



Science Gateway and Single Sign-On technology study for the Cherenkov Telescope Array

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- EGI is interested to collaborate with one of the biggest astronomical ESFRI projects
 - An important Astronomical Community hooked through CTA
- CTA can leverage on the EGI ecosystem to find a solution to its challenges
- Some of the CTA challenges
 - Procurement of computing resources
 - Procurement of data storage resources
 - Easy user-friendly ways to get access and use them



CTA VT Schedule



- VT submitted for approval at the end of November 2012
- Approved by EGI in early December 2012
- Call for interest (for NGIs) closed at the end of December
- Start date: January 7th, 2013
- Estimated end date: October 31st, 2013
- CTA VT mailing list:
 - vt-cta-study@mailman.egi.eu
- Wiki page:
 - https://wiki.egi.eu/wiki/VT_Technology_study_for_CTA

N	Topic	Task
1	Establish a social network between CTA and EGI through the support teams of the National Grid Infrastructures.	Task 1
2	Use the social network to gather CTA user requirements concerning: a) Web-based Science Gateways operated for the CTA community, making DCI resources and services from the NGIs accessible for CTA members; b) A Single Sign On (SSO) authentication, internationally federated, mechanism that would make web-based Science Gateways accessible for the CTA community.	Task 2
3	Mapping the identified CTA requirements to solutions that exist within the EGI community and within its partners, such as the NRENs.	Task 3
4	Document the findings and define a roadmap for implementing, deploying and operating a SSO solution and one or more Science Gateways for the CTA community.	Task 4

- Task1 and Task2 have completed their activities
- Task2 in particular:
 - Was coordinated by Nadine Neyroud (LAPP/IN2P3/CNRS)
 - Produced the delivery D2.1
 - Document collecting the requirements coming from the CTA end users and related to Science Gateways and the SSO authentication system.
 - Requirements gathered through several iterations that involved the CTA end users within the CTA collaboration
 - The delivery D2.1 can be found at:
 - <https://documents.egi.eu/document/1796>

- Task 3:
 - Purpose: mapping of the identified CTA requirements to solutions that exist within the EGI community and within its partners, such as the NRENs
 - Activity started in June 2013, after the delivery of D2.1 at the end of task 2 activity
 - Coordinated by Gergely Sipos (EGI.eu)
 - Will produce delivery D3.1
 - End of activity expected by late October 2013
 - Task 3 and Task 4 maybe will be merged to produce the final delivery D3.1

