Abstract:

Deliverable D3.3.7 is produced after a minimum network infrastructure is up and running. The main goal of these documents is to reports regarding the Euro6IX networks status, deployment state and usage by internal activities as well as public events.

In August 2002, Euro6IX has contributed to the public event "Valencia 2002 Campus Party" providing IPv6 connectivity to the LONG project (this one offering several IPv6 services). Besides connectivity, Euro6IX offered its IPv6 enabled WEB page as well as IPv6 training and support.

Keywords:

Euro6IX, IPv6, Network Maps, Network Reports, Network Status, Statistics, Traffic.

Revision History

Revision	Date	Description	Author (Organization)
v0.1	20/09/2002	Document creation	Carlos Ralli Ucendo (TID)
v1.1	20/10/2002	Updated to project template and further inputs	Jordi Palet (Consulintel)

Executive Summary

This D3.3.8 deliverable has been produced in the context of activities A3.1 and A3.2.

Activity A3.1 covers the deployment of the local networks attached to the different Euro6IX IXs nodes. Activity A3.2 deals with all deployments related to Euro6IX Backbone network.

Deliverables D3.3.x will be produced every month, and this document corresponds to month number 8 (August 2002).

D3.3.8 aims to summarize the status and usage of the different Euro6IX networks and services during August 2002.

As a first approach, the structure of these network usage reports is the following:

- First section (Current Network Status) is intended to clarify which links have been already deployed and which concrete networks have been attached.
- Second section (Network Stability and Global Traffic Reports) is intended to show the reachability of all network sections as well as a global view of the total traffic exchanged in Euro6IX network.
- Third section (Detailed Network and Services Usage in Events/Trials) is intended to show and analyze the traffic produced in some internal trials and in all public events where Euro6IX contributes in any way.

During the "Valencia 2002 Campus Party" event, Euro6IX cooperated with the LONG project, to provide IPv6 connectivity and services, as part of our internal trial, achieving over 1.200 users.

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1. INTRODUCTION

Euro6IX project has, as a key goal, to accelerate the introduction of IPv6 protocol in Europe. To reach this purpose, an appropriate architecture will be researched in order to design, develop, deploy and validate the first Pan-European pre-commercial IPv6 Internet Exchanges Network.

The network will connect regional and strategic neutral IPv6 Internet Exchanges across Europe in order to achieve higher levels of robustness and service quality than currently offered by IPv4 Networks.

The project will give the possibility to test advanced network services and IPv6 enabled applications that need to be properly monitored and reported, as part of the deployment activity, as is actually done in production networks.

2. CURRENT NETWORK STATUS

This section is intended to update and clarify which links have been already deployed and which concrete networks have been attached to Euro6IX backbone.

2.1 Remarkable news Related to Euro6IX Network & Services

In this period (August 2002, M8) the relevant news include:
- UMU local site connected to MAD6IX node (routed as UMU-UPM-MAD6IX).
- VODAFONE local site link to MAD6IX officially requested (E1 2 Mbps link at the moment).
- MAD6IX-LON6IX will be an STM-1 link. The capacity of this link could be increased from the planned 34 Mbps up to 155 Mbps if necessary.

2.2 Status of International Links

As stated in D3.3.7 all international links were planned for end of M7 (July 2002) but since finally all them are going to be sponsored by Telcos related to consortium partners, some important delays are expected (2-3 months depending in each Telco internal procedures).

No alternative measures for these links have been taken since the work and cost for establishing temporal links is not worth enough compared to the benefit of having the links on M7.

All the Telcos are trying their best to have the links deployed before the IST2002 event, as a project demonstration will be done there. Several links are very important, because they will allow also the connectivity of Euro6IX to 6NET.

