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Deliverable DN4.0.3,2: Annual Report on Activities to Support Research Networking in Less Advanced Regions



Deliverable DN4.0.3,2

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Abstract

This is the second of a series of annual deliverables reporting on the activities that have been undertaken in the previous 12-months' period within NA4 to provide assistance to the development of research and education networking in less advanced regions and countries.

Table of Contents

0	Executive Summary	iii
1	Introduction	1
2	Country Needs Assessment in Year 2	4
	2.1 Romania	5
	2.1.1 Summary of the Report	5
	2.1.2 Follow-up action	6
	2.2 Republic of Moldova	7
	2.2.1 Summary of the Report	7
	2.2.2 Follow-up action	9
3	Support Actions in Year 2	11
4	Plans for Activities in Year 3	13
	Appendix A Long-list of Beneficiary Countries	15
	Appendix B Romanian Meeting Schedule and Contact Details	17
	Appendix C Moldovan Meeting Schedule	19

0 Executive Summary

The status and the development of research and education networking vary significantly in European countries. There are wide gaps spanning over multiple dimensions - technical, financial, political - between the countries that are connected to the GÉANT2 network directly. The gaps are even wider between those countries and neighbouring regions that are connected to GÉANT2 via regional networks or international links procured in collaboration with National Research and Education Network organisations (NRENs) that participate in the GN2 project. Narrowing these gaps is of the utmost importance for achieving the European Union's political goal of equal opportunities for researchers throughout the European Research Area.

Through its NA4 activity, the GN2 project contributes to narrowing the Digital Divide in research and education networking in Europe, by:

- monitoring the status and the evolution of National Research and Education Networks in different European countries, and
- actively providing support to countries and regions where networking services for the research and education community are less advanced.

This is reflected in the two distinct but interrelated parts of NA4:

- a) The production of annual editions of the TERENA Compendium of National Research and Education Networks
- b) Assistance to the development of research and education networking in less advanced regions.

This report describes the activities carried out in part b) of NA4 during the second year of the GN2 project, i.e. from the 1st of September 2005 until the 31st of August 2006. These development support activities focus on a number of selected countries. Assessments of the needs of research and education networking in four focus countries were started in the reporting period: Bulgaria, Malta, Romania and the Republic of Moldova. The studies on Romania and Moldova were completed by visits of a GN2 team of experts in the first half of 2006; the results of these studies are reported in confidential documents that were distributed to key decision makers in the countries concerned and to the European Commission. A number of activities were carried out during the year in support of the countries concerned and as a follow up of related studies carried out in the previous year about the status of research and education networking in Albania and Morocco. This deliverable highlights the

Project:	GN2
Deliverable Number:	DN4.0.3,2
Date of Issue:	30/10/06
EC Contract No.:	511082
Document Code:	GN2-06-291

work carried out and the actions taken, as well as the major results and follow-up actions. Finally, the report outlines some plans for activities to be carried out in the next period of the GN2 project.

Project:	GN2
Deliverable Number:	DN4.0.3,2
Date of Issue:	30/10/06
EC Contract No.:	511082
Document Code:	GN2-06-291

1 Introduction

Networking Activity 4 (NA4) of the GN2 project consists of two parts:

- a) the TERENA Compendium of NRENs¹, and
- b) assistance to research and education networking in less advanced regions.

This chapter briefly highlights the rationale for part b) of NA4 and introduces its components.

There is a significant digital divide in Europe. The networking services available to researchers, teachers and students in some countries are far below the level that is common in other parts of Europe. Similar gaps even exist within a single country. Narrowing this gap is of the utmost importance for achieving the European Union's political objective of equal opportunities for researchers throughout the European Research Area.

With this particular activity, the GN2 project aims to contribute to narrowing the divide in the development of research and education networking that exists between the countries in and close to Europe that are or will be connected, directly or indirectly, to the GÉANT2 network.

The main components of the activity can be summarised in the following three points:

- The selection of a limited number of countries on which the development support activities will be focused in particular. The selection of focus countries is reviewed on an annual basis with assistance from an advisory panel.
- The assessment of the needs in each of the focus countries. This provides a basis for the various activities to assist in the development of research and education networking. The result of each country needs assessment is laid down in a report that includes recommendations to the relevant actors in the country and to the European Commission.
- The actual actions to support the development of research and education networking in less advanced countries and regions. Such actions can take different forms, including technical managerial and policy workshops, training, consultancy etc.

