A HTTP based technique for streaming GNSS data over the Internet

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NTRIP

Cellular Networks: GSM

Space based: Communication Satellites

Terrestrial: AM, FM, VHF

Internet

Reference / Server

GPRS

Rover / Client

DGNSS Real-Time Communication
Why Internet DGNSS

Service Provider
- Using a global communication infrastructure
- No frequencies / satellite transponders / access server
- Very low bandwidth (1000 times less than Internet Radio) -> inexpensive

Service User
- Various Access Networks: (Mobile Phone, Satellites, LAN, ...) -> global access
- Very low bandwidth -> inexpensive

Reference Station on the Internet

DGNSS & Internet, Principle
“Internet Server” applications are difficult to protect
Usage of various port numbers for different data types are critical with respect to Firewalls/Proxy Server
DGNSS Internet applications best based like HTTP/FTP etc. on one single port
Network Congestion Management

Networked Transport of RTCM via Internet Protocol
HTTP-based system for streaming GNSS data over the Internet
Based on an HTTP Internet Radio technology
Open documentation
- HTTP application layer on top of TCP/IP
- NtripCaster/NtripClient/NtripServer communication handled through one single port
- NtripCaster is the only "Internet Server"
- Source Table transmission
- Data-streaming access with selective request (Source ID)

System Elements

Available Software

- NtripServer, NtripServerCMD (Windows 98/NT/2000/XP)
- NtripClient, GNSS Internet Radio (Windows 98/NT/2000/XP, Windows-CE
- Ntrip Linux Client (Linux)
- NtripCaster (Linux)
- Download: http://igs.ifag.de/index_ntrip.htm