

Trigger Validation News

TAPM Open meeting
18 September 2007

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Current status for 13.0.30

- Release 13.0.30 build is imminent
- Status is “OK” – it could be more well tested given more time and resources
 - Lots of new additions to menu
 - Some bugfixes added after the 8th September deadline
 - Some early problems due to fragility of modern python configuration wrt failed package builds
 - Problems running from XML configuration (now solved)
 - Some frequent WARNING-level messages remaining! (need to be fixed for production!)
- Main problems: need to be fixed before the build!
 - Modern config: OK in trigger tests, but untested in RecExCommon
 - AOD/ESD writing:
 - event loop stops with error from T/P conversion (not T/P separation-related)
 - POOL container seems to be missing for obsolete TRT_DriftCircle
 - But the question is what is trying to store these objects

Trigger ATN test results summary - Windows Internet Explorer

http://atlas-computing.web.cern.ch/atlas-computing/links/buildDirectory/nightlies/val/AtlasTrigger/rel_2/NICOS_area/NICOS_...

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Trigger ATN test results summary

Trigger ATN test results summary

Nightly test: VAL32BS4TrgOpt

Test name	Test script	Athena exit	Error Msgs	Reg. tests	Rootcomp	Exit code	Dir. link
AthenaAllAlgsTrueModernRDO	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
AthenaAllAlgsTrueModernRDO_configOnly	OK	OK	OK	FAIL	N/A	64	dir
AthenaAllAlgsTrueModernRDO_memTrack	OK	OK	FAIL	FAIL	N/A	96	dir
AthenaAllAlgsTrueOldConfigRDO	OK	OK	OK	FAIL	MISMATCH [ps]	68	dir
AthenaAllAlgsTrueOldConfigRDO_memTrack	OK	OK	OK	FAIL	N/A	64	dir
AthenaModernRDO	-	-	=	=	-	-	dir
AthenaModernRDO_lumi0.01	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
AthenaModernRDO_lumi0.01_no_prescale	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
AthenaModernRDO_lumi0.1	OK	TIMEOUT	FAIL	FAIL	MISMATCH [ps]	228	dir
AthenaModernRDO_lumi0.1_no_prescale	OK	TIMEOUT	FAIL	FAIL	MISMATCH [ps]	228	dir
AthenaModernRDO_memTrack	OK	OK	FAIL	FAIL	N/A	96	dir
AthenaModernRDOtoBS	OK	OK	FAIL	FAIL	N/A	96	dir
AthenaOldConfigRDO	-	-	=	=	-	-	dir
AthenaOldConfigRDO_memTrack	OK	OK	OK	FAIL	N/A	64	dir
AthenaOldConfigRDOtoBS	OK	OK	OK	FAIL	N/A	64	dir

