TGSS

TERMA GROUND SEGMENT SUITE
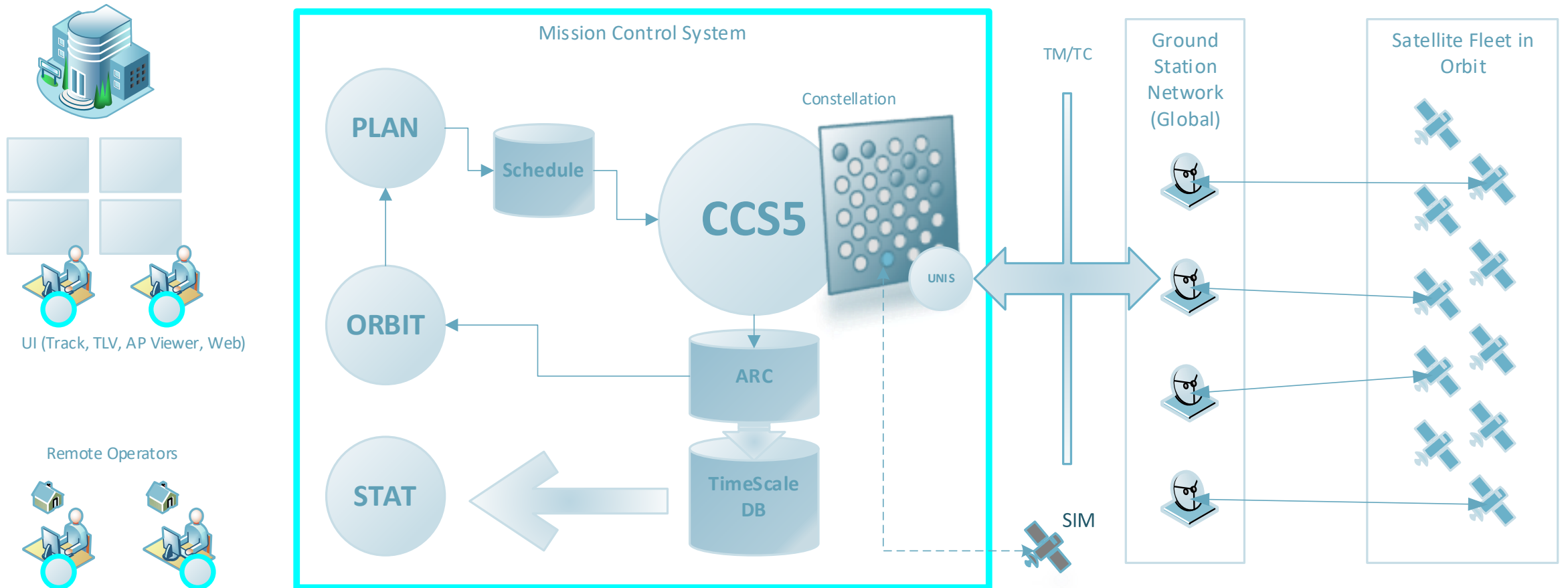
TGSS: Terma Ground Segment Suite

