John Clarke

PO Box 250
Lindfield NSW 2070
Australia

mobile: +61 422 544 155
home: +61 2 9880 7108
email: johnc@kirriwa.net

CAREER PROFILE

An experienced and capable software engineer and project manager with a demonstrated ability to produce high quality software solutions. Solid leadership and teamwork skills backed by strong technical ability. Experienced in a wide variety of languages and environments with proven ability to quickly learn new systems. Excellent problem solving skills. Strong written and verbal communications. Experienced mentor to junior engineers.

EDUCATION

Bachelor of Engineering (Electronics), University of Western Australia, 1983

CAREER SUMMARY

Open Kernel Labs	**January 2012 – Feburary 2014**
Technical Lead	
Synopsys Australia	**August 2010 – November 2010**
R&D Engineer (Software)	
EagleView Financial	**March 2009 – present**
Systems Administrator	
VaST Systems Technology	**October 1998 – March 2009**
Principal Software Engineer	October 1998 – March 2009
Systems Administrator	September 2008 – March 2009
Project Leader	May 2005 – March 2009
Systems Administrator	October 1998 – July 2005
Keycorp	**November 1995 – September 1998**
Software Team Leader	March 1996 – September 1998
Project Manager	November 1995 – September 1998
GEC-Plessey Telecommunications	**July 1986 – November 1995**
Software Engineering Manager	March 1994 – November 1995
Software Team Leader/Project Manager	December 1992 – March 1994
Project Manager CT-2	May 1992 – December 1992
Software Development Project Manager	July 1989 – May 1992
Software Engineer	July 1986 – July 1989
Royal Australian Navy	**January 1983 – July 1986**
Weapons Electrical Engineering Officer	

KEY ACHIEVEMENTS

- Effectively designed and developed high performance, timing accurate microprocessor and system models for customers including Intel, Renesas, Toyota, Canon, Toshiba and Nokia, allowing clients to be quicker to market with lower development costs.
- Developed into managing project teams of up to 12 engineers and support staff to produce modelling and simulation solutions for customers.
- Managed the project team and designed the microprocessor model that received the 2008 award for most successful engineering project, for successful delivery of US$1M modelling project for Renesas Japan.
- Provided mentoring and training for junior engineers to develop them into effective team members and ultimately into project leaders.
- Designed and implemented development processes such as coding standards, configuration management, bug tracking and automated build and test, allowing standardisation and reducing development time and cost.
- Systems administration of servers and workstations for up to 40 staff., including networking and security, maintaining the infrastructure vital to the company's operations .
- Developed into one of two technical specialists in modelling and simulation technology, providing advice to sales and marketing and to other members of engineering on all aspects of the company's IP.
- Ported various operating systems to customers' hardware platforms, thus reducing customers development time and providing useful demonstrations for trade shows.
- Provided technical support to field support staff as required to ensure smooth commercial operation.

DETAILED CAREER HISTORY

Open Kernel Labs	**January 2012 – February 2014**
Technical Lead	

Open Kernel Labs is the global leader in virtualisation software for securing wireless communications, applications, and content. Open Kernel Labs software, deployed on more than 1.5 billion devices worldwide, enables security for wireless access of corporate and government assets while protecting everything that runs on the device. Open Kernel Labs was acquired by General Dynamics in September 2012.

• Managed project teams of up to 5 software engineers developing para-virtualised kernels, virtualised device drivers, and associated documentation.

• Para-virtualised several versions of the Linux kernel from 3.2 to 3.12, on TI OMAP4 and Freescale i.MX6 platforms.

• Successfully managed on-time releases of the OK Labs generic product SDK and customer-specific SDKs.

• Supported customers implementing their own virtualisation solutions using the OK Labs SDKs.

• Implemented reliability and performance improvements to the regression test system.

Synopsys Australia	**August 2010 – November 2010**
R&D Engineer (Software)	

Synopsys bought VaST Systems Technology in February 2010. I was employed on a short-term contract to assist in the development of two new high-performance processor models – Infineon TriCore 1.6P and Renesas SH4A. My duties included development of some of the processor features (MMU, cache, L1 memory and more), writing test scripts and debugging using the 58,000 vendor-supplied test cases. With my help, these two models were completed within the original development timescale and delivered to the customers on time. I also investigated and fixed several bugs in other processor models and in the common processor modelling framework.

EagleView Financial	**March 2009 – present**
Systems Administrator	

EagleView Financial is a modern fee for service financial advice business, started by my partner in early 2009. After being made redundant from VaST, I decided to take time out to support her in getting the business up and running. This included systems administration (software purchasing, installation, configuration, backups, user support, etc), advice on communications and networking, general office administration support and many of the other seemingly endless tasks involved in starting a new small business.

