

Michael Sulis

Software Consultant

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Technical Expertise

Primary Languages : C#, .NET Framework, SQL, XML, ASP.NET, HTML
Database Platforms : Microsoft SQL Server 7/2000/2005/2008/Express, Microsoft Access, ODBC connectivity
Environments/Frameworks : .NET Framework 1.0 through 4.5, Entity Framework, LINQ, MODBUS, SNMP, DNP3, MS Office VBA (for Excel and Word), MS Visual Studio, WCF / Web Services, MS MVC
Operating Systems : Microsoft Windows 2000/XP/Vista/7, MS Server 2000/2003/2008
Additional Software : AutoCAD, Adobe Photoshop, Adobe Illustrator
Additional Languages : Python, Java, C/C++, Visual Basic, JavaScript, jQuery

Work History – Energy Industry

present

Summit Energy Tech Corp, co-owner (previously Sulis Consulting, LLC)

Combining my utility industry experience with a lifetime of technical expertise gives me a unique ability to create focused and efficient solutions for the energy industry. My business partner brings a wealth of technical expertise to our clients including cloud computing, virtualization, and high-availability networking solutions. We're focusing on leveraging those skills to help Northwest utilities further develop and integrate their business systems, and to meet new challenges in this changing environment.

Current and past clients include:

- PNGC Power
- Emerald PUD
- Public Power Council (PPC)
- Eugene Water and Electric Board (EWEB)
- Raft River Rural Electric Cooperative
- Fall River Rural Electric Cooperative
- Salmon River Rural Electric Cooperative
- Clearwater Power
- Northern Lights, Inc.
- Consumer's Power, Inc.
- Lands Energy Consulting
- Seattle City Light (SCL) Conservation Resources Division



Key Projects

- DNP3 Device Polling System "Conductor": Architected and developed a fully redundant system for constant polling of values from field devices (currently deployed in five separate environments for four separate clients).
 - Developed using open source DNP3 C++ library and .NET bindings for C# development
 - Specific templates for many device manufacturers including ABB, Cooper, BiTronics, UPC, Moxa – new devices easily added through DNP3, MODBUS, or SNMP protocols
 - Parses and stores in SQL Server
 - Responsive UI for monitoring alerts and values in real time
 - Integrated with PRTG for end-user dashboard management and alerting system
- Engine Data Collection System: Architected and developed a system for constant polling of values from a landfill gas reclamation generation facility.
 - Replaced aging Molytek system with a MODBUS I/O Server system, wired to engine sensors and emergency shutdown relay systems
 - Redundant system collects data continuously, triggers shutdowns automatically when values exceed user-defined levels
 - Parses and stores in SQL Server, provides historical data for analysis



- Integrated with PRTG for end-user dashboard management and alerting system
- Customer Billing System: Personally responsible for technical design and development of a new billing system which encompasses the complex new rules developed by Bonneville Power Administration's (BPA) new Tiered Rate Methodology.
 - Complex rules encoded in well-structured code
 - Implemented manual override features
 - Web-based interface, no client deployment required
 - PDF invoices automatically posted to a customer portal
- SmartGrid Grant Tracker: Designed and oversaw development of a web-interfaced database used to track the progress of an ongoing ARRA Grant for SmartGrid deployment
 - DOE categories mapped to custom user categories for compliant reporting
 - Monthly/Quarterly/Project-to-date reporting of expenses by category, plus remaining budget
 - Security model integrated with internal Active Directory system
 - Users have access to their own data entry and up-to-the-minute reporting online 24/7
- DOE Audit Assistance: Assisted several Idaho utilities (Clearwater Power, Raft River, Fall River) during DOE security audits required by their participation in ARRA grants
 - Reviewed existing security policies and procedures
 - Provided detailed recommendations to bring security systems up to date, implement relevant security policies and procedures, and produced concise documentation to provide to DOE
 - Assisted onsite during DOE visits
- Conservation Division Process Mapping: Interviewed key staff in a large utility conservation department (~50 employees) to create diagrams of all existing programs and data flows.
 - Reporting procedures documented
 - Existing programs categorized, diagrammed, documented
 - Provided a blueprint for next step (underway) of creating a unified program tracking and reporting system to comply with State and local renewable portfolio requirements, as well as BPA conservation reporting
- BPA Slice integration software: Developed a complex graphical application to integrate utilities with BPA's new Post-2011 Slice "Customer-Facing Interface" (CFI)
 - Utilized WCF web services both within the app and in communications with BPA
 - Complex hydrological modeling engine designed and developed from scratch, calculates project content, forebay elevation, discharge, generation, and spill at each project in the coordinated hydro system all in realtime as user keys in values
 - Calculates head correction factors as elevations change, and lagged inflow from upstream discharge based on distance between projects
 - Graphical interface showing generation, discharge, forebay elevation

