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Nota di contenuto	Co-Scheduling: Prospects and Challenges -- Recent Processor Technologies and Co-Scheduling -- Contention-Aware Scheduling Policies for Fairness and Throughput -- Allocation-Internal Co-Scheduling-Interaction and Orchestration of Multiple Concurrent MPI Sessions -- Detailed Application Characterization and Its Use for Effective Co-Scheduling; Initial Formulation of Why Disallowing Same Program Co-Schedules Improves Performance -- Virtualization in HPC- An Enabler for Adaptive Co-Scheduling? -- Impact of the Scheduling Strategy in Heterogeneous Systems That Provide Co-Scheduling.
Sommario/riassunto	High-performance computing (HPC) has become an essential tool in the modern world. However, systems frequently run well below theoretical peak performance, with only 5% being reached in many cases. In addition, costly components often remain idle when not required for specific programs, as parts of the HPC systems are reserved and used exclusively for applications. A project was started in 2013, funded by the German Ministry of Education and Research (BMBF), to find ways of improving system utilization by compromising on dedicated reservations for HPC codes and applying co-scheduling of applications instead. The need was recognized for international discussion to find the best solutions to this HPC utilization issue, and a workshop on co-scheduling in HPC, open to international participants the COSH

workshop was held for the first time at the European HiPEAC conference, in Prague, Czech Republic, in January 2016. This book presents extended versions of papers submitted to the workshop, reviewed for the second time to ensure scientific quality. It also includes an introduction to the main challenges of co-scheduling and a foreword by Arndt Bode, head of LRZ, one of Europe's leading computer centers, as well as a chapter corresponding to the invited keynote speech by Intel, whose recent extensions to their processors allow for better control of co-scheduling.
