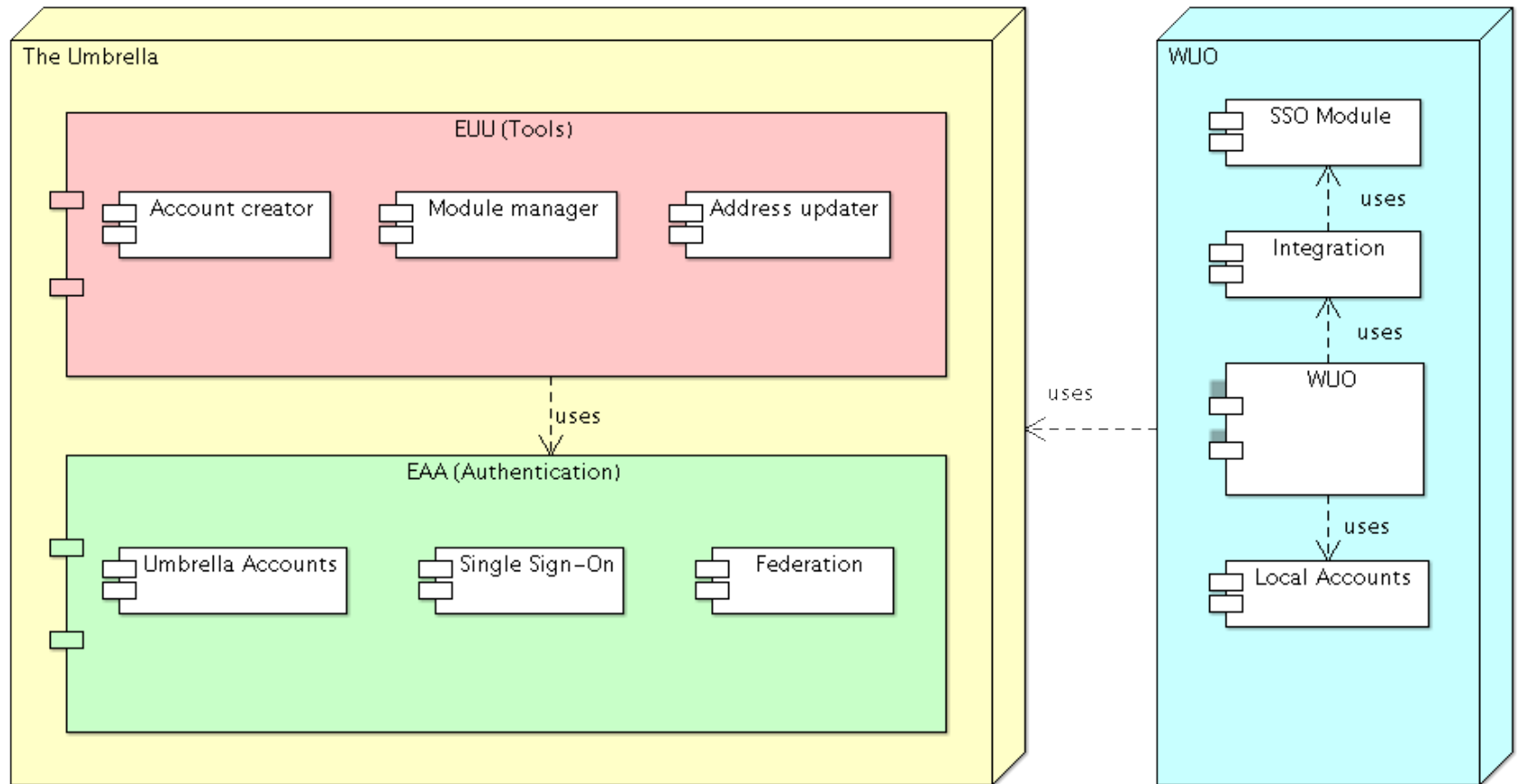


The Umbrella System

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Introduction: EAA / EUU



The EAA system ...

- is a distributed infrastructure for handling authentication at a super facility level.
- will allow coexistence with the authentication mechanisms of the existing WUO tools.
- stands for **E**uropean **A**uthentication and **A**uthorisation
- handles user accounts.
- allows Single Sign-On.
- is the “workhorse” of the Umbrella system.
- is non-invasive.

