

A Cloudy Future of What?

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What is Cloud Computing (to HPC)?

- **Map-Reduce/Hadoop?**
 - A specific programming library
 - Perhaps interesting, but not revolutionary
- **Virtual Machine based computing?**
 - Everyone brings along their environment
 - Great control, but lots of work
- **HPC using a bad network?**
 - We have had these for years
- **Pay for service HPC?**
 - Real money is paid per node hour
 - This is a big change

How we pay for HPC today

- **Group/Dept Cluster**

- buy hardware on dedicated HW grant
- subsidies labor from other grants

- **HPC Center**

- buy big machine with special grant awards
- operating funds from hw grants or center base budget
- users apply for SU separate from money for people

- **Commonality**

- People and computer/system support are distinct
- Some costs of running machines are hidden

Implications of fee for service

- Uptime of machines would improve?
 - If time to setup/upgrade machines cost owners real money
- Individual PIs could
 - vote with dollars for preferred machine or technology
 - trade computer time vs. human time
- Time to solution issues become clearer?
 - development time might be valued more?

Cloud vs. Grid

- I don't care what you call it!
 - I work in HPC not semantics
- What does matters:
 - Is it a good idea for a given application
 - People will pick it up if it is useful
 - Does it help to get work done?
- What may limit clouds
 - Can a PI buy node time today?
 - Fear of the unknown
 - model too different?
 - Don't know where code runs, data stored
 - Use of large centers mitigates this concern