Jerry L. Langland, Ph.D.   *jlangland@softwareguru.com*

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DevOps Expert specializing in the design, implementation and management of Data Acquisition, Analysis and Distribution Systems; focusing on highly redundant resilient production level systems.

Organizational and Project Management:

Directed multiple systems and development teams (25+ years) for both large scale scientific research and Financial Services Systems and Quantitative Analysis.

Successfully directed multiple mixed teams (internal, consultant and vendor) to implement large scale projects, spanning North America, Europe and the Pacific Rim.

Teams are typically: 3-8 direct reports, 3-5 dotted line reports, 4-5 direct consultants and any number of vendor team members as well as numerous indirect reports and lateral team partners.

Managed multiple, mission critical, partner and vendor relationships, led integration efforts with channel partners and service providers.

Successfully managed relationships for joint development projects with multiple Big 4 consulting companies.

Key liaison and project manager on over 50 enterprise projects linking Risk Management, Trading and Back Office functions.

Designed and implemented multiple WAN, MAN, LAN networks to provide Voice, Data, Video services between multiple offices and data centers.

Developed strategic growth, integration, implementation and support plans, budget projections and needs forecasting reports.

Built and managed teams establishing system policies, quality assurance, 24x7 coverage to support data centers, subscription services and Wide Area Networks.

Investments Knowledge:

Design systems (22+ years) for Futures, Options, Commodities, Separately Managed Accounts, Equities, Fixed Income, Funds and Syndicated Loans.

Focus on Trading and Back Office Integration, VAR Management, Portfolio Optimization, Auditing and Valuation and Performance Measurement.

10+ years advising RIA's, Benefits Consultants and Financial Services Application Service Providers on reporting requirements.

22+ years managing integration projects between small to midsized ASP's and top tier Investment banks, ensuring best IT practices, due diligence and compliance with Investment Bank requirements.

Quantitative Analysis:

Analysis and dissemination (7 years dedicated full time, 10 additional years adjunct to other systems) of extremely large scale data sets using empirical modeling.

Applied Monte-Carlo simulation, multi-variate non-linear regression and other mathematical techniques to large scale data sets.

Developed VAR and Performance Reporting engines to support real time Attribution and Risk Management.

Development of Portfolio Optimization strategies using NLR modeling techniques.

Technical Architecture:

Architect (28+ years) designing and utilizing large scale data acquisition, distribution and analysis systems.

System Administration (26+ years) with experience in W2K12Rx/W2K8Rx/W2K3/W2K/NT/PC, VMS, Linux and UNIX environments.

Networking (30+ years)/Internet (28+ years) 20 years evaluating, managing and selecting WAN solutions from most major Telecoms, Experience with multiple vendors' network equipment and protocols including Firewalls, Routers, Switches, PBX systems and integrated equipment.

Programming (30+ years) in multiple languages and platforms: C#/VB.Net, C/C++, Delphi, ASP.Net, VB, Java, FORTRAN, scripting, SQL, COM, CORBA, MTS, MSMQ, MQ Series (28+ years in MS platforms).

Recent Experience:

Consultant   *August 2002-Present*

Multiple Clients

• President of Software Guru, Inc. IT consulting firm specializing in the financial services vertical market.
   o Provide firms with managed teams of highly skilled, difficult to locate specialists for application development.
   o Provide 24x7 data center and corporate systems support.
   o Design, implementation and management of WAN and LAN network systems; training of staff; management of vendor relations.
   o Design, develop, implement and test Disaster Recovery and Business Continuity plans and infrastructure.
   o Provide high level consulting on trading systems, data acquisition networks, data aggregation, manipulation and measurement and analysis techniques, software and systems.
   o Provide application development support to both financial services firms and the traditional SMB market.
   o Recent and current client lists includes one of only two Syndicated Loan Trading Platforms, Benefits Consultants, Financial Services ASP's, Portfolio Auditing Services, Internet Television and Broadcasting Company as well as multiple traditional Small to Mid-Sized businesses.

