



Project no. 035003

u-2010

**Ubiquitous IP-centric Government & Enterprise Next Generation Networks
Vision 2010**

Instrument: Integrated Project

Thematic Priority 2

D0.1.1: Project Presentation

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Organisation name of lead contractor for this deliverable:

Hitec Luxembourg S.A.

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Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)		
Dissemination Level		
PU	Public	✓
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Executive Summary

This deliverable provides a concise summary of the u-2010 project, including all the key data. It is intended to be used to publicise the u-2010 activities towards the IST community, projects, persons and organisations that we will collaborate with, and the general public.

History

V1.0: First release



u-2010

Ubiquitous IP-centric Government & Enterprise Next Generation Networks Vision 2010

Vision

Provide the most capable means of communication and the most effective access to information to everybody required to act in case of accident, incident, catastrophe or crisis, while using existing or future telecommunication infrastructure

Abstract

Modern society has reached a high dependability on ubiquitous services and networks. Especially in crisis or emergency situations the availability of these services is crucial. Today, governmental and rescue entity communication services are characterized by a strong technical compartmentalization; the interworking and availability of crisis communication resources is not assured.

This project highlights and deploys concepts to enhance the availability of these services and the existing networks by leveraging redundant communication channels wherever possible and using automatic redirection in the case of network failures. In crisis situations, rescue teams have to be assembled fast and flexibly; mobile and ad-hoc networks are one possible solution. Additional research on these networks will be conducted in this project to fulfil the requirements of crisis intervention teams.

The problem of identification will be resolved using new research results in wireless and ad-hoc networks, where especially the integration of distributed knowledge of the current network environment (location information, RFID messages, recommended trust relations, etc.) into the protocols is a key issue for context adaptable recognition.

The project will take advantage of IPv6 features for many of the ICT aspects related to crisis scenarios.

With Luxembourg as the first test bed and the Luxembourg Government as a partner in the project, there is an ideal possibility to show the feasibility and usability of the results in a real environment and provide the basis for all European countries. A transfer of the technology through a deployment in Slovenia is planned in the second phase of the project.

The results of this project will be usable not only for governments risk- and crisis- management but will also become an integral part of enterprise and public networks, thereby fulfilling our Next Generation Network vision for ubiquitous networks in 2010 - "u-2010".

Objectives

The measurable and verifiable S&T objectives of the u-2010 project are:

- To perform the requirements analysis for increasing the availability, QoS and security of a collection of services and networks.
- To identify the necessary measures and concepts to "bridge" between the different networks/services on the basis of a Next Generation Network Protocol (starting with IPv6).
- To define (one or more) reference scenarios of needed networks and application-bridging technologies.
- To define and implement a prototype infrastructure including (governmental and industrial) service providers and users as well as performance tests for a quantitative evaluation of the results. This could later serve as a European test bed for interested third parties not participating in the project.
- Deploy management tools to control the quality of service, security and availability of the collection of services and networks defined.
- Contribute actively in the appropriate standards activities to influence the specification of standards that are important for the definition of this Critical Infrastructure Protection Network.



Technical Approach

In line with the Strategic Objective 2.5.12: ICT for Environmental Risk Management, u-2010's research is designed to support RTD on public safety communication including work on the integration of alert systems, communication to and from the citizens and rapidly deployable emergency telecommunications systems. The safety needs of local personnel in the front line, as well as the specific need to enhance international responses to major disasters will be considered. In particular, the project will improve the availability and reliability of a defined collection of ubiquitous services and existing networks including POTS, ensuring public safety communication over critical infrastructures by leveraging redundant communication channels wherever possible and using automatic redirection or transformation of communications in case of network failures. The main focus will be on "bridging" networks using the Internet Protocol (IP); with particular emphasis on IP version 6 (IPv6). u-2010 will show through an initial requirements analysis the vulnerabilities that could lead to a mismatch between users' demands and delivered service. One focus will be on ensuring the alerting of the public, governmental and emergency entities during a crisis situation. Based on this analysis, the appropriate measures and concepts will be developed to reduce vulnerabilities and improve the availability and the quality of service of the applications and networks. The intention is to apply these new measures to existing services and networks, together with the necessary transition from IPv4 to IPv6. Research on the demands from Next Generation Networks will include IPv6 aspects, scalability, availability/bandwidth control (quality of service) and security. The solution is expected to help to reduce costs by using already existing systems and deploying IPv6 migration instead of investing in totally new systems.

Expected Achievements

European industries are strong in many of the areas of technology addressed by u-2010, including satellites, IPv6 and Mobile Access Routers. They are therefore in a good position to take advantage of the potential markets that will be opened by the enabling of the full exchange of information between emergency services. This is an emerging trend that is being studied by most governments today, in order to maximize the efficiency of organizations to react to both natural and man-made disasters. By being at the leading edge of this development, European industries (and others with a substantial European base) will be able to prepare for the deployment of the technologies and be in a good position regarding the availability of suitable products. The project incorporates impressive trials that not only publicize and emphasize the impact of the achievements through real-life showcases, but also bring the project partners valuable feedback of practical experiences of usage in real scenarios, and enable the developments to be refined accordingly.

The innovation from u-2010 is largely related to the integration of several technologies, which are becoming available precisely at this time, and which can bring enormous benefits for governments, with respect to cost efficiencies and saving lives, through handling efficiently emergency situations. Though the focus is on integration of existing and emerging technologies, u-2010 will perform research and development to ensure that the new features can be incorporated into the infrastructure, for example:

- selecting the most appropriate network from those available
- ensuring that the highest quality of service is given to priority data
- integrating and validating innovative and low-cost satellite and terrestrial technologies into Mobile Access Routers
- using wherever possible standard and open interfaces to be vendor independent
- the solutions are applicable to other countries and even to other scenarios and can also be deployed in the industry
- easy integration into new services and applications

Dissemination

The overall goal of the dissemination activity is to provide an analytical and comprehensive approach and concrete basis for the strategies of visibility, dissemination, implementation and exploitation of the research results. A key strategy is to train the emergency personnel using resources from the project. In this way, the contact to the users is direct, their requirements can be collected, and their feedback used to improve the capability and usability of the prototypes. A high-quality Website will be built and maintained, with links to all the public information from the project. The status of the research will be published in scientific publications. The results will be disseminated to other organizations and end users through technical journals, conference papers and the public trials.

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u-2010

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35003

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Integrated Project

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471.5

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Collaboration with other FP6 IST
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OASIS
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