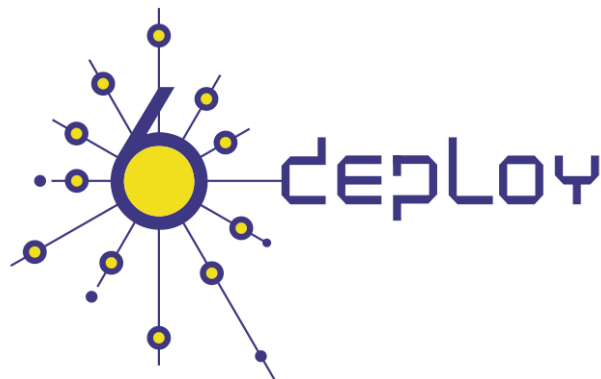




e-infrastructure



<b>Title:</b>  <b>Deliverable D1.4</b> <b>Report from the 3<sup>rd</sup> Workshop</b>	<b>Document Version:</b>  0.4
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**Authors (organizations):**  
Pedro Lorga (FCCN), João Moreira (FCCN)

**Abstract:**  
  
This deliverable presents a report from the workshop held in Maputo (Mozambique) from the 26<sup>th</sup> August to 29<sup>th</sup> August 2008. The presentation material is listed, and the attendees and their affiliations are included.

**Keywords:**  
IPv6, Support, Training, Testbeds, Modules, 6DISS, 6DEPLOY, Hands-on exercises

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# Revision History

The following table describes the main changes to the document since created.

Revision	Date	Description	Author (Organization)
v0.1	19/09/2008	Document creation	Carlos Friaças (FCCN)
v0.2	02/10/2008	Feedback Questionnaires Processing	Carlos Friaças (FCCN)
v0.3	15/10/2008	Revision	João Moreira (FCCN)
V0.4	30/10/2008	Final checking	Sarah Kenehan (Martel) Martin Potts (Martel)

# Executive Summary

One of the main activities in the 6DEPLOY project is to organize workshops to train the different Internet communities in the areas of IPv6 deployment, configuration, and usage. This project is a follow up of previous project activities within and outside the Framework Programmes of the European Commission.

This document describes the 3<sup>rd</sup> of these IPv6 training workshops, which took place in Maputo (Mozambique) from the 26<sup>th</sup> August 2008 to the 29<sup>th</sup> August 2008. The workshop had a good attendance (16 participants) and comprised both slide presentations and hands-on exercises using participants' laptops. The workshop material was mostly FCCN translated content from previous 6DISS workshops, adapted to participants' needs. Chapter 2 of this document explains the general motivation for running IPv6 workshops, and Chapter 3 describes the specific details of this workshop, in terms of the attendees, the modules that were presented, the "hands-on" exercises that were performed, etc. Chapter 4 identifies opportunities for further collaboration in the region and follow up actions, and Chapter 5 summarises the analysis of the feedback questionnaires that were filled in by the participants.

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# 1. INTRODUCTION

## 1.1 6DEPLOY Objectives

The following comprise the 6DEPLOY objectives:

- organize workshops for the e-Infrastructure community and give practical advice and hands-on support for deploying IPv6 in their environments.
- work on deployments in Europe and in developing countries; exchanging experiences and best practices.
- improve the competitiveness of European industry by sharing experiences from IPv6 deployments in other regions.
- gain expertise with which to support *more commercial* deployments in European industries (e.g. Emergency Services, Health, Broadcast, Transport, Schools, Environment, Gaming, etc.).
- help to build consensus between European researchers, by enabling and exploiting synergy among related projects (e.g. GÉANT-2, SEEREN-2, SEE-GRID, EUMEDCONNECT, CLARA, ALICE).
- encourage and enhance the effectiveness of the coordination between National and pan-European e-Infrastructure initiatives by being a focal point for IPv6 activities, giving IPv6 training, and supporting IPv6 deployments.
- open up the ICT programme to the participation of third country organizations in International Cooperation Partner Countries, including countries in Africa, Asia and Latin America, by involving organizations that influence e-Infrastructures on those continents.
- improve scientific cooperation between Europe and the declared target regions (Africa, Asia and Latin America) by exchanging knowledge and experiences through direct practical support for deployment, training events, etc. The project therefore also helps support other Community policies, most notably the development policy. Telecommunications infrastructure and the capability to access information worldwide are key measures of a country's progress. IPv6 has been a cornerstone of European Internet policy for several years.
- support interoperability and standards by sharing information on the latest IPv6 standards, equipment hardware and software releases, and IPv6 policies (RIRs).

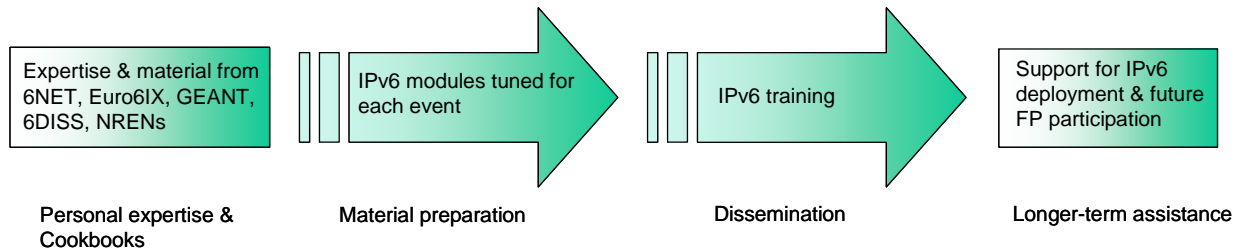
One of the main activities in the 6DEPLOY project is therefore to organize workshops to train the different Internet communities in the areas of IPv6 deployment, configuration,



operation, and management. This activity is a follow up of previous project's activities within and outside the Framework Programmes of the European Commission.

