



# Developments since Workshop 2016

---

M. Clemencic

September 25, 2017

CERN - LHCb

- Many changes since September 2016
- A few releases
  - [v28r0](#), [v28r1](#), [v28r2](#), [v28r3](#), [v29r0](#) (*almost ready*)
- Short summary of the changes
  - ignore minor fixes and clean up

# Table of contents

---

1. Build System
2. C++ Framework
3. Multithreading

# Build System

---

# Build System Changes

- Removed CMT support ([v28r0, !186](#))
- Removed references to GCCXML, i.e. require ROOT 6 ([v28r0, !148](#))
- Improved use of external libraries
  - allow use of system version of libraries
  - optional external libraries
  - MacOS fixes
- Support for BINARY\_TAG extension ([v28r2, !289](#))
  - microarchitecture flags
  - optimization flags
- Improvements to GitLab-CI configuration
  - automatic deployment of Doxygen documentation
  - more stable and usable (1<sup>st</sup> validation before merge)
  - enforce coding conventions ([v29r0, !131](#))

# C++ Framework

---

# C++ Framework Improvements

- Require C++14 ([v28r0](#))
- Rewritten **Property** class ([v28r0](#), [!182](#))
  - reduced memory footprint, faster
  - auto-register constructor
- Added auto-register constructors to
  - `ToolHandle` ([v28r3](#), [!374](#))
  - `DataObjectHandle` ([v28r3](#), [!374](#))
  - `ServiceHandle` ([v29r0](#), [!406](#))
- Allow use of [C++ GSL](#) and [Range-v3](#) ([v28r0](#), [!207](#))

# Multithreading

---



- Const-correctness (see Sutter's [presentation](#))
  - reference semantic in `ToolHandle` ([v28r0](#), [!218](#))
  - const methods in `MsgStream` ([v29r0](#), [!395](#))
  - and more... *WIP*
- Externalize algorithm states ([v28r0](#), [!197](#))
- Incidents handling ([v28r0](#), [!181](#))
- Introduced `Gaudi::Functional` framework ([v28r1](#), [!245](#))

# Multithreading: Scheduler

- Support for I/O-bound tasks (v28r0, !178)
- Sequential scheduling (v28r2, !305)
- Support for conditions tasks (v29r0, !366)
- Refactoring and clean up
  - removed obsolete schedulers (v28r0, !202)
  - introduced `PrecedenceSvc` (v29r0, !390)
- Attach unmet input deps to a *loader alg* (v28r2, !269)

## Summary

---

- Many improvements and fixes

# Summary

- Many improvements and fixes
- Deep cleaning not started yet
  - Gaudi v29r0 stable enough for Run2
  - major changes planned for v30r0

# Summary

- Many improvements and fixes
- Deep cleaning not started yet
  - Gaudi v29r0 stable enough for Run2
  - major changes planned for v30r0
- Issues with the contributions procedure
  - too much time to get MRs reviewed

# Summary

- Many improvements and fixes
- Deep cleaning not started yet
  - Gaudi v29r0 stable enough for Run2
  - major changes planned for v30r0
- Issues with the contributions procedure
  - too much time to get MRs reviewed
- Compiling these slides was a pain
  - let's use GitLab labels to categorize MRs
  - define a new strategy for release notes