

Kenneth Cartwright

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SUMMARY

My level of job satisfaction is primarily determined by the value I am contributing to an organization, and the collaboration level across an organization. I am looking for an organization that needs my combination of software development management and technical skills to manage software development teams in a way that optimizes People, Technology, and Process to deliver solutions for its stakeholders. Extensive experience managing software dev organizations and projects that deliver, as well as defining and coordinating software architectures and product requirements. I also enjoyed the hands-on Java and C++ coding roles I held for many years.

- 20+ years of software development management and leadership experience at multiple levels, 15+ years of hands on software development and architecture experience for complex distributed systems, 5+ years of scrum master experience.
- Lead multi-location teams of developers, testers, data scientists, database developers, and scrum masters while collaborating with leaders of adjacent Product, Sales, and Operations organizations to concurrently deliver releases across multiple products and projects.
- Extensive experience leading, architecting, developing software solutions for multiple domains. Proven ability to architect and guide development of solutions that are scalable, secure, flexible, and resilient.
- Key contributor to successful, organization-wide adoption of agile scrum dev process and associated automated build, deploy, test, code analytics process. Improved responsiveness and transparency, with >150 releases per year. (Jira, Jenkins, Maven, Selenium, TestNG, Linux, etc)
- Co-inventor and dev lead of a big data, streaming analytics, ML solution using billions of network events per day to determine the spam reputation of hundreds of millions of TNs in near real-time, "Do you want to answer that phone call?". Deployed with large telecom carrier in the US. (Kafka, Spark Streaming, HBase, Java, Scala, REST, JavaScript, Linux, etc)
- Conceived, co-architected, and oversaw the development of an organization-wide, reusable platform for all customer facing Web-portals. Highly successful project that yielded large gains in productivity and ease of use. (SSO, Identity Mgmt, Content Mgmt, Look and Feel, Messaging, etc)
- Contributing architect and implementor of asynchronous, "micro-services", horizontally scalable, fulfillment system. Provided a scalable, resilient, and adaptable solution architecture. (Java, Queueing, Oracle)
- Primary author of 2 IETF RFCs in the telecom space. Presented at multiple IETF conferences.
- In depth experience across the SDLC. (Rqmnts, Arch, Design, Dev, Test, Budgeting, Planning)
- Experience within the following domains: Business Intelligence, Telecommunications, E-Commerce Fulfillment, DNS, Identity Management/SSO, Web-Portals, Finance, Training/Simulation.

PUBLICATIONS / PATENTS

- **IETF RFC 7877** – Session Peering Provisioning Protocol (SPPP) Framework, Primary Author
- **IETF RFC 7878** – Session Peering Provisioning Protocol (SPPP) SOAP, Primary Author
- **Patent 10,284,720** - Systems and Methods for Automatic Risk Assessments for Telephony Comms
- **Ch. 17** - Writing Java CORBA Clients, Hacking Java, A Professional Java Dvlprs Resrce, Que Publishing

CERTIFICATIONS

AWS Certified Solutions Architect Assoc - AWS

AWS Certified SysOps Assoc - AWS

Professional Scrum Master/Developer – scrum.org

AWS Certified Developer Assoc - AWS

AWS Certified Cloud Practitioner - AWS

Sun Certified Java Developer – Sun Micro

EDUCATION

- **Master of Science in Information Systems and Software Engineering** – George Mason University
- **Graduate Certificate in Software Engineering** – George Mason University
- **Bachelors** – University of Oklahoma
- **Continuing Education** – AWS Solutions Arch, AWS Dev Cert, AWS DevOps, Kubernetes, Docker, MicroServices, AWS Lake Formation, Java, C++, Hadoop/BigData, Agile Scrum, Developing and Architecting J2EE Apps, Oracle Dev and Tuning, Oracle Building Data Warehouses, Kafka and Queueing Solutions

