ELIXIR in Finland

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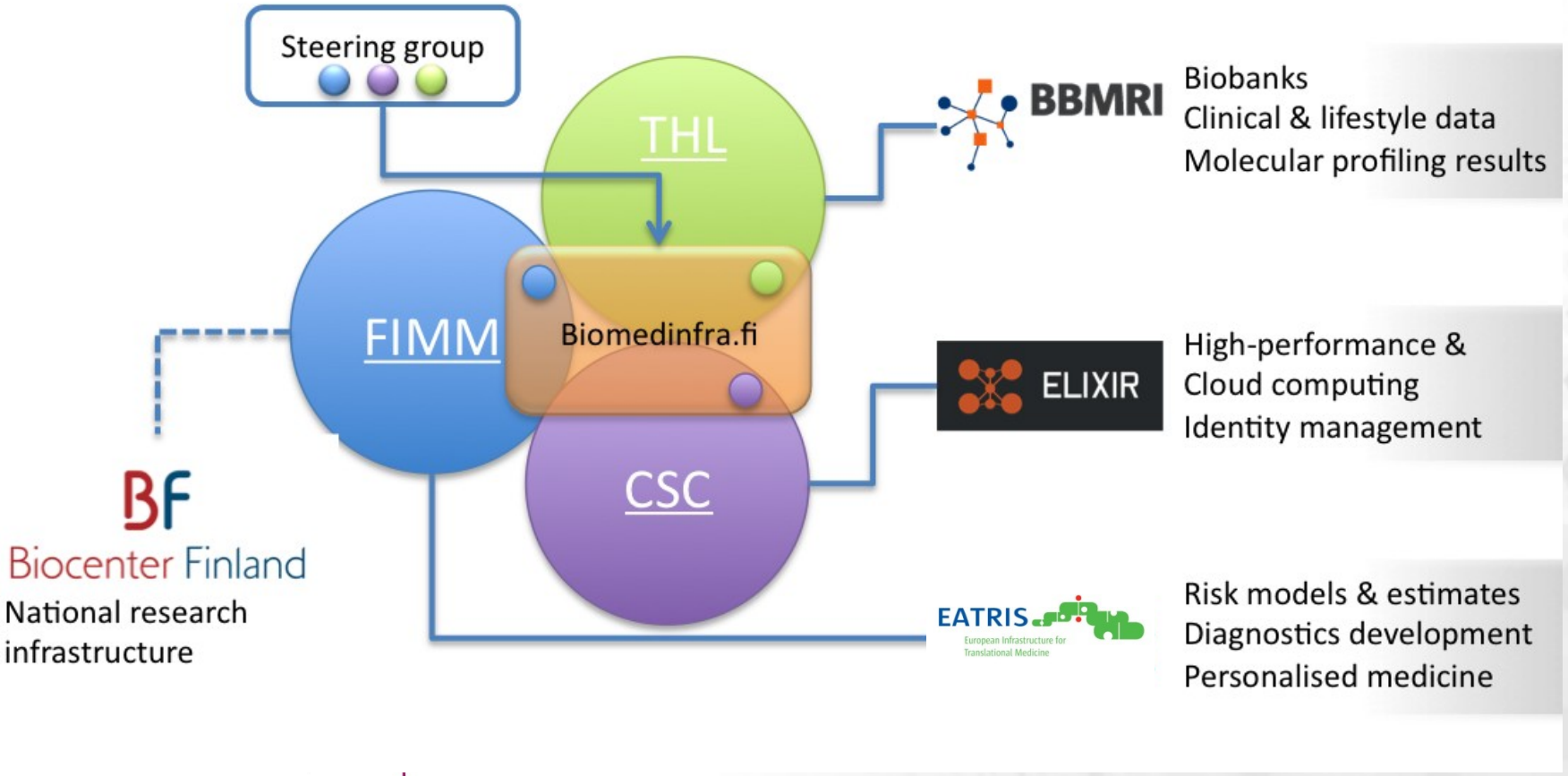
Elixir organization in Finland

- CSC provides IT services for academic clients
  - Non-profit company owned by the Ministry of Education
  - NREN
  - NGI
  - Academic computing center
  - Supercomputing
  - ...
  - ...

