

30.08.07

Deliverable DN2.0.2,3: Revision and Development of GÉANT2 DVD



Deliverable DN2.0.2,3

Contractual Date:	31/08/07
Actual Date:	30/08/07
Contract Number:	511082
Instrument type:	Integrated Infrastructure Initiative (I3)
Activity:	NA2
Work Item:	N/A
Nature of Deliverable:	Report
Dissemination Level	Public
Lead Partner	DANTE
Document Code	GN2-07-222

Authors: Simon Watts, Dale Robertson (DANTE)

Abstract

This Deliverable contains a report on the production of an updated DVD about the GÉANT2 project.

Table of Contents

0	Executive Summary	iii
1	Introduction	1
2	Objectives	2
3	Target Audiences	4
4	Overview of content	5
5	Conclusion	7

0 Executive Summary

In 2006 a DVD was produced to help increase awareness of the capabilities and potential of the GÉANT2 project. There have been several significant developments since that time, and an updated version has been produced to reflect this.

The DVD contains a narrative video for use at exhibitions and conferences and for general PR purposes, explaining what the network is and what it can be used for. The narrative video now contains specific information on GÉANT2's Point-to-Point services, which support some of Europe's largest research projects with dedicated network infrastructure. The DVD also contains other sections highlighting aspects of GÉANT2 such as the work of specific user projects, and related literature such as topology maps, partner profiles and Frequently Asked Questions.

The first DVD was deemed a great success, and more than 2500 copies were distributed. This updated DVD will be circulated widely amongst the project partners, the research and education community and members of the European Commission.

Project:	GN2
Deliverable Number:	DN2.0.2,3
Date of Issue:	30/08/07
EC Contract No.:	511082
Document Code:	GN2-07-222

1 Introduction

GÉANT2 is a major success story for the European Union and for Europe's research and education community. It is a first of its kind and puts Europe at the heart of global research networking. It provides innovative and exciting possibilities for Europe's scientists and researchers, giving access to state-of-the-art networking resources. It allows network users to collaborate with colleagues across the globe. A DVD has been produced to convey these and other key messages to a wide audience.

Project:	GN2
Deliverable Number:	DN2.0.2,3
Date of Issue:	30/08/07
EC Contract No.:	511082
Document Code:	GN2-07-222

2 Objectives

The objectives of this DVD update are to:

- Provide more detailed information on GEANT2's Point-to-Point connectivity, and the benefits for European research.
- Reflect recent developments in both the GÉANT2 project and the broader international picture for research networking.
- Highlight new network applications and provide additional information and case studies on existing users.
- Include more detail on the scope of research taking place in the project, including perfSONAR and bandwidth-on-demand.

The overall key messages of the DVD remain broadly similar to those outlined in Deliverable DN2.02,2. To briefly summarise here again:

Achievement

GÉANT2 is a world-leading achievement due to its geographical coverage, innovative use of technology, bandwidth and range of services. It supports some of Europe's largest research projects, such as CERN's Large Hadron Collider, and the DEISA supercomputing infrastructure. GÉANT2 extends the reach of national research networks internationally.

Technology

GÉANT2 is the first hybrid production network to be built on an international scale. It is developing technologies and services that make the network more flexible and transparent to use. These include mobility, security, performance measurement and monitoring, bandwidth on demand, and quality of service.

International Connectivity

GÉANT2 provides connectivity to other world regions for the European research and education communities. It puts Europe at the heart of the Global Research community. The success of the European research and education networking organisational model is recognised and has been exported to other world regions, developing an intercontinental model for research networking.

Strong collaborations around the world are enabling researchers in other continents to gain access to GÉANT2, allowing them to participate in world-leading European research projects.

Project:	GN2
Deliverable Number:	DN2.0.2,3
Date of Issue:	30/08/07
EC Contract No.:	511082
Document Code:	GN2-07-222

Community

GÉANT2 is a collaborative effort between organisations representing 34 European countries. This results in a pooling of expertise in networking which is second to none. The availability of a high-performance pan-European backbone helps stimulate funding and development of research networking nationally too.

Users

GÉANT2 is addressing the needs and experience of network users. Services are being developed within GÉANT2 which will further improve the user experience, for example perfSONAR, PERT, roaming and bandwidth on demand.

Importance to the European Union

GÉANT2 is a major EU success story. It is funded by the 6th R&D Framework Programme and stands out as a product of truly pan-European collaboration.

GÉANT2 provides the advanced communications infrastructure essential to the EU's vision of a European Research Area. GÉANT2 and Grids together form the engine of future research collaboration methods, infrastructures, which are critical to achieving science and technology leadership. They are a key component of Europe's Lisbon strategy to become the world's most dynamic and competitive knowledge economy.

Digital Inclusion

The unique cost-sharing model employed between the NRENs collaborating within GÉANT2 provides a balance between innovation and inclusion, helping to achieve digital inclusion, by narrowing the differential in the cost of infrastructure in different parts of Europe. As a result of this model, academics and researchers in countries around Europe can benefit from GÉANT2's state-of-the-art technology. GÉANT2 provides training and knowledge transfer to countries where networking is less developed, to stimulate the development of NRENs.

Industry

GÉANT2 is the first hybrid network deployed on an international scale. The involvement of numerous infrastructure providers and equipment manufacturers as suppliers to GÉANT2 helps the transfer of knowledge within the industry in Europe and stimulates the early commercial implementation of new technologies.

