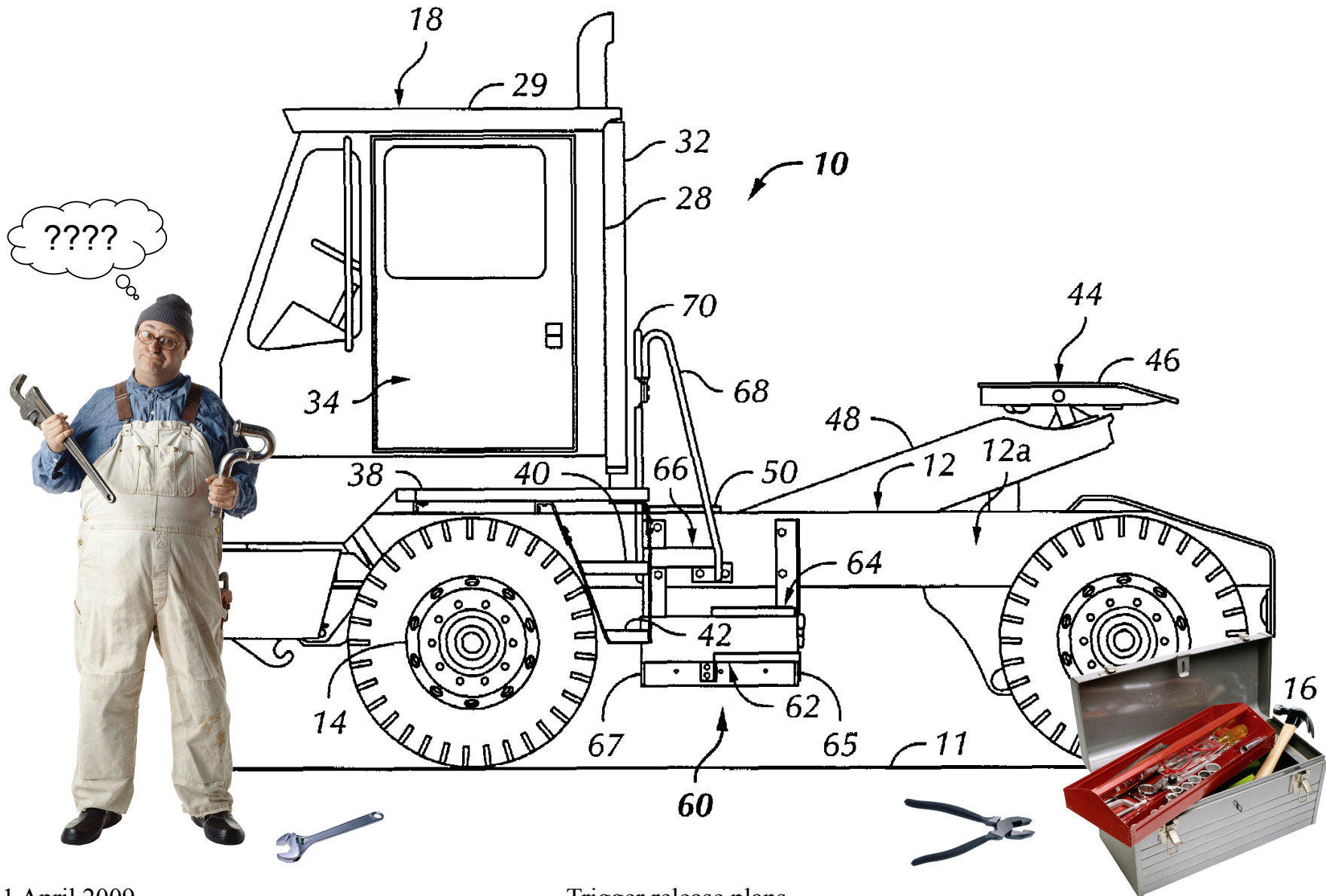


Trigger release and validation status and plans

David Strom (Oregon), Simon George (RHUL),
Ricardo Gonalo (RHUL)

