Open Firmware, formally described by IEEE Standard 1275-1994, is the first non-proprietary open-standard boot firmware that is usable on different processors and buses. The Open Firmware specification defines:

- A processor-independent device interface that allows an add-in peripheral card to identify itself and to supply a single boot driver that can be used, unchanged, on any CPU using Open Firmware.
- A user interface with powerful scripting and debugging capabilities.
- A client program interface that allows operating systems and their loaders to make use of Open Firmware services to assist in the configuration and initialization process.

FirmWorks has complete Open Firmware implementations for a range of system configurations.

- Most popular CPUs including:
  - ARM
  - Intel 80x86
  - MIPS®
  - PA-RISC
  - PowerPC™
  - SPARC™
  - 680x0

FirmWorks’s Open Firmware implementation is extremely portable. If your CPU type is not listed, please call for current availability information.

- Buses including:
  - PCI
  - ISA
  - SBus
  - VME

- Operating systems including:
  - AIX
  - LynxOS
  - Mac™ OS
  - NetBSD
  - Solaris
  - VxWorks
  - Windows NT®

FirmWorks’s Open Firmware implementations are available now and comply with:

- IEEE Std 1275-1994 Standard for Boot (Initialization Configuration) Firmware: Core Requirements and Practices
- Applicable IEEE 1275 CPU Binding Specifications
- Applicable IEEE 1275 Bus Binding Specifications
- Applicable IEEE 1275 Recommended Practice Documents

The core technology of FirmWorks’s Open Firmware implementations is a small, fast, efficient Forth micro-kernel enabling powerful, interactive debugging and automated system configuration.

This mature code is based on a field-proven implementation and can be easily ported to your specific system architecture.

**FirmWorks Implementation Features**

- Provides machine-independent configuration and booting support for plug-in devices.
- Provides a framework for plug-in drivers so that user-installed peripherals boot “out-of-the-box”.
- Provides a standard set of firmware functions for use by “client programs”: operating systems, loaders, diagnostics, etc.
- Provides complete run-time configuration information to client programs.
- Contains a full ANS Forth interpreter for interactive programming, debugging and configuration.
- Off-the-shelf drivers are available for many commonly-used devices. (And, if we don’t have what you need, we can create it for you easily.)
- Many experience-driven debugging and programming extensions that will enable you and your customers to be more productive.

**Technical Support Available**

- Telephone support.
- Consulting services.
- Training
  - At FirmWorks.
  - At your site.
- Porting to your system.
  - Modifications for your architecture.
  - Creation of custom drivers.
- Bring-up assistance with new systems.

**Licensing**

Source code licenses and object code distribution licenses are available.

**For More Information**

FirmWorks
Suite 115
480 San Antonio Road
Mountain View, CA 94040-1218
Tel: +1 (650) 917-0100
Fax: +1 (650) 917-6990
info@firmworks.com
http://www.firmworks.com

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