Umbrella ID
Federated Identity for PaN facilities

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umbrella

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Umbrella is part of several EU projects:

- EuroFEL- ESFRI project Free Electron Lasers of Europe
- PaNData-Europe, PaNData ODI- FP7 projects
- CRISP – Cluster project of different ESFRI projects
- CALIPSO – I3 synchrotron community
- NMI3 - I3 neutron community
- BioStruct-X
- Instruct – ESFRI project
- CALIPSOplus (NA1 + JRA2)
- LEAPS

EuroFEL FREE ELECTRON LASERS OF EUROPE

CRISP The Cluster of Research Infrastructures for Synergies in Physics

pandata Photon and Neutron Data Infrastructure

calipso way to light

nmi3

CALIPSOplus

LEAPS League of European Accelerator-based Photon Sources

Requirements user community

What are the present and upcoming user needs?

- 40% of the users (40% of >30.000) do experiments at different facilities, transfacility access for users (see also new user survey 2016 PaNdata.eu)
- Acces to and management of experimental data.
- Remote experiment access
- Access to efficient data analysis tools.
- Remote file access
- Access to super computing centers
- Access to cloud infrastructures / Access to DaaS platforms
- Access to other federations
- Minimal administration load for the users

At the end all this needs a unique persistent user identification to have unified access to these tools.

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What is the Umbrella?

The Umbrella is an identity system designed by the European Photon and Neutron source facilities (PaNs').

It aims to make life easier and science more productive both for the facilities and their users.

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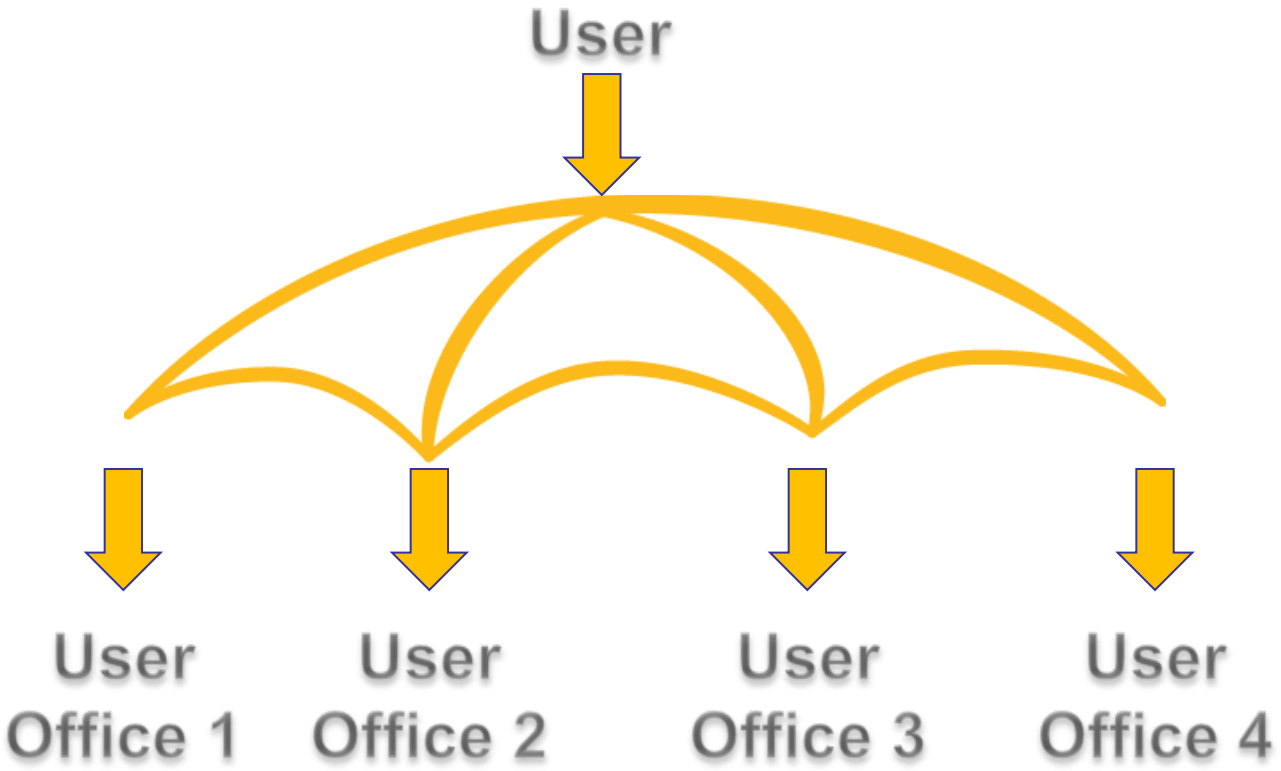
What is the Umbrella?

