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FRANCE 2030
PROGRAMME DE RECHERCHE
NUMÉRIQUE POUR L'EXASCALE

General workshop Exa-SofT Software Stack Consolidation

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Toulouse

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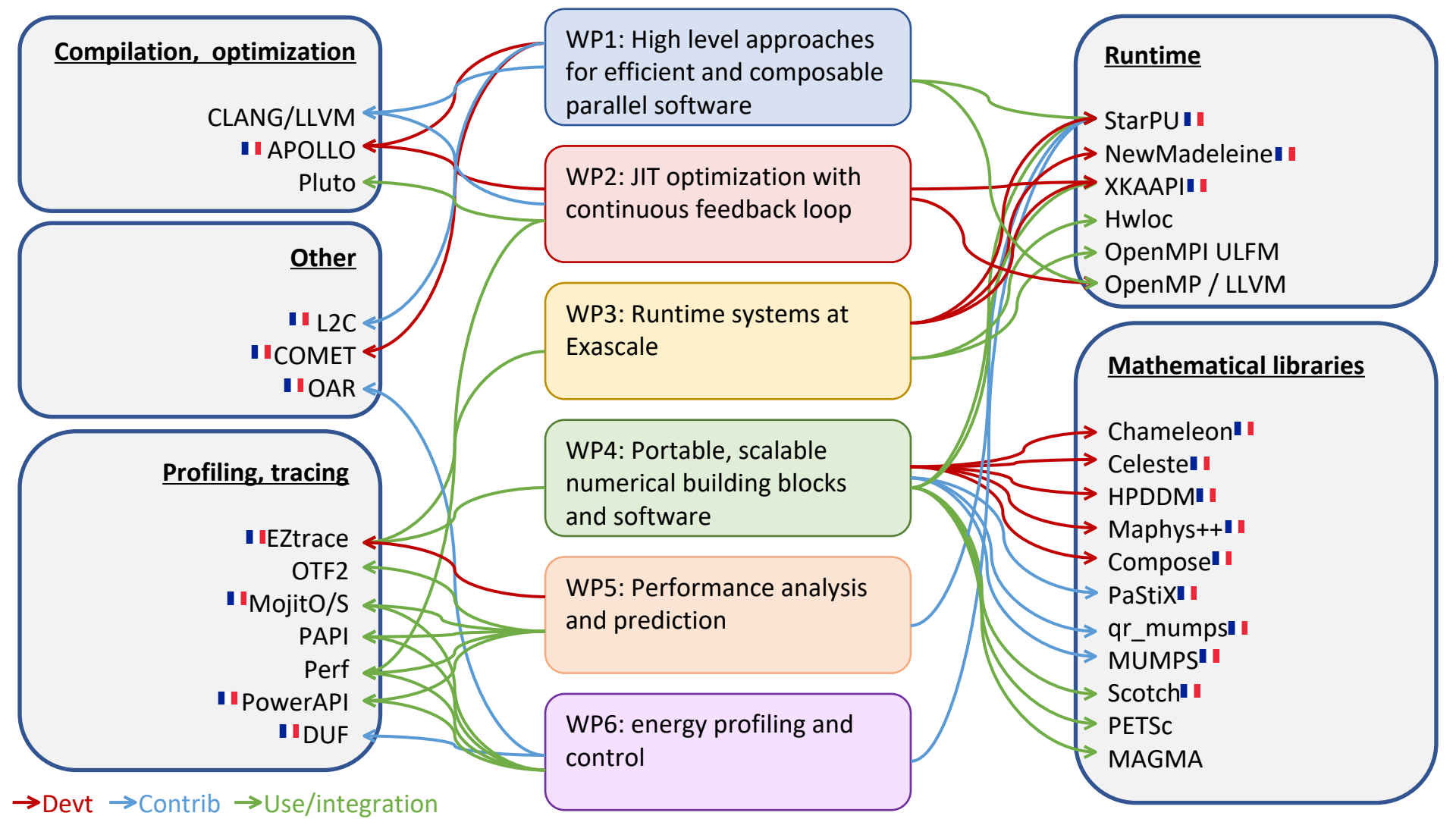
Goals

1. Update the list of software of interest
2. Identify relationships between these software
3. Discuss how to consolidate the software stack


Compilation, optimization
CLANG/LLVM
APOLLO
Pluto
Other
L2C
COMET
OAR
Profiling, tracing
EZtrace
OTF2
MojitO/S
PAPI
Perf
PowerAPI
DUF
WP1: High level approaches for efficient and composable parallel software
WP2: JIT optimization with continuous feedback loop
WP3: Runtime systems at Exascale
WP4: Portable, scalable numerical building blocks and software
WP5: Performance analysis and prediction
WP6: energy profiling and control
Runtime
StarPU
NewMadeleine
XKAAPI
Hwloc
OpenMPI ULFM
OpenMP / LLVM
Mathematical libraries
Chameleon
Celeste
HPDDM
Maphys++
Compose
PaStiX
qr_mumps
MUMPS
Scotch
PETSc
MAGMA
Devt
Contrib
Use/integration

Relationships between software

Cf Excel document

Consolidating the software stack (1/2)

- Which language?
  - If C++, which version?
- How to gather source repositories?
- Packaging?
  - Which tool: GUIX? Spack? debian? Redhat?
  - Who?

Consolidating the software stack (2/2)

- Which distribution?
  - Debian? Other?
- Setting up a CI?
  - Which machine?
  - Which environment?
  - Who?

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