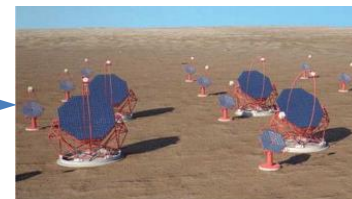
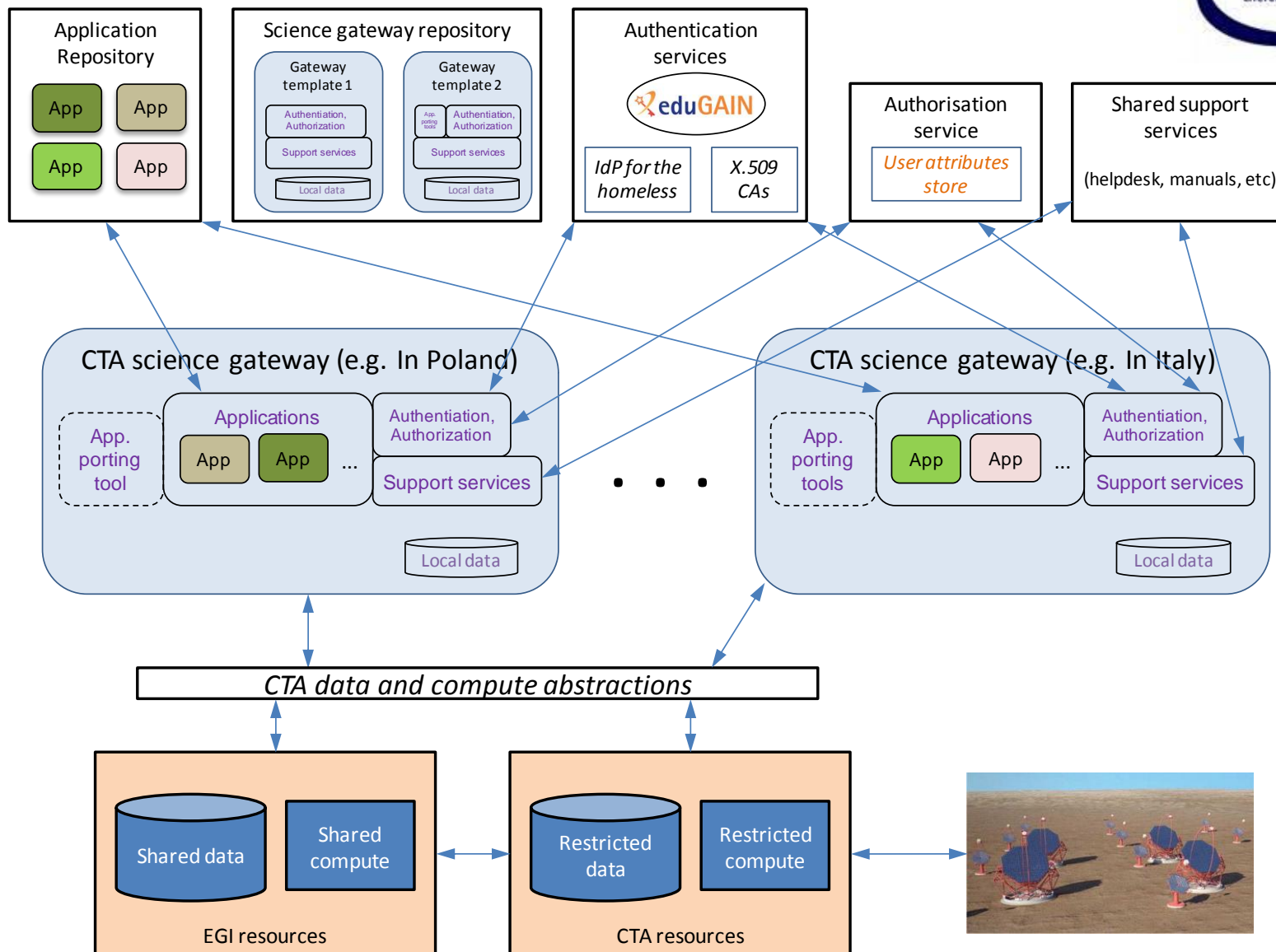
Task3 : Current Status

- Webex [webinar](#) hold on June 21st, 2013
 - The webinar kicked off the activity of task 3
 - Presentations related to possible technological solutions have been shown
 - Gergely Sipos (EGI.eu): the outcome of the Task 2 (User Requirements) and the key concepts related to the CTA Science Gateway to be implemented
 - Joanna Kocot (CYFRONET): A CTA Applications and Data Gateway by Cyfronet
 - Peter Kacsuk (MTA SZTAKI): SCI-BUS gateway technology for a large variety of user communities
 - Alessandro Costa (INAF): CTA Gateway Prototype Based on gUSE/WS-PGRADE and Single-Sign-On (SSO) Authentication
 - Marco Bencivenni (INFN): Italian Grid Infrastructure Portal for CTA

- After the webinar...
 - A first strategy proposal draft has been produced
- Status:
 - Two main prototypes of Science Gateways currently exist
 - At Cyfronet as a result of a tailoring process on the **InsilicoLab** Science Gateway built for CompChem
 - At INAF Catania built on top **WS-PGRADE/gUSE**
 - The common underlying technology is **Liferay**

