



# GNUPro™ 03r2 TOOLS FOR EMBEDDED SYSTEMS DEVELOPMENT

*Red Hat Global Engineering Services Announcement Letter  
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## OVERVIEW

Red Hat's GNUPro 03r2 toolsuite for embedded software development provides:

- Easy to install versions of the full suite of industry standard GNU cross development tools and libraries for embedded systems, targeting ARM/XScale, MIPS and PowerPC architectures
- GNUPro documentation, including a "Getting Started" guide and tutorials
- Fast, knowledgeable support through direct access with our world-class support experts

This new release includes performance and usability enhancements, as well as upgrades to the underlying GNU tools

## DESCRIPTION

GNUPro, recognized as the world's most popular embedded development tools suite, is a collection of tools and runtime technologies that enables the creation, deployment and testing of target software components for devices.

The core of the GNUPro toolsuite are specially configured, built, tested and supported versions of the GNU development tools, including:

- GCC version 3.3
- GDB version 6
- Insight, the graphical debugger interface, version 6
- GNU binutils version 2.14
- The newlib ISO C runtime library, version 1.10

Additional GNUPro enhancements to the core GNU utilities include processor specific optimizations, cross development usability enhancements, and bug fixes backported from the very latest development sources for these tools.

All GNUPro 03r2 compilers for embedded development generate ELF object files and DWARF2 debug info by default.

# GNUPro

The following target configurations are supported:

Configuration	Targets	Description
arm-elf	<ul style="list-style-type: none"><li>• Simulator</li><li>• GDB Remote Stub</li></ul>	Generates ARMv4 and ARMv5 compatible code, supporting ARM7, ARM9, ARM10 and XScale families of processors. New features in GNUPro 03r2 include: <ul style="list-style-type: none"><li>• support for the APCS (ARM/Thumb Procedure Call Standard), the revised version of the APCS</li><li>• support for the new VFP floating point format</li><li>• workarounds for hardware bugs in the SA1110 processor</li></ul>
mips-elf	<ul style="list-style-type: none"><li>• Simulator</li><li>• GDB Remote Stub</li></ul>	Generates MIPS1 compatible code by default using the O32 ABI. New features in all GNUPro 03r2 MIPS tools include: <ul style="list-style-type: none"><li>• support for a wide variety of new ISAs including those for PMC-Sierra's RM7000 and RM9000x2, NEC VR-series and Broadcom's BCM1250</li><li>• processor specific optimizations for the NEC VR-series, and PMC-Sierra's RM7000 and RM9000x2 processors</li></ul>
mips64-elf	<ul style="list-style-type: none"><li>• Simulator</li><li>• GDB Remote Stub</li></ul>	Generates MIPS3 compatible code default using the O64 ABI. See mips-elf, above, for more info.
mipsisa64-elf	<ul style="list-style-type: none"><li>• Simulator</li><li>• GDB Remote Stub</li></ul>	Generates MIPS64 compatible code by default, using the EABI binary interface. See mips-elf, above, for more info.
powerpc-eabi	<ul style="list-style-type: none"><li>• Simulator</li><li>• GDB Remote Stub</li></ul>	Generates PowerPC compatible ELF object files. New features in GNUPro 03r2 include: <ul style="list-style-type: none"><li>• support for Motorola's e500 SPE core</li><li>• support for IBM's Power4 architecture</li></ul>

This latest release of Red Hat's GNUPro for embedded systems development runs on:

- Red Hat Enterprise Linux 2.1 and v.3 for x86
- Sun Solaris 2.6, 2.7, 2.8 and 2.9 for sparc
- Microsoft Windows 2000 and XP

## AVAILABILITY

GNUPro 03r2 support offerings for embedded systems development are available immediately.

## RED HAT SALES AND GENERAL INQUIRIES

In Japan, contact sales at [embedded-jp@redhat.com](mailto:embedded-jp@redhat.com).

In the U.S. and elsewhere, call toll free +1-866-273-3428 x 45222.