Done

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ERROR or FATAL messages in testAthenaModernRDO_lumi0.01_test.log (617):
Py:TriggerPythonConfig ERROR There exists already sequence providing TE: L2_FStracks
Py:TriggerPythonConfig ERROR Which is: [<TrigConfigSvc.TriggerPythonConfig.HLTSequence instance at 0xebb0090c>]
Py:TriggerPythonConfig ERROR There exists already sequence providing TE: L2_FStracks
Py:TriggerPythonConfig ERROR Which is: [<TrigConfigSvc.TriggerPythonConfig.HLTSequence instance at 0xebb0090c>, <TrigConf
Py:TriggerPythonConfig ERROR There exists already sequence providing TE: L2_FStracks
Py:TriggerPythonConfig ERROR Which is: [<TrigConfigSvc.TriggerPythonConfig.HLTSequence instance at 0xebb0090c>, <TrigConf
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Py:TriggerPythonConfig ERROR There exists already sequence providing TE: L2_FStracks
Py:TriggerPythonConfig ERROR Which is: [<TrigConfigSvc.TriggerPythonConfig.HLTSequence instance at 0xebb0090c>, <TrigConf
PixelClustering_FullScan_EFID ERROR Failed to add Clusters to container
PixelClustering_FullScan_EFID ERROR Failed to add Clusters to container
PixelClustering_FullScan_EFID ERROR Failed to add Clusters to container
PixelClustering_FullScan_EFID ERROR Failed to add Clusters to container
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PixelClustering_FullScan_EFID ERROR Failed to add Clusters to container
```

AthenaStandaloneOldConfigRDO	OK	FAIL	FAIL	FAIL	N/A	104	dir
AthenaXMLConfigRDO	OK	OK	FAIL	FAIL	N/A	96	dir
BjetSliceAthenaModernRDO	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
BjetSliceAthenaOldConfigRDO	OK	OK	OK	FAIL	MISMATCH [ps]	68	dir
BphysicsSliceAthenaModernRDO	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
