

Common Network Information Service

A set of software modules that collects, manages and shares network topology data that can be used either as a component to build higher-level services and applications, or as a standalone repository of network topology data.

Providing network topology data for GÉANT's multi-domain services

cNIS has been developed as a supporting tool for some of the GÉANT multi-domain connectivity services and applications, providing them with a consistent and unified representation of network topology data.

Placing cNIS at the core of these tools and services allows quick and reliable access to the relevant network topology information when it is needed.

Powerful modules for data management

cNIS is more than just a database. As well as providing a centralised resource of all relevant network information about a single administrative domain, cNIS is equipped with modules for the discovery and analysis of the data, with the ability to present that information visually. This greatly simplifies the work of network administrators.

Guaranteeing consistent network topology information

cNIS has three main functions offering a wide range of benefits for different users.

Collect – Data can be gathered manually or automatically. This approach combines both efficiency and data quality by delivering automatic data collection as well as user control.

Manage – Efficient data management is easy using the cNIS user interface, ensuring a reliable repository of network topology information.

Share – Complex services can be built based on the stored data or shared to other applications for further processing.



cNIS is a great solution to build advanced network tools and services. It provides discovery modules that are quite hard to build from scratch and its database can form the basis for further development.



Leonidas Pouloupoulos, Software Developer, GRnet

Benefits for Application Developers

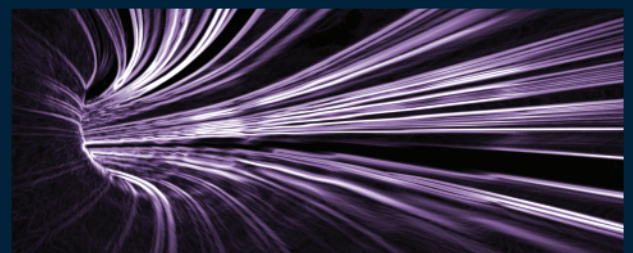
- Out-of-the-box **network discovery** functionality
- **Easy integration** based on web services standards

Benefits for Application Users

- Intuitive **web user interface** for data management
- Access to **training and technical support**

Benefits for Network Administrators

- **Single point of storage** for network data
- **Quick and easy access** to network information improves workflow efficiency



cNIS at the Heart of the AutoBAHN Provisioning Tool

AutoBAHN serves as a relevant example of cNIS adding value to applications. The provisioning tool facilitates the Bandwidth on Demand (BoD) service, automatically finding the best path across the different networks, creating the user's circuit as they need it.

Placing cNIS at the heart of AutoBAHN allows it to quickly access the relevant network topology information it needs to automatically provision the point-to-point circuits and enable a seamless user experience.

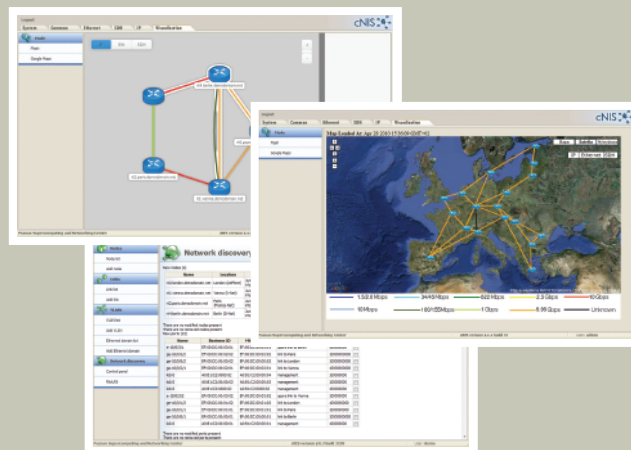
Find out more about AutoBAHN and the BoD service.
Email bod-info@geant.net

Using cNIS and its Powerful Visualisation and Presentation tools

cNIS provides an intuitive user interface from which the user can enter specific information to manually populate the database. The user is able to display topology data results in a number of formats via a range of presentation modules:

- Tabbed views for each of the network technologies
- Lists of nodes, links, interfaces, networks and other objects stored in cNIS
- Data edit forms
- Panels for selective acceptance of discovery results
- Network maps
- Interactive network diagrams

Explore the powerful visualisation tools with the **online demo** at **GÉANT Forge**.



Easy to Install, Configure & Operate

cNIS was designed to be simple to install, configure and operate with full support available on request. From start to finish cNIS can be implemented in under a couple of hours.

1. Prepare the Environment

Install the required hardware and software. The full specification is listed on GÉANT Forge.

2. Create the Database

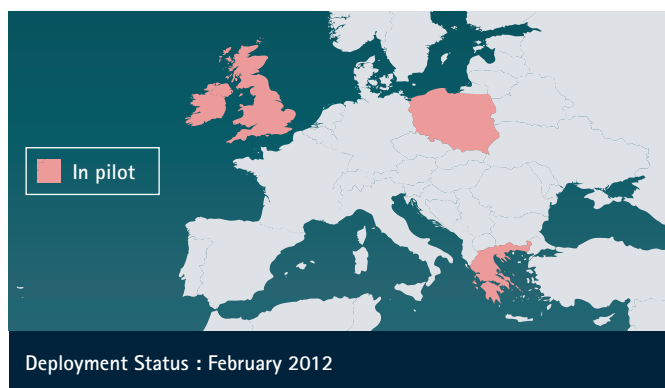
Ensure that the account cNIS is going to use to access the database has sufficient privileges to create tables in the database.

3. Launch the Installer

A graphical or command line installer is available according to your preference and deployment environment capabilities.

Further detailed information on implementing cNIS is available in the **Installation Guide** on **GÉANT Forge**.

Video Tutorials on how to install and use cNIS are available on the **cNIS website**.



Deployment Status

GÉANT, GRnet, HEAnet, JANET and PIONIER are deploying cNIS in conjunction with AutoBAHN as part of the BoD pilot.

Part of the GÉANT Service Portfolio

In collaboration with Europe's NRENs, GÉANT is developing and delivering user-focused, multi-domain services aimed at delivering seamless network performance across borders and domains.

The range of services includes IP and dedicated circuits, testbeds and virtualised resources, authentication and roaming, security, monitoring and troubleshooting, advisory and support services.

For more information on the **GÉANT Service Portfolio** please visit **www.geant.net**

Deploy cNIS as the Source of your Network Information

Try the **online demo** of cNIS or download the latest bundle from the **GÉANT Forge** website.

<https://forge.geant.net/cnis>

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cNIS is vendor independent as it applies clever design patterns behind the scenes to hide the differences which could be found among the devices manufactured by different vendors. This makes it unique among the different commercial topology discovery stations.



Vilmos Bilicki PhD, senior lecturer of Computer Networks at University of Szeged, Hungary



Further information:
<http://cnis.geant.net>

