



EETT

HELLENIC TELECOMMUNICATIONS & POST COMMISSION

HYPERION- a System for performance evaluation of broadband connection services

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History: The need for measuring broadband characteristics

- 2006: Formal complaint filed by various ISPs on technical limitations imposed by the incumbent operator OTE on the wholesale ADSL service affecting the performance of VoIP services.
- 2008: Formal complaint, supported by a group of 100 consumers, on selective degradation of data throughput (traffic shaping), when using Bittorrent service, on selected customers of a major ISP, without prior agreement or warning.
- 2009: Formal complaint, supported by a group of 511 consumers, on very low network performance and problems using interactive services (online gaming, VoIP, etc). EETT's Hearing Committee verified that the existing regulatory framework did not require ISPs to guarantee minimum QoS and, consequently, consumers were not protected from such problems.

EETT's Objectives

-Ensure transparency for consumers

Provide consumers with:

simple, easy to use tools, to measure their broadband connection (performance, network neutrality)

useful personalized and country-wide geographical statistics.

-Enable informed consumer decisions (business & private) by mapping broadband performance of in different areas of the Country and improve market confidence

-Promote transparency and competition in the market by motivating ISPs to improve the QoS in their networks (QoS becomes an advertising tool)

-Assist the monitoring & enforcement powers of the NRA



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The implementation

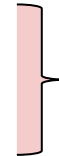
EETT became member of the Measurement Lab partnership contributing a measurement node located in Athens (KO.M.E.X)

- **EETT's contributions**

Established and coordinates work on Athens' M-Lab node

Provides Hardware Infrastructure and Maintenance

Developed **open-source geo-mapping application**




**Infrastructure
Donor**

- **Openness: The M-Lab Node in Athens is co-located with the Athens open and zero settlement GigaPoP, namely grIX, which was established and is operated by GRnet, interconnecting Greek ISPs' fibre networks**

NDT Measurement Tool

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System for Performance Evaluation
of Broadband Connection Services



New measurement | Graphs | Map

Perform a new measurement with NDT

Download Speed ----
Upload Speed ----
Ping Time ----
Packet Loss ----
Jitter ----

ready to measure connection

Start Measurement | Show Details


- Simple, Easy to use broadband performance measurement tool.
- Seamless integration with the GIS web app.

Optional Personalized Services

- User registration and authentication is required for:

- Personalized Statistics
- Geo-mapping

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System for Performance Evaluation of Broadband Connection Services

SPEBS allows you to measure the characteristics of your broadband connection, keep a full record of your measurements and compare your results with the results of the other users.



Sign up now and start your measurements!

Email

Password

[Create new account](#)

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Geo-mapping Measurements Data

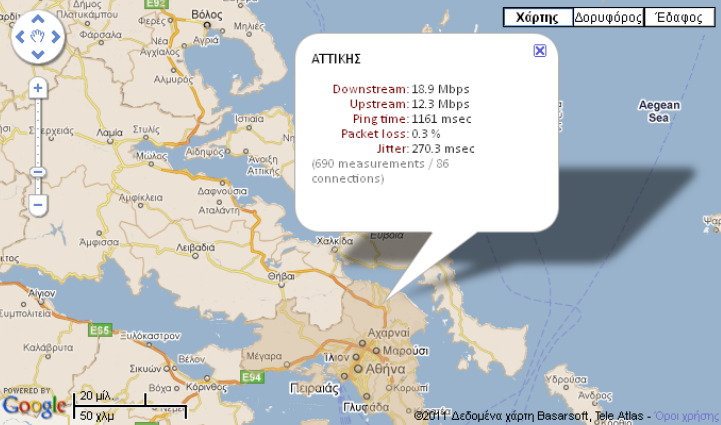
- High-Level Maps
- Polygons representing:
- Counties
- Municipalities

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 System for Performance Evaluation of Broadband Connection Services

[New measurement](#) [Map](#)