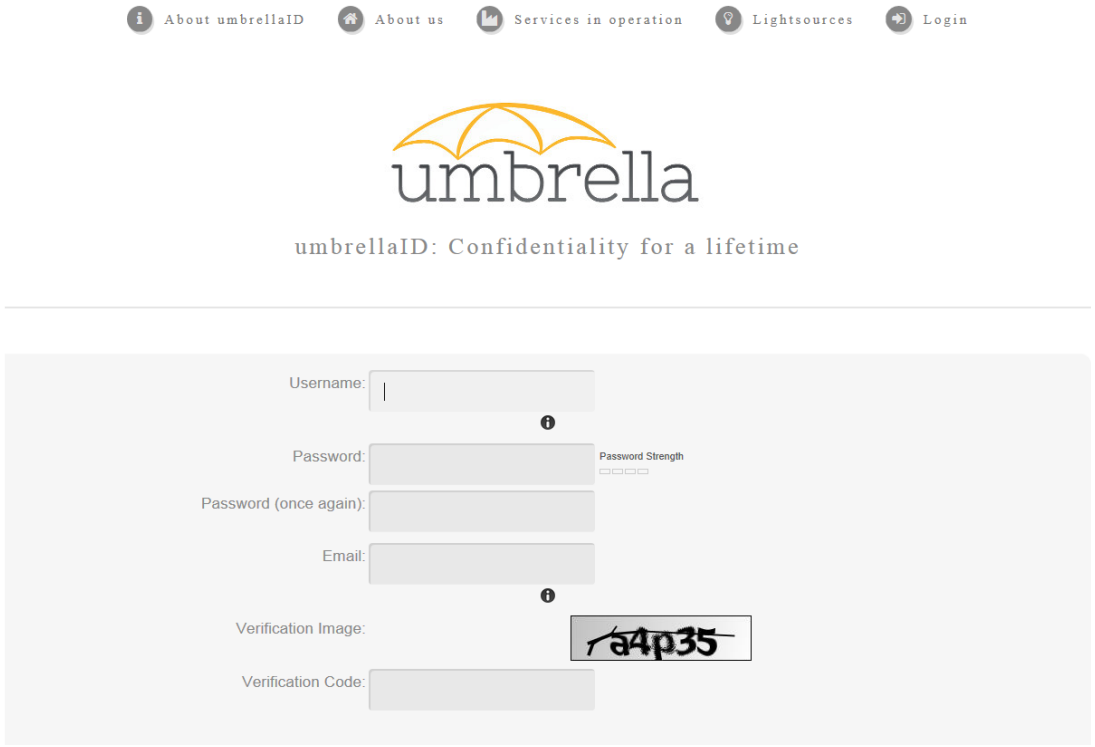
- The Umbrella first of all provides any PaN-user (and effectively anyone interested in scientific discovery) with a unique identity, the UmbrellaID.
- Equipped with such an ID a user can go on a virtual journey around the facilities with a single sign-on.
- Since the same Identity is known at each of the facilities, a user can more simply access or share data, manage administrative processes or make use of services and infrastructures provided by the PaNs'.

How does it work?



How do I get an UmbrellaID?

- Simply register for an account under https://umbrellaid.org. The only requirement is a valid email address to confirm the registration.



How do I get an UmbrellaID?

