

KEITH HACKWORTH

Software Architect | Enterprise Systems Engineer | Platform Architect
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PROFESSIONAL SUMMARY

I've spent more than 30 years working across nearly every layer of technology, from hardware and networking through operating systems, databases, Internet infrastructure, software engineering, enterprise architecture, AI, and engineering leadership. That breadth allows me to understand technology as an interconnected system rather than a collection of independent specialties.

I look beyond the immediate problem to identify bottlenecks, understand how decisions affect the broader environment, and determine whether solving a problem once can become a reusable capability that benefits an entire organization. I enjoy building platforms, evaluating emerging technologies, automating repetitive work, and simplifying complex engineering challenges.

Before committing a team to a large project, I prefer to validate the architecture with a working proof of concept. Early prototypes expose technical risks, uncover edge cases, validate assumptions, and give engineering teams a solid technical foundation before significant effort is invested.

CAREER HIGHLIGHTS

- **Established the governance model, SDLC, and operational foundation for Quartz**, Bank of America's consolidated trading and risk engineering platform, transforming an ad hoc development environment into an enterprise engineering ecosystem supporting nearly 20,000 active developers, over 530 production applications, and 34.3 million lines of code.
- **Designed and built the Unified Management Framework (UMF)**, a reusable enterprise workflow automation platform powering dozens of engineering applications, including an enterprise server and services provisioning pipeline processing more than 100,000 installation requests annually.
- **Conceived and co-developed Quacker**, Quartz's enterprise permission analysis and governance platform, reducing 45-minute manual permission impact analyses to seconds and replacing a two-person manual process with a five-minute daily automated workflow.
- **Inventor on six U.S. patent publications (two issued)**, with more than 110 invention concepts identified through independent R&D.
- **Architected Quartz's automated governance validation framework**, identifying more than 55,000 compliance violations and leading the enterprise remediation effort that reduced outstanding findings to approximately 150.
- **Proposed, designed, and developed Ice Blue**, an enterprise onboarding and provisioning platform supporting more than 11,000 hosted customers and becoming the operational foundation of a multi-department hosting and fulfillment organization.
- **Reduced a 23-hour enterprise end-of-day database process** to approximately 30 minutes by redesigning the indexing strategy.
- **Renegotiated a \$20M IBM hosting agreement** to \$11M while expanding SLAs and vendor accountability.
- **Designed and built two enterprise data centers from the ground up**, then executed two production migrations with zero unplanned downtime while maintaining 99.999% service availability.
- **Built a FastCGI proof of concept** that outperformed a Ruby on Rails implementation for a high-throughput web platform, demonstrating the importance of selecting technologies based on engineering requirements rather than industry trends.

INDEPENDENT VENTURES - SONICBOOTH, LLC

Founder and sole architect/engineer of SonicBooth, LLC, an umbrella company for independent product development spanning hardware, AI, and software.

- **SonicBooth (on hold)** - An AI-driven restaurant and entertainment booth with a long-term vision of enabling AI to understand and communicate using American Sign Language (ASL), improving accessibility while providing interactive entertainment. Designed and built an operating prototype integrating embedded electronics (ESP32, OrangePi),

computer vision (MediaPipe), locally hosted LLMs (Llama 2, MythoMax 7B), LoRA fine-tuning, Hugging Face models, RVC voice cloning, AI-orchestrated lighting and audio, and SonicML, a custom XML control language enabling AI to coordinate booth hardware and interactive experiences. Development has produced more than 110 invention concepts through ongoing research and experimentation.

- **GroupBoard** (in testing) - A group communication and push-notification platform with delivery/read tracking and AI-assisted message rewriting that adapts message tone to a group's identity. <http://groupboard.app>
- **Plasma Rings** (released) - A fully custom HTML5/JavaScript browser game with a hand-built rendering and sprite pipeline, auto-scaling to any device viewport with no gaps or distortion. <http://groupboard.app/game.html>
- **Live-DDL** (in testing) - A developer productivity platform for designing relational databases that automatically synchronizes SQL, interactive entity relationship diagrams (ERDs), and database metadata in real time, allowing developers to work visually or directly in SQL without losing synchronization. Features intelligent relationship creation, automated graph layout and routing, enterprise authentication, multi-project collaboration, and bidirectional SQL generation to streamline database design and maintenance. <http://groupboard.app/live-ddl>
- **Egor** (in early-stage development) - A home asset management platform for maintaining a permanent, photo-based record of residential systems, appliances, and their service history.

EARLIER INDEPENDENT VENTURE - DR/BC, LLC

Founded and ran DR/BC, LLC, a consulting business helping 5 small companies build disaster recovery and business continuity plans. Built and operated a small colocation datacenter out of my home, two racks of Sun hardware (mostly Ultra 5s and Ultra 2s) on gigabit fiber, rare for a residential connection at the time. Hosted DNS, email services (Postfix, SpamAssassin, and SquirrelMail), an asset tracking system, and a custom-written order-entry systems for 2 cleaning supplies companies.