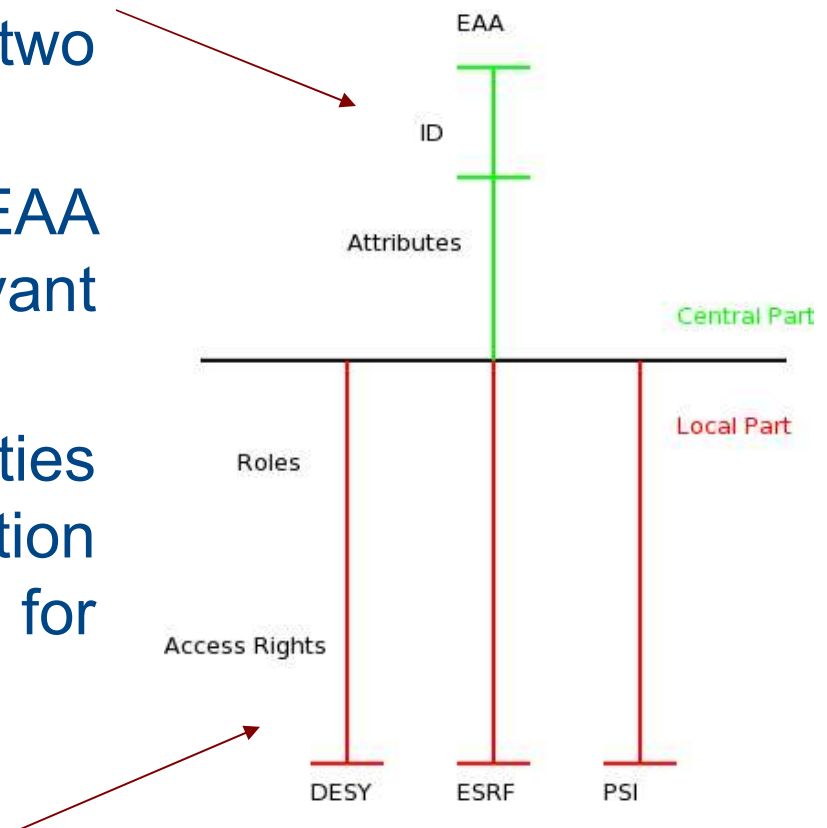
EAA: Single Sign-On

- The umbrella provides single sign-on for all participating WUOs.
- A single sign-on allows usage of applications without multiple authentications.
- Evaluation of existing technologies: OpenID, SAML2 (Shibboleth)
- Selection of SAML2 technology:
 - user privacy
 - data security
- Selection of Shibboleth as SAML2 technology provider:
 - existing software
 - existing large federations (overall experience)

EAA: Dual-hybrid aspects

The idea is to split information in two parts:

- A central part at the EAA containing authentication-relevant information
- Local parts at the facilities containing in-depth information about roles and access levels for the specific facility



EAA: Non-invasive

- What means non-invasive by the Umbrella?
 - Use existing processes at facilities
 - Do not replace existing software
 - Enrich existing software with functionality
 - Use existing user accounts but link them to a central account
- Why is it important?
 - Leave existing facility-specific solutions
 - Allows facilities to stay autonomous
 - Limit integration needs at facilities
 - Facilitate overall acceptance by facility staff

EAA: WUO integration

- Umbrella implementation recipe for Web User Offices:
- Install:
 - SAML2 Service Provider
- Integrate:
 - „Single sign-on” workflow
 - „Match existing user” workflow
 - „Match new user” workflow
 - „Attribute Updater” workflow

EUU

The EUU system ...

- is a set of complementing tools for the Umbrella.
- stands for **E**uropean **U**ser **U**mbrella
- is accessible by EAA Accounts
- builds upon the EAA system
- 's duty is to optimize and harmonize the synergies and ressources of facilities and to focus their effort in user handling.

EUU: Supporting tools

A multitude of applications can be thought of:

- Attribute updater module (+)
- Proposal editor module (+)
- Affiliation module
- Coaching module
- Publications module
- Virtual group module
- File access module
- Experimenting module

Future Outlook

- Future applications must be built to maintain user and facility interest
- Promotion activities should gain new federation members.
- A roadmap must be established.
- Furthermore a team of facility and IT experts should be formed to support the ongoing process of establishing the umbrella system

Future Outlook: Tools

Affiliation module:

- At present, each facility has a local affiliation database.
- New affiliations are registered in the local database by scientists themselves.
- Sharing the same affiliation database between facilities will: 1) help scientists not to register the same information several times. 2) reduce the administration load at the local user office.
- An affiliation database will make sure that the spelling is the same at all facilities.