Releases



Announcement from David Quarrie

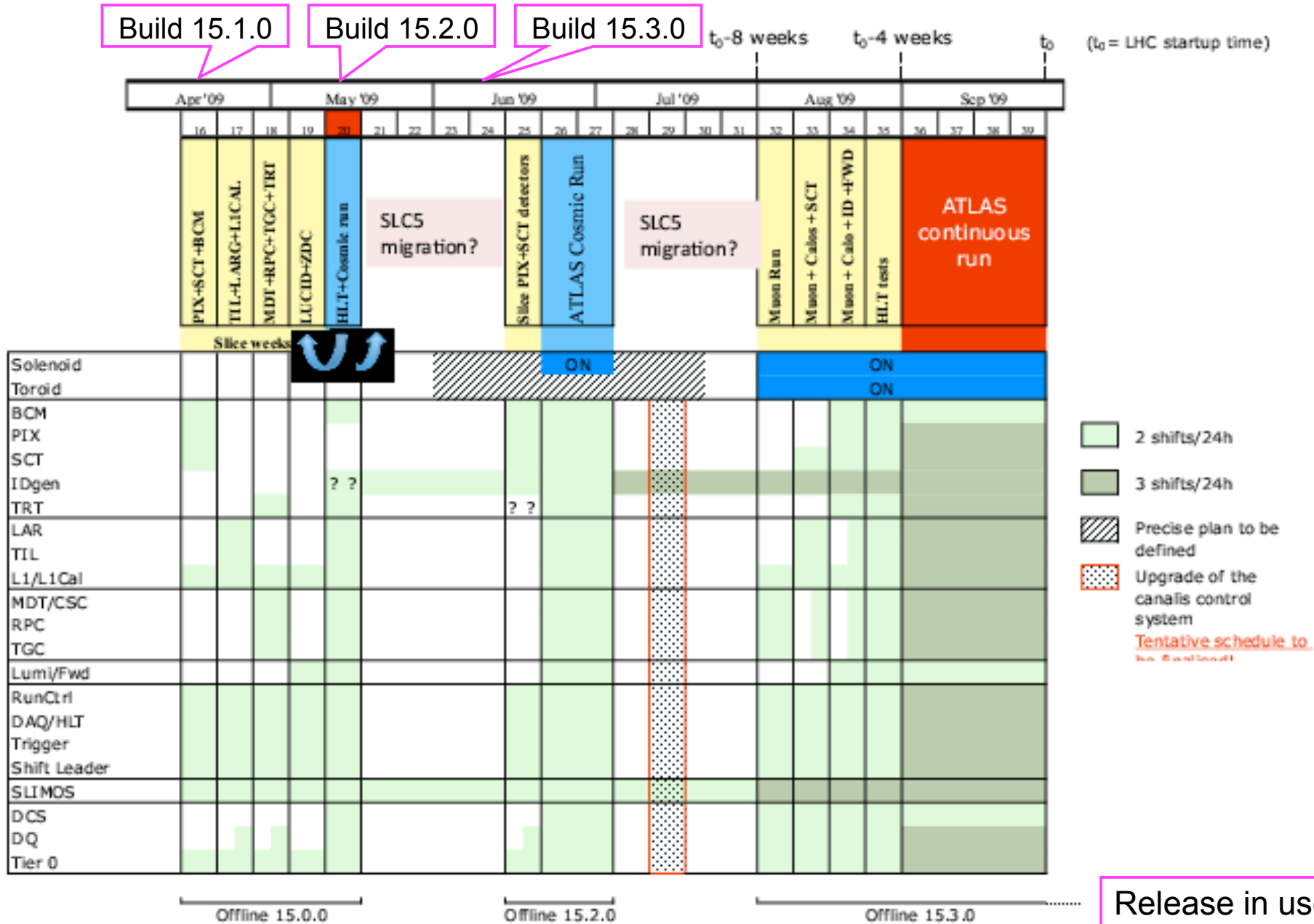
- 15.1.0 15 April
 - tag submission deadline Thu 9 Apr at 21:00
 - Main emphasis is Simulation Production validation
- 15.2.0 13 May
 - tag submission deadline Thu 7 May at 21:00
 - Main emphasis is slice weeks & cosmics runs in late June and MC09 initial production
- 15.3.0 10 June
 - tag submission deadline Thu 4 Jun at 21:00
 - baseline release for ATLAS commissioning and first beams

Announcement from DQ continued

- Dates are two weeks later than original schedule to accommodate additional time needed for 15.1.0 deliverables
- If there is a significant delay in meeting each of these intermediate milestones, the overall schedule has to be maintained such that 15.X.0 is built as the baseline release for ATLAS commissioning and first beams on that date. If necessary we will drop an intermediate release, but that will itself have some repercussions since the intermediate releases are already targeted at important milestones.
- The bottom line is that we will attempt to meet the above schedule, dropping late deliverables if need be, and focussing on stability rather than functionality.
- For developers, the tag submission deadlines for these releases are detailed above. The subsequent days prior to the release will focus on fixing lingering bugs. Any other tag requests made during this time will be deferred until after the release is built.

