Status of L1Calo Online Monitoring

J. Taylor Childers

Kirchhoff-Institut für Physik

Universität Heidelberg

Athena at P1

- As of previous update in a Joint Meeting:
  - L1Calo running single Athena, samples collision data only.
  - Diligent shifters complain of empty histograms before and after collisions.
- Implemented two+one Athena applications, each monitoring different streams:
  - Physics: Egamma, JetTauEtmiss, MinBias, Muon
  - Cosmics: CaloCosmic (for no-collision periods)
  - Test: CaloCosmic (typically not running)
- OHP was updated to present the Cosmic Histograms.
- Details documented and updated on this TWiki.

Twiki Screenshot

Athena Monitoring

Current Release and Installation Information

Here is a list of current releases being used at P1 and the histogram provider names that are used. **Note**: L1CaloPT-test is only operated when a new release is being tested and otherwise is disabled in the OKS database file. See OKS section for details.

Release Information	
Current Release Version	16.6.2.4
Current Flavors Used	AthenaProduction and AthenaHLT

Segment Name	Provider Name	Stream Type	Streams Sampled
L1CaloPT-physics	l1calo-athenaPT	physics	Egamma, JetTauEtmiss, Muon, MinBias (use 'bulk' during Heavy Ions)
L1CaloPT-cosmics	l1calo-athenaPT-cosmics	physics	CosmicCalo
L1CaloPT-test	l1calo-athenaPT-test	Currently Disabled in OKS	

Current working directory at P1:
/det/l1calo/athenaTestArea
I try to keep sim-links to the releases I'm currently using, for instance, `currentRelease` would point to
/det/l1calo/athenaTestArea/testarea/16.6.2 .
I might also have a link called `testingRelease` or `previousRelease`. It should be noted that these sim links should not actually be used when doing a `cmt make` because any sim links created in the `/det/l1calo/athenaTestArea/testarea/16.6.2/InstallArea` will be created with the sim link which will cause Athena to fail at start up. So always use the real path with compiling a package.

The list below gives all the packages I've checked out locally and their current tag version. **NOTE**: it is organized in the order in which the packages should be compiled due to dependencies.

Patched Packages
RecExOnline (HEAD)
TrigT1CaloMonitoring-00-07-15

Athena on SVN

- All Job Options are now part of the official [RecExOnline](#) package in the atlasoff SVN.
  - The standard ATLAS Global Monitoring repository
- Goal is that L1Calo can checkout the package from the repository and GO.
  - One final step to making this run out of the box without any local changes.
- In discussions about using communal test area as well which could make things more stable (or not!). Stay tuned…

SVN Job Options

root / **Reconstruction** / **RecExample** / **RecExOnline** / **trunk**

View revision:

Name ▲	Size	Rev	Age	Last Change
../				
▷ 📁 cmt		315570	7 months	ejansen: Make athena_job.sh exit nicely (no more application crashed on exit)
▷ 📁 onlinesetup		344654	6 weeks	vogel: Added ros_farm.py to simplify the creation of a test partition
▷ 📁 python		344654	6 weeks	vogel: Added ros_farm.py to simplify the creation of a test partition
▷ 📁 scripts		344654	6 weeks	vogel: Added ros_farm.py to simplify the creation of a test partition
▽ 📁 share		352531	4 days	childers: Taylor: updating L1Calo jos
📄 GlobalMonitoring.py	3.6 KB	342132	8 weeks	vogel: Adjusted executable properties.
📄 RecExOnline_emonsvc.py	7.1 KB	330149	5 months	vogel: Initial commit of configuration for TRT online monitoring, minor ...
📄 RecExOnline_globalconfig.py	6.8 KB	295882	11 months	jahreda: robust reading bfields
📄 RecExOnline_jobOptions.py	1.6 KB	274956	14 months	acanepa: Removed obsolete JO; added JO for TCT
📄 RecExOnline_monitoring.py	3.4 KB	344030	6 weeks	vogel: Treating doLucidMon in the same way as other monitoring services
📄 RecExOnline_Partition_Online.py	2.5 KB	342132	8 weeks	vogel: Adjusted executable properties.
📄 RecExOnline_Partition_Online_ID.py	2.5 KB	342132	8 weeks	vogel: Adjusted executable properties.
📄 RecExOnline_Partition_Online_L1Calo.py	4.7 KB	352531	4 days	childers: Taylor: updating L1Calo jos
📄 RecExOnline_Partition_Online_L1Calo_Cosmics.py	4.5 KB	352531	4 days	childers: Taylor: updating L1Calo jos

