

# Validation Update

Simon George

David Strom

Ricardo Goncalo

Trigger Open Meeting - 25 February 2008

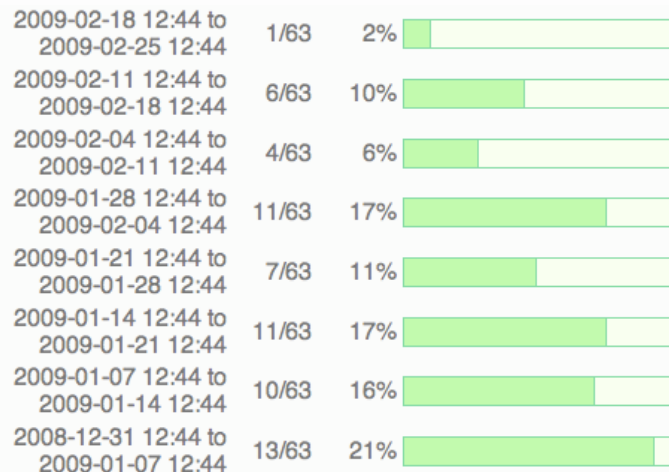
# Last week's story

- dev nightlies were usually ok up to rel\_5
  - After that usually bad until rel\_1 dev (TrigMuGirl failed to build)
- devval nightlies usually bad up to rel\_6 devval with build failures
  - After that usually ok but with ERROR messages and some tests failing
- rel\_2 devval: 7 packages failed (L2 tracking) due to magnetic field service API changing without checking clients
  - Tags rolled back and things got better
- Large EDM bundle migrated to nightlies – seemed to go quite well (thanks to many people!)
- dev rel\_0/1 looked ok
  - TrigHLTMonitoring was failing (min.bias EDM change) but should now be fixed with a new tag yesterday
- dev ATN tests not running for 2 days; but dev dbg tests look ok
- rel\_3 devval has many tests failing
  - Probably related to AbstractBField bundle across projects - iPat::TrajectoryTool crashes when getting mag. field info in initialize().
- <https://twiki.cern.ch/twiki/bin/view/Atlas/TriggerRecipe15x0ntly>

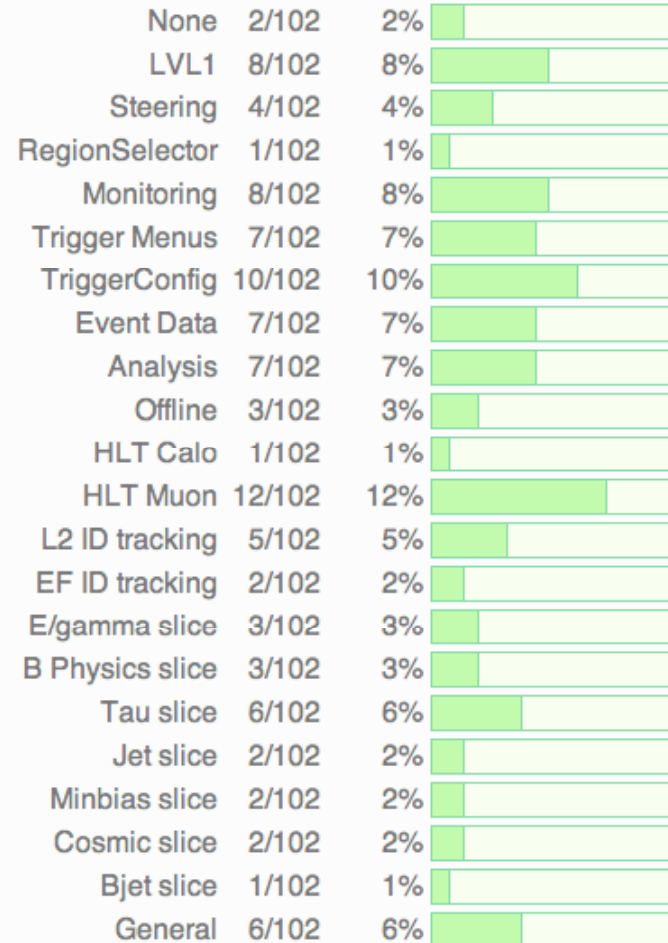
# Bugs

- Number of open bugs has been growing slowly for the last 3 weeks – not unusual before a release
- 20% more than one month old