## 1.2 6DEPLOY Workshop Methodology

The 6DEPLOY methodology relating to the workshops is shown in the diagram below:



**Figure 1-1: 6DEPLOY methodology (diagrammatically)**

The approach is to use course material available from 6DISS and elsewhere relating to IPv6, the e-learning course, and the 6NET IPv6 Deployment Guide book as the basis of the training material. This training material is supplemented with knowledge from partners' participation in events such as IPv6 Forum meetings, IPv6 Task Force meetings, Internet2 meetings, and the IETF, and from the experience of similar activities brought to the project by the representatives of the Internet Registries in North and South America, the Asia-Pacific region, Africa, and Europe. The knowledge is disseminated through training sessions that, for practical reasons, are often held in conjunction with AfriNIC, LACNIC, APNIC, AfNOG, APRICOT and ISOC meetings.

After each workshop, feedback reports will be collected from the participants, enabling 6DEPLOY to assess the impact of the presentations and identify any areas that need improvement.

The full set of dissemination material (including the e-learning course and 2 managed testbeds) is available from 6DISS and partners' own sources. This includes presentation slides on all issues of Internet deployment and evolution; especially IPv4-IPv6 transition strategies, DNS, DHCP, routing, QoS, Mobile IP, multicast, renumbering, auto-configuration, security, monitoring and management tools, and applications. This material was described in the deliverable D1.1: "IPv6 training material and related usage procedures".

## 2. THE WORKSHOPS (GENERAL)

Workshops are one of the main mechanisms used by 6DEPLOY to transfer information and build collaboration.

6DEPLOY is structured to provide an ideal platform for the discussion of deployment scenarios and the exchange of best practices, thereby avoiding duplication of effort, by preventing the waste of time on techniques that are known to have been deprecated, and generally making the most efficient use of the available resources in a region. Partners in 6DEPLOY have deployed IPv6 on a production basis in their own NRENs and University networks, and have documented their experiences in Cookbooks and in IETF informational / best common practice RFCs. The manufacturer in the consortium is building IPv6 products.

The workshops are not only intended to lead to an improved quality of the Internet infrastructure in developing countries, but will also raise the competence of the attendees and, in exploiting the personal contacts made through 6DEPLOY, facilitate and encourage the participation of their organizations in future FP7 Calls and beyond.

Impacts from the workshops will include:

- a positive effect towards preventing the "brain drain" from developing countries by bringing interesting and state-of-the-art activities into these regions, thus making information and knowledge resources accessible to the scholars both locally and globally.
- an expansion of the conditions for growth by enabling the exchange of ideas, launching joint experiments and projects, disseminating RTD results, and activating market forces; all of which are substantial elements in the process of regional development.
- making European research and industrial concerns aware of the highly skilled personnel who can contribute to the urgently needed improvement of ICT infrastructures; resulting in an increase of the demand for specialized services provided by the highly skilled academics and researchers of the region.
- the identification of IPv6 deployment activities in the region and an exchange of information about deployment experiences.

While IPv6 standards and services are quite stable, regional variations in practices and operations will require slightly different approaches for collaboration and dissemination. Therefore, the material for this workshop was collected, and the workshop schedule, format and contents were tailored in conjunction with the local organizers so as to suit

the type of participants, the subjects to be addressed, the location, the host organization (Eduardo Mondlane University), the sponsors (ISOC Mozambique, TDM and TvCabo Mozambique), etc.

### 3. THE 6DEPLOY WORKSHOP IN MAPUTO (MOZAMBIQUE)

The workshop is described in this chapter. General aspects about the Workshop are referenced in the Overview section, then the attendees and their affiliations are described. The programme outline is included in the Workshop Programme section, and the material that was presented is also outlined. The material is divided into theoretical modules and hands-on sessions. A section including some photos taken during the Workshop is also part of this chapter.

#### 3.1 Overview

The Workshop was structured to be held in three and a half days (starting on a Tuesday), composed by nine different topics, with a hands-on session related to each topic. The balance between theoretical presentations and hands-on time was about 50% each. The Monday before the Workshop started was defined as the «setup day», where all the preparations for the workshop were locally carried out (connectivity, network setup, projector, electricity, ...).

The attendees had the opportunity to learn important aspects of IPv6 deployment in ISP environments. For instance, discussions about addressing plans were held.

Individuals from 6DEPLOY that presented at this Workshop included Carlos Friaças (FCCN) and Pedro Lorga (FCCN). The workshop was held with the help of Mr. António Godinho, on behalf of Eduardo Mondlane University and ISOC Mozambique. The audience had questions about each topic, especially in the Workshop's hands-on sessions. Focus on local Internet Service Providers and Educational Organizations does not mean that those without any knowledge about IPv6 (or from other types of organizations) would not benefit from the event.

#### 3.2 Attendees

No.	Surname	First name	Affiliation
1	MABASSO	VALTER	TELEDATA MZ
2	JESUS	MARIA	TDM MZ
3	MAGALHÃES	JORGE	TDM MZ
4	SANTOS	RICARDO	ISCTEM AC MZ
5	GUIVALA	SÉRGIO	GOVNET GOV MZ
6	ALEXANDRE	PAULO	VIRCONN COM
7	BILA	DAVID	UEM MZ
8	SARANGA	STÉLIO	SATCOM CO MZ
9	SILVA	ALEXANDRE	TVCABO CO MZ
10	RIBEIRO	RUI	TVCABO CO MZ
11	RAJÁ	ATUMANE	TDM MZ
12	MATUSSE	PEDRO	TDM MZ

13	MACHADO	PAULO	ISCTEM AC MZ
14	SITAE	AURÉLIO	MCEL CO MZ
15	MAGAIA	NAÉRCIO	MCEL CO MZ
16	FERRÃO	MIGUEL	SATCOM CO MZ

**Table 3-1: List of participants**

The attendees brought their own laptops (PCs and MACs). Every computer in the room was then plugged into the local network, connected to the world by a 2Mbps connection kindly provided by TvCabo Mozambique. A connection to the IPv6 Internet was then established, using a tunnel setup from Maputo to Lisbon, directly to FCCN's backbone.