Run Coordination Schedule

March 25, 2009



1 April 2009

Trigger release plans

Mapping on to trigger deliverables

- Based on discussion between trigger release & validation coordinators, HLT integration coordinators and trigger operations coordinators
 - Cat B: mainly 15.2.0 (13 May), (few/algorithm) changes may spill over into 15.3.0 (10 June)
 - Cat C: for software features, anticipate 15.4.0 in case of LHC delays, which should be known in June.
- Aim for **dates** rather than releases in case of delays
- P1HLT patch releases
 - We expect certain things like menus and monitoring to evolve during commissioning and running.
 - We expect bug fixes reacting to problems identified online.
 - The patch releases will be available for these whenever needed
 - The validation threshold will be very high, so not practical for a large number of late deliverables.
- Looking ahead
 - Run of ~1 year: long time to go without major software updates.
 - Current software will be challenged by collisions for the first time (we hope)
 - Plan now in case we decide a new release needs to be deployed during the run
 - Action underway, coordinated by trigger operations

Top Level Deliverables

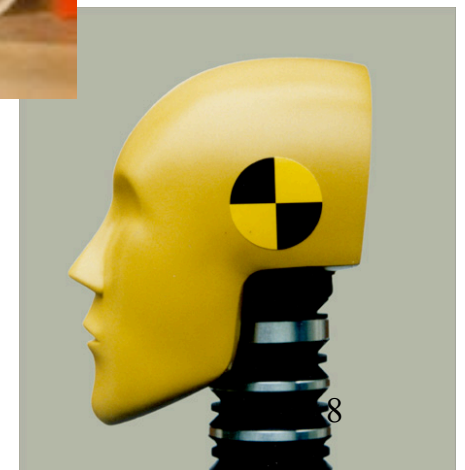


- Athena runs from DB menus (core) [Cat. A] ✓
 - runs from DB jo (core) [Cat. B]
- Menus uploaded to DB and distributed with release (core) [Cat. A] ✓
- Timeout handling within algorithms (core) [Cat. B]
- Serialization/Deserialization monitored and robust against corruption (core) [Cat. A] ✓
- BeamCondSvc gets distributed online beam-spot info (core) [Cat. C]
- Fast update of HLT prescales, i.e. during run or with v. fast stop/start (core) [Cat. A] ✓
- Access COOL folders with timestamp IoV (core) [Cat. B]
- Algorithms able to modify response to missing data modified based on OKS info on which detectors are being read out in a run. (core + all slices) [Cat. B]
- Fast update of info on deactivated RoS or detectors available to algorithms. i.e. during run or with v. fast stop/start (core, calo, ID, Muon) [Cat. B]
- Monitoring tailored for different phases of running: Cosmic, Single Beam, Early collisions, Stable running (monitoring+all slices) [Cat. B]
- Tier0 monitoring comparing offline and HLT quantities (all slices) [Cat. B]
- CAF monitoring in place (all slices) [Cat. B]
- Algorithms automatically configured for Solenoid and Toroid field settings. (core, ID, Muon) [Cat. B]
- Completed definition of Trigger content in DPD (EDM) [Cat. C]
- Changes to follow Muon Review recommendations (muon) [Cat. B]
- Minor EDM changes (ID, Muon, Electron, Jet) [Cat. B]
- Improved use of noisy cell information (calo, egamma, tau, jet, MET) [Cat. B]
- Add LUCID and ZDC chains (min. bias) [Cat. B]
- 10³¹ and startup menus for production (menus) [Cat. A] ✓
 - 10³² menu (menus) [Cat. B]
- Menus for data taking (menus) [Cat. C]
- First version of new TrigDecisionTool for Athena/ARA (menus) [Cat. A.] ✓
 - iteration and client migration [Cat. C]
- Serializer extended to handle top level persistent class (tlp) evolution (EDM) [Cat. B]

A - 6
B - 15
C - 4

To be updated: cat B need to be split into B1 (15.2.0) and B2 (15.3.0).

Validation



1 April 2009

Trigger release plans

The past week

- Nightlies last week mostly ok for general use
- Current problems/issues (see next slide) – more detailed status in 15.X.0 recipes page:
<https://twiki.cern.ch/twiki/bin/view/Atlas/TriggerRecipe15x0ntly>
- Recovering from problems due to the Menu split:
 - lumi1E31 is now MC_lumi1E31 and Physics_lumi1E31 – see Iwona's talk in menus meeting last week
 - Standalone tests breaking due to missing xml file
 - Whole menu being run in slice tests (#48740)
 - ATN references updated but moved back to rel_6 until we can check new menu
 - PIT bus position of CTP inputs changed when L1 menu changed – printed L1 counts are for previous item (#48754)
- Re-running hypos fails in TrigHisto2D (#48646)
 - Waiting for new feature in monitoring (#48530)
- Keeping an average of ~90-100 open bugs in Savannah

Status of Trigger in Nightlies

rel_1, 30/3/2009 - GOOD, but several problems for AtlasAnalysis? tests

In AtlasTrigger, standalone nightlies fail in DEV.

