WORLD METEOROLOGICAL ORGANIZATION
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COMMISSION FOR BASIC SYSTEMS
OPEN PROGRAMME AREA GROUP ON INTEGRATED OBSERVING SYSTEMS

EXPERT TEAM ON SATELLITE UTILIZATION AND PRODUCTS

ITEM: 9.10

SIXTH SESSION

GENEVA, SWITZERLAND, 12-16 DECEMBER 2011

Original: ENGLISH

CMACAST

(Submitted by CMA)

Summary and Purpose of Document

This documents reports on the status of CMACast. CMACast is ready for full operation at the end of 2011. Efforts to upgrade user equipment to transfer from the FENGYUNCast, PCVSAT and DVB-S to the CMACast are ongoing. CMA donated CMACast terminals to 16 developing countries and provided technical training on a regional WIS training seminar in Beijing this year. Metadata for CMACast data has been published on CMA WIS portal for user access. CMACast - EUMETCast data exchange and re-dissemination has been established, and an interoperation platform has been set up to apply data policies and to remove language barriers for global interoperability.

ACTION PROPOSED

The sixth session is invited to note the information provided in this document.

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CMACast

1. Introduction

CMA started efforts in 2008 to consolidate the services and users of CMA's current three satellite data broadcast systems, namely the FENGYUNCast, the PCVSAT and the DVB-S into one system, the CMACast. Now the operational CMACast has replaced the FENGYUNCast as CMA's contribution to the GEONETCast. CMACast is based on DVB-S2 technology with both file and multimedia transmission capability. It uses an entire 36 MHz C-band transponder of AsiaSat-4 to distribute meteorological data and satellite sensing data to users in China and Asia-Pacific region at 70Mbps data rate. It is a major component of CMA national and international meteorological data transmission network and the main media for national and international data dissemination. CMACast is also a component of WMO/IGDDS and GEONETCast system, and has data exchange and re-dissemination capability with EUMETCast and GEONETCast Americas.

2. 2011 work plan

CMACast started trail operation at the middle of 2011 and is now operating together with FENGYUNCast, PCVSAT and DVB-S systems. Users of the three old systems are required to transfer to CMACast within 2011. When all users have transferred into CMACast, the three systems will stop, and CMACast will be the only operational data broadcast system of CMA.

CMACast has much more data contents than the three old systems. Metadata for CMACast data has been published on CMA WIS portal for user access at:
http://wisportal.cma.gov.cn:18080/wis/ .

3. Upgrade of user equipment

CMA has about 2600 user stations need to be upgraded to receive data from CMACast. 2400 of them are CMA internal user stations which are fully supported by CMA. 200 of them are from other communities and 18 of them are overseas users. CMA will provide essential equipment, such as DVB-S2 receiver, receiving software tools, and technical support for these users.

CMA donated FENGYUNCast user stations to 17 countries in Asia in 2006 and 2007. CMA also provided PCVSAT data receiving system and MICAPS (Meteorological Information Comprehensive Analysis and Processing System, a major operational tool used by CMA) to a number of NMHSs in the RAII of WMO. CMA helped with updating these systems at the cost of CMA, and provided technical training at the Regional WIS Training Seminar held in Beijing 11-14 April 2010. Technicians from 16 countries attended the seminar.

4. CMACast-EUMETCast data exchange and re-dissemination

CMA and EUMETSAT have increased the content of bilaterally exchanged data over RMDCN and internet this year and began to re-disseminate the data with each other's local broadcasting system. EUMETSAT data available on CMACast includes MET9, MET7, JASON2, METOPA, NA19, MSG-0-degree, IODC and FSD data. CMA data available on EUMETCast includes FY2D, FY2E and FY3A data.

In order to apply certain data policies and remove language barriers for global interoperability, CMA and EUMETSAT have implemented the CMACast-EUMETCast interoperation platform since 28 July 2011. The architecture of the platform is shown in Fig 1.

