

SELECTING AN EMBEDDED RTOS



FEATURED INTERVIEW:

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UNICOI SYSTEMS - RTOS PRODUCTS & SERVICES, 2009

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Q. First of all, tell us a little bit about yourself and your responsibilities at Unicoi Systems.

A. Vice President of Engineering

Q. If you would, please give us a very brief, bulleted outline of your products. What sorts of real-time operating systems (RTOSes), tools, and/or services does your company offer?

- A. *Networking Product Suite*: Complete line of fully integrated networking protocols
- *TCP/IPv4/v6, BOOTP, DHCP, DNS, FTP, IGMP, NAT, POP3, PPP, PPPoE, RIP,
 - *RTP/RTCP, RTSP, SIP, SMTP, SNMP, SNTP, TELNET, TFTP, UDP/IP
- **Web Product Suite*: Full line of web browser and services software
- Web Browser, Web Browser as GUI, HTTP Client & Server, XML SAX Parser,
 - XML DOM Parser, SOAP Client & Server
- **File System Product Suite*
- *Flash File System, CIFS,
 - *Drivers for NOR, NAND, SD
- **Security Product Suite*: Small footprint security suite for embedded systems
- *IPsec, IKEv1/v2, HTTPS Client & Server, WebPilot Secure Browser, SSL/TLS,
 - Secure SOAP Client & Server
- **RTOS Product Suite*: Support for an array of processors
- *License-free RTOS basics, Motorola 56800E, StarCore, Blackfin, ARM7/9
- **Voice Processing Suite*: The Unicoi Voice Engine has a modular architecture that allows the user to plug in different algorithms and choose the number of voice channels.
- *Echo Cancellers, Voice Codecs, Fax Solutions, Tone Control Solutions, Voice Control Solutions
- **Reference Design Suite*
- *IP Phone Reference Design, IP Media Reference Design, VoIP Gateway/Terminal Adapter Reference Design

Q. What is Unicoi System's "unique value proposition" for the embedded systems engineer or programmer who is considering an embedded RTOS?

What do you and your products do to help him get his product to market faster, cheaper, better?

- A. *Fusion RTOS* is a license free, small footprint commercial RTOS with available support. It promises very low interrupt latency and fast task context switching.

Q. How are you different as a company from competitors? What sets your products apart from those of other RTOS companies?

- A. *Fusion RTOS* offers comparable performance at a lower cost from a company with vast experience in consumer electronics and automotive market sectors. Unicoi's experienced engineering staff results in better-designed software that is easy to understand and integrate. Furthermore, support queries are handled by the engineers that design the code, yielding intelligent help and suggestions for customer projects.

Q. What embedded architectures do you support - e.g., Intel architecture, MIPS, ARM, PowerPC, etc.?

- A. The *Fusion RTOS* has been ported to a number of CISCs, RISCs and DSPs, including *ARM 7/9*, *Blackfin*® Processors from Analog Devices, Motorola *DSP 56800E*, and *Power PC*. All other Fusion Embedded Software products are RTOS and processor agnostic.

Q. What additional software do you offer such as networking, file systems, TCP/IP, security, IDE, GUIs etc.? What about development tools? Are there particular partnerships with other software companies that are especially helpful?

- A. We specialize in networking protocols with TCP/IP (IPv6 Phase-2 Certified), Security, Web Browser, GUI, and a flash file system. We are a Windows Embedded Partner and our software is fully ported to Windows Embedded CE. Unicoi has extensive experience with Analog Devices *Blackfin*. We are also in a strategic partnership with Micrium and our software is fully ported to μ C/OS-II.

Q. How are your products sold? What is a typical fee arrangement? Is it royalty free? Per unit royalty?

- A. Our RTOS is available for download, license free, on Unicoi.com. Our complete family of *Fusion Software* products is sold through a domestic sales team and various international channel partners. For most projects, our additional products are royalty free.

Q. Finally, what sort of "try before buy" experiences does your company offer? Are there free demo downloads, webinars, seminars? What web URL's can you point us to for more information?

- A. We offer product briefs, technical manuals, downloadable demos, and white papers available through our online *Fusion Design Center*.
http://www.unicoi.com/design_center.

Q. Thank you for this product interview.