Contribution ID: **158**

Type: **Oral presentation to parallel session**

Stitched Together: Transitioning CMS to a Hierarchical Threaded Framework

Monday 14 October 2013 17:25 (20 minutes)

Modern computing hardware is transitioning from using a single high frequency complicated computing core to many lower frequency simpler cores. As part of that transition, hardware manufacturers are urging developers to exploit concurrency in their programs via operating system threads. We will present CMS' effort to evolve our single threaded framework into a highly concurrent framework. We will outline the design of the new framework and how the design was constrained by the initial single threaded design. Then we will discuss the tools we have used to identify and correct thread unsafe user code. Finally we will end with a description of the coding patterns we found useful when converting code to being thread safe.

Author: Dr JONES, Christopher (Fermi National Accelerator Lab. (US))

Co-author: SEXTON-KENNEDY, Elizabeth (Fermi National Accelerator Lab. (US))

Presenter: SEXTON-KENNEDY, Elizabeth (Fermi National Accelerator Lab. (US))

Session Classification: Event Processing, Simulation and Analysis

Track Classification: Event Processing, Simulation and Analysis