



***AGINFRA+: Virtual Research
Environments to Support Agriculture
and Food Research Communities***

L. Candela, P. Orviz



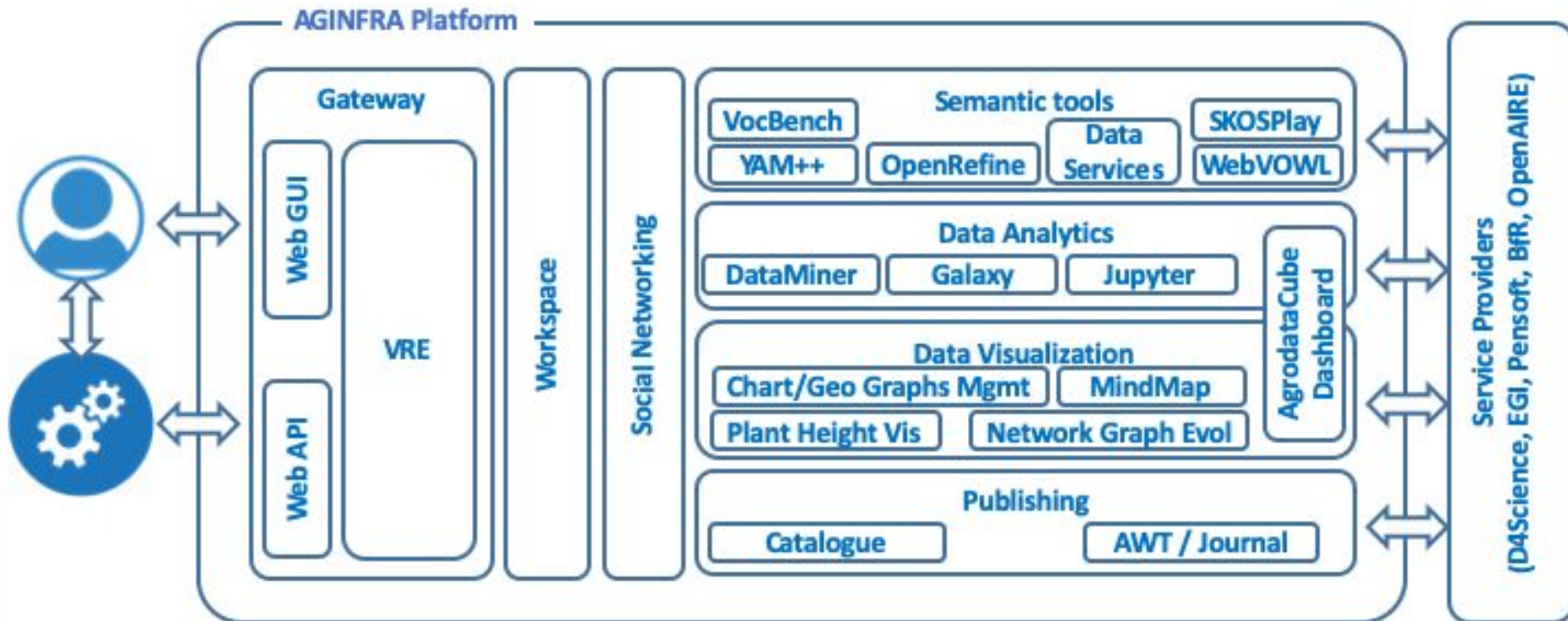
eosc-hub.eu

Dissemination level: Public

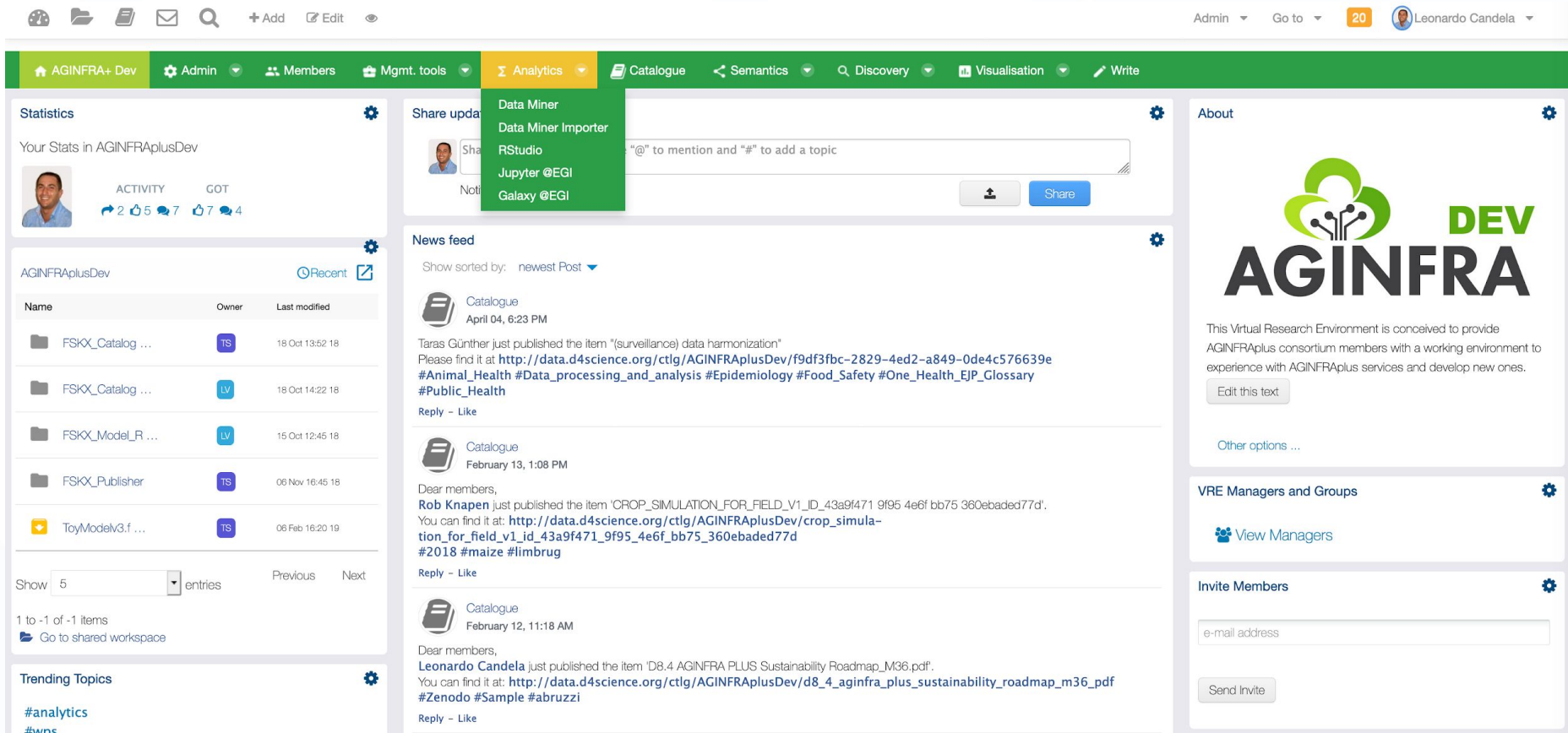


@EOSC_eu

<https://aginfra.d4science.org/home>



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The screenshot shows the AGINFRA+ Dev dashboard interface. At the top, there is a navigation bar with icons for home, files, documents, mail, search, and user actions (+ Add, Edit, eye). The main navigation bar is green and contains: AGINFRA+ Dev, Admin, Members, Mgmt. tools, Analytics (highlighted), Catalogue, Semantics, Discovery, Visualisation, and Write.

Statistics: Your Stats in AGINFRAplusDev. Includes a profile picture and activity metrics: ACTIVITY (2 likes, 5 comments, 7 shares) and GOT (7 likes, 4 comments).

AGINFRAplusDev: A table listing files with columns for Name, Owner, and Last modified.

Name	Owner	Last modified
FSKX_Catalog ...	TS	18 Oct 13:52 18
FSKX_Catalog ...	LV	18 Oct 14:22 18
FSKX_Model_R ...	LV	15 Oct 12:45 18
FSKX_Publisher	TS	06 Nov 16:45 18
ToyModelv3.f ...	TS	06 Feb 16:20 19

Below the table: Show 5 entries. Previous Next. 1 to -1 of -1 items. Go to shared workspace.

Trending Topics: #analytics, #wps

Share update: A text input field with a dropdown menu showing options: Data Miner, Data Miner Importer, RStudio, Jupyter @EGI, Galaxy @EGI. Includes a "Share" button.