Elixir organization in Finland



CSC

TERVEYDEN JA HYVINVOINNIN LAITOS

FIMM

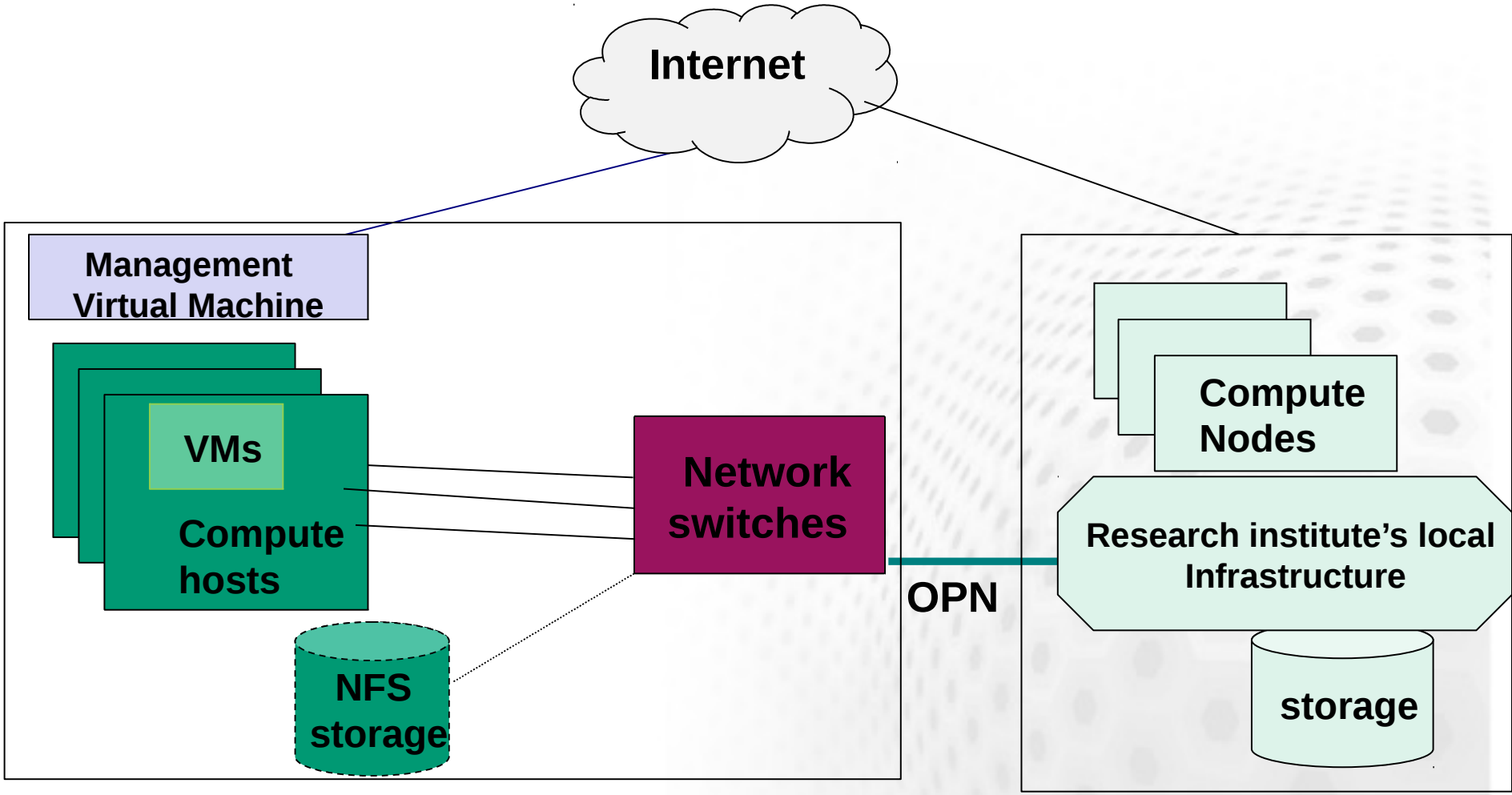
Main involved parties

- CSC
- FIMM (Finnish Institute for Molecular Medicine)
- THL (National Institute for Health and Welfare)
- Biomedinfra set up in 2010
  - Computational services have been piloting since then
- CSC/FIMM/THL sent the Finnish Elixir node application

Service model

- CSC provides computational and storage resources from the cloud (IaaS)
  - Provides either extensions to groups' resources, or new resources
  - CSC does not work with individual researchers directly
  - The groups may deploy their own OS/SW stack on the cloud
  - Institutes are connected to CSC via OPN or VPN
  - Lightweight bilateral contract between CSC – BioMed group
  - Administrational and technical contacts on both sides

Service model (example)



Resources

- Cluster with ~3000 hyperthreaded cores (24 per node)
- 48 – 96 GB of memory per node
- 350TB NFS storage
- 10 gbit ethernet
- OpenNebula as the cloud middleware

Ongoing activities

- Pilot institutes/groups
  - FIMM
  - HU BioImaging
  - HU WebMicroscope
  - HU Canine Genetics
  - HU Cancer Genetics
  - Aalto university
  - CSC/Aalto Chipster
  - ÅA University Bioinformatics
  - Bio Seq. Anal. (Danish Tech. Uni)
  - Rostlab (Munich Tech. Uni)
  - Estonian Elixir (University of Tartu)
  - + some under preparation

Planned activities

- Resource increase (esp. storage)
- OPN to EBI for computational storage pilot
- AAI pilot - authn and authz to EGA European Genome-Phenome Archive
- IaaS in Life Science research workshop
  - In collaboration with SARA and NBIC
  - http://www.csc.fi/english/csc/courses/archive/iaas-in-life-science
  - A few places left if anyone is interested

NGI Interaction

- CSC also runs the Finnish Grid Infrastructure
- FGI is not in a very strong role
  - WLCG activities organized throug NDGF
  - No separate HPC centers to connect due to CSC's central role
- No real use of FGI resources in Elixir
- NGI Issues
  - Users lack of control of the SW stack
  - Integration to current resources not simple
  - Suitability of resources
- EGI Virtualization activities might be interesting