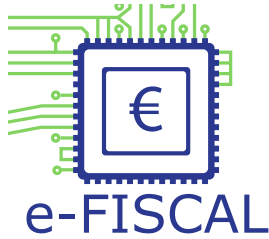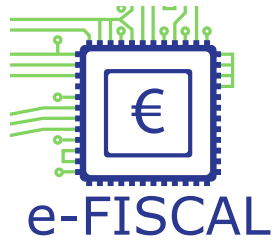# Case studies on HPC/HTC centers costs
# Panel summary

**Matti Heikkurinen**

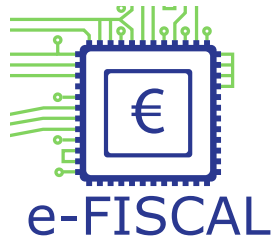**matti@emergence-tech.com**

Emergence Tech Ltd

# The infrastructure provider view

- Common themes
  - Impact on research key
  - Research is (often) fundamentally different from commercial use
  - Green-IT: eco and econo aspects; cool where necessary

- Different approaches
  - What to do at capacity limit – expand, colocate, cloud,.. - time/money issue?
  - Hardware, virtualisation – choice depends on applications

- Cloud experiences mixed
  - Good replacement for small clusters, handle load peaks?
  - Lots of time to setup, expensive?

# The user view

- Common themes
  - Users in general don't care about what's out there
    - Until they have to!
    - Pay premium on flexibility (as long as they can)
  - Heavy users are a different breed
  - Between the lines: governance?

- Different approaches
  - Not interested in collaboration -> not interested in Grids/HPC
  - Wide variations in the awareness on sustainability issues?

- Interesting topics
  - Forget external private clouds!
  - Research infrastructure as credit in a bank; enable innovation!
  - Electricity bills squeezing out the "rogue clusters"?

# Interesting issues

- How do we end in the e-Infrastructure?
  - Evolution: workstations, cluster, datacenter -> e-Infrastructure
  - Are there alternative paths? Marketing issue?
- Keys in the business model
  - % use, % "effective use", % use exploiting HPC/Grid
  - Access to data about average temperatures of rivers
- Success recipes
  - Good team, get involved/organise key projects
  - Include marketing and training – and for right audience!
  - Simplify access to shared infrastructure
- Cost of core hour or monthly cost of server or 42U?
  - None of them simple
- Dominating factors
  - Power or manpower?