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Enabling Grids for E-sciencE

Advanced Network Services

EGEEIII – All Hands Meeting (GARR/Rome)

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- **Work in EGEE2**

- **Promised work in EGEE3**

- **What has been done**

- **Future work**

- **Description of network SLA establishment and monitoring procedures for e2e paths between EGEE RCs (DSA2.1: Network Service Level Agreement (SLA) Implementation)**

- **Testing through a remote control application scenario from GRIDCC project (DSA2.2: Assessment of the network SLAs in EGEE II)**

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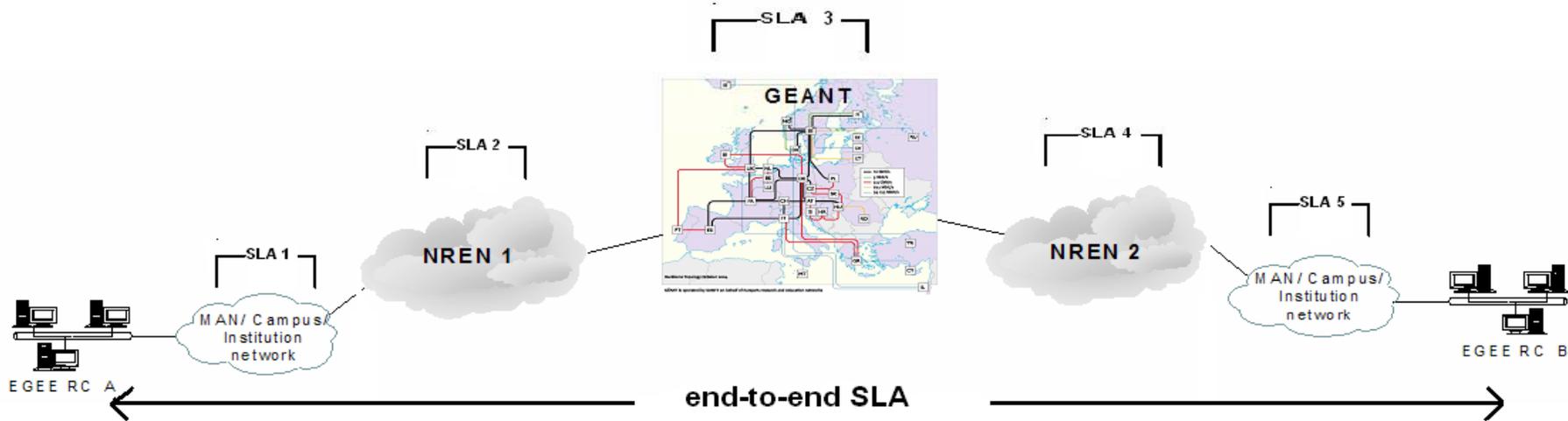
- **SLA automation through AMPS**
- **Pose of SLA Monitoring Requirements**
- **Web site for SLA service usage**
- **Categorization of GRID application requirements**
- **Evaluation of SLA in GRID applications (projects)**
- **Dissemination Work**

More analytically each one of the above in the next slides…

- **Manual SLA establishment procedure in EGEE2 due to the lack of automated mechanisms**

- **Automatic SLA establishment procedure in EGEE3 through SLA module of AMPS (Advanced Mutli-domain Provisioning System)**

