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Cloud computing issues and training topics

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What is cloud computing?

Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

National Institute of Standards and Technology

What is cloud computing?

Cloud computing is

OSSM

Dave Nielsen
CloudCamp

What is cloud computing?

On demand

Self-service

Scalable

Measurable

Services, not technologies

▶ Services

- ▶ Software as a Service (SaaS)
- ▶ Platform as a Service (PaaS)
- ▶ Infrastructure as a Service (IaaS)

▶ Cloud types:

- ▶ Public
- ▶ Private
- ▶ Hybrid
- ▶ Community

Transition to Cloud computing

- ▶ Data
- ▶ Services
- ▶ Processes
- ▶ Management

- ▶ Transition of on premise software to service

Training topics Day 1 - Management

- ▶ Introduction
 - ▶ Definition
 - ▶ Cloud computing as business model
 - ▶ Usage patterns
- ▶ Management
 - ▶ Risk management
 - ▶ Security management
 - ▶ Cost estimation
- ▶ Transition to Cloud computing

Training topics Day 2-3 Public cloud

- ▶ *Amazon AWS, SalesForce, Microsoft Windows Azure*
- ▶ Available services
- ▶ Deep-dive into services
- ▶ Portal and programmability
- ▶ Use-cases and examples
- ▶ Comparison of *Amazon AWS, Salesforce* and *Windows Azure*

Training topics Day 4-5 Private, Hybrid clouds

Day 4

- ▶ Introduction to Private cloud
- ▶ Introduction to *OpenNebula*
- ▶ Big Data task using *Hadoop* on Private cloud

Day5

- ▶ Introduction to Hybrid cloud
- ▶ Integrating *OpenNebula* with *AWS/Azure/SalesForce*
- ▶ Integrating *OpenNebula* with VU
- ▶ Brief analysis of practical usage

Remote courses

- ▶ 200 participants from Lithuania and Belarus
- ▶ Provided self-study material
- ▶ Assigned tasks by lecturers
- ▶ International groups of participants during practice tasks
- ▶ Each participant may chose task type by their own interest

VU MIF infrastructure

- ▶ Resources - 139 + 27 nodes connected by 1 Gb/s network
 - ▶ 1920 + 324 2-2.66 GHz cores
 - ▶ 4032 + 3456 GB RAM
 - ▶ 20 TB + 4 TB HDD
- ▶ Usage possibilities
 - ▶ Big Data tasks
 - ▶ Infrastructure for cloud computing services