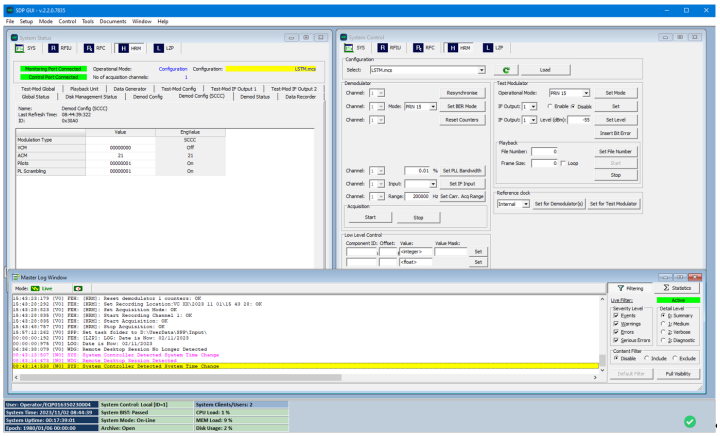
CELESTIA | C-STS

Control & Monitor Software (CMS)

EGSE CONTROL SOFTWARE— CMS

The Control & Monitoring Software (CMS) is a software environment that allows for the implementation and operation of integrated simulation, test and monitoring & control systems for space (and other) applications.

The CMS provides a local Graphical User Interface (GUI) and integrates with the complete range of hardware Front-Ends as available from C-STS, such as Power, MIL-STD-1553, CAN, TM/TC, Parallel LVDS, WizardLink, MPIP and many more. The CMS is the central software responsible for the core management between all software and hardware components, including the logging and archiving of events and data.



The CMS support ESA SCOS TM/TC database compatibility and the provision of various protocol extensions (such as C&C and EDEN) and offers an easy migration path to the satellite level Central Checkout Systems (CCS) and Mission Control Systems (MCS).
The CMS runs on a range of Microsoft Windows™ operating systems (32/64 bit Windows 10, 11, and Server 2016 and higher).

KEY FEATURES

General

- Modular Implementation
- Control and Monitoring through TM/TC data.
- Control and Monitoring through direct API functions.
- Advanced Graphical User Interface.
- Real-time and off-line data visualization and filtering.
- Data generation/simulation (raw or through database).
- Archive & Log (Store, View, Replay).
- Standalone or distributed deployment (Master-Client).
- Multi-client data subscription & distribution.
- CCSDS/ECSS TM&TC processing and routing.
- ESA SCOS-2000 TM/TC Database format (ASCII MIB).
- Seamless integration with a wide range of C-STS products (e.g. Power, SpaceWire, Mil-1553B, CAN, TM/TC FE, MPIP, etc.).

Protocol Extensions

- Echo Data Exchange Network (EDEN)
- Command & Control (C&C)
- Remote Procedure Call (RPC)
- Other custom/specific protocol(s)

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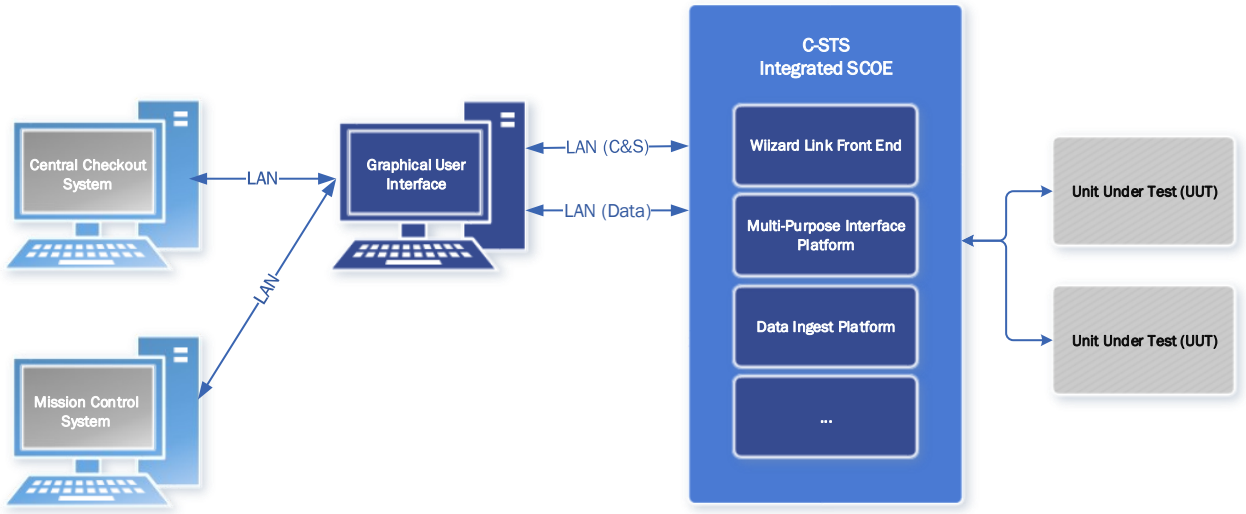

CMS offers a solution which allows the user to perform:

- Control over a Unit Under Test (UUT) or operational system
- Directly control of ground support equipment, test equipment, specialized front ends and TTC / TM/TC baseband equipment as well as the preparation and transmission of (tele) commands (TC) to control the UUT, remote system or the ground system itself
- Monitoring of the real time status of the UUT or operational system through the acquisition of data from ground support equipment, test equipment, specialized front ends, TTC / TM/ TC Baseband equipment as well as through file/LAN based data streams. This can be data formatted in accordance with CCSDS / ECSS PUS standards (e.g. ESA SCOS DB format) as well as user defined data
- Data Processing of real time as well as previously recorded or simulated data. It includes functions for data de commutation, checking, distribution, archiving and displaying. API extensions are available to allow user defined data processing and the use of external data processing plug-ins to perform level 0 data processing;
- Visualization of (telemetry) data and status information, represented in many different ways, using built in tools for alphanumeric displays, as well as graphical charts.

Minimum workstation requirements
Operating System Windows 10 to (at least) Server 2022
Memory 2 GB RAM
Hard disk 75 MB
Display 1 Display 1920 x 1080 resolution 2 Displays is recommended
Processor 2.0 GHz, x86-bit or x64-bit