perfSONAR-Lite TSS Troubleshooting Tools

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Outline

- Introduction
- EGEE-III Requirements for Network Troubleshooting
- perfSONAR-based Plugin Architecture
- Authorization and Authentication
- Implementation
- Access to Test phase 1
- Examples
- perfSONAR-Lite TSS Wiki
- Contact

EGEE-III Requirements

EGEE-III requirements for network troubleshooting:

- **measurements**
  - ***not*** continuous (no monitoring!)
  - but ***on-demand*** (to support troubleshooting)
- **a light-weight solution**
- **easy to deploy and upgrade**
- **portable to all sites / platform independent**
- **modules should have sustainability (use of perfSONAR common core interface)**
- **should offer requested EGEE troubleshooting tools**

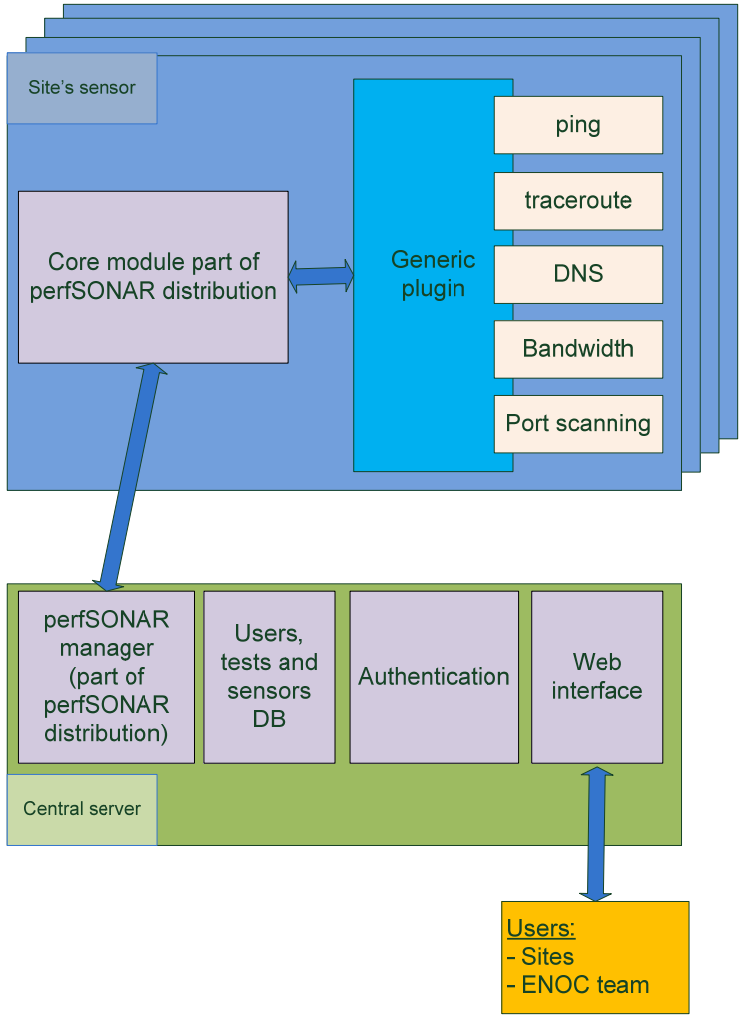
EGEE-III Extensions

perfSONAR extensions for EGEE-III are necessary

- to enable light-weight *on-demand* measurements
- to offer additional service tools
  - Ping
  - Traceroute
  - DNS lookup and reverse lookup
  - BWCTL
  - port scan
- web service extensions for EGEE-III platform
- authorization / authentication for EGEE-III specifications
- EGEE-III specific visualization and archiving

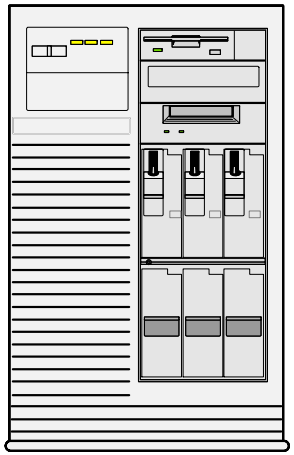
perfSONAR-based Plugin Architecture

- central web server
- all access to measurements via central web server
- a light-weight client at each site
- basic service tools are activated via generic plugin
- generic plugin supplies input to perfSONAR core modules
- users: all sites, ENOC team



