SHAWN M LEWIS

4048 West Danby Court – Winter Springs, FL 32708
(407) 274 4940 – smlsr@me.com

SUMMARY

Systems Architect and Developer seeking to continue utilizing my experience and expert skills to advance and implement software / hardware solutions. Enjoy using innovative uses of technology and problem solving roles to assist in the success of my employers while advancing my knowledge and skillset.

KEY COMPETENCE

Extensive R & D experience	Hands On Leadership
Solution Architecture Design	Team Building and Collaboration
Business Scope to Technical Requirements	Rapid Prototype to Product Completion
Expert Analysis and Debugging	Mobile Development
RDBMS Design	xyz
NoSQL Use and Practices	"Outside of the Box" thinking
Object Oriented and Code ReUse	Intellectual Property Advancement

PROFESSIONAL EXPERIENCE

CHIEF ARCHITECT   06/15 – 06/16
Tencara Technologies, Inc   Orlando, FL

Tasked to build a small team, architect and implement a split data plane/control plain network security and IP gateway solution for one of the worlds largest online game companies. Utilizing DPDK and "standard" Intel compute platforms capable of 10Gbps throughput with management and configuration/control thru network based controllers.

- Packet Gateways built utilizing DPDK libraries using C language on Linux servers exceeding requirement of 10Gbps to 20Gbps on standard Intel PC platform.
- Controllers, Configuration API Brokers built utilizing C# back end with RESTFUL API's and MariaDB and Redis Database storage with standard Web Portal utilizing API for config/control
- Multi-tiered platform in a N+1 configuration capable of failover and redundancy
- Completed project within 70% of time allocated/budgeted
- Incorporated high speed transaction processing utilizing ZeroMQ messaging infrastructure between nodes and gateways
- Development cost of entire platform was equated to the cost of single vendor device in the network handling less then 5% of the network traffic, reducing customer CAPEX by 80%

CHIEF ARCHITECT   2013 to 2015
Benu Networks, Inc   Lake Mary, FL

Recruited full-time to build companies remote R&D office in Lake Mary, Fl to head the companies next generation product development. Built a team of 35+ software engineers, quality assurance engineers and documentation engineers. Architected and developed singular code base for next generation product line running on both embedded Cavium 3 CPU's and Intel processors. System was comprised of Packet processing engines, 13 distinct network services, databases for real time and configuration of millions of users with associated NOC, Admin and Customer facing portals.

- Two product lines (1 embedded Octeon 3, 2nd Intel Processor Servers) with a single source code base thereby having a single code base for all functions and features. C Language was utilized for these engines.
- 13 Distinct Network services were developed providing functionality and features required by carriers and service providers including services such as: DHCP, Routing, UPNP, Device Detection/Fingerprinting, Radius, and more. Services were mainly designed and implemented in C though some utilized C#.
- The packet gateways were controlled thru a tiered controller architecture, detecting new devices coming online, "home settings", quality of service, advanced features. These controllers were developed in C# in a N+1 architecture.
- Designed and implemented custom controllers with a custom encrypted protocol utilizing PROTOBUF for message formatting.
- API Broker servers were designed in C# providing RESTFUL and SOAP API's northbound and communications to both REDIS and MEMSQL databases for data storage.
- Communication bus between all services were achieved by utilizing Rabbit MQ messaging allowing for near real time control and eventing.
- System was capable of millions of online devices and homes.
- 3rd Party control for services and integration was provided thru use of a RESTFUL API on the Service Broker API gateways.
- Architected entire platform and heavily involved in the development and coding of all aspects of the system.
- Developed mobile application for customer facing management of service for IOS and Android
- Training of engineers for networking stacks, protocol processing and scaling distributed systems.
- Filed 6 new patents on behalf of company increasing the value of their intellectual property

CONSULTANT 2011 to 2013

Benu Networks, Inc Concord, MA

Collaborated with CTO and VP Sales along with companies Tier 1 cable provider for a "vision" of a next generation product offering. Utilizing existing Benu Hardware in providers network software modifications needed to be made to remove all intelligence from product and allow for complete and dynamic control from external servers/controllers. Goal of the new product offering was to remove the home users router and put all functionality in the cloud/Benu hardware as well ability to add new advanced services quickly without replacing hardware on customer end or trucks rolls, etc.

