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NicheStack TCP/IP and SNMP Agent Bundle For PIC32 MX and MZ MCUs
Available from microchipDIRECT

InterNiche has combined two of its most popular modules, NicheStack TCP/IPv4 and NicheStack SNMPv1/v2c/v3 agents to provide a completely integrated package for any PIC32 MX or MZ microcontroller.

NicheStack IPv4 has a well deserved reputation for high throughput and has an extremely small memory requirement for its feature set. A full featured TCP/IP with a sockets API has a typical total ROM and RAM requirements of 50 KB on a 32-bit processor. NicheStack IPv4 combines small size and high performance without compromise in RFC compliance. Supporting a wide variety of physical interfaces, NicheStack’s IP layer can be configured as a standard client machine, an IP router, or a multi-homed server. As a comprehensive device networking package, FTP, Telnet, DNS, DHCP, IGMPv1 and IGMPv2 components are included as standard. NicheStack IPv4 provides an economical, solid protocol platform for InterNiche’s optional HTTP Server, SSL, SSH and IPSec, as well as streaming, routing and device management modules.

NicheStack SNMP implements the most up-to-date set of IETF SNMP protocols in a memory-efficient, highly portable toolkit designed for OEMs and System Integrators requiring a fast, small, proven embedded SNMP agent for their embedded device support. The NicheStack SNMP product family includes SNMPv1, SNMPv2c and SNMPv3 agents. The comprehensive product (SNMPv3) is a multi-lingual implementation that allows the agent to communicate with a manager using any supported SNMP version (v1, v2c or v3). This capability ensures that devices support everything from SNMPv1 to the latest in user-based security and view access control provided by SNMPv3. This includes managing the coexistence of SMIv1 and SMIv2 objects and processing SNMP v1/v2c/v3 messages (PDUs).

InterNiche’s SNMP architecture is highly configurable, supporting either static or dynamic table management. Tables can be populated through a configuration file, command line interface (CLI) or via SNMP itself. SNMPv3 includes support for reading tables from NVRAM. Full support of SNMPv3’s User-based Security Model (USM) is provided, with security services for Authentication, Integrity, Confidentiality and Replay protection as well as USM remote configuration. The SDK includes encryption libraries for MD5 (Message Digest 5) and DES (Data Encryption Standard), leveraging InterNiche’s CryptoEngine technology for minimum overhead and easy integration with HW accelerators.
### NicheStack TCP/IP and SNMP Agent Bundle Features

#### NicheStack™ IPv4 Highlights
- Zero data copy for ultra fast performance
- Standard Sockets Interface
- Supports multiple hardware interfaces
- Complete BSD Sockets API
- Raw Socket Support
- Non-blocking versions of all functions
- Versatile MSS and window options
- Connections limited only by memory availability
- Optional optimized assembly language checksum routines
- Predictive header processing for speed
- Nagle Algorithm (Slow Start)
- VJ Smoothed Round Trip Timing
- Delayed ACKs
- BSD style "Keep-alive" option
- Complete debugging and optimization module
- No "GPL Contamination"
- Pre ported to PIC32 MX and MZ MCUs with MPLAB® X IDE

#### NicheStack SNMP v1/2c/3 Highlights
- SNMPv1, v2c, and v3 trilingual embedded agents
- Supports SNMPv1, SNMPv2c, SNMPv3 manager requests
- Includes SNMPv3 Security
- Dynamic tables and asynchronous support
- Fully extensible, supports an unlimited number of MIBs
- Integral MIB Compiler
- Supports SET, GET, NEXT, TRAP (v1/v2), GETBULK commands
- Support for NOTIFICATION and SNMP-TARGET MIBs
- Compatible with all popular TCP APIs, including sockets and WinSock
- No "GPL Contamination"

The NicheStack TCP/IP and SNMP Agent Bundle is available from InterNiche, microchipDIRECT or any of InterNiche's worldwide distributors.

For more information please contact us at +1 408 540 1160
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