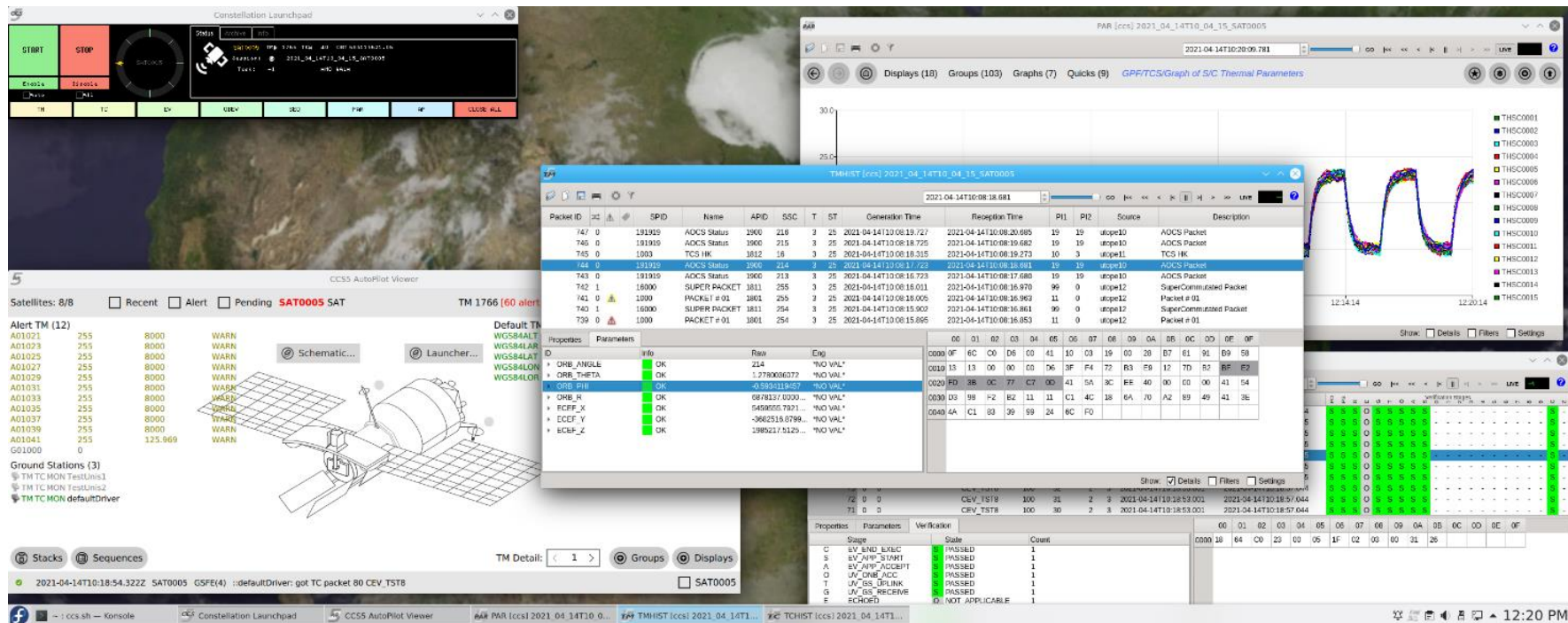## **TGSS** suite of products

Covers full range of satellite testing, operation & simulation applications

See support site: https://tgss.terma.com

TGSS Overview

Mission Control System

PLAN

Schedule

CCS5

Constellation

UNIS

ORBIT

ARC

TimeScale DB

STAT

UI (Track, TLV, AP Viewer, Web)