TECHNICAL EXPERTISE

Enterprise Architecture • Software Architecture • AI-Assisted Software Development • Artificial Intelligence (AI) • Large Language Models (LLMs) • Prompt Engineering • LLM Fine-Tuning (LoRA) • Computer Vision • Machine Learning • Embedded Systems (ESP32/OrangePi) • Distributed Systems • Cloud Platforms • Full-Stack Development • REST APIs • Database Architecture • Data Modeling • CI/CD • DevOps • SDLC • Enterprise Governance • Agile Transformation • UNIX/Linux • Python • JavaScript • SQL

WORK HISTORY

Bank of America

2/2010 - Current

Vice President, Development and Technology Group / Vice President, Quartz DevOps
Houston, TX / Jacksonville, FL

- Joined Quartz as its first dedicated operations and support engineer, establishing the governance model, SDLC, operational standards, and engineering practices that transformed an ad hoc development environment into an enterprise engineering platform.
- Developed the operational standards, tooling, and training used to onboard more than a dozen engineers into application support roles across Quartz, enabling consistent support practices as the platform rapidly expanded.
- Co-founded Quartz's DevOps organization, establishing build, release, and governance practices that became the foundation for its CI/CD and software delivery ecosystem.
- Authored Quartz's enterprise governance framework (78 business rules) and architected an automated validation platform that identified more than 55,000 governance violations.
- Founded and led an enterprise governance remediation program, partnering with more than 100 application teams to reduce governance violations from more than 55,000 to approximately 150.
- Conceived and co-developed Quacker, Quartz's automated permission analysis and governance platform, reducing 45-minute manual permission impact analyses to seconds per request.
- Architected reusable workflow automation platforms, including an enterprise Permit to Release (PTR) system, standardizing software delivery and governance across more than 100 applications.
- Proposed an AI-driven JIRA automation projected to eliminate approximately seven person-years of manual effort annually by automatically completing recurring engineering documentation across approximately 35,000 tickets per

month. Currently under senior management review.

- Led globally distributed engineering teams across North America, Europe, and Asia.
- Conceived the App Health Dashboard, an enterprise resiliency platform designed to reduce preventable production incidents through automated validation of engineering standards, testing, dependency health, platform integrations, and upstream data quality.

JP Morgan Chase

2/2008 - 2/2010

L2 UAT / L2 Production Support → Production Support Manager

Houston, TX

- Hired to operate the Credit Murex UAT environment, rebuilding and configuring 30 servers while delivering an average of one major release per week.
- Promoted to Murex Non-Production Manager, leading engineering teams across the U.S. and Singapore, overseeing 40+ UAT environments and 200+ servers.
- Built an enterprise automation platform covering environment provisioning, application restarts, test data refreshes, configuration, end-of-day processing, and production deployments.
- Promoted to Production Support Manager, leading global production support for the Credit Murex trading platform.

BellSouth / AT&T, Intelligent Media Ventures

2/2000 - 10/2007

Acting Associate Director → IT Manager → Systems Administrator/Developer

Atlanta, GA

- Promoted to Acting Associate Director, serving as second-in-command for a 248-person technology organization operating with full operational and financial responsibility, spanning engineering, web hosting, customer service, and operations.
- Served in technical leadership roles throughout RealPages' growth from approximately -\$11M to more than \$1B in annual revenue, helping scale the technology organization to support that growth.
- Negotiated the IBM hosting agreement from \$20M to \$11M while improving SLAs.
- Architected Ice Blue, an enterprise platform that streamlined customer onboarding and service provisioning, enabling the organization to reduce staffing from 248 to 180 while supporting continued business growth.
- Managed a \$14M operating budget supporting enterprise infrastructure, engineering operations, and strategic technology initiatives.
- Designed and built two enterprise data centers from the ground up, including power, cooling, physical infrastructure, and network architecture, then executed two production migrations with zero unplanned downtime while preserving 99.999% service availability.
- Joined as the organization's sole systems administrator, independently supporting 40 servers, RealPages.com, and more than 5,000 customer websites while rebuilding a fully manual end-of-day process into an automated pipeline within the first month on the job.
- For nearly two years, served as the organization's only IT infrastructure engineer, responsible for the design, implementation, and operation of the company's technology infrastructure.

International Research Institute (INRI)

11/1998 - 2/2000

Systems Support Engineer / Network Administrator

Newport News, VA

- Provided field engineering and remote support for mission-critical UNIX systems supporting U.S. military contract work, including live demonstrations of GCCS (Global Command and Control System). Later assigned to work on a network team under a dedicated contract at JTASC, a joint military demonstration facility.
- Provided on-site support for those same systems during CASREP events, or casualty report - reported when a critical system is down on many NAVY, Coast Guard, and Marine ships, submarines (remotely), and multiple military bases.

EDUCATION

Associate's Degree in Computer Science - Tidewater Community College, VA, 1997