Geophysical Research Abstracts, Vol. 9, 11356, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-11356

JDataFlow: A Web-Oriented Agent for Monitoring Real-Time Data Processing

S. Laban (1) and A. I. Eldesoky (2)

(1) Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Vienna, Austria (shaban.laban@ctbto.org / Fax: +43 26030 5973 / Phone: +43 26030 6286), (2) Computer and Control Department, Faculty of Engineering, Mansoura University, Mansoura, Egypt

JDataFlow is a prototype software that is developed to monitor the real-time processing of the data received continuously from the International Monitoring System (IMS) stations, including meteorological data, or similar interval-based data. The International Data Centre (IDC) of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) is receiving and processing in near real time data from all IMS monitoring facilities via a dedicated Global Communications Infrastructure (GCI). Monitoring of IMS data includes receiving, forwarding, automatic processing, interactive review, generation and distribution of IDC bulletins and reports, and archiving of the data. Most of the current monitoring tools are UNIX/Solaris programs, several instances, which are continuously connected to the IDC database. These programs consume many IDC resources, need more time to maintain and configure, are not available to all member states and are platform dependent. The proposed platform-independent software avoids these limitations and restrictions. It is structured in three main modules. The first module comprises a set of intelligent programs that regularly collect the necessary information and updated data processing states from the different stages of the IDC pipelines in a simple structured format while storing them in temporary text files. The second module consists of an ordinary web server and set of simple web programs in charge to read the data generated from the first module, prepare the browser configuration data and a user specific view and to send all the information to the web browsers using Hypertext Transfer Protocol (HTTP). The third module is a set of Java applet classes that can be executed by browsers for all known platforms. The applets regularly read the necessary

information from the web server in Hypertext Markup Language (HTML) format and display it accordingly in the web browser. The applets are generic, portable, flexible to handle any time interval, and easy to configure. Using this approach IMS data can be easily monitored either via the CTBTO Intranet, or remotely using IDC Secure Web Pages or Virtual Private Network (VPN) connections through the Internet. The proposed system reduces resource utilization and increases the availability of IMS monitored data for policy making organs. Further development of the system will add more reporting and alerting capabilities to the applet module, add user configuration options, and enhance the performance and capabilities of the overall software.