James P. Smith

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Sr. Firmware Engineer

never missed a deadline

General:
- Proven high-value contributor to all product life-cycle phases.
- Exceptional writing skills: proposals, specifications, user guides.

Technical:
- Serial Attached SCSI (SAS) Expander F/W; Fibre-Channel initiator/target apps.
- Low-level firmware for MIPS 24Kc, PowerPC 405, 440 SOC, & Intel 80186.
- RTOS: VxWorks; ThreadX.
- Networking: Token-ring WAN Bridge; Open Source LWIP.
- Process Control: Analytical instrument firmware & measurement applications.

Education:
- BS Systems Engineering (with honors), Case Western Reserve University.

Employment History:

[1] Maxim Integrated Products / Vitesse	Colorado Springs, CO	9/04 – 4/09
[2] Agilent Technologies / HP	Roseville, CA	4/97 – 3/03
[3] Universal Oil Products: Guided Wave Division	El Dorado Hills, CA	2/95 – 4/97
[4] Texas Instruments, Amati Division	San Jose, CA	8/92 – 2/95

Representative Accomplishments: (keyed to employers listed above)

- Architected and implemented several major components of the company's SAS expander Software Development Kit, including: GNU-based Development Toolchain; BootLoader with fail-safe firmware update; and SAS Self-Discovery and Configuration. Wrote over 90% of the documentation that is provided with the SDK. [1]
  Results: All projects delivered on-time. Zero support issues over 3+ years.
- Architected and implemented firmware API to encapsulate and emulate a PowerPC 440 SOC design using discrete components in place of 440/ASIC, allowing parallel firmware and hardware development. Project migrated iSCSI SDK and applications from VxWorks prototype, to off-the-shelf PPC 750 board, and finally to custom PPC 440 board.
  Results: At each platform transition, the entire system integration took less than 1 week. [2]
- Responsible for moving team to VxWorks and Tornado as a primary development platform. Served as principal liaison to WindRiver. Developed innovative training for colleagues.
  Results: Cut ramp-up time for new engineers from 30 days down to 2 days. [2]
- Designed and developed sample Fibre-Channel initiator and target storage applications, plus associated Getting Started and Programmers Guides, for the Tachyon FC protocol chip SDK.
  Results: Sr. engineering customers said it was the *best* SDK they had ever worked with. [2]
- Designed and developed all firmware for a new, process control instrument. Defined product and hardware specs to resolve hardware/software tradeoffs. Wrote user operations manual.
  Results: Project completed on time and to specification with zero defects. [3]
- Developed the 80186 (C) and 486-SLC (assembly) embedded firmware for the IBM 8229 Token-Ring / WAN Bridge, including versions for (a) leased-T1 and IBM LAN Management, and (b) Frame Relay and SNMP. Debugged system using ICE, logic analyzer, and WAN protocol analyzer. Developed token-ring frame generators to automate testing.
  Results: Projects completed on schedule to IBM's stringent quality standards. [4]
- Responsible for international telecom standards compliance testing for a FAX controller for the IBM AS/400. Coordinated efforts among ICOT firmware development engineers and IBM's testing laboratory in LaGaude, France. Researched and resolved all observed variances, issued ECRs, and generated new releases of the firmware.
  Results: Achieved 100% acceptance during PTT certification on the first test cycle. [4]