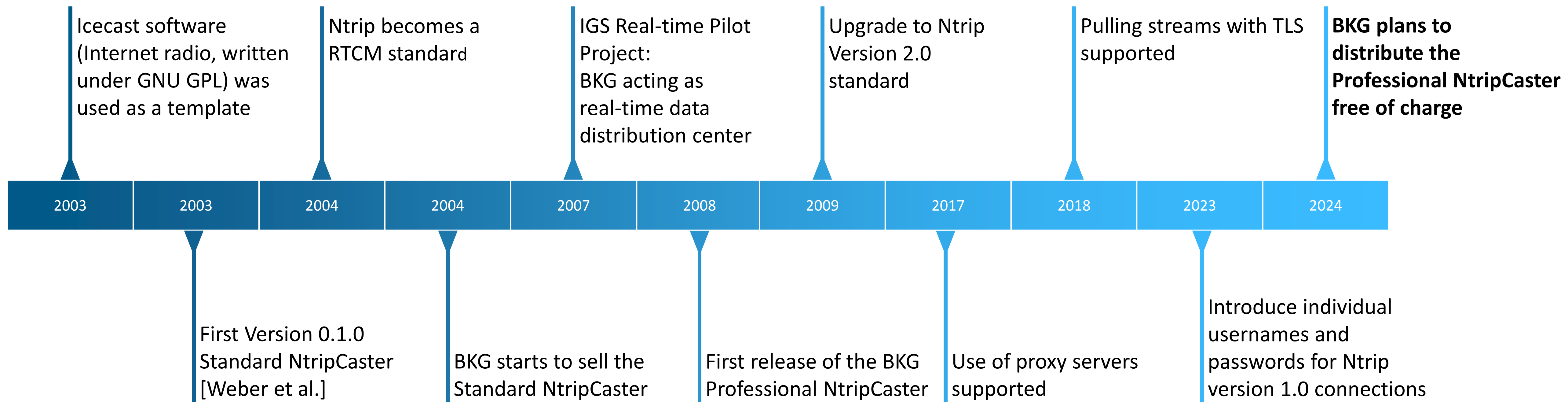


20 Years of BKG Professional NtripCaster

Current state of the regional IGS datacenter at BKG

BKG NtripCaster - History



BKG NtripCaster – Real-time data center

- Currently 608 data streams within the framework of EUREF and IGS
- Approx. 2500 users from 96 countries
- On average about 8500 simultaneous accesses
- Caster igs-ip.net: observation streams from IGS stations
- Caster products.igs-ip.net: products streams from the IGS Real-Time Service(RTS)
- Caster euref-ip.net: observation streams from EUREF stations

