



WALTER: Specifying, testing and improving interoperability of broadband radio devices

WALTER addresses the need for broadband testbeds by overcoming the technical issues of measuring low level, high datarate radio signals. The resulting worldwide interconnected testbeds will address the short term needs of industry and regulators but also the longer-term needs of research communities.

At a glance: WALTER

**Wireless Alliances for Testing
Experiment and Research**



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Duration: from 01.01.08 to 12.31.2009

Total Cost: €3.2m

EC Contribution: €2.2m

Contract Number: INFSo-ICT216312

Main objectives

High datarate radio protocols are key developing technologies for emerging user applications. However, they raise issues of efficient radio spectrum management and interoperability within the technologies. New emerging technologies for future ubiquitous network infrastructures and architectures include high datarate technologies for Intelligent Transport Systems (ITS), delivery of services to the home ("digital home"), and pedestrian, to the general vehicular sectors, to the industrial and supporting sectors, and to the Public Protection and Disaster Relief (PPDR) organizations (national, regional and global).

Ultra Wide Band (UWB) is a very promising technology for such broadband transmission of data using spectrum efficient and flexible radio techniques. Initiatives by the WiMedia Alliance have developed concepts to use UWB as a standard radio platform. This allows the transport of wireless USB (WUSB), wireless Firewire and the next generation of Bluetooth 3.0.

The European Telecommunications Standards Institute (ETSI) is producing harmonised standards to foster UWB adoption in Europe.

Contributions

- Consolidation of test procedures in ETSI Harmonized Standards for broadband wireless devices in support of EU Directives.
- Assist future development of UWB Harmonized Standards including mitigation techniques and coexistence mechanisms with potential radio victim services.
- Assist interoperability between UWB devices using multi developer plugtests.

The WALTER project will develop a pan European broadband wireless test bed, covering the emerging needs for research, industry and regulators

Technical Approach

The WALTER project is split into two phases:

- The first phase will standardize and validate the testbed architecture and test procedures for the first ETSI harmonized standard on UWB communication devices (ETSI EN 302 065).
- The second phase will deal with the development of test procedures for later ETSI harmonized standards, also including research activities, to cover mitigation techniques and coexistence mechanisms using Detect And Avoid protocols.

The technical work to be achieved is spread among four work packages (WP3-WP6). WP3 will identify the needs of the project in the field of existing and future broadband wireless technology requirements. This will provide input to WP4 and the development of the procedures to meet these needs. WP5 will be the crucial phase for the conception of the testbed and its validation. Finally, test services and experiments will be offered in the last WP (WP6) thanks to this new test environment.

Key Issues

The key issues to be addressed by the WALTER project are the following

- To support convergence and interoperability of broadband wireless networks.
- To support flexible and spectrum efficient radio access.
- To support the establishment of global standards while addressing complex user requirements.
- To reinforce European industrial leadership in wireless networks.

Expected Impact

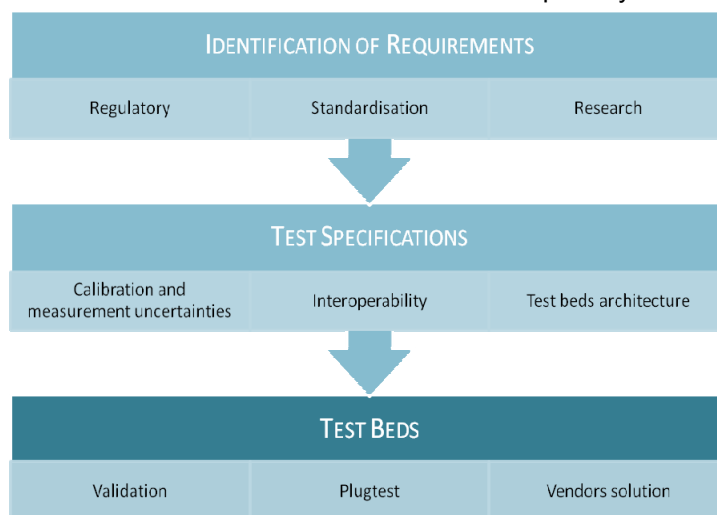
WALTER is aimed at giving Europe the tools to foster its UWB development, and positioning the EU as a world leader in the domain. The project is expected to make a number of impacts at the European level.

- Contribute to the establishment of a worldwide acceptance of European standards for UWB technologies.
- Give the tools aimed at ensuring that newly developed UWB technologies do not compromise persons and goods protection.
- Contribute to interoperability of UWB technologies and convergence of high capacity based services.
- Give the European industry a competitive advantage while opening the door to new innovations in the field of internet technologies based on ubiquitous networks.

Dissemination events

The main activities to be achieved for dissemination purposes are as follows:

- Coordination with international organizations to push ETSI standards forward.
- WALTER design and implementation to be made publicly available for any test facility wishing to develop a certification program.
- Website allowing access WALTER documentation and allowing public participation through an on-line forum.
- Presentation of the WALTER achievements at international level conferences.
- 2 multi-vendor plugtests.



These activities will be complemented by publication in specialised newspaper and presentation at international conferences.