CodeTAP* for i960° CA/CF Microprocessors



- Real-Time, C/C++ Source-Level **Debugging Tool for Software** Engineers
- Fully Transparent, Real-Time Operation at 40 MHz
- Supports all i960® CA and CF **Processor Features**
- Compatible with Intel, GNU, and **MRI** Compilers
- 8K Instruction Trace
- Hardware and Software Breakpoints
- **Ethernet Communications on Sun** and HP Workstations
- Break on or Run across FMARK Instructions
- Profile Support for Optimizing Compilers
- Big-Endian Support
- Same Intuitive Source-Level Debugger Interface as the EL 3200

CodeTAP* is an entirely new class of debugging tool designed to help software engineers handle the specific tasks they face, right at the workstation or PC. CodeTAP replaces the i960 CA or CF microprocessor on the target with a compact Target Access Probe. The Probe connects to a PC, SUN or HP 9000 workstation. The patented CodeTAP uses the latest in emulation technology integrated into a custom ASIC to give software programmers visibility and control for executing and debugging code. With CodeTAP, a user does not have to modify the code required to link in a software monitor. CodeTAP does not consume any target memory, interrupt vectors or target I/O locations.

CodeTAP supports all i960 CA and CF processor features, including instruction and data caches, burst mode, pipelining and different bus widths. Instruction trace helps analyze software performance under real-time conditions. The 8K trace buffer captures the flow of instruction events during code execution at full processor speed, with the instruction cache enabled. Four hardware breakpoints (two execution and two access breakpoints) and 64 soft-



ware breakpoints are available to track and isolate bugs. The CodeTAP TCP/IP Ethernet communications interface offers design teams a completely networked development solution, with no need for remote debugging operations. The interface to the CodeTAP is MWX-ICE, a highly intuitive, multi-windowed C/C++ source and assembly-level symbolic debugger. Applied's full-scale i960 processor emulator uses the same interface, so a user can move easily between both tools. Source code, monitored data, registers, flags, stack contents, debugger commands and breakpoints information can all appear simultaneously. MWX-ICE provides access to high-level data structures and dynamic variables, and supports several compilers, including Intel, GNU and MRI.

HOST SYSTEMS SUPPORTED: PC, Sun SPARC, HP 9000/700

PROCESSORS SUPPORTED: i960 CA/CF Processor

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