- Co-Founder and Member Manager of SHG Services, LLC a Financial Services Consulting Firm.
  - o Provide Outsourced Back Office, Trade Management, Portfolio Accounting and Performance Measurement Services.
  - o Provide integrated Security Master and Pricing services in both an outsourced and ASP model.
  - o Provide high level pricing and portfolio modeling consultation and assistance.
  - o Provide custodial and FCM data aggregation and normalization and transformation services.
  - o Provide high level financial services consulting to Advisors, Brokerages, Benefits Consultants Financial Services ASP's and Family Offices.
- August 2015 – Present
  - o On call business consulting in financial servers and operations management for multiple companies.
- March 2016 – Present
  - o Harvest Investments LLC. Data/Pricing Feed Management and Development
    - ▪ Development of new XML based data feed loaders and system.
    - ▪ Management of Data Feed Vendor relationships.
- January 2016 – Present
  - o Blaze Portfolio Systems: DevOps Manager, Infrastructure Architect
    - ▪ Business consulting on Financial Services ASP procedures and policies
    - ▪ Management and growth of production trading environment.
      - • Managed upgrade process of standalone VMWare hypervisors to clustered SAN based environment.
      - • Established and maintained FIX connections to partner custodians.
      - • Deployed geographically and vendor distinct DR VMWare cloud with warm spare VM replication.
      - • Deployed new development environment.
    - ▪ Develop DR and BC recovery plans for trading environment.
- February 2015 – August 2015
  - o Virtus Partners LLC.
    - ▪ Post-acquisition integration of Virtus and TSI hardware and software infrastructure
      - • Replace SungardAS web and SQL Servers with Virtus Rackspace servers, migrate application and support infrastructure.
      - • Move issue tracking system from Fogbugz to Jira, code management from Source Gear Vault to TFS.
      - • Assist in bank client audits of both TSI and the new VTS (Virtus Trade Settlement) application and infrastructure.
      - • Decommission old office and server infrastructure, migrate users and service applications to Virtus Cloud environment.
- April 2014 – January 2015
  - o NCREIF: National Council of Real Estate Investment Fiduciaries
    - ▪ Re-Architect and lead development of new Data Submission and Index Production Application (C# WnForms)
    - ▪ Architect and develop Member Web Portal (C# ASP.Net WebForms) providing platform for next generations Investment Analytics system.
    - ▪ Implement internal development standards, procedures, version control, issue tracking and new 3 tier development platform.
    - ▪ Consolidate production environment, implement new development, staging and production systems.
- February 2013 – August 2015
  - o Trade Settlement, Inc. (Now Virtus Trade Settlement)
    - ▪ Liaison for client (bank) audits and reviews.
    - ▪ Contract and SLA review for renewal agreements with SunGard AS.
    - ▪ Migration of in house Exchange 2007 to Office 365.
  - o Multiple Local Clients
    - ▪ Both onsite System Integration and Cloud Services (Office 365) Integration.
    - ▪ Architectural consultation and proof of concept testing for mobile application development platforms for producing single code base client-server applications on Windows, Mac, Android, iOS focusing on REST based data models.
    - ▪ Architectural review and enterprise scaling proposal for online Trading System.

Harvest Investments, LLC.   *November 2008-February 2013*
Pricing Systems Architect & Infrastructure Manager
- Provided technical management, direction, mentoring and training of both Systems and Development Teams.
- Led implementation of multi-site Active/Passive multi-terabyte data warehouse and multi-site application redundancy.
- Designed and led implementation of near live DR site for Business Continuity.
- Led implementation of replicating SAN network between sites.
- Personally selected, managed, acquired and led implementation of all network servers, designed and led implementation of core host servers and all Virtual machines.
- Managed vendor selection and technical relationship management for all data vendors and network/telecom vendors.
- Design and Implementation of a Security Master and Price Master System for Portfolio Auditing. Nightly Processing of:
    o All US Equity Trades (all US Exchanges)
    o All US Municipal Bond Trades
    o All US Corporate Bond Trades
    o Significant percentage of world-wide US Treasury Trades
    o Personally wrote all loading and translation application in .Net 4.x Framework and T-SQL
- Design and Implementation of Level 2 Pricing System for days with no reported trades in a security.
- Multi-Terabyte SQL warehouse database system
- Multi-feed Security Master System
    o Moody's Analytics
    o S&P Ratings
    o Nightly Bloomberg BSYM
    o Built automated Integrated Bloomberg Data License feed, full replacement for BBG Request Builder including decryption, integrated into master system.
    o Personally wrote all translators and loaders in .Net 4.x and T-SQL.
- Design and Implementation of Automated Portfolio Auditing and Compliance System
    o SQL 2012+ Back End
    o MSMQ Based .Net WinForms Client/Server analytical application for Research and Price Analysts Integrated real time reporting system.
    o Client Reporting System, Client Portal Website.
    o Comprehensive Knowledge Management System with integrated Contact Management System.
    o Designed and led implementation of all hardware/software infrastructure for the company.
        ▪ Multiple Equallogic Storage Arrays spanning primary and secondary production facilities.
        ▪ SQL Server 2012 Enterprise High Availability Group Failover Cluster of multi-database, multi-terabyte system.
        ▪ Design and performance optimization of large scale analytic SQL Server database system.
        ▪ Multiple Hyper-V server array system for Application VM Servers
        ▪ Integration of Exchange/SharePoint/TFS system with both the Application Support System as well as the overall Application Life-Cycle.
    o Design, implement and test DR and BC plans and infrastructure.
- Managed development team using TFS and a Scrum framework with a 4 week continuous analysis-development-testing-release cycle. *.Net 4 Framework, T-SQL*
- Provided training sessions to developers, DBA's and system administrators. SQL Server and tools (DB Optimization, SS, SSRS, SSIS, SSAS); Developer Express, XPO, LINQ, Hyper-V, Exchange, SharePoint, ASP.Net, WinForms.

