

Donald E. Matthews
155 Blue Spruce Trail
Woodland Park, CO 80863
(719) 687-3225
matthews@nexitech.com

OBJECTIVE

Software Engineering Consultant specializing in Storage Area Networks (SANs), Windows and Linux Storage Device Drivers, Architecture of SAN Appliances using SCSI / SAS / SATA / Fibre Channel / iSCSI / USB / 1394 / PCIe / NVMe, real-time embedded systems firmware development for SAN peripherals and RAID controllers, SSDs and other devices, Windows / Linux / Embedded device drivers, MPIO, SCST, and Storage Networking technologies seeking Clients requiring related expertise.

Very strong Windows device driver expertise, including WHQL certification and the development of user-mode DLLs and applications that provide APIs for driver testing. Significant experience with Windows kernel-mode device driver development (both WDM and KMDF) and debugging with WinDbg on all versions of Windows. Experience with network protocol stacks (TCP/IP) and drivers (NDIS) and with merging Network traffic and Storage traffic on a single medium in a Windows driver environment.

Extensive experience with multiple Linux distributions (RedHat, SUSE, Fedora, CentOS, Gentoo, etc.) at the driver level and also the application level. Strong embedded software design and C/C++ coding skills, Bash and Python scripting, and GDB debugging.

Superior teamwork and communication skills. Excellent customer interaction skills, with many positive outcomes while working remotely on multi-site product development teams. Able to work independently and with minimal supervision.

EDUCATION

Master of Science in Electrical Engineering (MSEE), Iowa State University.

GPA - 3.6 on a 4.0 scale

Thesis: A Microcomputer Communications Network

Bachelor of Science in Electrical Engineering (BSEE), South Dakota State University.

GPA - 3.7 on a 4.0 scale

Minor: Computer Science

PATENTS

Patent Number 7,600,059 entitled *Multiple LUN Support For SATA Devices* issued by U.S. Patent and Trademark Office on October 6, 2009.

Patent Number 5,263,160 entitled *Augmented Doubly-Linked List Search and Management* issued by U.S. Patent and Trademark Office on November 16, 1993.

EXPERIENCE

NexiTech, Inc.

Woodland Park, CO

Dec/95 - Present

President and CEO

NexiTech is a software development firm and provider of special purpose storage appliances, such as its Virtual Tape Array system, through select OEM partners. With specialization in kernel-mode device drivers for Windows and Linux, NexiTech develops components like its ASPI Manager for commercial customers worldwide and also for the U.S. Government, including the [NAVAIR Presidential Helicopter](#) mission. Expertise in SCSI Target Mode for Fibre Channel and iSCSI helps consulting clients and customers alike create innovative storage appliances and solutions. Please see www.NexiTech.com for more details regarding our cutting-edge cyber security work with the United States Department of Homeland Security (DHS) to help protect critical national infrastructure.

NexiTech, Inc. partial client list (representative samples from 2018 back to 1998):

Client – Intel Corporation - Multi-core (ARM) embedded systems firmware design and development for NVMe SSDs using both Linux-based and Windows-based tools. Responsible for the architecture and design of new NVMe 1.3 features, including Telemetry and extended log data. Used the Atlassian tool suite.

Client – Micron Technology, Inc. - Linux-based multi-core (ARM) embedded systems firmware design and development for NVMe SSD devices. Responsible for implementation of host interface (i.e. command handlers, namespace management, etc.). Experience with enterprise-class features such as SR-IOV and persistent reservations.

Client – Broadcom Corporation - Windows device driver development and testing for high-speed networking cards (more than 10 Gbps per port). Experience with SR-IOV and advanced networking concepts while running Windows Server 2012 R2 and Windows Server 2016. Experience with Hyper-V and Virtual Switch Manager. Windows Driver Kit (WDK) experience while building kernel-mode NDIS drivers with Visual Studio 15 and debugging with WinDbg. Able to debug Windows drivers running in a Virtual Machine (VM) while running WinDbg on a Hyper-V host machine. Extensive experience with NDIS driver testing and configuration using Windows Logo Kit (WLK) and other tools. Used the Atlassian tool suite.

Client – Micron Technology, Inc. - Windows device driver development and testing for SAS and NVMe SSD devices. Used the Atlassian tool suite.

Client – Intel Corporation - Linux-based embedded systems firmware design and development for a new non-volatile memory product (NVDIMM).

Client – Lockheed Martin Corporation - NexiTech's specialized ASPI software library has been chosen by the U.S. Navy to load mission planning information for the Presidential Helicopter, also known as Marine One.

Client – Emulex Corporation - Linux kernel-mode driver design and development for Emulex Fibre Channel intelligent storage host bus adapters (HBAs). Fixed bugs and implemented new features in Linux Target Mode driver. Experience with setup and testing of complex systems involving zoning, NPIV, and sequence-level error recovery.

Client – Mountain Secure Systems - Designed and implemented the Linux software for a ruggedized GbE-to-SATA Network-Attached Storage (NAS) appliance that utilized Solid-State Drive (SSD) technology. Embedded Linux application development, including the configuration of NFS, SNMP, DHCP, TFTP, and PXE protocols.

Client – Microsoft Corporation - Responsible for maintaining all storage-related Windows Driver Kit (WDK) technical documentation for Windows Vista and beyond.

Client – Egenera, Inc. - Responsible for leading a team of developers tasked with providing support for Windows Server 2008 (Longhorn) on the client's virtualized server hardware platform. Experience with Windows PE 2.1 and the tools in the Windows AIK (Automated Installation Kit). Experience with Microsoft Windows Storport Virtual Miniport driver development.

Client – Quantum Corporation - Windows device driver development for Windows 2000 and beyond. Developed a WDM-compliant storage Filter Driver for Windows 2K/XP and Windows Server 2003. Linux Command Line Interface (CLI) and Graphical User Interface (GUI) development for storage device configuration and management applications. Extensive experience with SATA on both Windows and Linux platforms. Provided remote maintenance of tape device drivers and other storage software.

Client – ETI-NET - Supplied Virtual Tape Emulation software for the BackBox™ Buffered Tape Adapter, a Windows-based Fibre Channel backup appliance. Experience with Virtual Tape Library software development.

Client – Adaptec, Inc. - Device driver development for the Adaptec ASA-7211, an iSCSI Host Bus Adapter (HBA) with hardware acceleration via TCP/IP Offload Engine (TOE). Experience with RedHat Linux kernel-mode device drivers.

Chaparral Network Storage, Inc. Longmont, CO

Jul/98 - Dec/01

Chief Engineer

Responsible for the architecture and development of a unified Intelligent Storage Router product family (i.e. Fibre Channel-to-SCSI routers). Provided technical team leadership and technology presentations to internal management and external customers, partners, and investors in an energized start-up environment. Firmware development in C/C++ for highly-available FC-to-FC RAID platform.

REFERENCES

Available upon request.