DM/buildbot/Weekly_Production

Detailed discussion of the Weekly Production Runs and Not-Runs

- Arranged sequentially with Most Recent first.
- **Codeset: Trunk** indicates the trunk was used for the lsst stack. In the future, a tagged-set may be specified
- **Dataset: Full** indicates the complete set of data specified in $SVN/DMS/datarel/pipeline/<date>_weekly.input. **Short** indicates a test run using a small subset of available image data.

- To check on the status of an in-progress run, determine <date_time current run> from run details below, then:

```
% cd /lsst3/weekly/datarel-runs/wp_trunk_<date_time current run> # eg 2011_0507_160801
% /home/buildbot/slave/trunkVsTrunk_lsst/work/RunStatus.sh
% /home/buildbot/slave/trunkVsTrunk_lsst/work/FindAllErrors.sh
% ~jbosch/runStatus.py -a -r .
```

For a status overview of all daily buildbot runs see DM/buildbot/Daily_Status
Past Months' Daily_Status pages: May June July

20 Sept 2011

- **Why:** Test Trunk Run prior to Full Trunk tagging
- **Setup:** /home/buildbot/slave/trunkVsTrunk_lsst/work/weeklyPR/pipeline **TBD after run:**pipeline_wp_trunk_2011_0920_153202
- **Codeset:** trunk; see /lsst3/weekly/datarel-runs/wp_trunk_2011_0920_153202/config/weekly.tags
- **Dataset:** full
- **Output:** /lsst3/weekly/datarel-runs/wp_trunk_2011_0920_153202
- **Database:** buildbot_PT1_2_u_wp_trunk_2011_0920_153202
- **pipeQA:** /lsst/public_html/pipeQA/html/dev/buildbot_PT1_2_u_wp_trunk_2011_0920_153202
- **Status:** In progress - still generating the pipQA output.
    - ♦ Status summary indicates that there were some problems with

```
/lsst3/weekly/datarel-runs/wp_trunk_2011_0920_153202
 Data Available: 502
 Jobs Available: 2
 Jobs Possible: 0
 Jobs In Progress: 8
 Jobs Done: 502
------------------------------------------------------------------
 icSrc: 481
 psf: 481
 sdqaCcd: 996
 src: 481
 apCorr: 481
 csv-SourceAssoc: 128

 Science_Ccd_Exposure.csv: exists
 Science_Ccd_Exposure_Metadata.csv: exists
 Raw_Amp_To_Snap_Ccd_Exposure.csv: exists
 Snap_Ccd_To_Science_Ccd_Exposure.csv: exists
```

```
sdqa_Rating_ForScienceAmpExposure.csv: exists
sdqa_Rating_ForScienceCcdExposure.csv: exists
```

- Check of the Error summary provides a medly of problems:
- 10 of:

```
fw::image::detail::MaskedImage_tag&, const typename lsst::afw::image::ImagePca<MaskedImageT>::ImageList&, cons
```

- 6 of:

```
fw::image::detail::MaskedImage_tag&, const typename lsst::afw::image::ImagePca<MaskedImageT>::ImageList&, cons
```

- 4 of:

```
./work/PT1PipeC_3/Slice0.log:harness.slice.visit.stage.tryProcess FATAL: Traceback (most recent cal
./work/PT1PipeC_3/Slice0.log:OperationalError: disk I/O error
```

- two random errors:

```
./work/PT1PipeA_2/Slice0.log:harness.slice.visit.stage.tryProcess FATAL: Traceback (most recent cal
./work/PT1PipeA_2/Slice0.log:    raise RuntimeError("No candidate PSF sources")

./work/PT1PipeA_2/Slice0.log:RuntimeError: No candidate PSF sources
```

- **Resolution:** When the Job completes the pipeQA, please review the output.

