Streaming Real-Time IGS Products and Data Using NTRIP

Weber, G.

Federal Agency for Cartography and Geodesy (BKG), GERMANY

The Real-Time IGS Working Group developed the RTIGS protocol for streaming GNSS data over the open Internet. The protocol makes use of the UPD transport protocol and is capable of transmitting any type of data or product. RTIGS GNSS data streams are available in a format that incorporates the JPL SOC format for data compression. Software packages including the RTIGS's udpRelay, udpArchiver and MulticastReader have been in use for several years and have been proven to meet the demands for real-time GNSS product generation based on data from globally distributed reference stations.

At the same time, under the auspices of the "Radio Technical Commission for Maritime Services" (RTCM), GNSS vendors developed and finally agreed, in September 2004, on a new protocol for streaming GNSS data. The new protocol is called "Networked Transport of RTCM via Internet Protocol" (NTRIP) and it is also capable of streaming any kind of GNSS data. NTRIP has the potential to disseminate the upcoming RTIGS products over the Internet to stationary or mobile users worldwide. The NTRIP transport protocol provides an additional method for accessing global GNSS data in real-time and will thereby augment the existing RTIGS global network. Furthermore, RTCM's new Version 3 data format is being considered by the RTIGS to become the standard format for the transmission of real-time GNSS data.

Following a short introduction of NTRIP, the presentation describes the interface established as an IGS effort to merge today's real-time GNSS resources available through NTRIP and RTIGS. Conceptual details concerning the network of NTRIP Broadcasters necessary to share the workload with regard to bandwidth limitations, availability, and reliability are given. A brief overview on existing open source NTRIP software for stream collection, dissemination, and conversion closes the presentation.