The requirements for participation in the workshop were:

- Laptop running on Windows XP, MAC OS, or any Linux distribution.
- Knowledge about basic TCP/IP.
- Knowledge about Windows and Linux (added advantage but not a requirement).

In all cases the attendees were technical people whose knowledge about IPv6 was almost at a starting point. Only one of the attendees had indeed obtained a /32 from AFRINIC for its organization (TDM).

The Workshop attendees are part of a local group of people who will collectively determine the rate of deployment of the latest Internet technologies in their country, and therefore the impact will be that they will promote the upgrading of the networks.

In chapter 5 more details about the attendees can be found based on their answers to the questionnaire.

### **3.3 Workshop programme**

The agenda was agreed on after close collaboration with the local organizers from Eduardo Mondlane University, and tailored set up and configuration exercises were created for this workshop. The workshop agenda and the related material were submitted in advance, so that the local organizers could decide which topics should be prioritised and manage the logistics accordingly. As was requested by most of the participating organizations, the "hands-on" sessions took around 50% of the overall time of the training workshop. The programme of the workshop is presented in the following table:

Date	Time	Session	Modules of session
26/08/2008	09:00	Session 1	Welcome Address About 6DEPLOY Introduction Addressing Autoconfiguration
26/08/2008	14:00	Session 2	Hands-On #1: IPv6 in Windows Hands-On #2 & #3: Router Configuration
27/08/2008	09:00	Session 3	DNS Applications Management
27/08/2008	14:00	Session 4	Hands-On #4: IPv6 in Linux Hands-On #5: DNS Hands-On #6: Services - Apache and FTP
28/08/2008	09:00	Session 5	Security Transition Routing Protocols
28/08/2008	14:00	Session 6	Hands-On #7: Routing Protocols - RIPng Hands-On #8: Routing Protocols - OSPFv3 Hands-On #9: Routing Protocols – Multiprotocol BGP
29/08/2008	09:00	Session 7	Hands-On #10: Security Hands-On #11: Tunnels Closing Address

**Table 3-2: Workshop programme**

## 3.4 Presentation material

The agenda was composed by presentations (modules) and hands-on sessions.

### 3.4.1 Modules

Below is a brief description of each module's content:

- **Introduction to IPv6:** This module explains why a new version for IP, IPv6, has been developed. A brief history of IPv6, and its motivation and benefits are given. Also, Header Formats & Packet Size, and IPv6 addressing issues were presented.
- **Addressing:** This module describes types of IPv6 addresses, statistics on IPv6

allocations and addressing plans.

- **Auto configuration, including DHCPv6 and Prefix Delegation:** This module describes new protocols associated with IPv6 Auto configuration: e.g. Neighbour Discovery Protocol, DHCPv6, Prefix Delegation, etc.
- **DNS:** This module describes new Resource Records for IPv6 DNS, the availability of IPv6 in the root servers zone and CC-TLDs, the DNS usage in servers and clients, etc.
- **Applications:** This module focuses on IPv6 aspects of basic services (Web, E-Mail, FTP), and also on Multicast, Video Conference and Streaming, and Peer-to-Peer Protocols.
- **Management:** This module explains aspects related to SNMP, remote access, monitoring tools, etc.
- **Security:** This module revisits some security threats, describes IPv6 firewalls usage scenarios, and includes an introduction to IPsec.
- **Transition:** This module explains different approaches to deploying IPv6 in an IPv4 environment. Transition concepts are introduced and several transition mechanisms are covered.
- **IPv6 routing:** This module mainly describes the differences between IPv4 and IPv6 routing protocols (BGP4+, RIPng, OSPFv3 and IS-IS).

### 3.4.2 Hands-on exercises

To help ensure the workshop attendees will be able to install IPv6 in their own environment after the course is over, a set of practical exercises has been designed, known as 'hands-on modules'. These exercises were performed on attendees' laptops.

Below is a brief description of objectives related to each of the hands-on exercises that were performed in this workshop:

- **Hands-On #1 – IPv6 in Windows:**

- Activate IPv6 in WinXP based PCs
  - Understand IPv6's basic concepts
  - Manually add/remove IPv6 addresses in WinXP based systems

- **Hands-On #2 & #3 – Router Configuration:**

- Activate and configure IPv6 on a Cisco router interface
  - Visualize some information about IPv6 on a Cisco router
  - Configuring Router Advertisement (RA) options on a Cisco router interface
  - Adding static routes on a Cisco router

- **Hands-On #4 – IPv6 in Linux:**

- Verify IPv6 kernel support
  - Add/Remove manually IPv6 address in a Linux based system
  - Use and tryout some Linux IPv6 tools

- **Hands-On #5 – DNS:**

- Create a forward and reverse DNS zone
  - Add IPv6 related DNS records
  - Perform some DNS queries, in order to retrieve type A and AAAA records

- **Hands-On #6 – Services: Apache & FTP:**

- Configure and run an IPv6 virtual web server in Linux
  - Configure and run an IPv6 FTP server in Windows
  - Test services using IPv6 web and ftp clients

- **Hands-On #7 – Routing Protocols - RIPng:**

- Activate RIPng on a Cisco Router
  - Collect information about RIPng
  - Diagnose problems with RIPng

- **Hands-On #8 – Routing Protocols – OSPFv3:**

- Configure OSPFv3 on a Cisco router and verify the information exchanged
  - Perform troubleshooting
  - Activate OSPFv3 with multiple areas

