Fourth Edition

INTERNATIONAL **STRUCTURED COMPUTER** ORGANIZATION **Andrew S. Tanenbaum**

COMPUTER ARCHITECTURE, INC. ASSEMBLER HIGH-LEVEL LANGUAGE LOADER LOW-LEVEL Assembly "Fourscore LANGUAGE d seven ... language level "Da-Da OPERATING SYSTEM Operating system level RACE PENTIUM II STACK ISA STOCKS level Microarchitecture NTERPRETER level ADDER Digital DYNAMIC RAN 1 Hz CLOCK 1 logic FLIP MICRO FLOP level JAVA

PIPELINE

CACHE

JAVA MACHINE

UltraSPARC

GATE

BUS ARBITER MEMORY BUS



Figure 1-1. A multilevel machine.



Figure 1-2. A six-level computer. The support method for each level is supported is indicated below it (along with the name of the supporting program).