Solution A

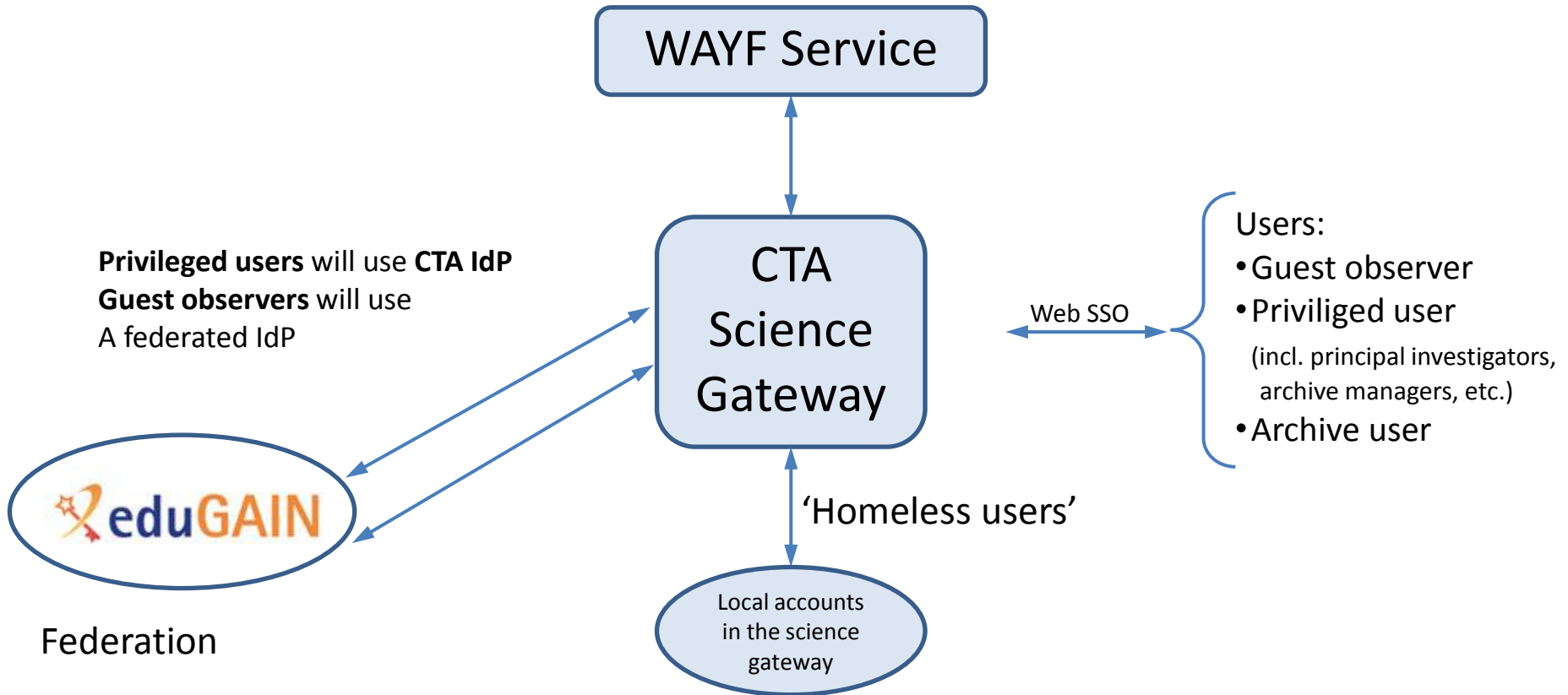
- A “Science Gateway ecosystem”
 - **Multiple gateways**, each customized to a different audience and/or applications
 - A well-defined set of components that are **common** and are shared across all CTA gateways
 - Any CTA gateway can include components that are **unique** to that specific gateway
 - A set of **centrally provided services** to make the science gateways and the related single sign-on systems fully functional
 - Applications **decoupled** from gateways and developed in any of the science gateways that include sufficient tools for this
 - Authentication **decoupled** from authorization