- **Hands-On #9 – Routing Protocols – Multiprotocol BGP:**

- Establish IPv6 BGP unicast sessions;
  - Verify route information
  - Perform troubleshooting commands
  - BGP Activation/Deactivation

- **Hands-On #10 – Security:**

- Analyze IPv6 services running on a given server
  - Configure access control lists (filters) for IPv6 traffic
  - Perform remote access control (on VTY lines)

- **Hands-On #11 – Tunnels:**

- Establish a tunnel between a Linux server and a Cisco router
  - Force a specific route towards a previously created tunnel



### 3.5 Photographs taken at the event



Figure 3-1: Attendees to the workshop



Figure 3-2: Attendees to the workshop



Figure 3-3: Attendees to the workshop

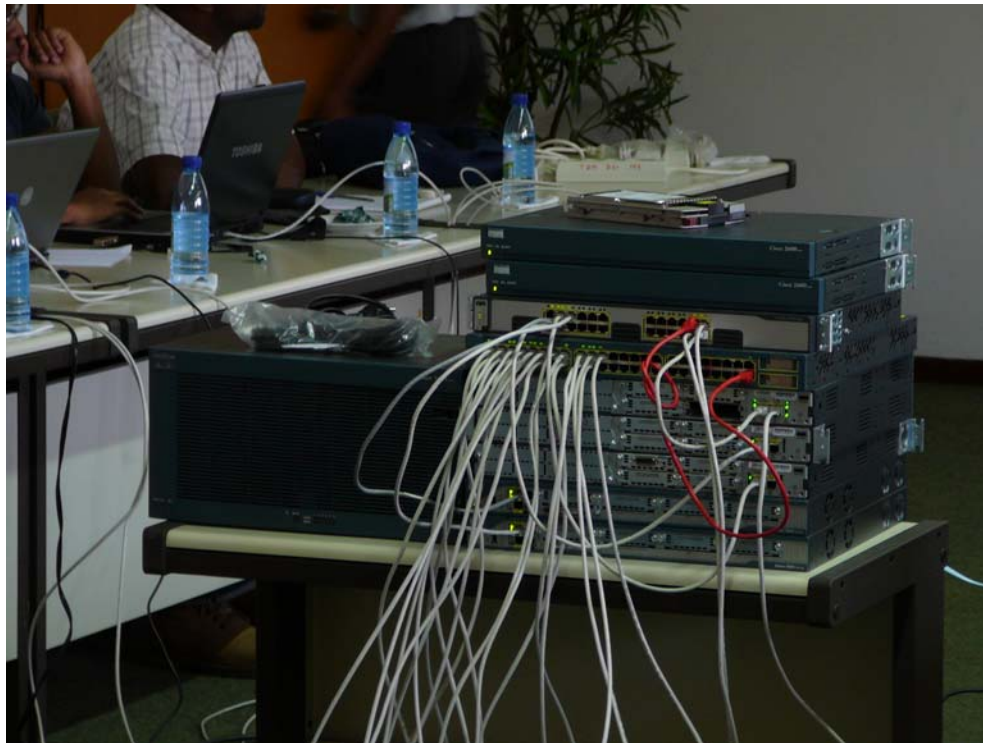


Figure 3-4: Network Setup

## 4. OPPORTUNITIES FOR FURTHER CO-OPERATION

In all the workshops, the attendees were informed on how to stay in contact with the 6DEPLOY partners in case they have questions regarding IPv6 deployment, addressing plans, etc. In this respect, the role of the *helpdesk* was explained as being the way to submit questions. An e-mail to [helpdesk@6deploy.org](mailto:helpdesk@6deploy.org) will be distributed to a mailing list composed of volunteers who are available to answer (or forward) any kind of questions, requests, etc. A web form can also be used to send requests to the project.

Additionally, the attendees can follow the e-learning course and/or check the availability of the 6DEPLOY remote labs and use of these.

Due to the trainers' affiliation with a national research and education network (NREN), contacts were established with Eduardo Mondlane University, in order to explore possibilities in the scope of a future national research and education network in Mozambique. Related to this issue, there is a continental research and education network effort (UbuntuNet) in the region, which will also integrate the future R&E network of Mozambique. Contacts were established in order to pursue future cooperation.

## 5. ANALYSIS OF THE FEEDBACK QUESTIONNAIRES

A questionnaire has been specially designed for the purpose of getting feedback from the participants regarding the suitability of the course material, and the presenters' ability to convey information, and the relevance of the information to attendees' expectations.

Personal information was not mandatory, so as to allow for anonymous responses.

Each participant was first asked to indicate:

- his/her organization and job responsibilities, and
- his/her plans for IPv6 deployment in his/her organization.

Then, for each topic, each participant was requested to assess usefulness, quality of presentation, familiarity with the topic, quality of the course documentation, general organization, etc.

### 5.1 General questions related to participants and IPv6

<b>About the participants</b>		
Around 16 participants present, 15 questionnaires were returned		
<b>Employment sector</b>	Government	1
	University or other higher education	2
	Schools or further education	1
	Research	0
	Health	0
	Commercial	11
	Other (please specify)	0
<b>Job function</b>	Government Advisor	0
	Senior Manager	0
	IT Manager	2,66*
	Systems Administrator	1,66*
	Network Administrator	8,66*
	Researcher / Postgraduate	1
	Undergraduate	1
	Other (please specify)	N/A 1
<b>Usage of IPv6</b>		
Do you use IPv6 yourself?	Yes	2
	No	13
Does your organization use IPv6?	Yes	0
	No, but planned in this year	5
	No, but planned in the next year	3
	No, but planned in the longer term	2