The updated status of the links is as follows:
- **LIS6IX-MAD6IX:** Up and running.
- **MAD6IX-LON6IX:** Expected to work before 10th October 2002.
- **LON6IX-PAR6IX:** This link will be routed using an available FT's STM-1 POS connection. At least 34 Mbps will be available for Euro6IX traffic. The L3 connectivity is planned for early October (2nd week).
- **PAR6IX-BER6IX:** PAR6IX-Frankfut still not working (but officially requested), and expected to be ready for the IST2002.
- **BER6IX-TOR6IX:** There is a small possibility of getting it working for IST2002, but not confirmed at this time.
- **TOR6IX-ZUR6IX:** Not working as of August 2002.
- **TOR6IX-MAD6IX:** Scheduled for Dec 2002. A first alternative being considered could be based in a new Madrid-Paris link sponsored by Telefónica.
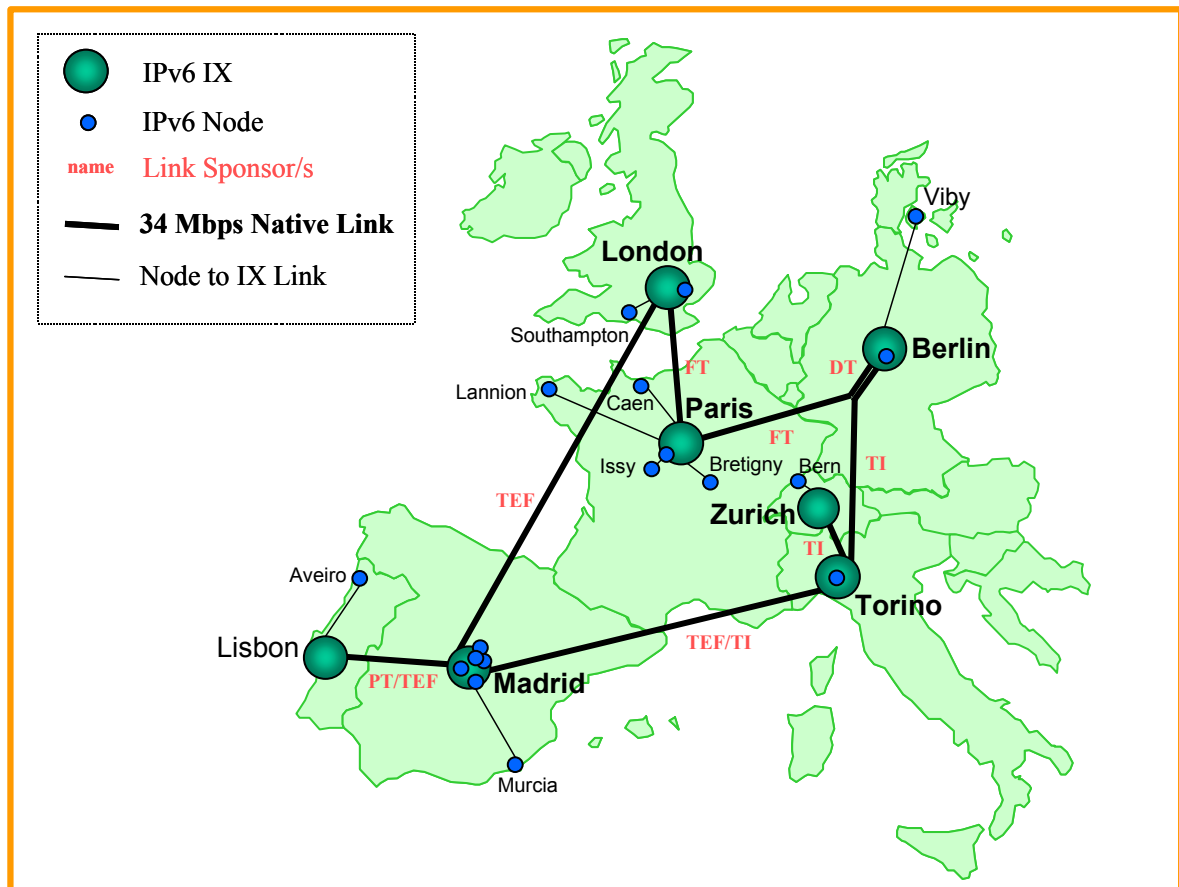
Figure 2-1: **Planned Euro6IX international links as of August 2002**

3. NETWORK STABILITY AND GLOBAL TRAFFIC REPORTS

This section is intended to compile the traffic statistics diagrams automatically generated in order to have a global view of the Euro6IX network usage.

The following subsections show the global statistics systems that have been identified as necessary to characterize the Euro6IX network usage each month.

3.1 Hosts/Networks Reachability Statistics from TID

The "ping_stat" tool automatically generates these statistics.

This tool has been developed by TID in the context of the LONG project and allows checking the reachability of network elements by executing "ping" to a list of IPv6 addresses every 15 minutes. The results are transferred to another machine using the "wget" IPv6 enabled tool. This second machine shows through a WEB interface the graphics generated using the information retrieved each 60 minutes.

It has been noted that other partners have similar tools already deployed (i.e. TILAB). These partners are suggested to show their own statistics in the WEB servers located in their premises.

The installation and configuration of this system at TID's Euro6IX local network is scheduled for M9 (September 2002).

All local sites should provide before the end of September 2002 a stable host/router interface, which will be checked by "ping_stat" tool.

3.2 Links Traffic Measurement Statistics

As of August 2002 no Links Traffic Measurement system has been defined.

In the future, this section will compile the traffic sent by Euro6IX international and national links. It will include also the traffic sent and received in the links connecting Euro6IX to other IPv6 backbones.

A concrete definition of such a system should be ready as of January 2003.

3.3 Euro6IX Services Statistics

As of August 2002 no IPv6 stable services have been defined.

In the future, this section will include concrete servers statistics related to the usage of a set of stable services implemented in Euro6IX.

As an example, this section will contain the statistics related to IPv6 accesses to Euro6IX official WEB page, that are already being logged in advance to the start of the project, so it can be processed and displayed at any time.

4. DETAILED NETWORK AND SERVICES USAGE IN EVENTS/TRIALS

This section is intended to study and analyze the network traffic generated in the following situations:

- **Internal Trials:** Internal Euro6IX trials performed in the context of activity A4.3 will generate traffic within the Euro6IX networks. In some of these trials, the detailed study and analysis of the traffic generated could be interesting. In such cases, particular diagrams and statistics will be shown in this section although they could be included in the general statistics showed in previous sections.