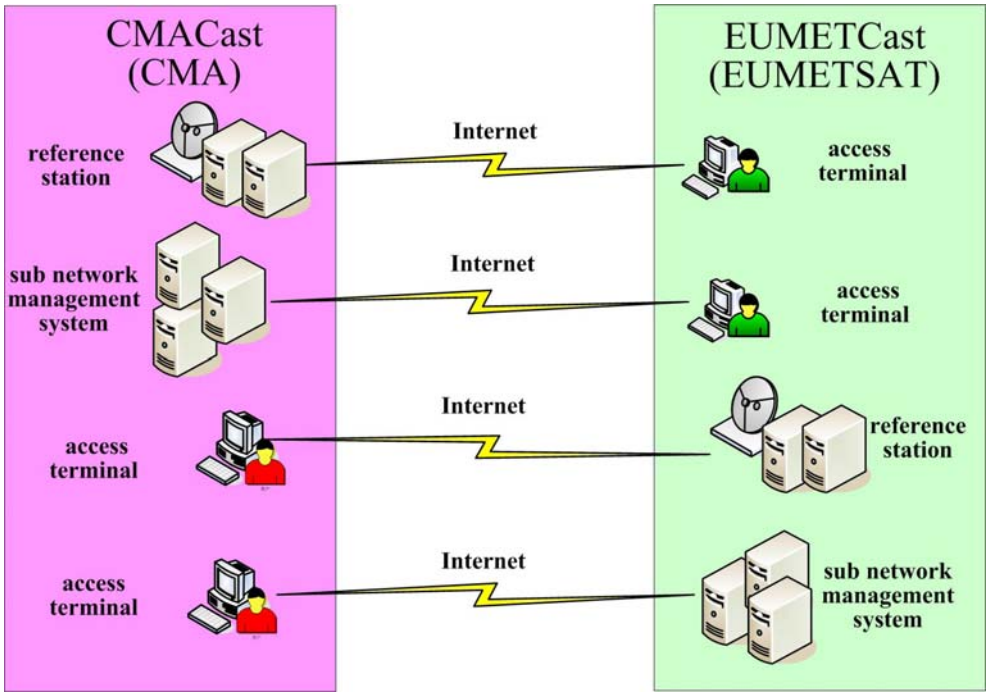

Fig.1 CMACast-EUMETCast interoperation platform

CMA and EUMETSAT both provide a local reference station and sub network management system for each other to access through internet remotely. Reference station is used to monitor and verify the re-disseminated data. Sub network management system is used for user registration and data authorization according to each own data policy. The two remote access sub network management systems are offline for the protection of the online system at each side. Any modification in the off line system will be upgraded into the online one under the supervision of local network administrator within one work day's delay.

CMACast is designed to have one main network and several sub networks. The main network is used for system configuration, channel configuration and sub network configuration, etc. Sub network is used for user registration and data authorization. At present, CMACast has two sub networks in operation, the CMA subnet and the EUMETSAT subnet. CMA's own data is transmitted in the CMA subnet and managed by CMA operators. EUMETSAT data is transmitted in the EUMETSAT subnet and managed by EUMETSAT operator. In order to save the channel resource and provide convenience to users, the EUMETSAT free data is transmitted in the CMA subnet without access control to any users. The CMA data which is re-disseminated on EUMETCast is handled in the same way, see Fig. 2.

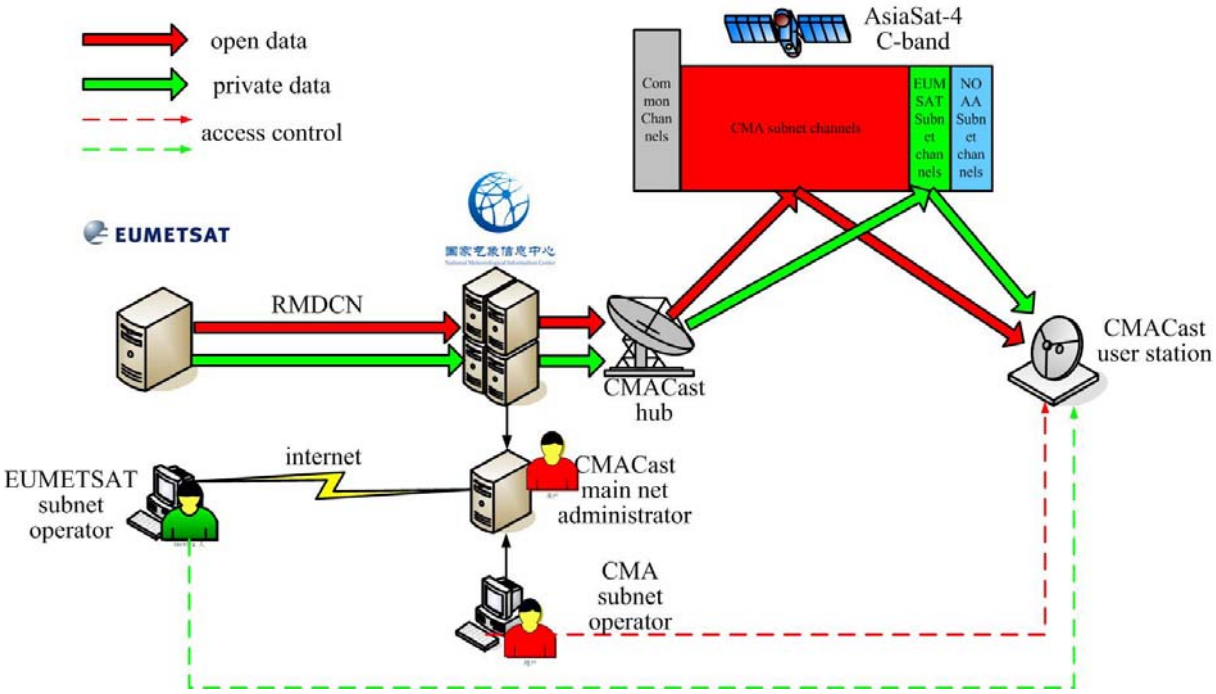

Fig. 2 CMACast-EUMETCast data exchange and re-dissemination