Average Turnaround Time For Closed Items



Open Items



# Relevant bugs in current nightlies

- 47260: IdScan innefficient in Bphys fullscan triggers
- 44463: changes in jet trigger counts – problem understood
- 46254: problem with crash in TRT\_DriftFunctionTool
- 45878: AthenaP1BStoESD crashes because RAWtoESD transformation not available in AtlasTrigger
- 47394: EDM migration includes tlp2s which break backward compat for reading old BS
- 47291: severe problem with TrigDecisionTool

# Memory leaks:

- We're back to a few ~20-50kB/event
- Not so good, need to keep constant attention...
- Jet slice oscillating between ~40 and ~110kB/event in last week

## TriggerTest

Show builds:  14.5.X.Y-VAL  dev  devval

Test	Build	rel_0	rel_1	rel_2	rel_3	rel_4	rel_5	rel_6
Combined test - black-hole events	dev	x	x	...	?	<a href="#">2281M/9.0M</a>	x	x
Combined test - full menu	dev	x	x	...	?	<a href="#">1704M/56.9k</a> ◉	x	x
Combined test - mem.leak check	dev	x	x	...	?	<a href="#">1653M/5.6k</a> ◉	x	x
Combined test - with default lumi1E31 menu	dev	x	<a href="#">1389M/12.4k</a> ◉	...	?	<a href="#">1385M/13.2k</a> ◉	x	x
ElectronSliceAthenaModernRDO - single e	dev	x	x	x	?	x	x	x
LVL1 only test - default menu	dev	ok	ok	...	?	ok	ok	ok
catching test - calo	dev	<a href="#">1060M/29.8k</a>	<a href="#">1080M/25.5k</a>	<a href="#">1146M/31.8k</a>	?	<a href="#">1076M/28.8k</a>	<a href="#">1059M/37.3k</a>	<a href="#">1061M/34.1k</a>
lumi1E31 menu - no Bphysics	dev	x	<a href="#">1385M/15.3k</a> ◉	...	?	<a href="#">1383M/15.5k</a> ◉	x	x
lumi1E31 menu - no prescales	dev	x	<a href="#">1433M/39.4k</a> ◉	...	?	<a href="#">1435M/22.7k</a> ◉	x	x
lumi1E31 no Bphysics no prescales	dev	x	<a href="#">1432M/41.0k</a> ◉	...	?	<a href="#">1435M/23.4k</a> ◉	x	x
testBjetSliceAthenaModernRDO	dev	<a href="#">1098M/30.3k</a> ◉	<a href="#">1116M/26.1k</a> ◉	<a href="#">1184M/25.7k</a> ◉	?	<a href="#">1114M/24.8k</a> ◉	<a href="#">1102M/27.7k</a> ◉	<a href="#">1105M/24.4k</a> ◉
testBphysicsSliceAthenaModernRDO	dev	x	x	<a href="#">1363M/37.4k</a> ◉	?	x	x	x
testBphysicsSliceAthenaModernRDO_MuGirl	dev	x	x	x	?	<a href="#">1216M/38.2k</a>	x	x
testBphysicsSliceAthenaModernRDO_noMuon	dev	x	x	<a href="#">1357M/39.7k</a> ◉	?	<a href="#">1281M/30.5k</a> ◉	x	x
testElectronSliceAthenaModernRDO	dev	<a href="#">1138M/29.4k</a> ◉	<a href="#">1150M/33.6k</a> ◉	<a href="#">1223M/30.1k</a> ◉	?	<a href="#">1152M/27.7k</a> ◉	<a href="#">1142M/29.7k</a> ◉	<a href="#">1144M/27.2k</a> ◉
testJetSliceAthenaModernRDO	dev	<a href="#">892M/45.2k</a>	<a href="#">943M/14.4k</a> ◉	<a href="#">931M/107.3k</a>	?	<a href="#">900M/107.3k</a>	<a href="#">896M/107.3k</a>	<a href="#">891M/107.3k</a>
testMETSliceAthenaModernRDO	dev	<a href="#">913M/7.7k</a> ◉	<a href="#">1195M/32.9k</a> ◉	<a href="#">1265M/33.9k</a> ◉	?	<a href="#">1193M/34.4k</a> ◉	<a href="#">1183M/34.6k</a> ◉	<a href="#">1183M/33.6k</a> ◉
testMinBiasSliceAthenaModernRDO	dev	<a href="#">972M/0.1k</a> ◉	<a href="#">987M/0.1k</a> ◉	<a href="#">1058M/0.1k</a> ◉	?	<a href="#">986M/0.1k</a> ◉	<a href="#">974M/0.1k</a> ◉	<a href="#">974M/0.1k</a> ◉
testMuonSliceAthenaModernRDO	dev	x	<a href="#">1197M/33.5k</a> ◉	<a href="#">1275M/39.7k</a> ◉	?	<a href="#">1193M/38.7k</a> ◉	<a href="#">1184M/36.7k</a> ◉	<a href="#">1188M/30.6k</a> ◉
testPhotonSliceAthenaModernRDO	dev	<a href="#">1125M/18.5k</a> ◉	<a href="#">1142M/11.7k</a> ◉	<a href="#">1214M/10.9k</a> ◉	?	<a href="#">1142M/14.0k</a> ◉	<a href="#">1131M/9.6k</a> ◉	<a href="#">1129M/14.8k</a> ◉
testTauSliceAthenaModernRDO	dev	<a href="#">1110M/27.8k</a> ◉	<a href="#">1127M/23.3k</a> ◉	<a href="#">1193M/28.5k</a> ◉	?	<a href="#">1122M/26.9k</a> ◉	<a href="#">1111M/26.0k</a> ◉	<a href="#">1110M/26.9k</a> ◉

