Federal Agency for Cartography and Geodesy

EPN real-time report

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Broadcaster Guidelines

- **EPN broadcaster guidelines**
  - **Contents (what is really necessary and what could be referenced to)**
  - **CAS and NET records**
  - **STR records: Aligning EPN regional broadcasters naming conventions**
  - **Identification of stream origin (STR record parameter #19 <misc>)**
  - **Where to put the broadcaster guidelines**
  - **How to handle MGEX real-time data**

Broadcaster Guidelines

- **Procedure**
  - **Broadcaster guidelines have been added to the Data centre guidelines**
  - **Recommendations and requirements for all three record types (CAS, NET, STR) from EPN point of view (no repetition of RTCM standard)**
  - **As much as possible applicable for all broadcasters (RB, LB)**
- **Open points**
  - **Procedure for / monitoring of maintenance and consistency**

SPT00	Never received	RTCM 3.0 - www.igs-ip.net:2101/SPT00(2)	RTCM 3.1 -
SRJV0	RTCM 3.1 - www.euref-ip.net:2101/SRJV0(1)	RTCM 3.1 - GCE	RTCM 3.1 - GCE
STAS0	Last received on 2015-03-12 12:15 UTC	RTCM 3.0 - www.satref.no:2103/Stavanger(1)	RTCM 3.1 -
SULP0	RTCM 2.3 - www.euref-ip.net:2101/SULP0(1)	RTCM 3.1 - www.igs-ip.net:2101/SULP0(2)	RTCM 3.1 - www.igs-ip.net:2101/SULP0(2)
SUR40	RTCM 3.0 - www.euref-ip.net:2101/SUR40(1)	RTCM 3.0 - ELB	RTCM 3.0 - ELB
TERC0	RTCM 3.0 - 62.48.187.123:2101/TERC0(1)	Last received on 2014-07-10 13:25 UTC	RTCM 3 - B
TERS0	RTCM 3.1 - www.euref-ip.net:2101/TERS0(1)	RTCM 3.1 - AGRS.NL	RTCM 3.1 - AGRS.NL
TERU0	Last received on 2015-03-17 13:25 UTC	Last received on 2015-03-17 13:25 UTC	Last received on 2015-03-17 13:25 UTC
TLSE0	RTCM 3.0 - www.igs-ip.net:2101/TLSE0(2)	RTCM 3.0 - www.igs-ip.net:2101/TLSE0(2)	RTCM 3.1 - none
TOIL0	RTCM 3.0 - www.euref-ip.net:2101/TOIL0(1)	RTCM 3.0 - ELB	RTCM 3.0 - ELB
TOR20	RTCM 3.0 - www.euref-ip.net:2101/TOR20(1)	RTCM 3.0 - ELB	RTCM 3.0 - ELB
TORI0	RTCM 3.0 - www.euref-ip.net:2101/TORI0(1)	RTCM 3.0 - Politecnico di Torino	RTCM 3.0 - Politecnico di Torino
TRDS0	Last received on 2015-03-12 12:15 UTC	RTCM 3.0 - www.satref.no:2103/Trondheim(1)	RTCM 3.1 -
TUBO0	RTCM 2.3 - ntrip.pecny.cz:80/TUBO0(1)	RTCM 2.3 - ntrip.pecny.cz:80/TUBO0(1)	RTCM 2 -
UNPG0	RTCM 2.3 - www.euref-ip.net:2101/UNPG0(1)	RTCM 2.3 - Universita di Perugia	RTCM 2.3 - Universita di Perugia
UNTR0	RTCM 2.3 - www.euref-ip.net:2101/UNTR0(1)	RTCM 2.3 - Universita di Perugia	RTCM 2.3 - Universita di Perugia
USAL0	RTCM 3.1 - CGS-Demo	RTCM 3.1 - 192.106.274.7:2101/USAL0(1)	RTCM 3.1 - CGS-Demo
VAAS0	Last received on 2014-01-21 09:57 UTC	Last received on 2014-01-21 10:55 UTC	Never received
VALA0	RTCM 3.1 - www.euref-ip.net:2101/VALA0(1)	RTCM 3.1 - ITACYL	RTCM 3.1 - ITACYL
VALE0	Last received on 2015-03-17 13:25 UTC	Last received on 2015-03-17 13:25 UTC	Last received on 2015-03-17 13:25 UTC
VARS0	Last received on 2015-03-12 12:15 UTC	RTCM 3.0 - www.satref.no:2103/Vardo(1)	RTCM 3.1 -
VEN10	RTCM 3.1 - CGS-Demo	RTCM 3.1 - 192.106.274.7:2101/VEN10(1)	RTCM 3.1 - CGS-Demo
VFCH0	RTCM 3.0 - rgp-ip.ign.fr:2101/VFCH1(1)	RTCM 3.0 - rgp-ip.ign.fr:2101/VFCH1(1)	RTCM 3.1 - none
VIGO0	Last received on 2015-03-17 13:25 UTC	Last received on 2015-03-17 13:25 UTC	Last received on 2015-03-17 13:25 UTC
VIS00	Never received	RTCM 3.0 - www.igs-ip.net:2101/VIS00(2)	RTCM 3.1 -
WARE0	Last received on 2015-03-12 12:15 UTC	RTCM 3.0 - ROB	RTCM 3.0 - ROB -- http://www.gnss.be
WARN0			RTCM 3.0 - BKG
WARN1	RTCM 3.0 - www.euref-ip.net:2101/WARN1(2)	RTCM 3.0 - BKG	Last received on 2015-02-08 01:25 UTC
WROC0	RTCM 3.0 - www.euref-ip.net:2101/WROC0(2)	RTCM 3.0 - Wroclaw University of Environmental and Life Sciences	RTCM 3.0 - Wroclaw University of Environmental and Life Sciences
WSRT0	Last received on 2014-02-12 21:15 UTC	Last received on 2014-02-12 21:15 UTC	Never received
WTZR0	RTCM 3.0 - www.euref-ip.net:2101/WTZR0(2)	RTCM 3.0 - BKG	RTCM 3.0 - BKG
YEBE0	Last received on 2015-03-17 13:25 UTC	Last received on 2015-03-17 13:25 UTC	Last received on 2015-03-17 13:25 UTC
ZARA0	Last received on 2015-03-17 13:25 UTC	Last received on 2015-03-17 13:25 UTC	Last received on 2015-03-17 13:25 UTC
ZIM20	RTCM 3.0 - www.igs-ip.net:2101/ZIM20(2)	RTCM 3.0 - www.igs-ip.net:2101/ZIM20(2)	RTCM 3.1 - RTCM 3.1 stream of AGNES station Zimmerwald
ZOUF0	RTCM 2.3 - www.euref-ip.net:2101/ZOUF0(1)	RTCM 2.3 - Centro Ricerche Sismologiche	RTCM 2.3 - Centro Ricerche Sismologiche

