

Neil Crow

Systems Architect

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Executive Summary

Systems Architect / Principal Software Engineer (Financial Services)

Architect/Principal Software Engineer with 25+ years' experience designing, building, and modernising complex systems within Investment Banking, Capital Markets, and regulated financial environments.

Broad generalist with hands-on experience across data modelling, application design, system integration, and both distributed and monolithic architectures, including real-time event-driven and batch-oriented systems.

Experienced technical leader, frequently entrusted with delivery ownership and team leadership while remaining closely involved in hands-on development. Known for high engineering standards, a focus on robust simplicity, and driving automation through CI/CD, build pipelines, and enforceable conventions.

Brings a pragmatic approach to modernisation, with a track record of improving delivery practices and reducing risk in legacy-heavy environments.

Education

BSc	University of South Africa , Information Technology and Computer Science Software Engineering Stream	Nov 2011
NC	University of South Africa , National Certificate in Data Metrics • cum laude	Oct 2006

Certifications

Sun Certified Java Programmer	June 2002
National Diploma in Structured COBOL Programming	Nov 1994

Courses

Tibco - EMS301 Enterprise Messaging Service	June 2007
Tibco - BW611 BusinessWorks Integration	June 2007
Informatica - Data Integration (ETL)	Sept 2007
Platinum Education - SQL Programming for DB2	June 1996
IBM - CICS Command Level Coding	June 1995
IBM - CICS Advanced Application Coding	June 1995
Cobol Programming - Advanced Structured Cobol	Nov 1992

Experience

Apex Group (MJ Hudson), System Architect / Staff Engineer

IQ Application Suite & ESG Platform

- Led hands-on modernisation of a core ESG reporting platform, transforming a legacy PHP system into a modular, containerised architecture using C#, React, and Kubernetes on Azure.
- Drove SDLC maturity improvements: introduced Git-based workflows, peer reviews, CI/CD pipelines, automated testing, and GitOps-driven infrastructure as code using Bicep.
- Designed and executed incremental architectural migration using the strangler-fig pattern, enabling continuous delivery while reducing platform risk.
- Partnered with business stakeholders to refocus the platform as Apex's primary ESG capability, balancing regulatory requirements with delivery constraints.
- Designed data integration and reporting architecture, including Snowflake-based data warehousing and PowerBI analytics.
- Remained hands-on across backend, frontend, CI/CD, and cloud infrastructure, pairing with engineers to establish standards and unblock delivery.
- Provided technical leadership across distributed teams without formal line-management focus.

London, UK

Oct 2021 – present

4 years 4 months

Standard Bank / Infomet, Senior Software Engineer / Staff-Level Technical Lead

Pan-African Sub-Ledger Platform

- Designed and delivered a detailed financial sub-ledger platform rolled out across 18 African countries, supporting trading, core banking, credit cards, and asset finance.
- Acted as technical authority for posting engines, data ingestion, and financial correctness across multiple asset classes, including bonds, FX derivatives, loans, and money markets.
- Led incremental evolution of the platform over a decade, including database upgrades, infrastructure modernisation, and build/deploy automation.
- Developed reusable financial and technical components adopted across multiple streams, reducing duplication and operational risk.
- Worked closely with business analysts and finance stakeholders to translate complex financial requirements into robust, auditable systems.
- Improved delivery reliability through automated deployments, environment promotion, and source-control standardisation.

Johannesburg, ZA

Apr 2011 – Sept 2021

10 years 6 months

Standard Bank, Software Engineer / Technical Lead

CIB Treasury Calypso Trading System

- Served as technical lead for the Calypso trading platform within CIB Treasury, owning the technical design and implementation for onboarding new product types, including government and corporate bonds and floating-rate money market instruments.
- Acted as the primary technical authority on Calypso for treasury and capital markets workflows, supporting business analysts and front-office stakeholders in translating complex product requirements into robust system implementations.
- Represented Standard Bank CIB on industry-wide working committees with the Central Securities Depository, contributing to and influencing market-wide interface specifications that were subsequently adopted as the country standard.
- Led significant improvements to the development lifecycle for Calypso teams, migrating builds from Ant to Maven, introducing unit testing, and establishing a standardised build structure adopted across multiple teams.
- Improved technical and business documentation practices by introducing structured, shared documentation via internal wiki platforms, reducing knowledge silos and improving operational transparency.
- Remained hands-on throughout, contributing directly to code, build tooling, and integrations while providing technical leadership across the platform.

