

SEEREN
SEEREN2: Extending the network in the
SE Europe

<http://www.seeren.org>

Yannis Mitsos
SEEREN2 coordinator
Greek Research and Technology Network (GRNET)



SEEREN2 objectives

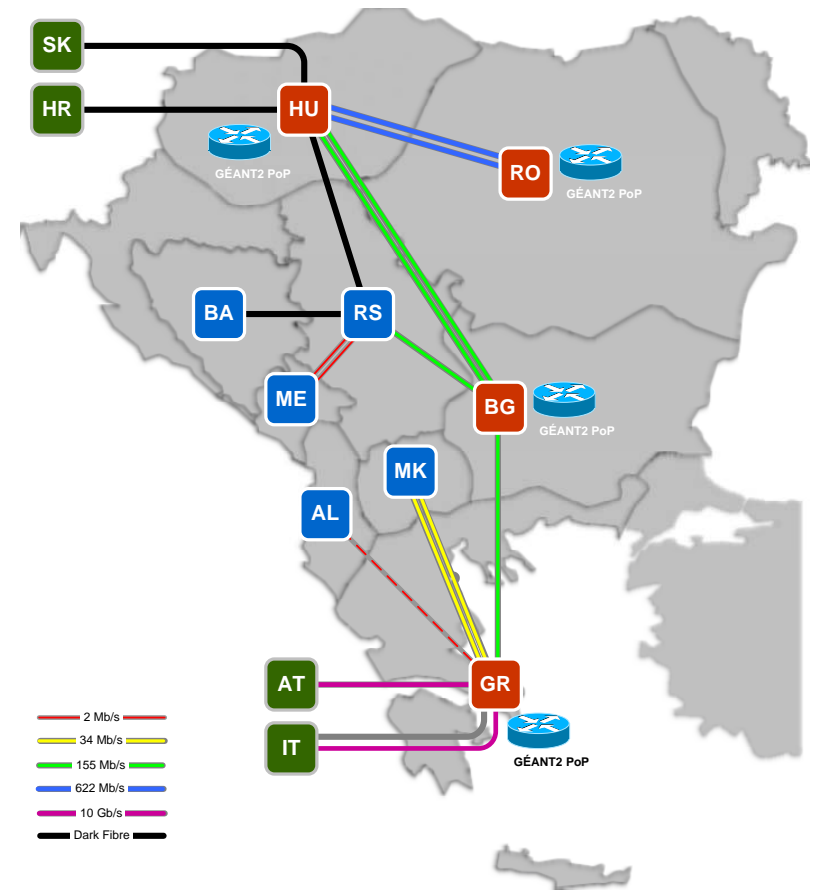
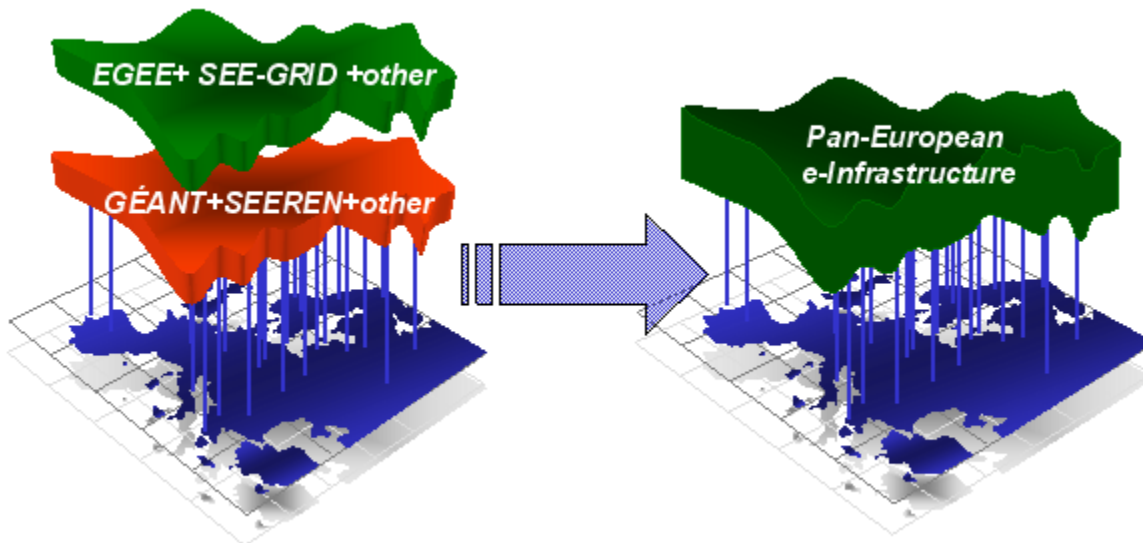