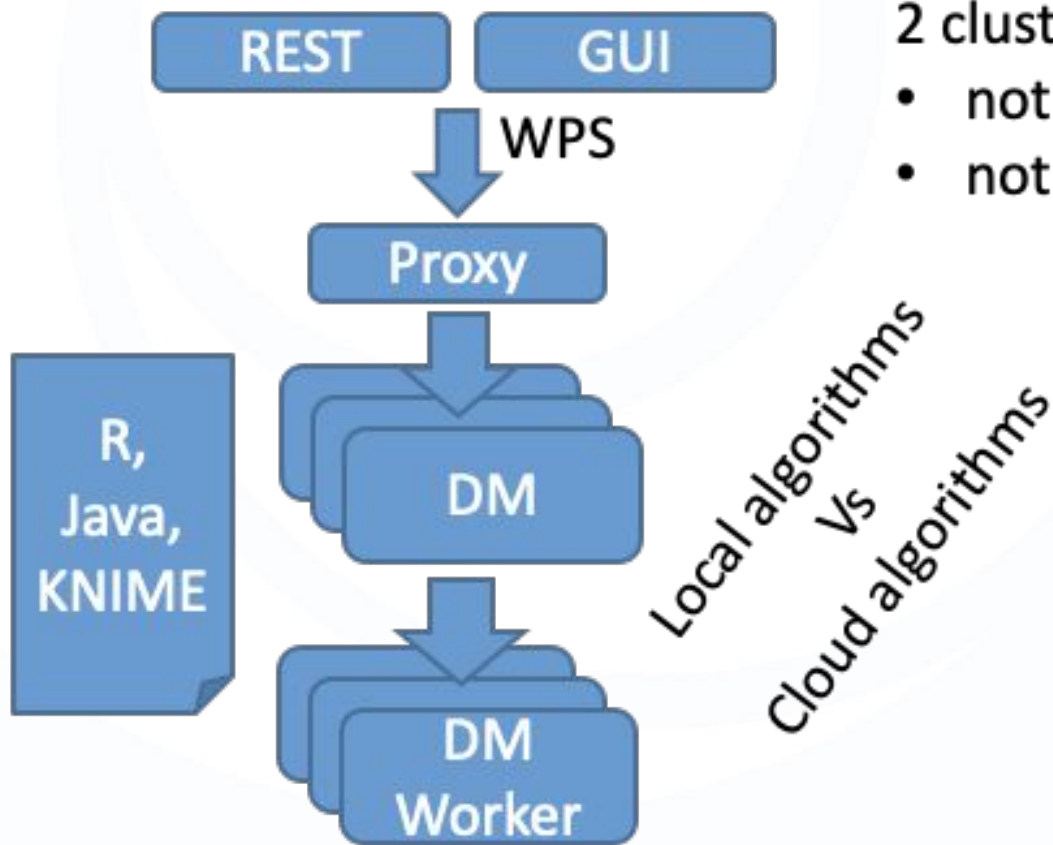
News feed: Shows posts sorted by newest Post.

- Post 1:** Catalogue, April 04, 6:23 PM. Text: Taras Günther just published the item "(surveillance) data harmonization". Please find it at: <http://data.d4science.org/ctlg/AGINFRAplusDev/f9df3fbc-2829-4ed2-a849-0de4c576639e> #Animal_Health #Data_processing_and_analysis #Epidemiology #Food_Safety #One_Health_EJP_Glossary #Public_Health
- Post 2:** Catalogue, February 13, 1:08 PM. Text: Dear members, Rob Knapen just published the item "CROP_SIMULATION_FOR_FIELD_V1_ID_43a9f471_9f95_4e6f_bb75_360ebaded77d". You can find it at: http://data.d4science.org/ctlg/AGINFRAplusDev/crop_simulation_for_field_v1_id_43a9f471_9f95_4e6f_bb75_360ebaded77d #2018 #maize #limbrug
- Post 3:** Catalogue, February 12, 11:18 AM. Text: Dear members, Leonardo Candela just published the item "D8.4 AGINFRA PLUS Sustainability Roadmap_M36.pdf". You can find it at: http://data.d4science.org/ctlg/AGINFRAplusDev/d8_4_aginfra_plus_sustainability_roadmap_m36_pdf #Zenodo #Sample #abruzzo

About: AGINFRA DEV logo. Text: This Virtual Research Environment is conceived to provide AGINFRAplus consortium members with a working environment to experience with AGINFRAplus services and develop new ones. Edit this text. Other options ...

VRE Managers and Groups: View Managers

Invite Members: e-mail address input field, Send Invite button.

