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Deliverable DN2.7.1: Focused Market Outreach



Deliverable DN2.7.1

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Abstract

This deliverable reports on the involvement of GN3 Networking Activity 2 Communication and Promotion (NA2) Task 7 Focused Market Outreach (T7) in creating and conducting a survey to gather user needs information that will help formulate the eduCONF videoconferencing services.

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Executive Summary

This deliverable reports on the involvement of GN3 Networking Activity 2 Communication and Promotion (NA2) Task 7 Focused Market Outreach (T7) in creating and conducting a survey to gather user needs information that will help formulate the eduCONF videoconferencing (VC) services. It aims to put into context the work of NA2 T7 and to demonstrate the value to GN3 Activities of using NA2's experience and skill in market research to assist with user requirements surveys of this type. The work was carried out in collaboration with Service Activity 3 Multi-Domain User Applications (SA3) Task 4 eduCONF (T4).

The document contains the following sections:

- Section 2 *Background*, which describes the objectives of NA2 and T7, defines key communications concepts, introduces the eduCONF service and Task, summarises the relevant VC-related findings of the GN2 User-Base Segmentation Project, and outlines the main reasons for NA2's involvement in eduCONF.
- Section 3 *The Survey*, which defines the objectives and target audience of the survey; the approach taken to developing the survey (requirements definition and analysis, method selection, tool selection, questionnaire design, testing, conducting the survey and data processing) and what happened next.
- Section 4 *Results and Recommendations*, which summarises the lessons learned that can be applied to future GN3 surveys in the interests of continuous improvement.
- Section 5 *Conclusions*, which offers an overall assessment of the eduCONF survey.

The overall objective of NA2 Communication and Promotion is to develop and implement an integrated, project-wide communications strategy for outreach and promotion in order to generate awareness of and interest in the GÉANT network and its services, and to increase their usage and uptake. Implementation of the strategy is underpinned by the provision of an "internal" service to the GN3 project's Activities and NREN partners. The scope of the internal service includes helping to gather key information at the design and definition stage, so that the offering can be developed to meet user wants and needs, and its chances of succeeding and of being widely taken up are maximised from the outset.

The objective of NA2 T7 Focused Market Outreach is to provide an on-demand research service to the other Activities, primarily to gather intelligence about the audiences to whom communications activities are directed and for whom the project's services are intended. The T7 service is aligned with the GN3 Service Management Framework, the set of standards, processes and procedures governing the development and delivery of GÉANT services.

The vision for eduCONF is to provide a high-quality, pan-European videoconferencing and collaboration environment that will be easily accessible to research and academic end users. The scope of the eduCONF Task, SA3 T4, is to perform a feasibility study on developing and delivering the service. The study involves gathering and processing NREN and user requirements, and developing a high-level service architecture. The results, in the form of a business case, will be submitted to GN3 management for a decision on whether or not to proceed with the service. The survey with which NA2 T7 assisted was one of SA3 T4's requirements-gathering stages. In addition to the current user-requirements gathering and market research, SA3 T4 has been able to draw on the results of the user-base segmentation project carried out in GN2.

The survey formed part of the eduCONF feasibility study. It was conceived as a tool for collecting the requirements of the GN3 NREN partners and their users with regard to VC-related services, and for understanding the videoconference ecosystem of the European research communities and the role that GÉANT might have in providing a future pan-European high-quality VC-related service. The primary target audience were the NRENs (both videoconference service managers and technical personnel); the secondary target were the users, including projects, universities and research institutes.

Developing the survey involved the following stages: requirements definition and analysis; method selection; tool selection; questionnaire design; testing; conducting the survey; data processing.

The actual data results of the survey are outside the scope of this deliverable. The results of interest and relevance to this deliverable are the lessons learned that can be applied to future GN3 surveys in the interests of continuous improvement. The recommendations include:

- Repeat the collaborative approach wherever possible.
- Allow more time to design the questionnaire, and involve NA2 in the process earlier.
- Review the preferred tool, and/or provide an additional tool to generate graphs from and support analysis of the results data.
- Look for opportunities to develop NA2's experience and knowledge of surveys, so that it can provide an even more valuable service.
- Support the survey with a communications plan that facilitates appropriate contact with participants at each stage, thus giving a maximum chance of a high response rate and therefore more useful and reliable results.
- Repeat the preparatory stages, follow-up contacts and email templates in future surveys to help ensure the target number of responses is met.
- Where possible, have a dedicated, targeted mailing list and site for communications, establish strong relationships and stay in touch.

The eduCONF survey has provided an ideal opportunity for NA2's focused market outreach support, i.e. for the provision of an on-demand research service to the other Activities, primarily to gather intelligence about the audiences to whom communications activities are directed and for whom the project's services are intended. The collaborative cross-Activity approach to the eduCONF survey proved an effective use of different GN3 resources. The approach will be repeated wherever possible, and to this end NA2 will be more proactive in publicising the intra-project services that GN3 provides. In addition, eduCONF has provided an opportunity for the NA2 team to develop its survey skills and experience further, and to learn lessons that can be applied to future surveys that it supports, to ensure the service it provides is even more useful.

