GÉANT

eduGAIN & eduPERT towards Latin America

- CLARA-TEC
- Monday, 7th November 2011
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GÉANT Services – a Reminder

- eduroam: roaming service
- eduGAIN: Federated Authentication and Authorisation Infrastructure
- eduPKI: aims to create a "trust factory" able to serve those GN3 services needing PKI certificates.
- educonf: creating a pan-European videoconferencing service.

- eduPERT: A federated PERT (Performance and Enhancement Response Team)
- perfSONAR MDM – multi-domain diagnostics service

What is a PERT?

PERT – The Performance Enhancement and Response Team

- a virtual organisation
- made of networking experts
- who help end-users diagnose and solve network performance issues.

What is a PERT? (2)

- End-user will contact the PERT either directly or through their standard IT support channels when their applications are not working normally

PERT

PERT

IT NOC
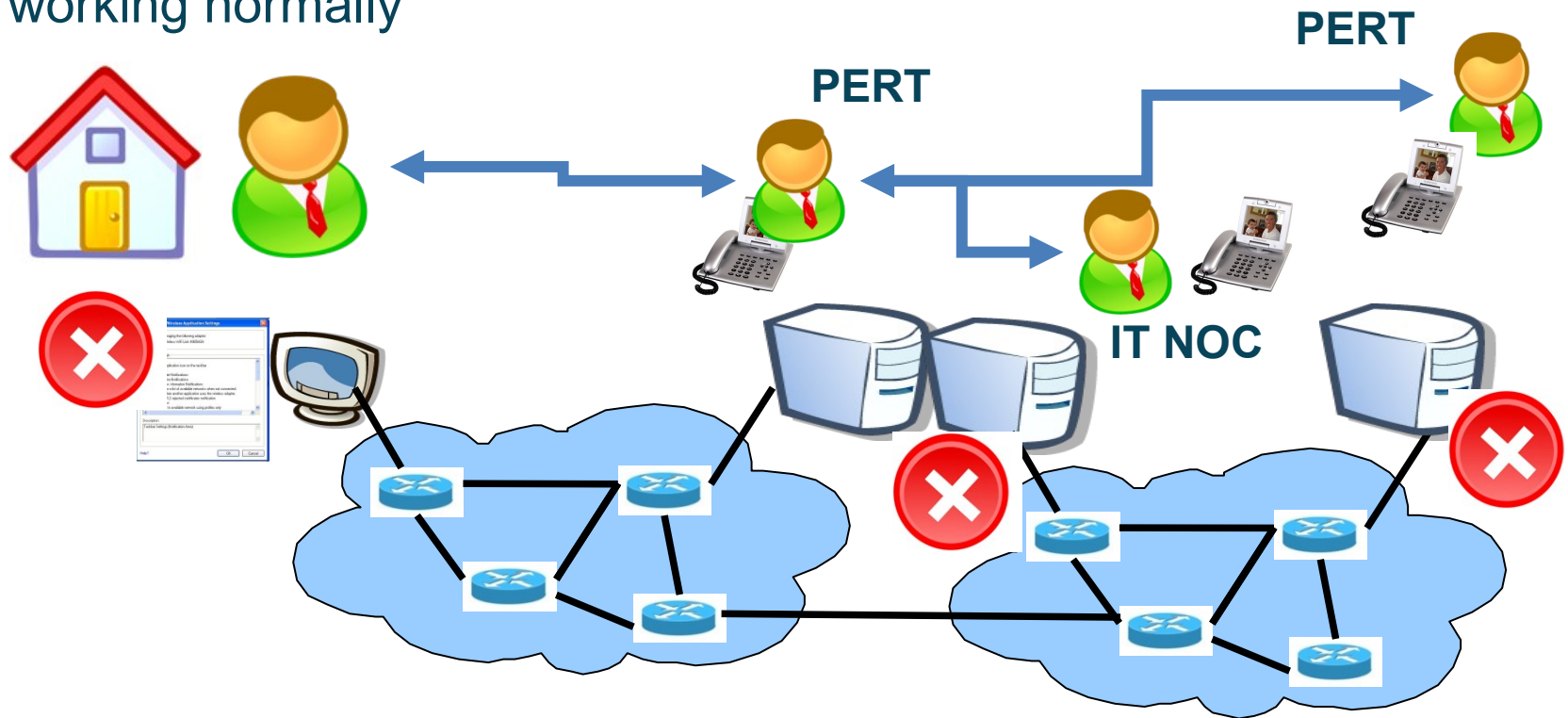
What is eduPERT?

eduPERT

The federated model for PERTs

eduPERT is the federated model for PERT (Performance Enhancement Response Team) work in the GÉANT community. Its purpose is to help users to get optimal performance from networked applications.