VaST Systems Technology	**October 1998 – March 2009**
Principal Software Engineer	**October 1998 – March 2009**
Systems Administrator	**September 2008 – March 2009**
Project Leader	**May 2005 – March 2009**
Systems Administrator	**October 1998 – July 2005**

VaST Systems Technology is a provider of virtual processor models (VPMs) which are both fast and accurate, providing an unprecedented ability to observe the behaviour of executing software and selected processor internal registers. VaST has a broad selection of popular processors from leading IP vendors. VaST provides system engineering tools that enable customers to customise VPMs, as well as turnkey VPM development services.

• Managing project teams of up to 12 engineers, including software engineers, hardware modellers, validation and verification engineers, documentation specialists and support staff. Project teams varied in size depending upon the complexity of the project, and also varied during the project lifecycle as tasks became due or were completed. Typical projects involved two to three processor modellers for the full project period, with other specialists being added as required, but there could be as few as one or as many as eight processor modellers working on a single model.

• Design and development of high-performance, timing-accurate processor models and associated peripherals and platforms. These models ranged from simple 8-bit embedded controllers to multi-core systems with complex interfaces and many attached peripheral devices. All features of the target core were modelled, including full cache and memory subsystems, and the models were often capable of faster than real-time performance i.e. the simulator would run code in less wall-clock time than the real hardware would, without sacrificing timing accuracy.

• Design and development of high-performance simulation technology. Initially, third-party hardware simulators (Verilog or VHDL) were used, but these were soon replaced these with custom behavioural and timing simulation technology which gave vastly superior performance.

- Design and development of peripheral models and platforms. These included timers, interrupt controllers, UARTs (e.g. 16550), memory devices, clock controllers and other embedded peripherals.

- Validation and verification of processor models and platforms. Prior to the establishment of a separate validation and verification team, test cases for our processor models were developed along with the models themselves. Such test development continued after this team was established, either because the validation engineers were unfamiliar with the target processor, or because the validation team did not have the ability to handle available for a specific project.

- Porting of operating systems (mainly Linux, but also Nucleus+ and Windows CE) and writing device drivers. This involved developing cache and TLB-related code for the kernel, and adding new device drivers (or modifying existing ones) to support various peripheral models included in the target platform.

- Mentoring and training of junior engineers. As the processor modelling team expanded, new engineers needed training for up to six months whilst they gained familiarity with VaST's large and complex code base and simulation technology.

- Assisted with debugging and problem solving in all areas.

- Systems administration of servers and workstations for up to 40 staff, including networking and security. Almost all servers run Linux, mainly Ubuntu but with some Debian and RHEL.

- Liaison with external contractors. These varied from building services (air conditioning, electrical, plumbing) to software developers and various other support organisations.

Keycorp   November 1995 – September 1998

Software Team Leader/Project Manager   March 1996 – September 1998

Keycorp Limited is a global provider of solutions for secure electronic transactions: from smartcards and payment terminals to payment engines and managed services. Keycorp and its partners provide secure electronic products and solutions that deliver integrity in the payments and security market.

- Managing a team of up to five software engineers responsible for development and support of embedded BIOS software for all Keycorp's POS terminals and keyboards. This includes providing a standard interface for all BIOS functions between different platforms, enabling an application to be ported to a new platform with minimal, if any, code changes.
- Porting embedded software development from a commercial compiler to gcc. Since 70% of the code is in assembler, and the two compilers use different conventions for parameter passing and assembler directives, and both compilers needed to be supported during the transition, the conversion involved writing an automatic translation tool.
- Built the gcc cross-compilers required for embedded software development (both DOS and Linux hosted, both built on Linux).
- Debugged the embedded gcc compiler and provided patches back to the maintainers.
- Supporting customers developing applications for Keycorp terminals using Keycorp's Integrated Development Environment for Embedded Applications (IDEEA). This is a PC-based application which simulates the target hardware, enabling development and debugging to be mostly completed on a Win32 platform.
- Design and development of communications, magnetic card and smart card reader drivers for various terminals.
- Design and development of communications services and protocol and modem drivers, including HDLC and asynchronous protocols.
- Specification of software requirements for cash-dispensing POS device (ATM-like) upgrade for the Commonwealth Bank.
- Development of standards for software design and configuration management to comply with the requirements of ISO 9000 and AS 3563.
- Assisting junior engineers with software design, coding and debugging as required.

Project Manager   November 1995 – March 1996

- Project management of an integrated POS and smart card terminal for the Savings Bank of the Russian Federation. This included software, hardware and mechanical design and customer support.

GEC-Plessey Telecommunications   July 1986 – November 1995

Software Engineering Manager   March 1994 – November 1995

GEC-Plessey Telecommunications (GPT), formed by the merged of GEC-Marconi Telecommunications and Plessey Telecommunications Systems in 1992, was a provider of telecommunications solutions to carriers and businesses. GPT was bought by Siemens in 1996 and no longer exists as a separate company.