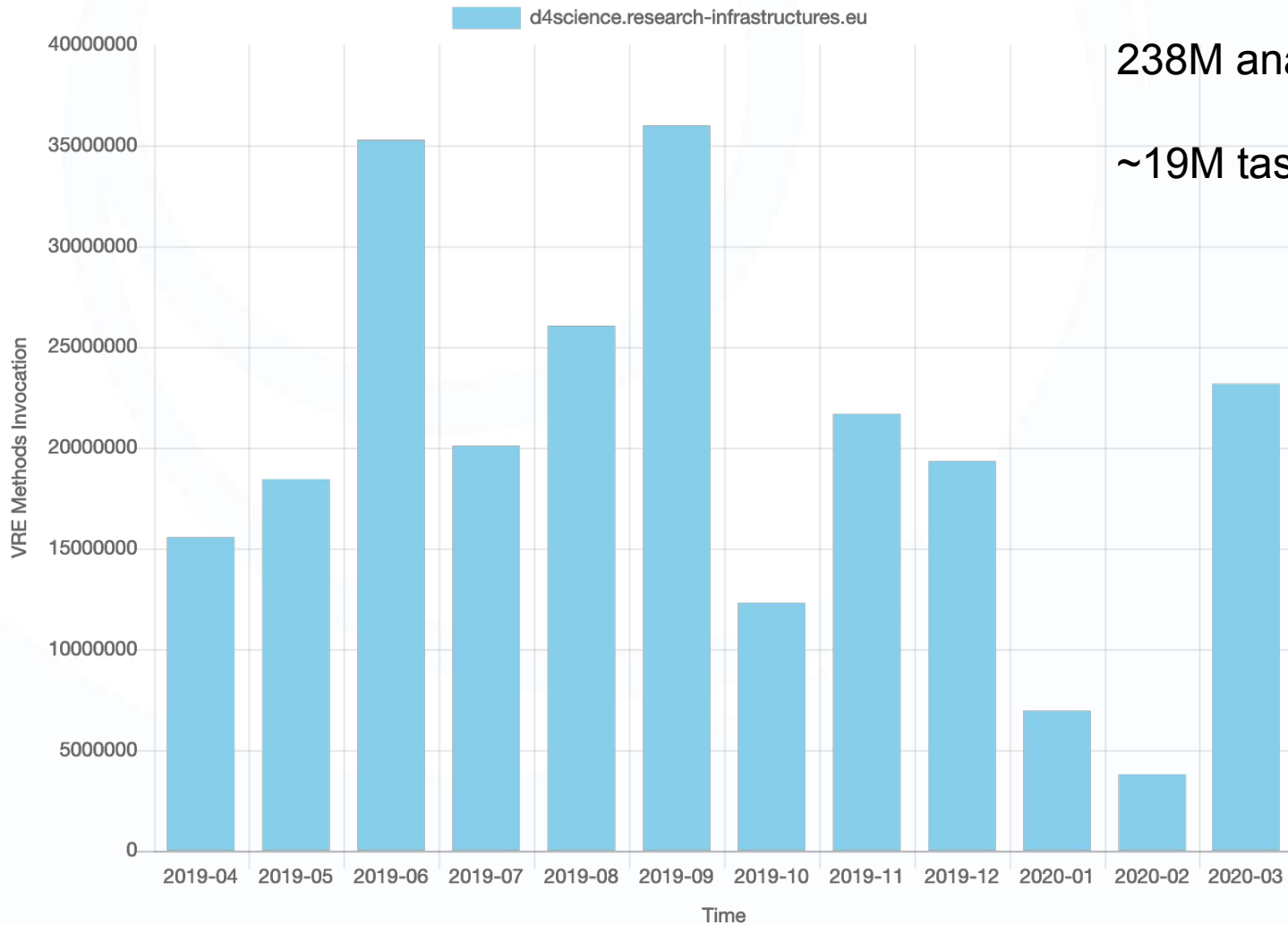


2 clusters:

- not dedicated to AGINFRA+
- not co-existing in the same VRE

Proto	Prod
6 servers <ul style="list-style-type: none"> • 16 vCores • 16 GB RAM • 100 GB Space 	15 servers <ul style="list-style-type: none"> • 16 vCores • 32 GB RAM • 100 GB Space
6 servers <ul style="list-style-type: none"> • 16 vCores • 16 GB RAM • 100 GB Space 	15 servers <ul style="list-style-type: none"> • 16 vCores • 32 GB RAM • 100 GB Space

d4science.research-infrastructures.eu VRE Methods Invocation [Method Invocation]