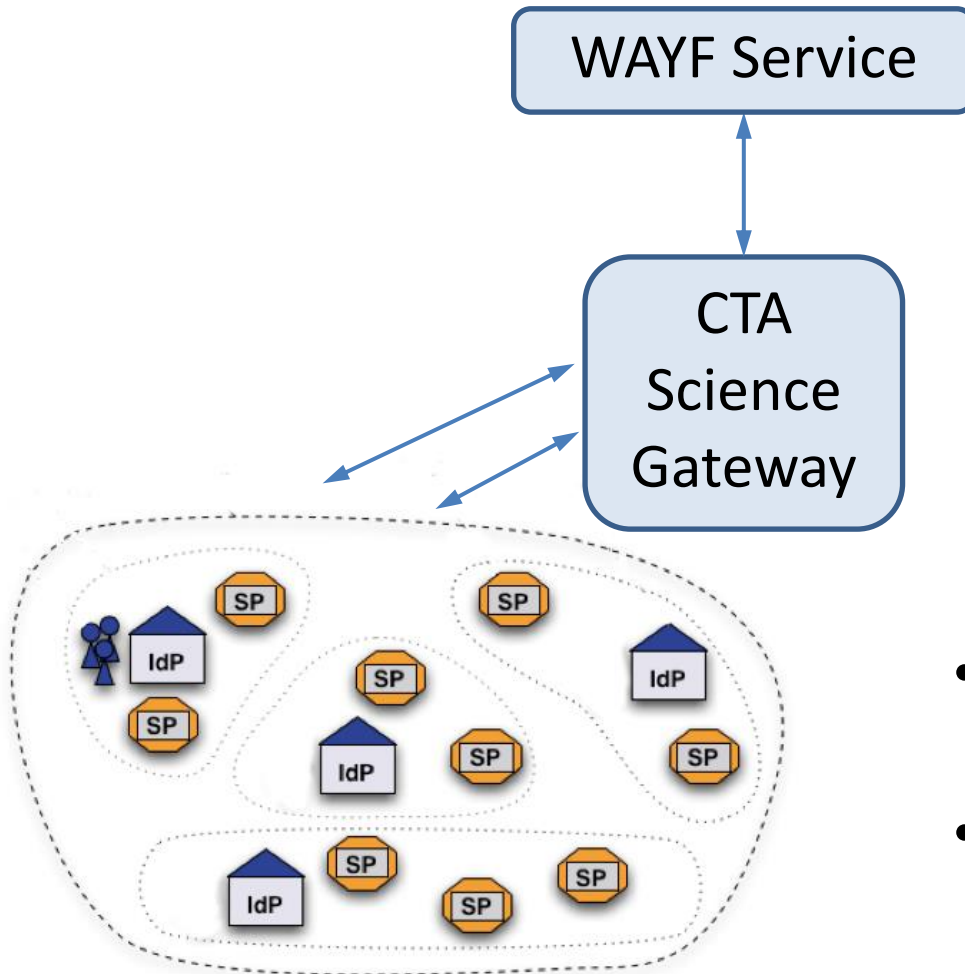
Solution B

- A unique Science Gateway for CTA unifying the prototypical Science Gateways currently in place. Many instances of it could be installed/activated
 - Liferay is the common underlying technology
- Solutions A and B are currently under investigation within the VT by analyzing pros and cons of both, and taking into account:
 - Constraints coming from the CTA consortium
 - **A unique entry point to all kind of resources (DCIs, data, docs, etc.)**
 - Implementation costs
 - Mid/Long-term upgrade/maintenance costs
 - Sustainability
 - Technological challenges
- Discussion is currently in progress

