CHSRC v0.1 update

September 2nd, 2024

Rohini Joshi, FHNW, Swiss SRC Architect

SARAO, Heywood al. (2022) / J.C. Muñoz-Mateos

About me

Swiss SRC Software Architect

Engineer, developer

SRC Design

Product Owner

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Overview

SRCNet v0.1, CHSRC v0.1

Outcomes from the last quarter

Preparation

- To be a v0.1 Node
- For v0.1 Test Campaigns
- For SRCNet Operations

Brief Recap

Agile processes for development and delivery of SRCNet, in line with Construction activities (Scaled Agile Framework - SAFe).

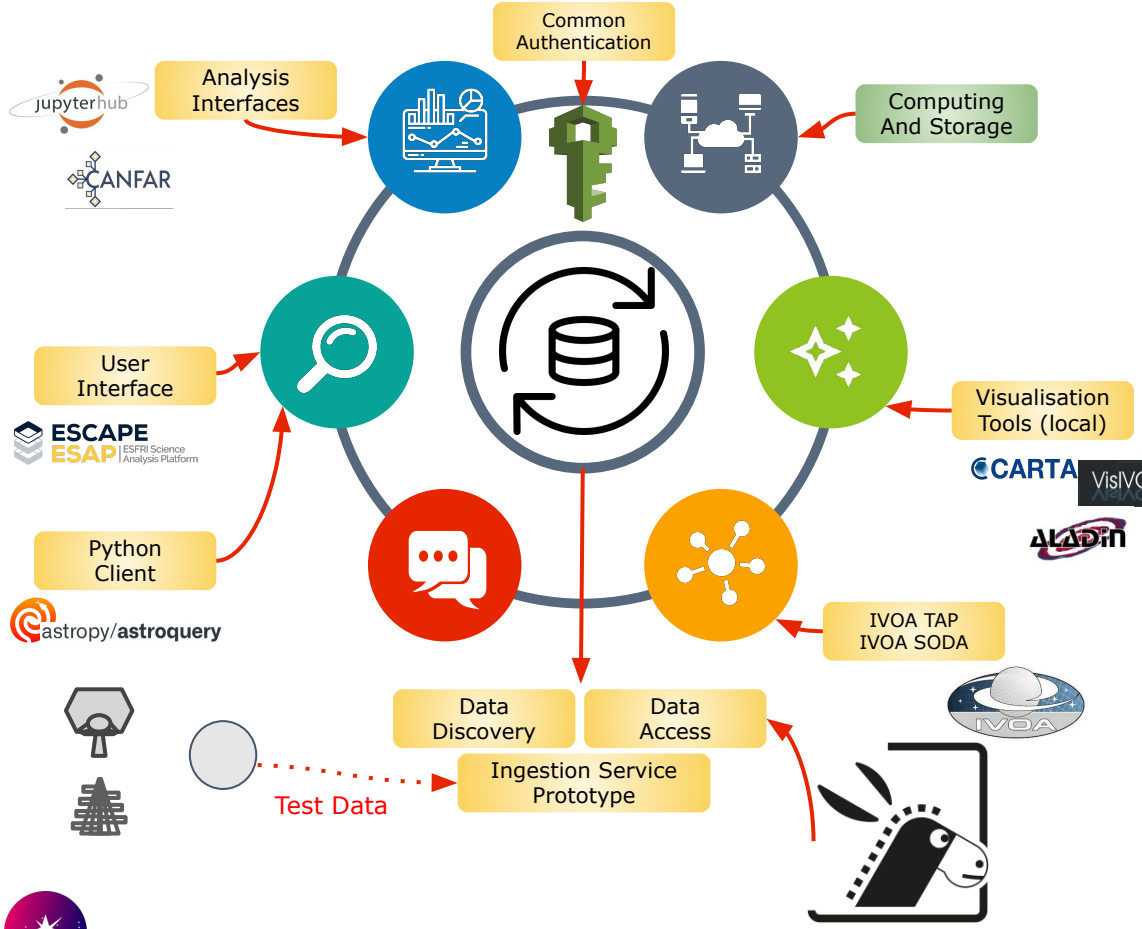
- New (Swiss) team working as part of the global SRCNet development efforts starting June 2024. Chocolate team!
  - Currently consisting of developers at FHNW and EPFL