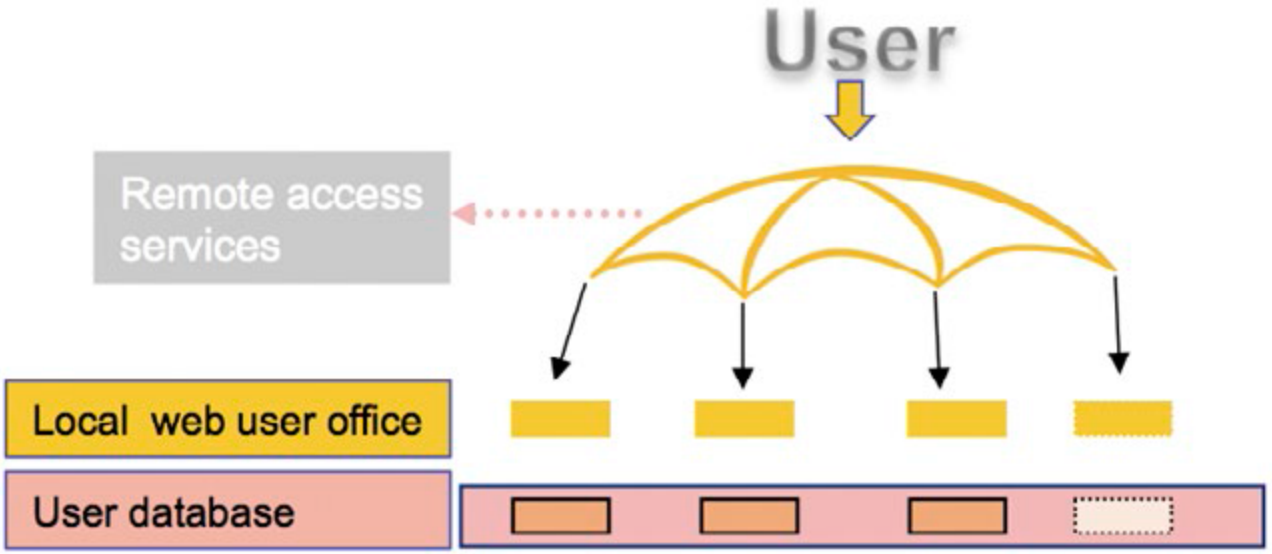
- In the registration process one chooses a unique username and a secure password. Under the hood, Umbrella creates a unique and persistent ID which will never change.

- Changing the username or the email-address won't have any effect on the UmbrellaID; a user can use the same UmbrellaID throughout his entire scientific career (and beyond), which is what makes the UmbrellaID unique and persistent.

What happens to old accounts?

- Many users have registered earlier at one of the facilities Web-based User Offices (WUO) and have an account there, experiment related documents or scientific data. The Umbrella will affect none of these and old accounts remain perfectly valid.

- However, the Umbrella nicely integrates with the WUOs, which provide a simple mechanism to create a link between a local WUO account and the UmbrellaID.


User
Remote access services
Local web user office
User database

What happens to old accounts?

- A number of users will have WUO accounts at several facilities. Creation of the links has to been done for each WUO individually, which might appear inconvenient, but can finally not been avoided since each facility requires a local registration for safety and lawfulreasons.

- With the creation of the links, all actions possible with the WUO account can afterwards be performed with the very same UmbrellaID and just a single-sign on – at each WUO a user is known to.

Are my data safe?

- Yes. First of all, UmbrellaID.org stores only a minimal set of information, a username, a password, the ID itself and the email-address. The information is stored in form of (salted) one-time hashes to ensure maximum security.
- The entire Umbrella is based on Shibboleth, a well-established and widely used open-source implementation of federated identity standards namely the OASIS Security Assertion Markup Language (SAML).
- This guarantees that not only the personal data stored at UmbrellaID.org or the local WUOs but the entire communication process is conforming to highest security standards.

What services can I use?

The services supporting the UmbrellaID are published on the UmbrellaID.org website.

So far the Umbrella offers access to WUOs, Open Access Software and Data catalogues. The number of services is slowly, but steadily growing.

It is expected to cover (almost) all WUOs and a significant number of related services end of 2017.

Summary Umbrella

Concept

- Unique persistent Identifier on EU scale
- independent of the home institution
- life time account
- account owned by the user
- single sign-on
- no possibility for cross-facility information pull

Rely on existing local user office structure

- Great experience
- Do It Yourself operation by the user
- User offices: supervising; manage authorizations
- Principal investigators: have responsibility for their teams and can handle authorization within their group

Summary Umbrella

Authorisation is delegated to the systems participating in Umbrella

- for highest grade of independence
- in heterogeneous environments
- no complicated trust relationships

Status Umbrella

MoU signed in March 2015 by 14 partners: DLS, Elettra, EMBL, HZB, KIT, PSI, ESRF, ALBA, SOLEIL,DESY, EU XFEL, ILL, STFC, INSTRUCT

New partner HZDR (since August 2016)

Request from Forschungszentrum Jülich

Status of Service Provider deployment

Facility	Status	SP installed	WUO adapted	Production
ESRF	OK	OK	OK	OK
ILL	OK	OK	OK	OK
PSI	OK	OK	OK	OK
Elettra	OK	OK	OK	OK
ISIS	OK	OK	OK	OK
Diamond	OK	OK	OK	OK
DESY	OK	OK	OK	OK
HZDR	OK	OK	OK	OK
Soleil	OK	OK	OK	OK
KIT	OK	OK	OK	-
MAXIV	OK	OK	OK	OK
ALBA	OK	OK	OK	OK
Instruct	OK	OK	OK	OK
WayForLight	OK	OK	OK	OK
PaNdata software catalogue	OK	OK	OK	OK