Remote Operators

TM/TC

SIM

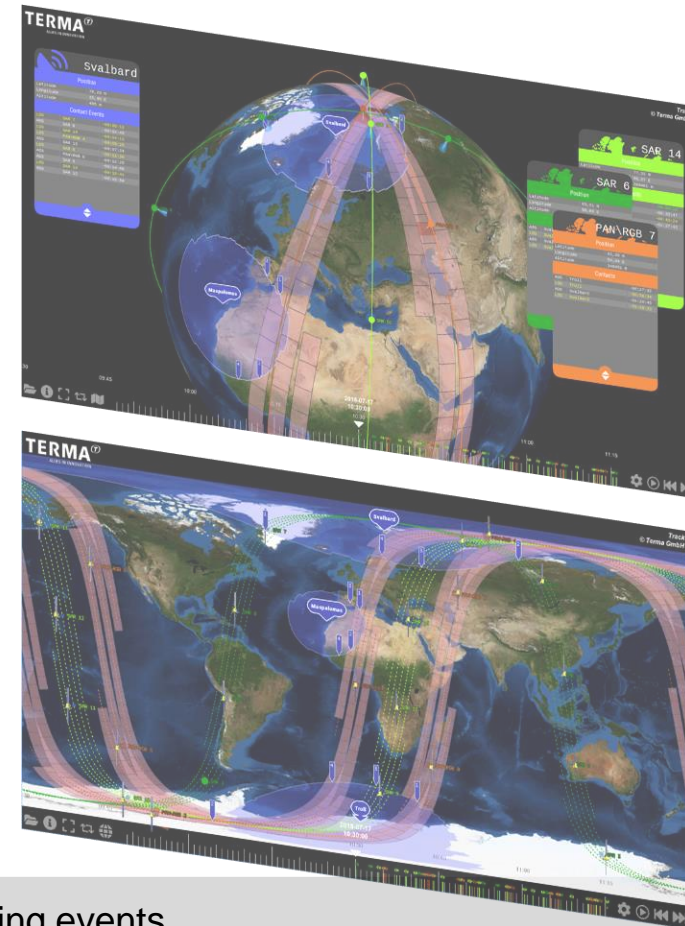Ground Station Network (Global)
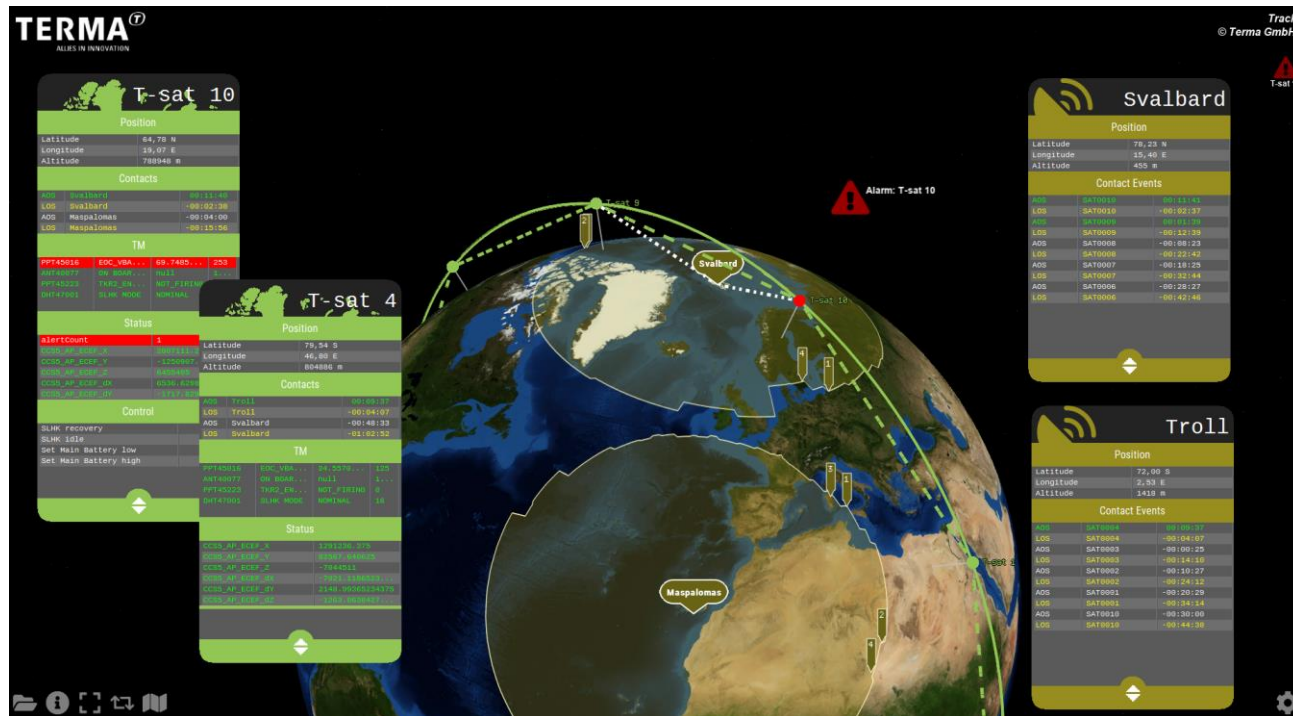
Satellite Fleet in Orbit

CCS5: Satellite Monitoring & Control

Fully-featured M&C system, uses enhanced ESA SCOS2000 data model (MIB), fully refactored

Enhancements give greater flexibility (fully standard-compliant or, non-ECSS, non-PUS, non-CCSDS)