Make and Model of Athena

- Currently Running at P1:
  - AtlasProduction-16.6.2.4 and AtlasHLT-16.6.2
  - With TrigT1CaloMonitoring-00-07-15 being the only locally patched package
- Move to release 16 involved many changes due to paradigm change in Athena community
  - Move to AtlasSetup package instead of CMT+requirements-file for environment setup
- AtlasSetup is now working online via the athena_jobs.py script, where one can define the AtlasSetup input-file or command line parameters via environment variables in OKS.
- Again, see TWiki for details.

Updates to P1 Athena Processes

- Many changes to L1Calo/Trigger software during winter shutdown to accommodate XS triggers.

- AtlasProduction-16.6.2.4 includes these changes and removes sim/data mismatch errors shifters have been seeing.

- Fine Timing summary plots (Rohin)

- Pedestal stability summary plots (Sky)

- Eta/Phi plots optimized (Pete)

- Monitor spare PPM channels (Pete)

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In the works…

- Automatically monitoring Felix's Rate Metering (8000+) histograms in the Data Quality Monitoring Framework (See talk from Sarah Heim).

- Adding histograms for each PPM channel in order to monitor the fine timing stability per lumi-block (See talk from Rohin Narayan). Eventually going into DQM as well.
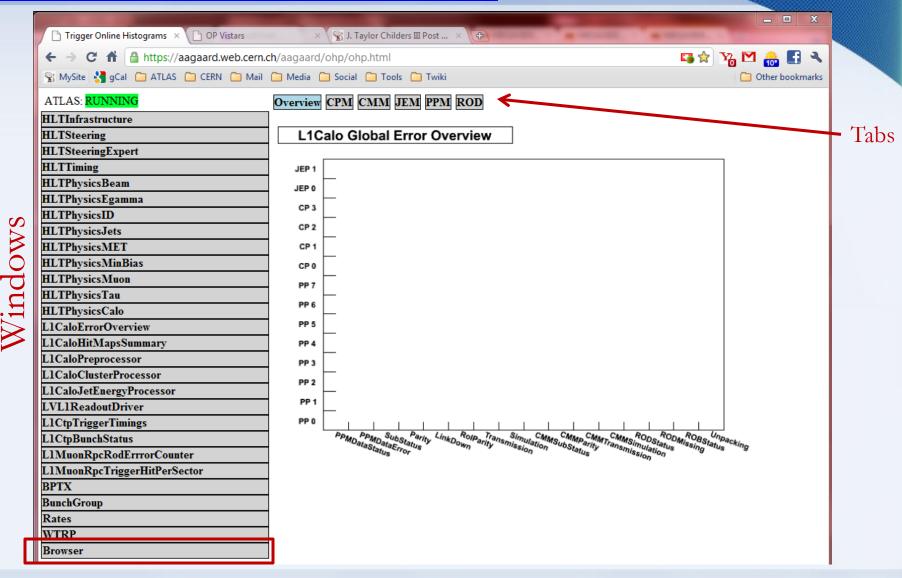
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New L1Calo Monitor

- Ivana Hristova from Humboldt University will be taking on responsibilities for L1Calo Monitoring.

- Currently training her on our setup at P1

- Beginning work on integrating pedestal summary histograms in to DQMF.