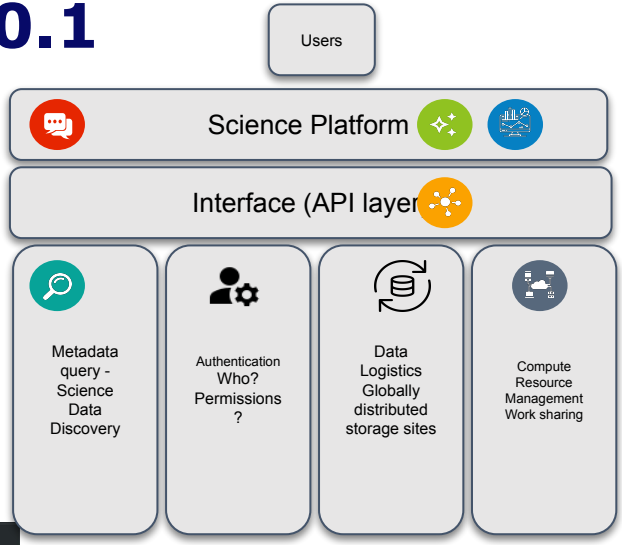
Link to SKACH Spring meeting presentation!

SRCNet v0.1

...no but what is it really?

Basic Functionality Covered by v0.1





- Common Authentication: IAM
- Visualisation Tools (local)
- IVOA Protocols: TAP, SODA
- Data Discovery and Access from Data Lake
- Ingestion Service Prototype
- Python Client: Astroquery Module
- User Interface: Gateway (ESAP)
  - https://esap.srcdev.skao.int/
- Analysis Interfaces: JupyterHub; CANFAR Science Platform

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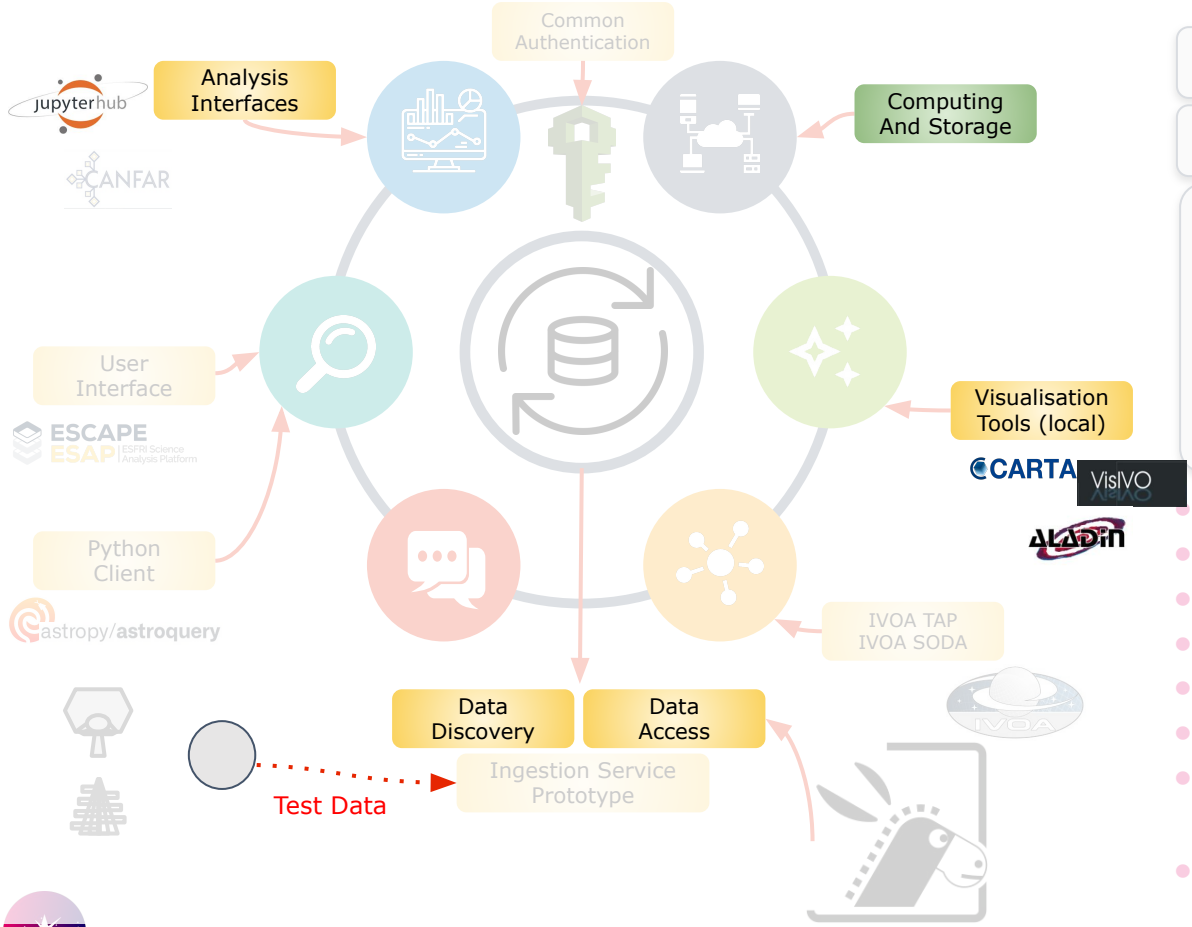

