



Parallel Session on Researchers' Requirements

**Discussion Paper
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Introduction

As was the case in SERENATE, a study of the current and future networking needs of users in the research and higher-education community will be an important part of EARNEST. In the end, it is the requirements of these users that provide the most important justification for the effort and resources that are being invested in research networking. The indications that these users can give about the services that they expect to require from research networks in 5-10 years' time will provide directions for the technology and service development by research and education networking organisations.

In addition, in the GN2 project contract the European Commission has requested that this study area will not only be approached in a forward looking way; as an additional task, evidence should be provided of the impact that the development of research and education networking infrastructure and services has had in recent years on research in various disciplines.

The study area of researchers' requirements will be addressed via two strategies: broad and deep. A main part of the broad strategy will be to collect feedback on questions related to the issues above from large numbers of researchers and teachers in higher education via a questionnaire that will be widely distributed. In the deep strategy, more detailed stories about the impact of research networking in recent years and more specific visions on the development of network and service requirements will be obtained from a small number of researchers who are known to have well-founded and perhaps imaginative ideas about these matters.

1. The Impact of IT and Networks on Research and Higher Education in Recent Years

What are the main changes that the availability of IT and in particular computer networks and services has brought to research and higher education in recent years? Can examples be given where these technologies and services have substantially changed research in specific disciplines? Which researchers or research organisations would be able to provide interesting information about these questions?

2. The Change in Users' Needs

How have the requirements of researchers and academic teachers changed in the last 5 years? How will they be changing in the next 5-10 years?

Are the technical capacities and capabilities and the actual performance congruent? Are the current opportunities offered by research networking used to their full extent by the research communities? (If not, why not? Can some examples be given?). What kinds of networks and technologies are used?

3. New Aspects of Research Networks

What are, for researchers, the new aspects of research networks? In other words, what are the priorities and target areas that should be addressed in a questionnaire on networking requirements of researchers as mentioned above?

4. Performance of Virtual Institutes and Laboratories

What are the potentials and what is the "added value" of virtual research institutions? Where are the shortcomings compared to "physically existing" institutions?

5. Present and Future Quality of Direct Access for Individual Users Across Universities and Research Laboratories

What can and should Grids provide? How should the necessary expenditure be assessed and audited? How can the benefits for research and education be evaluated and the return on investment compared? How compatible are the user policies with the requirements for individual access? How are these services charged?

6. Virtual Access and "Remote" Research and Training

Major research infrastructures have begun to set up virtual entry points for (virtual) transnational access to the facilities and their services for external users. What have been the first lessons learnt concerning accessibility, transparency of procedures and quality of results? How effective have these efforts been on an international scale and what can be improved?

7. Database and security issues

How far developed and common are the security tools and the tools for entry points at research institutions? Where are the pitfalls? Do these tools meet the (current and future) requirements of researchers?

8. Linking Local-Area Networks

How useful and how feasible is it for research centres and academic institutions to acquire their own fibre infrastructure between LANs and key service points or infrastructure providers?