

FIG Working Week 2004 - Athens

Technical Session 3 – Standards, Quality and Calibration

Networked Transport of RTCM via Internet Protocol (NTRIP)
Application and Benefit in Modern Surveying Systems

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Introduction Paper:

Ntrip – What is it?
Basic Working
Components
Application and Benefit



Introduction of NTRIP

What is it ?

- ◆ Networked Transport of RTCM via Internet Protocol
- ◆ Format created by Federal Agency for Cartography and Geodesy (BKG) and Trimble Terrasat GmbH
- ◆ Freely available standard from:
http://igs.ifag.de/index_ntrip.htm



Introduction of NTRIP

Why NTRIP?

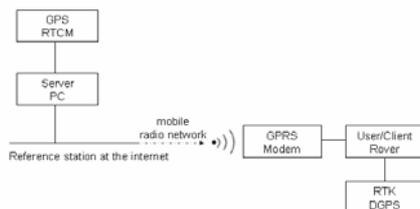
- ◆ Ntrip is an alternative from existing RTK-Services
- ◆ One defined “communication technique”
- ◆ Potentially a lot cheaper than GSM dialup.
- ◆ If CMR/CMR+ is used then could be 3 times cheaper than RTCM 2.x format



Basic Working and Components

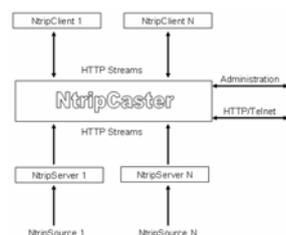
Basic Working...

- ◆ Two possibilities of sending correction data
- ◆ Via techniques like GSM, GPRS, EDGE, UMTS



Basic Working and Components

Components...



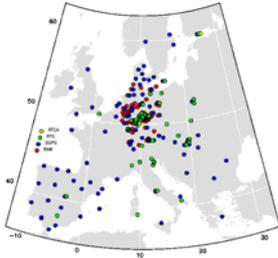
- ◆ NtripSource
 - ◆ GNSS Receiver
- ◆ NtripServer
 - ◆ Software
- ◆ NtripCaster
 - ◆ HTTP Server



Applications and Benefit

Applications...

Ntrip Real-Time GNSS Networks All-Europe, Status 040521



- ◆ Currently existing GPS receivers in Europe streaming "test" data through Ntrip



Applications and Benefit

Applications...

Ntrip Real-Time GNSS Network SAPOS-Hessen, Status 040521

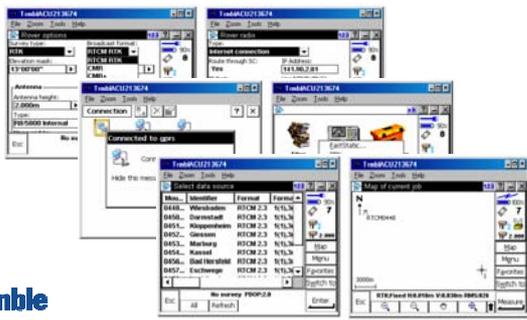


- ◆ Example for the state of Hesse in Germany
- ◆ What you need is: **141.90.2.81:8080**
- ◆ ...and a software



Applications and Benefit

Applications...Trimble Survey Controller



Applications and Benefit

Benefit...

- ◆ No special hardware for receiving RTCM
- ◆ No lack of performance (and speed)
 - ◆ On the contrary better time of latency
- ◆ Cost factor (GPRS vs. GSM)
 - ◆ DGPS 0.5 kbit/s
 - ◆ RTK 5 kbit/s
- ◆ Mass-Usage
 - ◆ GIS, Surveying etc.



Networked Transport of RTCM via Internet Protocol (NTRIP) Application and Benefit in Modern Surveying Systems

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