

# PROOF-Lite: Exploiting the Power of Many-Core Machines

*Tuesday, March 24, 2009 4:50 PM (20 minutes)*

PROOF-Lite is an implementation of the Parallel ROOT Facility (PROOF) optimized for many-core machines. It gives ROOT users a straight-forward way to exploit the many-cores by using them all in parallel for a data analysis or generic computing task controlled via the ROOT TSelector mechanism.

PROOF-Lite is, as the name suggests, a lite version of PROOF, where the multi-tier architecture has been reduced to a 2-tier one, with the local ROOT client directly interacting with the PROOF workers. By default one gets as many workers as available cores.

To improve performance as much as possible, PROOF-Lite uses local communication technologies as unix-sockets, shared memory and memory mapped files.

PROOF-Lite is a zero-config technology and does not require pre-installation of daemons and config files, it comes as an integral part of ROOT.

In this talk we will show how almost perfect scalability is achieved for CPU intensive tasks and how the scalability is limited to the disk resources for I/O intensive tasks. We will also show the huge improvements the new SSD (Solid State Disk) technology brings and how it can be used to achieve almost perfect scalability also for I/O intensive tasks.

## Presentation type (oral | poster)

oral

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**Session Classification:** Distributed Processing and Analysis

**Track Classification:** Distributed Processing and Analysis