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	Nota di contenuto	SCI and Competitive Interconnects for Cluster Computing -- SCI and Competitive Interconnects for Cluster Computing -- The SCI Standard and Applications of SCI -- A Comparison of Three Gigabit Technologies: SCI, Myrinet and SGI/Cray T3D -- SCI Hardware -- SCI Hardware -- Dolphin SCI Adapter Cards -- The TUM PCI/SCI Adapter -- Interconnection Networks with SCI -- Interconnection Networks with SCI -- Low-Level SCI Protocols and Their Application to Flexible Switches -- SCI Rings, Switches, and Networks for Data Acquisition Systems -- Scalability of SCI Ringlets -- Affordable Scalability Using Multi-Cubes -- Device Driver Software and Low-Level APIs -- Device Driver Software and Low-Level APIs -- Interfacing SCI Device Drivers to Linux -- SCI Physical Layer API -- Message Passing Libraries -- Message Passing Libraries -- SCI Sockets Library -- TCP/IP over SCI under Linux -- PVM for SCI Clusters -- ScaMPI – Design and Implementation -- Shared Memory Programming Models and Runtime Mechanisms -- Shared Memory Programming Models and Runtime Mechanisms -- Shared Memory vs Message Passing on SCI: A Case Study Using Split-C -- A Shared Memory Programming Interface for SCI Clusters -- True Shared Memory Programming on SCI-based Clusters -- Implementing a File System Interface to SCI -- Programming SCI Clusters Using Parallel CORBA Objects -- The MuSE Runtime System for

SCI Clusters: A Flexible Combination of On-Stack Execution and Work Stealing -- Benchmark Results and Application Experiences -- Benchmark Results and Application Experiences -- Large-Scale SCI Clusters in Practice: Architecture and Performance -- Shared Memory Parallelization of the GROMOS96 Molecular Dynamics Code -- SCI Prototyping for the Second Level Trigger System of the ATLAS Experiment -- Tools for SCI Clusters -- Tools for SCI Clusters -- SCI Monitoring Hardware and Software: Supporting Performance Evaluation and Debugging -- Monitoring SCI Clusters -- Multi-User System Management on SCI Clusters -- Perspectives -- Perspectives -- Industrial Takeup of SCI and Future Developments.

Sommario/riassunto	Scalable Coherent Interface (SCI) is an innovative interconnect standard (ANSI/IEEE Std 1596-1992) addressing the high-performance computing and networking domain. This book describes in depth one specific application of SCI: its use as a high-speed interconnection network (often called a system area network, SAN) for compute clusters built from commodity workstation nodes. The editors and authors, coming from both academia and industry, have been instrumental in the SCI standardization process, the development and deployment of SCI adapter cards, switches, fully integrated clusters, and software systems, and are closely involved in various research projects on this important interconnect. This thoroughly cross-reviewed state-of-the-art survey covers the complete hardware/software spectrum of SCI clusters, from the major concepts of SCI, through SCI hardware, networking, and low-level software issues, various programming models and environments, up to tools and application experiences.