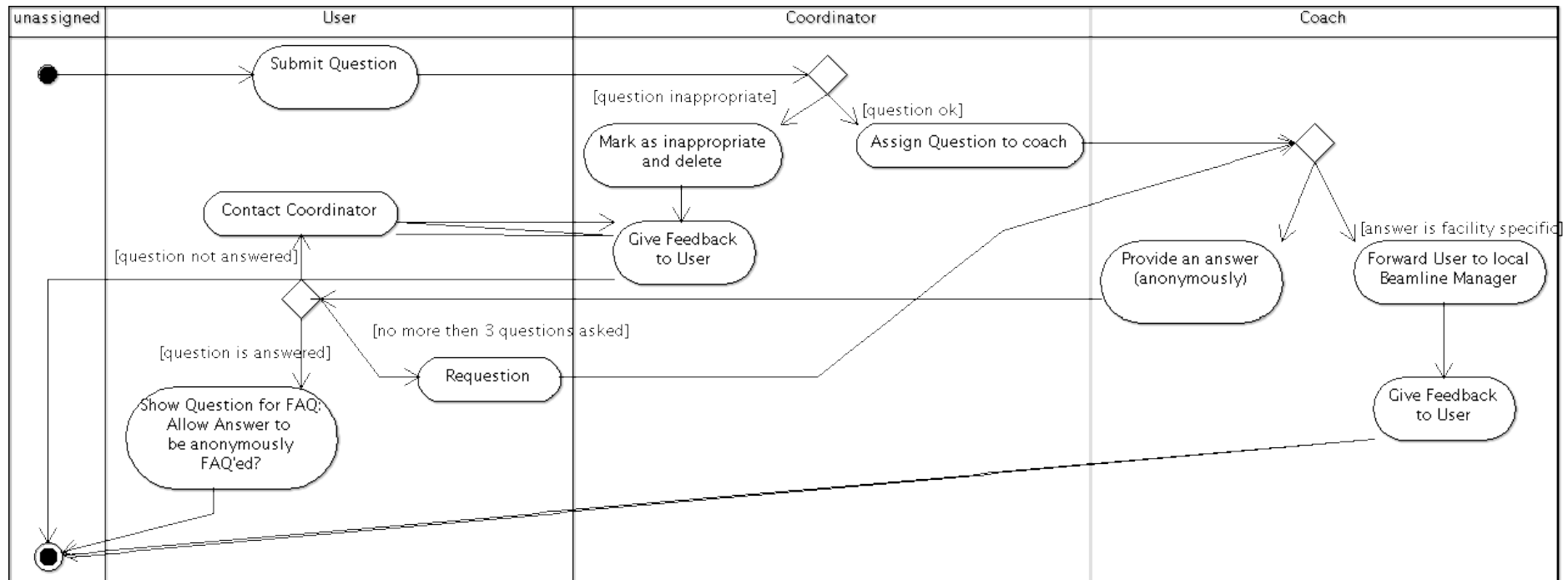
(Thanks to Mr. D. Porte /ESRF for this elaboration)

Future Outlook: Tools

Coaching module:

- Increasingly, users are coming to the facilities with very little experience: for that, a coaching service is offered to lower the first threshold barriers.
- The coaching module consists of a workflow for asking questions and a FAQ.
- This will require experienced coaches.
- Upon user agreement, a question can be anonymised and added to the FAQ.

Future Outlook: Tools



Future Outlook: Tools

Publications module:

- Publications are valuable assets for facilities and affiliations, serving as an efficiency statement of their scientific work.
- A publication database with reference to researcher and facility could help with accessibility to publications
- The publications should be linked with the existing user and affiliation database.

Future Outlook: Tools

Virtual group module:

- This module serves as a possibility to dynamically form groups.
- Groups can then be used to model teams of scientists which conduct an experiment.
- Group membership can be utilised to grant access to experiment data.

Future Outlook: Tools

File access module:

- Newer generations of detectors accumulate petabytes of data.
- It will become more and more impossible for researchers to take home their data on a hard disk.
- Remote access to experiment data will become vital.

Future Outlook: Tools

Experimenting module:

- Long travelling distances can make it difficult to visit a specific facility
- Remote access to parameters or spectrums could allow better use of infrastructure – still, researchers need to be at-site.
- Remote experimenting would allow parameters to be set from off-site, allowing researchers to perform experiments with on-site facility-staff from almost everywhere.

Future Outlook: Applications

Authentication:

- To enable interoperability with other infrastructure, we should consider implementing authentication schemas:
- ICAT integration
- GRID certificates

Future Outlook: Applications

Federations:

- There are already existing federations like eduGAIN
- There are also possibilities to interface existing federations and allow access for our user base to use other services.
- Interfacing federations is important for the future: membership of our federation will not become a dead-end street but is open to vibrant federations worldwide.

Future Outlook: Applications

3rd party applications:

- Integrating 3rd party applications is similar to WUO integration.
- We should consider implementing the most interesting tools for our users.
- An example could be Indico.

Live Demonstration

Live demonstration of the Umbrella system:

<https://umbrella.psi.ch/euu>

Thank you for your attention!

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