Performance suited for modern spacecraft & fleets

Portable (Windows & Linux), & easy to install
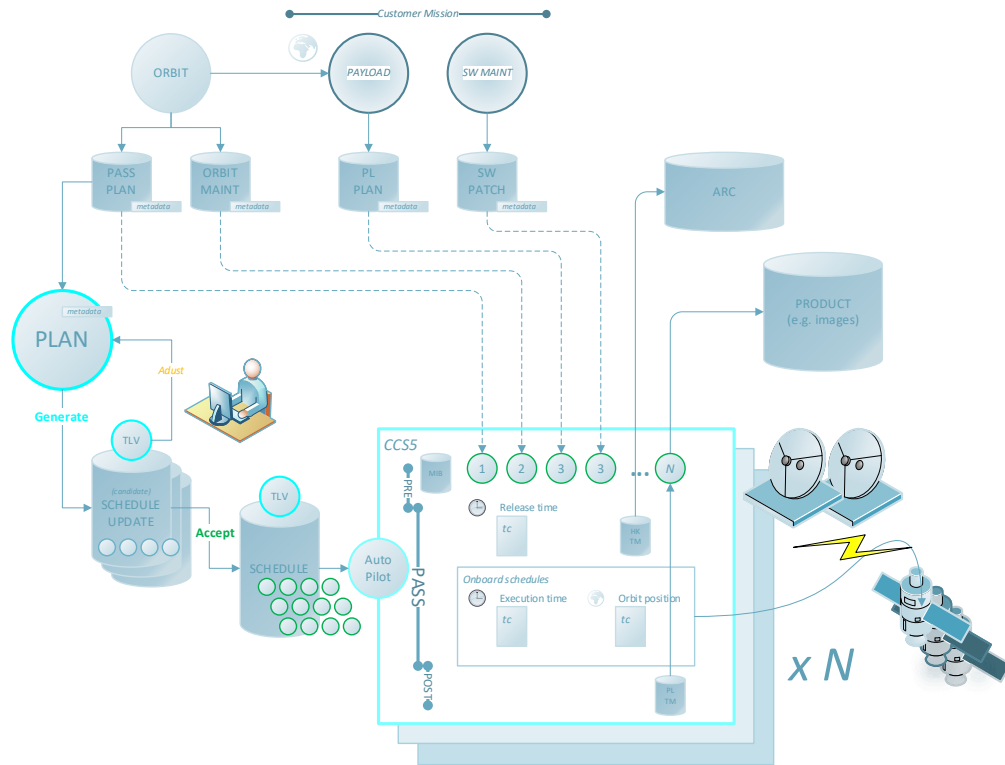
Built-in authentication & encryption support
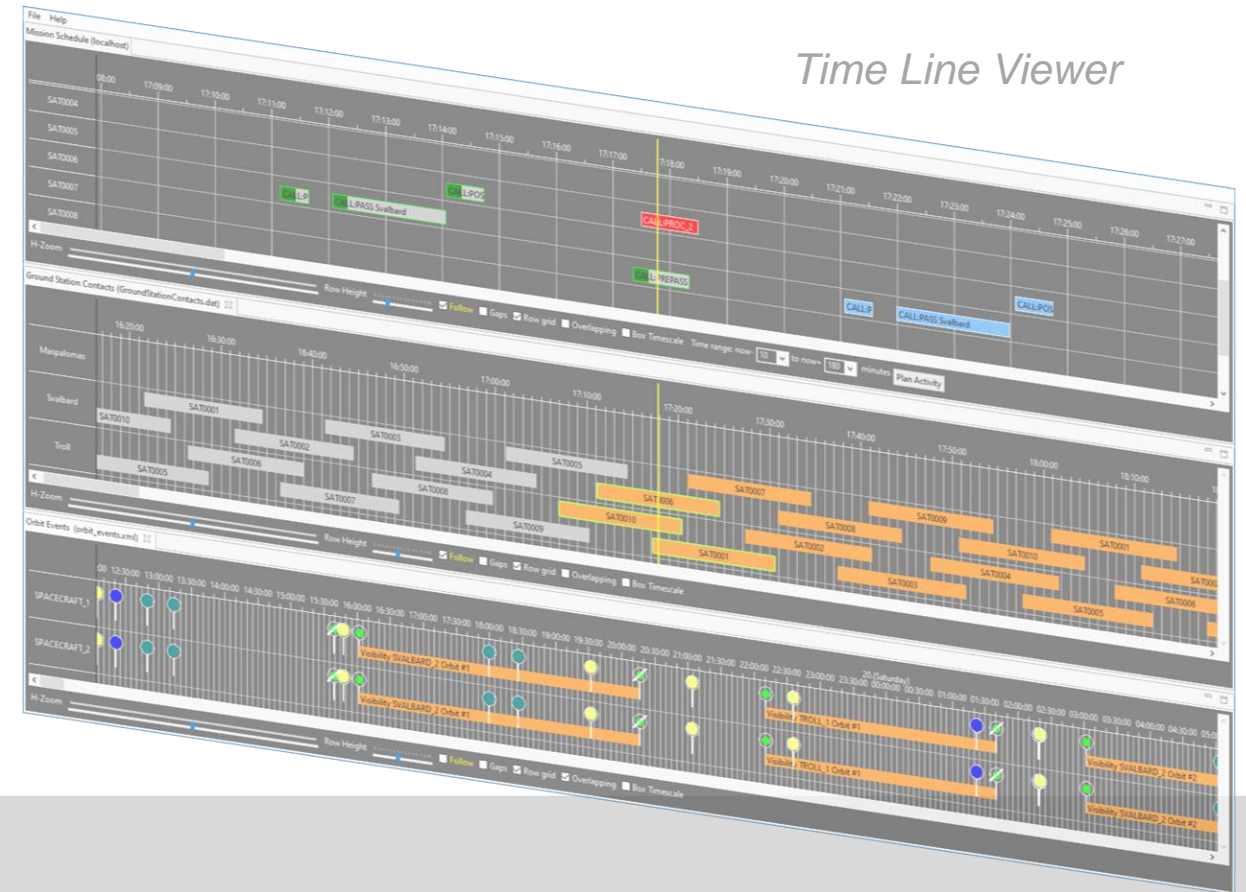
TRACK: Orbit Visualisation

