

**EVEREST****EVEREST IST-2002-001858****D09*****Testbed test and validation plan***

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Abstract:

This document is devoted to explain the methodology to be followed for testing the functionality of the EVEREST testbed, including the hardware platform by itself and all the modules composing its architecture. To validate the testbed, a step by step procedure is assumed. The document presents the tests to be performed of the different modules that model the relevant layers composing the protocol stack of the considered Radio Access Technologies (RAT). Once the different modules emulating the RAT protocol stack layers have been successfully tested in a stand-alone way, a complete description of the tests performed during the integration procedures of the different modules will also be provided. Finally a set of global tests, performed over the whole EVERESTS testbed, will be defined to verify the correct behaviour of the implemented testbed

Keyword list: EVEREST Demonstrator, Integration methodology, Testing procedures

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EXECUTIVE SUMMARY

This deliverable aims at providing a global description of the methodology to be followed for testing the functionality of the EVEREST testbed, including the hardware platform by itself and all the modules composing its architecture.

Due to the high complexity of the EVEREST testbed structure, the elements composing it must be checked in different stages of the whole implementation in order to be sure that each one of the required functionalities are working properly. To this end, first of all, the testing procedures at the hardware platform level, including several pieces of true specific hardware and the operating system, are described. Later on, the checking of the software blocks, emulating the UTRAN, GERAN and WLAN protocol stacks as well as those modules related with the CN and the IP based applications are addressed. Once the different software blocks emulating the different RANs protocol stack layers have been successfully tested, a complete description of the test performed during the integration procedures of the different modules is defined. This integration procedure is performed following a bottom-up strategy that is, starting from the lower layers of the different RATs protocol stack and defining several levels of complexity in terms of the number of modules involved. Finally a set of global tests, to be performed over the whole EVEREST testbed, are defined to verify the correct behaviour of the implemented EVEREST testbed.

In summary, the document defines in total 57 different tests, split in: 11 tests devoted to the hardware platform validation, 20 tests devoted to individual validation of the software blocks that emulates the different modules and functionalities, 6 tests devoted to validate the applications, 10 tests performed during the integration procedure, and finally 10 tests devoted the performances of the overall EVEREST testbed.

Notice that at the end of this exhaustive testing process, we could be very confident that the integrated EVEREST demonstrator is compliant with the 3GPP, IEEE and IETF specifications, because the different emulated layers are. So the proposed CRRM/RRM/BB algorithms are going to be tested in a Demonstrator that fulfils all the relevant standardization bodies specifications related to these algorithms.

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