Compiler and platforms evolution

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Current platforms

Default platforms:

- gcc 6.2 on centos7
- gcc 4.9 on slc6

Switching to gcc 6.2 on slc6 as soon as possible, but some issues:

- Middleware still only available for slc6
- For Gaudi gcc 6.2 implies SSE4_2: LHCbDirac platform selection being adapted.
- QtWebKit from Qt4 (used by bookkeeping) does not compile with gcc6. Replaced by QtWebEngine in Qt5.

Compilers

Now available:

- gcc 7.1
  - Many improvements/optimizations
  - C++ standard suport:
    https://gcc.gnu.org/projects/cxx-status.html
  - already in LCG nightlies
- clang 4.0
  - C++ standard suport:
    https://clang.llvm.org/cxx_status.html
- icc 18
  - Has problems with range v3, Intel is aware
  - Would be useful in order to use the Intel profiling tools
  - C++ standard support:
    https://software.intel.com/en-us/articles/
    c17-features-supported-by-intel-c-compiler

- Move to centos7 is happening
  (The online farm is migrated to centos7)
- As we need to vectorize and gain every % in performance,
  platform specific builds are interesting
- We have started producing a avx2+fma for the Online farm
- How can we best adapt to the hardware while keeping quality
  and limiting operational complexity