¹ The TERENA Compendium of NRENs is published at <http://www.terena.nl/compendium>

The three components listed above can be seen as subsequent phases: theoretically the actual support actions would follow from the selection of focus countries and the assessment of their needs. However, it is neither advisable nor necessary to postpone the start of support actions until needs assessments have been carried out for a large number of countries. Where there is an obvious need and an opportunity to provide support, actions will be started on the basis of the information already available to the GN2 team working in the activity.

The work is carried out by TERENA staff members and experts from NRENs as appropriate. These staff members are assisted by a development support advisory panel, which provides assistance in the selection of focus countries and the priority setting for needs assessments. The panel advises on the actions to be undertaken, and acts as a quality control panel for the country needs assessment reports and individual support actions. The members of the panel are appointed by the TERENA Executive Committee (TEC). The composition of the panel during the reporting period was:

- Claudia Battista, GARR
- Marko Bonač, ARNES
- Valentino Cavalli, TERENA
- Sabine Jaume-Rajaonia, RENATER
- Jorge Sanchez-Papaspiliou, GRNET (until 31 March 2006).

The objectives and the method of work of the NA4 activity have been described in great detail in deliverable DN.4.0.2, which was written at the end of 2004 and submitted to the European Commission early in 2005. The activities carried out in the second year of the GN2 project have followed the methodology described in that deliverable and are reported in the current document.

At the beginning of the project, based on the advice of the development support advisory panel, an initial long-list of beneficiary countries was defined², which includes a subset of the countries represented in the GN2 project, as well as all SEEREN and EUMEDCONNECT beneficiary countries plus countries which have an agreement with a neighbouring NREN connected to GÉANT2. A number of countries from the long-list were selected to be the focus of specific activities and the subject of a country needs assessment.

In the reporting period, Bulgaria, Malta, Romania and the Republic of Moldova were considered to have the highest priority in terms of needs and opportunity and were selected for a country needs assessment. Desk studies were carried out about these countries. The work on the country needs assessments of Romania and Moldova was completed with visits of teams of experts from the GN2 project to Bucharest and Chisinau. Reports were produced and distributed to the relevant actors. Meetings of GN2 experts with key decision makers from the Maltese government and from telecommunications operators took place in October 2006, after the end of the reporting period. Work on the country needs assessment of Bulgaria is on hold until early 2007, when an evaluation of the political opportunity for a visit will take place.

A number of support actions were carried out and planned in the second year of the GN2 project as follow-up of the county needs assessment carried out so far:

² An updated list is provided in this document as Appendix A

Project:	GN2
Deliverable Number:	DN4.0.3,2
Date of Issue:	30/10/06
EC Contract No.:	511082
Document Code:	GN2-06-291

- the workshop “Promoting Research and Education Networking in Albania” that was held in Tirana on 1 December 2005 as a follow-up to the country needs assessment of Albania;
- the meeting for managers of NRENs to learn about the opportunities for financial support from the European Union’s Structural Funds that was organised by TERENA in Brussels on 8-9 December 2005;
- the provision of technical expertise for the Moroccan NREN MARWAN in drafting a public tender for the MARWAN3 network procurement to be issued in spring 2007;
- the miniCAMP workshop that took place on 2 June 2006 in conjunction with the RoEduNet conference in Sibiu, Romania.

These support actions are described in detail in Chapter 3 of this report. The plans for development support activities in the third year of the GN2 project are described in Chapter 4.

A web space providing information and updates about the progress of the activity is available at <http://www.terena.nl/activities/development-support/> .

Project:	GN2
Deliverable Number:	DN4.0.3,2
Date of Issue:	30/10/06
EC Contract No.:	511082
Document Code:	GN2-06-291

2 Country Needs Assessment in Year 2

The country needs assessments of Bulgaria, Malta and Romania started in October 2005. Information about all countries was collected during fall 2005. The study on the status of research and education networking in Romania was completed with a visit in January 2006³ and a report that was distributed to key decision-makers in Romania and to the European Commission in spring 2006. The opportunities for visits to Bulgaria and Malta were discussed with representatives of the relevant NRENs and as a result it was decided to postpone these to October 2006 (Malta) and to a date to be agreed after September 2006 (Bulgaria).

The country needs assessment of the Republic of Moldova started in March 2006 and was completed with a report produced during the summer and distributed to key decision-makers in Moldova late September 2006. A GN2 team of experts visited the Republic of Moldova from 2 to 4 May 2006⁴.

