

*NicheStack HTTPServer™ is an innovative embedded technology developed specifically for web based device control and management in cost sensitive applications.*

#### Key Technical Specs

- RFC1866 HTML/2.0
- RFC1867 Form-based File Upload
- RFC1945 HTTP/1.0
- RFC2616 HTTP/1.1
- RFC2246 The TLS Protocol

#### NicheStack HTTPServer Highlights

- Economical Web server for device management and control
- Supports HTTP/1.1 and /1.0, with persistent connections, chunking and Server-Side Push
- Uses NicheStack Zero-Copy API for High Performance
- Includes NicheFile to enable file storage in RAM, ROM, or Flash
- Dynamic content with SSI and CGI style active hooks
- Optional HTML Compiler compresses HTML and provides SSI and CGI hooks
- Security option supports SSL2.0, SSL3.0, TLS1.0
- User authorization and authentication via Basic, Digest and Login
- 1024 bit key and Triple DES encryption
- RSA and Diffie-Hellman key exchange
- RC4 (128 bit) and Triple-DES (168 bit) cipher keys
- MD5 (128 bit hash) and SHA-1 (160 bit hash) Message Digests
- Leverages InterNiche CryptoEngine security optimization subsystem
- No "GPL Contamination"

## NicheStack™ HTTPServer Compact Web Management Agent

NicheStack HTTPServer™ is a robust, feature-rich embedded web server designed specifically to optimize size and performance without sacrificing important security features found in conventional web servers. It is easily integrated into any networked device architecture to dramatically simplify device deployment and remote management.

HTTPServer supports access to files stored in a local physical or virtual file system. These files may include embedded function calls for the creation of dynamic content which are executed as the file is converted to an HTTP stream. With this approach, HTTPServer can support standard Web server features such as CGI and SSI, offering economical implementations of these features that address common embedded system limitations, such as lack of a native file system, limited ROM/RAM, and absence of the "shell" which would normally execute CGI requests. Sample application code is provided to demonstrate how to control and format dynamically generated information. The HTTPServer's may also be used to upload data, device image or configuration files to the embedded device.

Adding support for secure web management and data transfer is the optional NicheStack SSL product. Supporting SSL2.0, SSL3.0, TLS1.0 and both blocking and non-blocking sockets, NicheStack SSL is based on public key asymmetric cryptography. NicheStack SSL uses RSA key exchange method (RSA public key) with 1024 bit key generation and Triple DES encryption. The security support in HTTPServer is underpinned by InterNiche CryptoEngine technology. CryptoEngine reduces overall cryptography library overhead, and enables integration with available HW acceleration engines on specific platforms. Such HW engines significantly lower the overhead of secure communication, especially on lower power CPUs and are especially recommended for applications with higher throughput requirements.

NicheFile is a supporting component which creates a Virtual File System (VFS) for the HTTPServer in a combination of RAM, ROM, or Flash as well as offering a shim layer above a traditional physical file system if it is available.

The optional HTML compiler is a valuable timesaving tool for developers that produces ready to use C code, linking variables to forms and dynamic HTML which is compatible with the run time systems of HTTPServer. The HTML compiler compresses standard HTML files and converts them into C language structures that are compatible with the VFS.

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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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