

RedIRIS, SERVICING SPANISH UNIVERSITIES FOR OVER 25 YEARS



Capacity, reliability, security, mobility: essentials contributed to the academic community by RedIRIS through network access

Since it was created in 1988, Spanish universities have been among the main users of RedIRIS's services. RedIRIS first made Internet access possible for these universities. Today, over 25 years later, thanks to its fibre optic RedIRIS-NOVA network, it offers very high-speed connections (in many cases 10 Gbps, further expandable to multiple links of this capacity).

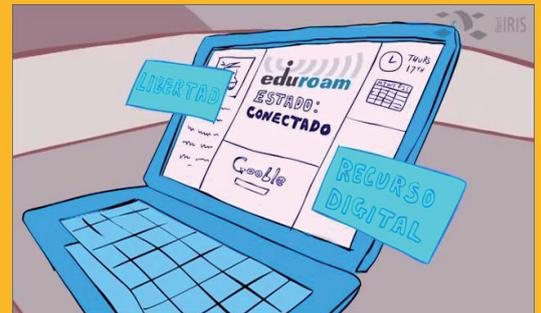
Many universities host RedIRIS network nodes in a mutually beneficial relationship: RedIRIS uses quality hosting facilities provided by the universities and they can connect directly to RedIRIS at a very high speed, without incurring the cost of contracting local loops to reach the nearest RedIRIS node. This is a good example of the collaborative spirit governing the relationship between RedIRIS and these academic institutions.

Thanks to high-speed networks like RedIRIS, these universities are able to offer multiple online services, including the dissemination of teaching materials (like MOOCs, or massive online open courses) or video conferences with a very high resolution. RedIRIS also enables the interconnection of university campuses (e.g. the network deployed by the University of Castilla-La Mancha that connects its campuses in Toledo, Ciudad Real, Albacete and Cuenca), even at an international level (e.g. connecting the Berklee College of Music in Valencia with its Boston campus). RedIRIS's high capacity also benefits researchers, mainly when working on collaborative e-Science projects.

The support offered by RedIRIS to universities is not limited to connectivity, but covers other technological services to help make the most of the network's possibilities. In particular, RedIRIS offers universities several services relating to security, mobility, digital identity and collaboration.

Eduroam: direct, free and secure access to WiFi networks from other universities.

To facilitate mobility, RedIRIS, along with academic networks in Europe and other continents, has launched the eduroam service that allows



Illustrative image of eduroam service



"The eduroam service, coordinated by RedIRIS, is one of the most important success stories in recent years in academic and research networks. For the UV, it is a weekly challenge to grant WiFi access to users from 200 institutions other than ours, but thanks to the ease of use of eduroam, it is possible for researchers, teachers and students to have universal access to a network. With eduroam, we are offering over 50,000 monthly users, on over 90,000 different devices, the ability to connect to any wireless academic network in the world without new settings or credentials. Eduroam and SIR are the most used identity federation mechanisms in our institution".

José Miguel Femenía Herrero, Systems and Communications Analyst University of Valencia



university users to securely access (at no cost) the wireless networks of other universities and research centres that have enabled the service in more than 65 countries, only using the credentials provided by the source organisations.

In the case of Spain, RedIRIS coordinates eduroam ES, providing this service to over seventy universities and the Higher Council for Scientific Research (CSIC), among others.

The RedIRIS Service Identity Federation (SIR): ease-security binomial applied to access technologies

Typically, a university user who wants to access protected web services (e.g. various paid scientific publications), has to be identified in each one with a specific username/-



Network infrastructure map

An SIR Service case study

Microsoft, within the MSDN AA (Microsoft Developer Network Academic Alliance) global programme framework, wants to disseminate certain software packages among the academic community so that this group can have free access to certain programmes. The challenge for Microsoft was how to be sure that only authorised university users access the offer. Thanks to the agreement between RedIRIS and Microsoft, the ICT giant is integrated as a Service Provider in the RedIRIS Service Identity Federation (SIR). Universities, acting as Identity Providers, make sure that a given user meets the requirements for free access to those programmes. The RedIRIS Service Identity Federation allows this validation to be made through any computer connected to the Internet, and users to experience the convenience of identifying themselves with their credentials (username/password) normally used in their respective universities.

password, accumulating great amounts of access data which can be difficult to manage. Furthermore, such access is often only possible if carried out from their university's network.

Thanks to the RedIRIS Service Identity Federation (SIR), a pathway with high security encryption is deployed, allowing Service Providers registered in the system (e.g. online magazine publishers or ICT companies like Google or Microsoft) to accept access to their services by users using their credentials from the source when the centre to which they belong, acting as an identity provider, recognises them as their users.

Within the framework of the European project GÉANT, RedIRIS, along with other academic networks of Europe and other countries, have developed a similar SIR service on a global scale, known as eduGAIN.

RedIRIS, at the service of the academic community

RedIRIS provides other relevant services to universities, such as the issuance of digital certificates recognised by all providers, free of cost to the centres; a tool for mailing lists with over 500 lists and over 100,000 subscribers; centralised access to networks of the Administration (IRIS-SARA); organisation of leading events in the field (often held in university buildings); and advice upon request. RedIRIS works closely with CRUE (Conference of Rectors of Spanish Universities) in the implementation of new common services that help meet the ICT needs of universities.