Trade Settlement, Inc.   *April 2007-November 2008, 2010-Present*
Systems Consultant 2010-2015
- Managed implementation of secondary failover cloud environment at Sungard Availability Services
- Principal Administrator for production servers in Sungard Enterprise Cloud Services as well as corporate infrastructure servers. Vendor relationship manager.
- Design, implement and test DR and BC plans and infrastructure.
    o Activate DR and BC during Hurricane Sandy
    o Post hurricane debriefing and development of improved plans for NYC long term blackouts.
- Migrated production environment from Amazon Web Services to Sungard Enterprise Cloud Services.
- Migrated production environment from ATT Managed hosting to AWS.
- Primary relationship manager and administrator for TSI with ATT, Sungard AS, AWS, Qwest, Verizon, Broadcom and other network and datacenter providers.

- Improved production facilities and reduced telecom expenses by 60% by changing vendors and implementing newer more effective technologies.

Infrastructure Manager 2007-2008
- Hired Production Manager, Development Manager, Help Desk Team and Server Manager. Worked with new Development Manager to hire in-house development team.
- Managed development teams in Argentina, India, Canada and US.
- Led the effort to bring all development in house rather than rely on outside contractors.
- Rebuilt small business infrastructure, both Corporate and Production, to near Investment Bank Level system.
    - Proposed and successfully increased Systems budget by a factor of 10.
    - Quadrupled number of physical serves; implemented in house cloud network to double the number of total servers used for development and in house applications (Email, Code Management, IM, Database, and Auditing). In all increased server count by a factor of 8.
    - Implemented fully logged Auditing of all Security events (including mailbox and database access, password changes, workstation logons, screensaver activation)
    - Implemented ticketing and help desk system along with Inventory Management System.
    - Implemented full journaling and legal research and hold of all email transactions.
- Implemented Dublin IE office and internal services replication between sites for the European office.
- Managed and tested all network and production systems to ensure client security requirements were met.
    - Ensured corporate policies and procedures were adequate and in place to meet client requirements. Worked with departments to implement or improve both IT and HR policies.
    - Arranged, managed and reviewed DR/BC Testing for all vendors to comply with client requirements.
    - Arranged, managed and reviewed VTA and Penetration testing to comply with client requirements.
- Managed client audits and onsite inspections
    - Sole technical and business liaison for new vendor audits for Wells Fargo, BONY, Barclays, BOA, Citibank, JPM as well as other Investment Banks.
    - Managed renewal audits from banking clients.
- Managed all IT vendor relations.
    - Ensured that data and service providers met or exceeded both data security, integrity and availability for Investment Bank Standards.
    - Reviewed and tested vendor SAE-16 Type II (SAS 70 Type II)
    - Remediated vender disputes resulting in invoice credits and renegotiation of services for lower costs.
    - Renegotiated vender contracts to halve data costs.
- Consolidated DR Facilities
- Built multiple ASP.Net web applications for contact and data management. Provided high level testing and coding support for principle platform. COM/ASP/ASP.Net, T-SQL
- Responsibility for 24x7 management of a trading platform processing an average of $10B in loan trades per month.
- Full time+ contract position.