SEEREN2 aims at:

- creating the **next generation of the southeast European segment of GÉANT**
- easing the “digital divide” that still separates most of the southeast European countries from the rest of the continent
- assisting the incubating NRENs to fully establish themselves in the European Research Area (ERA) and be integrated in the related European-wide organisations and initiatives (TERENA, CEENet, e-IRG, EUGridPMA, etc)..

The SEEREN2 initiative

“... to consolidate the network and services into the pan-European e-Infrastructure and the NREN end-users into the European Research Area ...”

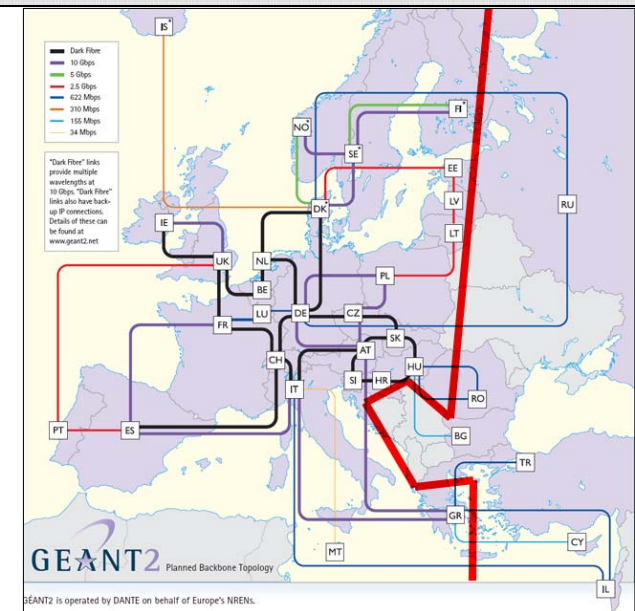


more at <http://www.seeren.org>

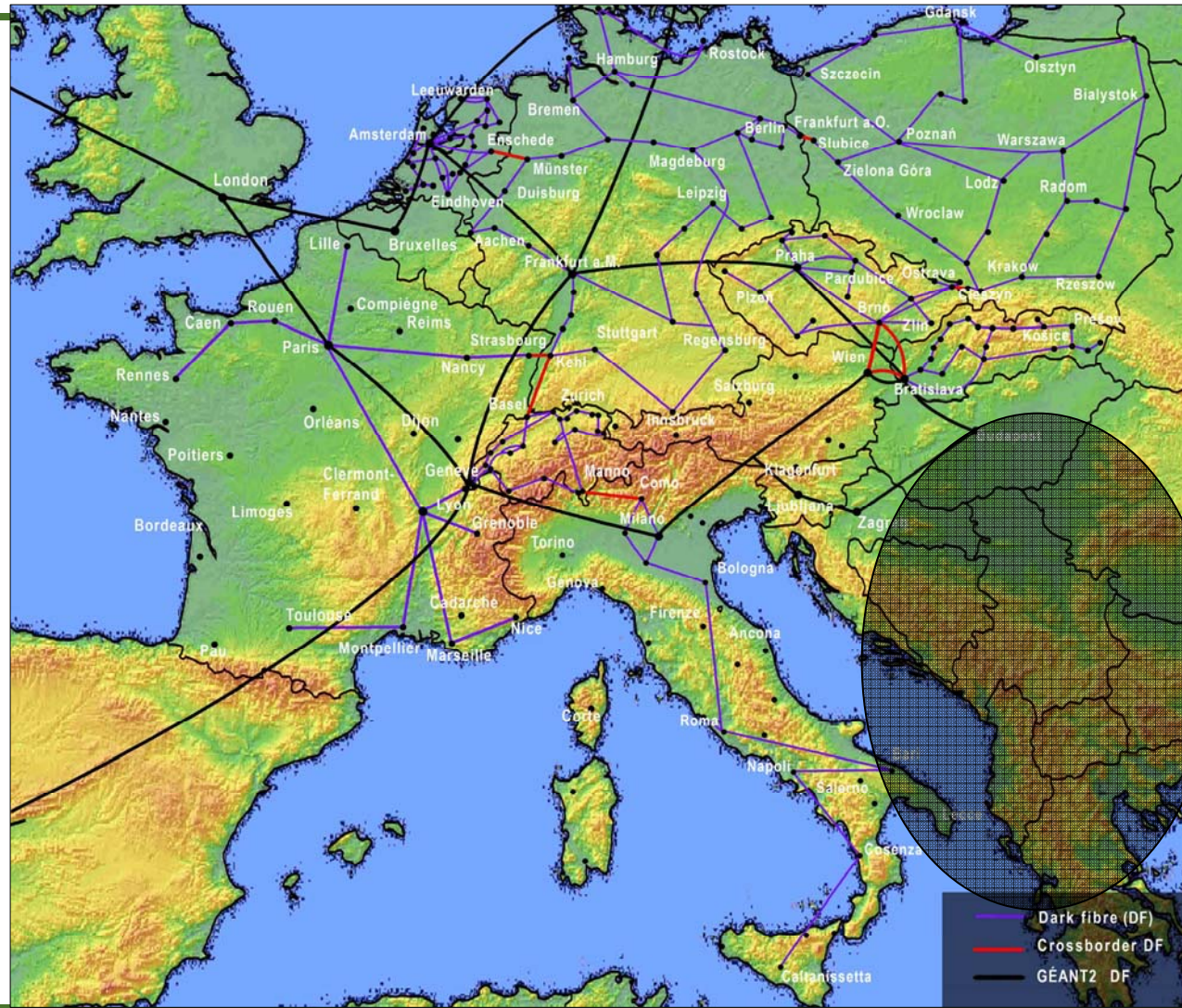
Definition of “Digital Divide”

