



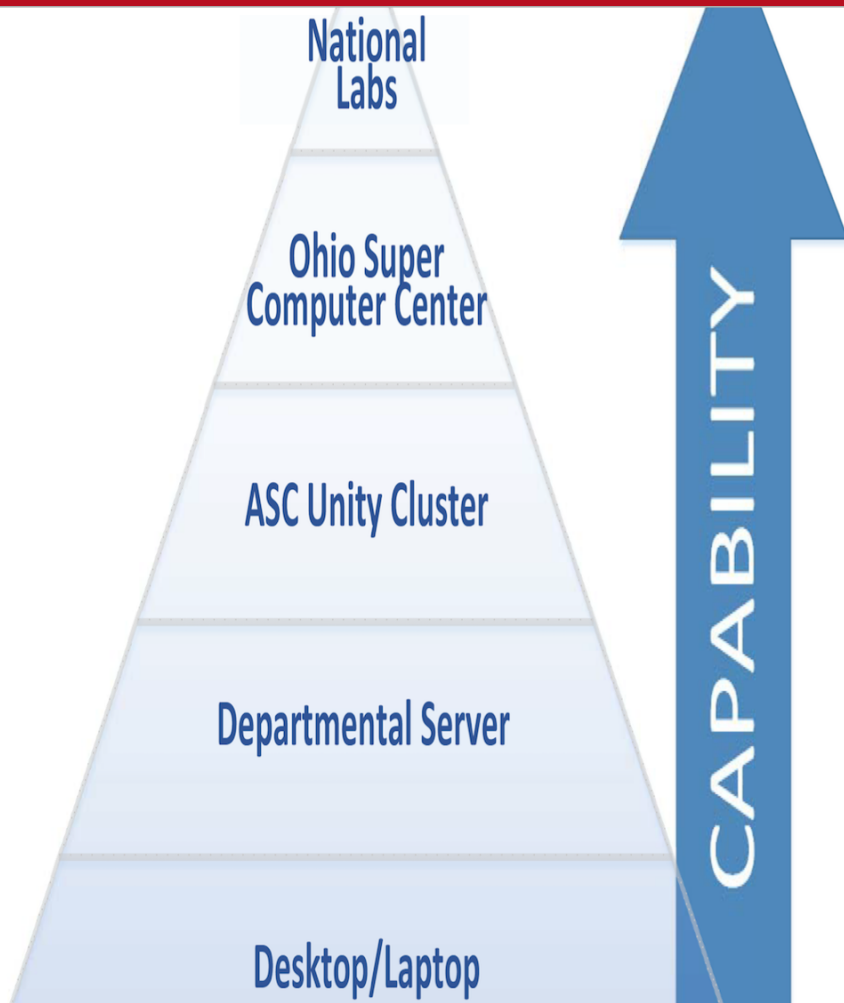
THE OHIO STATE UNIVERSITY

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# ASC Unity Cluster

a college resource for computation

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## Where to compute?

Capacity and capability:

- Local Desktop/Laptop
- Department Server
- **ASC Unity Cluster**
- Ohio Supercomputer Center (OSC)
- National Labs (NSF-XSEDE,DOE)



## Unity Cluster

### Unified computational cluster

- Incubation system to OSC
- Outlier to OSC models
- Flexible hardware options
- Efficient use of resources
- Standardized support model
- Researcher HW to security standards
- Focus HPC equipment to one site
- Modular Software stack



## Unity's scheduling

### Resource policies

- Exclusive – private access
- Shared – collaborative

Researchers have the option of either policy before bringing nodes into the cluster.





## Unity Exclusive nodes

### Private research groups

- 9 total compute nodes
- 3 x >1.0Tb of mem (Microbiology)
- 4 x 256GB (Physics)
- 1 x 512GB (Comm)
- 1 x GPU Teslas (Linguistics)

<http://u.osu.edu/unitycompute/unity-compute-nodes/>



## Unity Shared Nodes

15 Shared compute nodes

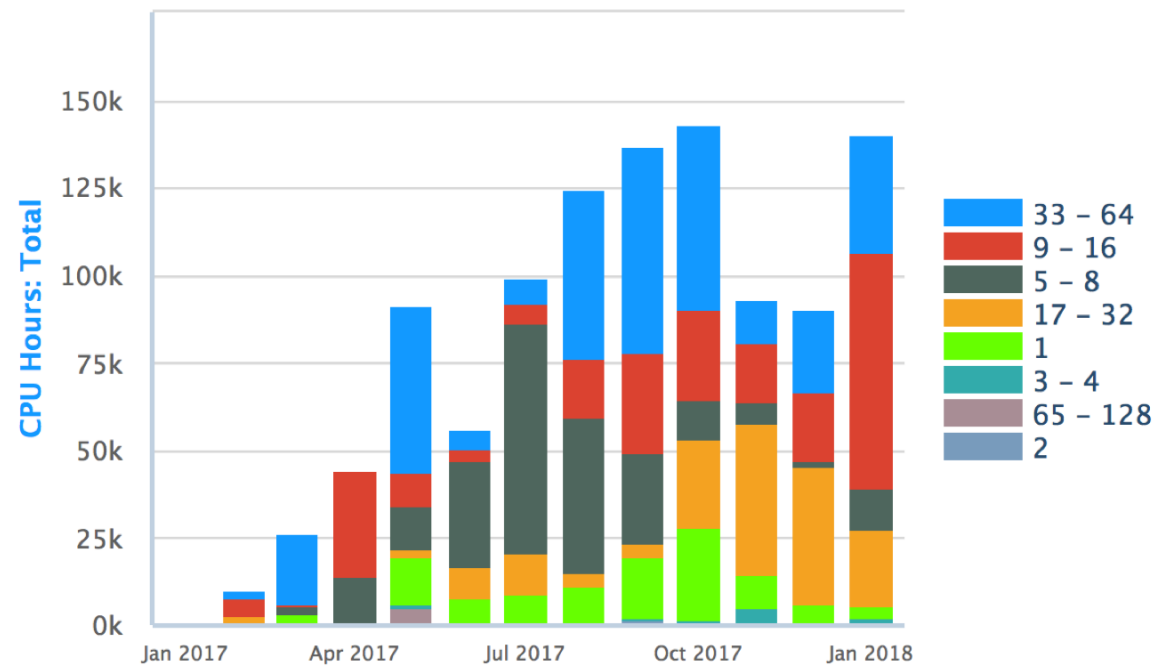
- Skylake available
- 16,32,2x48,72,6x96,2x128,2x512GB
- 4 GPU Teslas (Pascal, Volta)
- 16-80 cores/threads

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# Unity's Growth

Total CPU core  
hours/month





## Unity's Future

### Unified computational cluster

- Open OnDemand – web based
- Pre-emptive jobs
- Containers for greater SW support
- Parallel High I/O filesystems
- Cold Data Archive
- Cloud base options (Amazon, Azure)
- Data Transfer Nodes (ScienceDMZ)
- Future HW/SW
- Storage and Compute Policies



## Documentation

<http://go.osu.edu/unitycompute>

[https://www.osc.edu/resources/getting\\_started](https://www.osc.edu/resources/getting_started)