

~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

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[A national archive for digital research data](#)
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EUDAT - Towards a Collaborative Data Infrastructure - A Nordic Perspective?

EUDAT: Towards a European Collaborative Data Infrastructure

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

TTA – National Research Data Project in Finland

The energy cost of compressing sparse matrices for performance

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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