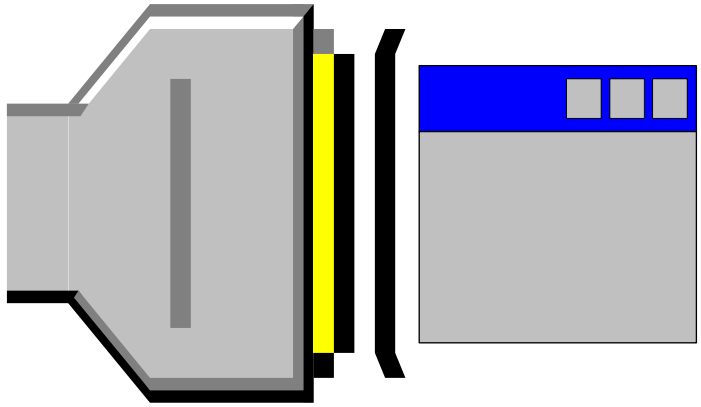
Central Web Server

- **Key functions of the central web server will be:**
  - web-based user interface
  - authentication of users for tests
  - launching of test measurements requested by client site
  - collection of measured data and of results
  - data archiving
  - history of recent tests

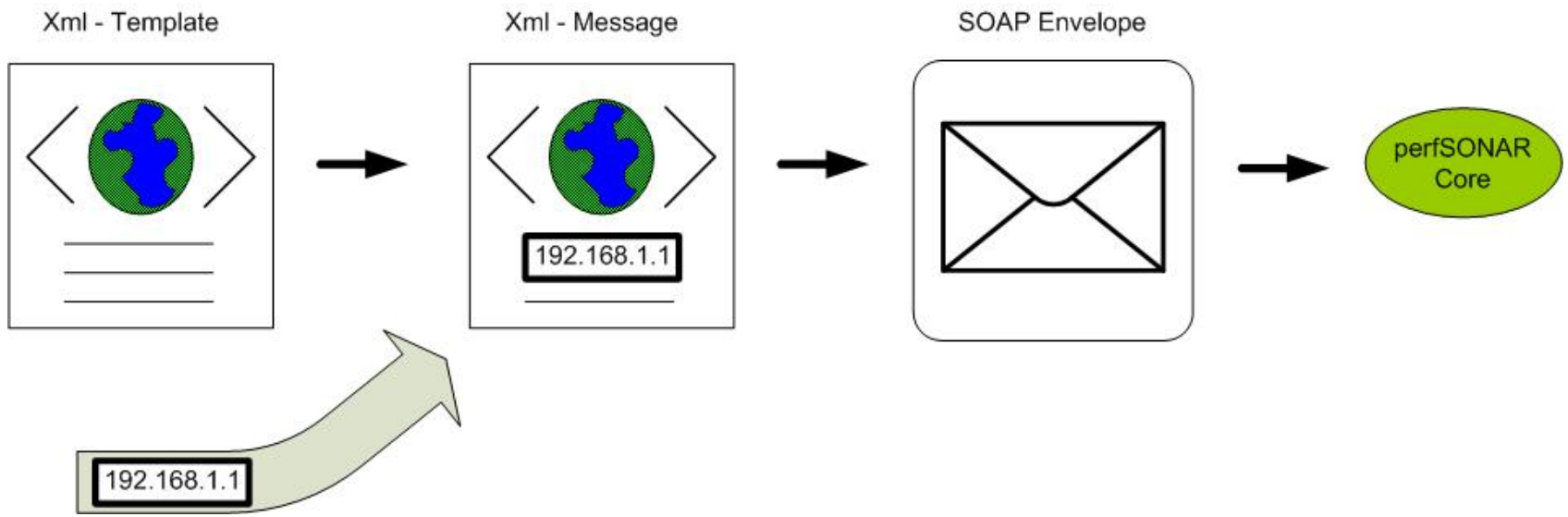


Generic plugin architecture (I)

- **translates requests from sites to perfSONAR common core module**
- **wrapper around basic service tools**
- **basic function:**
  - get request
  - execute request
  - deliver results
- **offered benefits:**
  - platform independent
  - deployable to all 280+ sites

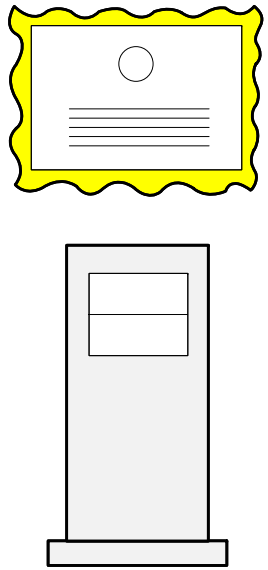


Generic plugin architecture (II)



Authorization and Authentication

- **Authorization via local administration and client registration**
- **Authentication on the central web server with X.509 certificates**
- **Managers can**
  - register / manage users and probes
  - assign / revoke access of users to probes
- **Managers must be listed in GOC-DB as**
  - Regional Manager
  - Site Administrator
  - Deputy Regional Manager
  - C-COD staff
  - C-COD Administrator
- **Users must have valid Grid certificate**



GOC-DB vs. Local Database

- **GOC-DB does not provide all required data**
  - e.g. some data fields exist, but data is missing
  - New data fields are required, e.g. IP address of a probe
- **It is not clear how GOC-DB will be used in EGI**
  - May not exist anymore at all
  - Some data formats may change considerably