GÉANT
connect • communicate • collaborate

- A federated PERT (Performance and Enhancement Response Team) that combines independent PERTs (the GÉANT PERT and the National, Local and Project PERTs) with a portfolio of central services to aid them in their network investigations.

The benefits of joining eduPERT

- **Access** to the **knowledge of experienced** and/or **qualified network engineers**
- **Access to advice** about TCP/IP protocols, network topology, network status and history, adjacent networks (peers and customers) and read access to all network elements.
- **Registered PERTs** can **access private contact details** for all other registered and accredited PERTs, and can quickly and easily contact those engineers best placed to help investigate network performance issues.
- **Accredited PERTs can request specific technical information** from other accredited PERTs and they have **greater privileges** when running multi-domain network performance tests.
- eduPERT is a simple, unconstrained structure that maximises resources and creativity, with no restrictions on how member PERTs interact with its users, or what tools and procedures must be used
- Training

eduPERT website
- edupert.geant.net

eduPERT Knowledge Base

- Performance basics: How to report a performance problem, user-perceived performance (responsiveness, throughput, reliability), Why latency is important, the "Wizard Gap"
- Network performance metrics: OWD, RTT (bandwidth*delay product and "Long Fat Networks" (LFNs)), delay varation (Jitter), loss, reordering, MTU/Path MTU
- Network protocols
- Application protocols
- **PERT Tools**
  - **NREN tools and statistics**: GÉANT, SWITCH (CH), PSNC (PL), HEAnet (IE), ISTF (BG), FCCN (PT), IUCC (IL), HUNGARnet (HU), RENATER (FR)
- Performance Case Studies
- PERT Case Histories (old)
- …

What is eduPERT - a Summary

- eduPERT makes a number of central services available to the independent PERTs, including:
  - registration and accreditation
  - arranging eduPERT meetings
  - running the Knowledge Base
  - maintaining the directory of PERTs in the eduPERT federation
  - running the PERT Discussion List for anybody interested in network performance issues
- Membership of eduPERT is not limited to NRENs - universities, research campuses, other organisations and international projects are encouraged to join.

http://edupert.geant.net/
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eduGAIN: Identity Innovation

An **enabling infrastructure** that interconnects the national research & education Identity Federations.

Empowers organisations to **securely exchange digital identity** information across Europe.

Enables users to enjoy **seamless access** to the resources they need.

A legal and **technology framework**, constructed around a flexible governance and **policy model** - scalable to tens of thousands of organisations and tens of millions of users.

Internet identity that is secure, privacy-enabled and easy to use.

A ground-breaking system that is the **first of its kind** in existence.

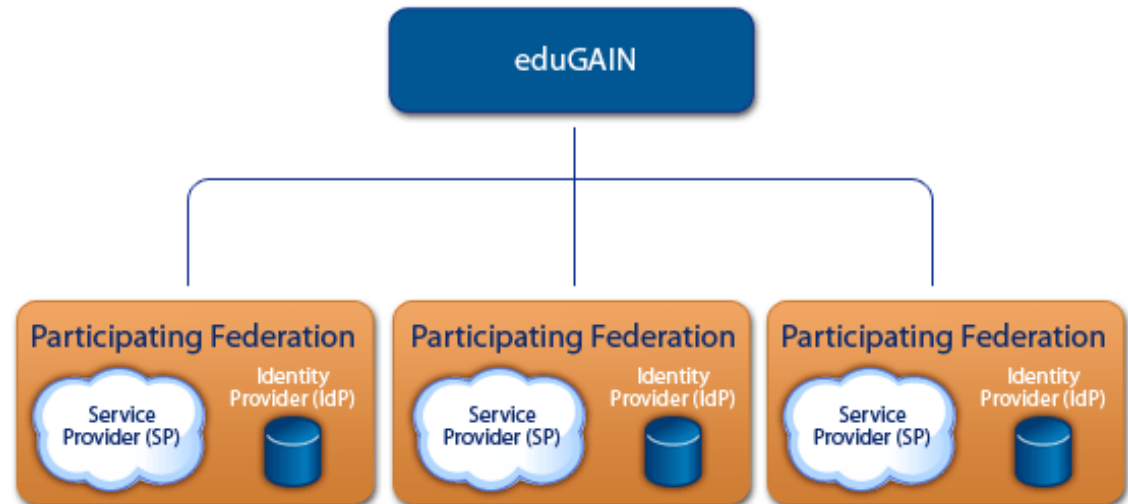**1st**

eduGAIN Connects Identity Federations

A Federation is usually operated by the national NREN

The Federation contains many identity and service providers

Identity providers (eg university) issue digital identity information to service providers

Service providers (eg data repository) use this information to authorise access to their resources

Federations enable Web single sign-on to resources in their constituency.

eduGAIN connects federations together, enabling access to resources across national borders.

The Value of eduGAIN

For Users: A single digital identity that provides personalised single sign-on access to resources across the eduGAIN community.