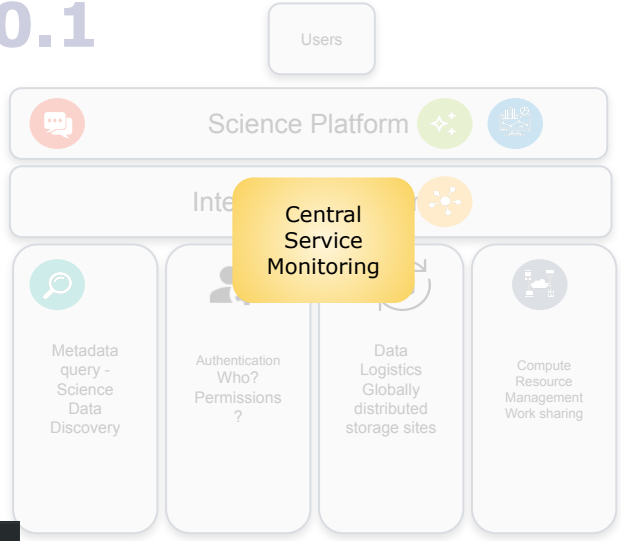

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What does v0.1 mean for CHSRC

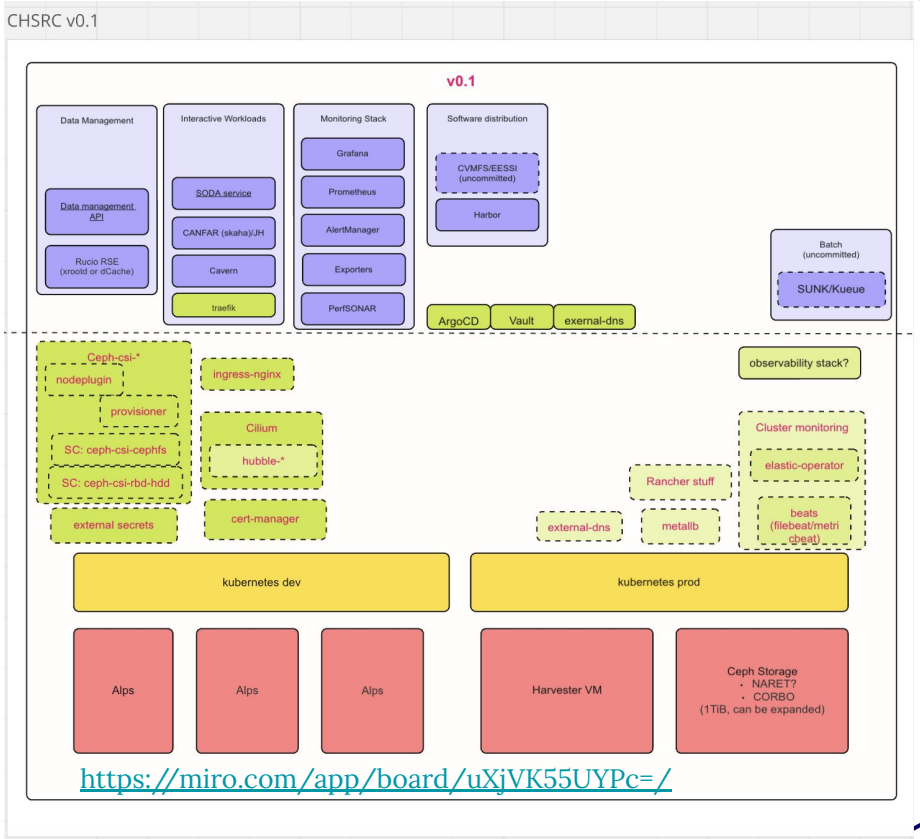
[SRCNet v0.1 Implementation Plan document]

Infrastructure based at CSCS

- 400 TB
- 14 TFLOPS

Kubernetes clusters

SRCNet services deployed and managed by SKACH on Kubernetes clusters



SRCNet v0.1

Engineering exercise

SRCNet Operations group to be the main ‘users’

- Test Campaigns to be defined
  - Dedicated time window identified, compute and storage at sites exercised at the scale pledged
  - Data lifecycle tests demonstrating ‘science user’ flows (src-workloads repo is a source of use cases)
  - Rucio, distributed data management system, will be at the heart of these campaigns

