David Green

770-403-3038 Athens, GA - Relocating to SF Bay Area milliway@gmail.com

Senior Software Architect

Specializing in Java-based systems

Solid record of successful business-critical projects at EarthLink. Innate ability to simplify knotty development problems into their core components—delivering elegant, functional, reliable software systems in record time. Effective communication skills with project managers, end users, vendors, customers, and colleagues, to design solutions that meet the needs of diverse stakeholders.

Over 20 years of programming experience in a multitude of languages, and architecting enterprise systems professionally for over a decade. Experience in Networking, Security, Unices, i18n and l10n, Reverse Engineering (applications, protocols, machine code), Outage Resolution, Problem Simplification, Programming & Spoken Languages, Open Source, and much more.

Author of the original idea for RFC 4406.

I am relocating to the San Francisco Bay Area, and will be available for hire January 15, 2008.

Career Highlights

EarthLink, Inc. (2000-2007) Telecommuted

Enlisted to tackle a key technical challenge—rework of a critical piece of middleware connecting EarthLink to its vendors—and subsequently assigned role as roving technical lead for challenging projects and special assignments. Recognized for speed, quality, and reliability of software development, most notably when handed "impossible" tasks. *Highlights include:*

Vendor communication middleware: Improved speed, reliability, and maintainability of middleware used between EarthLink and two vendors (BellSouth and Covad). Subsequently extended the middleware to talk to new vendors using XML, CORBA, SOAP, HTTP POST, screen scrapes, and other methods.

Implementation was originally in Java 1.2, but currently relies on Java 5 features such as generics. Uses threads and synchronization. Monitor tool and maintenance scripts were written in Perl. OpenEdge integration implemented in Progress 4GL.

XML processor for OpenEdge: Proposed, designed, and developed a commercial-quality XML front-end for OpenEdge that uses XSL to support any desired XML format, and efficiently matches clients with OpenEdge servers. Broker remained responsive under load test of 30,000 concurrent connections on a commodity Linux box around 2003.

Implementation of broker in Java 1.4 using NBIO for both client/broker and broker/agent connections, plus worker threads for parsing XML/XSL due to blocking. Real-time monitor tool implemented in Swing. Autostart process for OpenEdge agents implemented in Perl.OpenEdge agent processes implemented in Progress 4GL. Client/Broker is XML over TCP or HTTP. Broker/Agent is a proprietary binary protocol utilizing Progress v9 sockets. Connections to broker are inbound only for network simplicity.

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High-speed replication system: Proposed, designed, and developed a generic replication system that reliably and quickly replicates billing data and can do so for unlimited remote locations without adding load to the billing system. Has handled 8 billion records since inception. Ships with clients for replicating into Oracle and other JDBC databases, and to files on disk. Currently serves 13 replication targets.

Replication server is implemented in Java 1.4 using NBIO for maximum performance/scalability per node. Replication clients use a custom driver written in Java. OpenEdge adapter is written in Progress 4GL. Sample clients are written in Java using the standard driver. Both Client/server and server/adapter are proprietary binary protocol for minimal CPU and bandwidth usage. Administration web pages are handled by custom integrated web server (similar to how a store-bought access point works), to minimize external dependencies. Connections to Java server are inbound only for network simplicity. Monitoring is available via administration web pages. Real-time monitoring is available via custom Swing application. Storage mechanism is custom database solution using custom serialization mechanism for performance and avoiding the overhead of transactions, indexing, and other RDBMS overhead.

Natural Language Rules/BPM Application Server: Based on JBoss Rules. Has extensive tracking and monitoring tools, and very complete audit trails.

Application server is written in Java 5, using custom classloaders for loading project jar files and isolating them. Ships with built-in Hypersonic support, or can be configured to talk to any other database via JDBC. External system communication is XML over JMS. Hibernate with annotations is used for persistence. Rules and natural language processing are handled by JBoss Rules. Clustering is achieved through JMS Queues and inter-node communication. Database is used for storing event history, rule text, project-specific data, and links between events and project-specific data. Management tool is a WebStart application which allows schema browsing, SQL queries, a history tool, and a test console that allows sending freeform events for debugging, either to the whole cluster, or to any specific node chosen from a list. Implemented Java driver and OpenEdge driver for ease of communication from external systems.

Holiday Engine: Plans around complex vendor holiday schedules in an automated fashion. Directly supports planning of holidays based on a number of criteria, including Easter-based holidays and Jewish Holidays.

Implemented in Java 5. Persistence is achieved through Java serialization to disk. Hebrew calendar support provided by IBM's ICU package, which allowed for many other calendar systems in the future. Communication is XML over JMS.