- First and foremost, the digital divide is an infrastructure divide. There are not enough connections and access points in the world for everyone to connect their video, voice and computing devices;
- optical networking is emerging rapidly
- very demanding scientific applications (i.e. Grids) demand solid and high bandwidth infrastructure
- *Research networks are a national asset*

- Evidenced by numbers:
 - 4/5 of the world's population give or take a few percentage points, lack access to dependable, reliable and affordable public communications networks



DF for the research community



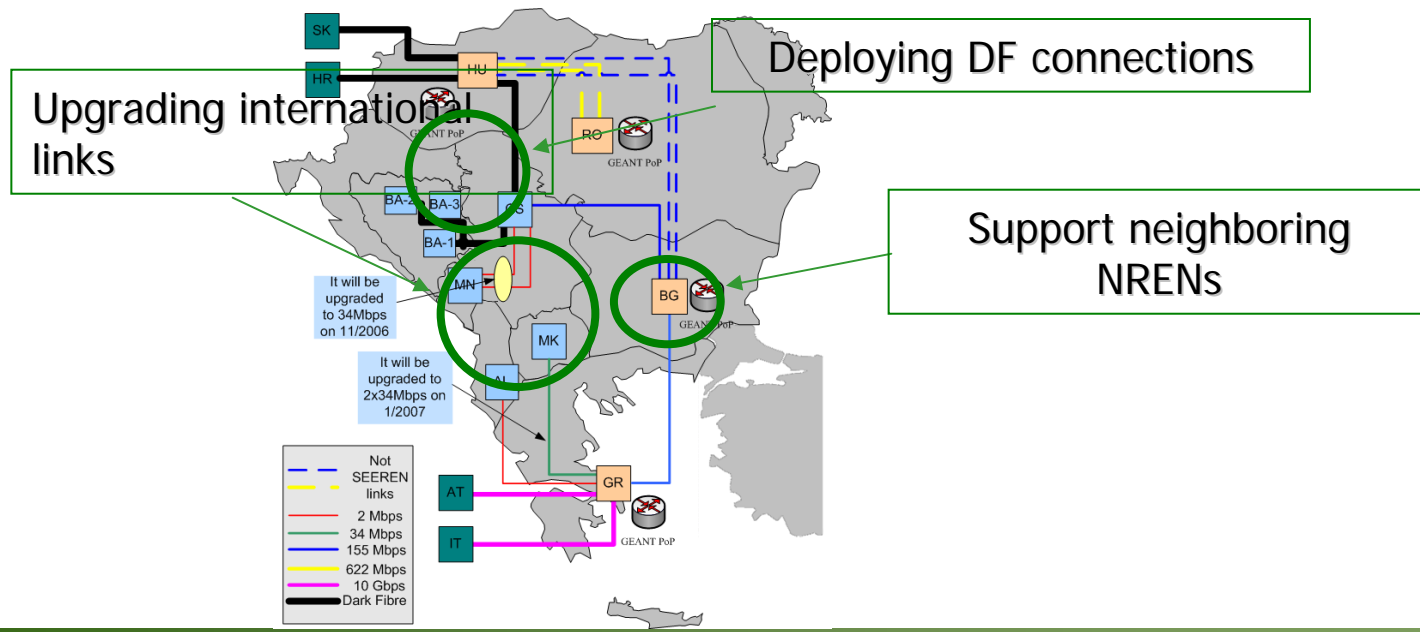
slide from

Stanislav Šíma, Lada
Altmannová „Towards
advanced CEF Networks
lighting“

CESNET presentation - **May**
30th, 2006

Means of easing the DD: Upgrading Infrastructure

- SEEREN2 aims at creating the next generation of the southeast European segment of GÉANT, that intends to make leading-edge technologies and services available to the entire R&E communities and all sectors without discrimination between users and sites in southeast Europe in an attempt to further ease the “digital divide” that still separates most of the southeast European countries from the rest of the continent.