1 Introduction

This deliverable reports on the involvement of GN3 Networking Activity 2 Communication and Promotion (NA2) Task 7 Focused Market Outreach (T7) in creating and conducting a survey to gather user need information that will help formulate the eduCONF videoconferencing (VC) services. It aims to put into context the work of NA2 T7 and to demonstrate the value to Service Activities of using NA2's experience and skill in market research to assist with user requirements surveys of this type.

The work was carried out in collaboration with Service Activity 3 Multi-Domain User Applications (SA3) Task 4 eduCONF (SA3 T4). The NA2 participants from SigmaNet, the Latvian National Research and Education Network (NREN), were asked to undertake this work due to their experience of running previous surveys, including a survey on the state of the art of multi-domain anomalies handling in NRENS for GN3 Service Activity 2 Multi-Domain Network Services (SA2) Task 4 Security (SA2 T4), and a survey on Information and Communication Technologies (ICT) research infrastructures for the OSIRIS project [OSIRIS].

1.1 In this Document

The document contains the following sections:

- Section 2 *Background*, which describes the objectives of NA2 Communication and Promotion and T7 Focused Market Outreach, defines key communications concepts, introduces the eduCONF service and Task, summarises the relevant VC-related findings of the GN2 User-Base Segmentation Project, and outlines the main reasons for NA2's involvement in eduCONF.
- Section 3 *The Survey*, which defines the objectives and target audience of the survey; the approach taken to developing the survey (requirements definition and analysis, method selection, tool selection, questionnaire design, testing, conducting the survey and data processing) and what happened next.
- Section 4 *Results and Recommendations*, which summarises the lessons learned that can be applied to future GN3 surveys in the interests of continuous improvement.
- Section 5 *Conclusions*, which offers an overall assessment of the eduCONF survey.

2 Background

This section covers:

- About NA2 Communication and Promotion and T7 Focused Market Outreach.
- Key concepts.
- About eduCONF.
- GN2 User-Base Segmentation Project Findings.
- Reason for NA2 involvement in eduCONF.

2.1 About NA2 Communication and Promotion and T7 Focused Market Outreach

The overall objective of NA2 Communication and Promotion is to develop and implement an integrated, project-wide communications strategy for outreach and promotion in order to generate awareness of and interest in the GÉANT network and its services, and to increase their usage and uptake. Implementation of the strategy is underpinned by the provision of an “internal” service to the GN3 project’s Activities and NREN partners. The scope of the internal service is not limited to marketing and dissemination outside the project once the service or tool has been developed, but includes helping to gather key information at the design and definition stage, so that the offering can be developed to meet user wants and needs, and its chances of succeeding and of being widely taken up are maximised from the outset.

The objective of NA2 Task 7 Focused Market Outreach is to provide an on-demand research service to the other Activities, primarily to gather intelligence about the audiences to whom communications activities are directed and for whom the project’s services are intended. The T7 service is aligned with the GN3 Service Management Framework, the set of standards, processes and procedures governing the development and delivery of GÉANT services. In particular the service supports the following stages and elements of the service life-cycle:

- Services strategy
 - User requirements collection

- Business case development, especially the Service Overview section of the business case document, which should include an analysis of the user requirements from which the need for the service was established
- Continuous service improvement
 - Monitoring and reporting, especially gathering user feedback

2.2 Key Concepts

The key concepts that inform T7 are defined within the context of the GN3 project as follows:

- **Marketing** – the user-centric process designed to identify the user, satisfy the user – which presupposes understanding their wants and needs – and retain the user. It involves performing market research, selling the network and/or services to users, promoting them via advertising to further enhance uptake, and obtaining feedback on the service as input to continuous improvement.
- **Market** – current and/or potential users of GÉANT and its services.
- **Market research** – a stage in the marketing process. It is the process of identifying the user, and finding out and understanding their wants and needs, and any opportunities and barriers to meeting them.
- **Outreach** – the effort to extend and/or introduce the GÉANT network and its services to existing and/or new users. The approach may be one-way, e.g. education and dissemination, or two-way, e.g. engagement or exchange. It builds on market research.

Creating a market research survey for SA3 T4 eduCONF is therefore well aligned with T7 objectives.

2.3 About eduCONF

The vision for eduCONF is to provide a high-quality, pan-European videoconferencing and collaboration environment that will be easily accessible to research and academic end users. eduCONF is currently at the Service Strategy stage of the service life-cycle. Indeed, the scope of the eduCONF Task, SA3 T4, is limited to performing a feasibility study on developing and delivering the service. The study involves gathering and processing NREN and user requirements, and developing a high-level service architecture. The results, in the form of a business case, will be submitted to GN3 management for a decision on whether or not to proceed with the service. At the time of writing (January 2011), the business case is being updated following review by the General Managers; the decision is currently scheduled to be made on 16 February 2011.