In the remaining sections of this report details on the results of completed country needs assessments (Romania and Moldova) are provided.

The TERENA Compendium of NRENs was the first source of information for the studies. This input was complemented by additional information provided by members of the development support advisory panel and by representatives of the networking organisations in the countries concerned. Detailed discussions were carried out in order to clarify the priorities, the opportunities for the country needs assessment and subsequent actions that could have a significant impact on the development of research and education networking in the countries concerned, and in order to understand the type of expertise required from the team of experts assisting TERENA in this work.

The questionnaire provided in Appendix B of the GN2 Deliverable D4.0.3,1 was used to complement the TERENA Compendium of NRENs with additional detailed information about the status of research and education networking such as, for instance, information about other existing networks or institutions that are not connected to the NREN.

³ The programme of the visit is attached as Appendix C

⁴ The programme of the visit is attached as Appendix D

2.1 Romania

The report on the country needs assessment of Romania was produced during the first months of 2006, and was distributed to key decision-makers in the country and to the European Commission in spring. The content of the report is outlined in the following sections of this chapter.

2.1.1 Summary of the Report

2.1.1.1 *Research and education networking in Romania*

The country needs assessment of Romania started in October 2005 with a study of the data in the TERENA Compendium of NRENs. The objectives of the work and the priorities were discussed with Eduard Andrei and Octavian Rusu from RoEduNet and with Eugenie Staicut from ICI-RNC. A questionnaire was filled out by RoEduNet staff in the autumn of 2005. Among other pieces of information, they provided the TERENA secretariat staff members with details about the universities and other higher-education institutions in the country, their location and the student population, the computer networking facilities, the counterparts of the NREN within the government and its agencies, the situation of the internal telecommunications market in Romania and the status of Internet Service Providers (ISPs), and the most important national and international projects (existing or planned) in key scientific disciplines in the country. The work was concluded by a visit of TERENA secretariat staff members to Bucharest on 18-19 January 2006. The visit included a meeting with Prof. Anton Anton, State Secretary in the Ministry for Education and Research and President of the National Authority for Scientific Research in Romania. A memorandum of that meeting was produced by TERENA and sent to Prof. Anton in February 2006.

2.1.1.2 *Recommendations*

The country needs assessment of Romania was carried out by TERENA secretariat staff members Valentino Cavalli and Karel Vietsch. The following main recommendations for the Romanian government regarding the planning, operation and support of research and education networking in Romania were formulated in the report.

- 1) RoEduNet currently connects to the pan-European backbone GÉANT2 at a much lower capacity than what is available to most European countries. The main reason for this difference is the shortage of offers for dark-fibre links to Bucharest. However, it seems possible to solve international connectivity issues in the near future, thanks to international initiatives, which are already supported by the Romanian government.
- 2) The national network infrastructure is a more urgent issue and fully depends on actions by the Romanian government. RoEduNet needs to obtain adequate network capacity to support the needs of research and education users in the country, including users of Grid applications. RoEduNet has established collaborations with alternative telecommunications operators to acquire (access to) optical fibre and these initiatives should be carried forward. Funding for the national infrastructure needs to be provided by the

Romanian government; however, European Union Structural Funds should be used, as has been done in Portugal and Greece, for example. The use of these Structural Funds for electronic communication infrastructure needs strategic attention by the Romanian government.

3) Local area networks at universities are currently a major bottleneck in Romania. Although universities are autonomous, it would be essential to start a dissemination campaign making the university managers aware of research networking, the associated benefits and costs, and in the long term to make universities become loyal customers and allies of the NREN.

Connecting schools is an important strategy of the Romanian government, which plans to connect all schools in the country to RoEduNet. This will have the effect of enlarging the customer base of the NREN and will provide a strong motivation for the provision of higher capacities and more advanced network services to its users; however, one must make sure that this increased user base does not impact negatively on the operation of the organisation, which is already now suffering from organisational and staffing issues.

4) Organisational issues are critical at RoEduNet. The NREN is significantly understaffed and the staff does not consist of permanent staff members who are fully available for the NREN work. The general manager as well as the network engineers are at the same time university teachers, and often rely on work performed by students who contribute on a part-time basis. Indeed, the RoEduNet senior managers have excellent technical expertise, but it may seem that they do not have sufficient time and experience to deal with the administrative and legal issues concerned.

The GN2 team recommends to the Romanian government that RoEduNet should strengthen the middle management of the organisation by appointing at least a professional Chief Technical Officer (CTO) fully dedicated to the task of running the organisation and possibly supported by one person having the necessary legal and financial expertise for the administrative management of the NREN.