- Translated business requirements to technical specifications and requirements
- Managed team of 5 existing Benu developers for the modification of the codebase on the Benu Hardware (Cavium Octeon 2) MEG400 platform
- Designed and implemented database infrastructure for supporting configuration and analytical data on Firebird then transitioned to Postgres.
- Implemented "control servers" in C# for the controlling of the MEG400 and interface to both RDBMS and NOSQL databases for configuration and statistical reporting
- Implemented API gateway brokers to access and maintain database and MEG400 gateways utilizing RESTFUL API's with JSON and/or XML content in C#.
- Worked directly with customer executives and technical teams for live trial and deployment.
- Assisted Benu executive team with new business development for new service offerings made available thru new architecture

CONSULTANT 2009 to 2011
NokNok, LLC Orlando, FL

Tasked with architecting and implementing one of the first video streaming services for video media to Game Devices (Playstation, Xbox), DLNA Media Players and custom Mobile applications for Apple IOS and Android devices. Utilizing a cloud based infrastructure for media translation, transcoding and delivery combined with social networking to share media NokNok delivered realtime media from hundreds of online sources and myriad of formats.

- Developed industries first cloud based DLNA service offering supporting 100's of media players
- Custom C#/Mono based servers supporting RESTFUL API using XML/JSON for controlling media streaming, transcoding, media links
- C#/Mono based DLNA proxy servers which allowed in home Media Players Game Devices and mobile devices to speak DLNA across wide area networks translated to internal API format.
- Transcoding of 1000's of live streams and stored content was controlled by API servers controlling FFMPEG libraries.
- mySql database for users, content, and statistics
- Extensive protocol debugging and masquerading required as not all implementations of DLNA followed the specifications

CHIEF TECHNOLOGY OFFICER/CHIEF OPERATING OFFICER 2005 to 2008
VoIP, Inc Altamonte Springs, FL

Remaining on with VoIP Inc following the acquisition of Caerus, Inc assuming the roles of both COO and CTO with continued responsibilities of Network Operations, Network Engineering and overall operations of VoIP Inc nationwide footprint servicing half of the Tier 1 telecommunications providers in the US. Provided forecasting, CLEC interconnections, backhaul operations, internal software and billing systems as well as increased network footprint and capacity 150% while reducing OPEX 22% over 3 years thru combined contractual negotiations and new technology internally developed with a software engineering team of myself (lead) and 11 others.

- Continued to enhance software architecture to increase capacity with additional services
- VoIP Termination platform with customized SIP stack developed in C# providing 40 calls per second per server
- Created a new least cost routing tool which analyzed termination costs and implemented real time routing changes saving companies termination expenses in excess of 20% utilizing MSSQL Server with a customized C# processing engine

CHIEF EXECUTIVE OFFICER/FOUNDER 2000 to 2005
Caerus, Inc Altamonte Springs, FL

Sole founder of technology and telecommunication's company providing both competitive and advanced telecommunication services to top tier carriers and service providers. Responsible for growing company to over 140 employees, nationwide network with 13 state local interconnections utilizing 100% percent internally developed softswitch technology. Grew sales to over 3.4million per month with GPM exceeding 38%. Groomed company for merger/acquisition to VoIP Inc (publically traded) in 2005 valued over $56 million dollars. Network and services were built upon custom built SS7 and SIP VoIP gateways developed internally.