Production Support: As "final-tier" production support, I was called in on production outages (about once a month) when all other support channels failed. Once on the issue, I would solve it quickly and simply. I was even called in to resolve issues with production systems that I had never worked with before. The general attitude was that once David was on the issue, the problem would finally get resolved.

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MindSpring Enterprises (1997-1999) Atlanta, GA and Telecommuting

Contributed to key software projects as company grew from 120,000 customers in the Atlanta area to 1.3 million customers nationwide. *Highlights include:*

Billing System: Played a key role in developing and enhancing MindSpring's Progress-based billing system that was so effective, it was adopted as company standard when MindSpring was acquired by twice-as-large EarthLink. This system remains EarthLink's authoritative billing system today.

Implemented in Progress 4GL. Acts as authoritative for MindSpring (and later EartLink) customer information. Integrates with engineering , MIS, partner, and vendor systems to provision customers in response to changes in the billing system.

Ticketing System: Built from scratch a tech-support ticketing system that replaced an existing commercial solution and better met our needs, saving at least $200K through elimination of licensing fees in the first year, plus $20K annual maintenance—and also delivered greater capability and flexibility in a user-friendly format (prompting adoption by at least 4 other departments of the company). Given "stretch" goal of 6 months, completed the system in 2 months, aided only by part-time help of 2 contractors. Recognized for achievement at company-wide meeting. Implemented in Progress 4GL, both GUI and web-based via WebSpeed.

Account-Management System: Wrote MindSpring's first self-serve account-management web pages and some of the first database-driven online signup pages in the industry; system profiled in *PC Week* in 1997. Implemented in WebSpeed.

Centennial Computer Services (1995-1996) Atlanta, GA

Hired to help maintain and enhance a terminal-based time & billing package used by law firms, written in Progress 4GL. *Highlights include:*

Standalone "mode": Built from scratch a complete replica of the main screens of the terminal-based billing system using Pascal. Lawyers would use this standalone version while at court, and synchronize with the master server when they return to the home office. Ensured that the standalone version was indistinguishable from the real system by painstakingly reproducing the complex behavior of input fields and function keys found in the Progress 4GL.

Holiday Module: Allows Lawyers to schedule their holidays into the Clockwork system. Holidays can be based on a number of criteria, including Easter-based holidays and Jewish holidays.

Implemented in the Progress 4GL. Hebrew calendar implementation also in the Progress 4GL based on specifications. This included calculating moon phases and look-ahead algorithms.

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REFERENCES

Contact information available on request

TAMMY HERRERA, *Vice President, MIS at EarthLink, Inc.*
http://www.linkedin.com/pub/0/790/294

STEVE ROBERTS, *CIO, VP Information Technology at MindSpring*
http://www.linkedin.com/pub/1/5a9/16

FERNANDO ROS, *Director of Integration & Provisioning at EarthLink, Inc.*
http://www.linkedin.com/in/fernandoros
"David is a member of my architecture team and is one of the most talented software engineers that I've had the privilege to work with ... One of the biggest assets that David brings to the table is that he can go figure out almost any software problem and he strives to provide the best possible solution. He is dedicated to building software with the highest quality and benefit to the business. At EarthLink he built many systems that were critical to the business and were some of the most stable and robust applications in the entire organization."

SHYAM KRISHNAMURTHY, *Senior Manager of Backoffice Integration & Provisioning at EarthLink*
http://www.linkedin.com/pub/0/8b1/907
"He is a rare mix of a creator, troubleshooter and problem solver regardless of the underlying technology ... Some of the systems he architected and developed years ago at EarthLink still serve their original purpose and beyond..."

AYAN SENGUPTA, *Manager of Vendor Integration at EarthLink, Inc.*
http://www.linkedin.com/in/ayansgp
"David is one of the most technically talented people I have worked with. He has superb presence of mind which makes him invaluable in any crisis situation. My team worked on a lot of the applications designed and created by David. He delivers solutions that are extremely efficient, out of the box, scalable, fault tolerant, requires minimal maintenance and meets business requirement. He is a true architect and a great problem solver who is dedicated to provide the right solution to business with high quality."

GLEN WEST, *Principal Engineer at EarthLink, Inc.*
http://www.linkedin.com/in/glenwest
"David is one of the best developers I met at EarthLink ... Given his talents, he would be extremely valuable in an R&D situation..."

JUSTIN REOCK, *Senior System Analyst at EarthLink, Inc.*
http://www.linkedin.com/pub/5/164/403
"... We all wanted to work like him, to have the ideas he had, to work on the systems he invented. He will be sorely missed at EarthLink."

BILL POLINCHAK, *Senior Java Developer at EarthLink, Inc.*
http://www.linkedin.com/in/polinchak
"I can sum up David in one word.."Brilliant". David was responsible for architecting many of the applications that made EarthLink and MindSpring run. His designs are simple and reliable which makes him a great engineer."