Outcomes from the last quarter

PI23 outcomes

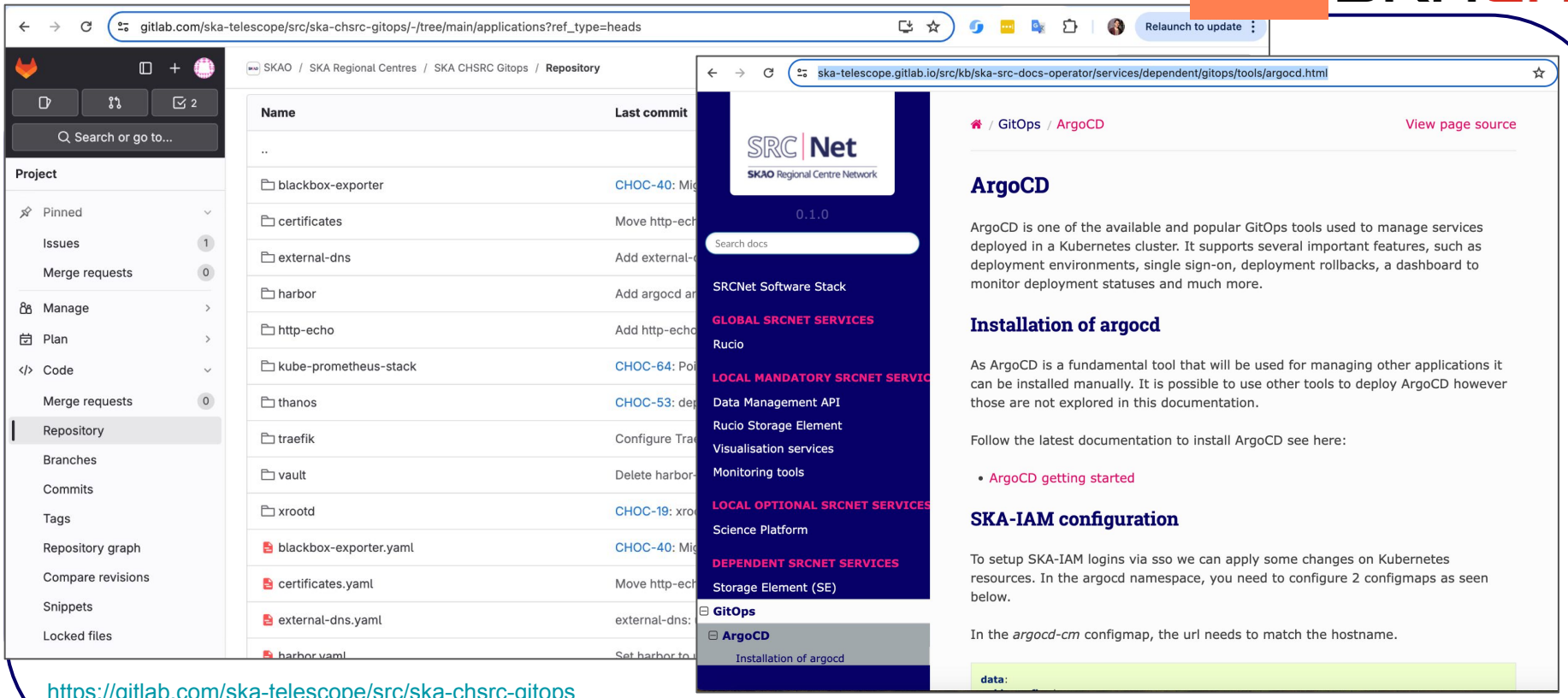
PI23 outcomes

Getting ready for the v0.1 preparation

- Getting our Kubernetes clusters ready
- Deploying SRCNet Service Monitoring
- Using Karabo for SRCNet test data

Rough overview of activities on behalf of the Chocolate team!

