

EARNEST **GN2 Foresight Study**

Organisational and Governance Study Issues

An example: French Governance and Organisational Structures

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Introduction

The EARNEST study has several strands including a study into the organisational and governance issues associated with European research and education networking. Part of this study involves understanding some of the existing governance and organisational models used in different parts of Europe. This paper provides a brief overview of the governance and organisational structures used in France for education and research networking.

The Structure of the French NREN

The French NREN, called RENATER (Réseau National de Télécommunications pour la Technologie, l'Enseignement et la Recherche) is managed by the GIP RENATER (Groupement d'Intérêt Public RENATER). RENATER itself comprises a national backbone network, which links several regional networks. These regional networks are each co-funded by the users, together with the local authorities. The networks have their own independent governance structure with very little degree of accountability to the universities and research organisations connected to them.

RENATER also connects the academic schools networks together and also connects the major public research centres and organisations.

Since 2002, in order to overcome the difficulty of managing advanced services to end users, across several domains, there are more and more users sites, which are directly connected to the RENATER backbone wherever possible, without going through the regional networks.

The way the key organisations interact is complex because of the different stakeholders involved and the way that the funding and policy making is carried out.

Funding Arrangements

The French NREN is primarily funded by the members of the GIP, who represent respectively:

- 52.58 %: Ministry for Research and Education
- 31.89%: CNRS (Centre National de la Recherche Scientifique)
- 4.86 %: CEA (Commissariat à l'Energie Atomique)
- 3.99%: INRIA (Institut National de Recherche en Informatique et Automatique)

- 2.79 %: CNES (Centre National d'Etudes Spatiales)
- 1.59 %: INRA (Institut National de Recherche Agronomique)
- 1.15 %: INSERM (Institut National...)
- 0.52 %: CIRAD (Centre International de Recherche ...)
- 0.23 %: IRD (Institut de Recherche pour le Développement)
- 0.31 %: CEMAGREF (Centre d'Etudes pour le Machinisme Agricole ...)
- 0.09 %: BRGM (Bureau de Recherches Géologiques et Minières)

Extra revenues (about 10%) are coming from the network service provision to isolated users, not depending from any of the GIP members, and from participation to EU-funded R&D activities.

Organisations Involved and Governance

A diagram in the appendix gives an overview of the interaction of the different entities involved in the governance of the French NREN, RENATER. The follow sections describe the part that the key organisations play in its governance.

GIP RENATER

The main organisation involved in managing and developing the NREN is GIP RENATER, which stands for "Groupement d'Intérêt Public Réseau National de Télécommunications pour la Technologie, l'Enseignement et la Recherche", a public interest grouping with members representing the stakeholders in French education and research networking (universities and public research organisations). In practice, the people representing the GIP members are general senior IT personnel (normally IT directors) who manage and run organisation-wide IT services. The RENATER managing board discusses and agrees policies for the grouping and monitors its operation and performance at a high level. The board does generally approve national network policies, which are prepared and proposed by the GIP directorate.

Ministry of Research and Education

The Ministry of Research and Education is in charge of the whole education sector, from elementary schools to universities and all public research organisations. It has the remit, among other missions, to provide the whole education and research system with a leading edge communication infrastructure for serving all advanced needs of this wide user community. The ministry supervises directly the education sector, whilst it is also responsible for the main funding of public research organisations, among which the major ones are also members of GIP RENATER. The ministry represents by itself, about 50% of the funding and voting rights in the GIP. It has 2 appointed representatives in the managing board of RENATER.

Public research organisations, members of the GIP

The major public research organisations are also members of GIP RENATER. They have one seat on the managing board with voting rights in proportion to their direct funding (which is obviously linked to the amount of resources/capacity they benefit from RENATER). These represent altogether, the other 50% of the direct funding of RENATER.

Regional networks and local authorities

The regional networks are either under the direct funding and control of the local authorities (Regions), or in the hands of a university or group of universities at the metro scale.

In the first case, the network implementation and operation is outsourced to commercial actors (telcos or services providers) whilst at the metro scale, these tasks are performed by universities. Regional networks have their own independent management structure, which set and agree regional networking policies. However these policies are not set independently from RENATER policies, as RENATER backbone is usually the main connectivity option to interconnect to other regional infrastructures, to other research networks and to the commodity Internet. The members of regional network boards are normally university IT directors or representatives of the main research organisation and local authorities.

CRU, CPU

The French universities and graduate schools are all users of RENATER and are therefore stakeholders in the NREN. Representatives from these bodies are grouped into a network committee, named CRU ("Comité Réseau des Universités"). This body also contributes to the establishment of RENATER policies and services. The CRU and RENATER technical teams cooperate and validate new services, like EDUROAM, before full deployment and operation by RENATER. This is done through informal networking and through holding conferences, workshops, seminars and setting up working groups to discuss policies at a strategic level and at an operational level. This only works if active participation of the stakeholders is achieved.

