

Leader: Fifteen years of highly regarded management experience at all levels from team lead through CIO/CTO.

Entrepreneur: Developed trading/technology firm from self-funded startup into successful acquisition.

Architect: Demonstrated repeatable successes designing, building, deploying, and supporting world class real-time trading systems.

Communicator: Exceptional verbal and written fluency in technical, managerial, and investor-facing communications; polished, confident public speaking.

Global Liquidity Partners
Chief Technology Officer
Chicago
May-14 to Present

CTO. Ultimately responsible for all aspects of firm technology, particularly the proprietary low-latency stock trading platform. This real-time C++/Linux event engine is responsible for 100% of the firm's revenue, executing large VWAP/TWAP orders for customers and making two-sided markets on several regional exchanges. Work includes architectural oversight, hands-on software development, and developer and support personnel management.

Major software development accomplishments include launching a new suite of dollar-denominated trading algorithms that added \$10 million in annual revenue and deploying a 15c3-5 compliant risk management system. Coordinated a complete hardware and data center refresh, major code refactoring, FIX gateway replacement, and compiler and operating system upgrades which reduced child order net latency by over 80%. Designed and implemented a transparent, agile SDLC process to be compliant with FINRA regulations. Projects currently underway include refactoring the market data subsystem to allow migration of dev/QA environments into the AWS cloud, migrating historical data from proprietary file formats into a NoSQL database, and building DevOps tools to enable rapid, no-touch deployment of new system instances.

Other responsibilities include vendor relationship management and contract negotiations, management/oversight of the firm's co-located server infrastructure, AWS instances, market data, networking, desktop technology, and telephony.

OptionsHouse
Director
Chicago
Oct-13 to May-14

Director, Core Technology. Led an agile team of architects and developers in building the back-end components of an online retail brokerage serving over 80,000 customers. Responsible for overall architecture of the platform, including order management, execution services, messaging, margins, and a scalable infrastructure to serve dynamic web content in a highly available fashion across multiple desktop and mobile platforms.

Pale Blue Technology
Principal
River Forest
Jan-13 to Oct-13

Principal. Took a self-funded startup through the prototype phase. Built an embedded C++/Linux application for controlling a network of security, lighting, and media devices within the home via the Z-Wave RF protocol.

Chicago Trading Company
Executive Director
Chicago
Jul-09* to Sep-12

* Base-2 Capital was acquired by
Chicago Trading Company on 1-Jul-09.

Manager, Trading Systems Infrastructure. Responsible for all market data, order routing, and low-latency middleware use across all businesses within the firm. Managed a team of twelve developers and support engineers, making substantial hands-on technical and design contributions. Served as primary liaison to exchange technical and business representatives, external software vendors, and other software and support teams around the firm. Worked closely with networking and hardware teams to manage WAN architecture and budget. Counseled CTO on department-wide technical and management initiatives.

Major accomplishments:

- Reduced number of external market data vendors from five to one, realizing annual savings of approximately \$5 million.
- Oversaw deployment of dually redundant hot/hot market data plants for all US and European options, stock, and futures exchanges.
- Retired and replaced a homebrew legacy middleware platform *in situ* with no significant downtime.
- Managed development projects to reduce our portion of the print-to-quote latency chain by three+ orders of magnitude.
- Integrated several key concepts from the Base-2 architecture into the CTC legacy stack to ease support and deployment.
- Took over an underperforming team and managed it into one of the firm's strongest over a 12-month period.

Architect/Developer. Revamped the Base-2 P&L attribution system and integrated it with CTC's middle- and back-office systems after the acquisition. Continued to manage the Base-2 development team within CTC, reporting to the CIO. Evangelized the Base-2 system's architecture and software development process throughout CTC.

Base-2 Capital
Founding Partner
Evanston
Oct-04 to Jul-09

CIO and Principal Architect. Along with three partners, self-funded the creation of the firm, secured angel and venture capital, recruited exceptional talent, designed and built high-frequency stock trading and low-latency options market making systems, and sold the firm at a substantial profit to all shareholders.

CIO responsibilities included design and budget oversight of all firm infrastructure, including real estate build-out, LAN/WAN design and implementation, data center management, systems administration (Windows, Mac, and Linux), telephony, and all associated vendor relations.

Principal Architect responsibilities included design and implementation oversight of a highly scalable, highly available real-time trading system capable of executing over 10,000 limit orders per second and managing 250,000 simultaneous equity options quotes across four exchanges. Architectural focus was on ultra low-latency middleware, scalable database event distribution, GUI frameworks, robust order and position management systems, and frameworks and protocols to enable rapid prototyping, testing, and deployment of new pricing, risk, and trading algorithms. Made substantial additional development contributions to risk and trading applications, database design, market data, and P&L calculation.

Goldman Sachs
 Vice President
 Chicago
 Feb-99 to Oct-04

CTO, SLK-Hull Derivatives. Responsible for all tactical and strategic software development, configuration management, and desk support for the proprietary front office trading system for SLK-Hull Derivatives (SHD), the \$125 million/year options market making broker-dealer within Goldman Sachs. Led a diverse, worldwide team of 35 engineers, managers, and support personnel. Managed yearly budget approaching \$20 million. As most senior technologist in Chicago, reported to partner-level strategists in New York, and served as primary communications point between Technology and Trading. Major accomplishments include porting the trading system from Solaris to Linux, replacing a third-party market data distribution system, and relocating the entire trading system from Chicago to New York with zero downtime.

Manager, Electronic Trading Systems. Supervised fifteen developers in Chicago, New York, Toronto, and London. Responsible for design and development of low-latency algorithmic trading engines, market data, and order routing across three continents. Worked closely with traders and financial engineers to implement their vision.

Lucent Technologies
 Member of Technical Staff
 Naperville
 Aug-96 to Feb-99

Software Developer. Part of team that built a large client-server relational database management application for internal use by other developers. Our system intelligently found opportunities for reuse among thousands of legacy database tables and fields, cutting production database size by 80%, increasing developer productivity, and reducing QA- and customer-found faults.

University of Illinois
 MS, Computer Science
 Chicago
 Jun-99

Student. Focus on complexity and automata theory, algorithm design and analysis. Master's thesis: "Approximating the LONGEST PATH Problem with Heuristics: A Survey." Available for download at <http://www.scholvin.com/thesis.pdf>

Northwestern University
 BS, Computer Science
 Evanston
 Aug-89

Student. Focus on operating system theory and implementation, with substantial coursework in electrical engineering and statistics.

Skills History