- Initial 12 months of company built engineering and software development base to create custom telecommunications switching platform
- VoIP termination platform built using standard Intel PC's with customized SIP stack and routing software with RTP mediation
- Call Detail Record Processing handling 1000's of call per second for rating, billing and taxing
- Advanced services provided thru SS7 signaling and SIP centric functions
- Developed patent and software for "Click to Call", later utilized by Google in their Click to Call marketing campaigns nationwide
- All software components were developed on Microsoft C# and C++

CHIEF TECHNOLOGY OFFICER   1996 to 1998
XCOM Technologies, Inc / Level 3 Communications   Cambridge, MA

As co-founder of company responsible for raising initial funding from two Tier 1 venture firms for $4 million dollars, patented, developed and deployed very first softswitch technology worldwide. Responsible for the platform architecture and development, vendor negotiations, CLEC interconnections, network operation, forecasting with deployment into 4 states and interconnection agreements in 12 before being acquired by Level 3 Communications in a deal valued in excess of $200 million producing one of the highest ROI's to date for investors in less than 18 months. Continued on with Level 3 Communication during transition process.

- Wrote patents for VoIP and SS7 integration, Softswitch, and SS7 Bypass
- Created MEGACO protocol and worked with vendors Ascend and Shiva to implement on carrier modem terminals
- Architected and developed first softswitch technology utilizing Sun Microsystems as the controllers and Ascend TNT as the telecom interconnection devices
- Managed development team of 12 engineers
- Taught telecommunications protocols to engineering team, hands on development for signaling and state machines

PATENTS

SYSTEM AND METHODS FOR PROVIDING VIRTUALIZED CLOUD PEERING EMULATION SERVICES (20160021684)

SYSTEM AND METHOD OF PROVIDING ADVANCED SERVICES IN A VIRTUAL CPE DEPLOYMENT (20150237667)

CLOUD-BASED VIRTUAL LOCAL NETWORKS (20140172947)

EXTENDING MULTICAST/BROADCAST SERVICES TO WIDE AREA NETWORKS (20140136660)

VOICE OVER DATA TELECOMMUNICATIONS NETWORK ARCHITECTURE (20080025295)

VOICE OVER DATA TELECOMMUNICATIONS NETWORK ARCHITECTURE (20080025294)

VOICE OVER DATA TELECOMMUNICATIONS NETWORK ARCHITECTURE (20080013531)

System and Method for Bypassing Data From Egress Facilities (20070201515)

TECHNOLOGY – Above Average to Expert

OPERATING SYSTEMS / PLATFORMS

- Windows (Vista, Windows 7,8 and 10, Server Versions, Mobile Devices – Phone and Tablet)
- MAC OSX
- Apple IOS
- Android
- Linux (Redhat, CentOS)
- Embedded Platforms (Microlab, Arduino, and others)

PROGRAMMING LANGUAGES

- Desktop: C# (Mono/.Net Framework), C (Embedded and Application), Python, Limited C++
- Web: Javascript, HTML, HTML5, Limited CSS, Bootstrap, jQuery, Limited Java
- Mobile: IOS, Android, Windows Mobile
- Formats: XML, JSON, REST, SOAP

DATABASES

- Microsoft SQL-Server
- Mysql / MariaDB
- Firebird
- Postgres
- Redis
- Couchbase
- Memsql
- Memcache

PROTOCOLS

- Telecommunications: SS7, ISDN/Q.931, SIP, MEGACO
- Networking: Extensive Knowledge-> IP, UDP, TCP, Broadcast, Multicast, Ethernet, DiffServ
- Network Services: DHCP, ARP, DLNA, UPNP, Zeroconf, NetBios, AppleTalk
- Network Generic: HTTP, SMTP, DNS, SSL, RTP
- Routing: BGP variants, OSPF, Static

** Two periods of "sit out"/non-compete in work history for period of 1 year each:

One year following sale of XCOM Technologies and exiting transition period from Level 3

One year after leaving VoIP, Inc