Software Guru, Inc. and SHG Services   *November 2005-March 2007*
Consultant
- Technology platform auditing, testing and advising to multiple smaller Financial Service Firms. Primarily Benefits Consultants, RIA's and Family Offices.
    - Review and documentation of technical platforms and security, both reporting and internal infrastructure.
        - In depth network inventory, license accounting.
        - Penetration testing, patch scanning, reliability and security assessment.
        - Business Best Practices Consultation on network security, Wide Area Networking, Disaster Recovery and Business Continuity.
    - Design, budget and implement platform upgrades and expansions. Typically:
        - MS Exchange replacement, expansion, upgrade.
        - CRM systems, typically MS Dynamics CRM
        - MS SharePoint Services and portal integration.
        - MS SQL Server, Analysis and Reporting Services
        - Server and storage subsystems: iSCSI arrays, Windows and Linux server infrastructure
        - Backup Services
        - Firewalls, VPNs, Branch point tunnels

- Built and maintained multiple data collection, translation and distribution systems.
- Reporting web services, IIS, ASP.Net, SQL Server
- Hiring and training of internal staff.
    - Business Consulting for review, evaluation, selection and implementation of Portfolio Accounting Systems, Security Master Systems and Services and Performance Reporting and Attribution Systems.
    - Provide ready to go Operations team to bring in new Financial Systems and Products online and then train in house staff.
    - Implement BC/DR capabilities

Private Client Resources, LLC.   *November 2002-November 2005*

Systems Manager

- Built out High Wealth Investor/Advisor reporting platform.
    - Started with 4 servers and built out to 35 physical servers both corporate and 24x7 production.
    - Implemented 24x7 production environment
    - Implemented investment bank/advisor level policies and procedures for management and monitoring of the application and client sensitive data.
- Built and maintained multiple screen scraping and data feed routines integrated with DTS and T-SQL
- Hired and managed Systems, Help Desk and Development Staff.
- Coordinated and co-managed remote development staff in India.
- Primary Technical liaison for Investment Bank Partners
    - Managed Investment Bank audits and ensured technical and SLA requirements and benchmarks were met.
    - Arranged for DR/BC, VTA, Penetration Testing, and all other requirements.
    - Ensured policies and procedures were in place to meet SAS 70 Type II requirements
        - PCR was not SAS 70 certified due to expense.
        - My responsibility was to ensure the systems, policies and procedures were in place to allow the banks to wave this requirement for our production environment and office facilities.
- Managed 24x7 production environment for the collection, normalization and reporting of high wealth client investment data.
- Worked to integrate Systems and Development schedules and priorities, worked to integrate Operation and Business team needs and deliverables with systems resources and development schedule.
- Design, implement and test DR/BC plans and infrastructure.
- Full time+ contract position.

Envestnet, Inc.   *June 2001 – August 2002*

Director of Systems Development, November 2001 to August 2002

- Successfully integrated the IT infrastructure and teams of two financial services companies after merger.
- Managed IT Infrastructure and Systems team with multi-million dollar budget to support all corporate IT systems and data centers.
- Evaluated, Approved and Managed relationships with all technical vendors, as needed provided top level problem resolution with vendors. Negotiated compensation for SLA failures. Vendors included: Cincinnati Bell (Broadwing), Qwest, MCI/WorldCom, Verizon, ATT, Ameritech as well as multiple data centers in Chicago and Denver
- Evaluated, proposed and managed implementation of new early generation MPLS based WAN system between Denver, Chicago and NYC providing voice, data and video conferencing. Core network was on Cincinnati Bell.
- Managed multiple DMZ based data feeds and WAN (T1/DS3) connections to partners and vendors via multiple carriers.
- Developed integrated, secure network to capture and import disparate data feeds from custodians, data feeds, for STP system.
- Evaluated Service Provider environment portability to .Net framework.
- Developed and led implementation of corporate Enterprise Resource Management plan to integrate CRM, Accounting, Help Desk, Client Services, Operations and proprietary Financial Trading and Accounting System into a single 360° client-centric view.
- Relocated Trading Desk operations to Chicago and associated systems and compliance facilities.

Technology Consulting Manager, June 2001 to August 2002

- Primary Technical Client Manager serving as primary interface between large clients and partners and the Operations, Systems, Production, Development, Project Managers and Account Representatives in order to effect companywide technology changes.
- Managed corporate technology relationships in large scale client build outs, perform needs analysis, RFP and Due Diligence Process management. Clients included American Express, DTB, Fidelity, Schwab others.
- Defined product, technology and security changes and modifications to meet client needs.
- Analysis and architectural design for integrating portfolio accounting systems (Internal, APL, Advent, GIM II, PAM).
- Redesign database security model adding hierarchical client structure (Enterprise, Firm, Branch, Advisor, and Investor) allowing for security and permissions to be adjustable/cascaded at all levels.

