



CCS5 Data Sheet

PROTOCOLS

Packet and Frame Coding and Flow Control: ECSS-E-ST-50-01C, 03C, 04C; ESA PSS-04-106,107,151; CCSDS 102.0-B-5, 201.0-B-3,202.0-B-3, 202.1-B-2, 301.0-B-3 (encryption & authentication)

Packet Utilization (PUS): ECSS-E-70-41A

Flexible plugin & driver architecture; select protocol at installation. Main protocols:

Checkout & EGSE: EDEN, C&C

Ground Station: ZDS Cortex, ESA NIS & NDIU LITE

SLE (RAF, RCF & F-CLTU) with UNIS option.

TMTC DATA BASE

SCOS2000 MIB ICD 7.1 extended: (e.g.) unlimited field lengths, drop & load multiple databases, deduced parameters in TM & TC, variable parameters globally accessible & limit-checked, fine control of variable length parameters, big & little-endian parameters, VPD_CHOICE, dynamic HK definition... Online MIB table browser available. All tables accessible from TOPE.

Full details in CCS user manual. Not supported: TC sequence tables (use TOPE or command stack files)

AUTOMATION LANGUAGE

TOPE (includes Tcl/Tk 8.6).

Numerous Tcl extension packages included including Tk, [incr Tcl], database access, ...

ARCHIVE

Open format: raw binary segmented files, containing header & content, index stored in RDBMS : MySQL,PostgreSQL.

TOPE supports retrieval of any archive object, from current or previous sessions, including TM and TC parameters in specific packets.

GRAPHICAL DISPLAYS

Native user interface based on Qt. User-defined schematic diagrams via SYN tool, with editor, uses XML file format "sxl" files. QML (Qt Meta Language) allows scripting of fluid touch-enabled displays. Tk toolkit allows classic user-scripted graphical user interfaces to be written from TOPE.

SPECIAL FEATURES

SVF Mode: operation with simulator running in simulated time.

TM simulation: inject raw data, or generate TM according to its MIB definition.

TC modelling: model and verify commands sent by another entity.

Secure installation option, automated test & quality metrics.

OPERATING SYSTEMS

Windows™: works on all recent versions. Automated installer. Tested on Windows 10.

Linux™: works on all recent distributions, installed as RPM. Tested on RHEL7 and OpenSUSE.

SOFTWARE PLATFORM

C++ based on Qt5.12 commercial. Tcl/Tk libraries included on BSD license terms. No other free (e.g. GNU) software is packaged.

IPR owned by Terma.

SUPPORT

Standard license price includes 1 year warranty & email support. Standard on-site training packages available on request.

Updates from <http://ccs.terma.com>

WIKI and access to bug-tracking system available to licensed customers.

© 2019, Terma BV, Contact: ccswebmaster@terma.com