Design of a local database

- **Local database will regularly be synchronized with GOC-DB**
  - Sites
  - Managers
  - ROCs

Management Console

- **For comfortable management of user / probe data**
  - managers have access to a ***management console***
- **Management console allows**
  - Add user
  - Edit user
  - Delete user
  - Add probe
  - Edit probe
  - Delete probe
  - Provide / revoke user access to probes
- **Manager has access to data of users / probes that he / she personally registered**
- **Registration is a one-time only process**

Implementation (I)

February 2009: Start of Test phase 1

- **Test phase 1 comprised**
  - Web server in Erlangen
  - Management console
  - Local database processing
  - Troubleshooting tools
    - Ping
    - Traceroute
    - DNS lookup
    - DNS reverse lookup
- **Examples and access information below**

Implementation (II)

Status quo: Transition to test phase 2

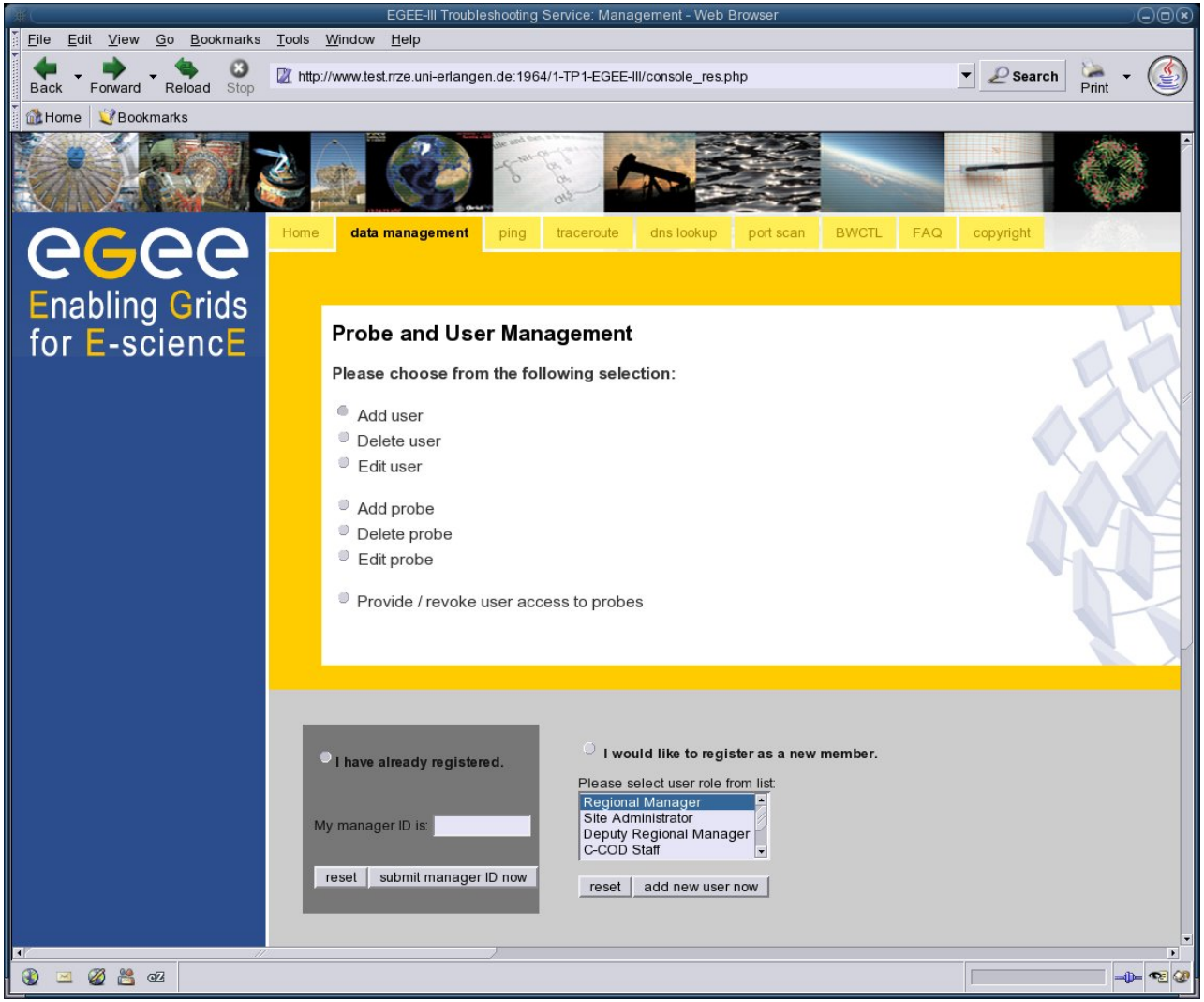
- **Test phase 2 will include**
  - Move to ENOC web server
  - Troubleshooting tools
    - Port scan
    - BWCTL
  - Manager synchronization with GOC-DB

