

EXPERTISE

*Executive Management, Project Management, Project Leadership, Mentoring, Business Transformation
SCADA, Realtime and Embedded Development, Agile processes, Scaled Agile Framework Program Consultant
Expert Firmware Developer, Software Developer and Architect*

PROFESSIONAL EXPERIENCE

Schneider Electric (Calgary), February 2015 – Present (Director, ePLMS Project-Product Transformation)

- Responsible for driving the transformation from project oriented to product oriented and managing the transformation impacts on all teams in the ePLMS (Enterprise Pipeline Management System) business, in order to achieve sustainable improvement in customer satisfaction, employee work-life balance and project margins.
- Worked with all the stake holders including VPs, directors, product managers, product owners, development staff, project managers, the sales team and customer service teams to redefine and then continuously improve the processes used in all aspects of the business from proposals to long term support.
- The transformation includes the introduction of SAFe (Scaled Agile Framework) as the enterprise approach to all software development throughout the business. In order to better facilitate the transformation, certified as a Scaled Agile Program Consultant (SPC).
- After 6 months the transformation is mostly in place and the focus is now on continuous improvement of the processes and putting specific effort into addressing issues identified as not previously being covered before the transformation.

Schneider Electric Russia, April 2013 – January 2015 (Oil&Gas Pipelines Solution Architect: CIS)

- Working with the established Schneider Electric groups in the CIS (Commonwealth of Independent States) to develop the local technical expertise in Oil&Gas SCADA, Advanced Applications and Simulation as well as Architecting Solutions for customer needs and creating a local Oil&Gas Solutions team in the Moscow office.
- Interviewed and hired local SCADA Engineers, Simulation Engineers and Solution Architects.
- Lead the technical team in pursuit of Pipeline Management Solution opportunities, initiated formal training and generally worked on team building.
- Presented solutions and products to various potential customers in Russia, Turkey and Kazakhstan as well as working with Schneider Electric groups in other geographies by creating presentations and developing technical solutions - for example, for Turkey, Poland and Belorussia.
- Presented at conferences and provided technical expertise at trade shows in Russia, Kazakhstan and Azerbaijan.

Telvent (Schneider Electric), March 2011 – March 2013 (Director of Software Development, Oil&Gas Platform)

- Reporting to the VP Oil & Gas North America, managed the transition of Oil & Gas Platform development from Telvent R&D (now Telvent Innovations) into a Telvent Oil & Gas North America Oil & Gas Platform group. From January 2012, managed the Oil&Gas Platform and expanded the organization to address additional Oil&Gas specific application development. Managed the resolution of product flaws holding back critical projects from completion.
- My responsibilities included: planning the initial transition of Oil&Gas Platform development for Realtime Gas and Measurement applications from the R&D team to the Oil&Gas Platform team, hiring staff for the new team to address Liquid Applications, Oil&Gas Protocol driver and SCADA extension development, establishing and refining procedures and processes, identifying the product issues which need to be resolved to allow critical projects to be completed, establishing the priorities for product issue resolution, monitoring progress on development, coordinating with VP for Oil&Gas North America and VP for Oil&Gas International, business unit directors, R&D (Telvent Innovations) directors, product managers and other stake holders

to ensure that product issues are resolved. In 2011, transitioned the Realtime Gas and Measurement group into the Oil&Gas Platform, without adversely affecting the delivery of product hotfixes and patches and ensured a better focus on product issues affecting the O&G business units. In 2012, hired and setup the remaining teams to create the Oil&Gas Platform organization. Working with the Oil&Gas Platform team leads, introduced processes to dramatically improve quality outcomes – reducing rework after development from 30% to < 1%. Improved morale and created a professional software development organization with a culture focussed on quality and continuous improvement.

- Tools and technologies used include: Windows (Server 2003, Server 2008, Windows XP, Windows 7), SQL Server (2005, 2008), Sybase, Perl, C, C++, C#, .Net, OASyS DNA 7.5, OASyS 6.3UX, GMAS 7.5, GMAS 6.3UX, Real Time, SCADA, Gas Measurement, Oil & Gas, Jira.

