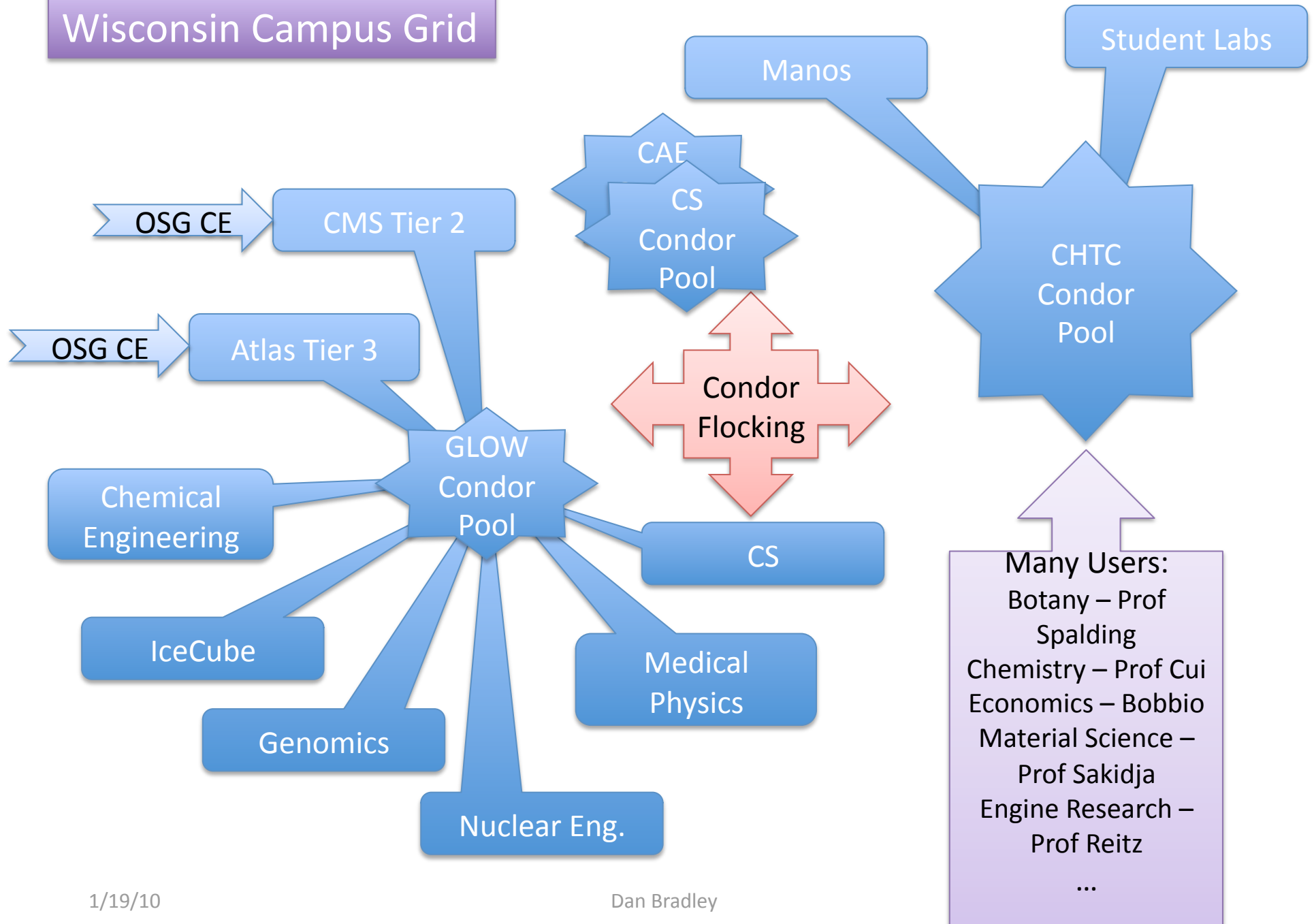


Grid Laboratories of Wisconsin

Presented to the OSG workshop on
campus grids, Fermilab

Wisconsin Campus Grid



System Administration

- GLOW is physically distributed
 - hardware locally managed
 - installation, power, cooling, network, maintenance
 - software centrally managed
 - kickstart → cfengine
 - Users and job submission sites managed locally
 - GLOW authorizes submit sites, not individual users
 - Jobs run as a slot user, not as submitting user
- CHTC is mostly centralized
 - Some users admin their own submit sites
 - Most use central submit site
- People:
 - Central: Ken Hahn + student
 - GLOW Sites: typically a local student + Ken
 - Technical board: meet monthly

Usage Policies

- GLOW
 - Members own specific machines
 - To be a member, must have ≥ 1 rack
 - Owners have immediate preemption rights
 - Otherwise, fair share
 - $\sim 1/3$ of all usage is opportunistic
 - modest hack: periodically adjust user priorities to balance relative weight of groups
- CHTC
 - Most machines not owned – opportunistic

Types of Jobs

- Condor standard universe
 - Popular with apps that can use it
- Serial (vanilla universe)
 - Most jobs
- Small MPI
 - Claim a whole-machine
- Large MPI
 - With special arrangement, must run on owner's resources

Using OSG

- Mostly, just want batch system interface
 - JobRouter
 - GlideinWMS
 - Experimenting
- Experience
 - More successful when submission to OSG is centrally managed

Storage Technologies

- AFS – convenient for user applications
- NFS Lite, Condor file transfer, etc.
- Data storage managed by user groups
 - CMS: dCache
 - ATLAS: xrootd
 - IceCube: Luster
- HDFS centrally managed service in CHTC
 - still in experimental stage

Engaging Users

- ~1 FTE technical support
 - big help getting user workflows working
 - DAGMan, matlab, file staging, validation
 - average 1 new group/application per 1-2 weeks
 - periodic checkups (every few months)
- Engagement of PIs and on up
 - different game, Miron, GLOW execs

Incentives for sharing

- Research groups do not pay for power.
- CS (Miron) provides carrots
 - sysadmin, technical support
 - ~15% of GLOW is not owned - opportunistic