Matthew Connley

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Principal Engineer | Architect | Technology Leader & Innovator

Recognized as a leader and awarded as an innovator. Full-stack solutions engineer and a quick study with a life-long passion for technology. Broad range of experience and depth of expertise spanning software and infrastructure engineering. Builds scalable, business-critical, high-performance solutions that stand the test of time. Congenial personality and strong communication skills that foster lasting professional relationships and cross-functional efficiencies.

Technology Summary

Client/Server: .NET (C#), WCF, WPF, MVVM, SOA, ESB
Web: ASP.NET, MVC, SOAP and RESTful services
Database: Microsoft SQL Server, PostgreSQL, MySQL
Systems Infrastructure: Windows, Linux, VMWare vRealize (vCenter, Orchestrator, Operations Management, Automation/vRA), IIS, SaltStack
Scripting: Powershell, Python
Cloud / Datacenter Automation: vRealize Automation, Azure, AWS, Google Cloud, Packer, Terraform, Rancher, Kubernetes, Helm, Docker

Experience

U.S. Bank, Full-time Telecommuter **08/2021 – Present**
Vice President – Lead Software Engineer
Principal architect and lead engineer on enterprise-wide observability program. Key contributor to cloud/Azure migration program.

- Led development team to provide logging and observability-related tooling. Automated 60+ day request-based processes into self-service API with instant fulfillment.
    - Headed automation “strike team” of a Product Owner, Architect, Developer, Test Engineer, and Scrum Master
    - Defined high-level automation goals, designed all significant aspects and major features, and conducted fundamental research and prototyping work
    - Final approver in code reviews and of merge requests
- Authored, published, and obtained Enterprise Architecture adoption of bank-wide observability-related specifications that extend existing industry standards.
    - Developed logging and metrics standards in partnership with bank-wide Development teams and Reliability Engineering teams
    - Synthesized input from multiple architecture and engineering constituencies into a set of concrete specifications that are industry standards-based and strongly and broadly supported across the bank
    - Presented specifications to the Enterprise Architecture/Engineering Council in written and live forums – achieved full formal approval
    - Designed libraries for implementation of above standards in all first party/bank-developed applications
    - Will greatly improve application observability across the bank for years to come
- Acted as principal architect on enterprise logging and observability program.
    - Identified critical availability and resiliency deficiencies in previous design as well as avenues for potential cost overrun in previous design for shipping observability data to logging back-end (Splunk Cloud)

  - Designed multiple options to address the above gaps along with associated cost savings; collaborated tightly with development teams and cloud engineers to formulate a final new design
  - Proposed and defended, in written and live forums, the new design to the Engineering Council – proposal was adopted
- Advised multiple aspects of cloud design and migration plan. Advised on best practices and technical implementation details.
  - Vetted design proposals and supported prioritization and sequencing of cloud migration work steps to optimize delivery and avoid conflicts
  - Identified integration points for logging/observability and cloud pipeline and collaborated with cloud pipeline development team for implementation

Charles Schwab / optionsXpress, Chicago, IL **06/2006 – 04/2021**

Principal Engineer, 09/2018 - 04/2021

Technical and strategic lead on design and implementation of Schwab's next-generation internal IaaS product. Led cross-functional team of developers and systems engineers to build and support IaaS solution.

- Led all aspects of IaaS implementation which resulted in transitioning a small percentage of virtual server builds executed automatically to greater than 90% built automatically, with >10,000 VMs provisioned via self-service for a dramatic cost savings.
  - Identified critical deficiencies in previous IaaS implementation
  - Designed the replacement of the existing product (BMC CLM) with tools already owned by the firm resulting in significant cost savings
  - Strongly advocated for a self-service approach and as much adoption of Infrastructure as Code principles as possible
  - Partnered with senior management to ensure alignment with high-level goals, and regularly presented tools to senior management
  - Delivery of servers by request previously took **~90 days** on average – IaaS shortened delivery to **under 1 hour**.
- Primary designer of all significant aspects of end-to-end IaaS solution using custom UI/REST API, vRealize Automation (vRA), and other custom solutions
  - Day-to-day technical leader of a cross-functional team consisting of a product owner, 3 application developers, 2 systems engineers, and a scrum master
  - Mentored team members in multiple aspects of the design, especially items related to infrastructure engineering to which some had limited exposure
  - Identified major gaps in network automation and strongly advocated for implementation of new technologies – Network team eventually implemented NSX-T Distributed Firewall to close gaps and enhance automation capabilities
  - First/primary developer of automation that interacted with virtually every corner of the Schwab infrastructure, including:
    - Compute
    - Storage
    - Network/Firewall/IPAM
    - Load Balancing
    - IAM
    - ITSM (Change, Incident, CMDB)
    - Enterprise management tools e.g. Splunk, SCCM, RedHat Satellite
    - CI/CD tools e.g. Bamboo, Jenkins, Sonatype Nexus
    - Security tools e.g. Snare, Tripwire, etc.

