

Revamp of High Energy Physics Laboratory's Computer Systems

Josef Bostik
Eric Pereira
Ryan Wojtyla

February 15, 2019

Milestone 4
Goals

GEM
Computers

Compute
Cluster

Muon
Tomography
Station

Existing MTS
Development MTS

Milestone 5
Goals

Questions

Milestone 4 Progress

Task	% Completion	Eric	Josef	Ryan	To Do
Integrate cluster components.	0%	0%	0%	0%	find new solutions
Rewire the existing MTS.	90%	70%	20%	0%	miscellaneous touch ups
Resolve software issues with development MTS.	60%	0%	40%	20%	reinstall AMORE

Milestone 4
Goals

GEM
Computers

Compute
Cluster

Muon
Tomography
Station

Existing MTS
Development MTS

Milestone 5
Goals

Questions

GEM Computers

Milestone 4
Goals

**GEM
Computers**

Compute
Cluster

Muon
Tomography
Station

Existing MTS
Development MTS

Milestone 5
Goals

Questions



Compute Cluster

Milestone 4
Goals

GEM
Computers

Compute
Cluster

Muon
Tomography
Station

Existing MTS
Development MTS

Milestone 5
Goals

Questions

- Ideally:

- ① node boots into ROCKS Kernel CD
- ② node notifies head node of its existence
- ③ node requests kickstart file from head node

- In Reality:

- ① node boots into ROCKS Kernel CD
- ② node notifies head node as soon as networking is enabled within the installer
- ③ In what state does the node request a kickstart file?

Existing MTS

- cable lengths have been optimized
- cables have been tidied up
- still waiting on FEC firmware

Milestone 4
Goals

GEM
Computers

Compute
Cluster

Muon
Tomography
Station

Existing MTS
Development MTS

Milestone 5
Goals

Questions

Development MTS

Milestone 4
Goals

GEM
Computers

Compute
Cluster

Muon
Tomography
Station

Existing MTS
Development MTS

Milestone 5
Goals

Questions

- attempted a reinstall of ROOT and AMORE to help solve issues
- reinstallation of ROOT solved ROOT problems
- tried to reinstall AMORE only to find that its repository has been decommissioned and AMORE no longer supported
- fortunately, we are in communication with former lab member who has access to the AMORE source on CERN's private GitHub

Milestone 5 Goals

Milestone 4
Goals

GEM
Computers

Compute
Cluster

Muon
Tomography
Station

Existing MTS
Development MTS

Milestone 5
Goals

Questions

Task	Eric	Josef	Ryan
Continue to Care for Existing MTS	60%	20%	20%
Compile Instructions for MTS Operation	20%	40%	40%
Prepare Development MTS Machine	20%	50%	30%
Integrate Nodes into Cluster	10%	10%	80%
Assist Researchers	70%	10%	20%

Questions



Milestone 4
Goals

GEM
Computers

Compute
Cluster

Muon
Tomography
Station

Existing MTS
Development MTS

Milestone 5
Goals

Questions