3 Target Audiences

The target audiences for this DVD update remain similar to those identified for the previous DVD. A more detailed description of these audiences can be found in DN2.02,2, but to briefly summarise:

Researchers and Academics: existing or potential network users, attendees at exhibitions and conferences. Some researchers already have a strong interest in networking; others may have completely unrelated interests (e.g. archaeology, linguistics), but have a requirement to transfer data to other parts of Europe or further afield.

Politicians and Decision Makers: It is important to make them aware of the positive results of the use of public funds – the benefits to Europe’s researchers and to the development of the telecommunications industry in Europe – and also of the contribution of pan-European research networking towards achieving relevant public policy priorities of the European Commission.

NRENs: Our NREN partners will use it in their own countries for promotional purposes. In addition, the DVD is likely to be used to promote GÉANT2 to NRENs which are not yet connected directly to the network, and by those NRENs in promoting GÉANT2 to their governments and funding bodies. The DVD will also be used to promote GÉANT2 and European research networking to international NRENs in other world regions.

Journalists: journalists are an important potential means of reaching our more immediate target audiences of researchers, politicians and decision-makers. The DVD aims to provide an introduction to GÉANT2 and an overview of its benefits.

Project:	GN2
Deliverable Number:	DN2.0.2,3
Date of Issue:	30/08/07
EC Contract No.:	511082
Document Code:	GN2-07-222

4 Overview of Content

In response to feedback on the GÉANT video, the DVD has been designed so that the viewer can navigate easily through the different topic areas in the order he/she chooses.

The content of the DVD is split into a number of sections, with each section detailing a specific aspect of the project. For the updated DVD the following alterations to content have been made.

Support and Services

This new section focuses on the “service layer” that supports users of the GÉANT2 network. It is intended to encourage potential network users to exploit the full benefits of GÉANT2 connectivity. It highlights GÉANT2’s Point-to-Point services and the projects benefiting from them, including CERN’s Large Hadron Collider. It includes an interview with David Foster, CERN’s head of networking, and leader of the LHC OPN project. His footage is included primarily in support of GÉANT2’s P2P services and how the European NRENs are supporting the research of the LHC. Some of the content of this section is taken from the original “Network” section. Elements of the GÉANT2 research and service programme are covered in more detail, including perfSONAR and Bandwidth-on-Demand.

Data Sonification

This section highlights an alternative and emerging use of networking, outside the traditional areas of hard science like radio astronomy and particle physics. This film is also used to educate the audience about the concept of grid computing, which is a fundamental use of the network.

In Geneva, Domenico Vicinanza, an IT researcher and music teacher, has developed software which transcodes vibrations from the Mount Etna volcano in Sicily into sound waves and then into melody – a process know as data sonification. This harnesses the power of grid computing, together with the European and transatlantic networking provided by GÉANT2. By listening to seismology data, it can make it easier to spot patterns or trends – an important skill when trying to predict the behaviour of an active volcano.

The sonification process requires considerable processing power not usually available in one location. So the solution is to send the data to a computing grid where it can be simultaneously processed by several computer centres in several different countries. The results are then sent back to the user’s laptop.

DEISA

Information on DEISA is included in the “Network” section, as an example of P2P users. It looks at the support offered by GÉANT2 and its partner NRENs to DEISA. DEISA is the Distributed European Infrastructure for Supercomputing Applications. DEISA is an EU funded distributed supercomputing

Project:	GN2
Deliverable Number:	DN2.0.2,3
Date of Issue:	30/08/07
EC Contract No.:	511082
Document Code:	GN2-07-222

environment consisting of 11 of Europe's biggest supercomputers. It provides leading scientific researchers with access to a European cluster of state-of-the-art High Performance Computing (HPC) resources with a current aggregated computing power of over 200 teraflops.

DEISA has increased connectivity speeds between its supercomputing centres ten-fold to 10 Gbps through dedicated GÉANT2 and NREN point-to-point links. This private network is enabling researchers to gain faster and more efficient access to DEISA's shared file system, supporting ground-breaking applications in computational sciences. These include research projects into earthquake simulations, current and future climate trends, stratospheric ozone research, plasma instability and radiation-matter interactions.

International Connectivity

Several statements here have been updated to reflect recent connectivity changes. For example, connections to China, India and Australia have all been implemented since the original DVD was produced. A new interview with Dai Davies, DANTE General Manager, has been filmed, which also includes details of GÉANT2's relationship with international partners such as Internet2 and ESnet (US), and CANARIE (Canada).

Network

This section has been heavily edited with much footage now incorporated into the "Support and Services" section, where it is more appropriate.

Other updates and alterations

The menu screen has been re-designed and is now animated. New introductory music has also been created. This will help viewers to identify that this DVD is different from the previous version.

Project:	GN2
Deliverable Number:	DN2.0.7,2
Date of Issue:	30/08/07
EC Contract No.:	511082
Document Code:	GN2-07-222

5 Conclusion

The production of a promotional DVD is a substantial project in terms of both resources and time. This particular project has resulted in a product which has been very well-received and which we feel justifies the effort which was committed to it. We are confident that the DVD will make a significant positive impact in terms of awareness of GÉANT2, and we will encourage feedback to ensure we collect information on how it is received, and how it could be improved.

In addition, the interviews conducted during the production process allowed relations to be formed with several important research projects around Europe. This helps to strengthen GÉANT2's links to the European research community, which is of value both for providing support to such projects, and also in a PR context.

Project:	GN2
Deliverable Number:	DN2.0.2,3
Date of Issue:	30/08/07
EC Contract No.:	511082
Document Code:	GN2-07-222