

GN3

Summary: Known simply as GÉANT, GN3 is the third term of the successful GÉANT network and project that lie at the heart of the EU's e-Infrastructure strategy. Co-funded by the European National Research and Education Networks (NRENs) and the European Union (EU), the project seeks to shape the Internet of the future through the pan-European GÉANT network and a portfolio of advanced services for the research and education community. GÉANT also tackles the digital divide of research and education networking across Europe and fosters technological research to assure Europe's role at the forefront of networking and e-Science.

Objectives: The Project's overall objectives are to:

- Deliver real value and benefit to society by enabling research communities across Europe (and the world) thus transforming the way they collaborate on ground-breaking research.
- Deliver a portfolio of network services to be delivered by the NRENs. The key focus of the GÉANT project is the development and roll out of a portfolio of advanced services to end users to ensure seamless network performance.
- Operate and expand the European backbone network by providing and managing an advanced and cost-effective networking infrastructure, interconnecting NRENs through high bandwidth links.
- Develop and support a portfolio of advanced multi-domain network support services, enabling NREN operators to manage secure and reliable networking solutions across the extended European Research Area and globally, and deliver these to end users.
- Provide users with federated accessibility services by supplying NRENs, and therefore campuses and end users, with services for mobile R&E and distributed e-infrastructures such as grid computing and to effectively support projects and users who have advanced networking requirements.
- Pursue initiatives targeted at closing the "digital divide", through in-depth analysis of the research networking environment in developing areas and the provision of direct support.
- Examine the future of research networking and to explore the case for sustaining research and education networking.

Action plan: The GÉANT network will continue to provide extremely high bandwidth to increasing numbers of researchers across Europe and the globe. The aim is to increase network usage across wider disciplines of user groups.

In addition, through the NREN partners, GÉANT and the national networks will create a common pan-European service area (known as the GÉANT Service Area) for delivery at a national level of harmonised GÉANT services to the research and education community. This will enable a range of advanced network services and applications to be offered by NRENs at local level.

This infrastructure and portfolio of services will give the end user, their projects and institutions secure access to the network and resources they require, when and where they want it, transforming how research can be carried out.

Networking activities: The Project has established Networking Activities to facilitate the collaborative dissemination of GÉANT and services with dedicated resources to coordinate assist and support the consistent roll-out and promotion of the advanced services by the NRENs, in order to speed take-up by end users.



Project acronym:
GN3

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6576

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SANET SK
SigmaNet LV
SURFnet NL
SWITCH CH
ULAKBIM TR
UoM MT

The GÉANT projects already have a well-established international liaison and support function. This coordinates with global activities and organizations, facilitates increased internal cooperation and consultation with partners, and liaises with projects and initiatives. It also provides assistance to the development of research and education networking in less advanced regions of the world and provides the support required to enhance standardization across the project.

Service activities: The Service Activities of the project are dedicated to ensure end users receive seamless network performance and will focus on developing and rolling out user-focused services. They will concentrate on two key areas:

- Management and development of the backbone to ensure it maintains its world-leading position and supporting it with security, monitoring and performance services and initiatives to enable the reliability of the network usage.
- Develop and roll out a range of unique end user services focused on secure and mobile access, that will allow researchers access to the network and resources whenever and wherever required.

The GÉANT network provides extremely high bandwidth to users across Europe and, through the NREN partners; the GÉANT Project delivers a range of multi-domain services for institutions, projects and researchers. In order to optimize the user experience, the suite of GÉANT multi-domain services in development is a major focus of the project. The GN2 project was mainly focused on building the hybrid network but following the completion of this infrastructure, the GN3 project is focused on developing and rolling out services to NRENs and end users to enable them to get the best performance possible from the network and transforming the way research can be carried out.



Joint Research activities: The GÉANT project seeks to shape the Internet of the future by investing in the research and development of an advanced portfolio of technologies, to develop into services, tools and network capabilities for tomorrow's researchers. The research activities will deal with a critical analysis of future networking technologies as well as research into new services. They will bring innovation to the core network infrastructure, seek technological solutions for network control, management and service-provisioning across the GÉANT Service Area, and how to enable end user secure, seamless access to network resources.

User communities: The GÉANT backbone network connects 34 European National networks which serve 38 countries. The NRENs connect research and educational institutions within their respective countries and an estimated over 40 million end-users in over 3,500 institutions will be connected by GÉANT and the NRENs through the GÉANT Service Area. The diversity of user and project applications that can benefit from the bandwidth and global reach of the GÉANT network is immense, with consequent societal benefits of the GÉANT network seen across the spectrum of types of project, from big science to e-health, and from climate change and disaster planning to arts and culture.

International aspects: In addition to its pan-European reach, the network has extensive links to other world regions through collaboration with other networks, including those in North and Latin America, the Balkans, the Mediterranean, Black Sea, South Africa, Central and Eastern Asia.

Work to develop common service capabilities and recognition across different regions is expected to continue, in particular with performance monitoring and bandwidth on demand services that are being developed in tandem with major regional networks.

Keywords:

Internet
network
communication
technology
information systems
research
education
multi-domain

Collaboration with other EC funded projects:

EUMEDCONNECT
TEIN
CAREN
ALICE/CLARA
SEEREN
EGEE