User groups, not represented by the GIP members

As RENATER is serving the whole research and education landscape in France, there are many users, who are not represented by the members of the GIP, and therefore do not have a seat on the management board. Interaction between these sites and RENATER is made by direct contacts with RENATER staff, or through periodic meetings that RENATER organises with users at the regional level, usually upon the request of users.

Local Authorities

The local authorities (Regional level) usually intervene on the definition and funding of the regional networks, used by RENATER users to connect to the national backbone. Although many attempts from these local bodies have been made to have control over RENATER policies and technical orientations, they were no appropriate conditions or context to allow that to occur. Meanwhile, RENATER has been offering the regional network operators the option to sign a MoU with RENATER, to share technical information and to commit to apply similar operational procedures in the regional network to those established in the NREN. So far, there has only been a limited success in this relationship model, which makes the e2e services more difficult to implement, outside of directly connecting user sites on the RENATER backbone equipment.

Central administration of the Ministry of Education and rectorates (schools networks)

The school system represents a particular community of users within RENATER. All of the school system is represented on the RENATER board by a directorate of the ministry of education. The administration of the school system is decentralized and relies on a collection of "rectorats" which represent the central administration at the regional level. In most regions, the "rectorat" organises the school network (mostly through central procurement of DSL accesses). Then all school network traffic is injected into the RENATER backbone at the local level. "Rectorats" constitute the unique exception where RENATER delegate the

task of representing them to the end users (allocation of IP addresses, appointment of technical and security contact people, etc...

Practical Issues

The management of a multi-domain NREN is complex if high levels of service and reliability are to be delivered. Good links with institutions are needed when resolving issues of policy and operational issues. In practice when operational issues need to be resolved the institution connected to RENATER reports the problem to the regional network operator who aims to resolve the problem, getting RENATER staff or their sub-contractors involved if necessary. The level and speed of response often depends on the individual regional network operator, who obviously has a stake in ensuring that service levels are maintained to the institutions connected to the regional network. Methods of operating, including fault resolution are in place but are constantly being reviewed. The setting of standards, both technical and managerial has become ever more important, as users expectations and service level requirements increase. As end-to-end services with guarantees rollout it will be even more critical to agree national and international policies and methods of operation. This is being done by working with stakeholders at all levels and getting stakeholders involved in decision making about the practical issues in developing and operating networks at a campus, regional and national level.

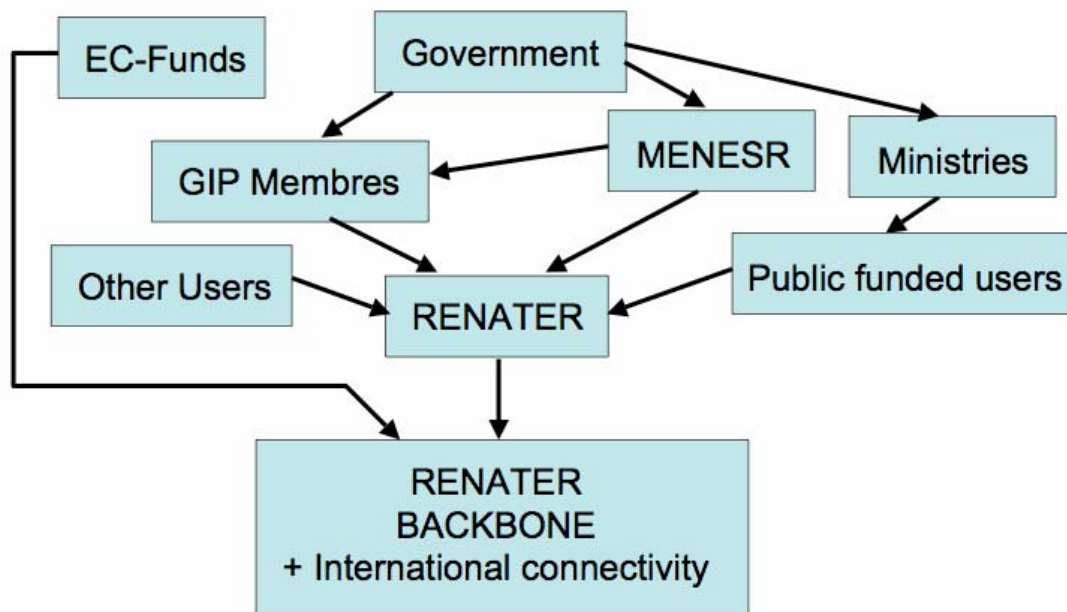
On the whole the method of governance and organisation, although complex and rather centralized, works reasonably well and the stakeholders are generally happy with service levels and performance of the RENATER network.

Summary

The governance and organisation of the French NREN is complex, but on the whole works. The rather centralized model allows RENATER to act permanently as a promoter for new and innovative technologies and services. Furthermore, it helps to maintain a coherent and cohesive system at the national level. Otherwise, there are too many diverse approaches, taken at the regional level, to ensure a consistent approach and outcome for the NREN user needs.

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FR NREN Funding Flow



FR NREN Strategy Flow

