"Lessons learned"

- focus on the challenges

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- Cloud management middleware is not too hard
 - Easy to forget if not used regularly
- Hardware
 - OK?
 - Availability good
 - Some flexibility in RAM and storage configurations
- NFS over long latency requires tuning

Cluster has a low utilisation rate i.e. wasted resources



Why the under utilisation?

- Customer dedicated resources without being charged
- No time to integrate system and learn?
- Resources not needed? Kept just in case?
- Is the service unsuitable?
- What should CSC do?
 - Enhance resource allocation policy? Enforce?
 - Technical means for efficiency
 - More users for the virtual clusters?

Data security



- What kind of technical measures does sensitive data require?
- Is our solution fine?





- Ext. hard disks, NAS servers, NFS, scratch..
 computable accessible, performance, reliability, €/TB, allocation policy&purpose, security
- Data movement difficult? Network bottlenecks?
- http://www.tdata.fi
- CSC's role in reference data mirroring?

Communicating about the service



What is it? Suitable for us? €? How much effort needed (integration)? How to use? Sustainability? Risks?

Face 2 face discussion(s) with all pilots

Understanding each other?

Cores, TBs, light paths, Cloud, grid, HPC, security, image, NFS administration.

Genomes, variants, MEG, Ensembl, Interproscan, biobanks...

Funding, services, contract, ESFRIs, European, national, strategy,

CSC

Solution







Goal: getting users involved

CSC might not always know who are cloud the end users and their pain points? CSC

- Questionnaires
- Did you feel that CSC was interested in your needs and how you are doing?
- Did we success in "open innovation model"?

Community building

- CSC has not progressed this really.
 - What should we do? Is there interest and wishes?
- Collaboration in software environment developing
 - Avoid doing same work many times. Ready to use.
 - <u>http://cloudbiolinux.org/</u>
 - Distribute your product.
 - http://chipster.sourceforge.net/downloads.shtm
 - Virtual Machine image file, scripts, documentation..