Once this step is made by the Romanian government, the GN2 NA4 activity will be able to provide support by organising a secondment schedule for the new CTO to visit several NRENs in Europe and possibly for an expert from another European NREN to spend some time in Romania, in order to provide advice on the actions to be taken at the national and local levels.

2.1.2 Follow-up action

Besides providing recommendations as formulated in the box in the previous section and offering assistance as described at the end of the section, the GN2 project has organised a half-day MiniCAMP (Campus Architectural Middleware Planning) workshop in June 2006 in conjunction with the RoEduNet conference. The event supported RoEduNet in joining eduroam.

Several TERENA EuroCAMP workshops have been organised since 2005 with the aim to develop the knowledge and skills that are needed by university staff involved in the set-up of identity management systems for authentication and authorisation. These events provide an overview of identity and access management and

Project:	GN2
Deliverable Number:	DN4.0.3,2
Date of Issue:	30/10/06
EC Contract No.:	511082
Document Code:	GN2-06-291

campus implementation case studies. Attendees get a chance to understand the state of the art from leaders in the higher-education field and obtain suggestions on how to solve problems back at their own campuses.

The MiniCAMP event that was held in Sibiu, Romania, on 2 June 2006 raised awareness in Romania about state-of-the-art middleware technologies already in use in the academic community in Europe and beyond. The topic selected for the workshop was eduroam, the infrastructure based on secure authentication by the home organisation of the user that provides Internet access for roaming users of research and education networks.

The programme of the Sibiu workshop included an introduction about middleware activities in Europe, followed by lectures on the eduroam technology and set-up, on eduroam-in-a-box and on eduroam federations. Lecturers were Licia Florio (TERENA), Klaas Wierenga (SURFnet) and Rok Papez (ARNES).

2.2 Republic of Moldova

The report on the country needs assessment of the Republic of Moldova was produced during the summer of 2006, and was distributed to key decision-makers in the country late September 2006. The content of the report is outlined in the following sections of this chapter.

2.2.1 Summary of the Report

2.2.1.1 *Research and education networking in the Republic of Moldova*

The country needs assessment of Moldova started in March 2006 and was completed by a visit of a GN2 team to Chisinau on 3-4 May 2006. The visit included also a meeting with the National Regulatory Agency (NRA) for Telecommunications of the Republic of Moldova. A memorandum of that meeting was produced by the GN2 team and sent to the NRA in the second half of May 2006.

The GN2 team identified issues concerning international and national connectivity that need to be addressed to improve the provision of network coverage and bandwidth to support the services and applications of research and education users in the Republic of Moldova. The acquisition of a dark-fibre infrastructure has proved to be the ideal solution for many NRENs in Europe and it is worth exploring similar opportunities in the Republic of Moldova. On the other hand, this matter is being currently explored in the Porta Optica project and therefore was not directly addressed in the country needs assessment report. Moreover, the GN2 team has observed a positive relationship with a supplier of radio telecommunication infrastructure and concluded that this represents a suitable short-term solution for supporting a better computer networking infrastructure for the research and education community in the country.

International connectivity to the academic community of Moldova is currently provided by RENAM, which at the time of the country needs assessment was indirectly connected to the pan-European backbone GÉANT2 via a 16Mbit/s radio relay link to the Romanian RoEduNet node in Iași. This link is funded through a grant of the NATO Security Through Science Programme, which was awarded to RENAM a few years ago. Such a capacity

is very low compared with any European country and provides only limited connectivity services to RENAM's connected institutions. This contributes to an ongoing digital divide between western European countries and the Republic of Moldova. In order to alleviate this digital divide, immediate action should take place to upgrade the connection Chisinau–Iași to at least 34Mbit/s and subsequently, to find a sustainable method to provide future bandwidth upgrades. It should be mentioned that, taking into account the evolution of capacities for the international links of the NREs across Europe, SDH technology is not the most suitable solution.

It is also necessary to develop the national research and education infrastructure taking into account that with the exception of Chisinau, most of the cities where universities and research facilities are located are not connected to the RENAM network, or, at most, are connected using low-speed legacy links. Success in this area requires also an active involvement of the government. Universities and research institutions can play an active role in this action but it is beyond their possibilities to provide the necessary funds for the intercity links.

