CMT Status and Plans

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Outline

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New CMT Release v1r22

- tested in nightly builds and made official on 2nd September
- used with releases 16.0.0, and later
- addressed some issues raised in *Summary of 2010 Atlas Configuration Management Review*

New features

- option `-requirements` for command `cmt setup` to generate standalone requirements file from which generate environment setup script. Aimed to be used for setup caching in order to
  - reduce setup time
  - decrease load on file system
- option `-xml` to produce output in XML format—easily parsable—for commands `cmt setup`, `cmt show projects`, `cmt show uses`. Can be used from other tools

Performance optimisation

- `QUICK` mode—Makefiles only get rebuilt if non-existent—can be used for from scratch build. Aimed to reduce time of code development cycle
- some build time optimisation thanks to combining several CMT commands in one invocation

New tags

- library `-no_static` option
  - enabled in AtlasPolicy-01-06-91
  - full build user+system time gain is $\sim$5%
- C++ preprocessor dependencies generation (one Makefile per source file)
  - enabled in AtlasCxxPolicy-00-00-43
  - useful, in particular, for code development cycle as dependencies re-calculated for modified files only

Ongoing Work

- Performance optimisation
- Exploring possibilities of introducing more (build) parallelism. One of the reasons is that this is where CMake may have advantage over CMT in build time speed, see CMake versus CMT

Summary

- current production release, CMT v1r22
  - allows for code development cycle time optimisation
  - provides possibility for environment setup time optimisation
  - allows for more convenient use from other tools
- new tags in ATLAS CMT configuration allow for further build time optimisation
- work on performance optimisation and introducing more parallelism ongoing