Presentation of orbit in 3D with call-outs for satellite & data links status, forthcoming events

- Accepts live TM updates from CCS/TSC as well as replay from files
- Orbit event (AOS/LOS at ground station, eclipses) & swath visualisation
- View single satellite or complete fleet, in various projection
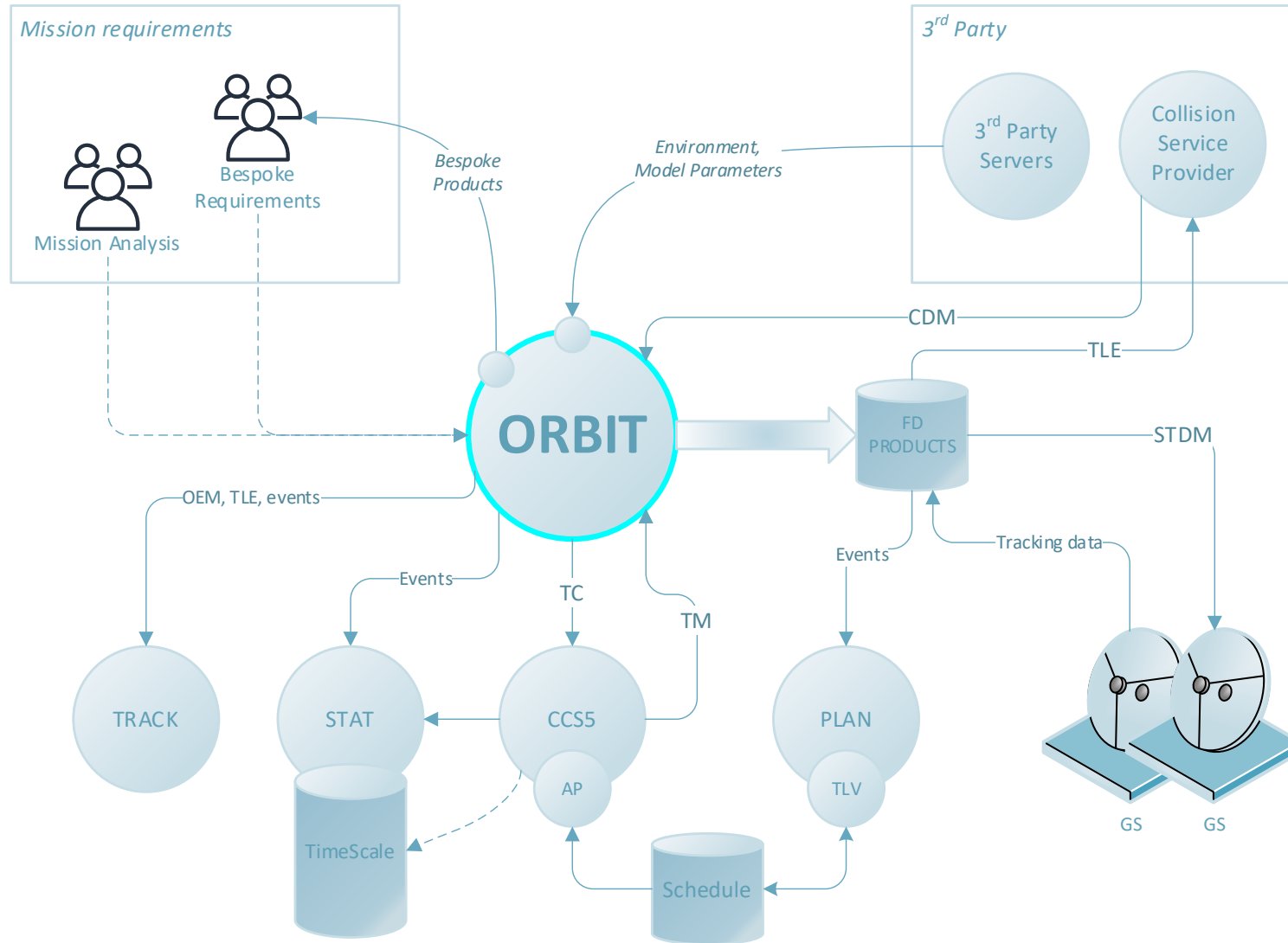
