

# EPOCH T&C<sup>®</sup> Server<sup>™</sup>

## Real-Time Telemetry and Command Processing



EPOCH Integrated Product Suite



### Overview

EPOCH T&C<sup>®</sup> Server<sup>™</sup> provides complete off-the-shelf satellite telemetry and command processing for operations and test environments. EPOCH T&C Server provides front-end data processing, distribution, and command formatting as part of the Kratos Integral Systems International (Kratos ISI) end-to-end database driven command and control solution, EPOCH IPS<sup>™</sup> (Integrated Product Suite).

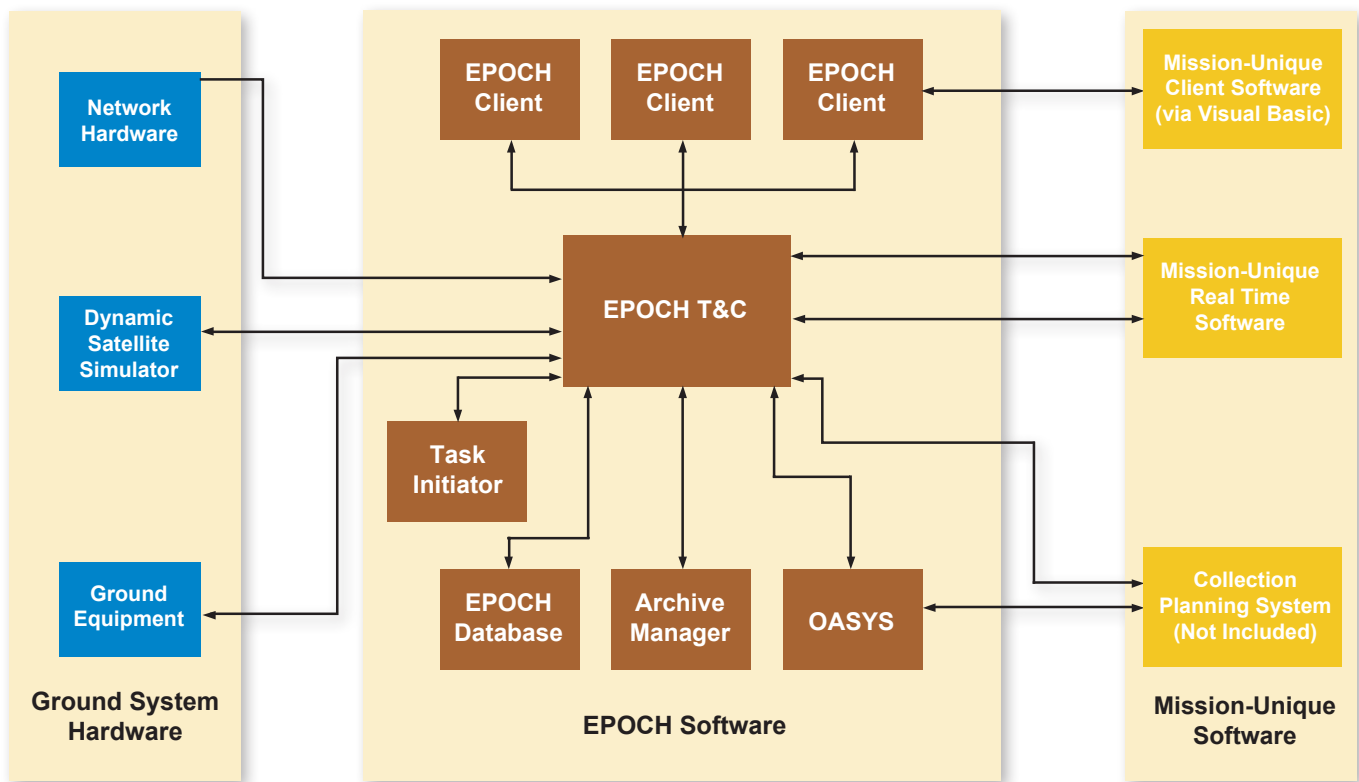
Under operator control from the EPOCH Client<sup>™</sup>, EPOCH T&C Server can manage a single satellite, multiple satellites from different manufacturers, or an entire constellation of satellites. The EPOCH T&C Server supports LEO, GEO, and Deep Space missions, and provides out-of-the-box compatibility for most commercial satellite designs of the last 17 years, including:

- Airbus Eurostar 2000, 2000+, 3000, LeoStar
- Lockheed Martin 7000, A2100
- Loral FS/LS-1300
- Mitsubishi Electric DS2000
- Thales Spacebus 3000, 4000
- Orbital ATK GEOStar
- Boeing 376, 601/601HP, 702 (HP, MP, SP, GEM)

In addition to commercial satellite support, EPOCH T&C Server Supports unique military and science platforms from Astrium, Applied Physics Laboratory, Lockheed Martin, Northrop Grumman, and OHB to name a few. EPOCH T&C Server's robust design provides support for all phases of the satellite life cycle including integration and test, launch and early orbit, on-orbit, and end of life operations. The database-driven architecture allows software to be configured for unique, satellite-specific characteristics without costly software modifications.

### Features

- Incorporates KISI's experience supporting more than 298 satellite missions
- Eliminates risk and cost associated with custom development
- Enables operators to fly a single satellite or a constellation using the same software
- Supports any satellite command and telemetry format from any manufacturer
- Supports growth through distributed design, so you can add satellites easily
- Provides high-level status rollups from multiple satellites and complex ground segments
- Provides the flexibility to perform any function from anywhere on a network
- Offers redundancy by running multiple copies of the software for high reliability
- Runs on UNIX and Linux servers
- Includes an API for integration with third-party and custom applications, such as graphical analysis and planning, scheduling tools, and equipment monitor and control package



## Features

- Proven for GEO, LEO, Deep Space Operations, and I&T
- Database driven architecture
- Scalable
- Decentralized
- Open

## Applications/Usage

Satellite operators and test engineers use EPOCH T&C Server to perform front end processing for satellite telemetry and commanding, as well as ground equipment monitoring and control. EPOCH T&C Server provides the core processing elements required for any ground system including:

- Telemetry processing and analysis (CCSDS and TDM)
- Commanding and command verification with encryption and CCSDS
- Open API for telemetry, status, events, and commanding
- Memory Management
- Data archiving and playback
- Alarm/event processing
- Ground equipment control and monitoring
- Automation through EPOCH's Task Initiator and STOL procedural language
- Procedure development using STOL and spacecraft manufacturer languages such as CECIL
- Automated operations and anomaly resolution
- Server Triggers

## An Integrated Solution

EPOCH T&C Server is the core of the EPOCH Integrated Product Suite, which provides end-to-end capability for satellite operations, analysis, and testing. EPOCH T&C works with the EPOCH Database® for defining telemetry and command formats. EPOCH T&C Server is completely integrated with the entire suite of EPOCH products to provide the most comprehensive satellite monitor and control system available today.