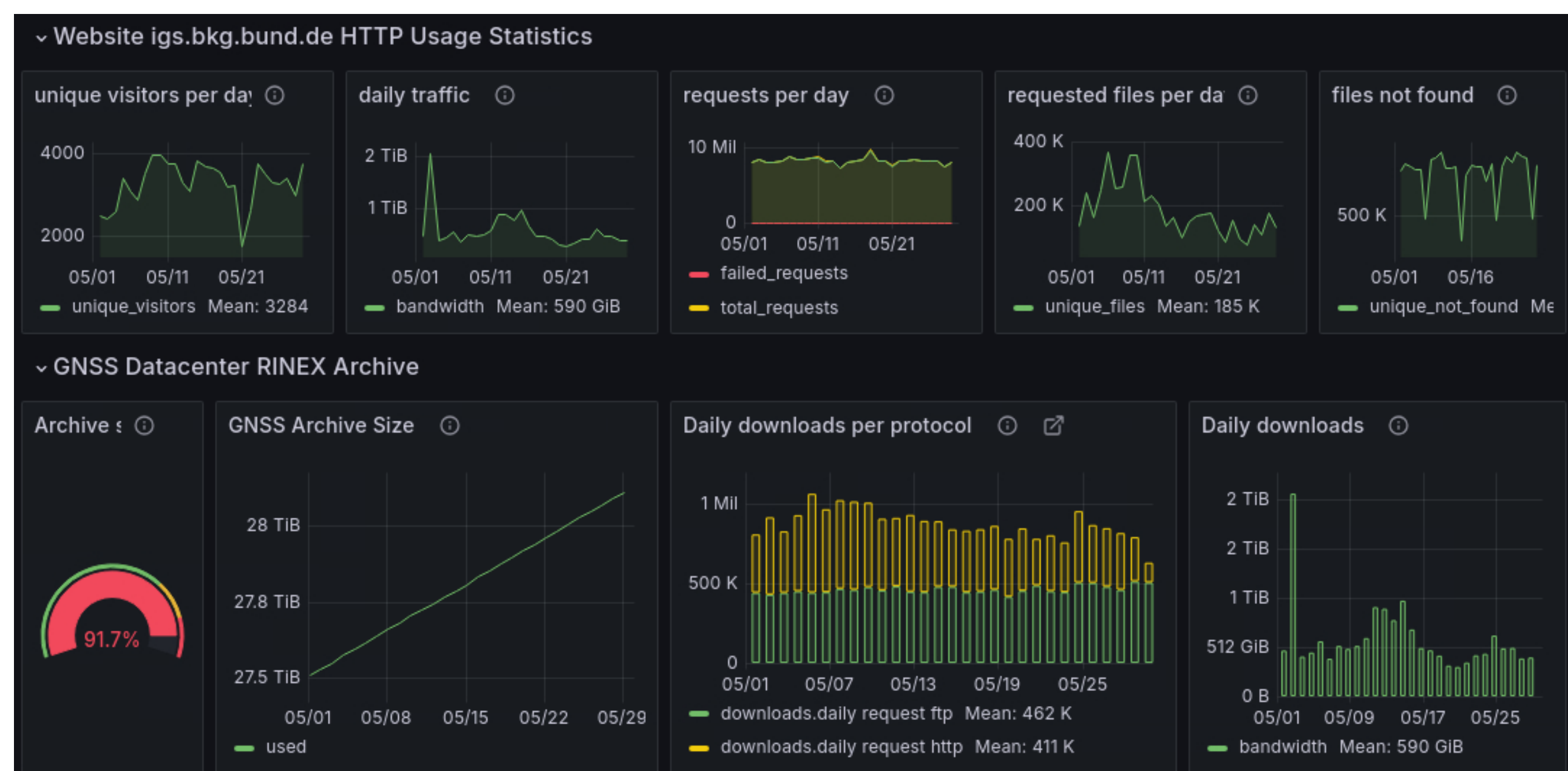


Figure 2: Monitoring of the GDC using the visualization tool Grafana. Here: daily number of visitors to the GDC website, as well as downloads and uploads of files.