Measurements of registered users





Χώρας: Διορυφήρος Έδαφος

ΑΤΤΙΚΗΣ

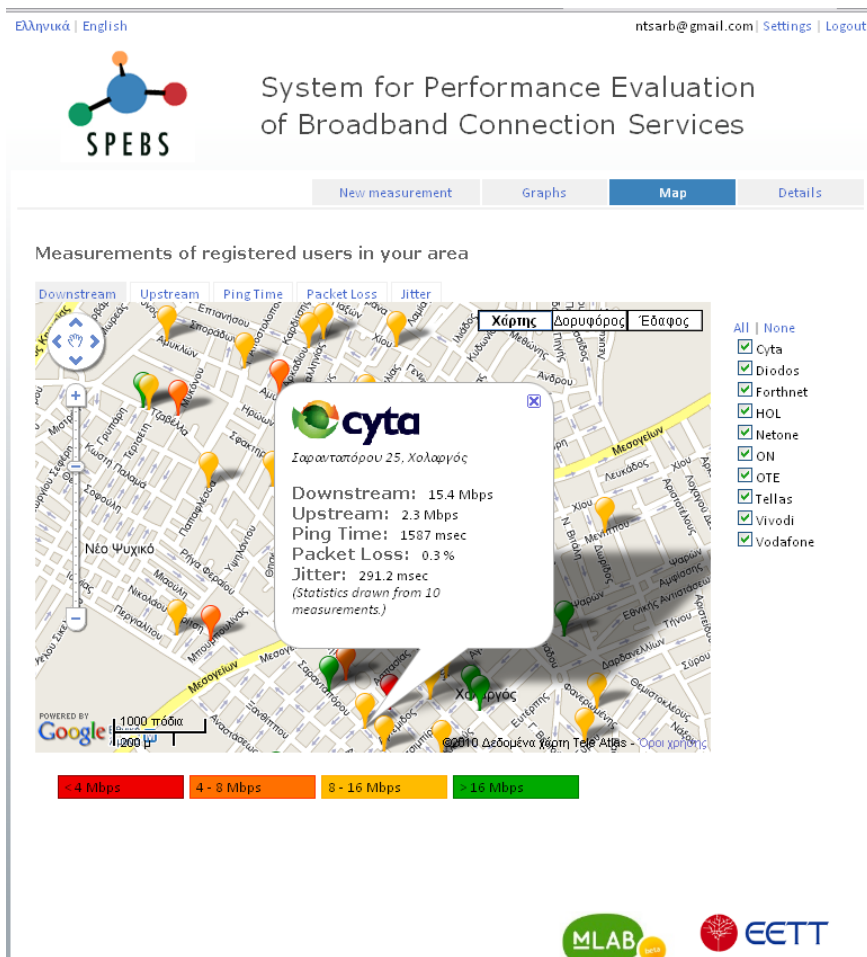
Downstream: 18.9 Mbps
Upstream: 12.3 Mbps
Ping time: 116.1 msec
Packet loss: 0.3 %
Jitter: 270.3 msec
(690 measurements / 86 connections)

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The users of SPEBS are fully responsible for the correctness of the data they enter, regarding their broadband connections' characteristics (location, downlink/uplink speed, etc.).