Telvent Canada, Oct 2007- March 2011 (Senior Project Manager)

- Project Manager/Technical Lead on the We Energies Upgrade Project. I assisted with various technical issues to close out the project – our main focus was addressing deficiencies in the BSAP driver.
- Project Manager on the Keyspan Energy Delivery OASyS DNA 7.5 Project - initiated the development work on the project for the project's (non-technical) Project Manager.
- Project Manager on the El Paso OASyS DNA 7.5 upgrade project and the Williams Midstream OASyS DNA 7.4 upgrade project - managed aspects of the project.
- Project Manager (later Senior Project Manager) on the Boardwalk Pipeline Partners Vector to OASyS DNA 7.5 upgrade project - managed the Factory Acceptance Testing and Commissioning.
- Project Manager (later Senior Project Manager) - working with various teams of two to ten people I was responsible for the delivery of various projects including:
 - Equitable Resources Upgrade Project - upgrade of the existing OASyS 6.2NT to OASyS DNA 7.5. It was one of the first OASyS 7.5 (Bragg Creek) systems to be delivered and featured some of the first deployments of system features into a production and corporate environment. Value: \$1.3 M (US).
 - ATCO Pipelines Co-Eng - requirements gathering for the upgrade of OASyS 6.3UX to OASyS DNA 7.5. I prepared the analysis, design documents, statement of work, project plan, system architecture and quote.
 - Enbridge Polaris Co-Engineering Project - requirements gathering for a Polaris Liquids Accounts system. I completed the statement of work, project plans and quote.
 - TCPL (Great Lakes Gas) Relocation Project - adding a backup Decision Support server to allow TCPL to migrate their GLG 6.3UX System from Michigan to Texas.
 - ATCO Pipelines - upgrade of an OASyS 6.3UX to OASyS DNA 7.5. The system included pass through Gas Measurement and the project was the first OASyS 7.5 (Fraser) system to be delivered. The system is currently in warranty. Value: \$3.5 M (Cdn).
 - Spectra (US) and Spectra (Duke Union) 7.4 Server Upgrade Projects - upgrade of Spectra's server hardware for their GMAS 7.4 Systems involving reinstallation, testing, data migration from old server hardware to new and then cutover from the old servers to the new.
 - CenterPoint Energy Gas Transmission Co-Eng - requirements gathering for the upgrade of an iFix based system to an OASyS DNA 7.5. I completed the analysis and design documents.
 - TCPL (Great Lakes Gas) Northern Border Project - merge existing 6.2UX functionality from TCPL (Canada)'s systems with the existing GLG 6.3UX System thus allowing TCPL to move control of the Northern Border Pipeline from Calgary to Houston. The project included an analysis phase, the creation of a Test and Development System and a phased introduction of the functionality and configuration into the GLG system. I was personally responsible for the analysis.
 - Spectra GMAS Upgrade Project - upgrade Spectra's Sybase based GMAS 7.4 systems with the SQL Server 2008 based 64Bit GMAS 7.5. Begun in 2009, the project is expected to be completed in 2012.
 - CenterPoint Energy Gas Transmission SCADA Upgrade Project - replacement of an iFix based system with an OASyS 7.5 system. (Pass through Gas Measurement) (I completed all phases prior to commissioning.) Value: \$2 M (US).
 - Boardwalk Pipeline Partners Gas Measurement Project (In progress) – installation of a GMAS 7.5 system to replace the Gas Measurement systems in place on the partners' systems. (I completed the design phase and handed over for development phase.) Value: \$3 M (US).