GitOps magic

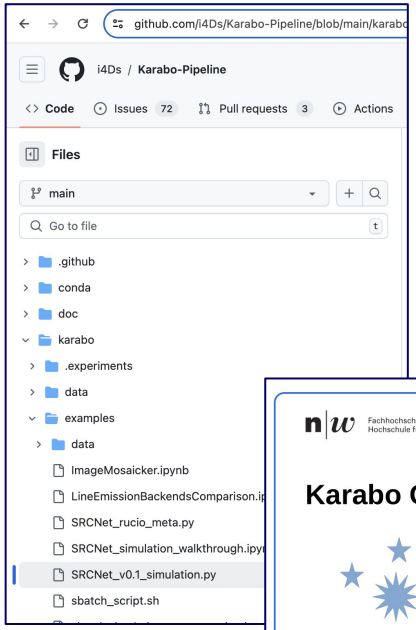


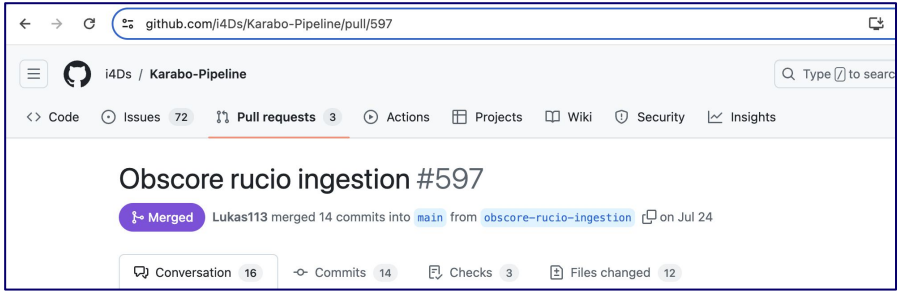
https://gitlab.com/ska-telescope/src/ska-chsrc-gitops

https://ska-telescope.gitlab.io/src/kb/ska-src-docs-operator/services/dependent/gitops/tools/argocd.html

