

D5.5 Proof of concept demonstration definition, second version Executive Summary

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Abstract:

This document defines the demonstrations completing the second phase of the MobiThin project. Demonstrations are defined at two levels: an end-to-end system level demonstration and specific demonstrations focusing on particular protocol optimization strategies.

The end-to-end system demonstration will allow assessing the MobiThin architecture on a functional level as well as in terms of scalability, and inter-working between management level adaptation and protocol adaptation.

To allow validation of the MobiThin solutions on the actual hardware (actual thin client terminals and non-emulated network links), several additional demonstrations are described. The inter-working of thin client with SIP, as a first step towards integration into the IMS architecture, is targeted as demonstration.

For each of the six demonstrators identified, the specific objectives, the test environments and the targeted experiments are described. Care has been taken to address all major results of MobiThin in the demonstrators detailed in this document.

The realization of the different demonstrations will bring the MobiThin approach substantially closer to deployment in an operational environment.

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The MOBITHIN Project Consortium groups the following Organizations:

Interdisciplinary Institute for BreedBand Technology vzw	IBBT vzw	B
Deutsche telekom Laboratories	DT Labs	G
Prologue Software	Prologue	F
Interuniversitair Micro-Electronica Centrum vzw	IMEC vzw	B
NEC Technologies (UK) Ltd	NTUK	UK
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1. EXECUTIVE SUMMARY

This document defines the demonstrations that will be performed during the second phase of the MobiThin project. The demonstrations are extending the demonstration performed during the first phase of the project, with the aim of concretely demonstrating the benefits of MobiThin project results.

Demonstrations are defined at two levels: an end-to-end system level demonstration and specific demonstrations focusing on particular protocol optimization strategies. They will represent a major step forward toward the deployment of Thin Client services over real mobile networks

Six demonstrations are identified.

- **Integrated Demonstration**
 - Aims to demonstrate key features developed through the project in a single demonstration. It aims to be a first step toward the development of a future Thin Client service over wireless networks. The significant part of the Thin Client system will be demonstrated. The main feature demonstrated will be the dynamic protocol adaptation to the network impairment, the infrastructure energy adaptation to the client needs, and the overall management of the Thin Client system.

The other demonstration will focus on more specific technical research topics showing also the outcome of the project.

- **Multimedia Thin Client based on SIP**
 - Aims to demonstrate an implementation of a Thin Client system supporting Multimedia services over a SIP based Service Delivery Platform infrastructure. This demonstration is a first main step toward the realization of Thin Client service over IMS operated network using the full network QOS capabilities. It will be based on the IMS architecture study performed during the phase 2.
- **Effects of Constraints on Image Transmission**
 - Aims to demonstrate the benefits of Mobithin Thin Client image transmission. A comparison of the state of the art image compression protocols (BiFS, LASer) used in a thin client environment will be performed with the legacy thin protocol VNC. The demonstration will attach to measure the benefits of each solution in term of bandwidth, resilience to the wireless-due packet losses, and CPU client consumption. The demonstration will be performed both in labs controlled network environment, and also on a real operated UMTS network.
- **Link Optimization NS2 Emulation**
 - Aims to perform measurement of the wireless link optimization developed during the project. The test environment uses a simulated SDR (Software Define Radio) platform based on NS2 simulator. This is a demonstration with enhanced features of the phase 1 Wireless medium optimization demonstration working with “live” traffic from upper layers.
- **Link Optimization Hardware Emulation (XMSF)**
 - Aims to improve the accuracy of the precedent demonstration, by using a Cross Layer Simulation framework containing more precise models of the physical components. All those demonstration will allow measuring the energy and consumption gain of the wireless components due to the project developed optimizations, without the flexibility of the NS2 simulator.
- **Remote devices / Peripherals**
 - Aims to demonstrate the capacity to remotely access and use devices connected to terminals, in a Thin Client server environment. The demonstration will first show the capability of accessing data from a remote a peripheral connected to a thin client. It will then show a demonstration of the use by a thin client, of a remote peripheral connected to an other thin client

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