- My responsibilities included: establishing and meeting project schedules, monitoring cash flow results, preventing liquidated damages, producing project progress reports, maintaining scope control, understanding and meeting customer requirements, ensuring conformance to ISO 9001, planning, communicating with other internal departments, managing the customer relationship, documenting all project activities, and ensuring customer satisfaction, assigning the technical project leader and other resources to the project, approving all project plans, monitoring project process, reviewing and updating project schedule, identifying major exceptions, ensuring adherence to quality-related tasks and objectives and being responsible for all aspects of subcontractors. In addition, I assist technical staff with any issues they encounter, initiate purchasing, oversee shipping, and facilitate product enhancements and product fixes.
- Tools and technologies used include: Windows (Server 2003, Server 2008, Windows XP), SQL Server (2005, 2008), Sybase, Perl, C, C++, C#, .Net, OASyS DNA 7.5, OASyS 6.3UX, GMAS 7.5, GMAS 6.3UX, Real Time, SCADA, Gas Measurement, Oil & Gas, Protocols - BSAP, Modbus, Eagle, Optomux, DDSI, Mercury.

Zebra Projects/TransAlta Utilities, Dec 2000 – Sep 2007 (Architect/Principal Developer)

- As **system architect** and **principal developer** I designed and developed a suite of B2B tools for Energy Trading between TransAlta and counter parties. The project continued for 8 years with some hiatuses. My responsibilities included designing and developing multi-threaded tools to access web sites using HTTP methods (GET, POST) and developing multi-threaded tools to identify time differences between sites using HTTP. I have also developed tools which support both basic authorization and secure sockets (via an open source SSL library), developed CGI scripts to present results and configure the tools, and performed first line maintenance for six different servers distributed throughout Canada and the United States.
- Tools and technologies used for this project: Solaris (Sparc) 8, 9 & 10, Linux (RedHat 7.1, Fedora), Windows/NT 4.0, Windows 2000, GNU C/C++, Visual C++ 6.0, CGI, Apache WebServer 1.3.14 & 2.0, HTTP, HTML, SSL, threads, Sockets. JavaScript, SSL, sendmail, openssl

Zebra Projects/Tela-Link Communications - Alarm Routing Management System, Dec 2005 – Sep 2007 (Architect/Principal Developer)

- As **system architect/network developer** I designed and developed enhancements for Tela-Link's long range radio network (Repeater and Master software upgrades). I subsequently designed and developed the major communications component of a system consisting of a communications server which sends and receives alarm messages via TCP/IP, serial, DTMF tones, and modem connections and created a web-based application used to manage connections and monitor server status. The system supports various protocols including ContactID, SIA, SurGard, and custom protocols and was put into operation in a number of major US and Canadian cities. After the initial rollout I managed the development of additional features and protocols by another developer. I subsequently provided maintenance services for the Alberta systems which involved requirements gathering, design, development and testing.
- Tools and technologies used for these projects included: Windows for Work Groups, serial communications, Visual C++ 1.52, Linux (RedHat 9, SuSe), PHP, Apache WebServer 2.0, HTTP, HTML, threads, sockets. JavaScript, ContactID, SIA, SurGard, modems, VoiceTronics cards, FSK, MaxDB, GNU C++.

Zebra Projects (SCADA Consulting), Mar 2001 – Sep 2007 (Various Roles)

- As a consultant on the ACM Automation Inc/Sempra Atlantic Gas Project Team, I assisted the ACM Project Manager with various aspects of project startup including project planning, vendor negotiation and requirements gathering/business analysis.
- As Technical Consultant on the Metso Automation/Enterprise Project Team, I assisted the Project Manager with various aspects of project startup including requirements and documentation.
- As consultant to SmartCore Systems Inc, I developed an iVision protocol driver for the HP 48000 RTU. (End customer: BP)
- As developer/project manager (of four-person team at Zebra Projects working on the project for SmartCore Systems Inc) I designed and developed enhancements for to the iVision protocol drivers for the ABB Total Flow and Modbus drivers to enable uploading/downloading of AGA Parameters and Gas Analysis and uploading of Gas flow history. I also developed enhancements to upload Trends from Total Flow and Modbus RTU's. The Modbus driver was designed to handle various RTU's which utilize contiguous registers for AGA parameter, gas analysis and history blocks. Supported RTU's include the ProSoft AGA 2100 and the ScadaPack with a custom load. (End customer: EnCana)