2.2.1.2 Recommendations

The country needs assessment was carried out by TERENA staff with the assistance of Lajos Bálint, director of the Hungarian National Research and Education Network organisation NIIF/HUNGARNET and Octavian Rusu, from RoEduNet, the Romanian NREN. The following recommendations are a quotation from the report written by the GEANT2 team of experts.

R1. Recommendations for the Government of the Republic of Moldova

R1.1. The government of the Republic of Moldova should recognise the essential role of the NREN in building the Information Society in the country.

R1.2. The government of the Republic of Moldova should recognise the existing NREN as an asset for the provision of networking services to all research and education institutions in the country in a coordinated fashion.

R1.3. The government of the Republic of Moldova should speed up the process of liberalisation of the market for telecommunication services and infrastructure. Until the telecommunication market is fully liberalised, the government of the Republic of Moldova should exert influence on the incumbent telecommunications operator for the acquisition of dark fibre or managed lambda services by the NREN.

R1.4 The government of the Republic of Moldova should involve RENAM in the development of the informational networking infrastructure and informational resources for research and education. In particular, nation-wide programs concerning research and educational informational networking infrastructure and informational resources development should be always coordinated with the NREN.

R2. Recommendation for the National Regulatory Agency of the Republic of Moldova

R2.1. The National Regulatory Agency of the Republic of Moldova should pursue the implementation of the EU directives for telecommunications and the amendment of laws concerning access to services at favourable conditions for the NREN.

R3. Recommendations for the Management Board of the RENAM Association

R3.1. RENAM should continue to exploit the good relationship with the State Enterprise “Radiocomunicatii” to increase the service coverage and the network capacity, bearing in mind that radio communications are an interim measure unless WiMax is installed and proves capable of supporting sufficient bandwidth over distance.

R3.2. The acquisition of a better network infrastructure is essential for RENAM but the Association needs to focus more on services and applications enabling advance usage of the network and exploiting the potential for better collaboration in the research and education sector; ISPs are not capable of supporting advanced and demanding applications; reliance on ISPs to deliver these services will hamper the work of education and research in Moldova; the NREN should focus on this as their Unique Selling Point.

R3.3. The RENAM association should exploit the opportunity to discuss and plan for optical interconnections offered by initiatives such as Porta Optica, etc.

R4. Recommendations for the Managers of Research and Education Institutions in the Republic of Moldova

R4.1. Research and education institutions in the Republic of Moldova should fully exploit the opportunities made available by the Framework Programme of the European Union in the future to increase collaborative RTD projects in the country.

R4.2. Research and education institutions in the Republic of Moldova should actively collaborate with RENAM to identify and develop leading-edge network applications and services to support the advancement of research and education in the Republic of Moldova.

2.2.2 Follow-up action

The following actions were agreed as follow up from the country needs assessment of the Republic of Moldova.

- The GN2 team to provide the National Regulatory Agency (NRA) supporting information about relevant experiences from European NRENS in acquisition of dark-fibre network infrastructure. A report describing the experiences in Serbia and in the Czech Republic was extracted from a SEEFIRE project deliverable and submitted to the NRA of Moldova soon after the visit.
- The GNT team to write a report containing recommendations and an overall description of the status of research and education networking in the Republic of Moldova. Such a report was distributed to European Commission officials, key decision-makers in the Republic of Moldova and members of the GN2 Executive Committee.
- The TERENA Secretariat, in collaboration with GN2 project participants to organise local events for the promotion of computer applications and networking services among users of the RENAM network:

possible topics are: videoconferencing, voice-over-IP, Authorisation and Authentication, Identity Management.

- The TERENA Secretariat, in collaboration with GN2 project partners to facilitate the participation of RENAM staff and RENAM user organisations in ongoing developments and projects taking place in Europe, as well as to encourage and support their participation in knowledge transfer events being organised by TERENA, the GN2 project, European NRENs, the European Commission and other organisations. As a follow up a member of the RENAM participated in the SEEREN2 Summer School which was held in Heraklion, Greece on 25-28 September 2006.
- The TERENA Secretariat, in collaboration with GN2 project participants to supervise and assists the NREN of Moldova in participating in new international and regional projects and initiatives directed towards the development of networking infrastructure and modern informational services for the research and education community of Moldova, such as connectivity to GÉANT2 and initiatives targeting the Black Sea countries.