BKG Casters - Average Daily Bandwidth

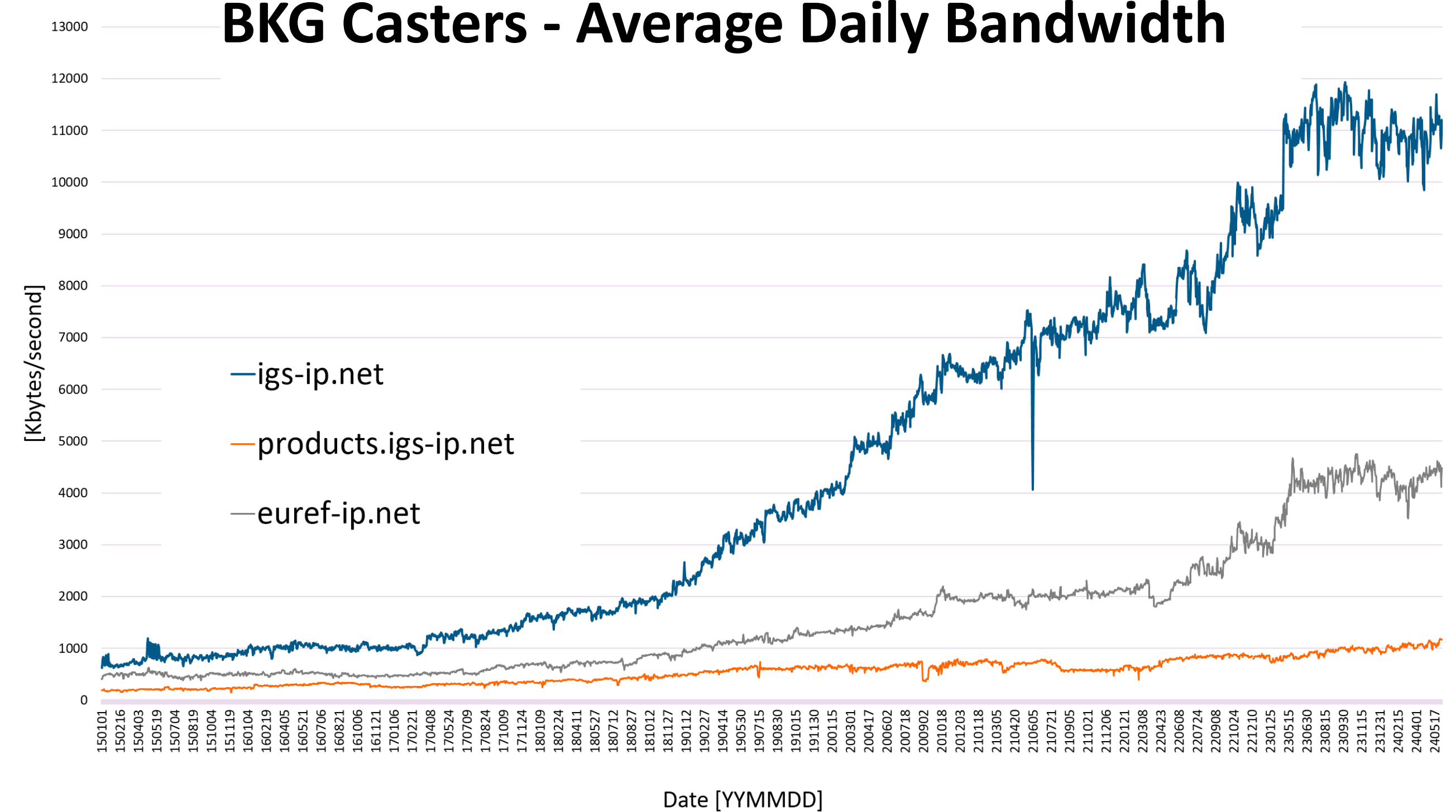


Figure 1: Average daily bandwidth of BKG casters since 2015

BKG GDC – In Numbers

- Data center for GNSS observations and related products since June 1992, real-time data center since 2007
- 1.275 active GNSS stations in 17 projects/networks, most of which are publicly accessible
- Daily number of downloads: around 800.000 files/500 GB
- Daily number of uploads: 80.000 files/200GB
- Archive contains around 21,7 million files (29 TB) (as of June 7, 2024)

BKG GDC – Future Plans

- Integrate into BKG's planned overall data management platform
- Enable direct access to data via Jupyter Notebooks etc.
- Switch from file storage to S3-compatible object storage
- Enable S3-compatible data access
- Store structured data like GNSS observations in a database (TileDB?)
 - as RINEX is primarily for EXchange, less suitable for long term storage
 - separate data from metadata (e.g. station information)
- Finalize transition from Perl to Golang for complete backend code
- Provide REST API service, desirably one API for all IGS data centers

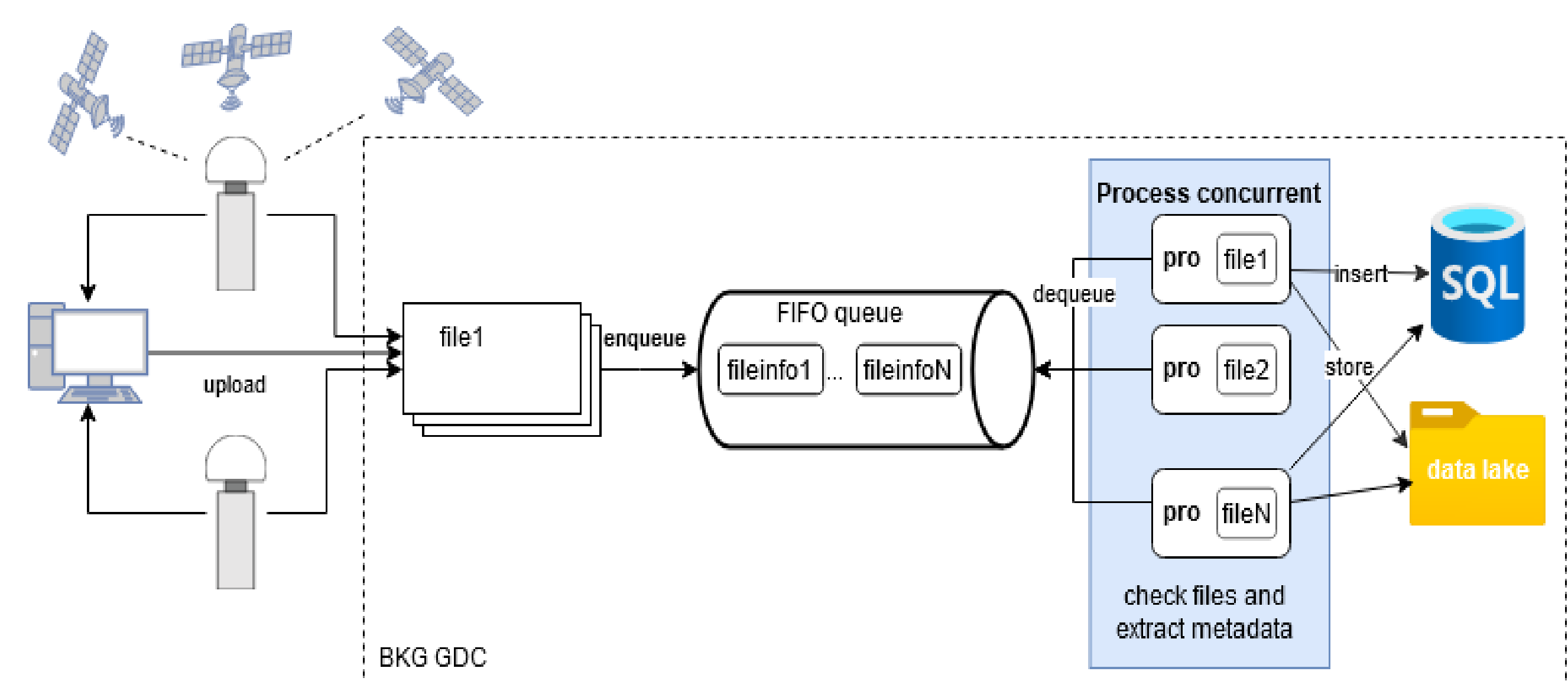


Figure 3: From satellite to the GDC archive – GNSS data workflow.

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