- **Outlook:**
  - Release of first beta version planned for May 2009

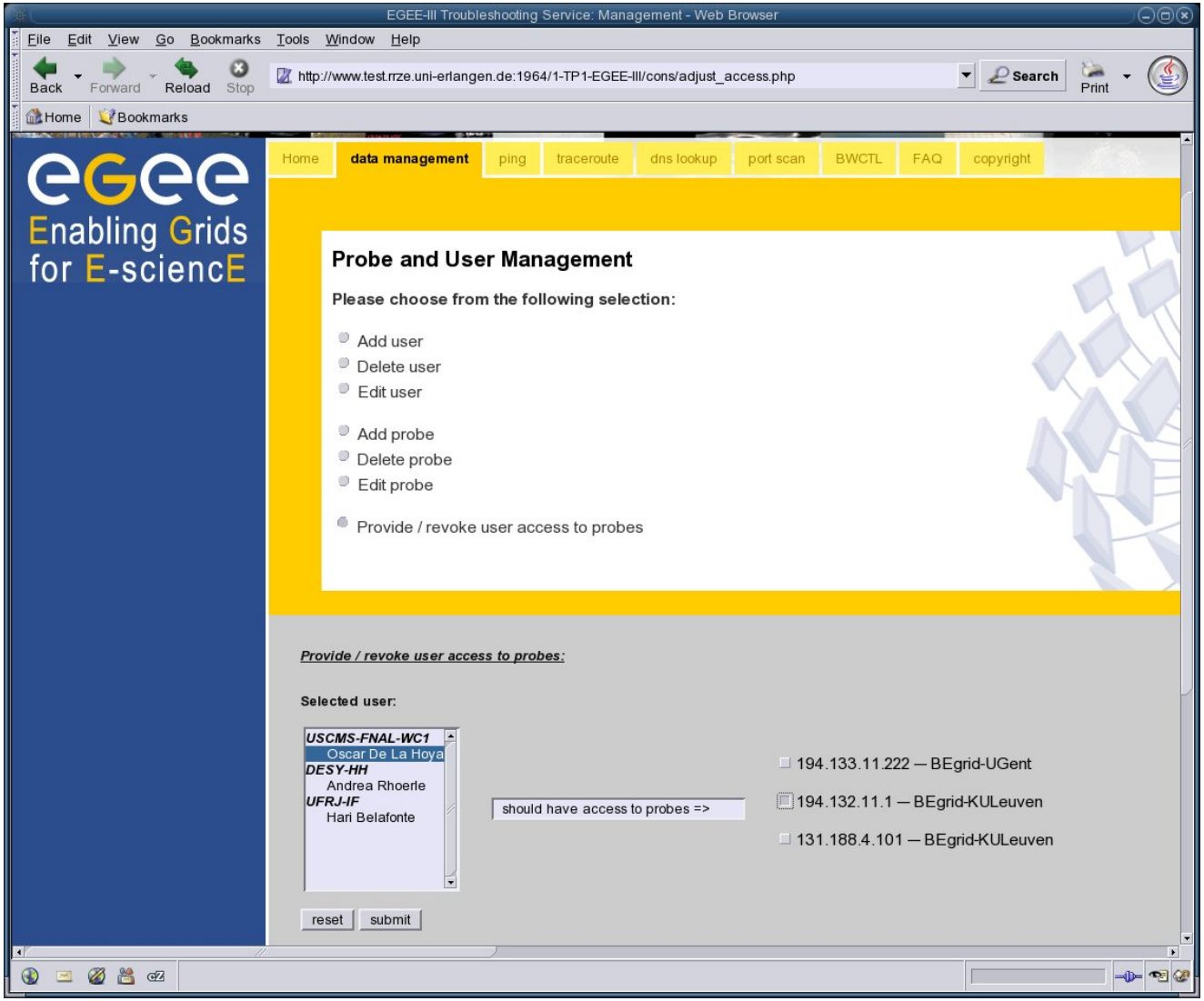
If you would like to start testing…

- **You can access test phase 1 platform via**
  - http://www.test.rrze.uni-erlangen.de:1964/1-TP1-EGEE-III/EGEE-index.php
  - Login, passwd
- **Current work around**
  - requires you to register yourself as manager first
  - remember manager ID
  - then register users and probes as you wish
  - test troubleshooting tools