Project:	GN2
Deliverable Number:	DN4.0.3,2
Date of Issue:	30/10/06
EC Contract No.:	511082
Document Code:	GN2-06-291

3 Support Actions in Year 2

A number of support actions were carried out in the second year of the GN2 project as follow-up of the county needs assessments carried out during and before the reporting period:

The workshop “Promoting Research and Education Networking in Albania” was held in Tirana on 1 December 2005 as a follow-up to the country needs assessment of Albania. The event was attended by about 30 people representing the major universities and the Academy of Sciences of Albania. The participants agreed that it is vital for Albania to establish an NREN organisation that is able to represent the whole country in the international research and education networking community, and they laid down a strategy to achieve this goal. They also emphasised the intention of all scientific institutions and universities in the country to talk to the Albanian government in order to obtain the support that is necessary to achieve the level of network service provision that will enable the country to join the European model of research and education networking.

The following presentations were given:

- Valentino Cavalli (TERENA): The GÉANT2 Country Needs Assessment Concerning Research and Education Networking in Albania
- Vasilis Maglaris (National Technical University of Athens): European NRENs and GÉANT2 : Evolution and Global Connectivity - Bridging Digital Divides
- Massimo Carboni,(GARR): The Italian Contribution to the Albanian Research Network - Infrastructure Evolution
- Neki Frasher (INIMA): NREN Regional Initiatives SEEREN and SEELIGHT
- Frederik Premti (INIMA): The SEEFIRE Project
- Betim Cico, (Polytechnic University of Tirana): The Polytechnic University of Tirana and the NREN
- Valentino Cavalli (TERENA): Personal Conclusions

After the workshop new representatives were appointed for the managerial board and the technical board in charge of creating the NREN of Albania (see also the TERENA Compendium of NRENs, 2006 Edition, page 17). Representatives of INIMA, the Institute for Informatics and Applied Mathematics of the Albanian Academy of Sciences, reported that a first meeting of the technical board of the Academic Network of Albania had recently taken place after several years of inactivity.

On 8-9 December 2005, TERENA organised a meeting in Brussels for managers of national research networking organisations to learn about the opportunities for financial support from the European Union's

Project:	GN2
Deliverable Number:	DN4.0.3,2
Date of Issue:	30/10/06
EC Contract No.:	511082
Document Code:	GN2-06-291

Structural Funds. On the first day of the meeting, which was convened by Marko Bonač, member of the TERENA Executive Committee, action plans were presented from those countries that had already secured access to Structural Funds to develop research and education networking infrastructures and from countries that had plans ready to implement. On the second day, participants met with European Commission officials to learn about the opportunities, conditions and limitations of using Structural Funds for the development of IT infrastructures.

The report of the country needs assessment of Morocco was received positively. The document had been read by the Moroccan Prime Minister, who had given instructions to his office to follow up on the recommendations. The Prime Minister's office had asked MARWAN, the Moroccan NREN, to prepare a dossier on the actions to be undertaken in line with the GN2 report.

In a meeting with Valentino Cavalli and Sabine Jaume at the TERENA Networking Conference in Catania, Italy in May 2006 the MARWAN director requested a follow-up collaboration in the provision of technical expertise for MARWAN to draft a public tender for the MARWAN3 network procurement to be issued in spring 2007.

The MARWAN network is currently based on a MPLS service provided for free by Maroc Telecom. This was a good deal for MARWAN as Maroc Telecom was the only infrastructure provider in Morocco at the time, but the arrangement has serious limitations as MARWAN staff do not have any control over the network and cannot provide any advanced service to their customers beyond simple connectivity.

Since the end of last year there are three operators in Morocco and in this new situation MARWAN want to issue an open tender, but they do not have any expertise in this field and they would highly need advice from some more experienced NREN. In particular, the support should come from a technical expert, rather than a manager, who could help them in defining the technical specifications for the new network.

TERENA Secretariat staff identified and contacted potential experts and started to discuss this collaboration with the Moroccan NREN. The actual collaboration was scheduled to take place in the first quarter of 2007.

One follow up from the country needs assessment of Romania was the support in dissemination of information about opportunities for universities and research institutions offered by the GN2 project. A very successful MiniCAMP workshop took place on 2 June 2006 in conjunction with the RoEduNet conference in Sibiu, Romania. The GN2 lecturers Licia Florio (TERENA), Rok Papez (ARNES) and Klaas Wierenga (SURFnet) provided a basic tutorial on eduroam. Since then, RoEduNet has joined the eduroam federation.

Based on the success of the Romanian event, TERENA staff members have elaborated plans for the provision of more tutorials on eduroam. Contact was made with GN2 countries that have not joined eduroam yet: Cyprus, the Slovak Republic and Turkey. Positive feedback was received from all three NRENs, who at the time of writing this report were investigating the possible schedule for the event. Turkey was expecting to combine it with a major national conference to take place in March-April 2007.

