SESP 2010

Session:	Session: EGSE Architecture 2/2 (05a)
Type:	Concurrent Session
Date:	Tuesday, September 28, 2010
Time:	16:00 - 17:00
Room:	Einstein
Chair:	
Co-chair:	
Remarks:	

Seq	Time	Title	Abs No
1	16:00	Best Practices for Architecting COTS-Based EGSE Fiengo, R. National Instruments Italy, ITALY	

During spacecraft qualification and acceptance, in the AIV facility, a simulator replaces missing equipment and also simulates the environment and the dynamics of a space vehicle. This simulator is embedded in the FEE/SCOE components. This allows real-time, closed-loop tests in which the response of the spacecraft to telecommands is taken into account, including the response to the simulated environmental stimuli to which the equipment is subjected. This paper shows how Virtual Instrumentation, software-defined instrumentation, helps engineers to build a COTS-based AIV Simulator.

Seq	Time	Title	Abs No
2	16:30	10 Galileo1 FOC Payload EGSE Systems - Challenges in Design, MAIT and Schedule Kubr, H. Siemens AG Österreich, AUSTRIA	

For Galileo IOV, apart from Power SCOE and TT&C SCOE, Siemens has been responsible for the Payload Test System (customer Astrium Ltd). For the FOC phase, Siemens has been selected by Surrey Satellite Technology Limited (SSTL, UK) for the supply of the whole Payload EGSE, which consists of a Service Module Simulator (SMS) covering all the Power-, Mil-Bus and Discrete Frontends to the Galileo Payload, as well as the Payload Test System (PTS) covering the RF interfaces to the Payload and providing automated Test sequence to measure critical payload parameters. The PTS Master Test Controller is based on SCOS-2000, thereby fully exploiting the heritage from the ESTEC SCOS-2000 EGSE Reference platform and fully compatible to the SCOS-2000 based Galileo FOC Core EGSE (provided by Terma to OHB).

The P/L EGSE also provides a high performance Time Reference including Ultra Stable Oscillator with Redundant Active Hydrogen Masers for providing the time reference of the EGSE and measuring the performance of the Payload Clocks (passive Masers). The Thermal SCOE provides heaters/cooling interfaces to the Payload.

Siemens provides the work together with subcontractors, which have as well long experience in EGSE applications: SSBV for the SMS hardware and Terma for the SMS software and Thermal SCOE. The technical challenges are not only to integrate complex subsystems, but also to manage a high demanding delivery schedule to provide 10 P/L EGSE systems in the course of 2011. 5 Systems will be installed at the P/L integration site in Guildford and 5 at the S/C integration at OHB Systems in Bremen.

The P/L EGSE project has been started in March 2010 and will reach CDR in September, with a first delivery in February, 2011 [1] Please note that the term "Galileo" refers to the "satellite supported European navigation System".

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