BphysicsSliceAthenaOldConfigRDO	OK	OK	OK	FAIL	MISMATCH [ps]	68	dir
CaloAthenaModernRDO	OK	OK	FAIL	FAIL	N/A	96	dir
CaloAthenaOldConfigRDO	OK	OK	OK	FAIL	N/A	64	dir
CosmicsSliceAthenaModernRDO	OK	FAIL	FAIL	FAIL	MISMATCH [ps]	108	dir
CosmicsSliceAthenaOldConfigRDO	OK	TIMEOUT	FAIL	FAIL	MISMATCH [ps]	228	dir
ElectronSliceAthenaModernRDO	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
ElectronSliceAthenaModernRDO_memTrack	OK	FAIL	FAIL	FAIL	N/A	104	dir
ElectronSliceAthenaOldConfigRDO	OK	OK	OK	FAIL	MISMATCH [ps]	68	dir
ElectronSliceAthenaOldConfigRDO_memTrack	OK	OK	OK	FAIL	N/A	64	dir
IDAthenaModernRDO	OK	OK	FAIL	FAIL	N/A	96	dir
IDAthenaOldConfigRDO	OK	OK	OK	FAIL	N/A	64	dir
JetSliceAthenaModernRDO	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
JetSliceAthenaOldConfigRDO	OK	OK	OK	FAIL	MISMATCH [ps]	68	dir
METSliceAthenaModernRDO	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
METSliceAthenaOldConfigRDO	OK	OK	OK	FAIL	MISMATCH [ps]	68	dir

Contains commands for working with the selected items.

Trigger ATN test results summary - Windows Internet Explorer

http://atlas-computing.web.cern.ch/atlas-computing/links/buildDirectory/nightlies/val/AtlasTrigger/rel_2/NICOS_area/NICOS_c

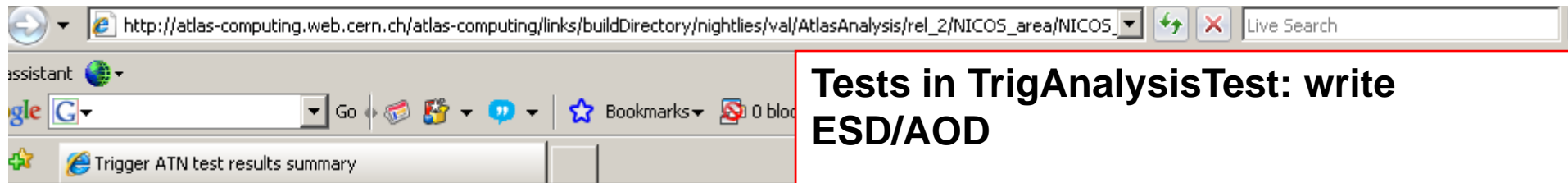
Web assistant

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Trigger ATN test results summary

CosmicsSliceAthenaOldConfigRDO	OK	TIMEOUT	FAIL	FAIL	MISMATCH [ps]	228	dir
ElectronSliceAthenaModernRDO	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
ElectronSliceAthenaModernRDO_memTrack	OK	FAIL	FAIL	FAIL	N/A	104	dir
ElectronSliceAthenaOldConfigRDO	OK	OK	OK	FAIL	MISMATCH [ps]	68	dir
ElectronSliceAthenaOldConfigRDO_memTrack	OK	OK	OK	FAIL	N/A	64	dir
IDAthenaModernRDO	OK	OK	FAIL	FAIL	N/A	96	dir
IDAthenaOldConfigRDO	OK	OK	OK	FAIL	N/A	64	dir
