

# IPv6DISSEmination and Exploitation



## Guidelines for organizing an IPv6 workshop

The goal of 6DISS is to promote and support the deployment of IPv6, and not to specifically advertise or recommend products from any one particular vendor. All trainers should therefore respect this philosophy.

### 1. What is expected from hosts

Organisations that are interested in hosting a 6DISS workshop are recommended to organise it in conjunction with another regional event at which representatives from ISPs will be present. This will optimise travel costs and ensure that the audience is appropriate.

The following items should be considered:

- Infrastructure:
- Equipment
- Connectivity
- Attendee pre-requisites
- Trainer pre-requisites

#### 1.1 Infrastructure

The following items should be considered:

- The room should be typically a classroom or amphitheatre, adequate for the number of participants. It should be considered that if the course includes “hands-on exercises”, each participant should ideally have a PC, workstation or laptop. Additional space for networking equipment may also be necessary (see 1.2 below).
- Video projector (beamer)
- Microphone
- Whiteboard

#### 1.2 Equipment

The minimum equipment needed is a small router to allow some demonstrations (e.g. autoconfiguration, routing protocols set up, filtering, ...)

If “hands-on” sessions are scheduled, the number of participants should be limited to a maximum of 25, and one PC, workstation, or laptop per two attendees is required. A second small router should also be provided. For maximum benefit, the local organisers may also wish to provide equipment that is representative of that found in their networks.

### **1.3 Connectivity**

Remote 6DISS labs in Paris and Brussels are accessible via the Internet, using IPv6 connectivity. To enable access to these labs, IPv6 connectivity will be configured (either native, if locally available, or encapsulated within IPv4). If needed, RENATER's Migration Broker service is available to provide encapsulated IPv6 connectivity to whoever needs it.

Having access to the 6DISS remote sites, without any filtering issues, is a point to pay attention to.

### **1.4 Attendee Pre-Requisites**

The workshops have been found to be especially attractive for deployers and operators in ISPs and National Research and Education Networks. Attendees of the workshops are expected to have experience of operating a network, with a sound knowledge of addressing, routing, security, network monitoring and management under IPv4.

It is recommended that attendees follow the whole of the 6DISS e-learning package. This will take approximately 2 hours. In theory, the scores they achieve can be interpreted as a measure of their suitability for the workshop, though currently, this feature is not implemented.

### **1.5 Trainer pre-requisites**

If the trainers are provided by the host, then ideally, they should be familiar with most of IPv6 protocol features. They should also have some experience of deploying an Internet network.

## **2. What the hosts can expect from us**

The 6DISS project will provide experienced persons to give presentations on technical topics related to IPv6. It will also offer the following:

- Experience of deployments
- Hands-on sessions
- Access to remote laboratories
- Workshop registration service

### **2.1 Topics**

6DISS has material covering a very wide range of IPv6 subjects, from which the local organizers can select, according to their specific requirements. The topics include:

- Introduction to IPv6 (protocol, addressing and associated protocols)
- Multicast
- M6bone and IPv6 multicast applications and services
- Autoconfiguration
- Routing protocols
- DNS
- RPSLNg
- Security

- QoS
- Mobility
- Multihoming
- Co-existence with IPv4
- Network Management
- Deployment experiences
- Regulation

## **2.2 Experience of deployments**

Some IPv6 deployment examples of which 6DISS partners have experience are:

- Transitioning 1'000 schools to IPv6 in the Greek Schools Network
- Campus installations (eg. University of Southampton)
- IPv6 Multicast (M6Bone)
- NREN installations (RENATER, Hungarnet, GRNET)

## **2.3 Hands-on sessions**

6DISS partners are also capable of supervising “hands-on” sessions dedicated to the configuration of devices from different manufacturers, and information about applications.

Examples of such hands-on sessions are basic configuration commands for servers (Cisco, Juniper, 6Wind, FreeBSD, Debian, Windows XP, Zebra) and hosts (Windows, Linux (RedHat, Fedora, Debian), Solaris, Macintosh)

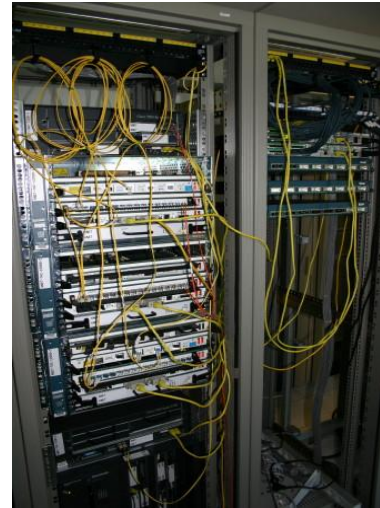
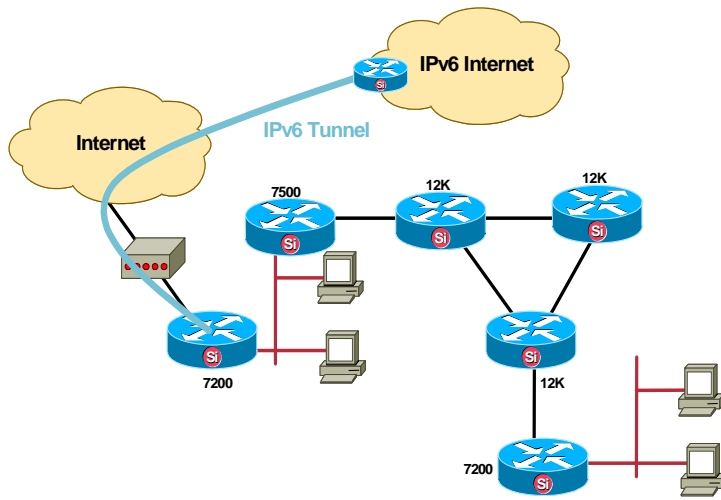
6DISS has also developed the following practical experiment scenarios / exercises, which show the configuration of IPv6 equipment for typical situations that will be needed for any deployment:

- dhcpv6
- smtp
- basic static v6 connectivity
- httpd
- access control
- dns
- autoconfiguration
- configuring tunnels
- routing (OSPFv3, IS-IS Aggregation, Tunneling and BGP)
- multicast (including an application that uses multicast)

## **2.4 Access to remote laboratories**

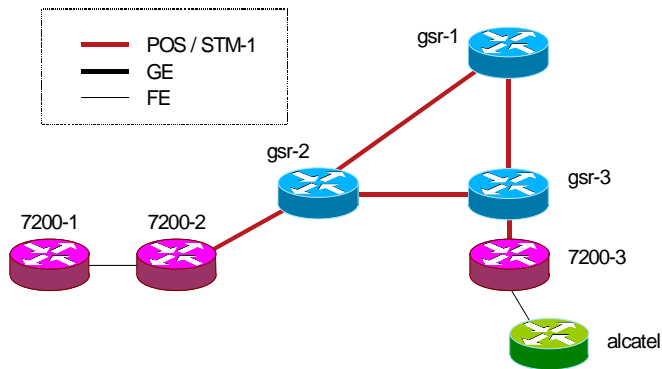
Where equipment is not available locally, access can be arranged to 2 laboratories (in Brussels and Paris)

The layout of the Brussels laboratory and some of the equipment is shown below:



**The Brussels Equipment**

The layout of the Paris laboratory is shown below:



**The Paris Equipment**

## 2.5 Workshop registration service

If desired, 6DISS can also manage the workshop participant registration system on behalf of the local organisers, via its website.