238M analytics tasks

~19M tasks x month



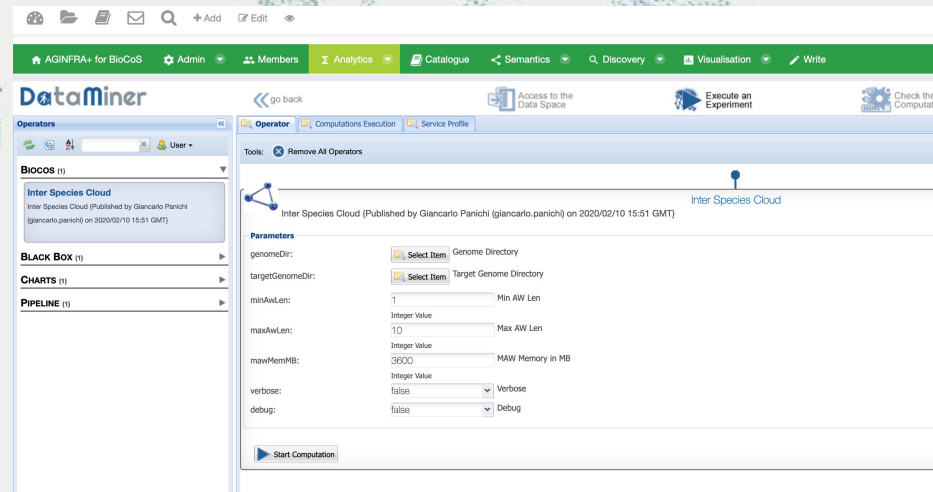
The tool allows a fast identification of species-specific genomic loci containing potential genetic markers.

The functional principle is based on the identification of sequences non-tolerated in a predefined set of genomes (Query) but evolutionary conserved in the genome of interest (Target).

It can be applied for the identification of genetic markers for inter- and intra-species analyses – in base of the biological need.

Advantages:

- 1) Overcomes whole genome alignments
- 2) Reduces sequencing needs



The screenshot shows the Dataminer web interface. The top navigation bar includes links for AGINFRA+ for BioCoS, Admin, Members, Analytics, Catalogue, Semantics, Discovery, Visualisation, and Write. The main interface displays the 'Inter Species Cloud' operator configuration. The 'Parameters' section includes:

- genomeDir: (with a 'Select Item' button)
- targetGenomeDir: (with a 'Select Item' button)
- minAwLen: (with a 'Min AW Len' label and 'Integer Value' dropdown)
- maxAwLen: (with a 'Max AW Len' label and 'Integer Value' dropdown)
- maxMemMB: (with a 'MAW Memory in MB' label and 'Integer Value' dropdown)
- verbose: (with a 'Verbose' label and dropdown)
- debug: (with a 'Debug' label and dropdown)

A 'Start Computation' button is located at the bottom of the configuration panel.

- **Aim: Deploy a DataMiner cluster and make it available to D4Science communities**
- **Maturity (TRL) level: TRL9**
 - EGI FedCloud
- EOSC services already integrated/in use:
 - EOSC Federated Authentication
 - EOSC Accounting Service (through EGI FedCloud)

EOSC services to integrate

- **Cloud Compute service**
 - *IFCA-LCG2 cloud site since April 17th*
- **EOSC Monitoring Service**
 - Specific Nagios probes will be implemented to check the performance of the DM cluster

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Goals after 1 year

1. DM cluster operating in production
2. AGINFRA+ VREs registered in the EOSC Portal
 - <https://www.eosc-portal.eu/aginfra> already there
3. Implement a sustainability plan

<i>Quarter 1</i>	<ul style="list-style-type: none">• Identify the initial resource capacity [DONE]• Engage with EOSC-hub providers [DONE]• Deploy DM cluster in a single cloud provider [IN PROGRESS]• Enabling EOSC-hub monitoring and accounting [DONE]
<i>Quarter 2</i>	<ul style="list-style-type: none">• Quarterly review of performance thresholds<ul style="list-style-type: none">◦ Analytics tasks increased 10%◦ Availability (uptime) > 95%• Availability of monitoring probes for checking the status of the DM cluster (through API)
<i>Quarter 3</i>	<ul style="list-style-type: none">• Quarterly review of performance thresholds (see Q2)• Integration of monitoring probes in EOSC Monitoring service
<i>Quarter 4</i>	<ul style="list-style-type: none">• Quarterly review of performance thresholds (see Q2)• Review of EAP experience and assessment of operational continuity of the application• Registration of AGINFRA+ VREs in the EOSC Portal

- Entry has been create in the Community Requirements DB
 - <https://wiki.eosc-hub.eu/pages/viewpage.action?pageId=64916734>
- JIRA issues to be created

Thank you for your attention!

Questions?



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