

InterNiche's CryptoEngine™

technology helps to ensure that no security compromises are required when adding networking within device implementations.

NicheStack CryptoEngine Highlights

- Optimized cryptography and authentication module for device networking implementations.
- Supports DES, AES, 3DES plus other symmetric and asymmetric algorithm standards
- Integrated module supporting IPSec, SSL and other secure protocol implementations.
- Seamless interface with acceleration hardware on leading device VLSI architectures.
- Synchronous or asynchronous operational modes
- Supports chaining of operation command sequences.
- Enables rapid incorporation of today's and tomorrow's cipher standards.
- Included with NicheStack and InterNiche's Security products.
- No "GPL Contamination"

CryptoEngine - Optimizing Network Security

As connected device implementations proliferate, the security of device data, communications and management is becoming an important focus for vendors and users. At the workstation and server level, robust security protocols within the Transmission Control Protocol/Internet Protocol (TCP/IP) family have been developed and deployed. However, traditional embedded implementations of security protocols have at least two serious shortcomings for use within low cost connected devices— the duplicate instances of complex cryptographic routines within each individual protocol implementation and the large performance overhead in executing these routines on lower power CPUs.

InterNiche CryptoEngine technology helps to ensure that no security compromises are required when adding networking within device implementations. CryptoEngine is a key technological component within the NicheStack family of portable device networking protocols, and is designed from the ground-up to optimize the support of cryptographic functions and available acceleration hardware across a range of security protocols and authentication implementations, CryptoEngine enables implementations that are efficient in both memory and CPU usage. Device developers can also more easily and rapidly adapt to new algorithm requirements and take advantage of VLSI hardware that incorporates cipher acceleration engines.

CryptoEngine implements a pipelined architecture, providing synchronous and asynchronous encryption capabilities that have been proven as highly effective in optimizing overall device performance.

CryptoEngine can be used for protocol payload encryption and decryption within an application or for authentication of requests from other network nodes. Individual security algorithms can be transparently added, deleted, or re-implemented as required without changes to the overall code structure or applications. The modularity of CryptoEngine supports hardware and software cipher implementation for ease of code migration between platforms with differing capabilities, or benchmarking improvements in performance between architectures.

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InterNiche Device Networking Products

InterNiche is the premier specialist provider of internet protocol software stacks and networking expertise specifically targeted at connected device implementation. InterNiche offers a broad range of TCP/IP protocol suites, optimized for maximum performance and minimum memory footprint on the highly integrated VLSI at the heart of today's device designs.

All InterNiche device networking products are engineered for rapid, seamless integration with best-in-class development environments for the leading VLSI architectures. The combination of rapid integration and low overhead specifically addresses the challenges faced by device development teams by offering maximum networking performance and manageability within a low cost system implementation.

InterNiche provides a tasking API that is adaptable to almost any RTOS environment, so that the development team can easily interface to the necessary functions and incur no additional overhead. Throughput is maximized through effective usage of zero-copy buffers and availability of assembler optimizations for critical code sections.

A modular approach to the entire suite of protocol products maintains a development team's capability to profile stack features to match specific device requirements. With configuration flexibility and the tools to identify and eliminate integration problems development teams find that system integration using InterNiche products is smooth and predictable.

InterNiche products are supplied as portable ANSI C source code packages under royalty-free license terms. All products include full technical documentation and a first 12 months of highly responsive support service, which includes access to technical experts via email, web, Fax, and telephone.

For further information on any of these products or services please call, email or visit our web site.

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The Specialist Provider of Software and Expertise for Device Networking

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