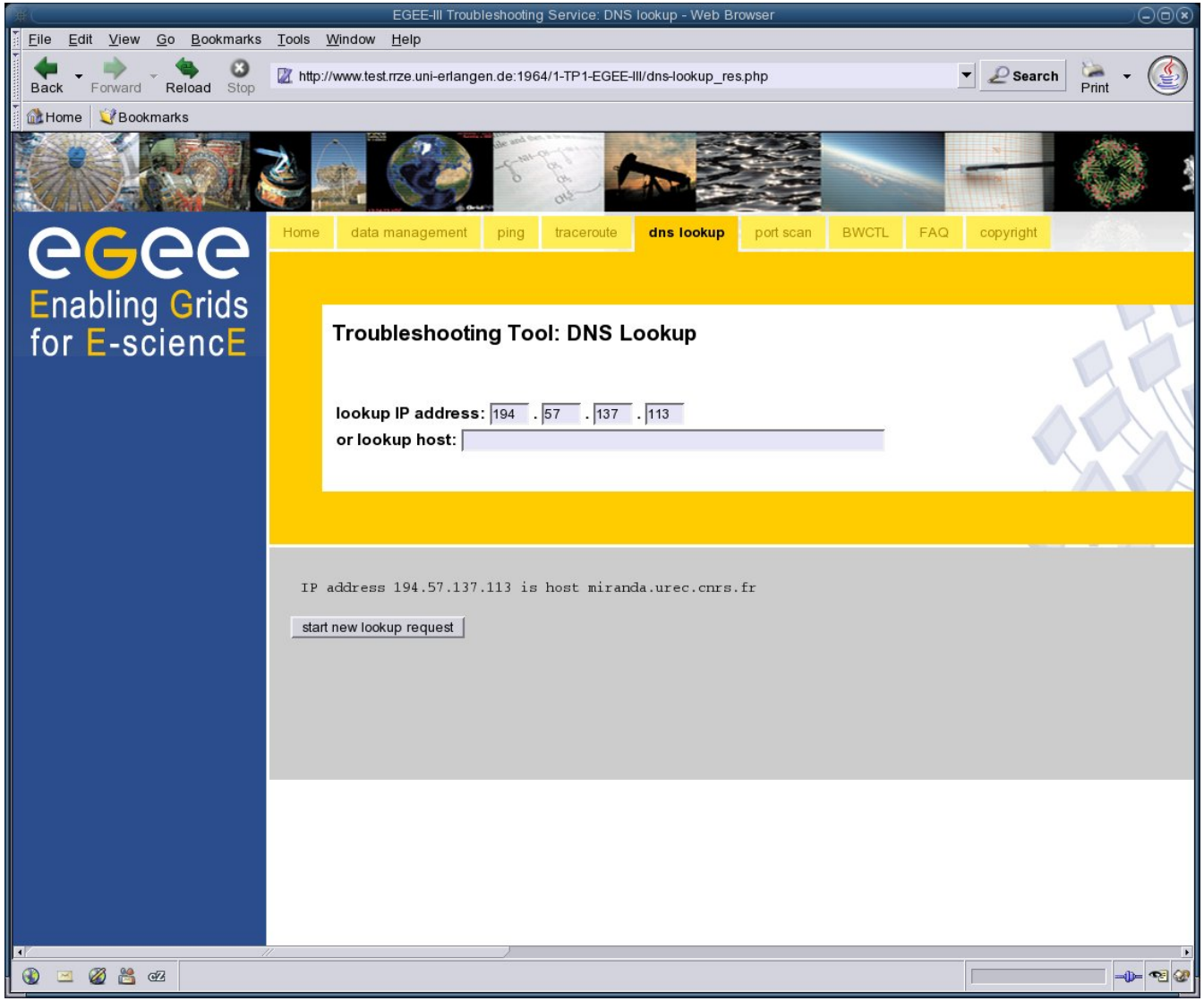
Example: Access to user registration



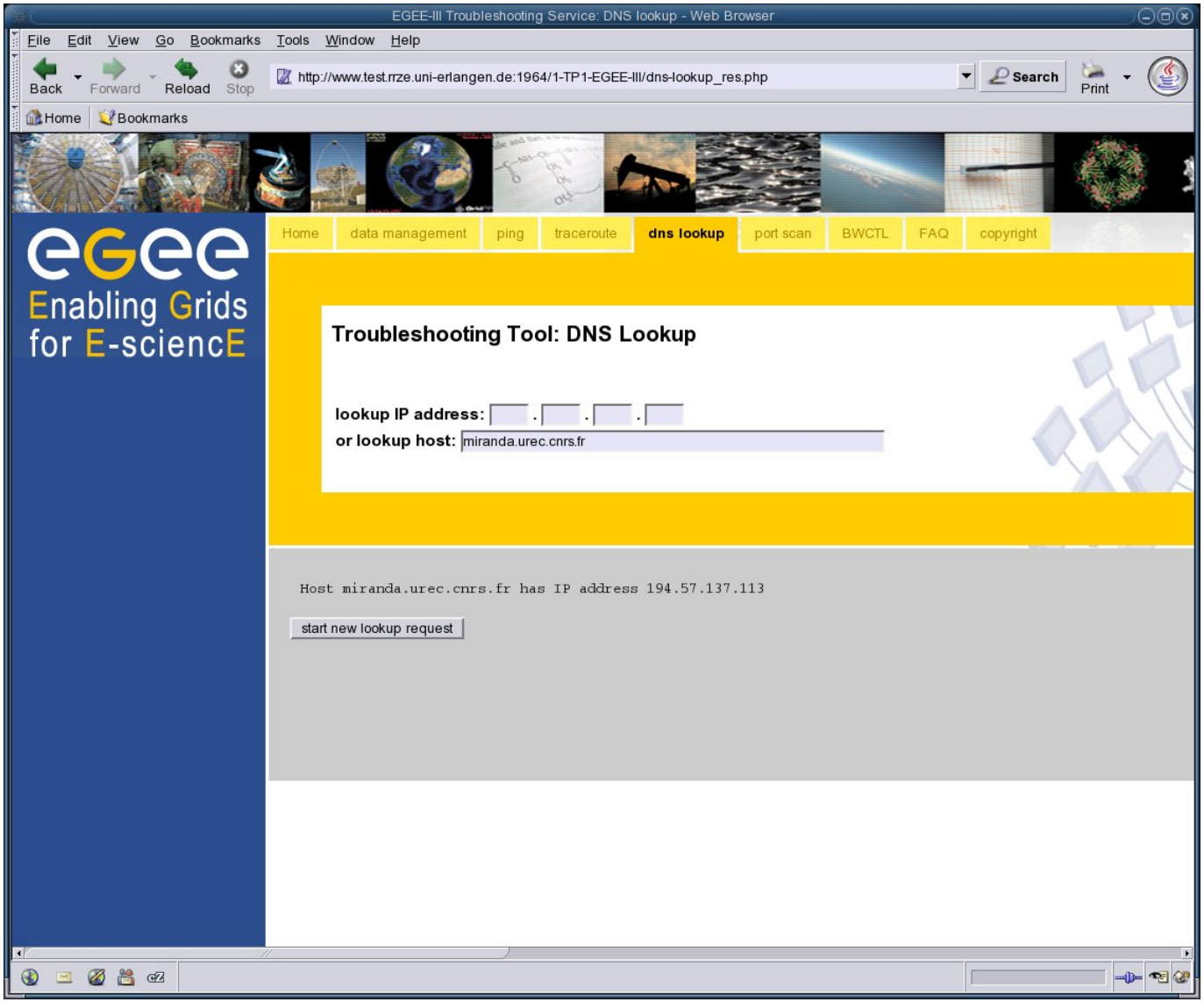
