

Integrated embedded operating system and cross-development platform

Overview

NET+Works is a complete development environment for Ethernet/Internet enabling embedded devices. It is specifically optimized for our NetSilicon® 32-bit NET+ARM processors, Digi Connect® embedded modules, and ConnectCore™ core modules. NET+Works includes development tools, JTAG or software debugger, a development board, a royalty-free Real-Time Operating System (RTOS), and networking software in an easy-to-use, integrated solution. NET+Works reduces design risk, speeds time to market and simplifies development of your system.

About NET+Works 6.3

With NET+Works, you can start with the sample application programs provided and create a custom software application with the built-in APIs and integrated development tools. You can evaluate your application's performance on the development board and design target hardware using the development board as a reference.

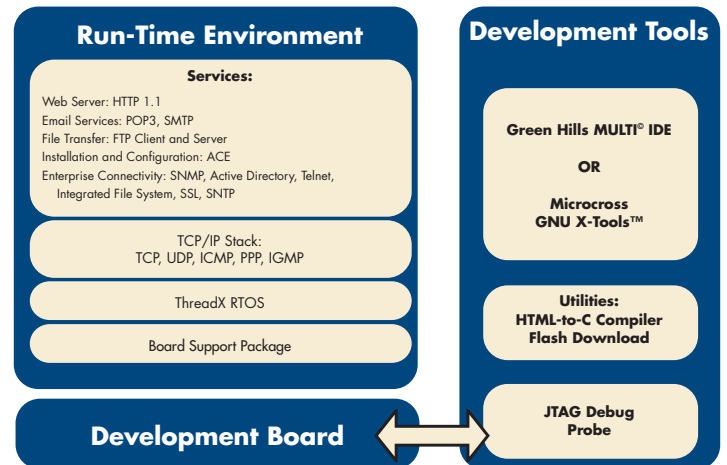
NET+Works keeps you current with evolving networking technologies. Now you will be prepared if you need features like security, device discovery, Advanced Web Server, Wi-Fi, new drivers or new RFCs. To help you we offer services including online help, phone support, design reviews and sample applications.

The GNU Basic Kit includes GNU compiler, target board, Raven debugger, the full NET+Works run-time environment and online support.

Complete Kits include your choice of GNU or MULTI development tools, target board, software or JTAG debugger, the full NET+Works run-time environment, direct applications engineering support, board layout design review and online support.

Please contact us at 1-877-OEM-DIGI or 952-912-3444 for additional information or to discuss your specific application requirements.

NET+Works® 6.x Software for Embedded Networking



Features/Benefits

Based on Express Logic ThreadX Real-Time Operating System

Royalty-free binary distribution

Rich variety of networking and security services for wired and wireless connectivity are integrated into NET-OS®

Support for a choice of third-party embedded development tools is integrated into NET+Works and included in development kits

Extensive sample applications and documentation is included

- Small memory footprint reduces cost of embedded memory; devices can be deployed where real-time performance or outstanding networking throughput is required
- With no software royalties, overall cost of the product is minimized
- Makes it easy to develop powerful, intelligent networking devices that work in any customer environment
- No need to assemble and integrate an embedded development environment - application development can begin immediately
- Application development is expedited, reducing time-to-market and making it easy to resolve problems



Green Hills Software

- Project builder
- Source level debugger
- C run-time libraries
- Version control system and a compiler which generates highly efficient, tight executables

Microcross

- Command line GDB debugger
- Visual GDB source level debugger (Insight)
- C run-time libraries
- GCC compiler, assembler and linker

Utilities

- HTML compiler
- MIB compiler
- FTP client for PC-based download of Flash images
- NET+OS programmer for device discovery

Hardware debuggers

Our higher-performance kits include the Ethernet-based MAJIC debugger, while our value-priced kits include the MaCraigor Raven, which requires a parallel port. Beginning with NET+Works 6.3, it is also possible to use a software debugger over a serial port.

NET+Works run-time software

- Board support package
- ThreadX® RTOS kernel
- Basic internet protocols (TCP/IP stack)
- Higher level protocols and services

Board support package

- | | |
|--------------------|----------------------|
| • Ethernet | • Serial |
| • HDLC | • SPI |
| • I ² C | • Parallel IEEE 1284 |
| • Flash | • NVRAM |
| • Cache | • USB device |
| • LCD | • PCI/CardBus |
| • RTC | • PWM |
- USB host (including keyboard, mouse, mass storage)



ThreadX RTOS kernel

- | | |
|----------------------|--------------|
| • Threads | • Queues |
| • Application timers | • Semaphores |
| • Event flags | |

Basic Internet protocols

- | | |
|-----------------------|---------|
| • TCP/IP, UDP/IP | • ICMP |
| • ARP | • RARP |
| • IGMPv2 Multicasting | • BOOTP |
| • DHCP | • PPP |

Higher level networking protocols and services

- FTP server and client
- LDAP v3
- TCP and UDP Sockets API
- Advanced Web Server
- HTTP v1.1
- Email (POP3, SMTP and ESMTP)
- SNMP v3
- MIBII for remote management
- SNMP
- DNS
- Telnet
- SLP v2
- SSL

Stack bypass filtering

NET+Works is used extensively in Industrial Ethernet applications. Many of these require deterministic response to certain types of packets. Our stack bypass API lets you filter on these packets or any other you might identify for exceptional handling.

Security

NET+Works covers solutions for both wired and wireless including:

- Secure SSL/TLS enabled network communication
- Full HTTPS support for secure web based transactions
- ESMTP (Plain, login, MD5, CRAMDM5)
- Secure HTTP realms (basic and MDS authentication)

All security features are fully integrated into NET+Works.

Integrated file system

- Standard file API (fopen(), fread(), fwrite(), fclose(),...)
- Support for Flash and RAM data types, with Flash wear leveling
- Support for files of any length
- Shared files among Flash sector boundary
- Date and time stamp for files and directories
- 32 levels of user-defined permission

Note: Additional software support for FAT32 file systems is available through our software partner HCC Embedded.

Address Configuration Executive (ACE)

- | | |
|-----------|------------|
| • Static | • BOOTP |
| • RARP | • Ping-ARP |
| • Auto-IP | • DHCP |

Wireless security

- Embedded 802.11b in Digi Connect® Wi-EM and Digi Connect® Wi-ME
- Wi-Fi drivers for NS9750 processor supporting off-the-shelf CardBus and PCI/miniPCI cards containing Broadcom 802.11a/b/g AirForce chipsets
- 64/128-bit Wired Equivalent Privacy (WEP) encryption
- Wi-Fi Protected Access (WPA) authentication: Pre-Shared Key (PSK) for SOHO and PEAP with MS_CHAP for enterprise
- WPAs/802.11i authentication - with AES Encryption to allow products to deploy in the most secure environments

Advanced Web Server

- Dynamic data content
- Web development tools
- 8 possible realms with controlled username/password access
- Optional connectivity to the local file system
- Common Gateway Interface (CGI) capability
- File upload capability
- Run-time-adjustable options
 - Number of simultaneous connections
 - Persistence timeout
 - Username/password timeout
 - Availability of service on non-standard ports
 - HTTP Error pages

For more information

Contact your Digi sales representative for the price and delivery of the following additional products:

- Software upgrades
 - Additional MULTI seats
 - Development boards
 - Raven debuggers
 - Board layout design review
 - Applications engineering support
- Please see our website for additional support options.