JetSliceAthenaModernRDO	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
JetSliceAthenaOldConfigRDO	OK	OK	OK	FAIL	MISMATCH [ps]	68	dir
METSliceAthenaModernRDO	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
METSliceAthenaOldConfigRDO	OK	OK	OK	FAIL	MISMATCH [ps]	68	dir
MuonAthenaModernRDO	OK	OK	FAIL	FAIL	N/A	96	dir
MuonAthenaOldConfigRDO	OK	OK	OK	FAIL	N/A	64	dir
MuonSliceAthenaModernRDO	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
MuonSliceAthenaOldConfigRDO	OK	OK	OK	FAIL	MISMATCH [ps]	68	dir
PhotonSliceAthenaModernRDO	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
PhotonSliceAthenaOldConfigRDO	OK	OK	OK	FAIL	MISMATCH [ps]	68	dir
TauSliceAthenaModernRDO	OK	OK	FAIL	FAIL	MISMATCH [ps]	100	dir
TauSliceAthenaOldConfigRDO	OK	OK	OK	FAIL	MISMATCH [ps]	68	dir
pureNewSteering	OK	OK	OK	OK	N/A	0	dir

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Trigger ATN test results summary

nightly test: VAL32BS4AnlOpt

Tests in TrigAnalysisTest: write ESD/AOD

OldConfig tests were disabled

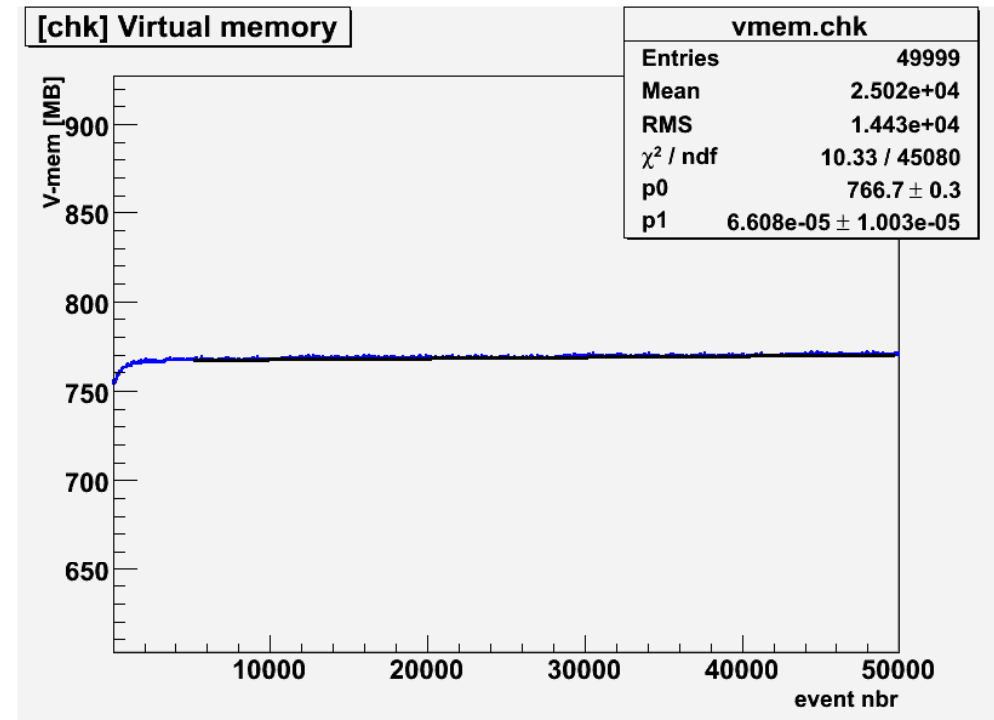
Modern config tests failing with TRT_DriftCircle TP problem mentioned above

Test name	Test script	Athena exit	Error Msgs	Reg. tests	Rootcomp	Exit code	Dir. link
thenaModernAOD_rerunHYPO	OK	FAIL	FAIL	FAIL	N/A	104	dir
thenaModernRDOtoESDAOD	OK	FAIL	FAIL	FAIL	N/A	104	dir
thenaModernRDOtoESDAOD_memTrack	OK	FAIL	FAIL	FAIL	N/A	104	dir
thenaOldConfigAOD_rerunHYPO	FAIL	-	-	-	-	1	dir
thenaOldConfigRDOtoESDAOD	FAIL	-	-	-	-	1	dir
thenaOldConfigRDOtoESDAOD_memTrack	FAIL	-	-	-	-	1	dir

ToolSvc.MuonEventCnvTool INFO Found MuonGeoModel DetectorDescription manager at :0x11d59fd0
StorageSvc Info Building shape according to reflection information using shape ID for:
StorageSvc Info MuonMeasurements_tlp1 [C4979DA5-4193-410B-9476-A51708C01CF7]