- As consultant to SmartCore Systems Inc, I developed a MicroSoft Cluster Service Monitor for iVision. The software reported the status of MicroSoft Cluster and Cluster Groups to iVision. (End customer: EnCana)
- As consultant to SmartCore Systems Inc, I developed a “Dead Gateway Detection and Recovery” Service for MicroSoft Windows 2000/2000 Advanced server which detected gateway problems before the MicroSoft DGD software and forced changes in a timely fashion. (End customer: EnCana)
- As a consultant developer on a three-person team I assisted with the development of Bow Networks’ eLAN IED Anywhere V2 software used in SCADA Applications. I designed and developed a multi-threaded remote connector which connected to devices and allowed access to the device from a geographically transparent client.
- As SCADA mentor I assisted the Sunstone Projects Ltd team with the selection and project management of a SCADA system for the Access Pipeline Project. This involved: gathering requirements, writing the Functional Requirements Specification for the SCADA system, creating a system specification for the SCADA Trainer, and writing the project execution plan for the SCADA system. I also evaluated various SCADA and Leak Detection systems, Pig/Batch Tracking applications and Simulation Models.
- As a network developer (contractor) for BenTek Systems, I developed a program to capture ticket information from various devices and save it into a CSV format.
- As SCADA consultant I assisted the CygNet Software Inc team with the development of a gas measurement protocol driver for the Micro 1/C RTU for the CygNet SCADA package. My responsibilities included: gathering requirements, writing the Protocol Definition Document for the protocol, taking traces of existing operations and ensuring accuracy of documentation.
- As a contractor for Telvent Canada’s Great Lakes Gas Upgrade Project, I helped close out the project which was to upgrade an OASyS 5.2.2 UX to OASyS 6.3UX system by fixing bugs in various subsystems. I did extensive work was on the BSAP driver, created a software communications broker for the system interface with TCPL, helped complete the Site Acceptance Testing, and mentored a number of younger developers on bug fixing and working on a production system.
- As a contractor for Telvent Canada’s Piedmont Natural Gas Project, I made comprehensive modifications to the OASyS 7.4 system’s Mercury driver to accommodate AMR requirements and created various reports for Gas Measurement.
- As a contractor for Telvent Canada’s Williams Transco and Williams Gas Pipeline Projects, I produced various reports for Gas Measurement, fixed various customer written scripts in Perl and created Excel VBA reports. I also designed BLT (Business Logic Tier) objects enabling data extraction from historical and realtime databases in order to generate Linepack deltas, made other customer requested changes to the Linepack functionality, and provided onsite support to the customer during the commissioning phase, addressing various issues as required.
- Tools and technologies used for these projects included: Windows (2000, Server 2003, Windows XP), MicroSoft SQL Server (2005), Sybase, Perl, C, C++, C#, Visual C++, Visual Basic, MicroSoft Cluster Server, MicroSoft Services, .Net, TCP/IP, serial communications, sockets, threads. SCADA, Gas Measurement, Oil & Gas (Gas), Oil & Gas (Liquids), SCADA Systems: Adroit, ClearSCADA, Wonderware, SCADA Vision, iVision, OASyS DNA 7.4, 7.5, OASyS 6.3UX, GMAS 7.5, GMAS 6.3UX, Cygnet, Citect. Leak Detection and Pipeline Operational and Management Applications: ttc, Critical Control, Atmos, Energy Solutions. Protocols – BSAP, Mercury, Micro 1/C, Modbus. Electrical: IP*Works, MFC, IEDs, Schweitzer Electronic Labs Relays, SEL-2020, Terminal Servers, Switches, Modems, Comtrol DeviceMaster 8.