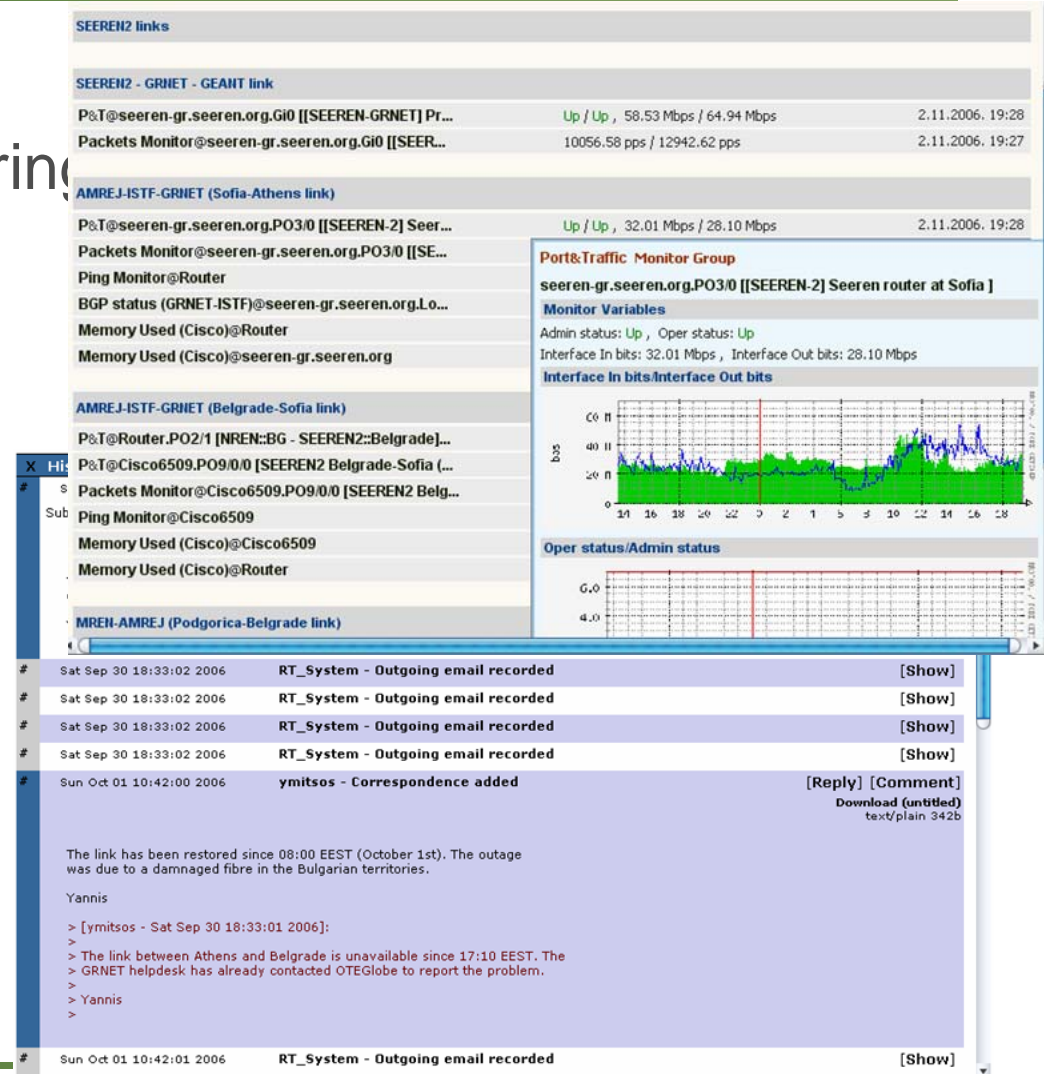


Major Achievements

- Deployment of 2 CBDF connections (based on CWDM);
- Elaboration of custom based tools (NetIIS - Serbian NREN);
- Collaboration with the GN2-JRA1 activity since early 2006;
- A new NREN was established in Montenegro;
- Synergies with other pan-European efforts and projects (Lobster and NEMU) resulted into integration of security related applications;
- 2 training events (1 summer, 1 winter school)
- Participation in workshops and conferences (TNC 2006, 2007, YUINFo 2007)
- Scientific publications (IEEE/IFIP)

“Fundamental” services

- Trouble Ticketing System
- Network active/passing monitoring
 - NetIIS
 - perfSONAR
 - Open source tools
- Network DB
 - Hidden inside NetIIS
- IPv6 connectivity
- Monitoring/management tools integration
 - Through a one-stop
- SLA management



The screenshot displays a network monitoring dashboard with several sections:

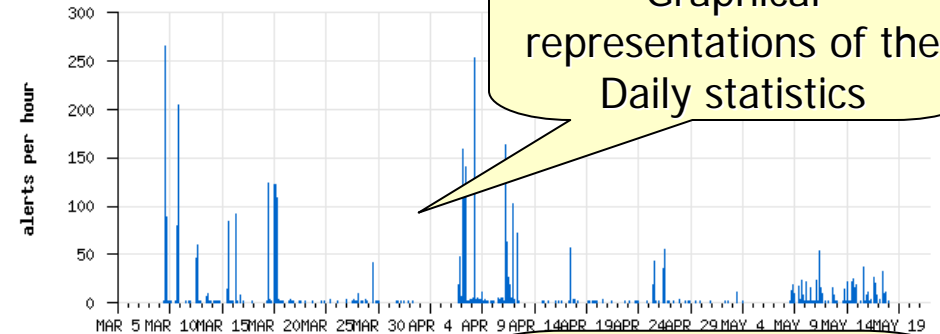
- SEEREN2 links**: A table listing various network links with their status and traffic data.
- SEEREH2 - GRIET - GEANT link**: Shows traffic for the link between P&T@seeren-gr.seeren.org.Gi0 and Packets Monitor@seeren-gr.seeren.org.Gi0.
- AMREJ-ISTF-GRIET (Sofia-Athens link)**: Shows traffic for the link between P&T@seeren-gr.seeren.org.PO3/0 and Packets Monitor@seeren-gr.seeren.org.PO3/0.
- AMREJ-ISTF-GRIET (Belgrade-Sofia link)**: Shows traffic for the link between P&T@Router.PO2/1 and Packets Monitor@Cisco6509.
- MREN-AMREJ (Podgorica-Belgrade link)**: Shows traffic for the link between P&T@Cisco6509 and Packets Monitor@Cisco6509.

On the right side, there is a **Port&Traffic Monitor Group** for the router at Sofia, showing monitor variables and a graph of interface in/out bits over time.

At the bottom, there is a ticketing system interface showing a list of tickets and a detailed view of a ticket from Yannis regarding a link outage between Athens and Belgrade.