For more information about the eduCONF Task and service, please see the T4 area of the Intranet [eduCONF_Intranet] and the eduCONF service page of the Internet [eduCONF_Internet].

2.3.1 How the Survey Fits In

The survey with which NA2 T7 assisted was one of SA3 T4's requirements-gathering stages, which are summarised in Table 2.1 below.

Stage	Name	Description	No. of NRENs contacted	Results / Representation
1	Identify VC service managers	Identify all the VC service managers from GÉANT's NREN partners and relevant communities, resulting in the first complete mailing list of videoconference managers to date.	36	<ul style="list-style-type: none"> • 32 contacts confirmed • 2 unknown • 2 didn't confirm
2	Establish initial contact	Call or email to establish initial contact	32	<ul style="list-style-type: none"> • 32
3	Interview VC service managers	<p>Send interview email asking 3 questions:</p> <ul style="list-style-type: none"> • What VC service(s) do you provide now and what VC service(s) do you plan to provide in the next 3–5years? • How could integrating with a pan-European GÉANT service help? • Are you in contact with potential VC-user communities? If yes, please give contact details. 	32	24 answered
4	Online survey	See Section 3 <i>The Survey</i> on page 10.	32	29 NRENs answered
5	Workshop	Requirements-brainstorming workshop, attended by GN3 NREN VC service managers and representatives from other NRENs who do not yet have a VC service. Opportunity for NRENs to present the requirements of their national community, to review survey results, and		The workshop was held on 18–19 October 2010 in Lisbon, Portugal. 19 NRENs were present. Agenda, slides and videos are available on the webpage of the workshop [eduCONF_Workshop].

Stage	Name	Description	No. of NREs contacted	Results / Representation
		brainstorm to help define high-level service architecture.		

Table 2.1: Data-gathering stages for the proposed eduCONF service

The originally planned and actual dates for completing these stages, and for producing the business case, are shown in Table 2.2 below.

Stage	Name	Planned Date (2010)	Actual Date (2010)
1	Identify VC service managers	May	May
2	Establish initial contact	May	May–July
3	Interview VC service managers	June – August	June–August
4	Online survey	June – August	12 August – 1 October
5	Workshop	September – October	18–19 October
6	Produce business case	November – December	

Table 2.2: Data-gathering stages for the proposed eduCONF service: planned and actual dates

2.4 GN2 User-Base Segmentation Project Findings

In addition to the current user-requirements gathering and market research, SA3 T4 has been able to draw on the results of the user-base segmentation project carried out in GN2 by the equivalent Task to NA2 in 2007.

Segmentation is an organised means of handling audiences for marketing purposes. Rather than attempting to communicate in a uniform fashion across the entire audience, it is more efficient to divide the audience into sub-groups (segments) that have similar characteristics and needs, and consequently to tailor communications for each segment. In the context of GÉANT, segmentation provides a framework for categorising end users according to their networking and service needs, permitting the needs of relatively homogeneous subsets of the end-user base to be addressed in a systematic manner with appropriate, tailored, targeted communications.

The overall objective of the segmentation project was to develop and implement a segmentation of pan-European end users and potential users of the GÉANT network and services, to better understand current and future end-user requirements and so ensure that they are met. The aims were both strategic, relating to the direction of development, and operational, relating to practical marketing and support.

The vehicle for the primary research was a questionnaire, which covered, among other things, videoconferencing and other collaboration needs. The set of VC-specific questions produced results in the

areas of patterns of use and satisfaction. In addition, two open questions produced results relevant to a videoconferencing service. The key findings included:

- Patterns of use: 77% of the base total of 964 respondents to the GN2 questionnaire said they used videoconferencing, though most did so infrequently. Only 13% used it once a week or more.
- Satisfaction: Only 6% of respondents who used videoconferencing (a base of 646) said they were entirely satisfied with videoconferencing connectivity. The main reasons for their dissatisfaction were low picture quality (24% of a base of 186), interruptions to transmission (21%), bad quality connection, speed issues and low/limited bandwidth (18%). The main barrier to using videoconferencing was stated as being partners not having the right hardware/software (31% of the base total of 964).
- When respondents were asked what aspects of collaboration they would like to see better addressed in the future, the aspects identified by most respondents who chose to comment (307 end-users) included “Better videoconferencing performance” (16%).
- When respondents were asked whether they had any examples of using educational networks and services to the benefit of their research/project, the top three examples given by most respondents who chose to comment (235 end-users) included videoconferencing, with collaborations also among the category of responses.

For further information, please see “Deliverable DN3.0.3,5 – Specific Support Actions – User-Base Segments” [DN3.0.3,5].

The user segmentation was developed dynamically, based on a statistical analysis of the questionnaire data, rather than prescribed in advance and imposed. Six significant segments were identified from the data analysis, including a Video/Dataconferencing segment.

