

Performance-Portable High-Level Accelerator Programming

Michael Wolfe,
Compiler Engineer,
The Portland Group, Inc

Abstract—The OpenMP API provides a portable model for efficient, high level thread-parallel programming across platforms, vendors, operating systems. We are developing a model with the same advantages to address compute accelerators. In this talk, we explore today's accelerator

landscape, along with the perils of current programming methods. We demonstrate why OpenCL, while impressive and important, doesn't already solve the programming problem. We close with a summary of the PGI Accelerator Model and the closely-related model being developed by the OpenMP Accelerator subcommittee.