- Evaluate and analyze acquired company's product line, IT infrastructure, employee performance. Create technology integration recommendations, employee retention plans, manage acquired employee morale for Technology team.
- Manage technical requirements, procedures and practices for corporate integration following merger.
- Managed the Siebel Development and Systems Team for segregated Siebel Prod/Test/Dev environments.

Insignis, Inc.*(formerly Applied Financial Management, Inc.)*   *December 1995 - June 2001*
Vice President IT Strategy and Senior Network Architect.
- Managed Systems and Technical Operations teams in both Chicago and London.
- Managed Trading System implementation at multiple clients in Chicago and London.
- Managed all technical and developmental relationships with vendors, clients and partners in the US, UK, France and Germany and Pacific Rim.
- Lead architect, project manager and principle client contact at the SVP level for real time (STP) trading and portfolio management system for multiple clients, including Barclays Bank, Cargill Investments Services and others. Integration with exchanges and service providers such as the CME, DTB, CBOT, GL, PATS, PC Quote, CQG, Reuters, FIX.
- Lead architect, project manager and principle client contact at the SVP level for multiple broker-client-custodian subscription based financial services network. Initial rollout to General Motors, Chase Manhattan, Morgan Stanley, Salomon-Smith Barney, Goldman Sachs, Merrill Lynch, Cargill Investor Services.
- Implemented private Metropolitan Area Networks in Chicago and NYC linked via Sprint Sonnet ring. Network connected multiple Investment Banks and Institutional Investors. Highly secure, multi-level encrypted Lotus Notes Network with ISDN backup.
- Managed multiple teams of developers and systems administrators in the deployment and support of financial services applications.
- Developed distributed trading system for Futures, Commodities and Equities using a messaging based middleware and SQL Server backend.
- Integrated trading system with Risk Management, Portfolio Accounting, and Performance Reporting systems to facilitate Straight Through Processing.
- Designed and implemented fully automated multi-broker back office Reconciliation, Performance Reporting and Risk Management system for $30B notional value futures and commodities portfolio, to combine and normalize disparate broker formats such that it was delivered directly to clients overnight for sophisticated Value At Risk reporting and performance management.
- Develop support infrastructure for $35B equities and Fixed Income Performance Reporting service. Principle client was CNA.
- Financial Market Modeling/VAR of futures/options products. Hedging and trading strategies, portfolio optimization.
- Financial and corporate modeling and research to support first round funding. Evaluation of product alignments and integrability for corporate M&A.
- Migrated original company product from Sun/Sybase to NT/SQL Server, built all new GUI interfaces. Responsible for budgeting, revenue projections, and technical due diligence.

Research Associate, University of Iowa.   *1990 - 1995*
- Led and worked with multiple teams of Graduate Students, Technicians and Undergraduates from the US, Italy, Russia, India, China and other countries. Worked in the US at Fermilab in Chicago, Brookhaven on Long Island NYC and CERN in Switzerland.
- Calorimeter design, calibration and testing for the Large Hadron Collider at CERN (so called 'God Particle Machine')
- Designed and implemented multiple high speed, distributed, 24x7 UNIX and VMS based transactional message queuing systems for extremely high speed data acquisition and analysis. Development in FORTRAN, C, Visual Basic, Excel, sh, awk. System transaction processing rates of 100 to 10,000 transactions per second. Up to 1 Gb/minute compressed data acquisition and recording capability.
- Management of multiple VMS clusters and administrative teams.
- Performed large-scale large scale statistical analysis of strange particle production data, using Monte Carlo simulation, multivariate nonlinear regression, relational data analysis and other techniques. 100+ Gigabyte initial data set. Work done mainly on mixed AIX/IRIX distributed computing environment, along with additional support work on VMS and MS Windows and Macintosh based systems.
- Development of multiple PC applications in Borland C++ using Protogen CASE tool.

Contract Work.   *1984 – 1990*
- System Integration, network installation and management, G/L Accounting System installation & maintenance. SunOS, Novell, PC, various microprocessor systems.
- Custom programming

Detailed Skill Summary:

Analysis: VAR analysis, financial market and trend analysis, derivative price modeling, multivariate non-linear regression, Monte-Carlo simulation, business/revenue modeling, and business process to electronic system mapping

Applications: Jira, Confluence, Tableau, Siebel, Lotus Notes/Domino, IIS, SQL Server, ISA/Proxy, System Center, Exchange, Lync Server, SharePoint, Team Foundation Server, Great Plains/MS Dynamics, MS CRM, Argent, ArcServe, Backup Exec, Innoculan,

Norton AV, McAfee, Trend, MS Office, MS Project, Lotus Smart Suite, Visio, Mathematica, Matlab, Bryce, Poser, Vue d' Esprit, various CAD, others.