Example: User access to probes



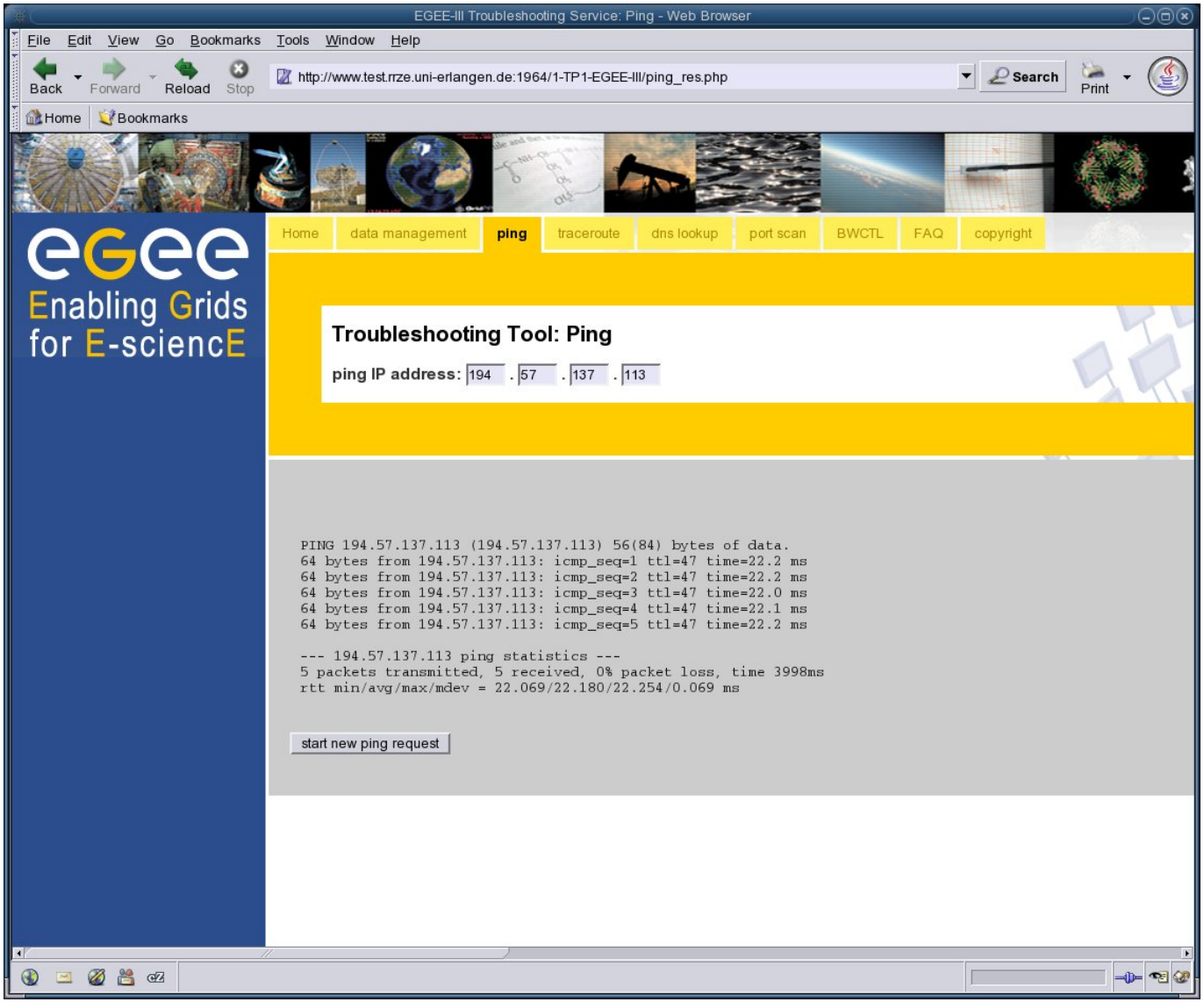
Example: DNS-Lookup service (I)



