

Quality of Service for European Research

What is the SEQUIN Project?

The objective of SEQUIN is to define and implement an end-to-end approach to Quality of Service (QoS) that will operate across multiple management domains and will exploit a combination of IP and ATM technology.

SEQUIN will ensure that researchers across Europe have access to networking facilities that can be tailored to the requirements of the individual groups, and which will offer predictable and stable quality across multiple underlying management domains and networking technologies.

An initial objective of the SEQUIN project was the creation of a definition of QoS based on a merging of user requirements and the capabilities of emerging technologies. This definition is then to be tested in a pilot environment with the objective of achieving a stable production QoS offering differentiated QoS by the end of the project.

SEQUIN, an acronym standing for "SErvice QUality across Independently-managed Networks", involves eight partners in seven countries and is co-funded by the European Commission under the Information Society Technologies (IST) Programme. SEQUIN became operational on November 1, 2000 and will run for 15 months.

The partners in SEQUIN

DFN, the German National Research and Education Network (NREN)
GARR, the Italian NREN
GRNET, the Greek NREN
PSNC / POL-34, the Polish NREN
RENATER, the French NREN
SWITCH, the Swiss NREN
UKERNA, the British NREN
and DANTE as a co-ordinating partner

The Work Items in SEQUIN

The SEQUIN project consists of four Work Items:

- The first work item, as a first step in the project work, provides for a definition of QoS which is independent of the underlying networking technology. It includes a definition of an end-to-end service that can be implemented in a multi-management domain environment across Europe.
- In parallel, the second work item defines a test-bed environment that can be used to implement and test end-to-end QoS across multiple underlying technologies and management domains. This includes both IP and ATM technologies. An objective is to determine a migration strategy from existing ATM-based QoS (as was the case with the TEN-155 Managed Bandwidth Service, for instance) to hybrid environments and pure IP environments.
- The third work item set out the programme for disseminating results as well as an

implementation plan that addresses the broader implementation of QoS. It recommends the parametrisation for the different underlying technologies and addresses the operational as well as the technology lessons learnt during the test phase.

- The main activity of the project is the fourth and last work item, which creates an operational test network interconnecting the participating NRENs and making use of the pan-European research network, GÉANT. An appropriate set of tests is to be carried out to determine the feasibility of the QoS definition as defined in work item 1.