

Ben Chalmers MA (Cantab)
Curriculum Vitae

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Employment History:

Solarflare Communications Inc. (9/2004 – Present)

Senior Engineer

Windows Device Driver Development

- Designed implemented and developed NDIS drivers (5.1, 5.2, 6.0, 6.1, 6.2) for 10GBase-T (10 Gigabit per second) Ethernet controller, some associate with bus driver, some monolithic.
- Developed WDF bus driver for 10GBase-T Ethernet controller
- Designed, implemented and developed WMI interface and associated tools for bus driver
- Implemented transmit and receive paths for high speed Ethernet controller drivers, using features such as TCP/IP stateless checksum offloads and Receive Side Scaling
- Developed network drivers using VMQ support for virtualized platforms including Hyper-V and VMWare
- Managed the Windows Hardware Quality Labs (WHQL) test process, and obtained logo status
- Wrote numerous specification documents and design plans
- Attended Microsoft Driver Devcon, Intel Developer Forum and WinHec conferences to keep my knowledge current, and the represent Solarflare in the associated trade shows.
- Liaised with Microsoft engineers and program managers, participating in networking stack and WDF framework development

OpenOnload Development

- Developed Linux Ethernet controller device drivers
- Developed user-level low latency TCP/IP stack (code now available at openonload.org)
- Extensively tested controller driver / OpenOnload combination with various MPI applications and MPI stacks
- Developed automated rolling test framework

Languages used C, Python, C++, C#, Bash

Cambridge Neurodynamics Ltd. (2/2001 – 9/2004)

Senior Software Engineer

Windows Device Driver Development

- Sole device driver developer
- Developed Windows NT4-style device drivers for multi-input multiplexed video capture card for CCTV recording applications
- Designed and developed next generation Windows WDM drivers for mult-input video capture card, using on board Texas Instruments C6000 DSPs
- Brought up device, and debugged VHDL of the controller FPGA

Witness DVR Development

- Lead developer for Witness DVR 2001-2004
- Architect for the project which moved Witness from stand-alone boxes to integrated network architecture
- Implemented and improved release procedures and bug tracking
- Integrated other companies products with Witness DVR
- Assisted installation of Witness systems at numerous venues including City of

London Police custody suites and Eurotunnel immigration

- Worked with customers to specify, design and implement major new functionality for Witness System

Automatic Number Plate Recognition Development

- Lead developer for ANPR Software 2002-2004
- Ported ANPR software to QNX Neutrino

- Rewrote Number Plate Detection algorithm to improve recognition rates by 15%

Languages used C++ (MFC), C

Future TV Ltd. (08/1999 - 02/2001)

Software Engineer

Set-top box development

- Developed the proprietary Conix operating system for set top boxes
- Implemented Conix device drivers for TV tuner hardware and internal audio systems
- Developed Linux device drivers for proprietary ASH network cards
- Developed Linux software to bridge between ASH, Ethernet and ATM networking technologies
- Developed Conix TCP/IP stack, including implementing IGMP
- Wrote low level ARM assembler boot code and Atmel AVR assembler for infra-red receiver controller.
- Developed windows device drivers for MPEG encoding card to stream MPEG video over internal networks
- Debugged set top box FPGA Verilog code

Other

- Developed windows printer driver for a PCB printing system

Languages Used C, Arm assembler, AVR assembler

Education

1996-1999 MA Computer Science (University of Cambridge) (2:1)

Key Skills

- Windows Device Driver Programming (WDF, WDM, NT4, NDIS 5.1 5.2 6.0-6.2)
- Windows Hardware Quality Labs (WHQL) testing
- C, C++, Python, Assembly Languages (esp. ARM)
- Software architecture, design, implementation and development.
- Low level and embedded development, including bringing up and debugging new hardware
- TCP/IP stack development
- Network programming
- Multithreaded development

Other Details

- Clean Driving Licence
- UK Passport