- Management of up to eight software engineers involved in several projects.

- Responsible for planning and estimating software development and support activities.
- Providing technical advice to senior management on software projects.
- Providing technical assistance to software engineers during all phases of the software development process.
- Training of new software engineers in TDCC and CT-2 software.
- Monitoring and improvement of the software development process (AS 3901 accredited).
- Continued responsibility for CT-2 Two-Way Calling software development.
- Continued responsibility for VAX system and network management.

Software Team Leader/Project Manager   December 1992 – March 1994

- Responsible for the development and testing of the two-way calling system for Telecom Australia's CT-2 Talkabout network in Brisbane. This system allows subscribers to receive calls on the CT-2 public network, which is normally a one-way system. This was the first two-way CT-2 network in the world.
- Responsible for supervising the team of up to six engineers on this project.
- Continued responsibility for VAX system and network management and providing assistance to and training of the two new software engineers involved in support of the TDCC software.

Project Manager CT-2   May 1992 – December 1992

- Project management of the contract to manufacture and install 600 CT-2 base stations in Brisbane for Telecom Australia's trial CT-2 service called 'Talkabout'.
- Management of a team of up to twelve engineers (hardware, software and test) involved in the project. This required co-ordination of activities such as software development, technology transfer, Austel type approval, manufacturing, manufacturing test equipment development, site surveys, installation and commissioning.
- Supervision of site survey teams investigating base station and antenna locations for optimum cell coverage.
- Liaison with sub-contractors involved in installation and maintenance of the base stations.
- Development and debugging of functional test software for the main processor board used in the CT-2 base stations. This is a complex board including 80186 CPU, RAM, Flash memory, PSTN interfaces, CODECs and interfaces to the RF transceivers.
- Liaison with Telecom Australia on the technical aspects of the project.
- Continued responsibility for VAX system and network management and support of the TDCC software from my previous position.

Software Development Project Manager   July 1989 – May 1992

- Responsible for support of Time Division Cross-Connect (TDCC) system for Telecom Australia, OTC and the Telephone Organisation of Thailand, including software and hardware debugging and real-time software development.
- Responsible for ensuring that the software development activities met the requirements for AS3901 accreditation. This involved writing or updating procedures, ensuring that these procedures were followed by training the engineers and auditing the processes. This also required assisting the AS3901 inspection team during the accreditation audit. The procedures meet the requirements of both AS3901 and AS3563.
- Design and development of an Intelligent Network switch and controller based on the TDCC hardware. This interfaced with a Unix management system to provide voice (both point-to-point and multi-party conferencing) and data switching functions.
- Management of a team of up to eight software engineers involved in development and support activities.
- Specified network management system requirements for OTC to control their TDCC switch network.
- Responsible for system and network management of VAX/VMS system used for TDCC software development, including development of tools to improve the software development process.
- Responsible for design of V.22bis high-density modem.
- Presented training courses on TDCC hardware and software to OTC.

Software Engineer   July 1986 – July 1989

- Development of real-time software on TDCC project for Telecom and OTC, including network management system interface.
- Specification and development of system test and functional test software for TDCC hardware.
- Development of self-tariffing software for intelligent payphone.
- Development of tools to assist software design and development.

Royal Australian Navy   **January 1983 – July 1986**
Weapons Electrical Engineering Officer

- Deputy Weapons Electrical Engineering Officer, HMAS Vampire, April 1985 – July 1986
- Weapons Electrical Engineering Officers' Course, HMAS Cerberus, September 1984 – April 1985
- Staff of Supervising Engineer (Weapons), Garden Island Dockyard, March 1984 – September 1984
- Trainee Weapons Electrical Engineer Officer, HMAS Cook, April 1983 – March 1984
- Various Training Courses, January 1983 – April 1983

KEY SKILLS

Programming Languages

C++, C, 80x86 assembler, Perl, Unix shell scripting, Python, various embedded microprocessor assemblers including MIPS and ARM families, some Javascript, HTML, CSS and SQL, PL/M-x86, Pascal, Fortran, Algol, Basic, APL, other assemblers including PDP-10 and PDP-11, and many more.

Operating Systems

Linux, Solaris, Windows XP/2000/NT/95/3.x, RMX-x86, VMS, DOS, OS/2, RSTS/E, RT-11.

Networking and Communications

TCP/IP, Netware IPX, DECNet/Pathworks, RMX-Net, X.25, HDLC, various async protocols.

Other

Project management
Strong technical leadership
Strong written and verbal communications skills
Proven ability to quickly learn new languages, systems and concepts
Computer and network security
Excellent problem solving skills
Demonstrated ability to provide mentoring and training

INTERESTS

Music, both listening and playing (learning saxophone)
Reading
Photography
Good food and wine
Boating
Flying (partially completed private pilot's training)

REFEREES

Available on request