Campus Compute Cooperative (CCC): A Service Oriented Cloud Federation
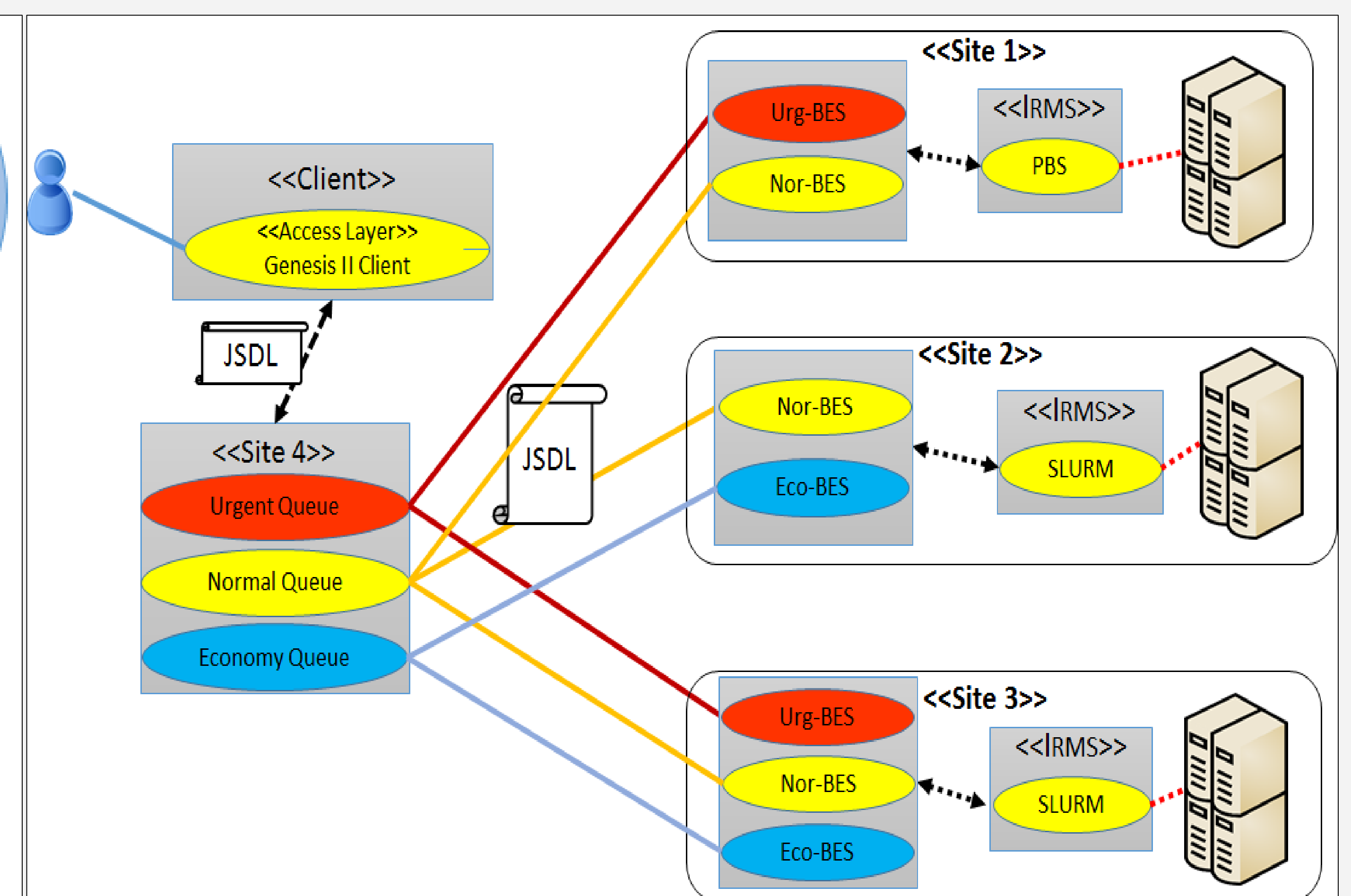
Should you join CCC?

