

1. Record Nr.	UNISA996466148003316
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Titolo	The Cray X-MP/Model 24 [[electronic resource]] : A Case Study in Pipelined Architecture and Vector Processing / / by Kay A. Robbins, Steven Robbins
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 1989
ISBN	0-387-34787-9
Edizione	[1st ed. 1989.]
Descrizione fisica	1 online resource (VIII, 172 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 374
Disciplina	004.1/1
Soggetti	Architecture, Computer Microprocessors Programming languages (Electronic computers) Operating systems (Computers) Arithmetic and logic units, Computer Computer System Implementation Processor Architectures Programming Languages, Compilers, Interpreters Operating Systems Arithmetic and Logic Structures
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Overview of the Cray X-MP/Model 24 -- The control section -- The scalar section -- The address section -- Vectors and vector operations -- Memory access -- Interprocessor communication and multitasking.
Sommario/riassunto	This book examines the issues relevant to the design of vector and pipelined computer systems using the Cray X-MP/24. The purpose of the book is to help the readers arrive at a deep understanding of how vector processing systems really work. These insights will be useful to the scientist who would like to obtain maximum performance from a vector machine, to the computer science student, and to the compiler writer. The book can also be used to supplement a regular textbook in a graduate or senior level course in computer architecture. The book looks at the overall design of the Cray X-MP and then explores the

operation of the machine by looking at detailed timings of various instructions and code segments. It examines such issues as instruction issues and buffering, handling of jump instructions, use of registers to hold intermediate results, memory conflicts resulting from vectorization, optimal vectorization of multiple statement loops, and synchronization problems with multi-tasking. Detailed Gantt charts are provided to guide the reader through the timing issues.