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	No, and no plans as yet	5

\* Some people specified more than 1 function

Table 5-1: General questions related to participants and IPv6

## 5.2 Questions regarding the workshop

<b>About the Workshop</b>				
<b>Usefulness of the topic</b>	Very useful	Useful	Slightly useful	Not useful
Session 1	11	3	1	0
Session 2	12	2	1	0
Session 3	9	4	1	0
Session 4	7	6	1	0
Session 5	9	3	2	0
Session 6	9	3	3	0
Session 7	9	5	1	0
Session 8	10	4	0	0
Session 9	8	5	0	0
<b>Quality of the presentation</b>	Excellent	Good	Average	Poor
Session 1	11	4	0	0
Session 2	12	3	0	0
Session 3	9	6	0	0
Session 4	7	8	0	0
Session 5	4	8	1	0
Session 6	8	6	1	0
Session 7	10	5	0	0
Session 8	10	4	1	0
Session 9	10	4	0	0
<b>Familiarity with the topic?</b>	None	Some	Most	All
Session 1	1	5	6	2
Session 2	3	8	2	2
Session 3	8	3	3	1
Session 4	9	5	1	0
Session 5	7	7	1	0
Session 6	5	9	1	0
Session 7	6	8	1	0
Session 8	5	8	2	0
Session 9	5	6	3	0
<b>Quality of the course documentation</b>	Excellent	Good	Average	Poor
	7	8	0	0
<b>General workshop organization</b>	Excellent	Good	Average	Poor
	10	4	1	0
<b>Recommend to your colleagues?</b>	yes	no		
	15	0		

Table 5-2: Questions regarding the workshop

## 5.3 Feedback Questionnaires - Graphics

Following are some graphics that represent the above results.

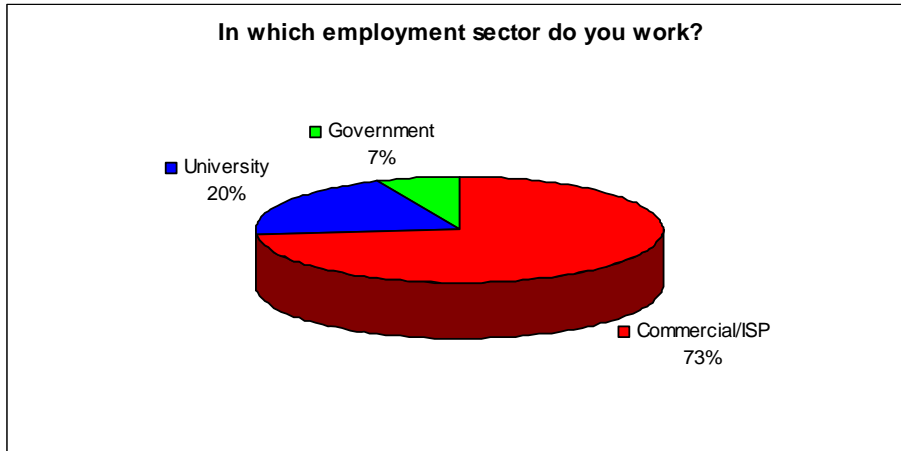


Figure 5-1: In which employment sector do you work?

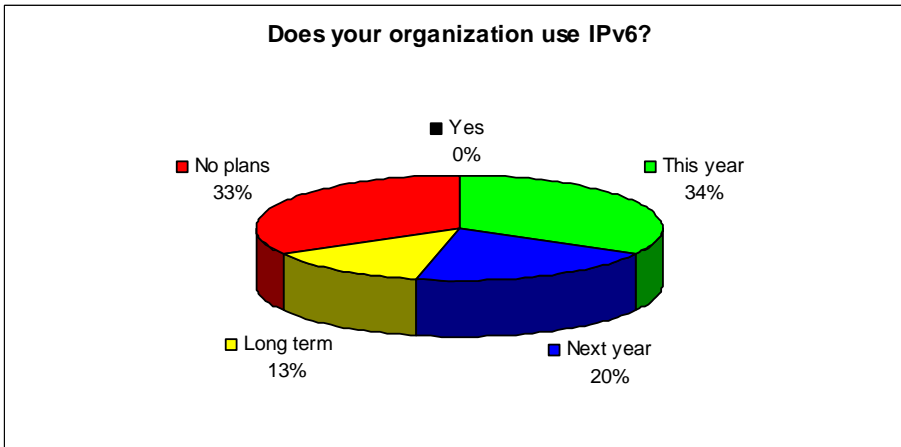


Figure 5-2: Does your organization use IPv6?

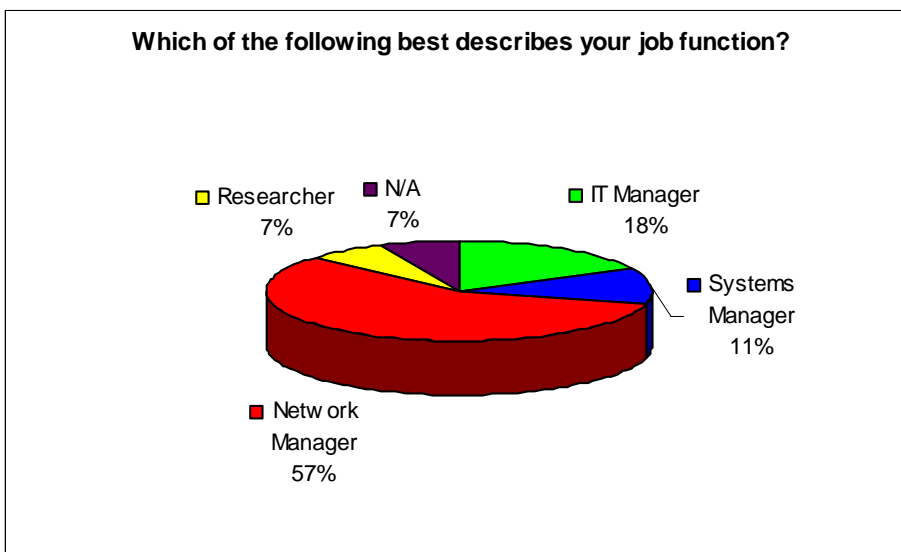


Figure 5-3: Which of the following best describes your job function?

