

Preface

OpenMP is a widely accepted, standard application programming interface (API) for high-level parallel programming in Fortran, C, and C++. Since its introduction in 1997, OpenMP has gained support from most high-performance compiler and hardware vendors. Under the direction of the OpenMP Architecture Review Board (ARB), the OpenMP specification has evolved up to the release of version 4.5. This latest version includes several refinements to existing support for heterogeneous hardware environments, many enhancements to its tasking model including the taskloop construct, and support for doacross loops.

The evolution of the standard would be impossible without active research in OpenMP compilers, runtime systems, tools, and environments. OpenMP is both an important programming model for multicore processors and a critical component of the most commonly used hybrid programming model for massively parallel, distributed memory systems. Since most of the growth in parallelism in Exascale systems is expected to arise within a node, these systems will increase the importance of OpenMP.

The community of OpenMP researchers and developers in academia and industry is united under cOMPunity (www.compunity.org). This organization has held workshops on OpenMP around the world since 1999: the European Workshop on OpenMP (EWOMP), the North American Workshop on OpenMP Applications and Tools (WOMPAT), and the Asian Workshop on OpenMP Experiences and Implementation (WOMPEI) attracted annual audiences from academia and industry. The International Workshop on OpenMP (IWOMP) consolidated these three workshop series into a single annual international event that rotates across Asia, Europe, and the Americas. The first IWOMP workshop was organized under the auspices of cOMPunity. Since that workshop, the IWOMP Steering Committee has organized these events and guided development of the series. The first IWOMP meeting was held in 2005, in Eugene, Oregon, USA. Since then, meetings have been held each year, in Reims, France; Beijing, China; West Lafayette, Indiana, USA; Dresden, Germany; Tsukuba, Japan; Chicago, Illinois, USA; Rome, Italy; Canberra, Australia; Salvador, Brazil; and Aachen, Germany. Each workshop has drawn participants from research and industry throughout the world. IWOMP 2016 continues the series with technical papers, tutorials, and OpenMP status reports. The IWOMP meetings have been successful in large part due to the generous support from numerous sponsors.

The cOMPunity website (www.compunity.org) provides access to the talks given at the meetings and to the photos of the activities. The IWOMP website (www.iwomp.org) provides information on the latest event. This book contains the proceedings of IWOMP 2016. The workshop program included 24 technical papers, two keynote talks, and advanced tutorials on OpenMP. All technical papers were peer reviewed by at least two different members of the Program Committee.

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