

**Integrated Project 26950 : SatSix****Deliverable 3000-3*****Emulation testbed implementation (2<sup>nd</sup> Phase)******Validation document*****Contractual Date of Delivery to the CEC: July 2007****Actual Date of Delivery to the CEC: December 2007****Author(s): François Goas (B2i)****Participant(s): UoA, TAS-F, LAAS, B2i, STI, UoR, UniS, HDT, TID, TAS-E****Workpackage: 3120****Est. person months: 59****Security: Public****Nature: R****Version: 01****Total number of pages: 24****Abstract:**

This deliverable describes the SATSIX emulation testbed integration and validation test plan. Each sub-system is developed, integrated and validated according to the test plan elaborated in WP3110.

This version of deliverable corresponds to the second phase of the WP3120.

The scope of this document is dedicated to develop, integrate and validate following sub-systems (topics):

- Mobility & multicast coupling
- DCCP
- Adaptive RRM
- security

The deliverable summarizes, for each sub-system, integration tests sheet used as support for integration tasks and validation test sheet used as support for validation tasks are described.

Finally, a global integration is performed, and non regression tests are described.

**Keyword list:** Testbed, QoS, IPv6, SIP, multicast, mobility, DCCP, ULE

## Executive Summary

The emulation testbed aims to emulate a complete DVB-RCS/DVB-S2 satellite system with a strong focus on simplicity, accuracy and usability. It is dedicated to the validation and performances analysis of access and network features defined in WP2000.

This deliverable addresses and details the implementation, integration and validation of each sub-system composing the emulation testbed according to D3000-1 Emulation Testbed Implementation – Design Document”.

Validation scenarios, previously described in deliverable D3000-1, have been implemented and tested on the platform. All the components of the testbed (hardware and software) are listed in the first part of this deliverable.

With its modular design and implementation, the platform is able to emulate a complete DVB-RCS system. Configuration files allow the platform to be configured to emulate a transparent DVB-RCS system dimensioned around a single Hub, or a system using a regenerative satellite with an on-board switching matrix. A complete DVB-RCS protocol stack is implemented with the modulation/coding part emulated in real time, using pre-calculated BER files.

The performed tests are described using evaluation forms. These tests are related to the main topics addressed by SATSIX and validate the related implementations:

- Adaptive Radio Resource Management
- Mobility-multicast coupling
- ULE security
- DCCP transport layer

This document is the complement of the D3000-2 document (“phase 1 validation”) that describes the testbed architecture, the previous integrations and the validation tests.

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