Advanced Services

- LOBSTER
 - MoU, help from developers
 - Deep packet inspection
 - Anonymized!
- CERT
 - Group created
 - Links with CSIRT groups established
 - Further activities planned



Polymorphic Attack Statistics
...32.0/20
Fri May 18 11:30:21 2007
total attacks: 4653
4045 (86.93%) launched from internal hosts
608 (13.07%) launched from external hosts

INTERNAL ATTACKS		EXTERNAL ATTACKS	
dest port	# attacks	dest port	# attacks
2967	3301	1025	399
80	721	2967	204
1025	23	2100	4
		80	1

source IP	# attacks	source IP	# attacks
8.33.194	1539	.196.64	212
.33.100	630	.199.146	36
.37.234	342	.201.35	32
.33.20	284	.203.30	21
8.33.115	275	.195.97	20
3.37.209	266	.192.47	17
.41.149	226	.1.2	16
.33.72	201	.193.44	15
.32.9	61	.199.141	10
.33.21	55	.203.18	10

Detailed analysis

Overall statistics

Liaison Activities



- Liaison with GÉANT2 and other pan-European and international e-infrastructure projects
 - SEEREN2 early adoption of GÉANT2 perfSONAR framework – Summer School
 - **6DISS** – people from SEE attended TTT workshop in Brussels, Oct 2006
 - ELISA - uses the SEEREN2 infrastructure to deliver seminars to ICT tutors for SMEs in SEE

- Synergies with other pan-European projects targeting

- The project seeks for additional funds by contact with funding bodies and industrial sponsors
 - BiH: Austrian Development Agency, Norwegian Embassy, Telecommunications Regulatory Agency, UNDP, Swiss Embassy in BiH

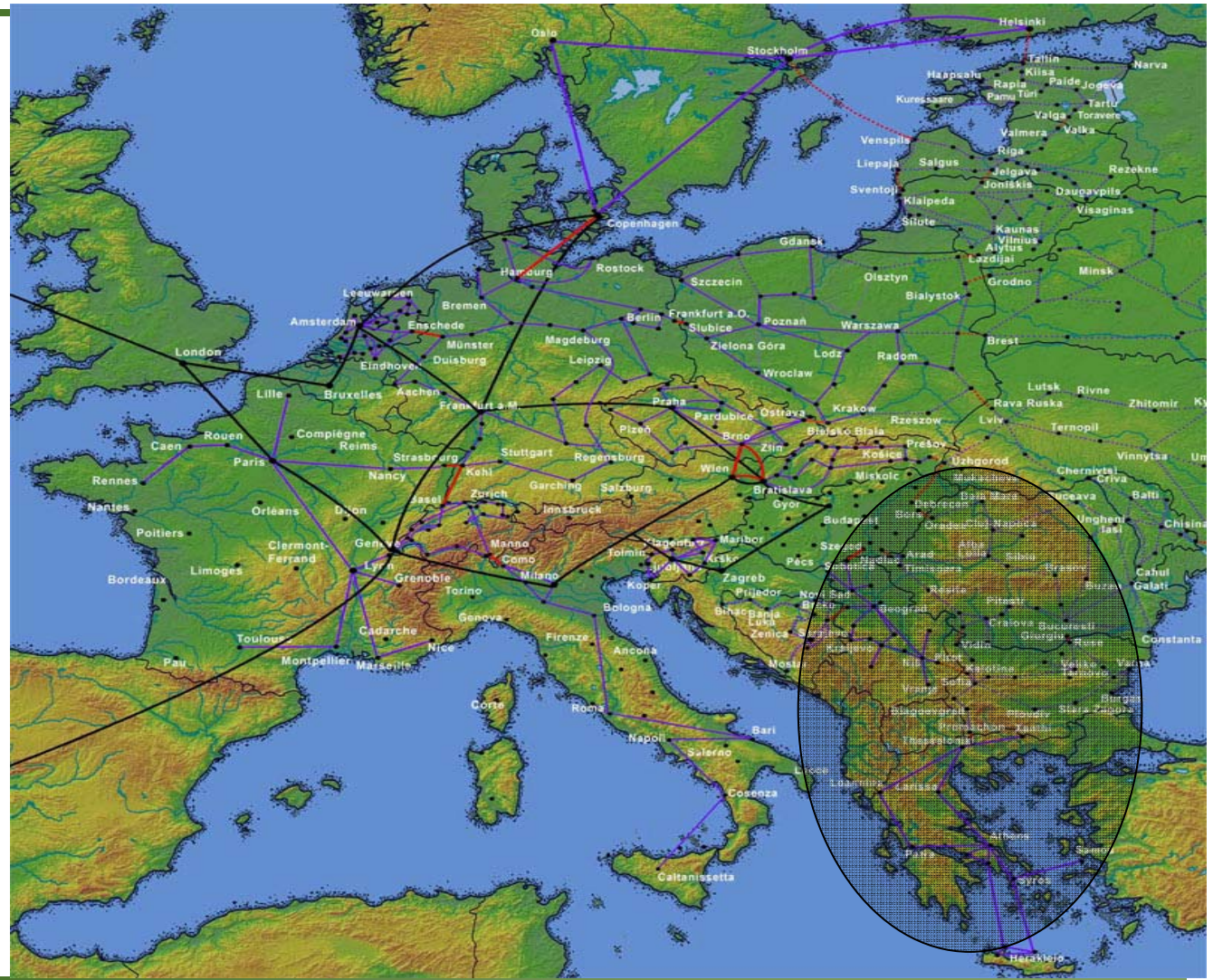
- Technical Advisory Board to provide advice on technical matters and provide support - started in October 2006
 - UCL, NORDUnet, InaTelecom, Juniper Networks, Cisco Systems, Meriton Networks, Alcatel, Lucent, HP