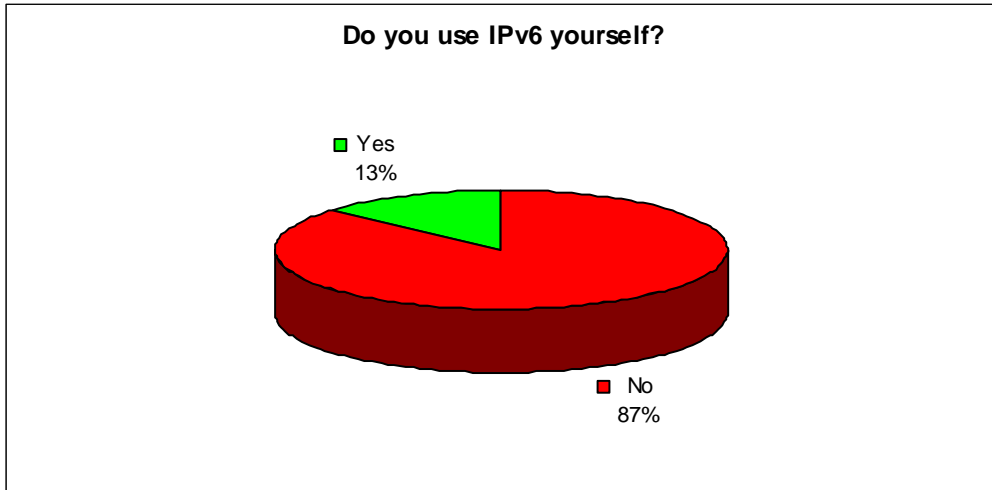


Figure 5-4: Do you use IPv6 yourself?

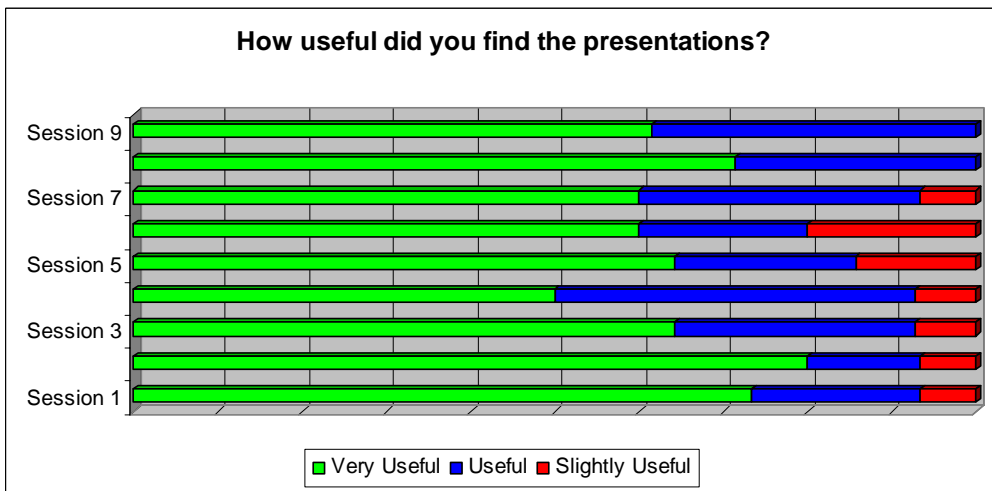


Figure 5-5: How useful did you find the presentations?

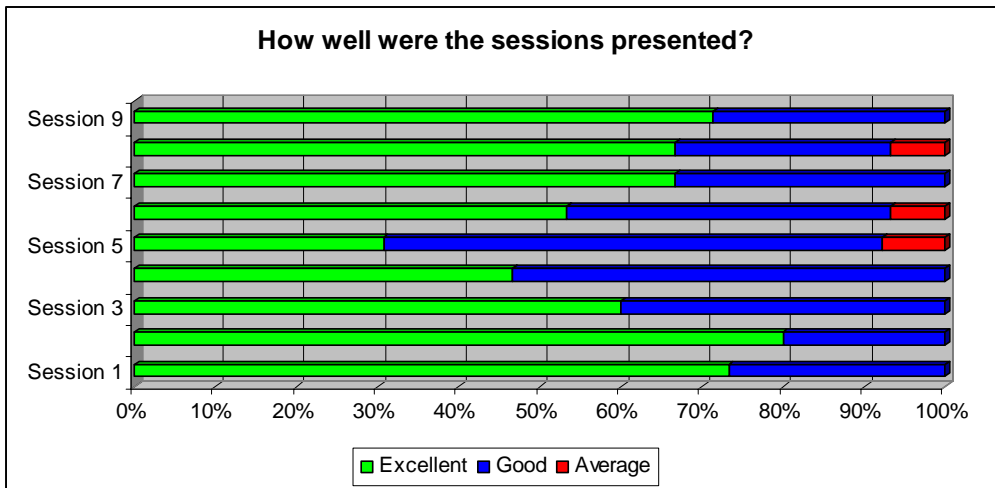


Figure 5-6: How well were the sessions presented?