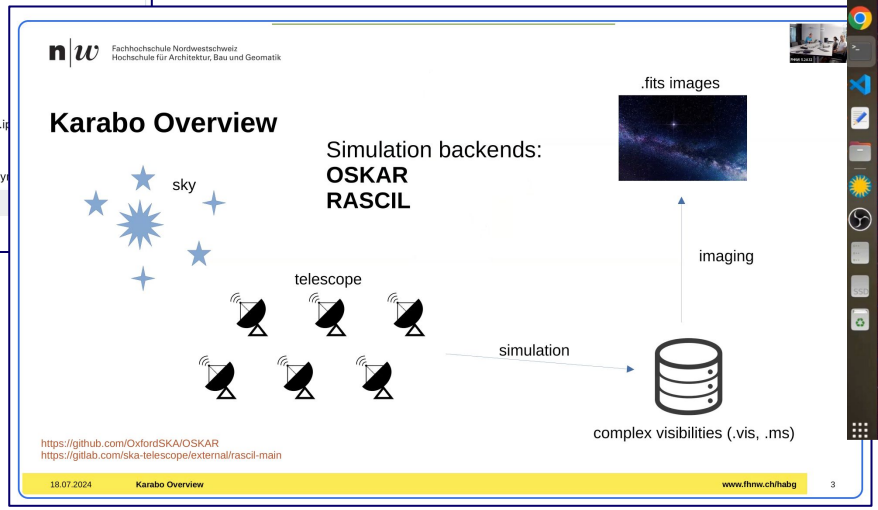
SRCNet Central Service Monitoring

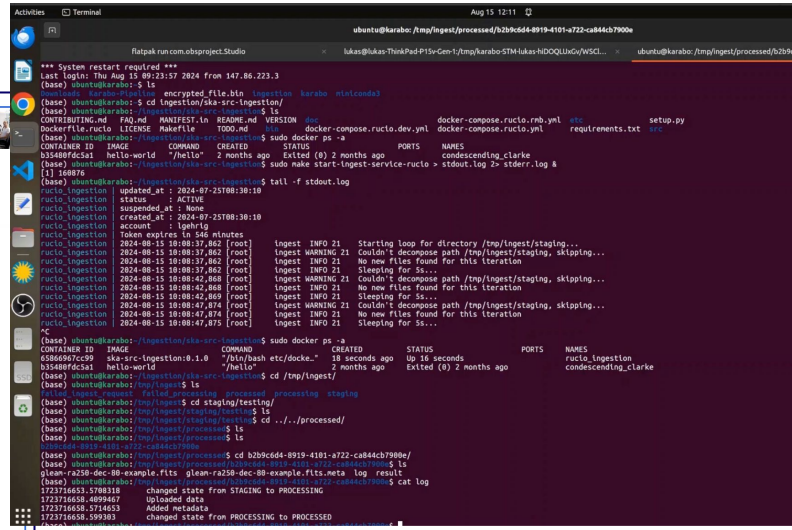
Karabo as SRCNet Test Data





https://github.com/i4Ds/Karabo-Pipeline/pull/597





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Great feedback from the Program Team regarding PI23 outcomes

Many points of collaboration with others in the ART. This was appreciated within the team as well.