Project:	GN2
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EC Contract No.:	511082
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4 Plans for Activities in Year 3

The work in year 3 of the NA4 activity to support less advanced countries will continue with ongoing monitoring of the evolution and the impact of the actions taken as follow up from the country needs assessments carried out in the previous periods.

TERENA secretariat staff members have drafted a training module for an introduction to Identity Management, which is one of the building blocks of an Authentication and Authorisation Infrastructure. A document explaining the goals of the corresponding training event was drafted in collaboration with the chairman of the TERENA task force TF-EMC2 and proposed to the NRENs of Moldova and Morocco.

In fact, it would be beneficial for RENAM and for MARWAN to show end-users the benefits they can get by being connected to the NREN and the sort of services they can benefit from. Positive feedback was received from both organisations. RENAM are planning to organise a national users conference in fall 2006 and are investigating the possibility to co-locate the training event with the planned conference. MARWAN would like to hold this training event in conjunction with the MARWAN days tentatively planned in March 2007.

Tutorials on eduroam will be organised between fall 2006 and spring 2007 in Cyprus, the Slovak Republic and Turkey, as mentioned in the previous section of this report.

A visit of a GN2 team of experts to Malta took place on 18 October 2006. Vasilis Maglaris, chairman of the NREN PC and Enzo Valente, director of GARR joined the TERENA delegates in the meetings with the Ministry of Education of Malta, Malta Telecom and Vodafone Malta, the two operators owning fibre cables to the Mediterranean island. This visit will complete the country needs assessment started in year 2. A report with recommendations will be written and distributed after the event.

The country needs assessment of Bulgaria is planned to be completed with a mission of a GN2 team in the first six months of year 3. The exact schedule as well as the format of the visit will be agreed with ISTF, the Bulgarian NREN after the final decision has been made about the country's accession to the European Union.

More country needs assessments will be carried out in year 3. The first country currently under consideration is Bosnia and Herzegovina. Other potential candidates may be either from the Baltic or from the Mediterranean region (Turkey and Cyprus). Preliminary contacts still have to be established with these sets of countries. A final decision will be made following the recommendations from the advisory panel.

Project:	GN2
Deliverable Number:	DN4.0.3,2
Date of Issue:	30/10/06
EC Contract No.:	511082
Document Code:	GN2-06-291

More specific actions targeting some of the focus countries will not need to wait until a country needs assessment will be formally concluded. At the time of writing the feasibility was being investigated of specific training events aimed at specific countries and regions in such technical areas as establishment and operation of Computer Security Incident Response Teams, Authentication Authorisation Infrastructure, videoconference and other user services. Network monitoring and performance monitoring are also considered potentially areas for support; however this will be investigated at a later stage and will be co-ordinated with the training activity proposed in NA8. If and when these plans will actually be implemented will be decided later, on the basis of in-depth discussions with the relevant NRENs and following the recommendations of the advisory panel.

Talks are ongoing since the previous year with the co-ordinating partner of the EUMEDCONNECT project about the synergy between the project and the NA4 activity. The involved parties have been investigating the feasibility and suitability of organising a policy workshop focusing on Mediterranean countries to support the EUMEDCONNECT project and specifically to advocate the need to continue the network after the end of the project. The timing of the workshop will depend on the continuation of the EUMEDCONNECT project itself.

Project:	GN2
Deliverable Number:	DN4.0.3,2
Date of Issue:	30/10/06
EC Contract No.:	511082
Document Code:	GN2-06-291

Appendix A Long-list of Beneficiary Countries

This appendix contains the long-list of beneficiary countries. This list, which is subject to revision, is the basis for the priority setting in the development support actions. For the sake of clarity the list is broken down into four sub-lists: countries where the NREN is a partner in the GN2 project, countries where the NREN is a partner in the SEEREN project, countries where the NREN is a partner in the EUMEDCONNECT project and countries where the NREN is a partner in the Porta Optica project. The number (05) next to a country means that updated information about that country is available in the TERENA Compendium 2005. The number (04, 03, 02) means that the latest information about the NREN is available from the Compendium in the mentioned year. No number means that no information is available from the TERENA Compendium.

GN2 Project Participants

This sub-list contains countries where the NREN is a partner in the GN2 project. Whenever that NREN is also involved in the Porta Optica, SEEREN or EUMEDCONNECT project, this is indicated with a (PO), (SEE) or (MED) respectively.

