UA High Performance Computing Resources

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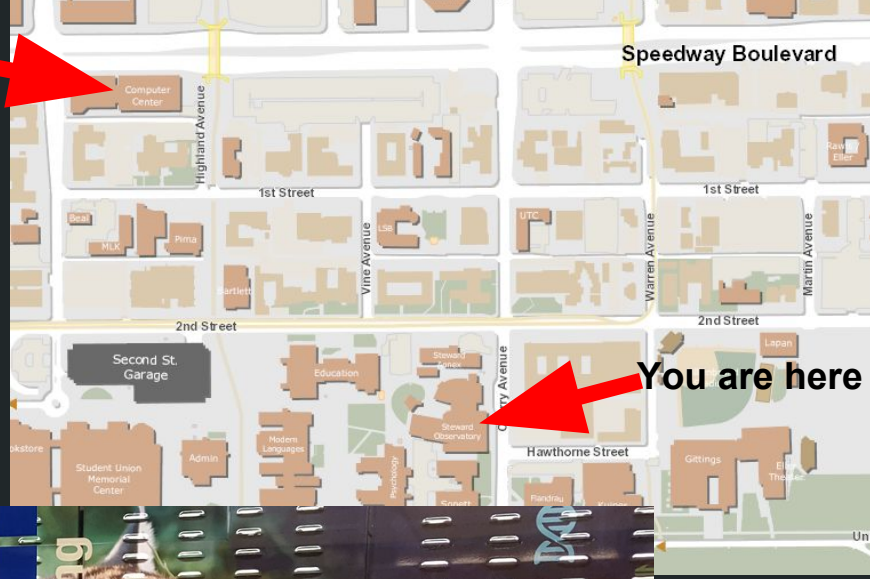
- If you want to do the same task over and over...
- If you want to run on a really big data set...
- If you want to leave your task running on a computer and forget about it...
- If you have a parallel program you're running...

➡You should use HPC

UA HPC Resources

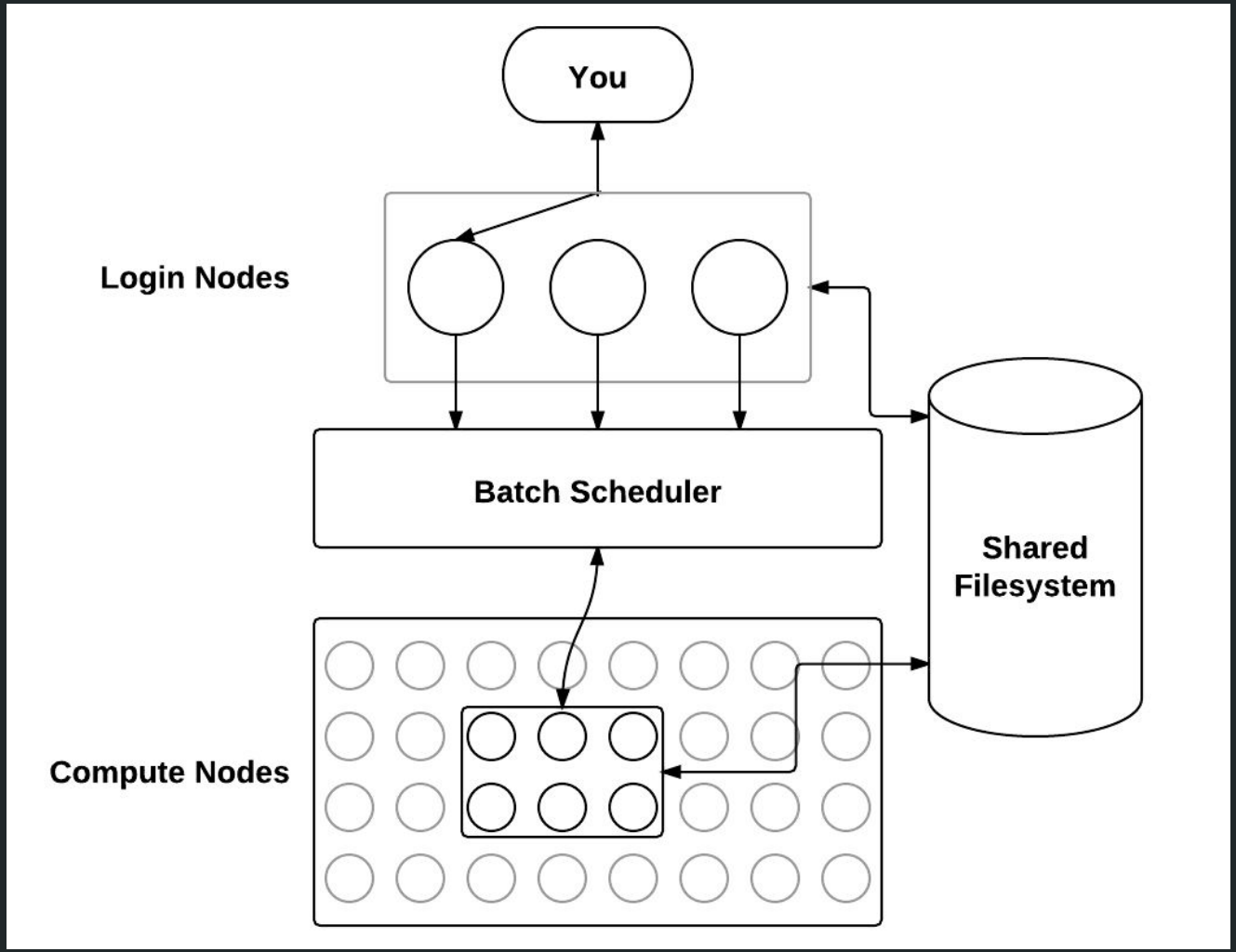
https://docs.hpc.arizona.edu/

We have two+ supercomputers located in the basement of the IT computer building



They're named

Ocelote and **El Gato**


You
Login Nodes
Batch Scheduler
Shared Filesystem
Compute Nodes

	El Gato	Ocelote
Nodes	**136 total** • 70 GPU • 20 Phi • 46 CPU	**336 total** • 15 GPU • 312 CPU • 1 2 TB “Fat Node”
Cores/Node	16 (**2.66 GHz**)	28 (**2.3 GHz**)
Memory/Node	• 256 GB for GPU/Phi • 64 GB for CPU	• 192 GB for CPU • 2 TB for Fat Node
Maximum submission	• 192 cores • 96 hours wall time • Unlimited (but they yell at you if it is too many)	• 1344 cores • 240 hours wall time • 500 individual jobs

Your HPC account gets you 215 GB of free storage
You (or your advisor) can buy as much extra as you want

So, you want to...

- Run an embarrassingly parallel job (for instance, the same reduction algorithm with slightly different parameters) that doesn't need much memory

  ➡Use Ocelote

- Run a GPU/Phi-accelerated code (i.e., written with Nvidia CUDA)

  ➡Use El Gato

- Run a single job that requires a lot of memory

  ➡Use Ocelote fat node

Software resources

The computers come with a variety of software pre-installed

https://docs.hpc.arizona.edu/display/UAHPC/Software+Resources

They include most Python packages, important compilers, MATLAB, IDL, etc.

If you want something else installed at the system level, email the hpc-consult list and they'll help you out.

You can install programs with user permissions, too.