



**Organisational and Governance Issues**

**Paper  
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Introduction

If NRENs are to maintain support from their communities of users and funding bodies they must continue to innovate and provide cost effective and reliable services that are required by the research and education communities that they serve.

The GN2 project has as one of its key aims the ability for GÉANT2 to move towards the delivery of definable and reliable end-to-end services in line with some user and project requirements. Some of the service and research activities of the GN2 project focus on this aim. They are:

- SA3: End-to-End Quality of Service
- JRA1: Performance Measurement and Management
- JRA3: Bandwidth Allocation and Reservation (Bandwidth on Demand)

Work being carried out by NRENs throughout Europe is also moving towards the aim of delivering definable and reliable end-to-end services and several NRENs already have programmes in place to further develop the provisioning of end-to-end services.

It is anticipated that in the future some automatic end-user provisioning of end-to-end services across Europe should be possible, but although in many cases the basic technologies to provide such services are available and in some cases have been proven, the issues of delivering end-to-end services are wider than just getting the various technologies to function correctly across multiple network domains.

The organisational and governance issues surrounding the planning and the delivery of new services in the future will become much more significant as the move from the delivery of "best efforts" network services to definable, configurable and guaranteed end-to-end services is made.

EARNEST will look into organisational and governance issues of European research and education networking in order to suggest ways in which the organisational and governance models for European research and education networking can be developed so that the service aspirations of the entire research and education communities in Europe and beyond can be met.

1. Issues to be addressed

Before the design and implementation of the necessary organisational models and governance structures can be carried out, several issues will need to be explored and addressed. Some of these issues are:

- The funding and charging models and funding levels used by the different organisations in the chain of delivery of network services. (Often the funding



models will dictate the level of services and support that can be provided by a particular network operator and the funding models and levels of funding will not necessarily be geared to the service levels demanded by some groups of users.)

- The level of autonomy that the various individual network operators (NRENs, regional network operators, universities, colleges and research institutions) wish to maintain in deciding on the standards that they will adopt and the methods to implement and support their network services.
- The variability of network support and service availability in different network domains.
- The variability of network performance in different network domains and the method by which performance issues can be and are addressed.
- The variability of the policies in situ for the provisioning of services that can support end-to-end services. E.g. policies for supporting VPNs.
- The differing attitudes of different NRENs and user groups to the self-provisioning of networking, not following current models. E.g. the use of cross-border fibres to provide interconnectivity between NRENs, the development of limited parallel networks to support specific projects, etc.

## 2. Proposed Workplan

There are several activities that can be pursued so that new organisational and governance models can be developed, with a view to agreeing a set of models that can be implemented. Some of these activities are:

- Investigate what current organisational, governance, funding and management models operate in different European countries and determine what experiences the different parties involved have had. (Key input will be needed from TERENA, DANTE, NRENs, universities etc.) N.B. Only a sample can be taken as a full investigation would be too time consuming.
- Develop a set of key requirements that any new organisational and governance structure must meet so that end-to-end services can be reliably developed, delivered and supported. (Key inputs will be required from DANTE, NRENs, universities etc.)
- Develop and agree a set of protocols for dealing with issues between different domains. (This sounds easy in principle but in practice it may be difficult to implement because of different priorities, cultures, funding regimes and levels etc.)
- Develop a set of organisational and governance models so that different alternatives can be adopted as it is unlikely that a single model could be implemented, due to the diversity of all the members of the delivery chain.

During the study many different parties will need to be consulted including research and education end-users, university/college/research institution computing services personnel, regional network operators, NRENs, DANTE, TERENA etc. It is also clear that the EARNEST study on campus issues will feed into the study on organisation and governance issues, so strong links will be needed with this parallel study area.

It is important that the organisational and governance models developed are sufficiently flexible so that they can be supported and implemented by a broad range of European networking participants. If the broad support and implementation of new organisational and governance structures is achieved, then the development, delivery and support of reliable end-to-end services can be achieved across Europe.