



e-infrastructure

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** Security Class: PU- Public, PP – Restricted to other programme participants (including the Commission Services), RE – Restricted to a group defined by the consortium (including the Commission Services), CO – Confidential, only for members of the consortium (including the Commission Services)

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Abstract:

This deliverable is a public description of the 6DEPLOY-2 project in terms of main goals, key issues technical approach and achievements. It is intended for publication on the Websites of the Commission and the project.

Keywords:

IPv6, 6DEPLOY-2, 6DEPLOY, e-infrastructures, training.

6DEPLOY-2



Summary: The purpose of the 6DEPLOY-2 project is to (i) support the deployment of IPv6 in Europe and developing regions, sustain the wealth of 6DEPLOY training material (e-learning package with subtitles in national languages, presentation material, exercises, etc.), and (iii) create a catalyst of global IPv6 expertise through the installation of strategically-placed sustainable IPv6 training labs. These training labs will be used:

- in 6DEPLOY-2 training workshops (giving access to more test-beds for “hands-on” configuration exercises),
- to create centres of IPv6 competence in countries around the world,
- to form a sustainable human network of expertise to train others

6DEPLOY-2 will also lead the IPv6 Cluster, to inform FP7 projects and regional and/or industrial initiatives regarding IPv6 deployment, and encourage the exchange of best practices. 6DEPLOY-2 will offer both organisational support (Website, e-mail lists, etc.) and give advice regarding implementations.

Furthermore, 6DEPLOY-2 will describe step-by-step real practical deployment scenarios on its Website, as a visual aid to help potential deployers of IPv6 through the process.

Objectives: Training, establishing centres of IPv6 expertise and giving support for deployments are the key services offered by 6DEPLOY-2. Developing regions (in Europe and abroad) are often the *early adopters* of IPv6, given that they have less legacy IPv4 networks installed. Test cases from these regions will be used to gain valuable practical experience which will be brought back to support deployments within EC e-Infrastructure projects. The 6DEPLOY-2 team will become the centre of European expertise regarding IPv6 deployment.

This expertise will be used to support more deployments in Europe, in industry branches such as Emergency Services, Health, Broadcast, Transport, Schools, Environment, Gaming, etc. These sectors will be reached through our existing contacts with other EC projects, IPv6 Task Forces, the revival of the IPv6 Cluster and deployment examples described on the project’s Website.

6DEPLOY-2 will exploit the expertise and high quality training material from 6DEPLOY, including presentations, the e-learning course and the available IPv6 Labs, and - whilst continuing to offer professional training to organisations in Europe and developing countries - focus on supporting real deployments. It will maintain and update the 6DEPLOY material and include new training media, and multiply its training effectiveness through courses which educate other trainers about the basics of IPv6, so that they can teach others (“training trainers”). It will describe examples of real deployments in several types of public and private environments on its Website.

The extension to global scale of the IPv6 Labs, and the achieving of critical mass, will bring several benefits. As well as making more sites available for use in 6DEPLOY-2 training courses, they enable more-complex and more-realistic experiments to be performed. They also become centres of IPv6 competence in countries around the world, forming a sustainable human network of expertise to train others. Sustainability is achieved initially through the careful selection of locations for the installations (e.g. within NRENs) where the connectivity, funding and qualified staff support are all secured.

6DEPLOY-2 will support the (human) networking between the Lab managers with regular (6-monthly) workshops.



continued overleaf

Project acronym:
6DEPLOY-2

Contract n°: 261584

Project type: SA

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Duration: 30 months

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953,414€

Funding from the EC:
800,000€

Total funded effort in person-month:
83

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NIIFI	HU
Consulintel	ES
UCL	UK
UNINETT	N
BREN	BG
AfriNIC	MU
LACNIC	UY

Keywords:
IPv6, deployment, e-
infrastructures, training

Collaboration with other EC funded projects:
GN3

6DEPLOY-2

Action plan: The timing for establishing this new project is most appropriate, given the imminent approach of wide scale IPv6 deployment, encouraged by the following recent events:

- Release of the EC Action Plan in May 2008, which has been accepted by Member States as a good example to follow for their national IPv6 deployment.
- A survey commissioned by the European Commission and conducted by TNO and GNKS Consult in cooperation with the RIPE NCC, reveals that organisations in Europe, Middle East and parts of Central Asia have been slow to adopt IPv6, the next-generation of Internet addressing protocol.
- Studies have predicted the IPv4 address space exhaustion around 2011-2012.

Support activities: We reassert our support for open, bottom-up and consensus-based decision making, but we also call upon the leading senior and expert members of this community to provide strong leadership in the support of a global transition to IPv6.

Support activities include the collection and maintenance of material for the training sessions, and the tailoring of programmes in conjunction with the requesting organisation. “Hands-on” IPv6 training courses will be offered to FP7 projects, developing regions (focusing more on *training trainers*, so that the effect of the courses can be multiplied) and European industries. A professional and popular e-learning course is available which will be supplemented with additional topics related to IPv6 and improved with sub-titles in other languages.

A further support activity is the practical on-site assistance for making IPv6 deployments in FP7 projects, the targeted regions (Africa, Latin America, Asia and Eastern Europe) and European industries.

Partners will also give assistance for the development of a strategic plan (“roadmap”) for the deployment and will advise on practical aspects such as equipment ordering specifications, routing plans, etc. An IPv6 Deployment Guide will be maintained, and supplemented with examples of case studies. A less-technical “How to Deploy” guide will also be produced for administrators.

User communities: e-Infrastructures are important for developing new research environments, building upon the ICT capabilities of existing and evolving infrastructures. Since these infrastructures are currently being made IPv6 capable, there is a huge potential benefit to be achieved if users share their deployment experiences. Since the Internet has become the fundamental resource for modern communications, “users” in this respect may be network operators and administrators from both the research community and commercial companies. Sharing the information between such user communities requires the emergence of “communities of practice” comprising commercial users, scientific users and computing and communication technologists. e-Infrastructures foster the emergence of new working methods, based on the shared use of resources across different disciplines and technology domains.

As an e-Infrastructure project, 6DEPLOY-2 supports the further development and evolution of high-capacity and high-performance communication (GÉANT) and grid empowered infrastructures, including the reinforcement of world class distributed supercomputing facilities, data storage and advanced visualisation facilities. This activity aims at fostering the adoption of e-Infrastructures by user communities where appropriate, enhancing their global relevance and increasing the level of trust and confidence from their users.

International aspects: 6DEPLOY-2 includes AfriNIC and LACNIC as partners and has close links to RIPE NCC, APNIC and ARIN. Through these Internet address registries, it will keep aware of IPv6 deployment activities and opportunities worldwide. The developing countries of Africa, Latin America, the Asia-Pacific region and Eastern Europe will likely be some of the first to commit to large-scale IPv6 deployment, and may lead their counterparts in the rest of the world. They will therefore provide excellent Case Studies for the project, which can be fed into industrial environments, in order to ensure success.