

# Robert Confrancisco

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## Summary

Senior information technology professional with hands-on technical leadership experience, designing and implementing high performance quality software solutions using C/C++ on Linux/Unix platforms using sockets and middleware. In depth experience with large distributed and transaction systems where performance and system integrity were crucial. Highly motivated and dedicated to delivering quality projects on time.

## Technical Skills

- Languages: C/C++, Shell Script, SQL, HTML, XML, Python, Pascal, Java
- Platforms: Unix, Linux, NOSVE
- Databases: Oracle, SQL Server, MySQL, Triggers, Stored Procedures and Table Design
- Tools: TCP/IP & UDP Sockets Pthreads, FIX 4.2, STL, BOOST, GIT, CVS, cppcheck, Phabricator, TotalView, DOM & SAX XML, valgrind, multi-threaded processes, multi-tier/multi-distributed systems
- Miscellaneous: Project plans, resource allocation, training, presentations, US Citizen

## Professional Experience

### National Stock Exchange (NSX), Jersey City, NJ Senior Software Engineer

May 2015 to Present  
October 2011 to September 2014

- Partner with Business, Client Services, Operations, and Compliance to deliver new trading requirements.
- Implemented significant performance improvement of Depth of Book latency (decreased mean/standard deviation of 1,200/900 microseconds to 50/10 microseconds) by identifying the application, fixing the Pthread conditional handling, buffer issues, race conditions and processing the data in multi-threads within 3 months.
- Architected and created process to decode depth of book multicast messages and gap alerts.
- Developed functionality to access archived orders and store order information into Oracle DB for compliance investigations. This included a new process (quote hunter) and various ad-hoc programs.
- Architected and implemented enhancements, including adding the ability to the Data Analyzer to process Market Data Alerts and NBBO and NSX latency monitoring.
- Developed Matching Engine features, new Trade-At order type, evaluate the orders on the book in price/time priority for price band messages, new inter-process messages for trade reporter process, directed routes and implemented new price band pause and resume commands. Updated the Matching Engine's Depth of Book messages to have a modify message and a traceable Order ID.
- Created SEC Tick Size Pilot files including B.I, B.II.
- Updated Quote Publisher new handle new UTP binary message formats.
- Architected and developed process to report routed trades to FINRA for OATS compliance.
- Enhanced Market Data, Trade and Order Inserters to inserting new financial information into the database.
- Added new process to add securities from daily corporate action files.
- Performed capacity planning to support proposed system enhancements.
- Maintained internal Release Management/Market Data Web pages, 4 main pages with 4-8 tabs per page.

### Bloomberg L.P. NYC, NY – Contractor

October 2014 to May 2015

- Architected and developed various feed applications and tools using C/C++, STL, Boost, Python and proprietary frameworks which connected with exchanges and processed data to downstream applications on Linux/Solaris.
- Developed efficient, robust, and scalable feed handlers which processed real-time market data including trades, quotes, market depth, and security status to downstream applications. Exchanges included Level 1 and Level 2, TMX Group (Alpha, Toronto), Mexico, Caracas and others.

### Interactive Data, White Plains, NY

August 2006 to October 2011

#### Senior Software Engineer/Technical Team Leader

- Provided technical leadership, designed and implemented real time Exchange Trade and Quote data software on a C/C++ Linux platform, in a very fast paced environment.

- Led team of developers in the creation and delivery of a new system (Plus Tick) which delivered daily trade and quote data directly to customers. The system saved the firm approximately \$500K/year. Approximately 150 different files created and archived each day, total of 16 million trades, 380 million quotes and 4.5 G compressed
- Led development team in the creation and delivery of a new Exchange Traded Fund/Note calculator and publisher.
- Designed and implemented enhancements of core product which captures exchange trades and quotes to disk. High performance and accuracy was of the utmost importance, rated at 13Mbps.
- Planned and managed release content using both waterfall and agile project methodologies.
- Provided technical support to new customer acquisitions and services.

#### **MetLife, Morristown, NJ**

**February 2004 to August 2006**

##### **Application Development Manager/Project Manager**

- Managed the design, implementation and delivery of enhancements to the (Charles River) public securities (equities/fixed income) trading (\$150 Billion) and compliance system (\$350 Billion) in a multi-distributed environment.
- Collaborated closely with traders and portfolio managers to gather and define requirements. User base consisted of 35 traders and 200+ business personnel.
- Delivered functionality which transformed financial information into business intelligence.
- Managed multiple simultaneous projects. Directed, designed, and approved technical implementations. Met with project sponsors and users to gather requirements and secure approvals.
- Provided oversight, implemented improvements and performed production support of the Mortgage Pass-through Expert (MPX) system.
- Designed improvement of nightly extraction, position load and compliance processing, eliminating more than 2 hours execution time.

#### **Scientific Games, Clifton, NJ**

**June 1998 to February 2004**

##### **EDS/Ticketron, Automated Wagering, Hackensack, NJ**

**August 1988 to March 1995**

##### **Development Group Manager/Senior Software Engineer**

- Led highly skilled development teams in the design and implementation of domestic and international online lottery software systems.
- Managed the implementation of online lottery systems with aggressive, inflexible timelines.
- Key participant in the analysis of Request for Proposals (RFP) and software designs to meet requirements. Managed and developed demo systems in response to RFPs.
- Assumed implementation responsibility of Internal Control System. As sole developer, was able to compensate for missed delivery by completing project in three months with additional functionality.
- Led several legacy software conversion efforts. Developed several lottery games (Powerball, Play4...).
- Designed and implemented new procedures and processes to create new games saving travel time, testing time and increasing reliability of software.

#### **Telerate-Dow Jones/Bridge, Jersey City, NJ**

**March 1995 to June 1998**

##### **Senior Software Designer**

- Developer of a Perkin-Elmer assembly language real-time news distribution system.
- Lead developer that redesigned software from Perkin-Elmer assembly language to HP-UX C. Developed as a multi-tier system, System availability >99.9%.
- Reduced Telerate page space needed by newswires by 10% by redeveloping news wires to receive and prioritize asynchronous feeds from Washington.

#### **Singer-Kearfott Guidance and Navigation, Wayne, NJ**

**June 1984 to August 1988**

##### **Software Engineer**

- Developed test systems which facilitated acceptance test efforts.
- Maintained and enhanced a system which allowed engineers to debug embedded flight computer programs.
- Created a disassembler to allow for variable base debugging of flight programs.

## **Education**

### **Stevens Institute of Technology – Hoboken NJ**

- **MBA – Technology Management in Financial Services – 2011, MS – Computer Science – 1987**
- **BE – Electrical Engineering/Computer Science - 1984**