

# LTU Workshop SICE ICE pilot

Date 2015-10-07

## Agenda

1. SICS ICE status presentation and description of the phase 1 content. 30 min
2. Brainstorming on prioritized measurement equipment, tools and infrastructure and what projects to do first in the facility. 30min
3. Discussion in whole group. 60min

## SICS ICE status presentation and description of the phase 1

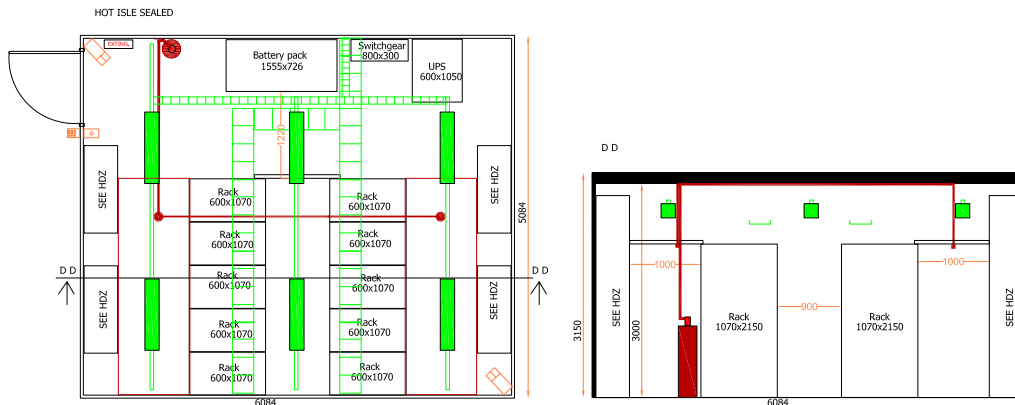


Figure 1: Module 1 from DCT AB in the pilot facility

M1 = Module 1 as planned with 10 racks, 150 servers and measurement equipment, M2 = A tentative added module mostly for energy, cooling and automation experiments based on models from M1.

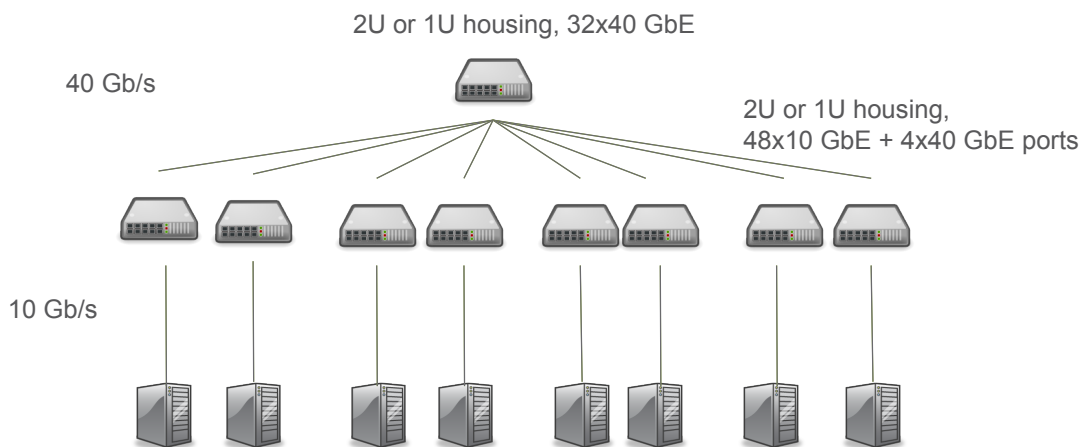


Figure 2: Module 1 network topology.



- › 2U rack housing, 2 Intel CPUs minimum 6-10 core,
- › 12 SATA slots with drive caddies, >16 RAM slots
- › 16x16 GB DDR3 RAM (DIMM)
- › 10 GBit network card
- › 4x4 (8x4) TB internal 3,5" SATA (7,5k rpm) + 2x1TB 3.5" SATA (10k rpm) disks
- › JBOD disk drive
- › Desired server Linux distributions are Ubuntu or CentOS pre-installed.

Figure 3: Desired servers in module 1

## Summary of brainstorming and discussion

Business model and price list for experiment-as-a-service exist to enable availability of facility, knowledge and results.

Security research is possible already in module 1 but funding for projects and equipment is needed.

Compute, storage and networking capacity will be available in the experiment-as-a-service model for example Hadoop-as-a-service, bare-metal servers, Virtual machines or full module.

Performance monitoring and analysis of current infrastructure hardware and IT equipment will be available from start. Commercial virtualization software needs investments and monitoring software development not financed yet.

Monitoring and visualization software for datacenter infrastructure management (DCIM) is planned for module 1. Asset management software needs investment and financing.

Data analysis and access for example master database, remote access is planned in module 1 from start. Maintenance tools need investment and development.

Portable and fixed airflow sensors, power sensors, environmental sensors and measurement for cooling and power use are planned for module 1. Special measurement equipment and attenuators need financing for module 2.

Heat re-use experiment, liquid cooling is for module 2 and need investments and more financing. Robots and movable equipment for infrastructure optimization and maintenance is also for module 2 and need project financing.