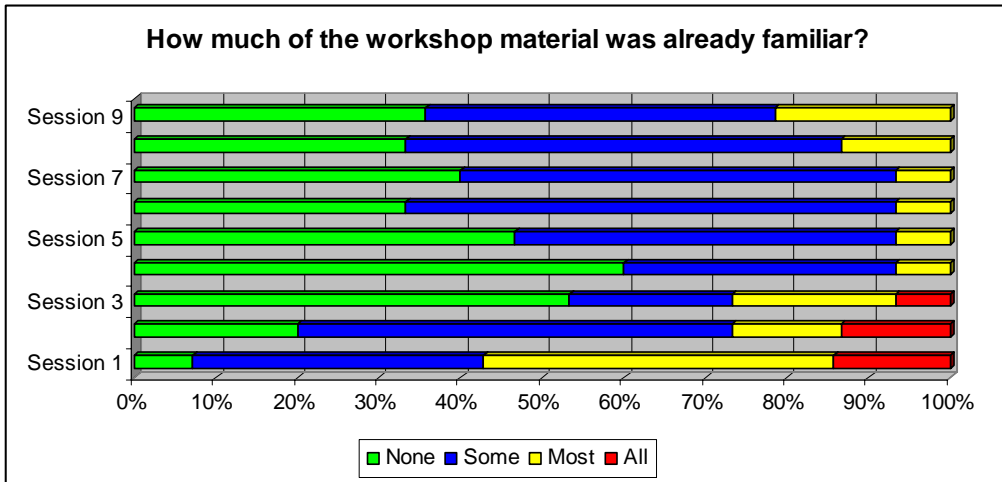


Figure 5-7: How much of the workshop material was already familiar?

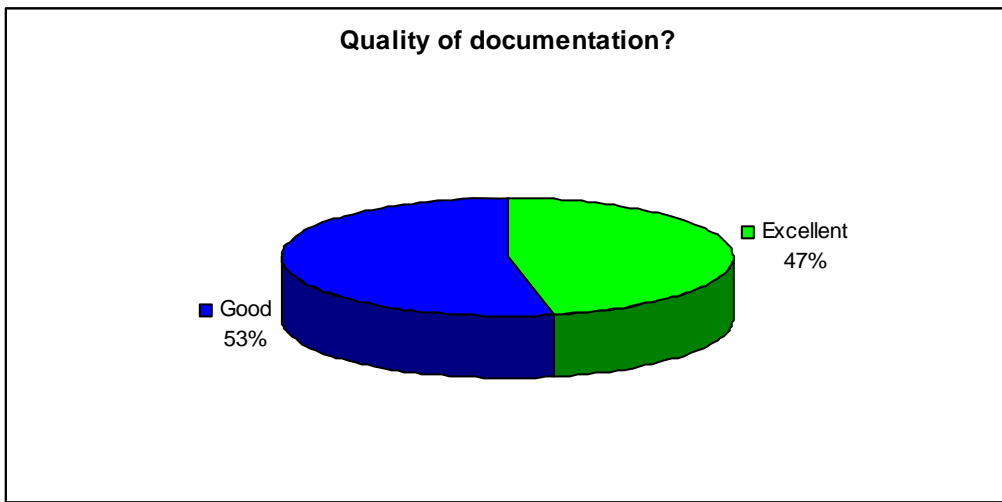


Figure 5-8: Quality of documentation?

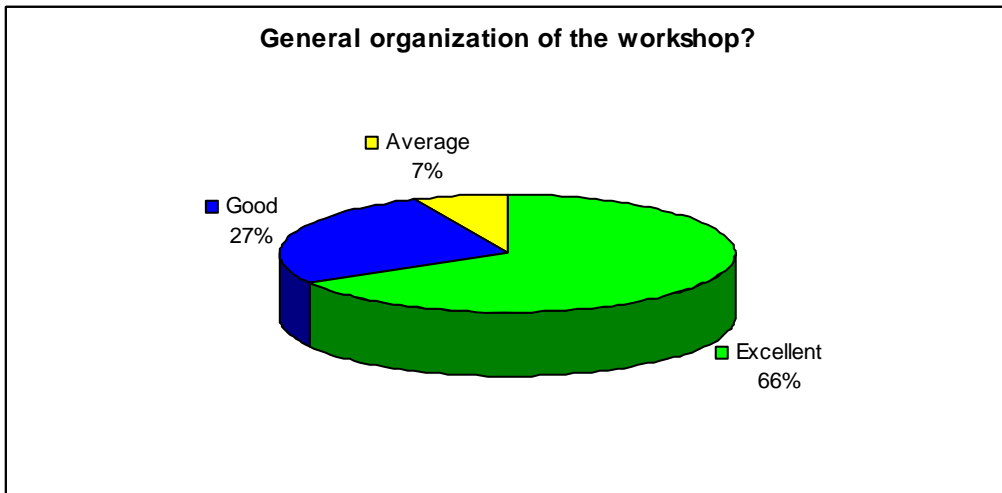


Figure 5-9: General organization of the workshop?



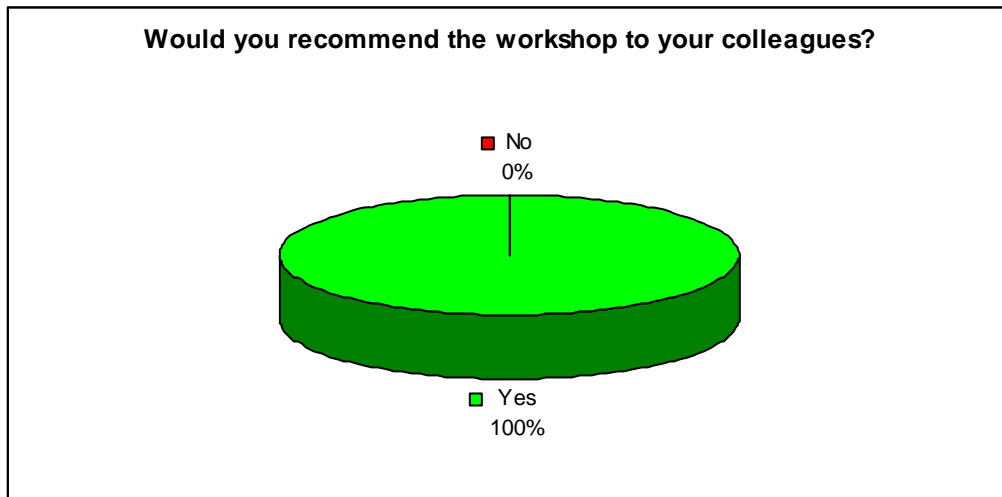


Figure 5-10: Would you recommend the workshop to your colleagues?