Umbrella Collaboration

The different partners of the Umbrella collaboration work together in :

- Decide on development and operational issues
- Define strategy

Members SC / TT Umbrella Collaboration

Facility	SC Member	TT member
Alba	Daniel Salvat	Daniel Salvat
DESY	Frank Schluenzen	Frank Schluenzen
Diamond	~~Bill Pullford~~	~~Bill Pullford~~
Elettra	Cecilia Blasetti	Fulvio Bille
EMBL	Clemente Borges	Clemens Borges
ESRF	Dominique Porte	Bruno Lebaye
EU XFEL	Kryzstof Wrona	Kryzstof Wrona
HZB	Florian Staier	Heiko Kreth
ILL	Jean-Francois Perrin	Jean-Francois Perrin
INSTRUCT	Callum Smith	Callum Smith
KIT	Doris Ressmann	Doris Ressmann
PSI	Mirjam van Daalen	Björn Abt
SOLEIL	Frédérique Fraissard	Idrissou Chado
STFC	Tom Griffin	Tom Griffin

Chair SC Mirjam van Daalen
Chair TT Björn Abt

Current projects

- Umbrella part of CALIPSOplus proposal Trans National Access program of Photon facilities. **NA1 and JRA2 from 01.05.2017**
  - In the process of engaging Jisc as subcontract for JRA2.
- Pilot in **eduTEAMS** project of GEANT, use case to create an attribute authority for Umbrella ID.
  - Pilot concluded, feedback provided, suitable for collaboration
- LEAPS IT WG3
  - Critical project for LEAPS
- PaNDaaS project rejected in 2014, but might be revised and handed in for new INFRAEOSC-04-2018 ESFRI cluster call March 2018
- AARC – collaborating and acting as pilot project

UmbrellaID Status

- New website is online – https://umbrellaid.org/
- eduGAIN online (prepared Geant 3+ project, end 2017):
  - Access via own University credentials
- Link to Moonshot non web based acces(GEANT):
  - Moonshot online machine console Diamond.
- Attribute Authority online 2017, collaboration with eduTEAMS (GEANT)
  - Gives possibility to interact with other federations requiring attributes

Umbrella ID

UmbrellaID Status

- Link to ORCID (publication ID, end 2017)
- Link to Open IRIS Laboratory Management System used at PSI for users of new Innovationpark at PSI.
- Access to Indico at most facilities
- Umbrella has to become critical service; Umbrella will become only access for external users at PSI within 2017

Umbrella ID

PR activities 2017:

- Email to all users of the collaboration via user office portals end 2017
- Write on each UO website, what you can do with umbrellaID
- PR actions will be coordinated within the umbrellaID collaboration.
- Contact with lightsources.org (and LEAPS) to promote UmbrellaID

CALIPSOplus

- Project start 1st of May 2017
- 10 Mio Euro for 4 years
- Kick off CALIPSOplus 18-19 May 2017 Dresden HZDR
- Kicked off JRA2 27 June 2017

CALIPSOplus work packages

Tailor-made for SMEs

Trans-national Access (TamaTA)