EXPERIENCE

Sr Director Software Development, CapitalOne, Vienna, VA	2019 to 2019
<ul style="list-style-type: none"> Decided to leave CapitalOne after short time due to length of commute to Tysons Corner & corp re-org. Software development leader in the Data Management organization. Contributor to cloud and data governance policy definition and enforcement for AWS S3 Data Lake. IAM access policies, PII data scanning, and S3 bucket content limitations. 	
Director / Sr Dir / VP Software Development, Transaction Network Services, Reston, VA	2010 - 2019
VP of Software Development	2018–2019
Sr. Director of Software Development	2015–2017
Director of Software Development	2010–2014
Organizational Leadership	
<ul style="list-style-type: none"> Widely regarded as an effective leader of multi-disciplinary software development organization of 50 to 100 individuals, 6 to 10 agile scrum teams, with annual personnel budget of ~\$11million (plus capital expenditures), producing over 150 releases a year. Lead multi-location teams of engineers, testers, data scientists, database developers, and scrum masters while collaborating with leaders of adjacent Product, Sales, and Operations organizations to concurrently deliver releases across multiple products and projects. Fostered a team culture of can-do delivery, collaboration, transparency, agility, continuous learning. Key driving force to successfully adopt Agile Scrum at scale, requirements mgmt, architecture mgmt, build and test automation, and other effective processes across the engineering organization. Improved delivery cadence, repeatability, visibility, reliability, and efficiency of dev, test, and releases in support of hundreds of enterprise customers. Conduct requirements analysis, enterprise architecture, personnel management, strategic and tactical technical management, recruiting, performance evaluations, annual goals, training, prioritization, LOEs, budgeting. Regularly recognized for mgmt effectiveness. Oversee the development activities of multiple scrum teams developing shared infrastructure solutions and BtoB solutions for customers and BtoC solutions for end-users. Business Intelligence, Telecom routing, roaming, calling name lookup, calling party reputation, etc. Received recognition from adjacent orgs for team-wide productivity, transparency, and agility. 	
Technical Leadership	
<ul style="list-style-type: none"> Lead the architecture and development of division-wide standard technology stack and shared reusable framework for Web provisioning systems, Web-portals, identity management, SSO, standard look and feel, business intelligence reporting, etc. Improved time-to-market and quality. OpenAM, Twitter Bootstrap, dotCMS, SmartClient, HTTPd, ActiveMQ, Splunk, SuperSet, Linux. Co-inventor and dev lead of patent-pending, streaming analytics, ML, big-data, telephone number reputation/spam solution (“Do you want to answer that phone call?”). Solution ingests ~40,000 events per second across a ~25 node cluster to determine the reputations of ~1 billion telephone numbers in near-real-time based on Machine Learning algorithm and heuristic logic. In use by North America’s large mobile operators. Java, Scala, Cloudera EDH, Kafka, HBase, SparkStreams, C++, SIP, ENUM, REST, Linux. Provided initial organizational impetus for initial adoption of AWS. EC2, VPC, IAM, CloudFormation, etc. Helped lead the organization into production quality, real-world machine learning and big data solution space. Hired and managed the company’s first data scientists. Lead the creation of division-wide Continuous Testing and Continuous Integration solution for all Web apps and provisioning systems. Significant increases in division-wide productivity, time to market, and quality. Jenkins, Selenium, TestNG, Maven. Lead the selection of standard development tools for OO design, coding, code reviews, memory and performance profiling, syntactic and semantic code analysis. Eclipse, PMD, CheckStyle, Jenkins, Subversion/Git, etc. Improved code insight, quality, maintainability. Established processes to ensure security of Web based provisioning systems. Educated the team, built around the findings of OWASP, and applied the NTO Spider, Qualys, and Dependency Check Web portal scanning tools. Significant improvement in security aspects of systems/applications. Architected and oversaw design and development of the next-gen framework for scalable, high performance, heterogeneous data capture, extraction, and distribution. Significantly improved the way VoIP routing and inter-carrier messaging solution captures, extracts, and distributes data to geographically distributed resolution sites (“edge caches”). Java, JSON, Oracle, SmartClient, etc. 	

- Fostered architectures based on a “micro-services” model of multiple small backend services, each accessible via one or more protocols, with a service access gateway. REST, SIP, ENUM.

Principal Software Developer/Architect/TeamLead, VeriSign / Transaction Network Services, Reston, VA 2004 - 2010

- Architected and implemented Web based provisioning, reporting, and data distribution systems that underlie VoIP routing and inter-carrier messaging solution. Resolution components of the system enabled resolution queries using the ENUM and SIP protocols with carrier-grade 100% uptime, millisecond response time, infinite horizontal scalability. Java, HTTPd, JavaScript, Oracle, REST, C++, Extreme DB.
- Co-architect of near-real-time infrastructure monitoring and statistics visualization solution for financial trading infrastructure. Received organizational and customer accolades for the time-to-market, visual and functional quality of the solution. Java, Influx Time Series DB, MySQL, HighCharts.
- Developer of high-volume, distributed, batch file processing solution for telephone number properties collection. Improved processing throughput of previous solution by orders of magnitude. Java, REST.
- Primary author of 2 IETF RFCs to define a standard telecom provisioning protocol for telecommunications routing. Made multiple presentations at the IETF and collaborated with developers and architects across multiple companies over a 2 year period.

Lead Software Engineer & Software Architect, VeriSign / Network Solutions, Herndon, VA 1999-2004

- Developer, Architect, and Technical team-lead responsible for providing technical and management oversight of up to 8 Java and C++ developers in support of an eCommerce Storefront order fulfillment system for the purchase of domain names, email addresses, web sites, and other digital products.
- Designed and implemented order fulfillment framework based on workflow queues and Java reflection. An asynchronous, horizontally scalable, “micro-services” solution. Received accolades from dev team members for generic and scalable design. Java, Oracle Advanced Queues, CORBA, XML, etc.
- Developed a mission critical, high throughput, multi-threaded, proxy server for DNS provisioning. This application handled up to 20 million transactions per day and maintained a 99.99% uptime, and interfaced with multiple DNS registries. C++, TCP/IP, XML, RRP, Solaris.
- Architected the integration with a Web Hosting Service provider. Responsible for the Order Fulfillment and Zone File Management portion of the system.
- Architect and lead developer for next-gen customer email generation & response tracking system.
- Lead developer of the next generation B2B order-processing server on team of 5 to 8 developers using WebMethods, XML, Java, Oracle, and CORBA/Visibroker. Migrated off of WebMethods onto DOM4J, saving \$100,000 per year and enhancing developer productivity

Senior Software Developer, EOS, Centerville, VA

1997-1999

- Developed a high-volume enterprise infrastructure server application to support a retail web site selling Internet Domain Names. Object-oriented, multi-threaded application handles up to 20 million requests per day and supports multiple concurrent clients.
- Designed and implemented component of credit card T and C mgmt system. Detailed design used the Rational Rose OMT tool. Provided mentoring on building scalable C++/CORBA based distributed systems.
- Architect and senior developer of real-time CORBA based distributed system using OrbixDesktop for C++, Visual C++, and OpenGVS/OpenGL on Windows NT.

Additional Experience

1994-1997

- Senior Software Engineer, Science Applications International Corp. (SAIC) McLean, VA
- Senior Software Engineer/Team Leader, TAI/DynCorp, Alexandria, VA

SKILLS

Software Management

Team leadership
Technical mentoring
Agile Scrum Master
Requirements
CI/CD, Agile, Waterfall
Budgeting, Recruiting

Runtime Tools & Libraries

Cloudera EDH, Kafka, HBase
Spark Streaming, Splunk
WebServices/REST/SOAP
Selenium, TestNG, JUnit
TCP/IP/Sockets, CORBA,
AWS via Prototypes/Certs

Design

OOD, Distributed Sys,
IPC, Queuing, Scaling,
Software Arch, Security
Relational DB Design
NoSQL DB Design
Web Applications
SOA/SAAS/Cloud

Languages

Java, C++, WSDL/XML
Development Tools
Eclipse, UModel, XML
Spy, Jira, Jenkins, Git,
Subversion, etc
Operating Systems
Linux

