

GEANT2

Research and Services

GEANT2 will provide the high-performance, state-of-the-art network infrastructure to power research in Europe and beyond.

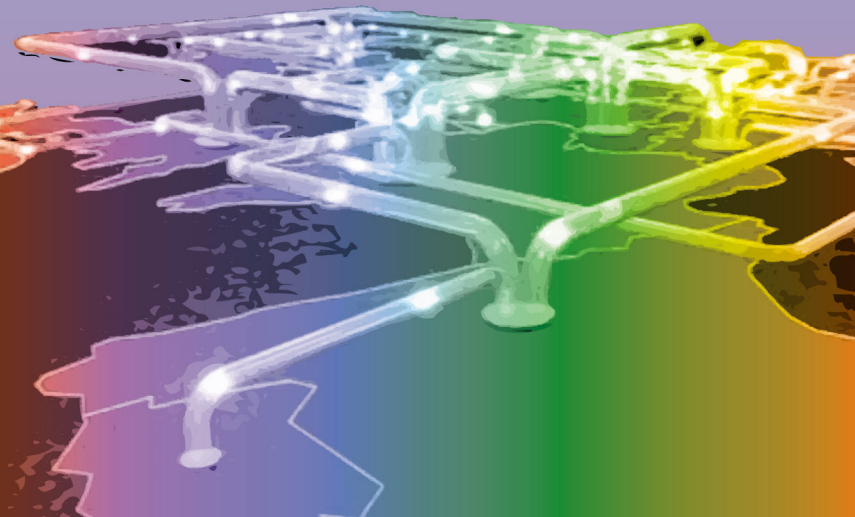
The network is the core activity of a coherent set of initiatives that seek to develop all aspects of European research and education networking.

www.geant2.net

Connect, communicate and collaborate with GEANT2, the world-leading research and education network for Europe

The GEANT2 project is delivering the next generation of pan-European network for research and education. The network's high bandwidth and hybrid technical design support a wide range of applications including Grids, Genomics, High Energy Physics, Meteorology and Medicine. Its extensive geographical reach interconnects with other world regions, enabling researchers to collaborate with colleagues all over the world.

GEANT2's advanced and innovative services provide enhanced usability, flexibility and transparency. Supported by its comprehensive programme of research and a user-focused approach to service development, GEANT2 is keeping Europe at the forefront of global research.



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Take an aerial view of the network with GEANT2's comprehensive network monitoring facilities

GEANT2 is developing a cohesive measurement framework to provide access to performance information from multiple networks. Its interfaces will open up a far-reaching, consistent view of performance data to more users than ever before. As the project progresses, the range and detail of the data collected will increase, giving network administrators the ability to zoom in to ever more detailed views of network performance.

Managers will be able to view the network virtually from above to identify and target troublespots. Project leaders and network users will be able to understand more about the network, with access to measurement data automatically controlled according to network policies and user privileges. Everyone in the end-to-end management chain will be able to see the bigger picture.





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Study in safety with the protection of GEANT2's integrated security

GEANT2's advanced defence systems offer sophisticated handling of network incidents, keeping danger at bay to enable users to take their research further. Its improved strategies for incident prevention, detection and handling will support network users in managing security risks.

GEANT2 is taking a proactive, joined-up approach to network security. The project will develop techniques to ward off attacks as they happen – as well as analysing network data in more depth than ever before – to strengthen defences for the future. GEANT2's partners are collaborating to develop and enforce common policies across multiple networks, working together to fight security threats and maximise research capabilities.

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Beat the traffic with GEANT2's research and services for bandwidth reservation and quality of service

PACE (Performance and Allocated Capacity for End-users) on GEANT2 will enable researchers to ask for as wide a priority lane as they want. From first request to final destination, provisioning facilities and quality of service standards will ensure that users' needs are guaranteed to be met. A dedicated team of network specialists is on hand to optimise performance and resolve network traffic jams.

Research into Bandwidth on Demand is taking the concept further. Going beyond Premium IP, GEANT2's joint research programme is looking at new technologies to guarantee bandwidth and quality of service. Provisioning will be streamlined, moving from manual set-up to smooth, automatic handling of user requirements.



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Explore the new frontiers of networking with GEANT2's advanced network test facilities

GEANT2 is creating a parallel network for testing tomorrow's technologies and techniques today. This unique resource will stretch across the geographic reach of the GEANT2 backbone, creating a distributed testbed to support cutting-edge research and development.

GEANT2's test facilities will explore emerging networking concepts not currently used in production research networks. The project is pushing the potential of new ideas in research networking to their limits, investigating the full capabilities of state-of-the-art optical technologies and ever more advanced services. With GEANT2, researchers can take technology for a test flight.





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Move freely across network boundaries with GEANT2's virtual pass to mobility

Research into roaming and authorisation will give users the opportunity to work as easily in any institute across Europe as at their own desks. Armed with their digital identities, every user will be recognised wherever they log on across the network's spread.

GEANT2's authorisation infrastructure will act as a bridge to the user's home institution, matching each researcher's normal privileges up against the host network's rights structure. Supported by this web of trust, users can be assured of seamless access to a familiar range of services. This universal system of identification and authorisation will make boundaries disappear, giving Europe's research and education community the freedom to roam anywhere across GEANT2 and its connected European networks.

