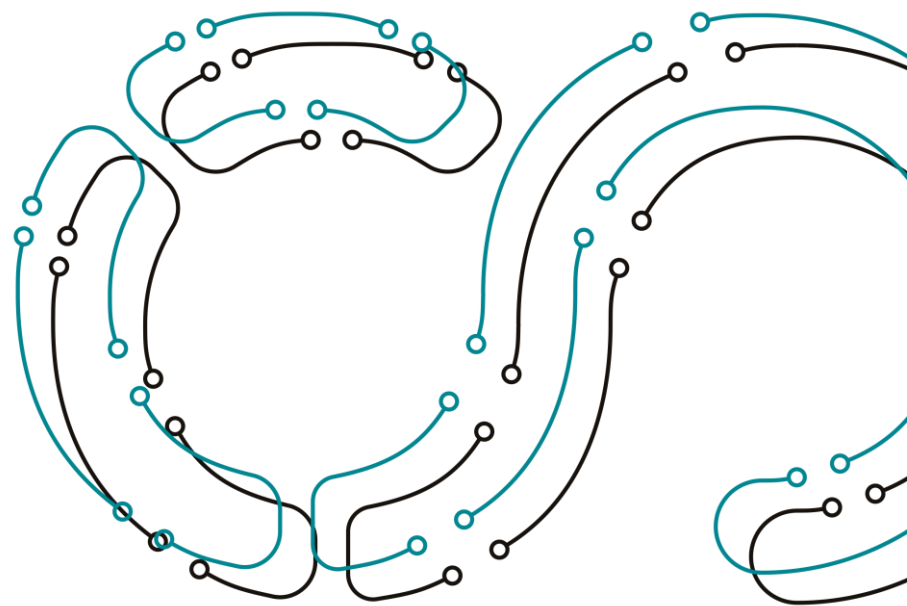


Service Monitoring Federating Capability (FC-4)

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- A brief introduction to the Federating Capability (FC), including its role and objectives within the EOSC Federation.
- Current status of the FC:
- Documentation and support available to nodes joining the FC.
- Requirements for nodes to join the FC in production:
- Expected evolution of the FC in the medium and long term.

The Service Monitoring Federating Capability (FC-4)

Build trust on the reliability of the federations its capabilities and its services

- The **Service Monitoring Federating Capability (FC-4)** is a key component of the EOSC Federation, enabling a coordinated approach to the monitoring of services and resources across EOSC Nodes and supporting the reliable operation of federated services.
- Federation-Level Monitoring is a key enabler of trust in the EOSC Federation. By providing consistent, transparent and interoperable information on the availability, reliability and operational status of services,.
- FC-4
 - Helps users understand the quality of the services they rely on,
 - enables service operators to detect and resolve issues,
 - gives EOSC Nodes a common operational view across organisational boundaries.

We identified a set of scenarios where FC-4 is beneficial

- It helps to identify and correlate problems before they affect end-users and ultimately the productivity of the Federation.
- Management teams (to be agreed if a Service Monitoring WG) can monitor at any point in time, not on a regular basis, the status of the services from a high-level view down to the details of interest (e.g., historical performance).
- It serves to check whether the services are offered with a minimum level of availability and reliability defined in SMS .
- Cross-node use cases may rely on a set of services that must be monitored to track the functionality of the use case. In case of failure, it also allows to pinpoint the problematic service/component/dependency and to resolve the issue faster.

The Service Monitoring Federating Capability (FC-4) WG

WIP - to be agreed in the 1st WG meeting soon

- The purpose of Service Monitoring Federating Capability Working Group (FC-4 WG) is to establish an agreed set of **metrics** to be gathered, **architecture**, **functional management model**, **operational processes** and **interoperability framework** that enables Service Monitoring systems to operate effectively across organisational and technical boundaries.
- The mandate of the **Service Monitoring Federating Capability Working Group (FC-4 WG)** is to define and establish the framework required to federate Service Monitoring capabilities across the EOSC Federation. The Working Group shall ensure that EOSC Nodes and service providers can monitor, report and exchange relevant service-status information in a consistent and interoperable manner, while preserving the autonomy of individual Nodes and their existing monitoring infrastructures.
- The FC-4 WG shall **not replace or centralise Node-level monitoring systems**. Its objective is to establish the conditions under which existing and future monitoring capabilities can operate as an **interoperable federation of monitoring services**.

The Service Monitoring Federating Capability (FC-4) WG

(2)

FC-4 WG shall

- **Define the federated Service Monitoring architecture**, including the roles of Node-level monitoring systems, federation-level monitoring components, monitoring data providers and consumers, and the interfaces between them.
- **Define the functional and operational model** for FC-4, including responsibilities, ownership, service boundaries, operational dependencies and interactions between participating Nodes and federating-capability operators.
- **Establish common monitoring concepts and practices**, including terminology, service status, availability, reliability, incidents, maintenance and other relevant monitoring information.
- **Define interoperability requirements and technical specifications** that enable monitoring information to be exchanged and consumed across EOSC Nodes, while allowing Nodes to retain their existing monitoring solutions.
- **Define operational workflows** for monitoring-related events, including detection, notification, classification, escalation, coordination, resolution and closure of incidents affecting federated services.
- **Establish common expectations and minimum requirements** for Node Service Monitoring capabilities participating in the EOSC Federation.
- **Validate proposed arrangements with participating EOSC Nodes and service providers**, identifying gaps, dependencies and implementation constraints.
- **Identify operational and technical gaps and dependencies** and propose measures to address them.
- **Recommend governance and continuous-improvement mechanisms** for the evolution and sustainable operation of FC-4.