# Pileup studies for phys.val.

- Sample A built with 14.2.25.6 was made available (some still running) in 4 different luminosity scenarios
  - e380\_s494\_r623 --> no pileup
  - e380\_s494\_d153\_r622 --> 25ns  $2 \times 10^{33}$
  - e380\_s494\_d147\_r620 --> 75ns  $10^{33}$
  - e380\_s494\_d150\_r621 --> 450ns  $10^{32}$
- Dedicated Physics Validation meeting on Tuesday next week
- Important to get feedback about this
  - There weren't many pileup studies recently
  - Both for the validation meeting and for ourselves
  - Please dedicate some time to this over the coming week

## Differences > 25% at Level 1 only – used 1000 ttbar events

$(c1-c2)/\langle c1,c2 \rangle$	450ns $10^{32}$	75ns $10^{33}$	
-41%	475	725	L1_JE220
-60%	239	448	L1_JE280
-82%	96	231	L1_JE340
-53%	421	727	L1_FJ18
-80%	106	249	L1_FJ35
-42%	16	25	L1_FJ70
-117%	115	441	L1_2FJ18
-181%	3	61	L1_2FJ35
27%	431	326	L1_2EM13_MU6
27%	319	241	L1_2EM18_MU6
25%	563	436	L1_2EM7_MU6
67%	172	84	L1_2MU10
98%	455	154	L1_2MU4
91%	405	150	L1_2MU4_MU6
70%	227	109	L1_2MU6
70%	224	107	L1_2MU6_EM7
131%	61	12	L1_3MU6
36%	770	534	L1_MU4
36%	770	534	L1_MU4_EM3
36%	770	534	L1_MU4_J10
36%	770	533	L1_MU4_J18
36%	769	532	L1_MU4_J23
36%	752	517	L1_MU4_J35
37%	726	496	L1_MU4_J42
36%	770	534	L1_MU4_J5
25%	519	401	L1_TAU11I_MU6
25%	545	422	L1_TAU9I_MU6
45%	327	206	L1_TE650

