

Marvell SheevaPlug Development Kit

Always-on Computing for the Digital Home



▶ PRODUCT OVERVIEW

Marvell®'s SheevaPlug™ is a plug computer — an embedded computer that plugs into the wall socket and can run network-based services that normally require a dedicated personal computer. Featuring a 1.2GHz Marvell Sheeva™ CPU with 512MB of flash memory and 512MB of DDR2 memory, the SheevaPlug provides ample processing power and resources to run any embedded computing application. Network connectivity is via Gigabit Ethernet; peripheral devices can be connected using USB2.0. Software for the SheevaPlug includes multiple Linux distributions and follows the open-source model, making the SheevaPlug an ideal platform on which to develop or port any application. The SheevaPlug development kit contains the SheevaPlug as well as all of the software tools needed to develop applications for the platform.



Fig 1. SheevaPlug Development Kit (front)



Fig 2. SheevaPlug Development Kit (side)

▶ FEATURES

- End-product form factor
- Open platform
- High performance with low power
- GHz class processor
- Built-in debug support

BENEFITS

- Professional demonstration of new applications
- Suitable for initial trials
- Shorter time to production
- Available at low cost to any interested developer
- Readily available Linux distributions
- Community support
- Ideal for always-on computing tasks
- Easier to port existing software without modification
- Run multiple applications concurrently
- Wirespeed packet processing
- Fast response for interactive applications
- High speed access to USB 2.0 connected storage
- Direct connect to a PC via mini USB cable
- JTAG access
- Serial console interface

▶ APPLICATIONS

In the plug computing model, network-based software services that are normally run from a desktop or laptop computer are instead delivered from a more efficient device that can be left on all of the time and at 10 percent of the cost. Basic examples of network-based services include web, email, and virtual private networks that are run on servers hosted in homes and small offices. A rapid increase in the amount and variety of digital content and network-connected devices in the home is creating even more opportunities, as increasing numbers of software services are needed to locate, manage, secure, and share this data.

Unlike Web 2.0 hosted services that use central servers on the Internet to store copies of data, the plug computing approach distributes computing power to every home. A plug computer can take advantage of peer-to-peer connectivity over the Internet, as well as the latest network protocols—such as Universal Plug and Play (UPnP)—that only work between devices in the home. In some scenarios, a hybrid approach, which combines hosted services with an in-home computing resource, can reduce deployment costs and make services easier to use.

Developers can create native applications for the SheevaPlug on the open-source Linux platform. Marvell has also created RainDrop, an open-source API framework that makes it effortless to deploy third-party applications onto the SheevaPlug securely and in a resource-defined manner. Finally, the SheevaPlug supports a Java Virtual Machine and an OSGI stack, allowing for the rapid deployment of third-party OSGI services.

▶ BLOCK DIAGRAMS

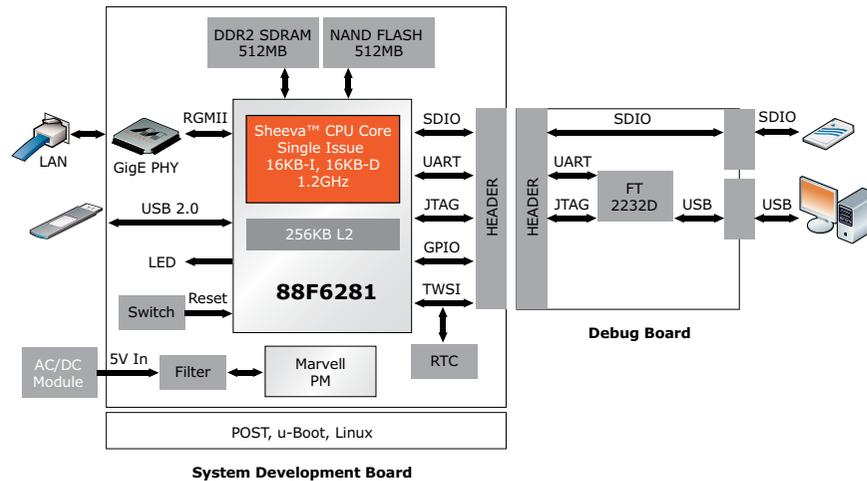


Fig 3. Block Diagram

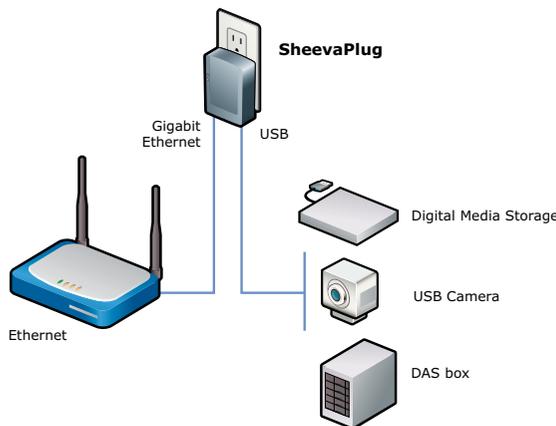


Fig 4. Installation Diagram

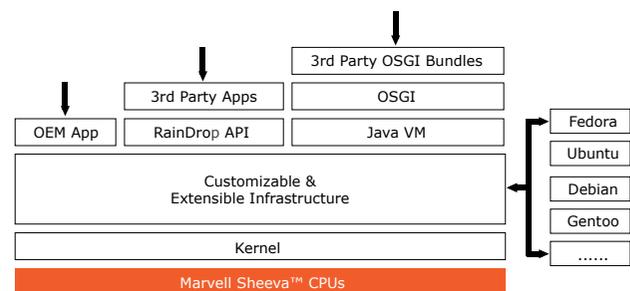


Fig 5. Software Development Diagram

▶ PACKAGE CONTENTS

SheevaPlug, USB cable, ethernet cable, CD containing software and documentation.

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