Stephen A. Broeker

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Professional Strengths

Patented Software Architect - Passionate about innovation, prototyping, and creating new tools to solve complex leading-edge business problems. Expert in Unix, embedded OS, storage systems, real-time applications, online analytical processing, and high performance file systems. Versatile in Linux, VxWords, Cisco IOS, AT&T Plan9, Tandem Guardian, AT&T Unix, and BSD Unix.

Results Oriented Leader - Seasoned project manager and mentor, effectively driving cross functional teams. Able to sift through varying dependencies, aggressive timelines, and problematic coding issues to deliver exceptional results that support business strategies and leverage market advantage.

Motivated & Engaged Troubleshooter - Proven track record with troubleshooting at the project level and in the field with clients. Able to engage, communicate, and motivate others to achieve immediate and lasting solutions.

Professional Experience

February 2022 - November 2022 : Software Architect, Nomi Health

Member of the Architectural Review Board that ensures that Engineering conforms to Nomi architectural standards. I focused on platform issues.The Nomi goal was to move health care billing into AWS.

Designed the following: Static Private Web Site Hosting using S3, Long Term Storage using S3 Glacier, Lambda that converts a zip code to a county using Mapbox, Document Scanning and Quarantine using OPSWAT MetaDefender, and Configuration Management Database using AWS Config and Atlassian Insight.

January 2020 - February 2020 : Software Development Manager, Harte Hanks

Manager of the development team, responsible for creating the next generation of nexTouch, the flagship ECommerce product. Agile Scrum Master for a distributed team using a Continuous Delivery Pipeline (CDP), which was fully automated. The CDP employed Static Testing, Unit Testing, Integration Testing, and Docker over three distinct Kubernetes Clusters. Product was designed to use Micro-services via Docker and Kubernetes on AWS EC2. Micro-services were designed to use a RESTfull API, which was provided using Spring Boot on Linux.

March 2012 - October 2019 : Architect, Oracle

Architect and Manager for a new team that was responsible for the appliance aspect of the Oracle Backup Appliance. The goal is for the customer to only access the system via the GUI, not the Linux CLI. The Oracle Backup Appliance is an Enterprise Class, multi node, database server, that is based on the Oracle Exadata platform. My group was responsible for Installation, Upgrade, Health Check, and Life Cycle Management of this product. Major subsystems are Hardware, Linux, Oracle Database, Oracle Clusterware, and OSB. Our work was done in PERL and PL/SQL.

Member of the ZCS Team that created a cloud interface to the ZDLRA. The ZDLRA REST API was

provided by Java via WebLogic. REST APIs were implemented as micro-services via Docker and Kubernetes. Wrote Python scripts for installation, unit testing, and user compliance testing so that the development environment was fully automated.

April 2012 - March 2012 : Cloud Architect, Internap

Cloud Architect for the Cloud Products Group. Cloud Products were a new Internap offering in the data center. Cloud Products were based on OpenStack Compute (Nova) and Storage (Swift). I primarily worked on Swift. I built Swift Monitor daemons that monitored the state and performance of Swift. This monitoring included the Swift proxies and zones. I also investigated Swift performance improvements. These included database schema changes and storing Objects in raw disk partitions as opposed to file systems. Since OpenStack is written in Python, I implemented my work in Python.

December 2009 - February 2011 : Architect, Quantum

Responsible for upgrades, web services, cloud services, databases, and system configuration for the Infrastructure Group in Quantum's Storage Division.

Researched, designed, and prototyped the Web Services Interface, based on Apache and REST (HTTP and XML), enabling remote and third-party GUIs, easy system access via an industry standard interface, and scalable architecture. Led a 20 person cross functional team, including CLI, GUI, and Platform units. Presented to Architectural Board, Engineering Leadership, and Executive Management. Trained and documented the project that massively reduced code complexity (previous implementation was SOAP based).

Saved customer support time by implementing multiple boot partitions on the system disk. Customers could now easily abort system upgrades without negative effects. Greatly simplified system upgrades by creating a System Configuration Manager based on MySQL using XPATH and relational tables. This new tools provided a scalable architecture that enabled a single repository, unified format providing an API, keeping transactions safe, preventing corruption, and guaranteeing validity.

Minimized application changes and concealed Cloud Storage details from applications with a POSIX like file system for improved efficiency, Lead team to use libcURL and Apache to communicate via a scalable architecture with Public Cloud Storage that supports Amazon S3, Microsoft Azure, Google Cloud Services, and Iron Mountain Cloud Services. Lead team to build prototypes to provide a proof of concept for Executive Management. Used MySQL too update and standardize an archaic Linter database enabling current SQL technology (XPATH).

Patents
* Stream Star Schema and Data Value Cube for Data Stream Analysis
* High Speed Packet Capture File System - Reconnex.
* High Speed Packet Capture Database - Reconnex.
* Linux C Apache Web Server - YouSendIt.
* Reliable Shared Memory File System for Inter-Processor Communications - Rasvia.

Education
* PhD Candidate, Compute Engineering, Santa Clara University.
   Thesis: A Stream Star Schema and Data Value Cube for Data Stream Analysis.

* MS, Computer Science, Aurora University.
   Thesis: An Analysis of Polynomial and Generalized Learning as Applied to the Game of Score-Four.

* BS, Mathematics, Pacific Lutheran University.
   Thesis: Chebyshev's Approximation to Polynomials.