10 Sep 2011

13:38

- **Why:** New dataset of ~100 different realizations with exactly the same observing conditions (as last run), but with different seeds for the random number generator.
- **Setup:** /home/buildbot/slave/trunkVsTrunk_lsst/work/weeklyPR/pipeline **TBD after run:** pipeline_wp_tags_2011_0910_133828
- **Codeset:** tags; see /lsst3/weekly/datarel-runs/wp_trunk_2011_0910_133828/config/weekly.tags
- **Dataset:** full
- **Output:** /lsst3/weekly/datarel-runs/wp_trunk_2011_0910_133828
- **Database:** buildbot_PT1_2_u_wp_trunk_2011_0910_133828
- **pipeQA:** /lsst/public_html/pipeQA/html/dev/buildbot_PT1_2_u_wp_trunk_2011_0910_133828
- **Status:** Run processes 101 records out of 101 but failed in the first post-processing step for Source Association.
    - Error found in /lsst3/weekly/datarel-runs/wp_tags_2011_0910_133828/SourceAssoc_ImSim.log:

```
lsst.ap.cluster.optics: Created k-d tree for 16019 sources
lsst.ap.cluster.optics: Clustering sources using OPTICS
lsst.ap.cluster.optics: Produced 286 clusters
SimpleStageTester.lsst.ap.cluster: Finished clustering sources
SimpleStageTester.lsst.ap.cluster: Creating good source histogram
SimpleStageTester.lsst.ap.cluster: Computing source cluster attributes
Traceback (most recent call last):
  File "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/datarel/4.4.0.11/bin/sst/Sourc
eAssoc_ImSim.py", line 123, in <module>
    main()
  File "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/datarel/4.4.0.11/bin/sst/Sourc
eAssoc_ImSim.py", line 120, in main
```

```
    lsstSimMain(sourceAssocProcess, "source", "skyTile")
  File "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/datarel/4.4.0.11/python/lsst/d
atarel/utils.py", line 223, in lsstSimMain
    skyTile=skyTile)
  File "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/datarel/4.4.0.11/bin/sst/Sourc
eAssoc_ImSim.py", line 66, in sourceAssocProcess
    clip = sourceAssocPipe(srcList, calexpMdList, skyTile)
  File "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/datarel/4.4.0.11/bin/sst/Sourc
eAssoc_ImSim.py", line 108, in sourceAssocPipe
    """, clip)
  File "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/datarel/4.4.0.11/python/lsst/d
atarel/utils.py", line 48, in runStage
    return sst.runWorker(clip)
  File "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/pex_harness/4.4.0.1/python/lss
t/pex/harness/simpleStageTester.py", line 189, in runWorker
    stage.applyProcess()
  File "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/pex_harness/4.4.0.1/python/lss
t/pex/harness/stage.py", line 353, in applyProcess
    self.process(clipboard)
  File "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/ap/4.4.2.0/python/lsst/ap/clus
ter/sourceClusterAttributesStage.py", line 113, in process
    gaussianFluxIgnoreMask, ellipticityIgnoreMask)
  File "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/ap/4.4.2.0/python/lsst/ap/clus
ter/clusterLib.py", line 973, in computeAttributes
    return _clusterLib.SourceClusterAttributes_computeAttributes(*args)
lsst.pex.exceptions.exceptionsLib.LsstCppException: 0: lsst::pex::exceptions::In
validParameterException thrown at src/cluster/SourceCluster.cc:1296 in void lsst
::ap::cluster::SourceClusterAttributes::setObsTime(double, double, double)
0: Message: mean observation time is not between earliest and latest observation
 time
```

- **Resolution:**
    - Serge needs to solve this issue and report back if/when we can continue the rest of the post-processing steps which load the various DB and run the pipeQA.
        - Serge resolved the issue and built new Release and Trunk versions of ap.

9 Sep 2011

21:35

- **Why:** New dataset of ~100 different realizations with exactly the same observing conditions (as last run), but with different seeds for the random number generator.
- **Setup:** /home/buildbot/slave/trunkVsTrunk_lsst/work/weeklyPR/pipeline_wp_tags_2011_0909_213525
- **Codeset:** trunk; see /lsst3/weekly/datarel-runs/wp_tags_2011_0909_213525/config/weekly.tags
- **Dataset:** full
- **Output:** /lsst3/weekly/datarel-runs/wp_tags_2011_0909_213525
- **Database:** buildbot_PT1_2_u_wp_tags_2011_0909_213525
- **pipeQA:** /lsst/public_html/pipeQA/html/dev/buildbot_PT1_2_u_wp_tags_2011_0909_213525
- **Status:** The data wasn't found.
- **Resolution:** Remove all run detritus.
    - Issue: only E000 raw data was provided and the main-Imsim.paf expects paired visits. The run failed because all requests for the second image in the pair were not found.

