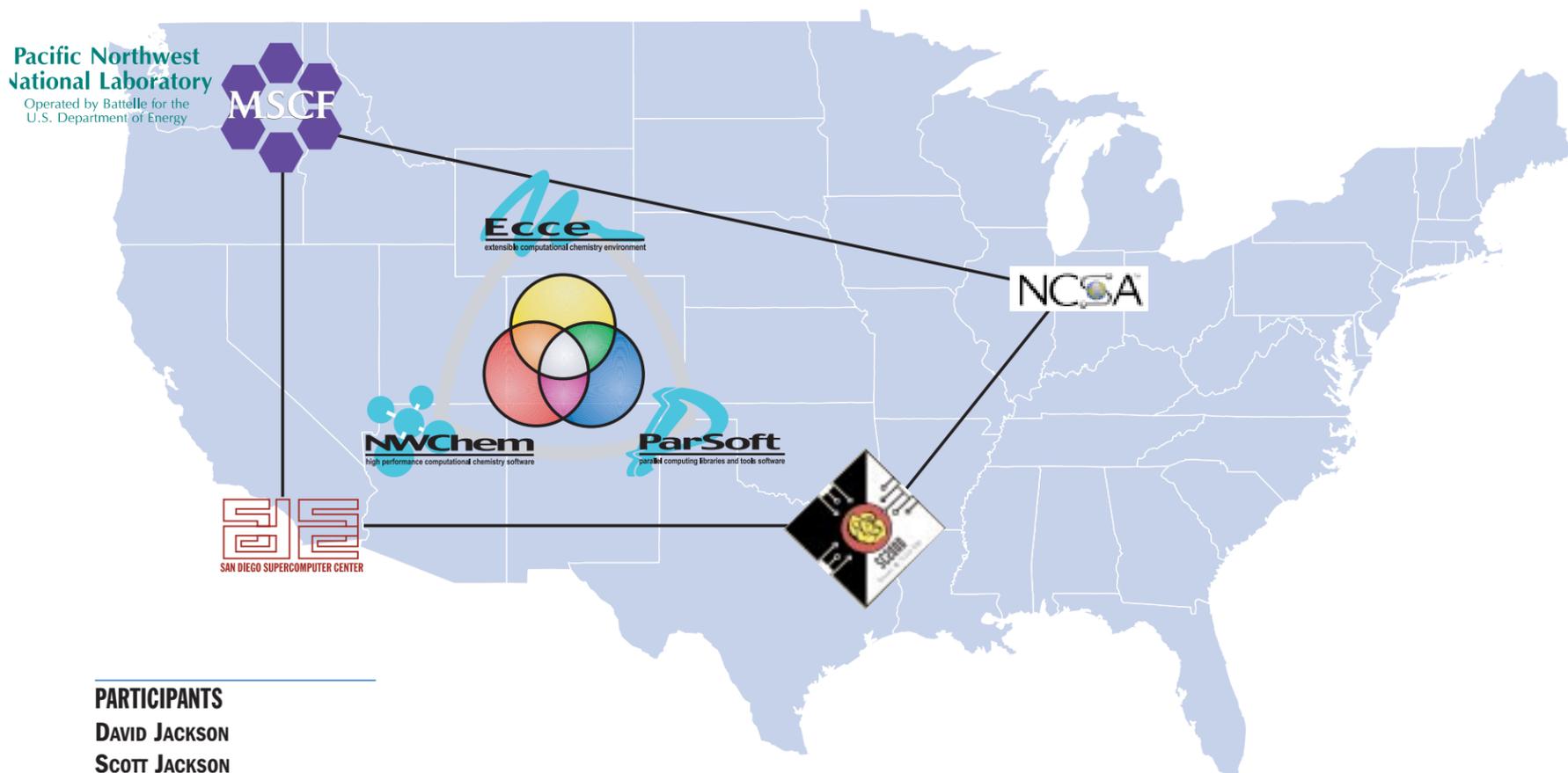


# Meta-Scheduling Applications Across National HPC Facilities



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## Silver Demonstration with the Molecular Science Software Suite

Users prepare their input in the Ecce PSE and submit a NWChem job to the Silver meta-scheduler. Silver interacts with all the system schedulers across the sites to schedule the NWChem job in the optimal manner. The NWChem job is scheduled and run, returning the results to the Ecce PSE

## Silver Meta-Scheduling Testbed

- MSCF: NWecs1 IBM SP and Colony Linux Cluster
- SDSC: Blue Horizon IBM SP, test IBM SP, and Meteor Linux Cluster
- NCSA: Posic Linux cluster

## Benefits

- Single, common access point to multiple HPC facilities
- Improved HPC system utilization and job turnaround time
- Easy access to a greater variety of resources

## Silver Meta-scheduler Design

- Non-intrusive—Sites retain local control over resources, policies, and workload
- Scalable—multiple systems, schedulers, and meta-schedulers (tested to ~100 for each by simulation)
- Advance Reservations—slide-forward capability allows optimization of resources/jobs with the system schedulers



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