Trans-national Access to the Light sources collaborating in CALIPSOplus

User tools for access and data management

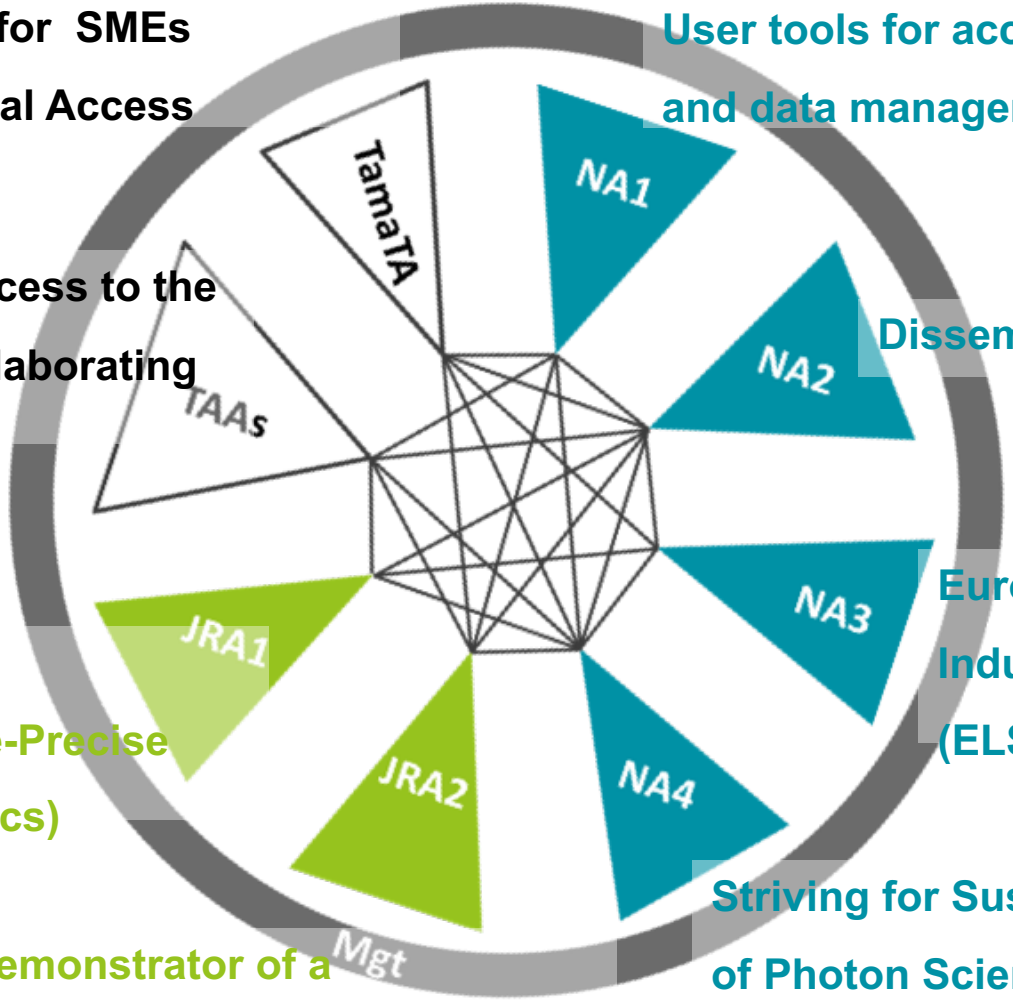
Dissemination and Training

European Light Sources for Industrial Innovation plus (ELSIIplus)

Striving for Sustainability of Photon Science in Europe

Demonstrator of a Photon Science Analysis Service (DaaS)

Metrology On One-Nanometre-Precise Optics (MooNpics)



CALIPSOplus Joint Research Activities

JRA1 - Metrology On One-Nanometre-Precise Optics (MooNpics)

WP leaders H. Sinn (m, European XFEL) and E. Ploenjes (f, DESY)

- Development of metrology on diffraction limited X-ray optics up to single-nanometer figure error and 20 nrad rms slope error precision
- Particular focus on long mirror (up to 1 m)
- Collaboration with ZEISS and Winlight X
- Development of software for focal spot reconstruction and fast mirror alignment to cope with spot sizes reached with these ultra-high performance optics

JRA2 - Demonstrator of a Photon Science Analysis Service (DaaS)

WP leaders M. van Daalen (f, PSI) and A. Goetz (m, ESRF)

- Development of demonstrators for remote data analysis for some selected archetypal experiments
- Demonstrators to be implemented at the individual facilities
- Web portal to ensure users to have a common user experience
- particularly interesting for experiments generating large data volumes

CALIPSOplus NA1:

From first part of 2017 the following activities will be financed for umbrellaID:

- Promotion of umbrellaID and the unified access platform.
- Coordinated development of umbrellaID extensions, i.e. connection to ORCID and other infrastructures such as supercomputing centers.
- Technical helpdesk for the users of umbrellaID and its attached systems (e.g. Moonshot, iCAT).
- Maintenance of the website of the umbrellaID collaboration.
- Close connection to RDA, FIM4R and AARC projects.
- Also development of Data Management Plan (DMP) for CALIPSOplus based on local data policies.

CALIPSOplus WP24

JRA2 - Demonstrator of a Photon Science Analysis Service (DaaS)

Task 24.6 Extend and deploy the Umbrella authentication system as the standard authentication mechanism to fully support different non-web-based authentication mechanisms to be able to service a broader range of facilities (eduGain + JISC Assent) with differing needs and capabilities.

PaNDaaS group now called PaNdata

Activities going on:

- Preparation WG3 LEAPS IT document
- Collaboration with JRA2 CALIPSOplus
- Umbrella consortium
- Preparation of new PaNDaaS (cluster call) proposal

Meetings twice a year:

- Grenoble ESRF December 2016
- Barcelona April 2017.
- ESRF June 2017

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Thank you for your attention!