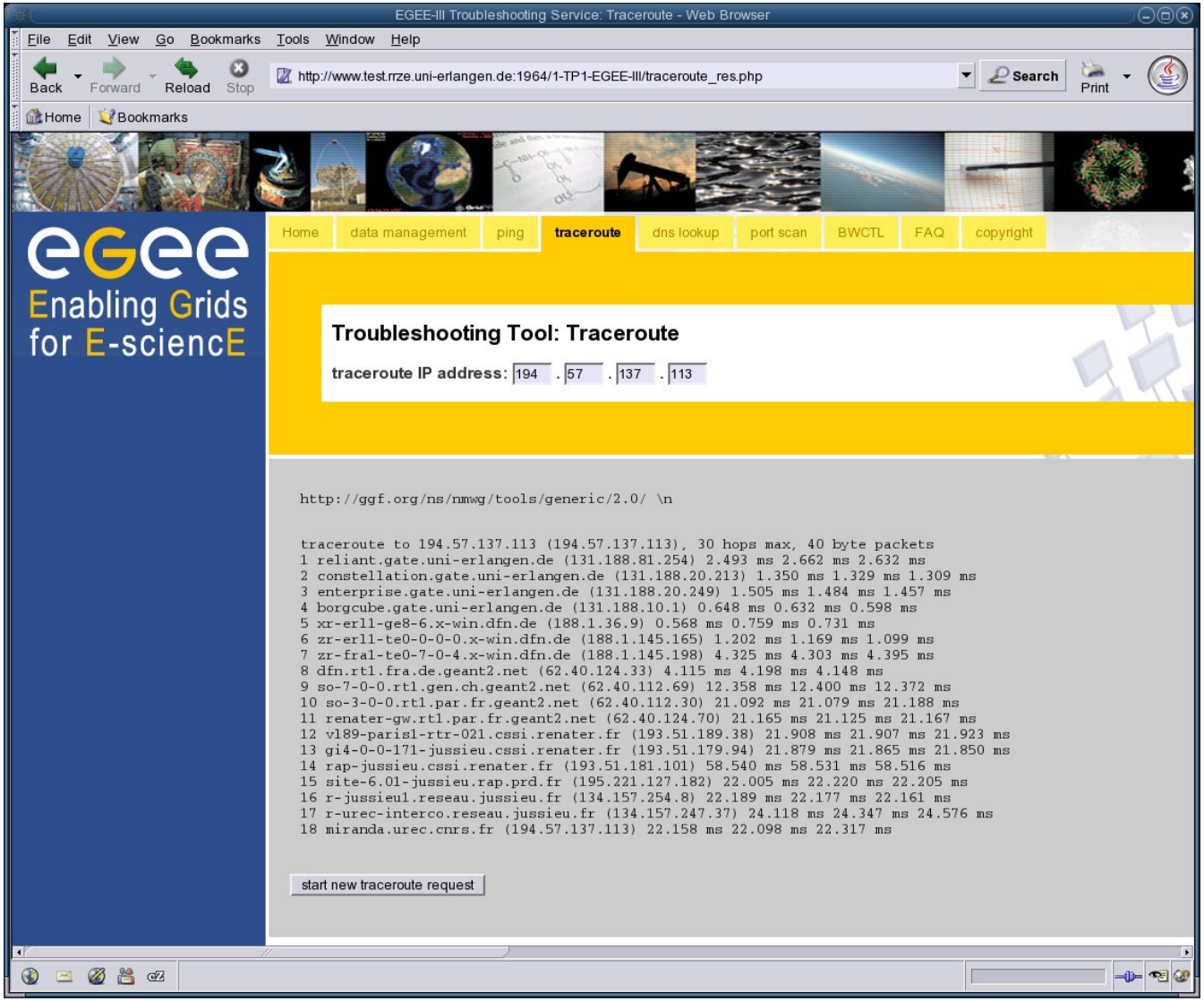
Example: DNS-Lookup service (II)