    – Produces individual domains' SLAs and e2e SLA

    – In case AMPS is not available in all domains in e2e path

        ▪ ENOC contacts individual domains to merge their SLAs with the AMPS's SLA
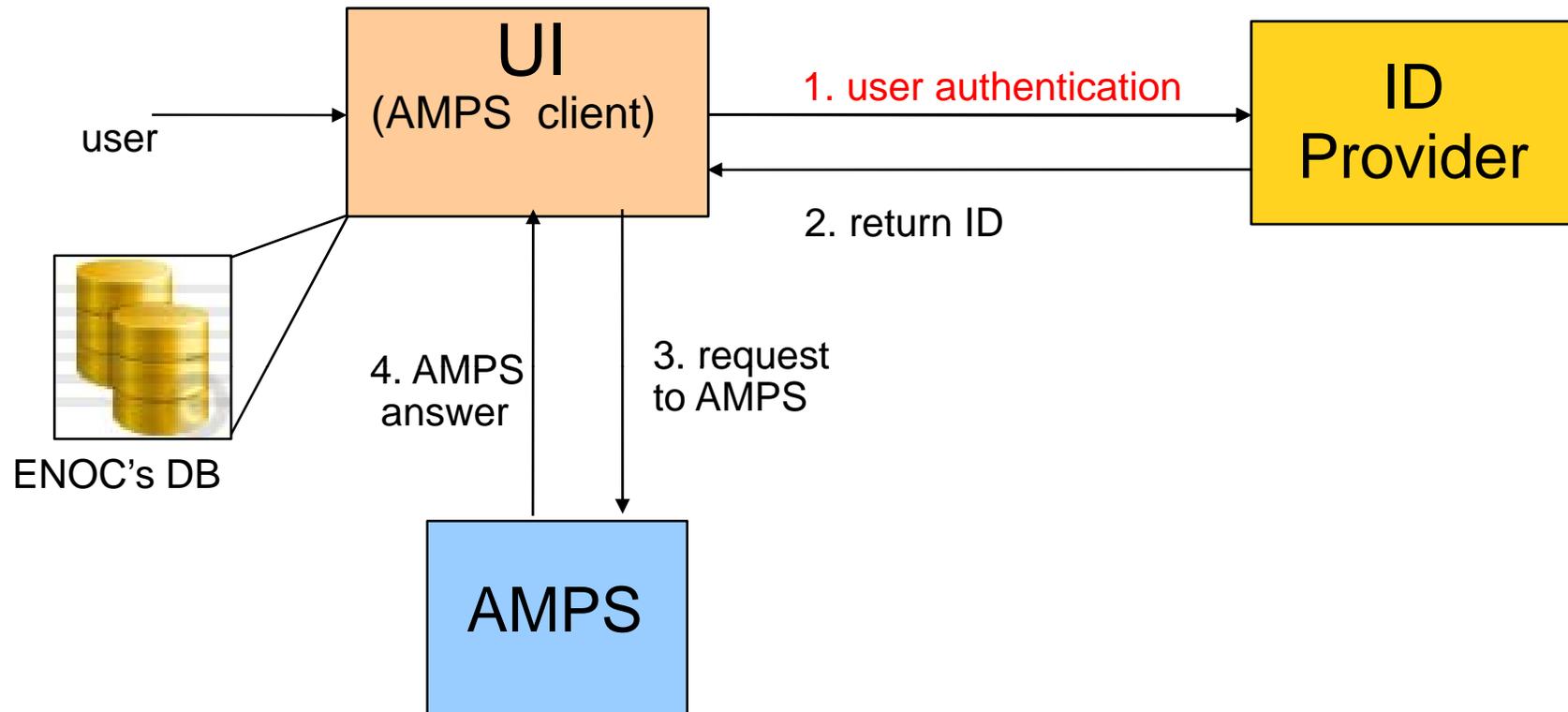
- **SLA monitoring in EGEE2 through the perfSONAR**

- **Lack of triggering mechanisms to generate alarms in case of SLA violations**

- **Need to provide mechanisms to:**

    – Set thresholds on metrics

    – Trigger alarms when violations occur

- **Creation of a web site for SLA service usage**

  – Description of SLA service

  – Procedure for SLA establishment

  – 2 parts: user and admin

    ▪ User part: Form that the user will fill in his data and request an SLA

    ▪ Admin part: AMPS client to gather user data, store it to ENOC's DB and forward the user SLA request to the AMPS for the SLA reservation

- **Collaborations with various projects**

- **Collaboration with RedIRIS**

- **Interest for SLA service**

- **Categorize their requirements for SLA metrics**

- **Test of SLA service in project applications**

- **SLA evaluation for different application scenarios**

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- **Advertise to projects what the network can offer to applications**