The segmentation project therefore has two strands of value for the new eduCONF service development phase. First, the results of this previous questionnaire highlighted patterns of use, potential use and issues regarding videoconferencing services that are directly relevant to the current user requirements gathering. Second, as mentioned above, mapping the questionnaire responses to user characteristics identified Video/Dataconferencing as one of the six significant segments. This segmentation can subsequently be applied and used for targeted communications about such services and should be of value to the promotion of future eduCONF services.

The GN3 eduCONF team had access to the segmentation questionnaire data, which provided both background information, question examples and direct input to the design and conduct of the eduCONF survey.

2.5 Reason for NA2 Involvement in eduCONF

A critical success factor for any planned new service is a thorough understanding of user requirements, which is dependent on the quality, relevance, and comprehensiveness of the requirements data; this in turn is dependent on the effectiveness of the method used to gather the data. Questionnaire design is a skilled area: leading questions that might skew results have to be avoided; responses have to be analysable; questions have to be clear. NA2 is experienced in creating and running surveys, and processing their results.

In addition, it was one of the findings of the EC Y1 Review that not enough is being done to understand user requirements.

3 The Survey

This section covers:

- Objectives and target audience.
- Approach.
- What happened next.

3.1 Objectives and Target Audience

The survey formed part of the eduCONF feasibility study. It was conceived as a tool for collecting the requirements of the GN3 NREN partners and their users with regard to VC-related services, and for understanding the videoconference ecosystem of the European research communities and the role that GÉANT might have in providing a future pan-European high-quality VC-related service. Its purpose was to identify:

- Videoconferencing technology trends.
- Current uses and services.
- Planned and possible future services.
- Synergies, and how NREN and GÉANT services might be integrated.
- Related GÉANT services.
- Other services that might be integrated with a videoconferencing service.
- Usage models (including CO2 reduction, frequency, numbers).
- Support models.
- Payment models.
- Security policies.
- Barriers.

The data was intended to help in the definition of a high-level service architecture and development of a business case.

The primary target audience were the NRENs (both videoconference service managers and technical personnel); the secondary target were the users, including projects, universities and research institutes.

3.2 Approach

Developing the survey involved the following stages:

- Requirements definition and analysis.
- Method selection.
- Tool selection.
- Questionnaire design.
- Testing.
- Conducting the survey.
- Data processing.

Each of these is described below.

3.2.1 Requirements Definition and Analysis

NA2 T7 worked with the eduCONF team (via email and approximately ten weekly videoconferences) to define and understand their needs and expectations with regard to gathering VC service-related information, including:

- Number of respondents.
- Geographical spread of respondents.
- Respondent profile, e.g. organisation; whether management, technical, user.
- Information required/sought.
- Timescales.
- Budget.
- Number and geographical spread of eduCONF team members.

An additional requirement was that each information-gathering exercise should take less than 30 minutes to complete.

A key source for this step was the SA3 T4 document “On-line Inquiry” [On-line_Inquiry], discussed in Section 3.2.4 *Questionnaire Design* on page 15.

3.2.2 Method Selection

After analysing the eduCONF team’s requirements, a survey was selected as the most appropriate method to collect the information that would meet their needs. Data collected in a survey can be used to describe opinions about videoconferencing issues on different levels: individual (where each set of questionnaire responses is analysed individually), national, and European (where data is grouped and aggregated). Data gathered from surveys may be analysed later from different perspectives.

The most appropriate and effective way of conducting a survey is Computer Aided Web Interviewing (CAWI), which is recognised as a valuable tool for such a purpose, offering several important benefits:

- Easy access to a vast, geographically diverse pool of potential respondents.
- Ability to present complex additional materials, e.g. detailed questions and explanations can be provided when necessary.
- Rapid turnaround.
- No need for interviewers. CAWI surveys are self-administered; respondents answer the questions at their leisure and transmit their responses electronically. This method reduces data-entry requirements, eliminates the possibility of transcription or data-entry errors, and greatly accelerates survey administration.
- Low costs – no print, mail, interviewer or data-entry expenses.

In addition, web-based surveys can be successfully used for studying specific groups, populations with a high rate of Internet penetration, for example. This method therefore fits the eduCONF target audience perfectly.

Telephone interviews were also considered, but phone was thought more suitable for the initial contact and high-level questions than carrying out the detailed survey itself.

3.2.3 Tool Selection

To create the survey it was decided to use one of the web-based survey systems, specifically, the commercial web-based survey system Webropol [Webropol]. Webropol is developed by the Finnish company Webropol Oy, and is widely used in Scandinavia and other countries. The selection was based on the SigmaNet NA2 participants' previous experience with this tool, which they have used successfully for all the surveys they have undertaken in the last two years. It seemed to provide what was required to meet both the eduCONF team's needs and end-user criteria such as ease of use, and so to help ensure the overall success of the survey.