There are several problems in AtlasAnalysis?. In DEVVAL, three packages fail to build:

- CaloMonitoring misses declarations:

```
../src/CaloCellVecMon.cxx: In member function 'virtual StatusCode CaloCellVecMon::bookHistograms  
was not declared in this scope ../src/CaloCellVecMon.cxx:478: error: 'minutes10' was not declared in thi
```

- MuonTagProbe? fails to compile: Problem in MuonTagProbeTool?.cxx (also in DEV): ../src/MuonTag

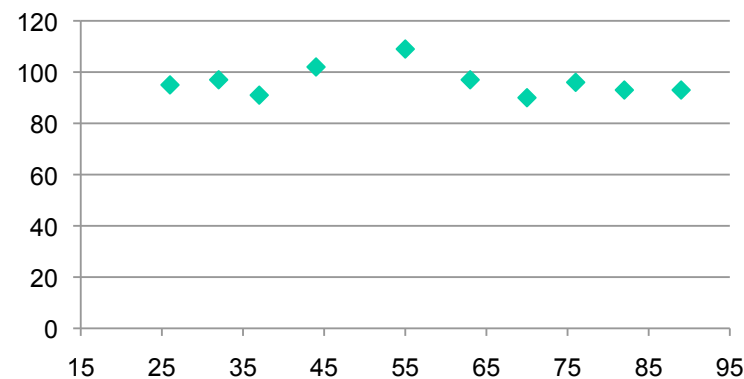
- MuonTrackMonitoring?: problem with ITrigDecisionTool? in ../src/TGCStandaloneTracksMon.cxx:73

rel_0, 29/3/2009 - GOOD except BS->ESD

devval

Mostly the nightly is good with a few problems. The highlights are: rerunning hypos fails in a minbias hy; doesn't build. Here are more details:

Open bugs vs days since 1st January 09



Validation news

- Validation now looking at :
 - 15.X.0 and 15.X.0-VAL in the run up to 15.1.0
 - 15.0.0.Y AtlasP1HLT for possible uses in the technical run
- Changes to ATN/RTT tests :
 - Menu changed from “full” to “default”
 - “default” is currently the same as MC_lumi1E31_no_prescale
 - Some slice tests to have a few chains in addition:
 - Use `GenerateMenu.overrideSignaturesWith([function])`
 - Example in `TriggerTest/testMETSliceAthenaModernRDO.py`
 - Currently need to use `lumi1E31_no_prescale` due to bug #48740
 - In `TrigAnalysisTest` tests added `StreamAOD.CheckNumberOfWrites=True`, to ease debugging of StreamAOD/ESD problems
- New tests :
 - `TriggerTest/AthenaModernRDO_noFPE` – resistant to floating point exceptions
 - `TriggerTest/AthenaModernRDO_StatusCodes` – should crash job on unchecked StatusCodes
 - `TriggerTest/compareXMLvsDBconfig` – compares XML and DB configuration

Validation plans

- Migration to gcc43 and SLC5 will increasingly become a priority
 - gcc43 is an intermediate step to migrate to SLC5
 - SLC5 migration to happen in May or July (see slide 5)
 - Need to start paying attention to this in the nightly tests
- Validation open tasks (counting for OT):
 - **DPD validation:**
 - Performance DPDs
 - Same trigger content as ESD
 - Rely on trigger selection for skimming
 - Physics DPDs should be available soon
 - Place stringent requests on TrigNavigationSlimming (e.g. due to need of writing several streams in parallel) and need careful validation – also being done in physics groups
 - **Migrations to gcc43 and slc5**
 - Covered by Mary Robinson, David Strom, Nick Sinev so far
 - More candidates welcome – especially from non-european time zones

Validation conclusions & outlook

- **Nightlies** are not in a bad state, but there are problems to solve before 15.1.0
- **Validation coffee** meetings have been proving very useful
 - Both or people at CERN and not at CERN – make it easier to know what's going on
- **Publications:**
 - Talk from the validation group presented at CHEP'09 by Wolfgang:
<http://indico.cern.ch/conferenceDisplay.py?confId=55109>
 - Final version of validation paper submitted to ACAT'08 by Danilo:
<http://cdsweb.cern.ch/record/1150903>
- **Near future:**
 - Release 15.1.0 soon: important deliverables to be updated soon (see slide 7)
 - New tag deadline **9th April**; release deadline **15th April**
 - Migration to gcc43 and SLC5 will be the next priorities
- **Open validation tasks:**
 - Migration to gcc43 and SLC5
 - DPD validation



'Belli P.,
S. J. Gonzalez
per A.,
Alex Ravello V.,
ro G. M. de
sler F., Zhao L.
ambio
CERN
di Science
on:
T.
Wolfgang
Zu Flun:
restrate
lgan:

non collisio:
spionem pro:
nglemente m:
a thorough val:
nature used for