- **Web page with SLA establishment procedure in EGEE SA2 site**

- **Participation in relative conferences**
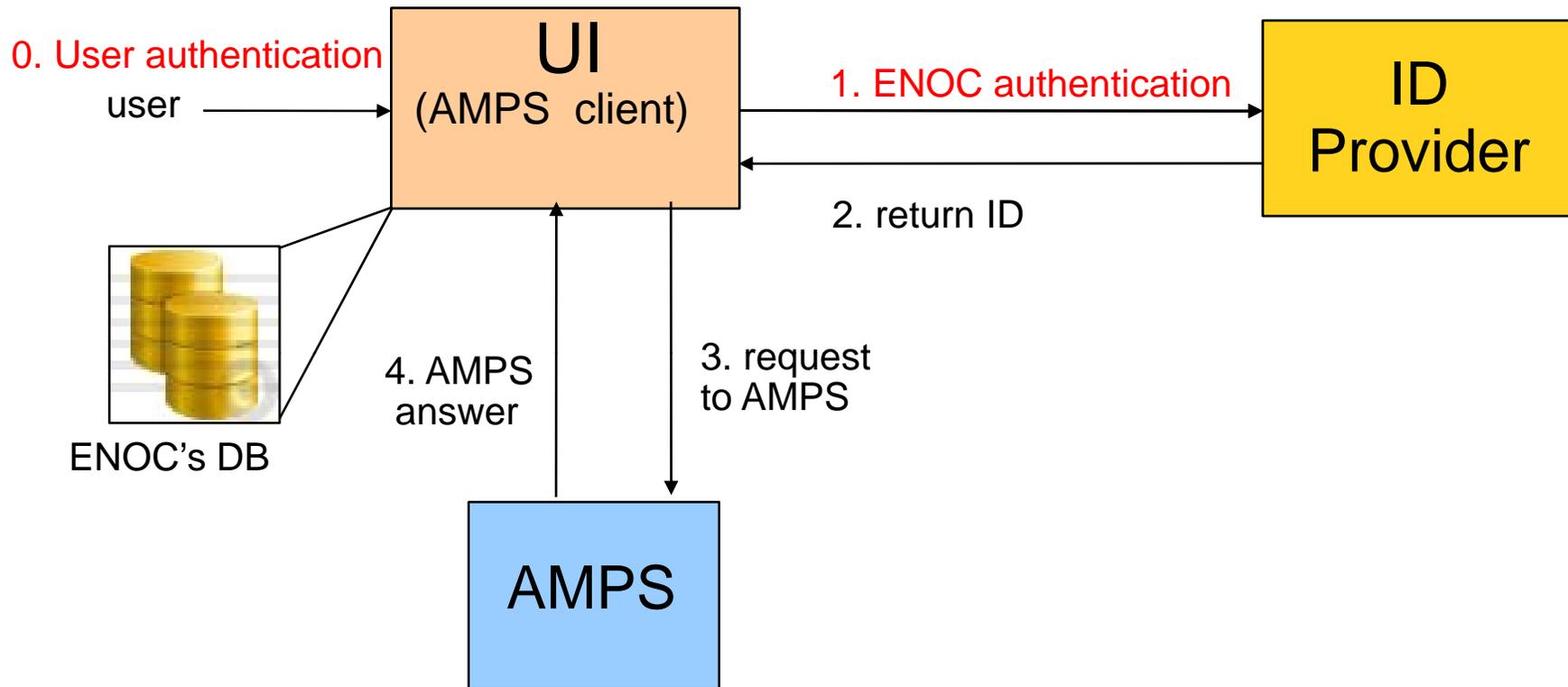
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- **Collaboration with AMPS SLA development team.**
  - AMPS finishes at the end of 3/09.
- **Pose of SLA monitoring requirements to DFN->**
  - No alarm triggering mechanisms can be offered within EGEE3
- **Dissemination of SLA work in EGEE User Forum, OGF, EGEE08.**
- **Search of applications interested in network SLAs**

  - Collaboration with RedIRIS

- **Search of other ways to provide advanced network services (e.g. AutoBAHN)**
- **Design of the SLA web site (2 solutions to be described)**
  1 User makes the request to AMPS
  2 ENOC acts on behalf of the user

ENOC site

UI
(AMPS client)

1. user authentication

ID Provider

user

2. return ID

ENOC's DB

4. AMPS answer

3. request to AMPS

AMPS

ENOC site will host AMPS client to communicate with AMPS
1. User authenticates to ID Provider (IDP) in order to have access to UI (AMPS client)
2. IDP returns an ID so that the user can access the AMPS client and fill in the AMPS form
3. The request is forwarded to the AMPS system
4. The AMPS returns either a negative answer or a positive answer with the b2b SLA

The user request and the results are saved to ENOC's DB

SLA web site design
(2nd solution: ENOC acts on behalf of the user)
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ENOC site

0. User authentication

user

UI (AMPS client)

1. ENOC authentication

ID Provider

2. return ID

ENOC's DB

4. AMPS answer

3. request to AMPS

AMPS

0. User authenticates to ENOC
1. ENOC authenticates to ID Provider in order to have access to UI (AMPS client) and continues with steps 2,3,4 as before

Difference with 1st solution: ENOC for each user request will make the same request to AMPS, but in place of the user credentials, it will put its own credentials…

1. **The AMPS requests from ENOC's site will be done asynchronously**
   - Due to technical issue that involves human interaction with the AMPS: When someone enters the AMPS web page to make a request to AMPS, it automatically redirects him to a web interface to <u>manually</u> put his IdP credentials in order to authenticate him.

2. **ENOC will have to develop an authentication system to authenticate its users and see in which project they belong to.**

3. **Will ENOC also authorize users? Decide how much BW they are allowed to take?**

4. **Will ENOC for every user that belongs to a different project create a different IdP account?**

- **Finish the development of the SLA web site**

- **Collaboration with other projects to find applications that need network SLAs**

- **Gathering of application requirements**

- **Development of SLA Monitoring requirements**

- **Evaluation of SLA through application testing**

- **MSA2.4 – PM18: Status of the use of Advanced Network Services**

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