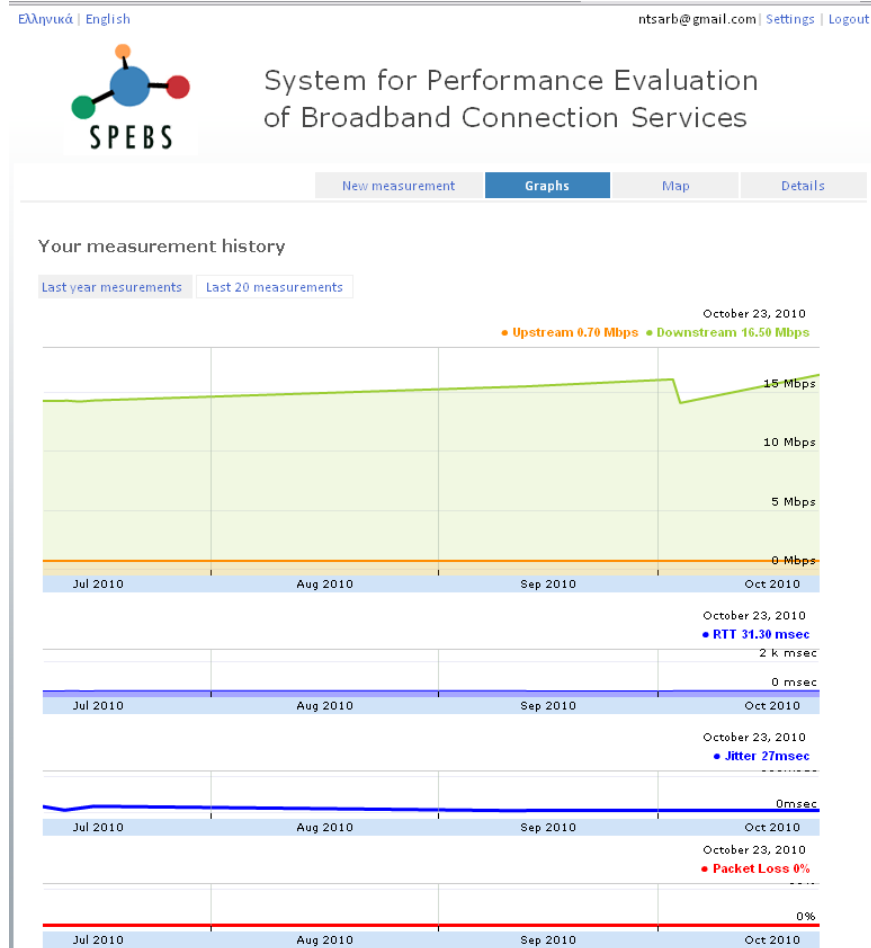
 

High-detailed maps



- Use of color-scale to identify areas with higher or lower network performance characteristics.
- View of individual measurements
- Allows EETT & Telcos to study:
 - Usability issues
 - Application performance issues
 - Consumer feedback
- Filter by Telecom operator
- Filter by time zone
 - 00:00-07:59
 - 08:00-15:59
 - 16:00-23:59
- Filter by day
- Filter by Package

Personalized Statistics




- Detect performance improvement or degradation
- Detect cabling faults.

Export measurements data

Help consumers understand and evaluate connection Performance issues

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System for Performance Evaluation of Broadband Connection Services

[New measurement](#) [Graphs](#) [Map](#) [Details](#)

Detailed list of your measurements

	Date Time	Downstream (Mbps)	Upstream (Mbps)	RTT (msec)	Packet Loss	Jitter
1	9/7/2010 - 17:33:11	14.395	0.664	35.8	0.00%	43
2	9/7/2010 - 17:34:58	14.322	0.665	33.5	0.02%	102
3	9/7/2010 - 17:41:32	14.356	0.664	34.7	0.01%	89
4	9/7/2010 - 17:45:16	14.331	0.665	32.5	0.02%	92
5	9/7/2010 - 17:48:28	14.322	0.663	34.5	0.02%	97
6	9/7/2010 - 19:28:02	14.393	0.664	35.8	0.00%	95
7	9/7/2010 - 19:31:36	14.326	0.664	33.6	0.02%	100
8	9/7/2010 - 19:35:49	14.347	0.664	33.5	0.02%	71
9	12/7/2010 - 18:14:14	14.280	0.665	34.7	0.01%	35

[Export data as CSV file](#)



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Public Consultation

- A Public Consultation that has been undertaken by EETT in Greece in mid-2011, in collaboration with M-Lab
 - Focused on EETT's Methodologies for:
 - Personalized Stats and
 - Geomapping of Measurements Data
 - Aimed to:
 - Collect feedback and proposals from ISPs, Public Organizations, End-User Groups and Third Parties (from Greece and abroad)
 - Help further improve M-Lab's Research Platform and Organization
 - Help establish a trust-relationship between stakeholders

Very positive comments and feedback was received by all participants which have praised the advantages of the system. Some MNOs have requested the extension on the system to mobile applications

Future Features being implemented

- In progress
 - ✓ Support for multiple connections per user (at same or different postal addresses)
 - ✓ Mobile client
 - ✓ New Key Performance Indicators (e.g. Actual Speed / Modem Synchronization Speed)
 - ✓ New, Market-wide Statistics (pie charts, bar charts, etc)
- Integration with ISPs' systems
 - Web Services that validate connection information (ISP, Package, Location)

Future Features for Mobile Networks

- In Progress
 - Study of Functional Requirements
 - Preparation for a Call for Proposals

- New Features
 - Measure mobile network service availability, using consumer Smart Phones
 - Measure mobile network service performance, using consumer Smart Phones
 - Integrate mobile measurements into HYPERION

- Integration with Mobile Network Providers
 - Web Services to facilitate new and improved services to consumers.

Implementations in other countries

- **New Zealand implementation : NZBT**

<http://www.nzbt.org.nz/>

- **Cyprus implementation : 2B2T**

Thank you

Questions?

<http://broadbandtest.eett.gr>

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