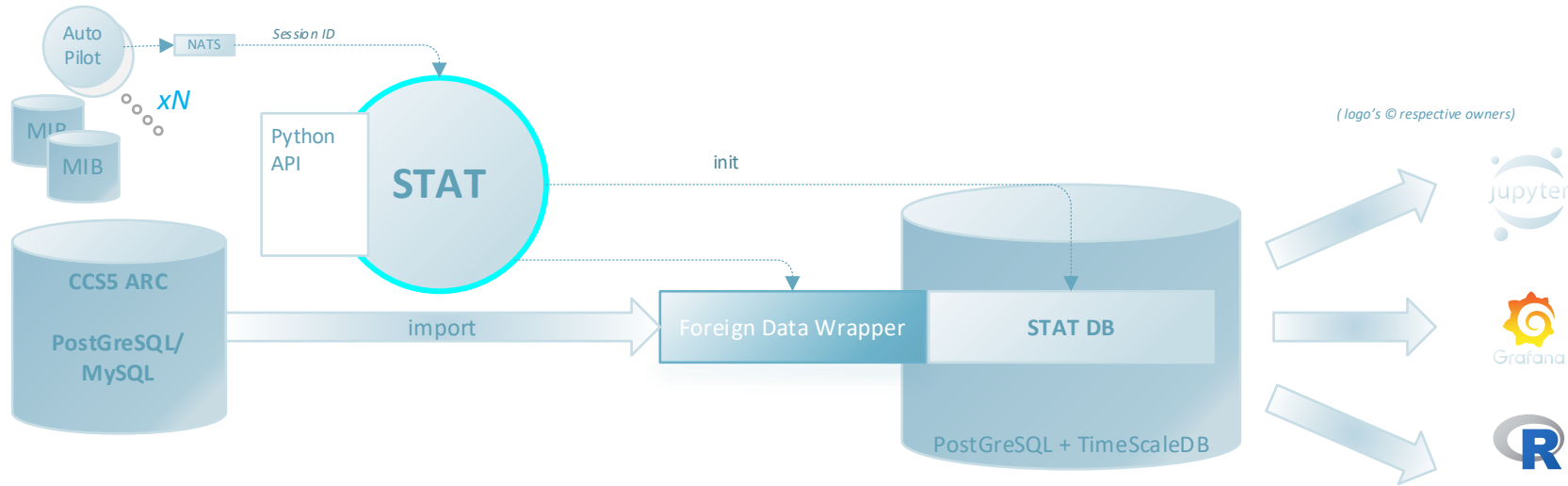# PLAN: Mission Planning & Scheduling

Time Line Viewer

Generic automated search for acceptable schedules

Arbitrary resource definition

Visualisation of schedules in dedicated timeline viewer

ORBIT: Flight Dynamics System

STAT: Long-term Archiving & Visualisation

Grafana Dashboards

(logo's © respective owners)

