The MetaCC project

Compilation and optimisation on the Grid

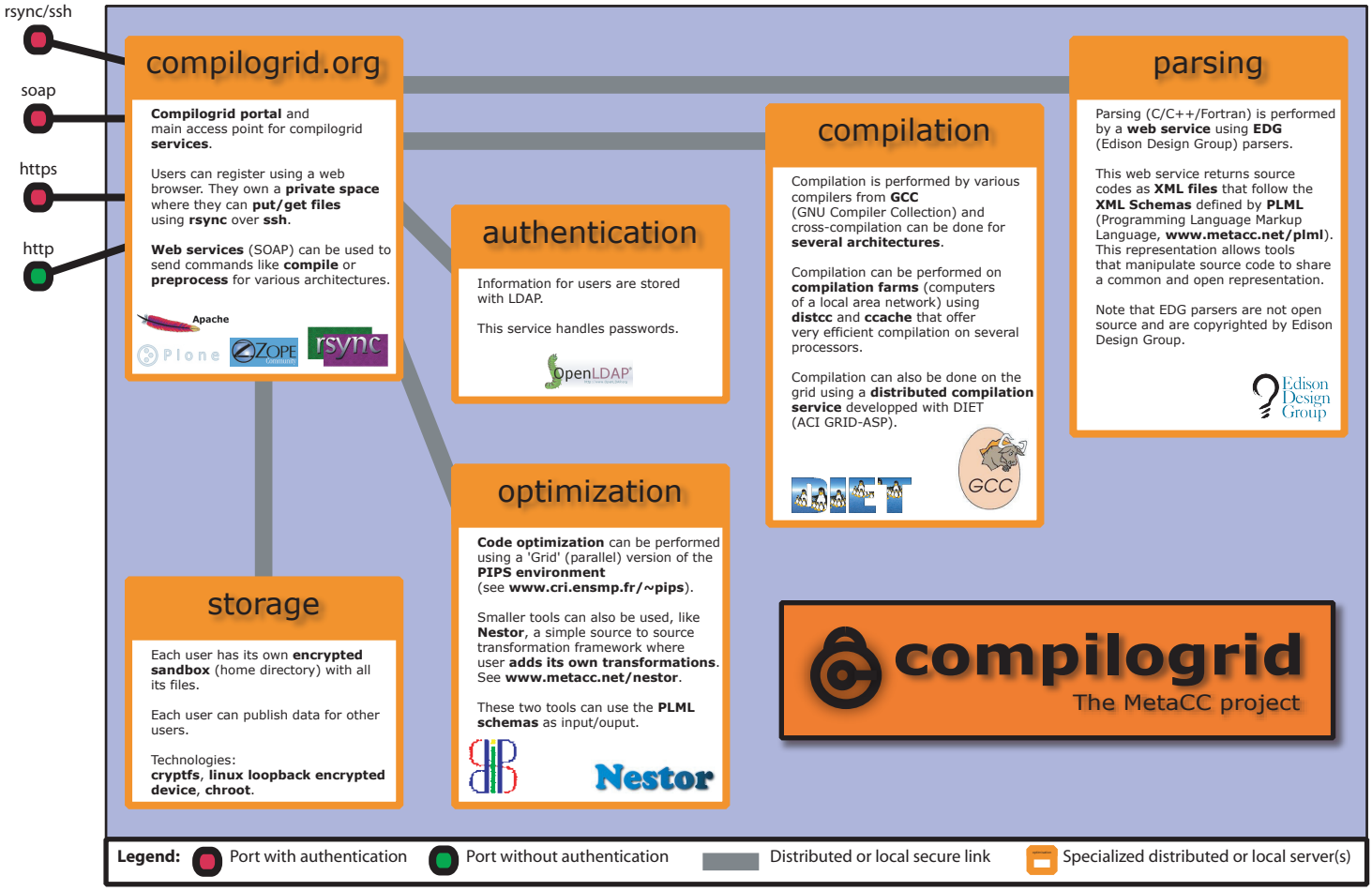
MetaCC
http://www.metacc.net

The goal of the MetaCC team is to study and build an **infrastructure distributed on the grid** for code **optimization** and **compilation.** Our research focus on principles and tools needed to build a powerful, helpful, secure and user-friendly modular infrastructure.

Our main development (in progress) is the **compilogrid portal** (see below).
The goal of compilogrid is to give distant users the ability to **optimize**, **analyze** and **compile** their software projects (source code in C, C++ or Fortran) for several architectures (IA32, IA64, SPARC). After this step, they can obtain an **executable** version for the selected architecture or an optimized and/or verified source code.

We are building several components for this portal, like for instance a **grid version** of the PIPS infrastructure (a source-to-source interprocedural compiler developed by our research center since 1988) and a **parsing web service** producing an XML representation of the source code that can be used by optimisation tools. We also develop a middleware connecting and driving the components.

Compilation is done by GCC compilers with the efficient parallel use of **GNU make**, **distcc** and **ccache**. Storage and authentication are handled by standard tools and kernel modules. User can access its files with a combination of **rsync** and **openssh** that leads to efficient and secure file transfers.



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