## 5.4 Participants comments

It should be noted that the participants had different technical backgrounds. For example, some were network engineers (and therefore more interested in routing protocols and troubleshooting practices), while others were system administrators (and therefore more interested in applications and monitoring tools). Depending upon their background, some participants would have preferred to spend more time on Management, Applications, "hands-on", or to have a "hands-on" session related to security issues.

Within the questionnaire there were three open questions where the trainees could give their feedback on the workshop. Below are almost all of the responses. Note that some are repeated (number indicated).

Here are some comments provided by the trainees:

== Begin of the excerpts

*What topics would you have liked to **hear more about?**:*

- Problems found on deployment cases, where IPv6 is already used. How they were solved;
- Routing, Addressing and DNS;
- Addressing;
- Subnetting;
- More information on DNS and transition mechanisms;
- MPLS, BGP, CCNP;
- DNS, Security, Transition and Routing;

- Cisco Routers configuration, and DNS servers configuration;
- I would like to receive more information about routing protocols in IPv6 environments, especially using BGP and MPBGP;
- Routing protocols, security, and connection to IPv6 networks (tunnels, etc);
- MPLS;
- Security;
- The DNS topic was the most difficult for me, because I didn't have any contact with it. But I found it very interesting, and for that reason I will dedicate some time to investigate further about this topic;
- Addressing, Security, Transition and Routing.

*What topics would you have liked to **hear less about**?*

- (5) None;
- (2) None of the topics spent too much time;
- It was all with the due weight, as it should be;
- IPv6 vs. NAT;
- None, my opinion is that this workshop was useful to provide an insight about several topics, and it is normal that some topics have consumed more time, but I think this was due to their complexity;
- None of the topics spent too much time. All the topics were addressed properly, with an interesting balance. The introductory section was approached very carefully by the trainers. About the remaining topics, it was clear for me that the idea was not go too much in depth, but to demonstrate the integration of certain protocols/applications with IPv6.

*Any **other comments**:*

- I would like more Routing and DNS configuration exercises;
- This workshop was excellent to alert and explain that there is an alternative to IPv4 addressing exhaustion. Improvements, security, and the protocol ease of usage is a push for adding it to existing infrastructures. I've enjoyed this workshop, and it is necessary to broadcast this information and create incentives to increase this protocol's usage;
- I would like to have more DNS and routing configuration exercises;
- From a general point of view, this workshop was very interesting;
- From a general point of view, the workshop was very good in all aspects. It was my first computer related training course in portuguese, and maybe this was a big advantage;
- There was much theory and few hands-on. I know there is a bit complex to setup a lab, but it would be an added value for the training;

- I would like to address congratulations to all involved in this initiative, which surely will be very helpful for us in the short term;
- It was a good initiative; I hope it will happen more times. This area is constantly evolving, and it is positive to exchange experiences with people who has lots of exposure;
- It was an encouraging and interesting training. We got a demonstration that despite some changes, working in IPv4 and IPv6 is practically the same.

End of the excerpts ==

## 6. CONCLUSIONS

Workshops are a key mechanism through which information, knowledge, and know-how are transferred to less experienced groups of professionals across several countries. The workshops enable project 6DEPLOY to build constituencies and raise awareness about IPv6; disseminate, benchmark, and validate the research results from EU's Framework Programmes; promote European technologies; exchange best practices; and offer information related to standards and interoperability issues.

This third official 6DEPLOY workshop took place in Maputo (Mozambique) from the 26<sup>th</sup> August 2008 to the 29<sup>th</sup> August 2008.

FCCN led this workshop with strong cooperation from Eduardo Mondlane University, and the support of ISOC, TDM, and TvCabo Mozambique. Thanks to previous projects and training activities, most of the IPv6 education material needed to start the 6DEPLOY workshop training was available from the very beginning.

The set of dissemination material included most of the issues of Internet deployment and evolution, especially DNS, Auto configuration, Routing and Applications.

16 IT professionals participated in the event. The topics presented were selected according to the participants' requirements.

According to the evaluation forms and the comments from the participants at the workshop, it is clear that there is significant interest in the IPv6 technology. The participants expressed positive comments on the workshop's usefulness and organization.

During the 6DEPLOY lifetime, stakeholders will continue to enhance today's "knowledge database". The reader and interested parties are referred to the 6DEPLOY website to check for new and updated content.

In summary, this workshop should be considered a success regarding the reached dissemination of IPv6 in Mozambique, and was a positive effort towards the deployment of real IPv6 networks in the country.

## 7. REFERENCES

6DEPLOY website: <http://www.6deploy.eu>

6DISS website: <http://www.6diss.org>

Hands-on modules: <http://6diss.6deploy.org/publications/deliverables/hands-on.pdf>

How-to organize an IPv6 workshop:

<http://6diss.6deploy.org/workshops/workshop-guidelines.pdf>

Training the trainers workshop: <http://6diss.6deploy.org/workshops/ttt/>

e-learning package: <http://6diss.6deploy.org/publications/multimedia/e-learning.iso>

e-learning on-line: <http://6diss.6deploy.org/e-learning/>