For NRENs: Able to offer users services from different federations.

: No longer need to make bilateral agreements with other federations.

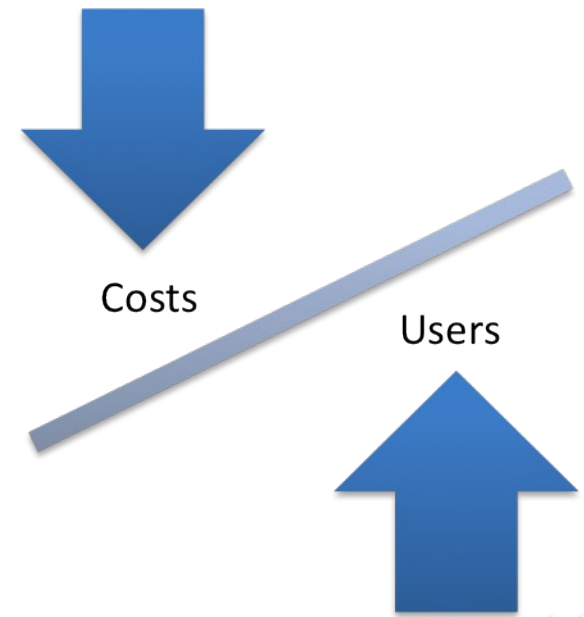: Lower administration costs thanks to easier technical integration.

The Value of eduGAIN

For Service Providers: Larger number of service users available.

: Only trustworthy users gain access to services, so audience grows without any extra security burden.

: No increased demand for passwords and user support, so costs per user are reduced.

Costs

Users

The Value of eduGAIN

For Identity Providers: Facilitates compliance with data protection legislation.

: Can offer students, researchers and staff access to a wider range of services than are available locally or nationally.

: eduGAIN 'invisible' to users, so each IdP can market access to services in its own way.

: With Single Sign On already in place, eduGAIN participation adds no extra administrative burden.
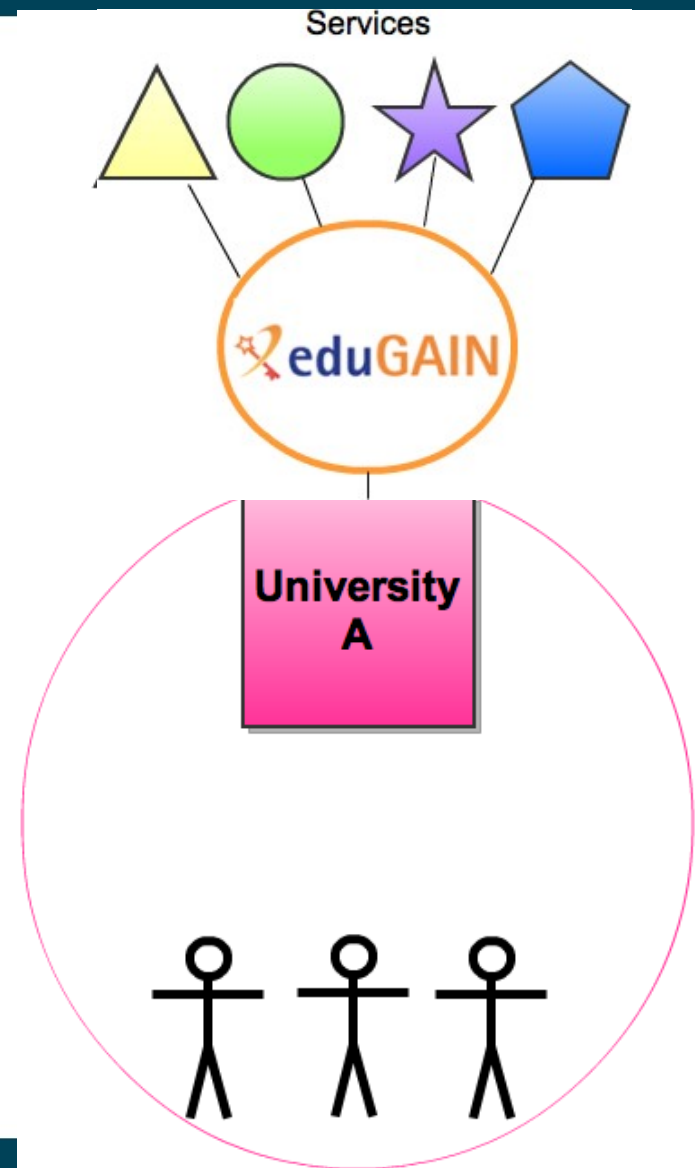
eduGAIN in Deployment

Production service began in April 2011
11 European identity federations have signed up so far

The larger the number of participating federations, the greater the value of eduGAIN.

www.geant.net/service/edugain/
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Thank you for your attention!

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