3.2.3.1 Tool Description

Besides a set of various survey-oriented functions, Webropol provided the following useful options:

- Flexibility in creating the survey – see Figure 3.1 below for an illustration of the different types of questions Webropol supports.
- Real-time monitoring of incoming responses.
- Built-in tool for obtaining immediate basic reports from the incoming responses – see Figure 3.2 and Figure 3.3 for examples.
- Built-in function to export the survey data to different output formats (e.g. .pdf, .doc, .exl, .pps, .xml).

8. Which of the following future developments would interest you?
Please indicate your opinion about the future development of audio and video collaboration. (Definitions)

	No interest	Some interest	Strong interest
New under developing technologies (3D, 4K..)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immersive Tele-presence (3xHD screens, immersive environment)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tele-presence (3xHD screens, regular room)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HD Videoconference (1xHD Screen, data collaboration)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SD Videoconference (1 Screen, data collaboration)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Web conference (PC based videoconference)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mobile Videoconference (PDA, Smart Phones, PC integration)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. In your opinion, what technology is appropriate for each of the following uses?
Please check the relevant options for your organisation (description of definitions)

	New under developing technologies	Immersive Telepresence	Telepresence	HD Videoconference	SD Videoconference	Webconference	Mobile Videoconference
Collaboration with scientific/business partners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Direct instruction of students at remote campus or at home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Instruction of locally-based learner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Student-only collaborative based learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Professional/staff development and training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessing content experts/virtual fieldtrips	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High profile Meetings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
General Meetings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Please indicate other technologies where your organisation is putting effort or endorsing:
Please specify the technology, benefits and use cases.

Figure 3.1: Webropol screenshot showing different question types

28. Please answer the following questions about VoIP (Voice over IP):

Number of question respondents: 117

	Yes (value: 1)	Not yet, planned (value: 2)	Not planned (value: 3)	No information (value: 4)
Does your organisation has a VoIP service? (avg: 1.517; total: 116)	67.2% 78	17.2% 20	12.1% 14	3.4% 4
Does your NREN support VoIP services? (avg: 2.216; total: 111)	45.9% 51	12.6% 14	15.3% 17	26.1% 29
Can you dial via VoIP outside your organisation? (avg: 1.902; total: 112)	51.8% 58	21.4% 24	11.6% 13	15.2% 17
avg: 1.873; total: 339	55.2% 187	17.1% 58	13% 44	14.7% 50

29. Is the VoIP service of your organization reachable by others?

Number of question respondents: 113 (avg: 3.4)


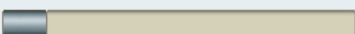

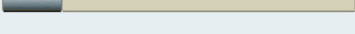
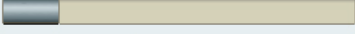
(38.1) The VoIP service is only local		17.7%	20
(38.2) Between campus, inside the same institution. No outside institutions.		12.4%	14
(38.3) Between institutions "well known" (pre-arranged interchange)		16.8%	19
(38.4) Open on the Internet (everyone can call)		15.9%	18
(38.5) No information/Don't know		37.2%	42

Figure 3.2: Webropol screenshot – answer processing #1

6. How important are the following ways of using videoconferencing?
 Please evaluate the importance to your organisation of the following ways of using videoconferencing/video collaboration.

Number of question respondents: 117

	Important now and importance will increase (value: 1)	Important now, but importance will decrease (value: 2)	Not important now but importance will increase (value: 3)	Not important now and will not be important (value: 4)	Not Used / Not applicable (value: 5)
Collaboration with scientific/ business partners (avg: 1.482; total: 114)	76.3% 87	5.3% 6	14.9% 17	0.9% 1	2.6% 3
Direct instruction of students at remote campus or at home (avg: 2.707; total: 116)	39.7% 46	2.6% 3	27.6% 32	7.8% 9	22.4% 26
Instruction of locally-based learner (avg: 2.956; total: 113)	27.4% 31	7.1% 8	31% 35	11.5% 13	23% 26
Student-only collaborative based learning (avg: 3.302; total: 116)	19.8% 23	1.7% 2	36.2% 42	12.9% 15	29.3% 34
Professional/staff development and training (avg: 2.184; total: 114)	49.1% 56	5.3% 6	31.6% 36	6.1% 7	7.9% 9
Accessing experts/virtual fieldtrips (avg: 2.322; total: 115)	46.1% 53	4.3% 5	32.2% 37	6.1% 7	11.3% 13
High Profile Meetings (avg: 1.832; total: 113)	64.6% 73	2.7% 3	22.1% 25	6.2% 7	4.4% 5
General Meetings (avg: 1.509; total: 116)	75% 87	4.3% 5	16.4% 19	3.4% 4	0.9% 1
avg: 2.288; total: 917	49.7% 456	4.1% 38	26.5% 243	6.9% 63	12.8% 117

Figure 3.3: Webropol screenshot – answer processing #2

Using Webropol helped to set up the survey in a very short timeframe, to distribute it to respondents, and to obtain information in a format suitable for further processing and analysis.

