Milestone 5 Goals
GEM Computers
Compute Cluster
Muon Tomography Station
Existing MTS
Development MTS
Documentation
Milestone 6 Goals
Questions

Revamp of High Energy Physics Laboratory's Computer Systems

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Milestone 5 Progress

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Task	Progress	Notes
Continue to Care for Existing MTS	40%	
Get Info for MTS Instructions	50%	improve upon provided instructions
Work on MTS Dev.	50%	coax AMORE into building
Integrate Nodes into Cluster	100%	NAS-0 and SE still must be included
Assist Researchers	100%	helping out with general problems as they arise

GEM Computers

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- Assist the researchers with their computer issues.
  - Discovered that many of the lab's computers have an unfortunate RAID configuration.
- Optimize the researchers' workflows.
  - Wrote some brief scripts to enhance data processing.

Compute Cluster

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- The nodes and SE have been integrated into the cluster!
  - except for one uncooperative node...
- NAS-0 still needs to be integrated.
  - The OS drive group is not showing up in the Anaconda installer.

```
[root@uscms1 ~]# rocks list host
HOST          MEMBERSHIP    CPUS RACK RANK RUNACTION INSTALLACTION
uscms1:       Frontend      8    0    0    os        install
compute-1-1:  Compute       8    1    1    os        install
compute-1-2:  Compute       8    1    2    os        install
compute-0-0:  Compute       1    0    0    os        install
compute-2-0:  Compute       8    2    0    os        install
compute-2-1:  Compute       8    0    2    os        install
compute-2-2:  Compute       8    0    3    os        install
compute-2-3:  Compute       8    0    4    os        install
compute-1-3:  Compute       8    1    3    os        install
compute-1-0:  Compute       8    1    0    os        install
compute-1-4:  Compute       8    1    4    os        install
compute-1-5:  Compute       8    1    5    os        install
compute-1-6:  Compute       8    1    6    os        install
compute-2-4:  Compute       8    0    5    os        install
compute-1-7:  Compute       8    1    7    os        install
compute-1-8:  Compute       8    1    8    os        install
compute-2-5:  Compute       8    0    6    os        install
compute-2-6:  Compute       8    0    7    os        install
compute-2-7:  Compute       8    0    8    os        install
compute-2-8:  Compute       8    0    9    os        install
nas-0-0:      NAS Appliance 4    0    0    os        install
compute-1-9:  Compute       8    1    9    os        install
compute-0-10: Compute       8    0    10   os        install
```

Existing MTS

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- The FEC with the faulty firmware is still broken.
  - We obtained the firmware version that was supposed to work with the FEC.
  - While the firmware installation was successful, the FEC still failed to function.
- Another, separate FEC has decided to boycott ethernet.
- The MTS researchers have been instructed to try to get the remaining, functional parts of the detector operational rather than continue trying to repair the entire thing.

Development MTS

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- Attempted to build AMORE from source
- Makefile 'Makefile.arch' was not found during build configuration, but we did find the file in another directory, and made AMORE reliant on that Makefile instead.
- Build got further, but a few header files weren't found. The configuration seems to not know the proper location to find some files.
- Continued attempting to get the previous build of AMORE working, by manually changing dependencies to our new version of root.

Documentation

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- Documentation is key to the long-term success of the project.
- We have been taking extensive notes and recording everything we have been doing.
- These logs will be compiled into proper manuals.
  - step-by-step instructions
  - troubleshooting

Constructing a ROCKS Cluster

Construct a CentOS 7 Machine to Interface with a Muon Tomography Station

Milestone 6 Goals

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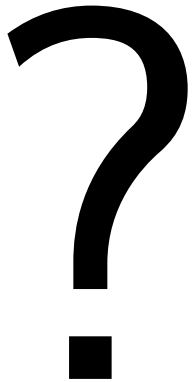
Task	Josef	Eric	Ryan
Polish Cluster Documentation	10%	10%	80%
Polish MTS Documentation	40%	20%	40%
Create MTS Automation Script	60%	10%	20%
Integrate Remainder of Cluster Components	10%	10%	80%
Run Jobs on Cluster	10%	10%	80%
Create GEM computer Backups	10%	80%	10%
Assist Researchers	10%	80%	10%

Questions

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