

# Automated Validation: Feedback From SIT Meetings

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Software Validation Session

# Introduction

- We had a busy session Distribution WG session:
  - 2 hours on software distribution
  - 2 hours on software testing and validation
    - Really could have spent all 4 hours on this...
- Talks given:
  - Christian Arnault - Discussion of Testing Issues
  - Alessandro Di Salvo - Kit Validation Package
  - RD Schaffer - Atlas Testing Suite
  - Alex Undrus - Automated Testing in Nightly
  - Brinick Simmons - Run Time Tester Work
  - David Rousseau - Comments on Testing in Reconstruction
- I will say less about Run Time Tester (RTT) than other tests because Peter is speaking on it next.

# My view of testing

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- ❖ We currently have three areas where we are doing testing
  - Nightlies
    - mostly “integration/system” tests, can do unit tests
    - Integrated into NICOs, and managed by users
    - Uses cmt patterns, scripts, QMTest (general testing framework)
  - Kit validation
    - “integration” test used to validate distrib kit
    - Runs tests similar to nightly, but not managed by users
    - Test infrastructure set up by Alessandro
  - Runtime tester
    - high stats, run each night
    - Testing more “physics” problems by looking at distributions

# What I would like to see

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- ❖ I think we should see if we can converge the nightly testing and kit validation
  - Possible areas of convergence:
    - Integrate into the user test packages in the release
    - Use the same result analysis
      - How does one check success/failure?
        - E.g. conventions on printout à la Oval, diff tools
    - Common infrastructure?
      - Can we just use QMTest or use Alessandro's infrastructure?
- ❖ I think that run time testing will remain a separate step, but the results can be integrated into the nightly web

# Points Raised in Meeting I

- There is actually quite a lot of info already available.
- The various testing efforts need to be better coordinated to avoid duplication (as on RD's slide).
- Users would like Athena return a status other than zero to expedite detecting problems.
- The Kit Validation approach had desirable features:
  - Self contained
  - Use standard physics generation and simulation
  - Simple, clear output
  - Can run one, some, or all of defined tests
- Kit Validation will be in distributed in release 9.0.0.
- It was suggested to run Kit Validation as one of the nightly tests using QMTest within NICOS.

# Points Raised in Meeting II

- The tests NICOS in the nightly are very useful.
  - NICOS makes it straight forward for developers to add there own tests to the nightlies.
- The NICOS web display of the test results is useful.
  - It was requested that the NICOS webpage link to RTT
  - RTT already links to the test results in NICOS.
- It is really important to test **EVERY** night.
  - Both NICOS and RTT do this.
  - Tests requiring physicists to look at the output fail to this because of human nature.
  - This is not to say that aren't interested in the test results - they are!
  - Must decide which tests are used for go - no go decision on release.

# Points Raised in Meeting III

- RTT has a nice web interface showing its results.
  - The regression mechanism for comparing test results to a standard looks very nice.
- It was suggested that one of the RTT tests run every night look for memory leaks.
  - Not exactly physics validation but still useful...
- We need to understand the best way to get the developers to react to problems that are detected.
- There are a number of tools for comparing test results that can possibly be consolidated.

# Conclusions

- We agreed to meet via phone to discuss the testing the week after CHEP.
- This effort is on the critical path - people want it.
  - The message that many people want good, automated testing is coming through loud and clear.
  - People expect that the automated tests will be used to help make the go / no go decision for production releases but not development releases.