THE ISTF DATA SERVER**

1. State/Organization:

2. Contact Person (Title or Official Position and Name in full):

3. Contact Address

E-mail Address:

Mailing Address:

Phone Number:

Fax Number:

4. IP Address(es) for Access:

5. Purpose (Choose any applicable):

Uploading/Downloading Observation Data

Uploading/Downloading Analyzed Data

Analysis

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