DF for the research community - updated

slide from

Stanislav Šíma, Lada
Altmannová „Dark Fibres in
European NRENs“

CESNET presentation - **April
4th, 2007**



The secret of success: The Human factor



The SEEREN2 Infrastructure provides a significant increase in the network capacity available for communication and experimentation among end users of the research and education community in southeast European countries and of the rest of the world with an objective to strengthen the human network in the area of eInfrastructures in SE Europe



Means of success:

- Defined a regional and national **VISION**
- Work with a **REGIONAL** & a **LOCAL** champion to drive things per region/country
- Executed the plan with **professional partners**
- Try to achieve a success story and become a **CREDIBLE** national & international partner
- Reassess our priorities and take special actions to keep **EVERYONE** at the same speed (DF?)

SEELight goal - objectives



- Main goal
 - materialization of the South-East European Lambda Network Facility for the regional research, academic and education communities to enable the provision of end-to-end network services to meet user demands, to serve as a testbed for development of new networks and services, and to allow the SEE research and education community to participate in international networking activities..
- the deployment of a SEE regional lambda networking facility (redundant optical ring), which will constitute the infrastructure that will be the basis for sustainable development and operation of the regional networking infrastructures;
- the purchasing of new and/or upgrading of existing networking equipment as a vital step towards improving the reliability and capacity of the networks;
- the deployment of the South-Eastern European Network Operation Centre (SEENOC). The SEENOC will ensure that network services and operation is unobtrusive, will amass the necessary level of competence and will foster development cooperation on all levels.

Countries applied & accepted Budget

- 4 countries have managed to apply successfully:
 - Bulgaria
 - Serbia
 - Romania
 - FYROM
- Accepted Budget distribution:

Total Budget		19.860.273,00€		
HiPERB contribution		15.888.218,40€		
	Bulgaria	FYROM	Romania	Serbia
Total Budget	6.028.451,00	2.007.787,00	5.698.193,00	6.125.842,00
HiPERB contribution	4.822.760,80	1.606.229,60	4.558.554,40	4.900.673,60

Need for an independent “administrative entity”?

- The creation of an independent shareholder’s legal entity is important to:
 - To secure the individual parties’ influence
 - To create the economies of scale
- Characteristics:
 - A well defined legal entity
 - To operate independently in relation to third parties and the individual parties
 - To ensure the network’s continued existence irrespective of one or more of the parties being temporarily unable to contribute!..

SEENet's objectives



- Ensure the long term sustainability of the SEELight infrastructure
- Provide global services and seamlessly integrate with the national infrastructures
- Link with the European infrastructure (GEANT) as a single entity

- To take over from the shareholders and:
 - manage the future operation of the SEELight network, which will constitute an international network that provides network services to national networks in the SEE countries and to international networks of interest to its shareholders.
 - provide its services in a competitive way and generate the income to cover costs associated with the undertaking.
 - to seek to introduce services based on international standards, when such can be used and are financially expedient.

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