

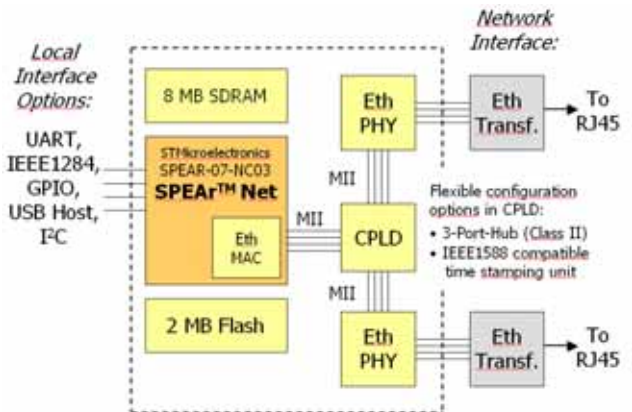
StarTarget7 Kit

SPEAR™ Net ARM7 CPU from STMicroelectronics

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Complete Evaluation Set
Hardware, Software, Tools, Demos
Licences and Technical Support



An Ultra fast 3-port Ethernet Hub (360 ns delay) is realised in the CPLD and allows the user to integrate the board into line topologies, which is important in industrial applications.

Development Kit Editions

The Kit comes complete with hardware, 4NetOS operating system software including several extensions as well as all required development and administration tools. It is available in 2 different editions.

The **Base Edition** is offered for entry-level C Programming on SND's StarTarget7 board. All C-Tools are included and the 4NetOS Operating System can be rebuilt using SND's standard driver library targeting the StarTarget7 board. 30 days of technical support and updates are included.

The **Professional Edition** combines the options of both the Base Edition with a Java Virtual Machine, so applications can be programmed in Java or in C. Additionally, all device drivers are supplied in source code, new device drivers can be added and the OS can be adapted to support any customer specific hardware. Even the hardware itself can be redesigned, as the schematics of SND's StarTarget7 board are also supplied in this edition. 90 days of technical support and updates are included.

Both Editions run on any PC with Windows 2000/XP and Ethernet Adapter Card. A Java2 Standard Edition (J2SE) SDK from Sun Microsystems v1.4 or newer (available for free via Internet) is required to run some parts of the Client/Server demo software and for Java programming for the Professional Edition.

Licensing

The kit price includes permanent licences to the development tools as well as an Evaluation Licence for 4NetOS® Base Version with all Extensions including 30 days of technical support and update service for the Base Edition and 90 days for the Professional Edition. Up to 10 development seats can be equipped with this licence. For serial products based on 4NetOS an upgrade to any of the production licence levels is required. The licence policy is based on a royalty system.

Additional Information

For SPEAR™ CPU architecture see: <http://www.st.com>.

For the network Operating System 4NetOS® and StarTarget7 board see: <http://www.smartnd.com>.

This Kit is designed for an easy and fast development of embedded networking applications based on an industry standard ARM7 core, using the SPEAR™ Net CPU from STMicroelectronics, and SND's Embedded Network Operating System 4NetOS®. The StarTarget7 is a compact Single Board Network Computer of just 3x4 cm in size. It comes on a shuttle board intended to carry the CPU Board, along with a power supply, 2 RJ45 Ethernet sockets, an RS232 port, a USB host port, a JTAG debug port and additional expansion ports.

Network Operating System 4NetOS®

The Network Operating System 4NetOS® has been specifically optimised for highly efficient network communication and a very small memory footprint. It offers a Protocol Manager, a File Manager, a Device Manager with a Hardware Abstraction Layer (HAL) and various related system functions.

Supported protocols and features in 4NetOS® will include:

- ARP, IP, ICMP, UDP, TCP, DHCP, SNMP, SMTP
- File system (RAM disk, flash disk, memory cards)
- HTTP client and server incl. SSL
- FTP client and server and Telnet server
- Modem dial-up/dial-in with PPP client and server
- Fully certified Bluetooth V1.2 host protocol stack
- Java™ Virtual Machine (J2ME/CLDC)
- JPEG compression and decompression
- Real-Time Ethernet Protocols

Supported device drivers in 4NetOS® are:

- UART, SPI, I²C, RS232, RS485, RS422
- Parallel ports (IEEE1284, FIFO, Dual-Ported RAM)
- 10BaseT/100BaseTX Ethernet
- AT modem drivers (to follow soon)
- Drivers for Bluetooth and ZigBee chipsets
- USB device and host (to follow soon)

StarTarget7 Board

The StarTarget7 Board can serve as development platform, but most customers use it as an OEM board level product integrating it into an existing product. The StarTarget7 board comes with 2 MB Flash and 8 MB SDRAM as well as 2 Ethernet interfaces, 1 UART, 1 I²C and 1 USB host as shown in the following block diagram: