

DEAN WEITEN, P.ENG.

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SENIOR ENGINEER AND PRODUCT DEVELOPMENT MANAGER

Improve Processes | Optimize Team Efficiencies | Resolve Complex Issues

Versatile leader and embedded systems developer with extensive expertise in electronics, control systems, real-time computing, and software development. Maximize employee effectiveness and emphasize team building. Prioritize goals, doing what it takes to get the job done. Fulfill new roles to suit the organization's changing needs. Known as "the fixer" for exceptional technical and troubleshooting abilities.

TECHNICAL SKILLS

Electronics:	Architecture and design of analog and digital circuitry, power supplies, single-chip micros, and FPGAs
Documentation:	Designed, implemented and managed document management systems, with controlled documents for production.
Development Process:	Experienced with proof-of-concept, prototype, pilot production, and full production.
Quality:	Lean Six Sigma and ISO 9001
Regulatory/EMC/Safety:	IEC 60000 and 61000, CISPR 11, 22, and 24. Experience with many standards regimes. Trains staff in requirements for regulatory and safety.
Real-time Computing:	Experienced with LINUX, QNX, RTAI, RT-LINUX, and bare-metal implementation
Control Systems:	In power systems, environmental control, and agricultural applications
Programming:	C/C++, assembly, BASH, PERL, Python, VHDL, Verilog; on MC68, x86, PIC, Z80, ARM, Xilinx, Altera
LINUX Programming:	Applications, device drivers, kernel hacking
Simulations:	Using MS Excel, PERL, Python, C, LTspice, MathCAD, ModelSim.
EDA Tools:	Cadence OrCAD, Altium, PADS, PowerPCB, AutoSketch, AutoCAD
Communications:	CAN, SPI, I2C, USB, Modbus, Ethernet, TCP/IP; Wireshark, Nmap; VoIP, SSH; Z-Wave, LoRa, Zigbee
Cloud Computing:	Digital Ocean and Linode; NextCloud, WordPress, GitLab, remote forwarding, and VPN
Collaboration and Version Control:	Atlassian Confluence and Jira, Agile development, Subversion, and git

SELECTED ACHIEVEMENTS

- Successfully hired, trained, and mentored dozens of highly skilled engineers and technologists.
- Invented revolutionary tractor shift lever for New Holland, simplifying design and lowering cost 50%+.
- Created innovative control system to avoid cutterbar interference with pickup reel tines on Honey Bee 42 foot combine flex header, using CAN communications.
- Established APT Power Technologies as General Manager and Chief Designer, setting up the business and developing TESLA 2000 Disturbance Recorder and APT Relay in production for 25 years. APT is now ERLPhase.
- Implemented temperature, humidity, and CO2 controls (from scratch) for Conviron CMP3000 in production for 15 years. At one time, 5,000+ CMP3000 systems were in use at universities and corporations worldwide.
- Developed four custom multi-processor transformer winding controllers for Micro Tool and Machine used by Delta, Westinghouse, Hammond, and Federal Pioneer to manufacture distribution and transmission transformers.

PROFESSIONAL EXPERIENCE

SAVOIR-FAIRE LINUX, Montreal, Quebec

2020

Open Source Consultant

Performed research, development and configuration for customers requiring optimization of their embedded systems.

- Performed research and wrote articles on the application of RT Linux to older, constrained embedded systems.
- Provided configuration and installation assistance to customers using mobile wireless in embedded systems.
- Implemented Zigbee to IoT Hub connection for proof-of-concept demonstration of environmental control devices.

WABTEC, Oakbank, Manitoba

2019 - 2020

Embedded Software Engineering Manager

Led team of 12 Software Engineers in developing and supporting network products for railway locomotives. Updated senior management regularly on projects.

- Facilitated rapid resolution of technical challenges by assisting Developers who were struggling in their roles and mediating between developers who had difficulty communicating.
- Unblocked development of Event Recorder by managing development issues and guiding team discussion and validation testing.

ERLPHASE POWER TECHNOLOGIES, Winnipeg, Manitoba

2018

Senior Engineer

Developed new high-performance DC Isolation Module for TESLA Power Systems Disturbance Recorder front-end. Proved concept of travelling wave fault location. Defined PCB layouts and supervised layout implementation.

- Enabled next-generation applications on TESLA recording system by meeting challenging size constraints on DC Module while increasing precision to 16 bits and achieving 600V insulation rating.
- Demonstrated that fault location accuracy was possible to below 200m by inventing innovative fault locator circuitry, processing simulated signals, acquiring real-time data, and performing wavelet post-processing.

GE DIGITAL INSTRUMENT TRANSFORMERS, Phoenix, Arizona

2013 - 2017

Senior Engineer

Implemented firmware features for systems management of optical COSI™ CT. Invented high-voltage VT input architecture. Addressed quality issues. Advised management on development process.

- Enabled better configuration and monitoring of system with significant PIC18F firmware update on Status Card.
- Enabled Smart Substation applications with innovative 200 Vac precision high-Z VT input at 2500 V isolation.
- Successfully passed regulatory EMI and EMC testing of COSI™ CT with VT input.
- Made Smart Substation test possible by taking responsibility for 245 kV low capacitance CCVT column and cabling, working with CCVT engineers, supervising validation and calibration, and performing installation and repairs.
- To unlock markets and improve margins, architected the next generation COSI™ CT with an international team.

ERLPHASE POWER TECHNOLOGIES, Winnipeg, Manitoba

2013

Senior Engineer

Directed Bangalore team in F-PRO 3000™ protective relay development. Visited Bangalore to assist in person.

- Coached junior engineers, providing a foundation for professional development.
- Directed and reviewed design changes, improving EMC results and assisting in preparation for production.

GE MULTILIN, Markham, Ontario

2011 - 2012

Lead Hardware Engineer

Managed Hardware Development team for URplus protective relay product line.

- Opened new markets for URplus by driving timely PCB fab, assembly, and validation of B95Plus Process Card.

ERLPHASE POWER TECHNOLOGIES, Winnipeg, Manitoba

2010 - 2011

Senior Engineer

Developed new features of emerging products and addressed reliability issues.

- Addressed EMC problems and improved performance by redesigning Merging Unit on-card power supply.
- Enhanced diagnostics and reliability by implementing distributed power supply management using I2C.

NORSCAN INSTRUMENTS, Winnipeg, Manitoba

2007 - 2010

Product Development Manager

Architected new products, overseeing budgeting, estimation, and expenditures. Monitored quality of development and reviewed all designs; had final design authority. Coached and mentored Developers.

- Expanded 5-person Product Development team into a cohesive, strong, multi-disciplined 10-person group capable of almost any embedded system development.
- Coached Junior Developers on careful planning, decision-making, continuing education, and professional development. Two Developers sought and obtained P.Eng. designation; one later obtained a Master's Degree.
- Boosted customer engagement on firmware and hardware issues by implementing FogBugz.
- Performed 100% hardware and software design reviews, encouraging critical thinking and improving quality.
- With team, created drop-in replacements for Sparton™ 5318 and mainframe air pressure monitoring systems.
- Collaborated with team in creating multi-sensor wireless Eye on the Ice™ monitoring system.

EDUCATION AND PROFESSIONAL DEVELOPMENT

Bachelor of Science in Electrical Engineering, University of Manitoba; Graduated with Distinction

Power Systems Relaying Course

Dale Carnegie Course™; awarded best speech in class 3 weeks out of 12

Supervisor Electrical Safety Awareness (SESA) Certification, Alstom

OTHER INTERESTS AND SKILLS

Automobile Enthusiast: Restoring a 1957 Cadillac; trained on 1918 Ford Model T operation

Radio Operator: Shortwave listener, amateur operator VE4DMW, and software defined radio (SDR) enthusiast

Volunteering: Extensive experience as meeting facilitator, treasurer, secretary and chair