CTA and SSO authentication the CTA IdP

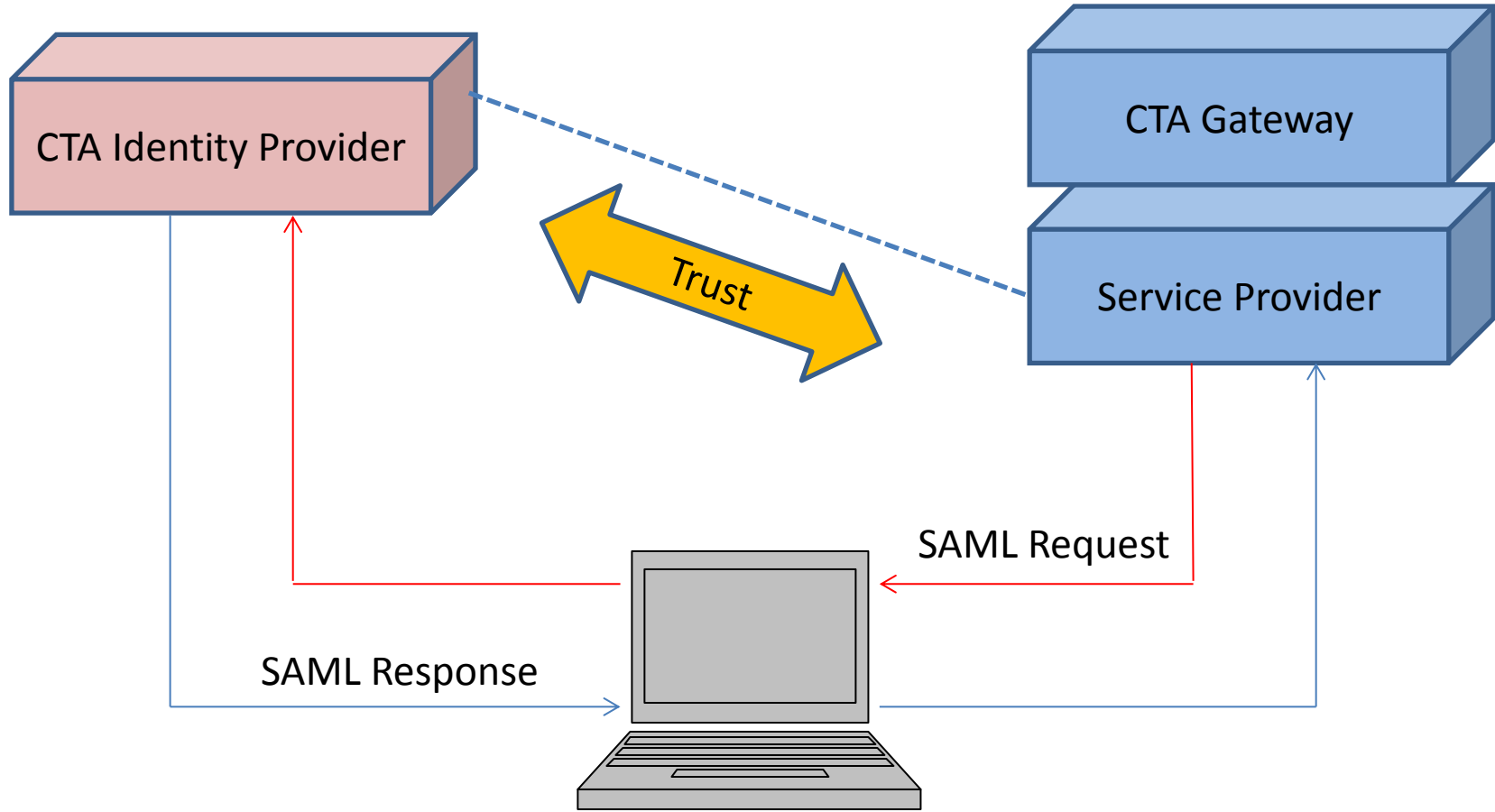


Components currently implemented at INAF



- CTA IdP
- A CTA SP

INAF CTA SG: SAML Based SSO Model



Task3 : Forthcoming steps

- Perform an analysis of pros and cons and all possible implications for options currently on the table
- Identify the best possible solution
- Verify this solution with the CTA consortium, in particular with the Data Management WP Leader
- Produce the final delivery of the VT

- The current estimation for the conclusion of the CTA VT activities is late October 2013
- All VT objectives and deliveries are going to be fully achieved
- VT triggered within the CTA collaboration but its deliveries could impact the whole Astro-Particle Physics Community:
 - A unique identity federation and SSO authentication system
 - A unique Science Gateway or a pool thereof (the Science Gateways “ecosystem”) for the benefit of the whole community

- The deliveries of the VT are:
 - Suggested/proposed to the CTA collaboration as possible options to be adopted during the operative phase of the project
 - Issued in two directions:
 - Towards EGI that can re-use them for the benefit of other User Communities interested in evaluating and exploiting solutions based on distributed e-Infrastructures
 - Towards the CTA Consortium for an evaluation and a possible endorsement and usage after the end of the preparatory phase (December 2013)