Example: Using Ping-TSS service



Example: Using TSS Traceroute



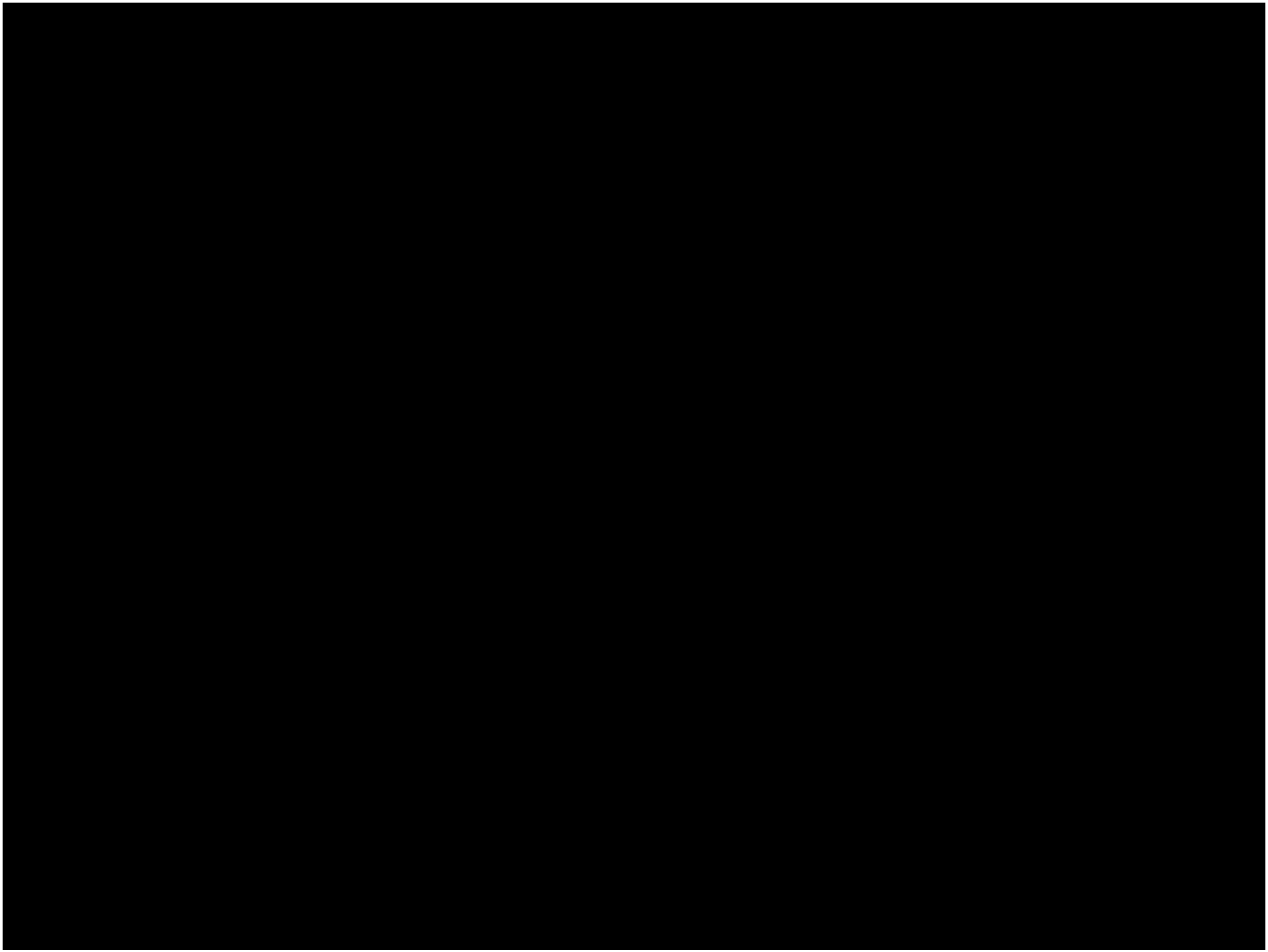
perfSONAR-Lite TSS Wiki

- **Wiki platform to keep up with**
  - Concepts
  - Changes
  - Latest developments

- **Access via**
  - http://www.egee.wiki.uni-erlangen.de
  - Login, passwd

Contact information

- Susanne.Naegele-Jackson AT rrze.uni-erlangen.de
- Win-labor AT dfn.de

- www.rrze.uni-erlangen.de

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