THEME FEATURES

11 Supersystems for the 80's: Guest Editors' Introduction
Svetlana P. Kartashev and Steven I. Kartashev
LSI technology has led to architectural adaptation and increased computational concurrency—powerful means of improving throughput.

17 Adaptable Architectures for Supersystems
Charles R. Vick, Svetlana P. Kartashev, and Steven I. Kartashev
New adaptation properties for supersystem architectures will allow higher throughputs from the same hardware, lengthening system life cycles.

37 Ballistic Missile Defense: A Supercomputer Challenge
Carl G. Davis and Robert L. Couch
Incredibly complex ballistic missile defense computational problems have been a source of technological advance. The BMD challenge will stimulate supercomputer development through the 80's.

48 Data Flow Supercomputers
Jack B. Dennis
Programmability with increased performance? New strategies to attain this goal include two approaches to data flow architecture: data flow multiprocessors and the cell block architecture.

57 Task Allocation in Distributed Data Processing
Wesley W. Chu, Leslie J. Holloway, Min-Tsung Lan, and Kemal Efe
Load balancing increases throughput but creates interprocessor overhead. A programming approach to task allocation strategy is most likely to balance these conflicting factors.

71 Second Generation of Vector Supercomputers
Edward W. Kozdrowicki and Douglas J. Theis
Integral scalar processing and increased parallelism are major advances in supercomputer evolution. Three second-generation machines—BSP, Cyber 205, and Cray-1—are described and compared.

SPECIAL FEATURES

84 Tutorial Series—2: Perspectives on Business Data Processing
G. A. Champine
Second in a series commissioned by the Computer Society, this tutorial establishes "typical" application and system requirements for the diverse activities comprising business computing.

100 Workshop Report: Computer Packaging Workshop Explores Impact of LSI
J. W. Balde
A greater percentage of total system cost will be in packaging, making the role of the system packaging engineer crucial for ensuring reasonable system cost.

104 The Open Channel
Notes on Whistle Blowing Eric A. Weiss
Scanic 9: Standard Constrained Alphanumeric Interface Compromise Stephen Kearney

DEPARTMENTS

7 Special Message
8 Letters to the Editor
106 New Products
114 IC Announcements
115 Microsystems Announcements
116 New Applications
121 Update
124 Classified Ads
128 Short Courses & Seminars
130 Call for Papers
132 Calendar
136 Advertisers/Product Index
137 The Bookshelf
Reader Service Cards, p. 136A; Order Form, p. 138C.