A sample for work/PT1PipeA_1/Slice0.log:

```
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827199,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827203,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827160,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827158,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827183,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827168,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827147,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827198,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827182,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827177,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827209,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827144,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827161,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827212,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827231,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827149,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827229,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827196,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827171,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827169,
on: Timed out waiting for dataset raw with keys {'snap': 1, 'raft': '2,2', 'sensor': '1,1', 'visit': 88827164,
```

8 Sep 2011

1717

- **Why:** Rerun One-Off which failed with some many errors.
- **Setup:** /home/buildbot/slave/trunkVsTrunk_lsst/work/weeklyPR/pipeline **TBD after run:** wp_tags_2011_0908_171709
- **Codeset:** tags; see /lsst3/weekly/datarel-runs/wp_trunk_2011_0908_171709/config/weekly.tags
- **Dataset:** took 999 out of 4500+ records to test
- **Output:** /lsst3/weekly/datarel-runs/wp_trunk_2011_0908_171709
- **Database:** buildbot_PT1_2_u_wp_trunk_2011_0908_171709
- **Status:**
    - ♦ Pipeline completed, pipeQA still processing. 997 out of 999 processed.
    - ♦ Error recorded in:
        - ◊ Record: 905078821 1,2 0,2 ------ 80 reads, 2 writes, 0 calexp persisted
        - ◊ Info: from work/PT1PipeA_1/Slice0.log: LOOPNUM: 184

```
Psf
```

```
FromPsfCandidates
detail::MaskedImage_tag&, const typename lsst::afw::image::ImagePca<MaskedImageT>::ImageList&, const std::vecto
```

♦ Error recorded in:
◊ Record: 925722281 4,1 1,0 ------ 80 reads, 2 writes, 0 calexp persisted
◊ Info: from work/PT1PipeB_1/Slice0.log : LOOPNUM: 84

```
nationStage - parallel: Estimating PSF is in process
08_171709

43.148007

48007000



e.tryProcess FATAL: Traceback (most recent call last):
/gcc443/15oct2010/Linux64/pex_harness/4.4.0.1/python/lsst/pex/harness/Slice.py", line 575, in tryProcess
cess()
/gcc443/15oct2010/Linux64/pex_harness/4.4.0.1/python/lsst/pex/harness/stage.py", line 353, in applyProcess
rd)
/gcc443/15oct2010/Linux64/meas_pipeline/4.4.0.1/python/lsst/meas/pipeline/psfDeterminationStage.py", line 72, i
lf.psfDeterminer.determinePsf(exposure, psfCandidateList, sdqaRatings)
/gcc443/15oct2010/EupsBuildDir/Linux64/meas_algorithms-4.4.1.1/meas_algorithms-4.4.1.1/python/lsst/meas/algorit
x
```

♦ Two errors recorded in: ingestSourceAssoc.log

```
l-runs/wp_tags_2011_0908_171709/csv-SourceAssoc/objDump.tsv
x epoch of input positions

0
arel-runs/wp_tags_2011_0908_171709/csv-SourceAssoc/refFilt.csv
e-range and/or maximum velocity/parallax

0

csec/yr


e match

0/bin/qa/refPosMatch.py", line 121, in <module>

0/bin/qa/refPosMatch.py", line 118, in main

0/python/lsst/ap/match/matchLib.py", line 953, in referenceMatch

t::pex::exceptions::RuntimeErrorException thrown at src/match/ReferenceMatch.cc:949 in const lsst::ap::match::R
```

*

```
e...
l-runs/wp_tags_2011_0908_171709/csv-SourceAssoc/srcDump.tsv
x epoch of input positions

0
arel-runs/wp_tags_2011_0908_171709/csv-SourceAssoc/refFilt.csv
```

```
e-range and/or maximum velocity/parallax

0

csec/yr

e match

 0/bin/qa/refPosMatch.py", line 121, in <module>

 0/bin/qa/refPosMatch.py", line 118, in main

 0/python/lsst/ap/match/matchLib.py", line 953, in referenceMatch

t::pex::exceptions::RuntimeErrorException thrown at src/match/ReferenceMatch.cc:949 in const lsst::ap::match::R
```

- **Resolution:**
  - Start next run after clearing the disk of the 2 Sep 2011 failed run.
  - Developers should review the exceptions noted.
    - Serge fixed the ingestSourceAssoc issue on the trunk.