StorageSvc Info Building shape according to reflection information using shape ID for:
StorageSvc Info SegmentCollection_tlp1 [03A83988-8E38-45E9-95A5-9CB17B98074C]
EventPersistencySvc INFO Added successfully Conversion service:ByteStreamCnvSvc
ByteStreamCnvSvc INFO No converter for object CLID= 1128766825
DataProxy FATAL accessData: ERROR conversion failed for data object 1128766825/TRT_DriftCircle
Throwing runtime_error
T_AthenaPoolCustomCnv FATAL Failed to convert object to persistent type: dobj conversion failed
AthenaPoolConverter ERROR AthenaPoolConverter CreateRep failed, key = TRTSegments
ToolSvc.StreamESDTool ERROR Could not create Rep for DataObject (clid/key):98849495 TRTSegments
StorageSvc Info Building shape according to reflection information using shape ID for:
StorageSvc Info HLTRResult_p1 [9567573D-F35E-4D5E-9A1A-A43B07D3CF3B]

Memory leaks

- Memory leaks are at the level of ~50kB/evt
- Good but still needs to be improved
 - Goal is ~0 bytes at L2 and 1kB/evt at EF
- Caveat! Large (1MB/evt) leaks found in 12.0.20, appear only for 12.0.6.5 RDOs, NOT for the 12.0.3.1 RDOs that we use for tests
- Frank just managed to get very good results on AthenaMT
 - ~70 bytes/evt for preloaded events (not counting caching)



<http://atlas-project-trigger-release-validation.web.cern.ch/atlas-project-trigger-release-validation/www/perfmonrtt/>

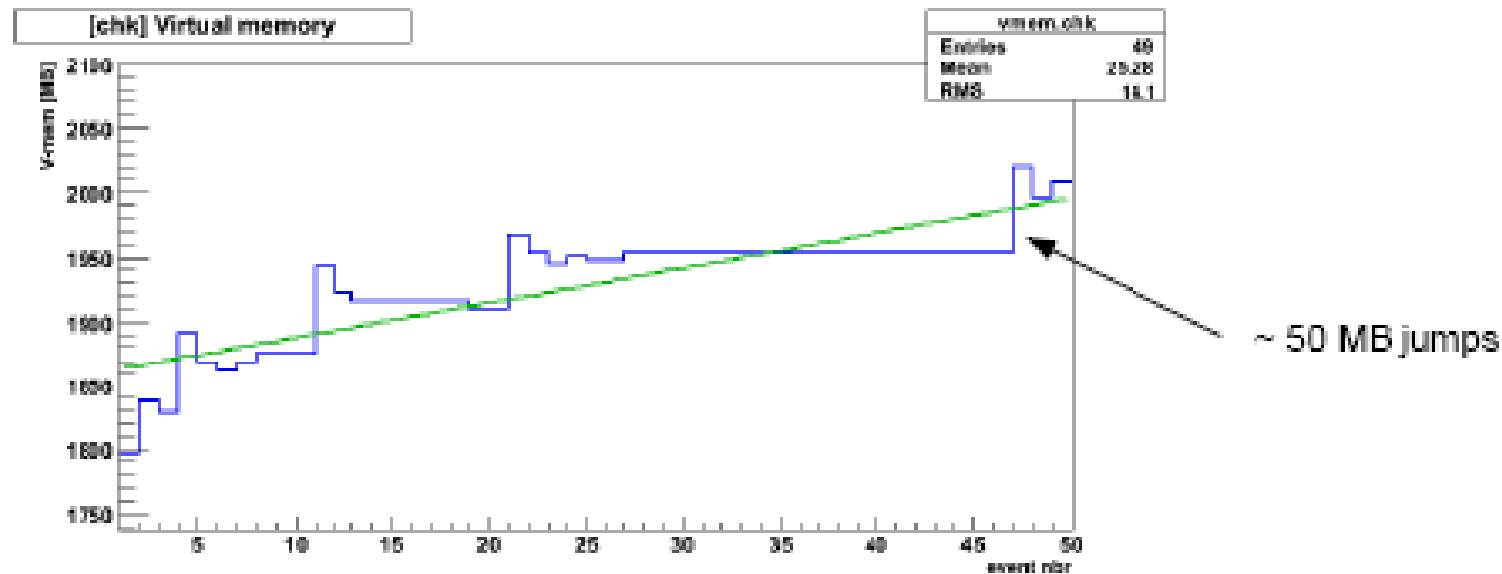
Validation results from 13.0.20

- 13.0.20.3 to be used for detector paper
- Need to produce large data samples
- But large memory leaks were found
 - See next few slides from Frank

Memory leaks in 13.0.20/30

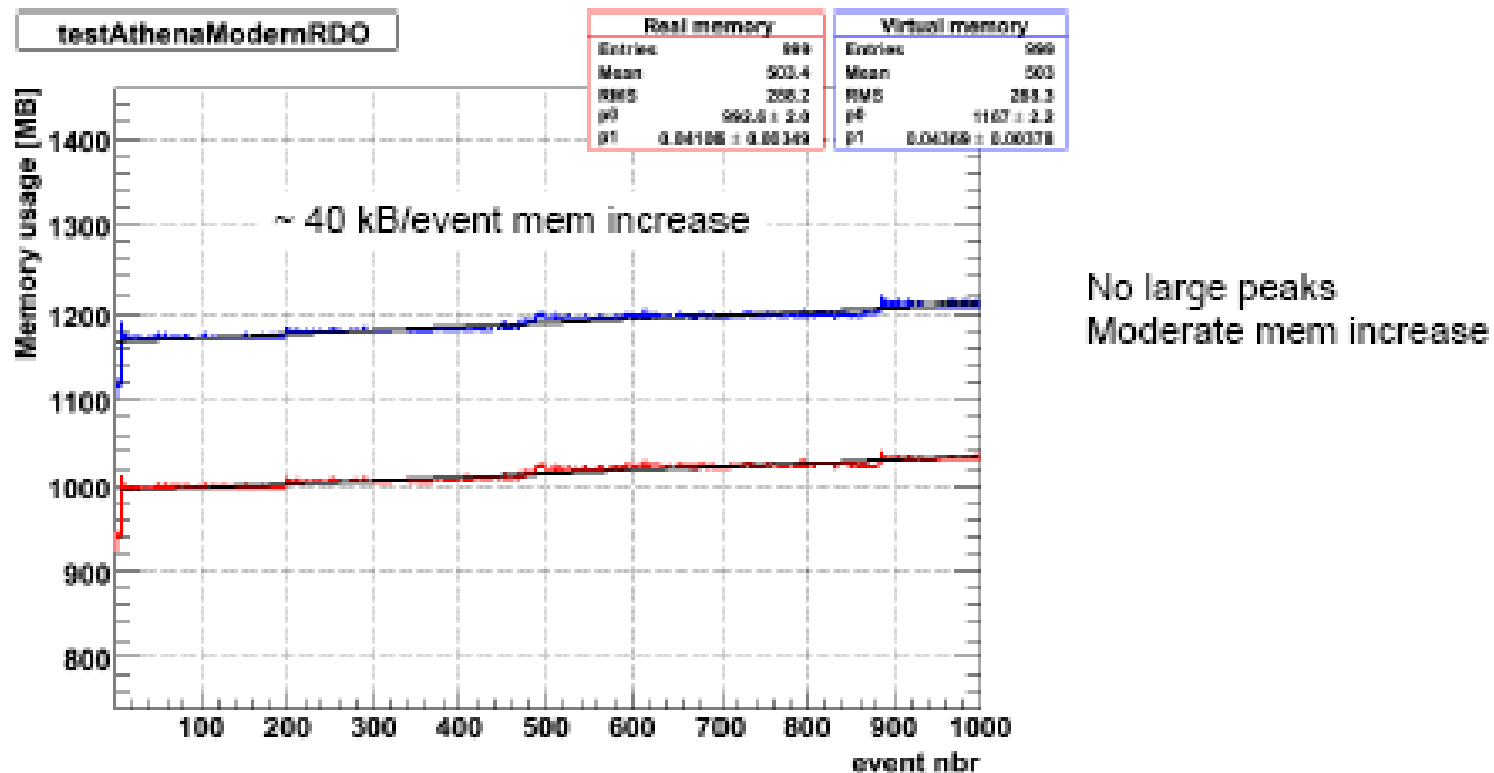
- Same behavior seen in bugfix, rel_4 as in 13.0.20.2
 - Wouter's tar ball run in rel_4, bugfix:

