



DirectMet®2: Commercial Weather Applications

A Low-Cost, Compact, and Powerful Satellite Data Processing System

HARDWARE OVERVIEW

The DirectMet®2 processing system interfaces with different back-end systems, including Geostationary Operational Environmental Satellite (GOES) Rebroadcast (GRB) ground stations, GeoNetCast-Americas (GNC-A) ground stations, or Cloud delivery of data via Internet (e.g., DirectMet®2 Cloud). Choose the data delivery source that works best for your office. See page 2 of this Product Insight sheet for back-end architecture options. Outside the GOES footprint, DirectMet®2 is extensible to other satellites, including Himawari-8, FengYun-2 and METEOSAT.

DirectMet®2 Computer Processing System

- Analysis Workstation
- Ingest Server*
- Level 2+ production Platform (optional)

* The Ingest Server is not needed for data delivered via DirectMet®2 Cloud

SOFTWARE OVERVIEW

DirectMet®2 is built with high quality components for reliability and durability. All ingest, data processing, and analysis are performed on a single workstation with extensibility to external workstations and web browsers. DirectMet®2 is network-ready for automatic dissemination of high-quality products with Internet compatibility.

Ingest

- Ingest of GRB datasets via direct readout platform for Level 1B Advanced Baseline Imager (ABI) and Level 2B Global Lightning Mapper (GLM) products.
- Space weather modules for SEISS, EXIS, SUVI, and MAG
- Architecture for GRB ground system, GNC-A ground system, DirectMet®2 Cloud, or remote file servers
- Ingest plug-in modules for other satellites, such as Himawari-8/9, FengYun-2, and METEOSAT

Storage

- Effective handling and storage of large volumes of satellite data

Product Generation

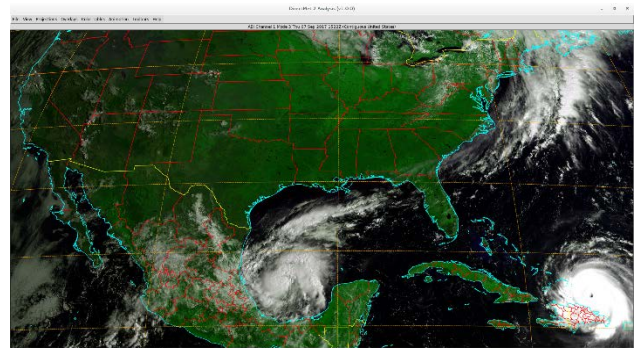
- Automatic production of incoming direct readout imagery; imagery format suitable for dissemination to Internet or publication
- Native satellite view and different map projections, defined by user for operations
- Creation of Level 2 data products (optional computer for distributed Level 2 processing architecture, if necessary)

Visualization and Analysis

- Expandable and customizable overlay database, including regional sectors
- User-defined image enhancement curves and color tables
- Automatic imagery and loop updates
- Ability to conduct forensic analysis (past storms)

Dissemination

- Support for multiple data formats (e.g. GeoTIFF, PNG, JPEG) for dissemination to third-party geographical information systems (GIS) or other external systems (social media, websites)



GOES-EAST Blue Marble



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DirectMet®2 BACK-END ARCHITECTURE OPTIONS

The DirectMet®2 processing system is designed for the delivery of GOES data in NetCDF4 format via satellite ground stations (GRB direct readout or GNC-A), Cloud, or FTP service. The customer chooses the delivery service. GST can provide pricing for GOES GRB or GNC-A ground system hardware that is used for data acquisition from satellite as part of a turnkey DirectMet®2 system.

GOES GRB Satellite Receiver and Antenna System

- 3.8 to 4.5 meter antenna (dependent on location)
- Integrated feed/down-converter
- 300-feet RG-58/U coaxial cable with connectors
- GOES GRB demodulator (rack mountable)

Or GNC-A Satellite Receiver and Antenna System

- 1.8 to 2.4 meter C-Band antenna (dependent on location)
- Integrated feed/down-converter
- 300-feet RG-58/U coaxial cable with connectors
- DVB-S2 Receiver
- KenCast Fazzt client software

Or Cloud or FTP service

- No ground station hardware
- Acquisition of NetCDF4 GRB data files from Cloud (e.g., DirectMet®2 Cloud) or FTP service via the Internet



4.5 meter dish for GRB ground system