Optimised automated transfer of CCS5 TM parameters & events

Long term (compressed) archive for efficient retrieval

Variety of retrieval tools for analysis & visualisation
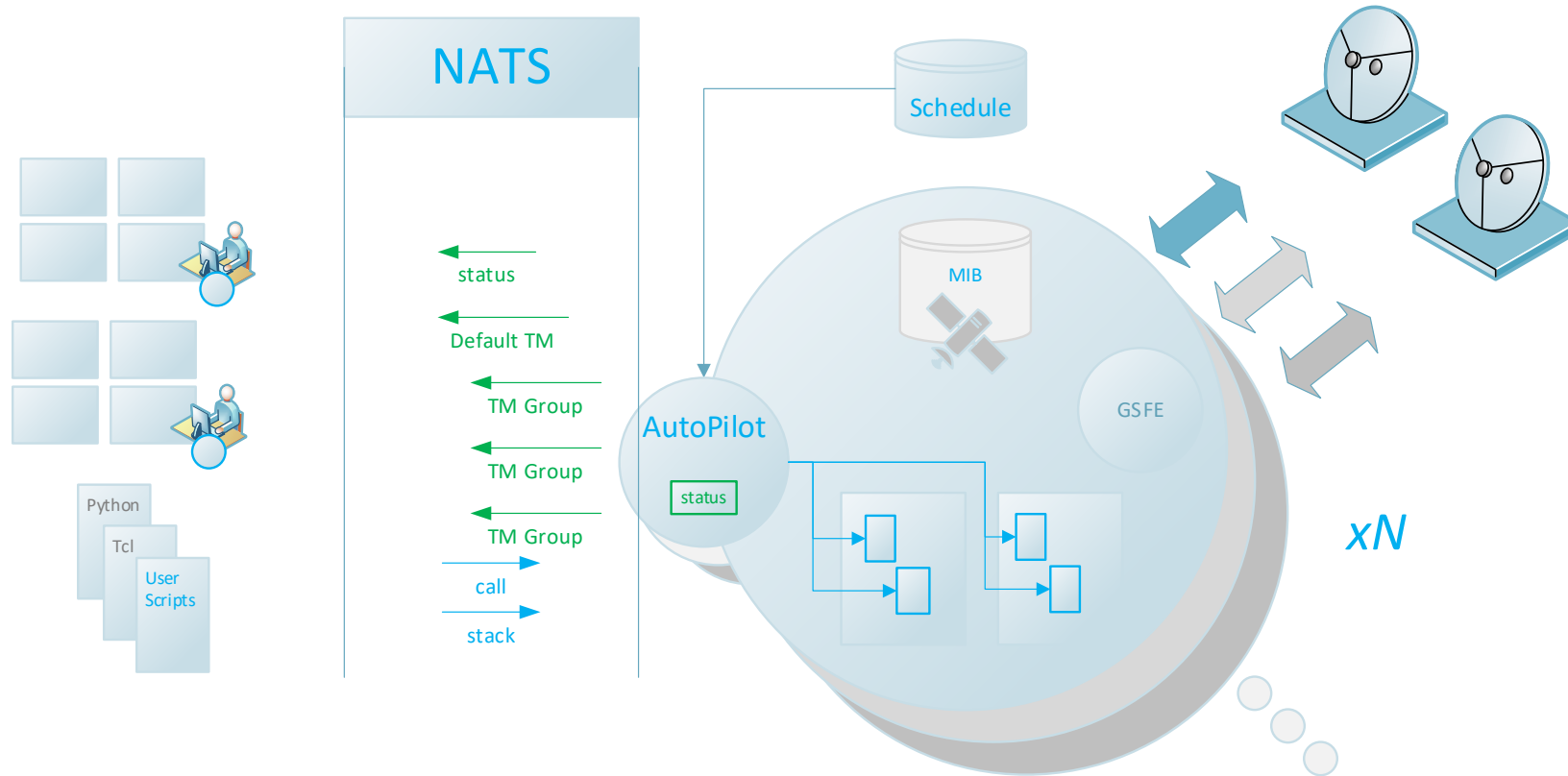
Interfaces to other TGSS products

Constellation & Fleet Support

Issues considered:

Support for multiple spacecraft in one host

Fleet may be homogeneous (identical, similar), or all different

UI design for managing large fleets

Avoid complex IT setup, preserve easy installation & configuration

CCS5: AutoPilot

AutoPilot supports simplified remote monitoring & control, automation & scheduling

- Single-satellite and constellation compatible, checkout or operations
- Simplified API via publish/subscribe messages (NATS) containing JSON or CBOR, accessible e.g. from Python
- AutoPilot schedules planned activities and executes them, reporting the result

FIND OUT MORE...

TGSS.TERMA.COM

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