NetROM™
Universal Target Communicator

Highlights

- High-speed Ethernet connection between target and host
- Rapid code download over Ethernet eliminates slow serial downloads
- Integrated with industry-leading source-level debuggers
- Offers 1 MB emulation memory to support large code images
- Provides writeable memory for breakpoints in ROM space
- Virtual UART provides a LAN channel for your application
- Supports task-aware and system-level debugging
- Lowers tool costs with a reusable development and debugging tool

NetROM enhances the power of all your development tools.

Host Environment
- Source-Level Debugging

NetROM™
- Target Communication (Virtual UART/Ethernet)
- ROM Connection
- Target Reset Control
- Processor-Independent
- Enhances Debug Monitor

NetROM works with your debugger and your microprocessor to deliver universal communications and run-control that make your target talk.

The Power of Local Area Networking for Embedded Development

NetROM™ is a revolutionary product for embedded software developers. NetROM integrates the power of local area networking into your development process. This capability shortens your development cycle by increasing the speed of your development tasks.

Today's embedded system developers employ a technique known as cross development: creating software on a host computer and moving it to a target computer for execution. NetROM accelerates this process by:
- Adding network connectivity to your target without requiring Ethernet hardware or software on your target
- Eliminating the need to burn EPROMs
- Replacing slow serial downloads with fast Ethernet downloads
- Allowing target debugging to occur from any network host rather than a dedicated workstation

Applied Microsystems Corporation

NetROM Universal Target Communicator—Makes Your Target Talk

Network Your Target

NetROM revolutionizes embedded system debugging by connecting target systems to Ethernet networks using NO target resources. A communications gateway, NetROM provides a full TCP/IP protocol stack and multi-tasking operating system which cleanly integrates your target to the Ethernet via its ROM sockets. As a result, NetROM transforms any ROM based target into a network node which is accessible from any host for all cross development activities.

Moving code from your host to your target is now fast and easy. NetROM accomplishes code downloads over the Ethernet using a commonly found protocol known as Trivial File Transfer Protocol (TFTP). In addition host initiated file downloads may be accomplished using Transmission Control Protocol (TCP). These standard protocols are present on all UNIX workstations and most Personal Computers connected to IP networks.

Communicate with Your Target

Debugging the code resident on your target system occurs through NetROM's debug communication path. This path utilizes a feature unique to NetROM— a Virtual UART. The Virtual UART is a dual port RAM which overlays 2K bytes of EPROM memory space. Operating at memory speeds, the Virtual UART provides a high speed link through which your source level debugger communicates with your target based monitor. This frees your target's physical UART for purposes other than code debugging, such as a user interface. The Virtual UART has been integrated into many existing debug monitors or agents, including: Tornado (WindRiver), XRAY (Microtec Research, Inc.), gdb (Free Software Foundation), XRAY+ (Integrated Systems, Inc.), and SingleStep (Software Development Systems).

NetROM coupled with a source-level debugger delivers high productivity at a low cost.

A Universal Solution

No matter what microprocessor you are working with, NetROM enhances the capabilities of your debugger or target monitor. NetROM's universal support means you get a familiar, reusable tool and higher per-project profitability.

Control Your Target

To give the programmer complete target control from any network host, NetROM provides eight progammable command lines that are used to direct the target. These signals are initiated on command by the programmer from a network host. Common uses include: driving the target's reset, NMI and ABORT pins. Additionally, eight status lines are available for monitoring specific events on the target.

Specifications

Memory access speeds up to 55 ns
8, 16, 32 bit word sizes
1 MB emulation memory

Supported Tools

NetROM supports a variety of debuggers and monitors from WindRiver, ISI, SDS and Green Hills for Motorola 68K and Power PC, Intel 80960, Intel x86, MIPS R3000/4000, AMD 29K, Hitachi SH, NEC V800, and the SPARC family. Contact your Applied Microsystems sale representative for the latest information about supported vendors or visit our web site at http://www.amc.com.

For more information, call 1-800-426-3925, e-mail info@amc.com, or browse http://www.amc.com