```
CENTAA_Audit    WARNING  Memory leak!  circa 3.38893 (10 first events
excluded) or 2.25362 (only second half of the job) MBytes/event
```



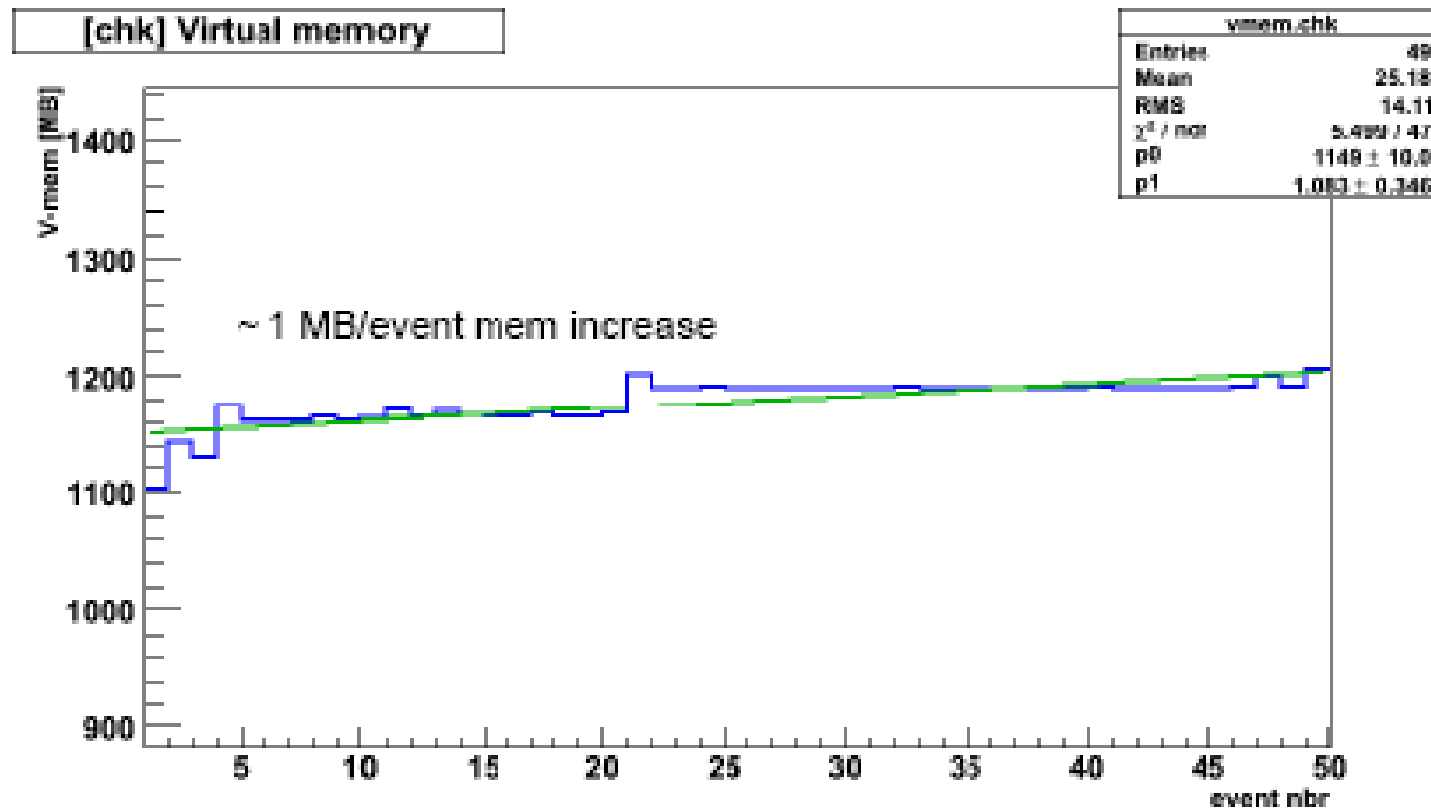
Trigger tests in bugfix, rel_3

- Standard trigger tests in bugfix, rel_3 don't show this problem.
 - 12.0.3 RDO input, No POOL output



Running trigger on Wouter's file

- Same test as on previous slide but on 12.0.6 RDO



- Seems specific to 12.0.6 RDOs.



Performance summary

- 12.0.6.5 was at the end of a development cycle
- 13.0.20 performance is poorer
 - Menus less complete than 12.0.6.5
 - ...and less complete than 13.0.30
 - Not as user-friendly and not as well tested
 - Caught in the middle of at least one big transition in the trigger software

Validation Workshop

- Half-day Trigger Validation Workshop
 - Initially scheduled for tomorrow
 - Organising with help of Olya and Frank (many thanks!)
- Would like to postpone to end of next week
 - Too many distractions with end of 13.0.30 validation
 - Would be much more productive if better prepared
 - Clashes partially with technical run – could be a plus, since more people will be present
- Currently favoured date is Thursday 27 – please shout if you agree or disagree
- Plan:
 - 2 – 6 pm (CERN time)
 - ~1 hour discussion of plans for next few months
 - Rest of meeting for tutorial on validation tools including memory profiling