- Personally designed and implemented first “blaze the trail” iteration of SaltStack configuration management toolset
    - Was tasked by management to very rapidly implement SaltStack to address the “last mile” of delivering IaC-like capabilities to application and DevOps teams
    - Designed a distributed solution that enabled application/DevOps teams to quickly and easily develop and own their own configuration management scripts and automation within existing access controls
    - Included in the design a hierarchical aspect that also allowed for the centralized management of all SaltStack-managed resources
    - Although “back of the napkin”, the initial effort was executed very quickly (approximately 45 days) and set the stage for the eventual development and implementation of a centralized Salt Managed Platform
- Guided application teams across Schwab on design, operations, and adoption of IaaS and IaC practices and principles.
    - Counseled application/DevOps teams on the concept and benefits of immutable infrastructure
    - Partnered with several application/DevOps teams to integrate IaaS with their existing CI/CD practices and tools
    - Collaborated with multiple application groups to build CD components that pipelined code directly to newly provisioned infrastructure
    - Advised teams on how to leverage the combination of IaaS and SaltStack to build pipelines that allowed not just for fast initial deployment but also enabled automatic scaling of workloads
    - Multiple teams were able to build pipelines for non-production instances of their applications that could be deployed in **under an hour**
    - At least one team (StreetSmart Central) created a pipeline to deploy their applications to Production, fully automatically and self-service
- Advised and assisted platform/OS teams in automation of source image builds to enable better adoption of IaaS and eliminate the need for currency/patching of frequently released applications.
    - “Gold” OS images were previously created manually, which resulted in occasional errors and inconsistencies and was not transparent (e.g. change logs, release notes etc.)
    - Identified that in order to ensure that IaaS-provided VMs could be current/fully patched from first power-on and still also provisioned quickly, enhancements to the OS imaging process were required
    - Assisted the OS imaging teams in adoption of Packer to fully automate OS image builds and deliver clarity around changes from version to version
    - Reduced build interval from quarterly to monthly, with eventual goal of at least bi-weekly releases
- **CEO Award – 2019**

Senior Systems Design Engineer, 10/2011 – 09/2018
Systems Engineer, 06/2006 – 10/2011
Built custom infrastructure and business monitoring and administration application suite used for 10+ years. Developed several back-office tools to automate and streamline manual processes. Senior member of team that implemented an Infrastructure as a Service product.

- Greatly enhanced production availability and engineer productivity with continuously evolving custom tool set.
    - Upon joining the firm, identified multiple areas to improve monitoring, control plane, and automation capabilities
    - Created a plan to evaluate off-the-shelf tools vs. first-party tools to address gaps

  - Recommended an “in-house first” program that combined first-party applications with a small number of vendor-supplied tools to maximize efficiency and minimize cost across multiple areas of focus
  - Enabled operators/reliability engineers to quickly identify, troubleshoot, and remediate operational issues in every tier of the platform
- Created a large tools suite that improved processes across the organization, including systems administration, monitoring, compliance, and trading.
  - Acted as sole or primary developer on a wide range of tools
  - Developed a custom monitoring suite that gave reliability engineers and developers vastly improved real-time visibility into the operations and status of the optionsXpress trading platform
  - Significantly improved business and technology operations staff’s visibility into the performance of the platform, its underlying systems, and overall trade velocity and system load by developing new infrastructure and business process monitoring tools
  - Built modern, easy-to-use control plane applications that enabled operators and reliability engineers to instantly respond to system issues, minimizing downtime and customer impact
- Developed applications and reporting that substantially improved efficiencies in Trade Execution Desk operations - reduced errors and risk.
  - Built a ticketing system that replaced verbal coordination between brokers with an easy-to-use client/server application
  - Vastly reduced operational toil and financial losses, particularly during major market events and/or abnormal operations like trading partner outages, system issues, etc.
  - Enabled trading operations management to quickly and easily track issues across the entire staff of brokers for workload optimization
- Built tools to automate several critical back-office processes
  - Converted a manual signature tracking operation to a fully online process that greatly improved regulatory reporting
  - Automated a return-mail tracking process to enable constant monitoring and remediation of potential data loss events
- Enhanced / extended multiple existing tools and created new scripts and applications to automate infrastructure provisioning and management.
  - After optionsXpress was acquired by Schwab, participated in an enterprise-wide effort to streamline and automate the provisioning of virtual infrastructure assets such as virtual machines
  - Participated in administration of first Infrastructure as a Service toolset
- **Most Innovative Employee Award – 2011**

Additional Relevant Experience

- **ABN AMRO Services Company / IBM Global Services**, Chicago, IL | **Sr. Systems Developer**
- **Giant Step Productions**, Chicago, IL | **Internet Operations Engineer | Systems / Network Engineer | Hosting Operations Coordinator**
- **Stan’s Office Machines,** Woodstock, IL | **Systems and Network Engineer**
- **NTEK Computing,** Woodstock, IL **| Engineer**
- **Illinois Internet Communications**, Woodstock, IL **| Systems Engineer**

Certifications

Azure Fundamentals/AZ-900, 2022
Lean IT Association Foundation, 2018