3.2.4 Questionnaire Design

The questionnaire was designed jointly by the eduCONF team and NA2 T7. It was based on learning from:

- NREN VC service manager interviews already conducted.
- Other similar user surveys, e.g. from the TERENA Videoconference Service Studies Task Force (TF-VSS) and the GN2 user-base segmentation survey.
- educonf [*sic* – this is the spelling used for eduCONF’s previous GN2 incarnation] experience.

The eduCONF team had developed a document (“On-line Inquiry” [On-line_Inquiry]) which became the main source of the survey questionnaire. The document outlined the themes and sections (e.g. User Identification, Reachability Services, Service Integration, Future Services, VC Usage) and contained draft questions for each topic area.

The NA2 T7 team from SigmaNet contributed to this document by clarifying and refining questions and answer options, changing them to a form more suitable for an online survey.

It was decided to create an open survey without individual links for individual participants. This gave great flexibility in terms of inviting participants, but made the possibility of following up to see which respondents had already filled in the survey dependent on whether they chose to enter their email address. This was optional (as were all the questions in the survey), allowing participants to remain anonymous if they preferred. For those who did enter their email address, it was possible to see which organisations and countries were represented. Beyond this, email details were only used to contact the respondent later regarding the survey-related questions and for no other reasons.

The final survey questionnaire consisted of 29 questions divided into 5 sections: The figure in parentheses is the number of questions in the section.

1. Introductory questions (4).
2. General issues (11).
3. Role of GÉANT (1).
4. Unified addressing service (5)
5. Technical issues (8).

A range of question types were used, including:

- Closed response:
 - List of options provided, e.g. Q1.
 - Single selection (radio button), e.g. Q11.
 - Multiple selection (checkboxes), e.g. Q14.
 - Multi-part, single selection., e.g. Q5
- Open response: free text area, e.g. Q10.
- Conditional / dependent / interlinked questions, e.g. Q11/12 and 11/13.

The online version of the survey is no longer available, but screenshots are provided in [eduCONF_Survey].

3.2.5 Testing

A draft survey was implemented online and tested by members of the eduCONF and NA2 T7 teams, who provided feedback on the usability of the tool, and on the comprehensibility and clarity of the questions. Based on this feedback, several questions were reformulated and improved. The testers also measured the time that was needed to complete the survey. It was estimated that filling in the survey would require 30–40 minutes.

3.2.6 Conducting the Survey

The survey was announced 12 August 2010. Invitations to take part were issued through several communication channels, including:

- eduCONF web page on the GÉANT website.
- eduCONF workshop web page on the TERENA website.
- eduCONF workshop mailing list, which contains the VC specialists from the NRENs.
- eduCONF workshop mailing list reminders.
- GÉANT Connect newsletter.
- GÉANT intranet.

No exact deadline was set for answering the survey. Responses were monitored regularly, with the intention of keeping the survey open until most European countries and NRENs had participated.

Figure 3.4 below shows when the responses were received. The graph separates out NREN numbers from users (“Other”) and indicates key events.

Response monitoring and analysis based on organisation and country were possible because almost all respondents provided email details.