- **Public Events:** After a public event has been performed, the traffic processed by the network during it must be studied and analyzed. The study must be focused in the traffic obtained as a result of this concrete event.

4.1 Valencia 2002 Campus Party

During August 2002 Euro6IX participated, jointly with LONG project, at the "Valencia 2002 Campus Party".

In this event, Euro6IX has collaborated taking the oportunity to do an internal trial for the stress of the network already deployed among several partners, and also doing dissemination activities. The summary of this activity was the following:

- Consulintel provided IPv6 training and disseminated the European projects and activities related to the support of IPv6. Documentation was provided, together with support, and the result was that more than 1.200 PC clients where configured (different OSs).

- Telefónica provided connectivity (5 Mbps ATM link) from MAD6IX (Madrid, Spain) to the Campus Party location (Valencia, Spain).

- UPM provided a server in the event to demonstrate an advanced videoconference service adapted in the LONG project (ISABELv6).

- Euro6IX has contacted the LONG project to offer a large list of IPv6 services. In the future Euro6IX will take advantage of LONG and other projects to install its own services.

A detailed description and network/services statistics report has been generated as a join document by both LONG and Euro6IX projects.

This report has been uploaded into the Euro6IX FTP repository (folder corresponding to A4.3 activity), and named as "euro6ix_co_tid_wp4_130902_v9_0.doc.zip".
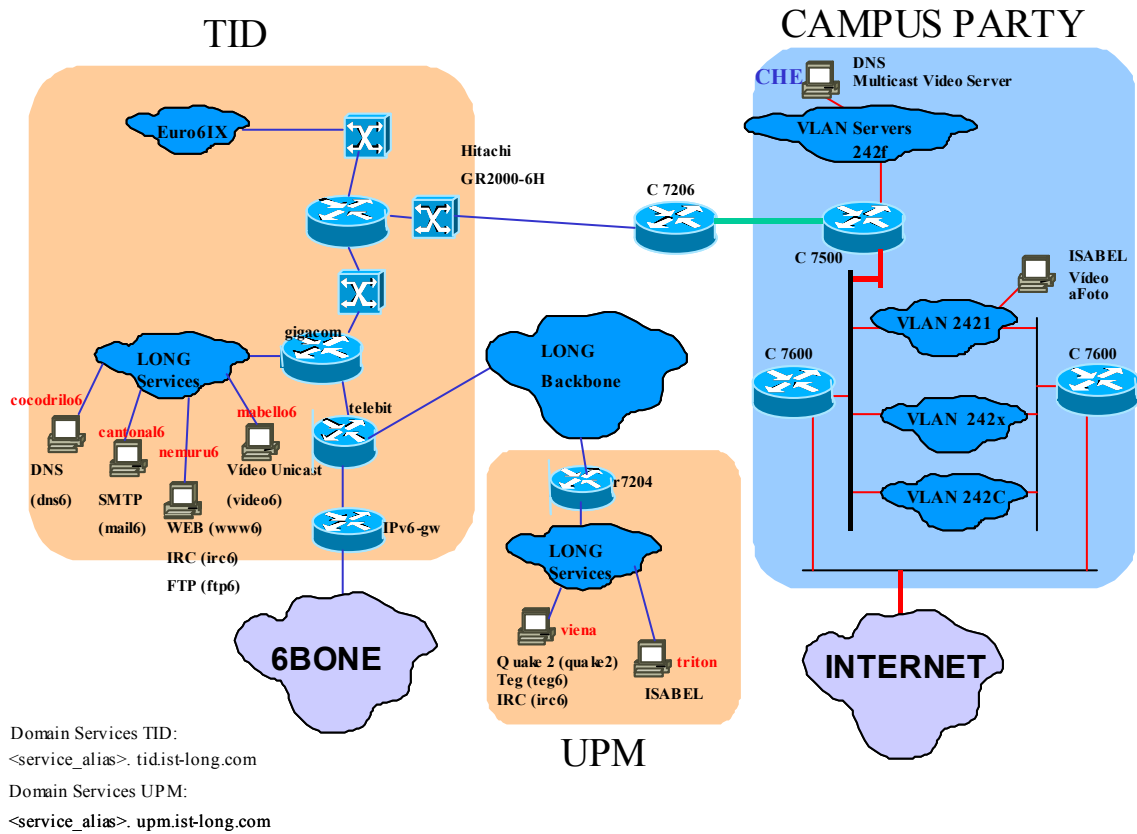
Figure 4-1:   **Euro6IX and LONG collaboration for "Valencia 2002 Campus Party" Event**

5. SUMMARY AND CONCLUSIONS

Up to end of August 2002, several links of the Euro6IX network are active and fully operational, and the network usage reporting activity is being continued.

An important internal trial has been carried out in Valencia, connecting over 1.200 users to IPv6 networks.

Several tools are planned to be deployed in order to accomplish this task, and the basic set is described in this document, including network stability, global traffic, and network/services usage in trials and events.

Considering that new data could be collected from time to time, and then new tools will be needed, in order to complete the proper reporting.