

# ~okeanos and Synnefo: The public cloud service and the open source software that powers it



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**Speaker** [Vangelis Koukis](#)

**Track** Track 1

**Session** [Cloud Computing - Opportunities and Challenges](#)

**Description** This talk will introduce Synnefo, a complete open source cloud platform. Synnefo powers GRNET's ~okeanos public cloud service, an IaaS cloud delivering advanced compute, network and storage services to the Greek research and academic community, since 2011.

The talk will cover our experiences with building and running a large-scale production public cloud, focusing on:

- \* Open source vs. commercial software in building a large-scale, production cloud infrastructure
- \* Building on commodity hardware vs. vendor solutions
- \* Current open source solutions
- \* Identifying the building blocks of an IaaS cloud, and re-using existing opensource components wherever possible
- \* Why Synnefo?
- \* General Synnefo architecture, software components used
- \* Running robust, fault-tolerant VMs without a Storage Area Network
- \* Using a content-addressable file storage service as the Image repository
- \* Unified storage of files, VM Images and live VM disks, independently of the backend storage technology
- \* Thin VM provisioning, with zero data copy and live VM migration
- \* Current Industry and Open Source Community use cases of Synnefo
- \* Production readiness/Scalability/Maintainability on commodity hardware

### [Presentation documents](#)

- [3\\_Vangelis\\_Koukis.pdf](#)



## All talks

[A Vision for Nordic e-Infrastructure Collaboration](#)

[A national archive for digital research data](#)

[ATLAS Computing: status and plans](#)

[Advanced User Support in the Swedish National HPC Infrastructure](#)

[BBMRI requirements and use of the e-Infrastructure Bioinformatics](#)

[Building and maintaining services for Sensitive Data](#)

[Closing Keynote](#)

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[Co-chair for WS Security II](#)

[Co-chair for WS Security III](#)

[Co-chair for WS Security IV](#)

[Conference conclusions and closing](#)

[Design and implementation of an energy efficient high density data center](#)

[Developing Global Data Infrastructures: Trends and Requirements](#)

[EGI: Going beyond support for WLCG](#)

[EISCAT requirements and use of the e-Infrastructure](#)

[EUDAT - Towards a Collaborative Data Infrastructure - A Nordic Perspective?](#)

[EUDAT: Towards a European Collaborative Data Infrastructure](#)

[NorStore – Managing Digital Research Data in Norway](#)

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[Nordic Opportunities for Cloud Software Collaboration](#)

[Nordic Opportunities for Digital Humanities](#)

[Nordic Storage Opportunities](#)

[Official opening](#)

[Panel discussion](#)

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[The energy cost of compressing sparse matrices for performance](#)

Enabling excellent science through High-Performance Computing  
Fido - Providing a secure and convenient gateway to packaged HPC jobs  
From Old-School to New-School Operation of HPC  
Future e-Infrastructure Requirements for the EISCAT facilities  
Kajaani Data Center - case study  
Meteorological Co-operation on Operational NWP (Numerical weather prediction) between Sweden and Norway  
NDGF - lessons learned

Tidying up the Basement: A Tale of Large-Scale Parsing on National eInfrastructure  
Towards the clouds, together. Collaboration on cloud services in research and education  
WS Analysis and Actions  
Welcome  
Welcome from NTNU  
What business are we in? Data-centric research, service requirements and national responses  
Ws Introduction to IaaS in Life Science in the Nordics  
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