STATUS

Broadcasters	Dynamic source table	Static source table
ASI	updated on 2015-03-18 10:45	updated on 2015-03-18 10:10
BKG	updated on 2015-03-18 10:45	updated on 2015-03-18 10:10
ROB	updated on 2015-03-18 10:45	updated on 2015-03-18 10:04

EUREF-IP mailing list

- **Had been introduced several years ago in addition to EUREF mail and LAC mail**
  - **Almost no use during last years (31 mails since 2007, none in 2014)**
  - **Reviving necessary?**
  - **Many subscribtions outdated**
  - **Update necessary (manually? E.g. all stream providers)**
  - **EUREF RBs not in favor of extending mailing list by registered users**

EUREF-IP mailing list

- **Proposal / Procedure**
  - **Mailing list revised and manually updated**
  - **Regional broadcasters, local/national broadcasters, stream providers, analysis centres – no „ordinary“ users**
  - **EUREF-IP mail to be sent explaining (again) the purpose of this mailing list**
  - **Maybe also EUREF mail to invite subscribtion**

NULLANTENNA issue

- **Station GANP**
  - **Uses ‘TRM55971.00 NONE‘ antenna**
  - **Corrects real-time observations for PCO/PCV**
  - **Broadcasts ‚ADVNULLANTENNA‘*) as message type 1007/1008 → ok**
- **RT processing**
  - **Identifies NULL antenna, no correction → ok**
  - **Corrects TRM antenna due to meta data → nok**
- **RINEX generation from stream with BNC**
  - **Writes TRM antenna into header due to meta data (skl file) → post-processing corrects TRM antenna due to meta data → nok**

***) IGS naming convention says ‚GPPNULLANTENNA‘**

NULLANTENNA issue

- **EPN station guidelines**
  - **“3.3.7 RTCM code and phase observations shall not be corrected to refer to the antenna reference point. If the correction is applied, the antenna type in the stream is typically set to NULLANTENNA (message types 1007/1008 for RTCM 3.x).“**
  - **“3.3.8 Meta-data reported in the stream (e.g. antenna/radome and receiver type, antenna eccentricity) should be in agreement with the information provided in the station log.” (… and the derived skl file)**

NULLANTENNA issue

- **Proposed procedure**
  - **RT stream containing NULLANTENNA prevented to be used from the caster (exception: NULLANTENNA in the skl file)**
  - **Mail to station provider urging to change process**
- **Alternative procedure**
  - **Write NULLANTENNA in RINEX field ‘ANT # / TYPE’ together with a ‘COMMENT’ line with the original antenna type (Schmitz et al., 2005)**
  - **Post-processing software identifies NULL antenna (no GPPNULL found in ATX, ‘SIMULA’ in BSW)**
  - **Needs (automated?) modification of skl file**