Zebra Projects (Miscellaneous Consulting), May 2001 – Feb 2006

- As project manager/developer/business analyst/system architect (with a four-to-six-person team at Zebra Projects) I developed various products for Social Sector Metrics Inc and Stylus Metrics. This included development of various SCADA and Medical products targeting the Pocket PC and Palm PDA’s and the development of various host and web applications to utilize information from the PDA on the Desktop using Visual C++ and Visual Basic.
- As a device programmer consultant for SchlumbergerSema I ported a product from the standard Pocket PC/Cell phone configuration to a “T-Mobile” Pocket PC Phone Edition (also known as the “xDA”) configuration. My work included: identifying device specific differences between the existing product on a Pocket PC/Cell phone configuration and the “T-Mobile” Pocket PC Phone Edition, developing a compatibility layer to hide differences between the Pocket PC/Cell phone combination and the Pocket PC Phone Edition, and prototyping a module to communicate with the Bluetooth stack for IPAQ’s.
- As project manager and business analyst I performed requirements analysis and did the design of a Compressor Fleet Management System for BP Canada. The system was web-based using an MS-Access database as backend database.

- As project manager I managed the installation of VoIP based telephone systems for Everything IP. As project manager/system architect (with three other developers) I designed and developed a series of VoIP Tools. This involved: requirements gathering, vendor negotiation, installer supervision, and client negotiation. I also investigated different protocols for suitability for use, tested various PBX systems and softphones, architected a platform neutral product in the VoIP space, completed detail design of the product for the Asterisk PBX, developed concept demonstration systems, and designed and developed a PHP interface to allow configuration of the PBX software.
- Tools and technologies used for these project included: Embedded Visual C++, Windows CE Phone Edition, T-Mobile, SMS, GPRS, MAPI, COM, Widcomm Bluetooth Stack, Linux (RedHat 9), Windows 2000, Perl, PHP, Asterisk, SIP, IAX2, Polycom phones, Sangoma T1 Cards, Rhino Channelbanks, X-Tel Softphone, Firefly Softphone, SIP Express Router (SER), rtpproxy, stun, C++, CGI, HTML, JavaScript, MS-Access and ODBC

Valmet/Neles Automation SCADA Solutions, Nov 1997 to Nov 2000 (Project Manager)

- Performed various roles from System Analyst to Project Manager on several projects including: Nova Gas Transmission's Dragon System, West Coast Energy's SCADA System, Tejas Energy/Coral Energy SCADA System, TransCanada's Dragon and Tiger SCADA Systems.
- Tools and technologies used for this project were: Alpha UNIX, C, PowerBuilder, Perl, Sybase, Stored Procedures, Windows/95/NT, Real Time, SCADA, Oil & Gas.

PROJECTS PRIOR TO IMMIGRATING TO CANADA

- Fulfilled various roles on the NaTIS (National Traffic Information System) project including managing teams of installers, IT support personnel, internal consultants and the NaTIS Control room. My technical roles included system engineer and consultant in which I specialized in prototyping, performance analysis, installations and RAID systems.
- Worked in the mining industry designing and managing the development of a Vehicle Tracking System for Open Cast mines. This included the design and development of various products for underground applications with a significant embedded software/firmware component. I was also responsible for the design and implementation of a SCADA engine used for both the Vehicle Tracking system as well as underground systems.
- Worked in the defence industry designing and developing Direction Finding software.

EDUCATION

University of Stellenbosch (South Africa)

B.Sc. in Computer Science and Applied Mathematics 1984

Hons-B.Sc. in Computer Science (Cum Laude) 1985

University of Cape Town (South Africa)

M.Sc. in Computer Science (Cum Laude) 1988

SPECIAL ACCOMPLISHMENTS

- South African Institute of Computer Scientists Award for best M.Sc Thesis (1988).

CERTIFICATIONS

- PMI Project Management Professional (2012)
- Scaled Agile Framework Program Consultant (SPC) (2015)