NicheStack DUAL v4/v6 and SNMP Agent Bundle Available from microchipDIRECT

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

NicheStack Dual™ offers a unique and flexible combination of networking support for devices that must operate in today's IPv4 based networks and be compatible with future upgrades to IPv6 environments.

NicheStack Dual is a device optimized protocol stack that handles simultaneous IPv4 and IPv6 networking traffic in a seamless and efficient manner. IPv4 and IPv6 communications can be established on a connection by connection basis offering the greatest run-time flexibility and equipment interoperability. Our IPv6 is TAHI PHASE II compliant which means you can be confident that your product can obtain the IPv6 Ready logo. As a comprehensive device networking package, FTP, Telnet, DNS, DHCP, IGMPv1 and IGMPv2 components are included as standard. NicheStack DUAL 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 DUAL v4/v6 and SNMP Agent Bundle Features

### NicheStack IPv4/v6 Highlights

- TAHI Phase-II Compliance means it your product is ready for IPv6 Ready Logo testing
- IPv6 Host functionality
- IPv6 Address Resolution
- Optional integrated IPSec
- Raw IP/UDP/TCP with BSD-compatible sockets
- Support for IPv6 Multicast and Neighbor Discovery
- Non-blocking versions of all functions
- Versatile MSS and window options
- Connections limited only by memory availability
- Optimized assembly language checksum routines available
- "Predictive" header processing for improved performance
- Nagle Algorithm (Slow Start)
- VJ Smoothed Round Trip Timing
- Delayed ACKs
- BSD style "Keep-alive" option
- NicheTool™ tuning and system optimization utility included
- Trivial File Transfer Protocol (TFTP), FTP and Telnet included
- No "GPL Contamination"
- Supports multiple hardware interfaces
- Complete BSD Sockets API
- Preported 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
- Includes Standard MIBs
- 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 DUAL v4/v6 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

sales@iniche.com

www.iniche.com

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