- This could be expanded to full per channel pedestal monitoring in a similar fashion to the Rate Metering and Fine Timing from Sarah/Felix and Rohin.

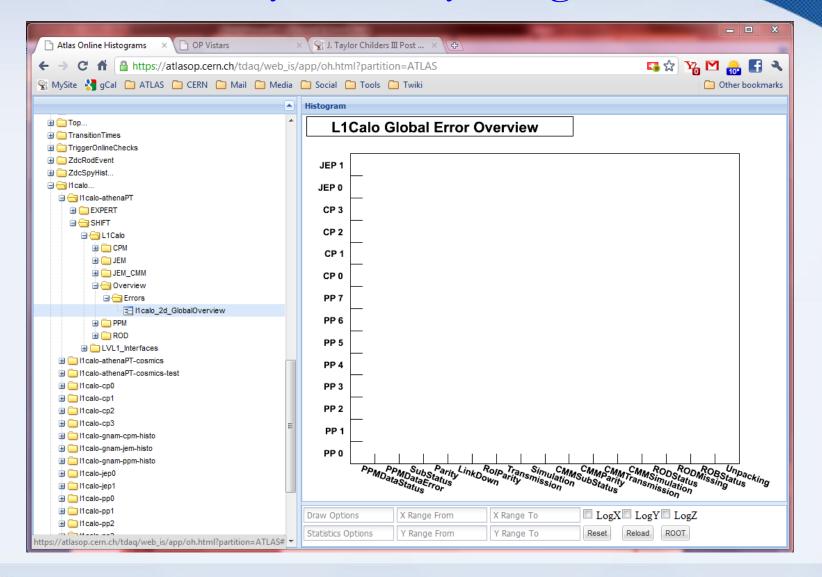- Also going to be making feature improvements to TrigT1CaloMonitoring package (i.e. LUT Threshold plots)
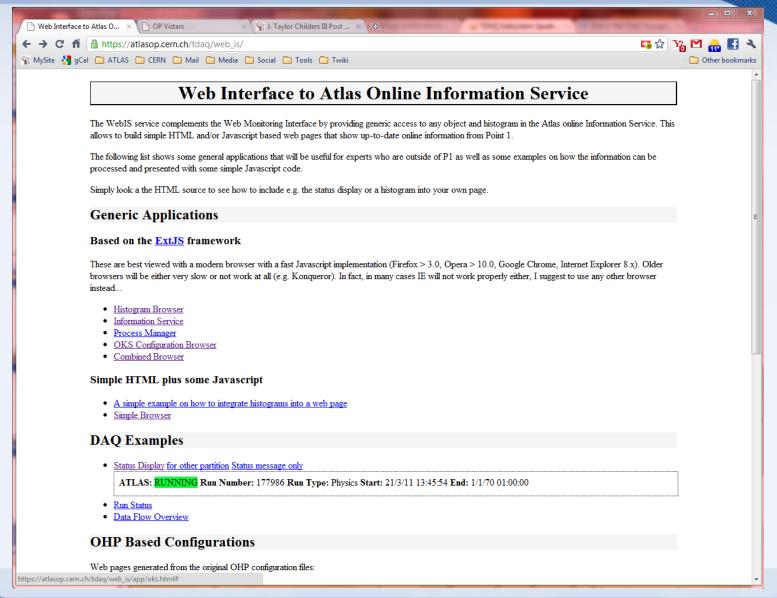
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Some Remote Monitoring Info.

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FYI: OHP for outside P1

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Browser Gets you everything

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Web IS Interface

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Summary

- Monitoring working group is very active
- Many changes have been made:
  - Many Athena applications added, more to come
  - Now running 16.6.2 at P1 with latest CaloMon pack.
  - New environment setup (AtlasSetup)
- Work underway to:
  - Automatically monitor for rate spike in DQ.
  - Automatically monitor for pedestal drifts in DQ.
  - Provide monitoring for fine timing of each PPM channel
- Have new members in the monitoring group.

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