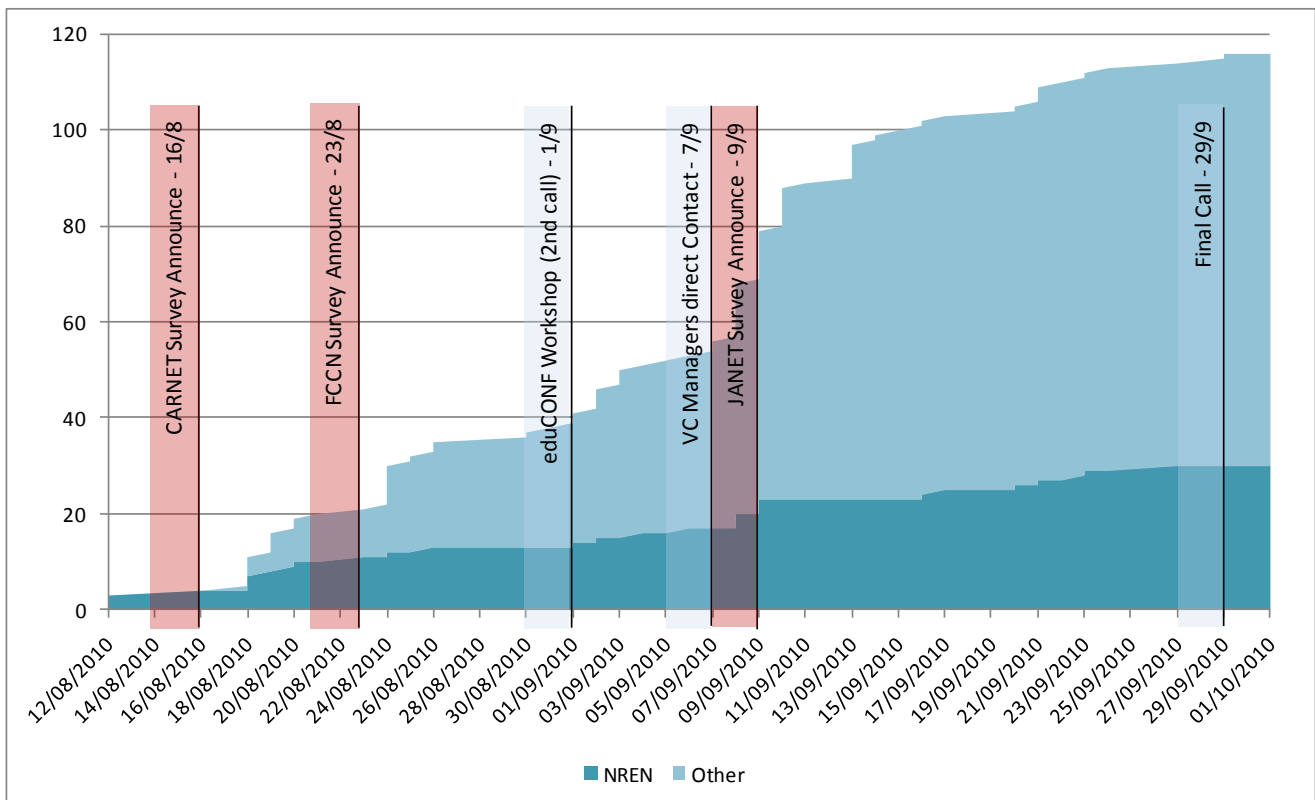


Figure 3.4: Number and dates of responses received

In the event, the survey was live online for 50 days. It closed 1 October 2010, with 117 responses from 30 countries, and rapid processing of the survey's results was started.

3.2.7 Data Processing

The responses were collected in an Excel database that was generated automatically by the Webropol tool.

One of the eduCONF team, from CARNet, the Croatian NREN, volunteered to produce the main graphs as he had access to an easy-to-use graph-making tool. Other graphs were produced using Excel. As discussed further in Section 4 *Results and Recommendations* on page 19, reporting the survey results involved significant pre-processing of the data.

3.3 What Happened Next

The results data was presented at the eduCONF requirements-brainstorming workshop, which was held on 18–19 October 2010 in Lisbon, Portugal. The agenda, slides and videos from the event are available on the workshop web page [eduCONF_Workshop].

Both the survey results data and the workshop output have fed into the production of a high-level service architecture and business case, which are currently in development and are the present scope of the eduCONF Task.

4 Results and Recommendations

The actual data results of the survey are outside the scope of this deliverable. (For a summary, see [eduCONF_QResults]). The results of interest and relevance to this deliverable are the lessons learned that can be applied to future GN3 surveys in the interests of continuous improvement. These are summarised below.

- The extended, cross-Activity nature of the team working on the survey made it possible to optimise the resources available – to allocate the best resource, the person with the appropriate skills and experience, to each aspect, and for each person to work to their strengths to add maximum value. Thus, because of their skills and previous experience, NA2 were well-placed and well-qualified to refine the wording of the questions, select the best type/format for presenting them, and to integrate the team feedback into the survey. This left SA3 T4 the time to focus on getting more and better NREN contacts, preparing for the workshop, and discussing the core issues. However, the eduCONF team were not initially aware that NA2 might be able to help with this type of work, so the support began at a later than ideal stage in the process.

Recommendation: Repeat the collaborative approach wherever possible. Be more proactive in publicising the intra-project services that GN3 provides.

- In general, the team considered the survey to be a very useful and effective tool for the information-gathering task. Analysis of the responses showed that some questions worked less well than others in terms of producing data that could be analysed and related to other questions, but in the limited time available to prepare the survey only a few iterations were possible.

Recommendation: Allow more time to design the questionnaire, and involve NA2 in the process earlier. Build on experience to improve the wording and structure of questions so that responses can be analysed more easily.

- While the web-based CAWI method was definitely extremely effective, the team had some reservations about the selected tool. For example, it was considered to have a limited range of features, to be restrictively strict in how questions could be formatted, not fully support a context-dependent structure, and to make processing the results data, particularly multi-option answers, difficult and time-consuming. (For example, some data had to be both pre-processed and aggregated before pivot tables could be used. It would have been more efficient, accurate and effective to be able to use pivot tables on the raw data.)

Recommendation: Explain the tool's functionality to the Activity / Task members at an early stage, to clarify whether it meets their data-processing and reporting requirements, and identify whether additional data-processing effort is needed. Review the preferred

tool, and/or provide an additional tool to generate graphs from and support analysis of the results data if appropriate.

- To ensure sufficiently wide participation in the survey, it was essential to discuss the survey with participants beforehand and to remind them regularly about the necessity to fill in the survey.

Recommendation: Each survey to be supported with a specific communications plan that facilitates appropriate contact with participants at each stage, thus giving a maximum chance of a high response rate and therefore more useful and reliable results.

