

UbuntuNet | 2021 CONNECT



Cloud based digital services and distribution within
the research community



DAVE HEYNS



Cloud based Services

OCRE

Community
Hosting

Commercial IaaS/PaaS/SaaS

- Productivity Suites
- Enterprise Solutions
- Machine Learning
- Analytics
- AI

DevOps

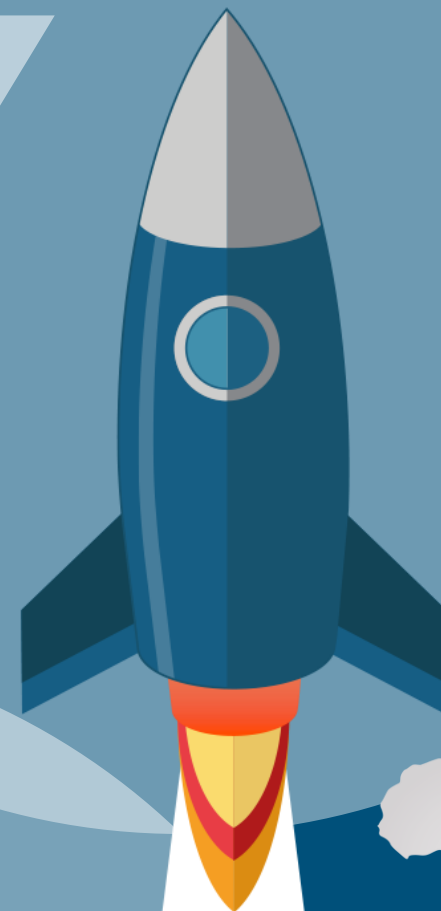
- Services
- Microservices

NREN services

- Security as a Service
- Hosted VC/LMS
- Service Desk



EuroHPC Joint Undertaking



EUROPEAN OPEN
SCIENCE CLOUD

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Why Commercial Services?

European Commission promotes

- Digital Economy for Research
- Consume not Build (where possible)
- IaaS/PaaS underpins e-Infra services
- Sustainable EOSC(Core)
- Develop Startups and SMEs

Green Compute Europe

Fewer Data Centers (energy consumption)

Rate of Innovation (accelerating in Cloud)

HPC supplementation (hyperscale compute)

FAIR data (metadata creation and cold storage)

EOSC White Labeled Commercial Services





Service distribution - Research

European
Open
Science
Cloud

Funding to be used to build and test service delivery chains from supplier to end user -

- EOSC as underwriter (direct delivery model)
 - Service consumption through service aggregators like GÉANT, EGI, EUDAT etc.
 - Easier access to commodity services (1 million compute hours, 1 PB long term storage etc.) and subscription-based datasets

EOSC as referrer (indirect delivery model, institution contracts with supplier for service procured by EOSC)

- Funding made available using vouchers
- Funding allocation based on value for testing service delivery chain and impact of commercial services on research
- Calls for project proposals from both research projects and suppliers (mini-competitions)





Case Studies - Research

- ❑ Oncological PET Data in Treatment Response Prediction
- ❑ Galactic Research in Cloud Services
- ❑ Human-Machine Collaboration on Perception Tasks
- ❑ Rapid Discovery of Thermoelectric Clathrates
- ❑ DigiFarm | From crop to cloud (Big Data And Machine Learning)
- ❑ Large scale brain network analysis
- ❑ Agile HPC for Undergraduate Research
- ❑ CVL Health Diagnosis from Mobile Phones
- ❑ Synchrotron light experiments
- ❑ CVL Multi-task learning
- ❑ Automatic detection of potential contradictions in the text of acts of law
- ❑ Fast Ozone Profile Reprocessing
- ❑ Molecule classification using visualization and convolutional neural network
- ❑ Cognitive Power Electronics

Open Cloud
Research
Enviros



Belgium
Germany
Hungary
Israel
Italy

Netherlands
Norway
Poland
Serbia
Spain
Switzerland
United Kingdom



UbuntuNet/NREN Support Services

Compliance

- ✓ Assistance with verification of service
- ✓ Support of regional/national regulations and data sovereignty

Networks

- ❖ Peering POPs with service provider/platform
- ❖ Data routing analysis (latency)
- ❖ Data Ingress/Egress negotiation (WAIVER)

Trust, Identity and Security -

All solutions support SAML2/OIDC protocol?
eduGAIN onboarding (GÉANT federation)
Supplier/NREN SOC's - threat surveillance and response

Community Support

- Training and webinars
- Procurement frameworks (Commercial)
- **Best pricing**
- Contract management

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THANK YOU!

Open Discussion



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