



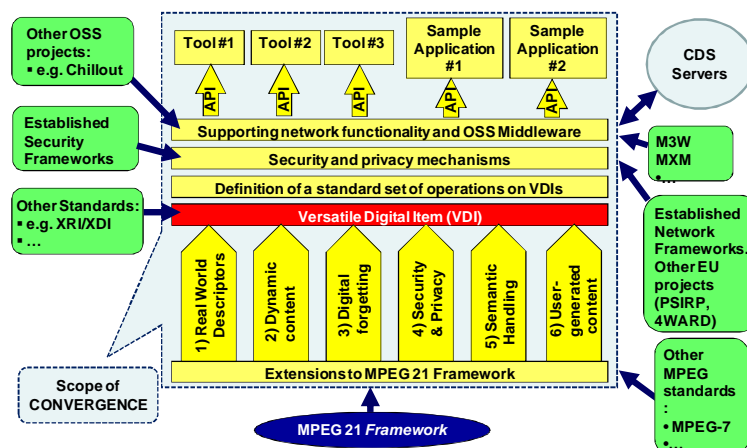
CONVERGENCE

Project Overview

Originally conceived as a "network of hosts", the Internet is evolving into an Internet of services, an Internet of media, an Internet of people and an Internet of "things". This implies a strategic shift from "host-centric" to "content-centric" and "data-centric" networking. Against this background, CONVERGENCE proposes to enhance the Internet with a novel, content-centric, publish-subscribe service model, based on the Versatile Digital Item (VDI): a common container for all kind of digital content, derived from the MPEG21 standard.

Research Description

CONVERGENCE covers six areas of research: 1) the definition of a new fundamental unit of distribution and transaction, the VDI; 2) new networking functionality; 3) a new open source Middleware; 4) a Community Dictionary Service; 5) security and privacy mechanisms; 6) applications, relevant to the needs of real life trials. Figure 1 shows the relationships among these areas and related pre-existing solutions.



The VDI is a "package" of digital information with a unique, host-independent, self-certifying identifier, capable of encapsulating any kind of digital information, including information on media, services, people and "real world objects". A VDI contains also metadata, describing its content. VDIs can be used both to publish and to subscribe to content. Networking functionality allows storage and routing of VDIs

Testbed Infrastructure

For user acceptance: real-life business scenarios

For scalability and robustness: large scale FIRE facilities

Contract number

FP7-257123

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Project website

www.ict-convergence.eu

Community contribution to the project

2,989,140 Euro

Project start date

1 June 2010

Duration

33 months

through the network; the relevant protocols will have to scale to a huge number of content identifiers and very high rates of publication and subscription. An open source middleware exposes network functionality to information providers and consumers, allowing them to search for, retrieve, modify and revoke VDIs. It will be also possible to maintain access to VDIs when they move from one host to another, protect user security and privacy, and provide support for "digital forgetting", ensuring that VDIs are deleted when they pass a user-defined expiry date. An RDF-based Community Dictionary Service will support search for user-defined metadata. CONVERGENCE will build four real-life applications. CONVERGENCE concepts will be tested in iterative cycles of research, design and experiment, studying their usefulness in real-life business scenarios, integrated into partners' product cycle, and using large-scale FIRE facilities to investigate their scalability and robustness.

Target Users and Benefits

CONVERGENCE targets professional and non-commercial providers and consumers of digital content, allowing them to publish, control, search for, and use content, independently of the structure or geographical location of the content. Users will be able to define their own policies for using, authenticating, protecting and revoking VDIs. The functionality provided by VDIs supports new models of use and new business models, difficult or impossible to implement on the current Internet architecture.

Project partners	Country
Consorzio Nazionale Interuniversitario per le Telecomunicazioni (www.cnit.it)	IT
ALINARI 24 ORE (www.alinari.com)	IT
CEDEO.net (www.cedeo.net)	IT
Fondation Maison des Sciences de l'Homme (www.msh-paris.fr)	FR
Institute of Communication and Computer Systems (www.iccs.gr)	GR
Instituto de Engenharia de Sistemas e Computadores do Porto (www.inescporto.pt)	PT
Ludwig-Maximilians-Universitaet Muenchen (www.uni-muenchen.de)	DE
SAGEM ORGA (www.sagem-orga.com)	DE
SINGULARLOGIC (www.singularlogic.eu)	GR
UTI (www.uti.ro)	RO
WIPRO (www.wipro.com)	PT
XIWRITE S.r.l. (www.xiwrite.com)	IT

Key Objectives

- Specify and implement the CONVERGENCE service model
- Test and refine the model in real-life scenarios, and in large scale FIRE facilities
- Develop concrete plans for exploitation