Current Status Of the federating Capability

Where do we stand ...

- **EOSC United & EOSC Beyond proposed**
 - Roadmap (see next)
 - A well defined Spec to exchange monitoring status available here
 - Currently piloted by Finland, Datatera, EGI, ENVRI, NDFI
 - To start with the following metrics
 - Availability, Reliability, Uptime and Status
- **A WG is being prepared**
 - Approved by NOC
 - Waiting for approval by NCC (Nov 26)

FC-4: Requirements

Minimum requirements for each Node (WIP)

Each Node must

- Make the metric measurement process (algorithms and/or code used) publicly available (**transparency**)
- **Monitor** service status according to the set of metrics and statuses defined in this document.
- **provide** results in predefined JSON format through a REST-like HTTP API service according to the specification described [here](#).
- **provide** a dashboard that monitors the nodes services”.

Extensive guide available at: <https://argoeu.github.io/argo-monitoring/docs/monfed/>

Proof of Concept of the Central view

Using the aforementioned specs

Node View
Availability metrics for nodes' services using the Monitoring Federating Capability API. [Guide](#) [Spec](#)

Weekly **Monthly**

EUDAT	2/10 FRI	3/10 SAT	4/10 SUN	5/10 MON	6/10 TUE	7/10 WED	8/10 THU
B2ACCESS CDI	100%	100%	100%	100%	100%	100%	100%
B2FIND CDI	100%	100%	100%	100%	100%	100%	100%
B2HANDLE CDI	100%	100%	100%	100%	100%	100%	100%

NFDI	2/10 FRI	3/10 SAT	4/10 SUN	5/10 MON	6/10 TUE	7/10 WED	8/10 THU
Beamline Finder	100%	100%	100%	100%	100%	100%	100%
Jupyter4NFDI	100%	100%	100%	100%	100%	100%	100%
Public Data DOI Landingpage	100%	100%	100%	100%	100%	100%	100%
Public Data Ingestion Form	100%	100%	100%	100%	100%	100%	100%
Public Data Portal	100%	100%	100%	100%	100%	100%	100%

ENVRI	2/10 FRI	3/10 SAT	4/10 SUN	5/10 MON	6/10 TUE	7/10 WED	8/10 THU
Catalogue of Services	0%	0%	0%	0%	0%	0%	0%
Core Service	100%	100%	100%	100%	100%	100%	100%

Node View
Availability metrics for nodes' services using the Monitoring Federating Capability API. [Guide](#) [Spec](#)

Weekly **Monthly**

EUDAT	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
B2ACCESS CDI	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
B2FIND CDI	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
B2HANDLE CDI	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		

NFDI	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Beamline Finder							100%	100%	100%	100%		
Jupyter4NFDI							100%	87%	100%	100%		
Public Data DOI Landingpage							100%	100%	100%	100%		
Public Data Ingestion Form							93%	100%	100%	100%		
Public Data Portal							98%	100%	100%	100%		

ENVRI	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Catalogue of Services							81%	0%	0%	0%		
Core Service							100%	100%	92%	100%		
ENVRI Hub AAI							100%	100%	99%	100%		
Knowledge Base							100%	100%	97%	100%		

EGI	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
EGI-ARTEFACT-REGISTRY	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
EGI-CONTAINER-COMPUTE	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
EGI-DATAHUB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
EGI-DDNS	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
EGI-NOTEBOOKS	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
EGI-OPSPORTAL	100%	100%	100%	100%	100%	98%	98%	100%	99%	100%		
EGI-RCauth	100%	99%	95%	99%	100%	100%	90%	98%	100%	100%		
EGI-SECRETS-STORE	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
GRIDOPS-ACCPORTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		

See it live at : <https://eosc-fed-poc.mon.argo.grnet.gr>

Roadmap

- **September:** present FC-4 and related WG proposal to NOC, approval by the end of September in next NOC online meeting. (DONE)
- **September/October:** demonstration of service monitoring with central view acquiring information from a few pilot Nodes. Check with Nodes which and when they can start measuring and expose the metrics. (in progress)
- **14th of October:** demonstration dashboard with selected Nodes (Data Tera?, NFDI, EGI, ENVRI, EUDAT). (done)
- **November:** FC-4 proposal and related WG endorsed by NCC (in Progress)
- **November-December 2026:** kickstart the WG, validate the requirements and specifications
- **Q1-Q2 2027:** transition of FC-4 to production.

Q&A