CCC Resources

IU/Big Red II

Marshall/Aquavit

UVA/Rivanna

UVA/CS Cluster

Federation

Resource Market

CCC

Differentiated QoS

CCC Architecture

<<Client>>
<<Access Layer>> Genesis II Client

JSDL

<<Site 4>>
Urgent Queue
Normal Queue
Economy Queue

JSDL

<<Site 1>>
Urg-BES
Nor-BES
<<IRMS>> PBS

<<Site 2>>
Nor-BES
Eco-BES
<<IRMS>> SLURM

<<Site 3>>
Urg-BES
Nor-BES
Eco-BES
<<IRMS>> SLURM
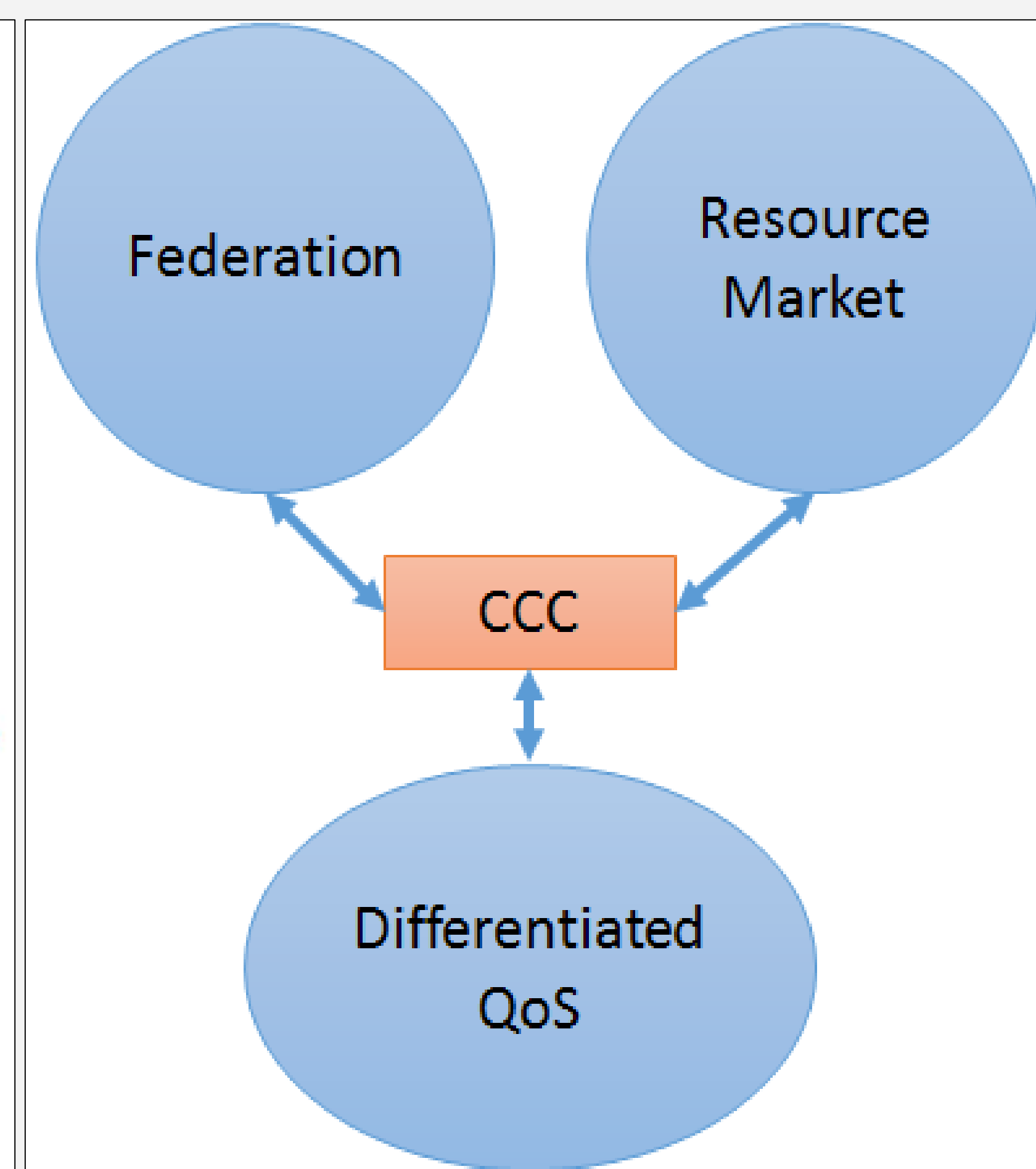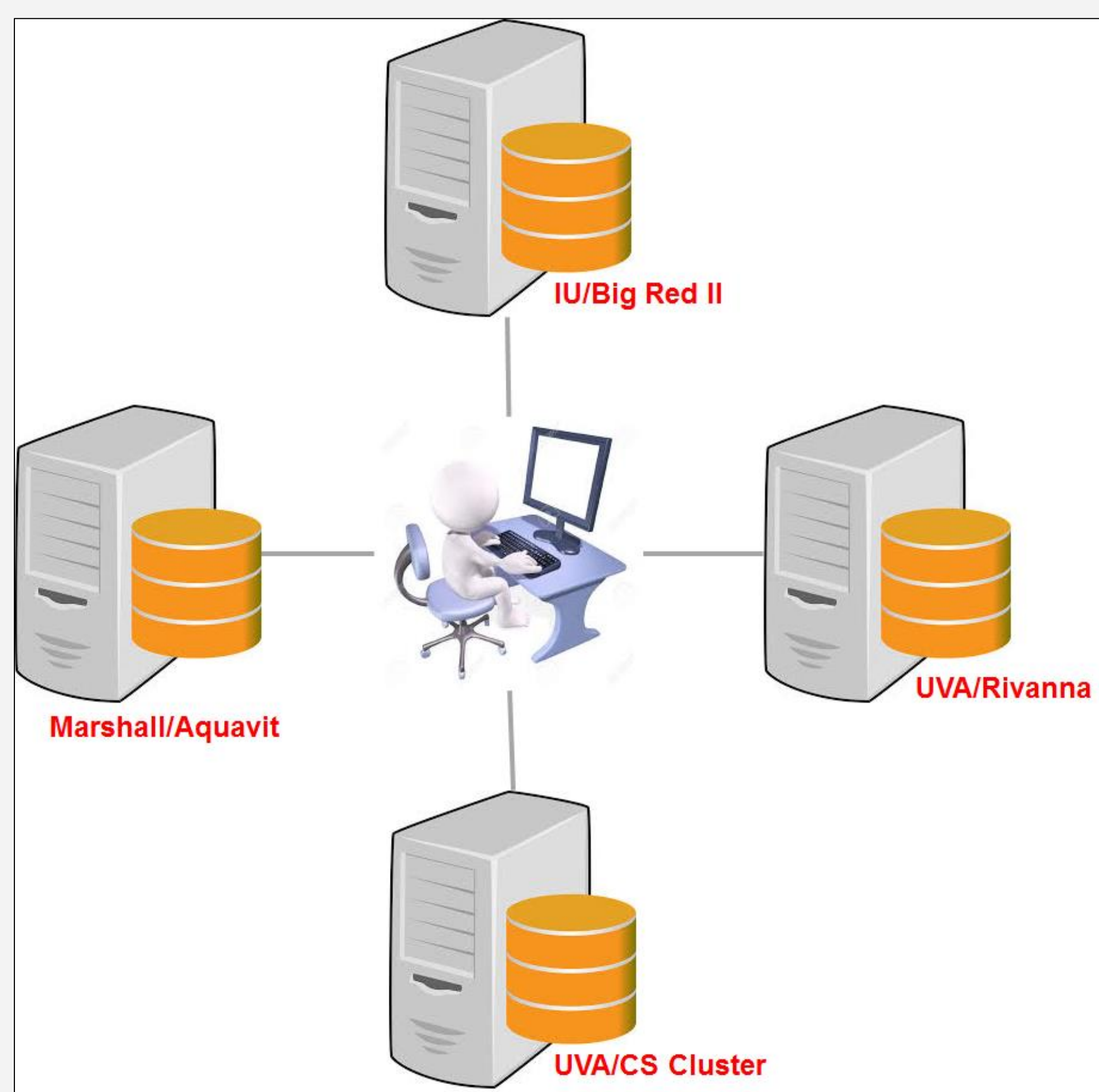
What CCC Provides

- ✓ Diversity of resources (e.g. GPU, Large memory machines etc.)
- ✓ Data Sharing
- ✓ Fair and transparent job priority
- ✓ More resources are available
- ✓ Familiar and easy to use paradigm
- ✓ Cloud bursting capability
- ✓ Important jobs scheduled immediately

Namespace → Login → qsub → qstat

First Applications

- ➢ MD simulation with Lammps
- ➢ High Throughput Computing
- ➢ Large Sequential jobs
- ➢ MD simulation with Gromacs (upcoming)

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