Participation in other fora

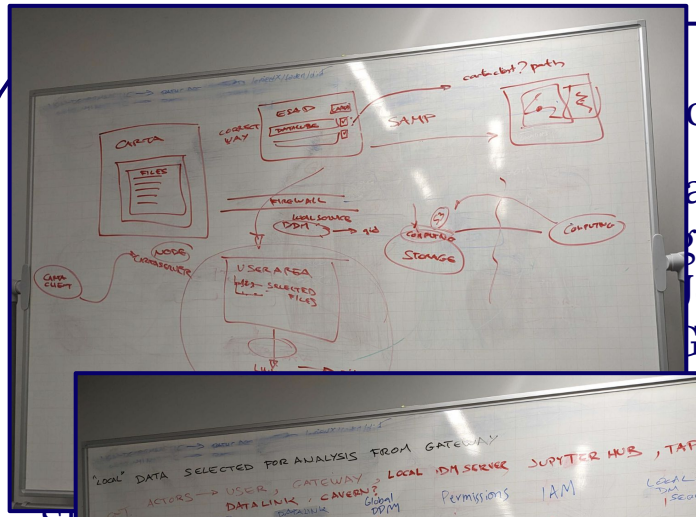
SRCNet Operations by way of two groups

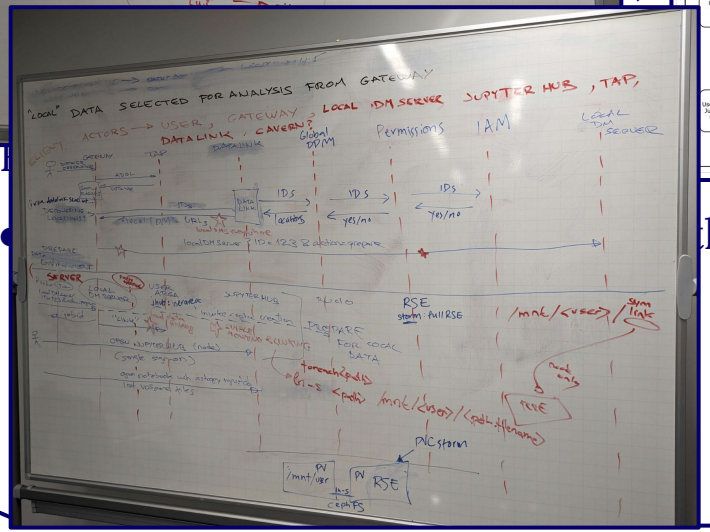
- Infrastructure & Services Management Group (ISMG)
  - Tracking and managing high level updates
  - ISMG member: Rohini Joshi
- SRC Operations Group (SOG)
  - Technical discussions of SRCNet service development, deployment, debugging
  - SOG member: Pablo Llopis

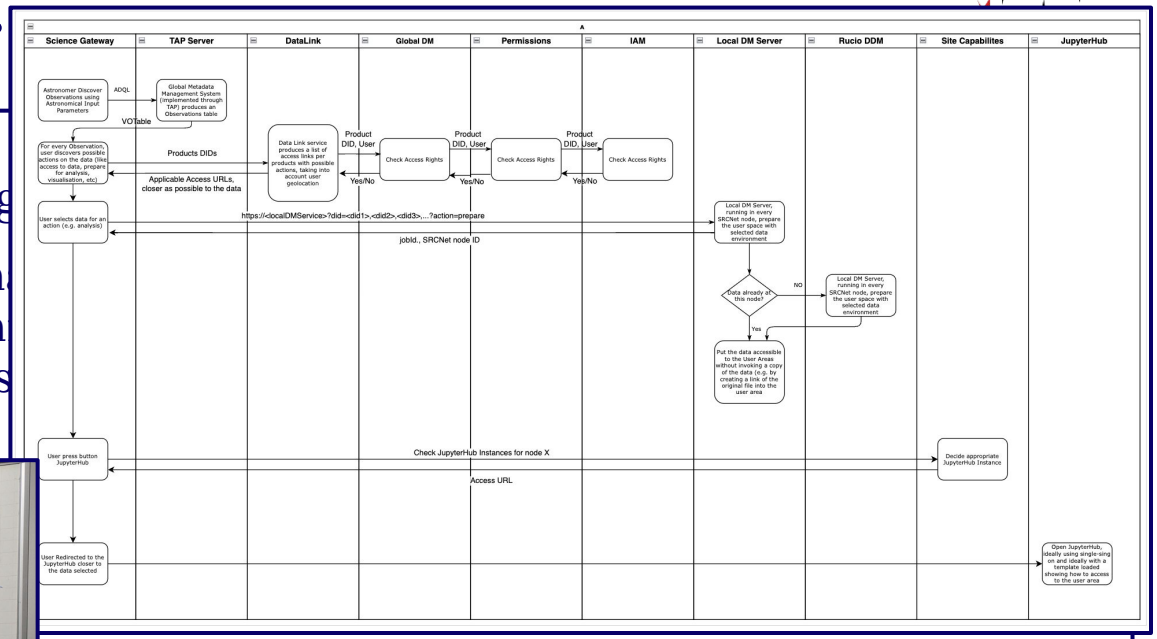
SRCNet Architecture Core Team

- Small dedicated team to refine the SRCNet architecture for v0.1 +
- Arch core team member: Rohini Joshi

