

TEPID

Towards Eastern Partnership countries e-Infrastructure Development

Will Be or Will Be Not

Viacheslav Shkarupin
slava@kar.net

CEENGINE NRENs Users Workshop
22 May 2013
Kiev Ukraine



Prerequisites

1. Substantial development of organizational structures of NRENs in the EaP countries.
2. Availability of in-country fiber infrastructures, operated by these NRENs.
3. The key role of NRENs in promoting and building the e-Infrastructures in their countries.
4. Increasing growth of educational and R&D user-base in EaP countries.
5. Constant development of international scientific cooperation and, hence.
6. Growing demand in the user communities for facilitation of cross-border collaboration.
7. Wide usage of information technologies not only in Science and Education, but in Health, Culture, Government, Training, Commerce etc.
8. Outreach and influence of GEANT. But – not sufficient for the needs in EaP countries.
9. Inadequate connectivity between NRENs in the EU countries and the EaP countries, particularly, but not only, the Caucasian ones.
10. Universal recognition of the importance of information technologies (e-Infrastructures) on the political level both in the EU and in the EaP countries.
11. Today is the time to act.

Objectives

The overall goal of the project is to provide the integration of research communities of the EaP countries between themselves and with their EU counterparts

This goal will be reached by means of:

- development of high-speed cross-border and in-countries connectivity,
- introduction of new informational and computational services (including GEANT-based ones),
- provision of opportunities for scientists from EaP countries to publish their results and to freely access scientific publications.

Nationally, EaP countries have to reach the level of EU countries in the area of e-Infrastructure and usage of informational and computational services by the educational and academic communities.

Implementation

Within implementation of the envisaged work it is planned to:

- Provide broadband (100 – 40 – 10 Gbps) international connections to all or some of the neighboring with Ukraine EU countries which are already integrated into the European high speed backbone/GEANT – Hungary, Romania, Poland, and Slovakia. Existing cross border connections are also kept in place and, where possible, upgraded.
- Provide broadband (as fast as would be feasible in the framework of the project) connections to the EaP countries - Moldova, Belarus, Georgia, Armenia, Azerbaijan
- Expand the coverage to all educational and academic institutions in the EaP countries and provide services to governmental institutions when necessary.
- Attract and involve young researchers (including students of universities) by connecting educational establishments and providing broadband access to their campuses.
- Provide access to scientific materials published by leading scientific press and form a country-wide service for publishing scientific periodicals.
- Ensure dissemination of knowledge in the field of networking and services, training and support to educational and academic institutions, as well as to staff of NRENs of connected EaP countries.

Expected outcomes and results

High-speed fiber optic connectivity:

1. Establishment of cross-border fiber optic connections with NRENs in EU and EaP countries.
2. Further deployment of the national-wide high-speed networks for research and education.
3. Further development of metropolitan area networks and connection of research and educational organizations to the high-speed backbone. Connecting distributed resources or resources which are owned and maintained by different parties

Data processing facilities:

1. Development of the 1000 TFlops high-tech cluster for EU and EaP Grid communities and projects.
2. Installation of Distributed clouds computing data center (DCCDC) providing contemporary information services to the educational and scientific communities of EaP countries.

Scientific and research information exchange:

1. Provision of easy and widely available access to digital versions of scientific publications (books, journals, databases etc.) by leading scientific publishing houses.
2. Facilitation of collaboration of research and education institutions in EaP and EU countries.
3. Creation of the Ukrainian National DOI (Digital Object Identifier) Registration Agency and achievement of publishing systems interoperability of EaP countries with global Reference Databases of scientific information.

Geographical area to be covered

- EaP countries (cross-border connectivity): Moldova, Belarus and, based on results of a feasibility study – Georgia, Armenia, Azerbaijan. Connectivity to be provided by the NRENs of the EaP countries; high-speed fiber optic links will connect educational and scientific organizations, innovation incubators, technology-transfer centers, etc. of all big cities where research and education centers are located and together with existing NREN channels will provide universal coverage in the EaP countries.
- EU countries, bordering with Ukraine: Poland (cross-border connection already in place, may be upgraded), Romania – cross-border connectivity has been discussed, prerequisites established, can be implemented fairly quickly, Slovakia and Hungary – both connections need to be negotiated and researched.

Geographical area to be covered



Sustainability

Sustainability of the resources created as a result of the project implementation is provided by the connected NRENs.

It is anticipated that the governments of the EaP states may also provide financial or in-kind support.

Operating expenses will be covered:

- during the pilot operation – from the project budget;
- during sustainable operation – by NREN's users and involved organizations.
- a part of facilities not-currently-used may be rented out to telecom operators or other interested entities.

The to do list

- Organize a wide discussion of the TEPID initiative both nationally and internationally, hosted by the NRENs, and including the key players of the user communities.
- Involve international networking organizations (CEENET being a good example) into the process.
- Seek the opinion of high-level expert groups both in the EU and EaP countries.
- Provide input, ideas and corrections to the text of the project as the result of such activities.
- Inform corresponding States Agencies of the initiative and propagate the idea on a State level.
- Solicit input from the corresponding bodies of the EC

Discussion & Thank You