2009

2009

PNGC Power, Senior Systems Analyst

Managed application development and integration, combining an understanding of industry-specific concepts with a lifetime of technical experience. Managed two full-time employees in the IT department, several project-specific contractors, and multiple vendor implementations

- Gained experience with BPA business processes and systems including Slice Scheduling, revenue metering, XML data exchange. Developed relationships with key personnel at BPA.
- Developed an understanding of industry concepts such as NERC e-Tagging, hydro system operations, transmission scheduling, and energy reserve calculations
- Worked with engineering and operations staff to develop an understanding of physical plant operations and electrical engineering concepts

Key Projects

- Schedule balancer: Personally responsible for design and development of a comprehensive scheduling system, with staff assistance and one contract programmer
 - Integrated BPA Slice scheduling, validation and XML communication of schedules



2002	<ul style="list-style-type: none"> ◦ Configurable load/resource stack concept implemented to allow other utilities to be incorporated for a picture of the "whole system" ◦ Transmission tracking from resources to loads ◦ Integration with OATI e-Tagging to calculate energy reserve obligation • Meter Data Management System: Worked with external contractors and PNGC staff to design and develop a system for tracking PNGC's load in 5-minute increments <ul style="list-style-type: none"> ◦ KYZ repeat relays utilized to duplicate BPA revenue meter pulses ◦ MODBUS counters polled at variable intervals by a custom centralized Windows service ◦ Meter status and energy values displayed to schedulers, along with real-time graphical displays of load aggregated by control area • Billing System: managed requirements collection and 2 contract programmers to develop a customer billing system <ul style="list-style-type: none"> ◦ Built to mirror BPA's complex Transmission and Power billing procedures, including Power Factor Penalty ratchets ◦ Automated distribution of PDFs and notification to customers through a web-based portal
2001	<p>Accent Business Services, Lead Programmer</p> <p>Designed and developed data-centric customer solutions for various organizations in multiple industries, including city governments, county governments and public utilities</p>
	<p>↓</p> <p><i>Key Projects</i></p> <ul style="list-style-type: none"> • Slice Data Exchange – Project lead for multiple clients, developing a system for managing BPA Slice scheduling, validating constraints communicating with BPA to send and receive XML data • Vancouver Police Department, Inventory Management System • Southwest Washington Health District, Computerized Food Handler's Safety Quiz
2000	
1999	<p>Various independent consulting projects</p> <p>Performed work for various clients including Sears Driving School, primarily in DBASE and MS Access, developing, augmenting, and troubleshooting business systems</p>
1992	
2006	<p>Various website design projects and photography</p> <ul style="list-style-type: none"> • Developed an avid interest in photography into a small "hobby business" doing pet photography • Designed or assisted with several small web projects including the Feral Cat Coalition of Oregon, PNGC Power, Mt. Tabor Veterinary Care, and Portland Pet Photography
2001	
2000	<p>Master's Thesis focused on software development and user interface design</p> <ul style="list-style-type: none"> • Primary concept involved historical investigation of modes of visual representation • Thesis work culminated in the development of a functional 3-dimensional modeling application in Java 1.2, built to explore alternate modes of "volumetric" modeling, and to explore user interface limitations and possibilities
1997	

Education & Affiliations

2016	<p>Mentor</p> <p><i>Urban Nature Partners PDX</i></p>
2015	<p>Working with underserved youth to facilitate nature education and access. Involves weekly meetings one-on-one with a specific "junior partner" as well as monthly weekend group meetings with 10 to 15 kids.</p>
2016	<p>Board of Directors, Secretary of the Board</p> <p><i>Feral Cat Coalition of Oregon</i></p>
2012	<p>Served two 2-year terms on the board of a local organization that seeks to reduce overpopulation in the feral cat communities throughout the state.</p>
2000	<p>Master of Architecture (M. Arch)</p> <p><i>Southern California Institute of Architecture</i></p>
1997	<p>Bachelor of Science in Architectural Studies (BSAS)</p> <p><i>University of Illinois, Urbana-Champaign</i></p>
1989	<p>Undergraduate studies in Engineering</p> <p><i>University of Illinois, Urbana-Champaign</i></p>
1987	<p>2+ years of courses in engineering including advanced courses in Physics, Math, and Computer Science</p>