

# STEPHEN CHARLES LAWSON TELFER

**Home Address:**

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**Telephone:**

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**Date of Birth:**

22 October 1974

**Nationality:** British

## ACADEMIC HISTORY

1993-1997

**Queens' College, Cambridge University, Cambridge, UK**

BA Hons Computer Science, Part I: Grade 1

BEng Electrical and Information Science, Part II: Grade 2:1

MEng Electrical and Information Science: Grade 2:1

1985-1992

**Exmouth Community College, Devon, UK**

4 A-levels: Physics (A), Maths (A), Further Maths (B), Technology (A)

S-Level Maths (2)

10 GCSEs: Maths, English, English Literature, Statistics, Technology, Physics, Chemistry, French, Geography, Computer Studies, all at grade A.

## SKILLS

**C/C++/Objective-C**

16 years extensive experience of C programming and optimisation in diverse applications and environments. Mixed-language development with C/Fortran, C/Assembler and C/Verilog. Coding at firmware, kernel, daemon and graphical User application level in C, C++ and Objective-C. Development of multithreaded applications using pthreads. Development of graphical applications using Qt (for KDE) and Cocoa (for Mac OS X).

**Embedded Development**

12 years experience of development of firmware for a range of projects. Diagnostic and manufacturing verification firmware for 8-CPU x86 servers. Diagnostic firmware for various Alpha CPU platforms. Architect and developer of embedded Linux for Alpha platforms. Development of SMP support for embedded firmware. Architect and lead developer of a 28-processor heterogeneous embedded Linux application. Port and performance analysis of an ARM-based embedded application. Development, performance analysis and optimisation of various firmware packet engines for a high performance network processor. Specification, development and delivery of a high-performance embedded Linux application using Xilinx Virtex-4 FX FPGAs.

**Linux Kernel & Drivers**

9 years experience of low-level Linux programming including porting the kernel to new platforms, device driver development, debug of existing drivers and many embedded Linux applications.

**TCP/IP Networking**

16 years experience of TCP/IP Unix networking in developer, system administrator and user contexts. Development, debug and optimisation of parallel applications. Development of TCP/IP applications and system daemons. Kernel-level network applications.

## EMPLOYMENT HISTORY

- June '07-July '08      **Quadrics Ltd, Bristol, United Kingdom**  
Verification and modelling of a high performance network processor in a mixed C/Verilog environment. Development and optimisation of packet engine firmware. Team leader for 8 software engineers and technical lead for firmware and user space library development.
- Mar '02-May '07      **Newtec Production A/S, Odense, Denmark (Contract work)**  
Specification, development and debug of a high-performance real-time parallel processing system. Development of Linux kernel drivers for custom DSP hardware and system software. Extensive performance analysis and optimisation working in kernel space. Integration of a product based on a heterogeneous 28-processor cluster. Specification and development of a high-performance Xilinx FPGA-based Linux system. Extensive development at the firmware, kernel, daemon and TCP/IP levels.
- May '02-Dec '03      **Quadrics Ltd, Bristol, United Kingdom (Contract work)**  
On-site deployment and debugging of multiple 1,000-node supercomputers, including hardware, software and network failure diagnosis. Representation of the company for front-line support at several sites in the United States. Qualification, debug and development of a kernel-space parallel cluster file system.
- Feb '02-Nov '02      **SourceData (UK) Ltd, Bristol, United Kingdom (Contract work)**  
Development and implementation of a SQL-based residual value projection system for the contract-hire division of a major auto manufacturer.
- Sept '01-Oct '01      **EuroLogic Ltd, Bristol, United Kingdom (Contract work)**  
An intensive performance investigation of an embedded Linux based application on a development sample of an ARM based processor. Due to the nature of the CPU architecture and the developmental state of the software tools this project involved extensive kernel debugging and enhancement to support architectural extensions for hardware acceleration.
- Sept '98-Aug '01      **API NetWorks Inc. (formerly Alpha Processor Inc.), Concord MA, USA**  
Lead developer of firmware for bringup and verification of new Alpha motherboard designs, manufacturing self-tests and hardware diagnosis. Port of the Linux kernel to the new Alpha motherboards. Firmware for embedding the Linux kernel in ROM. Development and debug of various Linux device drivers and operating system daemons. Administration and maintenance of Linux-based networks.
- Oct '97-July '98      **Axil Computer Inc., Concord MA, USA**  
Development of firmware for x86 SMP servers in mixed C/Assembler. Development of low-level hardware verification tests for the manufacturing process.
- June '96-Sept '96,  
June '95-Sept '95      **Quadrics Supercomputers World, Bristol, United Kingdom,  
CERFACS, Météo France, Toulouse, France**  
Upgrade, integration and maintenance of a Solaris-based supercomputer. User support: debugging & optimizing parallel programs in C and Fortran. Implementation of web interface, process accounting and system monitoring
- June '94-Sept '94      **Meiko Ltd, Concord MA, USA**  
Programming matrix algebra operations using assembly language on proprietary multi-processor vector-processing hardware. Development of BLAS-1, BLAS-2 and BLAS-3 libraries in multiprocessor Fujitsu  $\mu$ VP assembly language.
- Aug '92-Sept '93      **Meiko Ltd, Bristol, United Kingdom**  
Parallel computer software development in C, Fortran and assembler.

## ADDITIONAL SKILLS

- Driving:                      Full, clean UK & International driving licence.  
Languages:                  Conversational fluency in French