## Differences > 25% at Level 1 only – used 1000 tbar events

(c1-c2)/<c1,c2>	450ns 10 <sup>32</sup>	75ns 10 <sup>33</sup>	
27%	127	96	L2_JE340
-26%	2	3	L2_FJ120
41%	36	24	L2_2FJ18
---	0	0	L2_2FJ70
45%	327	206	L2_te650
178%	1	0	L2_MU4_Jpsimumu_FS
---	1	0	L2_MU4_Upsimumu_FS
183%	2	0	L2_MU4_Bmumu_FS
40%	0	0	L2_MU4_Jpsie5e3_FS
51%	1	1	L2_mu4_DsPhiPi_FS
-51%	7	12	L2_2mu20
30%	4	3	L2_3e15_medium
53%	11	6	L2_stau

(c1-c2)/<c1,c2>	450ns 10 <sup>32</sup>	75ns 10 <sup>33</sup>	
27%	127	96	EF_JE340
-26%	2	3	EF_FJ120
31%	10	7	EF_2FJ18
---	0	0	EF_2FJ70
25%	267	206	EF_te650
-26%	2	3	EF_2MU4_DiMu
66%	0	0	EF_2MU4_Jpsimumu
---	0	0	EF_2MU4_Upsimumu
40%	0	0	EF_MU4_Jpsie5e3_FS
73%	1	0	EF_mu4_DsPhiPi_FS
-48%	6	11	EF_2mu20
30%	4	3	EF_3e15_medium
-33%	0	0	EF_3g10
25%	2	1	EF_Jpsiee
53%	11	6	EF_stau



# Validation shift

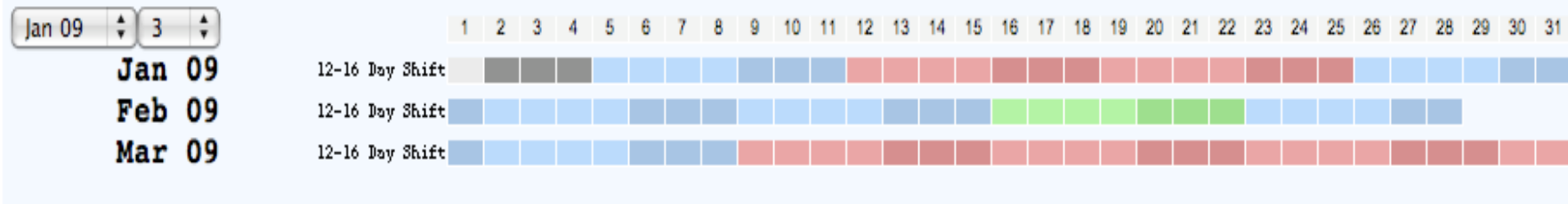
## Validation needs you!

- Validation shift needed for trigger release coordination
- This needs to be given enough priority
- Open mostly to slice validation contacts so far, but we're working on a proposal for enlarging participation

Save Shift Booking Cancel

### Task 52035 - Central Trigger Validation Shift

Shifter ( Overall Validation Shifter )



# Last words

- 14.2.25.6 validation took many iterations; some could have been avoided by a more careful check of tags and by faster response to problems
- **Validation coffee**: we started to gather validation people for an informal coffee to discuss issues
  - So far I think this is helping to organise the work and solve real problems and questions
  - Need to have a way of including people outside CERN – minutes?