- Bulgaria (05) (SEE)
- Cyprus (05) (MED)
- Estonia (05) (PO)
- Latvia (05) (PO)
- Lithuania (05) (PO)
- Malta (05) (MED)
- Romania (05)
- Slovak Republic (05)
- Turkey (05) (MED)

SEEREN Countries not in GN2

- Albania (04)
- Bosnia and Herzegovina (04)
- FYRoMacedonia (05)
- Moldova (05) (PO)
- Serbia (05)

Project:	GN2
Deliverable Number:	DN4.0.3,2
Date of Issue:	30/10/06
EC Contract No.:	511082
Document Code:	GN2-06-291

- Montenegro

EUMEDCONNECT Countries not in GN2

- Algeria (05)
- Egypt (05)
- Jordan (04)
- Morocco (05)
- Tunisia (02)
- Palestinian Authority
- Syrian Arab Republic (05)

Other Porta Optica Countries

- Ukraine (05)
- Belarus (04)
- Georgia (05)

Project:	GN2
Deliverable Number:	DN4.0.3,2
Date of Issue:	30/10/06
EC Contract No.:	511082
Document Code:	GN2-06-291

Appendix B Romanian Meeting Schedule and Contact Details

Wednesday 18 January 2006

10:00: Meeting with the representatives of RoEduNet; participants:

- Valentino Cavalli, TERENA
- Karel Vietsch, TERENA
- Prof. Eduard Andrei, General Manager of RoEduNet
- Dr. Octavian Rusu, RoEduNet

12:00 : Meeting with ICI-RNC; participants:

- Valentino Cavalli, TERENA
- Karel Vietsch, TERENA
- Prof. Dr. Doina Banciu, General Director of ICI
- Dr. Eugenie Staicut, ICI-RNC
- Mr. Daniel Gruia, Advisor of the Minister of Communications and Information Technology
- Mr Camelia Dogaru, Ministry for Education and Research

Thursday 19 January 2006 - Meetings at the Ministry of Education and Research

10:00 : Preparation meeting; participants:

- Valentino Cavalli, TERENA
- Karel Vietsch, TERENA
- Prof. Eduard Andrei, General Manager of RoEduNet
- Dr. Octavian Rusu, RoEduNet
- Dr. Eugenie Staicut, ICI-RNC
- Ms Camelia Dogaru, Ministry for Education and Research
- Mr Sorin Zgură, coordinator of National Grid Infrastructure,
- Dr. Ing Sergiu Stelian Iliescu

Project:	GN2
Deliverable Number:	DN4.0.3,2
Date of Issue:	30/10/06
EC Contract No.:	511082
Document Code:	GN2-06-291

11:00 : Meeting with Prof. Anton Anton, State Secretary in the Ministry for Education and Research and President of the National Authority for Scientific Research in Romania; participants:

- Valentino Cavalli, TERENA
- Karel Vietsch, TERENA
- Prof. Eduard Andrei, General Manager of RoEduNet
- Dr. Octavian Rusu, RoEduNet
- Dr. Eugenie Staicut, ICI-RNC
- Ms Camelia Dogaru, Ministry for Education and Research
- Mr Sorin Zgură, coordinator of National Grid Infrastructure,
- Dr. Ing Sergiu Stelian Iliescu
- Mr Ion Ivan, Director in the Ministry for Education and Research

Appendix C Moldovan Meeting Schedule

Wednesday 3 May 2006

- 8:30: Meeting with RENAM Council Presidium with invitation of the rectors of principal universities of Moldova
- 9:45: Meeting with RENAM executive department and senior technical staff of RENAM
- 11:00: Meeting with Government authorities of Moldova from the Ministry of Informational Development; Ministry of Education, Youth and Sport; the Academy of Sciences of Moldova
- 14:30: Meeting in National Regulatory Agency in Telecommunications and Informatics (ANRTI)
- 16:30: Meeting with chief personnel of State Enterprise "Radiocomunicatii" – the state telecommunication operator in Moldova

Thursday 4 May 2006

- 9:00: Meeting with the Rector of ASEM and RENAM network users from ASEM, ASM other universities of Moldova
- 11:00: Meeting in the office of the Government of Moldova with Mr. Oleg Rotaru, Deputy Chief of the Government Establishment, coordinator of e-Moldova strategy and action plan elaboration
- 14:30: Final meeting with the RENAM staff