Participation in other







he SRCNet architecture for v0.1 +

Looking ahead

FTE Resource pledge for PI24

FTE effort (EPFL + FHNW)

- Development
- Including Agile roles
- Architecture core team
- SRC Operations

	Value Stream			
Pledge periods	Organisation (FTE)	Development (FTE)	Service Operations (FTE)	Science Support (FTE)
PI24	0	3.6	0.5	0.2

Ongoing effort to align science support for SRCNet in SKACH

Sep 2024

PI24 | SRCNet 0.1 phase, PI25 | SRCNet 0.1 phase, PI26

Jan 2025

Looking ahead

Outcomes of PI24 planning …what are we doing in the next quarter?

- Building on our GitOps infrastructure to deploy SRCNet v0.1 compulsory services
  - We are really leading the way in this area, other sites to follow similar patterns.
  - Contributing to SRCNet documentation
- Finessing the SRCNet v0.1 monitoring dashboards
  - Working with all v0.1 SRCNodes to integrate services into a central dashboard
- Karabo as test data for SRCNet v0.1 …and SDP?

Sep 2024

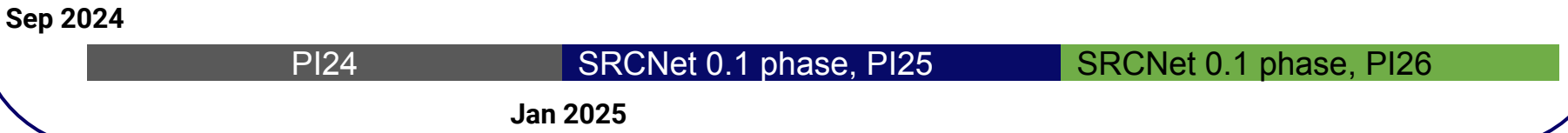
PI24 | SRCNet 0.1 phase, PI25 | SRCNet 0.1 phase, PI26

Jan 2025

Looking further ahead

Improving Science User Engagement

- Starting to understand the requirements for and build a CHSRC node that not only fulfills our commitments to the Observatory but one that enables the local community to do their science



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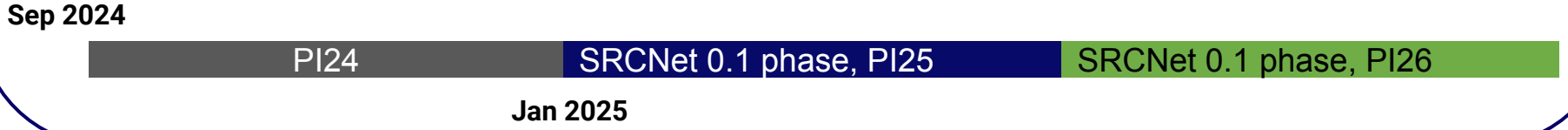
Crossing the threshold for v0.1

- Going from functional readiness to readiness at scale
- Expecting infrastructure resources to be ready by this time



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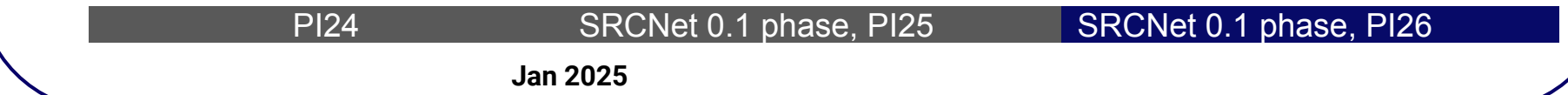
Test Campaigns

- Exercising the SRCNet resources, v0.1 services at scale, and v0.1 functional architecture



Thank you!

More details in the following talk and Karabo workshop tomorrow!

Feel free to contact me at rohini.joshi@fhnw.ch