Cloud Platforms: AWS, Azure, Google, Nuvolat, Rackspace, SungardAS

Consulting: Over 22 years consulting experience, 20 years in financial services IT consulting at Fortune 500 level or higher.

Databases: MS SQL Server, Lotus Notes/Domino, Exchange EDB, MySQL, SQLite, Firebird, Sybase SQL Anywhere, Sybase, DB2, dBase, Paradox, Access, Interbase, Informix, Oracle, PostgreSQL, ADS, Absolute DB, ODBC, BDE, OLE DB, ADO, various NoSQL and tuple based systems.

Financial Service Protocols/Feeds: NYSE/NASDAQ/CTA, MSRB, TRACE, Bloomberg, Reuters, S&P, Moody's, Fitch, Tick Data, OTCBB, Pink Sheets, MATIF/GL, LIFFE, DTB, ORAPI/ODAPI, PATS, PCQuote, Trading Technologies, FIX, MFA ,Custom PMS, OMS, Performance, & Recon Applications

GUI Environments: Windows, X11 (KDE, Gnome, Motif), OS X, iOS, Android.

Hardware: Intel/PC, VAX, RS6000, SGI, Sun, Mac, CISCO, Marconi, Gandalf, Watchguard, Sonicwall, NetScreen, Checkpoint, PBX (Nortel, Avaya, Cisco, Toshiba), Android, Blackberry, iOS.

Interfaces/Electronics: LAN/WAN Hardware (Routers, CSU/DSU, etc.), Digital/Analog Computer Interfaces (CAMAC, FastBus, RMH, VME, NIM), SCSI/SAS/SATA/PATA/iSCSI.

Internet: 30 years of experience in designing and using Internet applications based on all Internet protocols.

Libraries/API/Middleware/Protocols: .Net/COM/DCOM/ActiveX/OLE, Active Directory, MS Message Queue, MS Transaction Server (MTS), MQ Series, Neon, TCP/IP Sockets, CORBA, WINS, NetBIOS, HTTP, SMTP/POP/IMAP, SNMP, DNS, FTP, LDAP, UUCP, NNTP, CERN, MFC, OWL, BGI, X11, Motif, VMS RTL.

Management: Creation of outgoing/response to incoming RFI's and RFP's. Writing and review of architectural requirements and architectural design documents, proposals, project plans, resource allocations, cost estimates, discovery documentation. Hiring and interviewing of technical personnel. Technical mentoring and management of developers and administrators. Full life cycle development experience on multiple projects.

Mathematical: Large scale statistical analysis, multivariate non-linear regression, Monte Carlo simulation, systems of ODE's, PDE's.

Networks: TCP/IP, Ethernet, MPLS, Frame Relay, ATM, ISDN, DECNet, Novell IPX/SPX

Operating Systems: Windows/Active Directory, DOS/Windows/95/98, VMS, UNIX (AIX, IRIX, Solaris, Linux), Primos, Mac OS, OS X CISCO, Watchguard, Sonicwall and Gandalf Routers.

Portfolio Accounting Systems: Advent, FMC Pacer & Persys, Security APL, Eagle, others.

Programming:/Scripting: .Net Family (C#/VB/Oxygen/Mono/XAML/Ajax), Delphi/Pascal, VCL, Fire Monkey, Visual BASIC/BASIC, FORTRAN, C/C++, Transact-SQL, PL-SQL, MS Office (both VBA and VS .Net), Lotus Notes, VBScript, Lotus Script, Java/JBuilder, javascript, HTML/CGI/ISAPI, XML, Visual Interdev, ASP, Cold Fusion, UNIX shell scripts, DCL, Access, awk, pearl, PHP.

System Administration: Windows/Active Directory, Hyper-V, VMWare, Notes/Domino, MS SQL Server, IIS, Exchange, SharePoint, VMS, UNIX, Novell.

Education:

Ph.D. with Dissertation in Experimental High Energy Physics. University of Iowa 1995.

M.S. Physics. University of Iowa 1992.

B.S. in Mathematics and Physics with specialization in Astrophysics. New Mexico Institute of Mining and Technology 1988.