2 Sep 2011

2225

- **Why:** OneOff? run for Simon regarding Dave Monet's astrometry puzzles
- **Setup:** /home/buildbot/slave/trunkVsTrunk_lsst/work/weeklyPR/pipeline_wp_tags_2011_0902_222518
- **Codeset:** tagged; see /lsst3/weekly/datarel-runs/wp_tags_2011_0902_222518/config/weekly.tags
- **Dataset:** one-off of sensors selected by Simon
- **Output:** /lsst3/weekly/datarel-runs/wp_tags_2011_0902_222518
- **Database:** buildbot_PT1_2_u_wp_tags_2011_0902_222518
- **Status:**
  - About 50% of the sensors failed to successfully process. Question 1: why did so many sensors fail when the software should have been the same as the 3000 runs. I suspect but have not verified that the set of Current Released tags on lssst6 has been updated so the local cluster and teragrid cluster software stacks are no longer equivalent.
  - The pipeQA postprocessing run is in progress at this moment: Sun Sep 4 11:20am PT. PipeQA is now automatically invoked by buildbot.
  - The breakdown of the errors is as follows:

```
 bad_alloc : 1844
work/PT1PipeA_2/Slice0.log:Exception: std::bad_alloc
le "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/ip_pipeline/4.4.0.0/python/lsst/ip/pipeline/isrCcdDefectStage.py
 ipIsr.interpolateDefectList(exposure, defectList, fwhm)
le "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/ip_isr/4.4.0.0+1/python/lsst/ip/isr/isr.py", line 286, in interp
 fallbackValue = afwMath.makeStatistics(mi.getImage(), afwMath.MEANCLIP).getValue()
le "/lsst/DC3/stacks/gcc443/15oct2010/Linux64/afw/4.4.4.0/python/lsst/afw/math/mathLib.py", line 5169, in make
 return _mathLib.makeStatistics(*args)
eption: std::bad_alloc

 MemoryError : 37
work/PT1PipeA_2/Slice0.log:MemoryError

 IndexError : 1
```

```
work/PT1PipeC_4/Slice0.log:IndexError: invalid index

 RuntimeErrorException : 75 from src/net/GlobalAstrometrySolution.cc:1264
work/PT1PipeA_4/Slice0.log:LsstCppException: 0:
t::pex::exceptions::RuntimeErrorException
own at src/net/GlobalAstrometrySolution.cc:1264
std::vector<double, std::allocator<double> >
t::meas::astrom::net::getTagAlongFromIndex
dex_t*, std::string, int*, int)

    : 2 from src/match/ReferenceMatch.cc:949
ngestSourceAssoc.log:lsst.pex.exceptions.exceptionsLib.LsstCppException:
lsst::pex::exceptions::RuntimeErrorException thrown at
/match/ReferenceMatch.cc:949 in const
t::ap::match::ReferencePosition*
t::ap::match::<unnamed>::RefReaderBase::_readReferencePosition()

 LsstCppException : 61 from include/lsst/afw/image/fits/fits_io_private.h:232
work/PT1PipeA_2/Slice0.log:LsstCppException: 0:
t::pex::exceptions::LogicErrorException
own at include/lsst/afw/image/fits/fits_io_private.h:232 in
t::afw::image::detail::fits_file_mgr::fits_file_mgr
nst std::string&, const std::string&)
work/PT1PipeA_2/Slice0.log:0: Message: cfitsio error
sst3/weekly/datarel-runs/wp_tags_2011_0902_222518/input/raw/v918388101-fg/
1/R14/S11/imsim_918388101_R14_S11_C16_E001.fits.gz):
ld not open the named file (104)

 LsstCppException : 1  from src/image/ImagePca.cc:493
work/PT1PipeC_4/Slice0.log:LsstCppException: 0:
t::pex::exceptions::LengthErrorException
own at src/image/ImagePca.cc:493 in double
t::afw::image::<unnamed>::
updateBadPixels(const lsst::afw::image::detail::MaskedImage_tag&,
st typename lsst::afw::image::ImagePca<MaskedImageT>::ImageList&,
st std::vector<double,
:allocator<double> >&, const typename
t::afw::image::ImagePca<MaskedImageT>::ImageList&,
g unsigned int, int) [with ImageT =
t::afw::image::MaskedImage<float, short unsigned int, float>]

 read_array_into : 69 from fitstable.c:835:read_array_into
work/PT1PipeA_4/launch.log:fitstable.c:835:read_array_into:
led to read column from FITS file

 startree_get_data_column : 75 from starkd.c:80:startree_get_data_column
work/PT1PipeA_4/launch.log:starkd.c:80:startree_get_data_column:
led to read tag-along data
```

- The following Run Status logs/summaries are all rooted at: /lsst3/weekly/datarel-runs/wp_tags_2011_0902_222518/
  - ProcessedRecords.out : Jim Bosch's post-processing summary of fits data read and written. Note, a successfully processed record should have entries like: "862826551 4,2 2,2 ------ 80 reads, 4 writes";
  - !FindAllErrors_Stripped.out : one liner per error statement in log. It's just a shell script so it's only as good as the search ensemble.
  - Errors/* : errors categorized by type in different files. a block of ~20 lines from the error log before and after error report. Each entry separated by '--'.
  - RunStatus.out : count of job office input records input and key output records generated.

- **Resolution:** Errors 1-6 represent mostly applications issues but items 7&8 might need attention from middleware. Ticket #1757 has been generated and given to RHL to distribute as appropriate. Copies to SteveP and Simon.