- Number of responses. The target number of responses was around 100 – ~40 from NRENs and ~60 from users. The target was met (117 responses in total), a success that can be directly attributed to the following:
 - The first three preparatory stages of the requirements-gathering process (see stages 1 – 3 in Section 2.3.1 *How the Survey Fits In* on page 6), which ensured the right people were contacted and a relationship established.
 - The supporting internal and external news items issued in the run-up to the survey.
 - The follow-up emails and phone calls that were made once the survey was live to encourage and remind the NREN representatives to complete it.
 - Providing templated emails for NREN contacts to forward to their local user mailing lists.

Recommendation: Repeat the preparatory stages, news items, follow-up contacts and email templates in future surveys.

- Survey announcement method. There is no data on which of the methods used to announce the survey produced the highest number of responses, or on whether there was a correlation between the method and the type of person (e.g. NREN VC service manager, user) who chose it to respond. However, the opinion of the Task members is that the most effective methods were, in order, the targeted eduCONF mailing list, eduCONF mailing list reminders, and the eduCONF workshop web page on the TERENA website. Other important factors in obtaining the high number of responses are thought to be establishing a relationship with the NREN VC service managers, making personal contact, and providing email templates for forwarding to local user mailing lists.

Recommendation: Where possible, have a dedicated, targeted mailing list and site for communications, establish strong relationships and stay in touch.

5 Conclusions

The eduCONF survey has provided an ideal opportunity for NA2's focused market outreach support, i.e. for the provision of an on-demand research service to the other Activities, primarily to gather intelligence about the audiences to whom communications activities are directed and for whom the project's services are intended. The collaborative cross-Activity approach to the eduCONF survey proved an effective use of different GN3 resources, allowing each person involved to work to their strengths and add maximum value to the task. The approach will be repeated wherever possible, and to this end NA2 will be more proactive in publicising the intra-project services that GN3 provides. In addition, eduCONF has provided an opportunity for the NA2 team to develop its survey skills and experience further, and to learn lessons that can be applied to future surveys that it supports, to ensure the service it provides is even more useful.

References

- [DN3.0.3,5]** GN2-09-003 “Deliverable DN3.0.3,5 Specific Support Actions – User-Base Segments”
[\[http://www.geant2.net/upload/doc/GN2-09-003_DN3.0.3,5_Specific_support_actions_-_user_base_segments_v09_read_only.doc\]](http://www.geant2.net/upload/doc/GN2-09-003_DN3.0.3,5_Specific_support_actions_-_user_base_segments_v09_read_only.doc)
- [eduCONF_Bus_Case]** GN3-10-311 “eduCONF Business Case SA3 T4”
 For the latest version, see SA3 T4 Documents area of the Intranet:
<https://intranet.geant.net/sites/Services/SA3/T4/Documents/Forms/AllItems.aspx> (access restricted to GN3 project participants)
- [eduCONF_Connect]** eduCONF article in the GÉANT newsletter Connect Issue 2 July 2010
http://www.geant.net/Media_Centre/connect/Pages/july_2010_innovative_services.aspx#is1
- [eduCONF_Internet]** eduCONF area of GÉANT website
<http://www.geant.net/Services/EndUserApplicationServices/Pages/educonf.aspx>
- [eduCONF_Intranet]** T4 area of the GN3 Intranet
<https://intranet.geant.net/Sites/Services/SA3/T4/pages/home.aspx> (access restricted to GN3 project participants)
- [eduCONF_Survey]** Screenshots of eduCONF survey
http://www.geant.net/Media_Centre/Media_Library/Media%20Library/eduCONF_survey.pdf
- [eduCONF_QResults]** Rui Ribeiro, “Survey Results”
http://www.terena.org/activities/educonf/slides/survey_data.pdf
- [eduCONF_Workshop]** eduCONF workshop web page
<http://www.terena.org/activities/educonf/>
- [On-line_Inquiry]** “On-line Inquiry”
https://intranet.geant.net/sites/Services/SA3/T4/Documents/On-line%20Inquiry/on-line_inquiry.docx (access restricted to GN3 project participants)
- [OSIRIS]** Towards an Open and Sustainable ICT Research Infrastructure Strategy project (OSIRIS) website
<http://www.osiris-online.eu/>
- [Webropol]** Webropol website
<http://w3.webropol.com/>

Glossary

CAWI	Computer Aided Web Interviewing
ICT	Information and Communication Technologies
NA2	GN3 Networking Activity 2 Communication and Promotion
NA2 T7	Task 7 Focused Market Outreach
NREN	National Research and Education Network
SA2	GN3 Service Activity 2 Multi-Domain Network Services
SA2 T4	SA2 Task 4 Security
SA3	GN3 Service Activity 3 Multi-Domain User Applications
SA3 T4	SA3 Task 4 eduCONF
TF-VSS	TERENA Videoconference Service Studies Task Force
Y1	GN3 Year 1 (1 April 2009 to 31 March 2010)