Johannesburg, ZA

Jan 2010 – Mar 2011

1 year 2 months

Rand Merchant Bank, Domain Architect - Integration

Lead for Integration Centre of Excellence

- Served as Domain Architect for integration across the RADA reporting and analytics project, owning end-to-end integration and orchestration between 19 upstream source systems and Oracle Financials.
- Designed and implemented enterprise integration architecture using TIBCO integration suite and Informatica ETL, ensuring data consistency, traceability, and reliability across heterogeneous systems.
- Acted as Technical Architect for the Master Data Management platform, designing and delivering a JEE-based application deployed on JBoss to manage shared reference and master data.
- Led integration architecture for a bank-wide KYC initiative, defining interfaces, data flows, and orchestration patterns across multiple systems of record.
- Served as Technical Lead for the Enterprise Application Integration (EAI) programme, evaluating commercial and open-source ESB technologies and shaping the bank's integration strategy.
- Remained hands-on throughout, contributing to Java/JEE development, build tooling, automated testing, and integration components.
- Improved engineering discipline and delivery quality through XP practices, pair programming, automated builds, and shared documentation using Jira and Confluence.
- Developed internal tooling, including an open-source Jira plugin enabling LDAP-based single sign-on with Active Directory, improving developer productivity and platform usability.

Johannesburg, ZA

Nov 2006 – Dec 2009

3 years 2 months

STRATE Limited, IT Development Manager / Technical Architect

CSD & Securities Settlement System

- Progressed from Front-End Team Lead on a mission-critical C++ settlement application to IT Development Manager, with responsibility across Java and COBOL/CICS/DB2 development teams.
- Held overall technical responsibility for application development and integration across STRATE's core settlement platforms (SAFIRES and UNEXCOR), which settle all equity, bond, money-market, and OTC trades on the JSE and BESA exchanges.
- Led the migration of the SAFE platform from IBM C++ to J2EE, designing the target architecture and delivering a production system deployed across JBoss and WebSphere on Windows and AIX.
- Owned architecture and delivery across a heterogeneous estate spanning Java/J2EE front-end systems and mainframe back-end services, with a strong focus on correctness, resilience, and regulatory compliance.
- Designed and delivered integration and messaging solutions supporting SWIFT, FIX, XML, and JMS-based workflows, including message routing, transformation, and tracking capabilities.
- Planned and implemented web-based reporting and data-sales platforms, defining application architecture, database design, and secure connectivity to DB2 on z/OS via MQ Series.
- Defined and enforced Java engineering standards, architectural patterns, and build practices across teams, improving consistency, maintainability, and delivery quality.
- Represented STRATE on the South African FIX Protocol working group, contributing to industry-wide interoperability standards.
- Managed recruitment, mentoring, and technical standards across a team of approximately 19 engineers, while remaining closely involved in architectural decisions and complex technical problem-solving.

Johannesburg, ZA

Oct 2001 – Oct 2006

5 years 1 month

UBS Warburg, Systems Analyst

Euro conversion, Y2K and new stock reconciliation system

London, UK

Feb 1998 – July 2001

3 years 6 months

- Delivered extensive enhancements to a legacy IDMS-based trading and reconciliation platform to support Euro currency adoption, meeting regulatory requirements and an immovable market deadline.
- Led technical upgrades across critical integration components, including CICS and Sybase gateways, to ensure full Year 2000 compliance for high-value financial processing systems.
- Designed, built, and rolled out a global stock reconciliation system, delivering a three-tier architecture with a COBOL/CICS/DB2 back-end and distributed Domino servers accessed via Lotus Notes.
- Implemented reliable, high-volume messaging between mainframe and distributed components using MQ Series, supporting global reconciliation workflows.
- Designed and delivered a SWIFT message retrieval system using MQ Series clients with C++ and Delphi on Windows NT.
- Provided production support and ongoing enhancements for both NT-based stock reconciliation systems and the MVS-based cash reconciliation platform (CORONA) within a high-availability investment banking environment.

BACG / Armature, Analyst Programmer

Retail Masterdata Management System

Johannesburg, ZA & Salt

Lake City, USA

Apr 1997 – Jan 1998

10 months

- Enhanced and maintained a COBOL/CICS/DB2 application supporting retail warehouse and distribution operations.
- Used TELON CASE tooling to generate COBOL programs for master data and transactional processing.
- Acted as technical advisor to an outsourced project and coordinated application upgrades to client sites.
- Participated in on-site system implementation with client teams in the United States.

Standard Bank, Programmer

Branch Banking System

Johannesburg, ZA

Feb 1995 – Mar 1997

2 years 1 month

- Developed and maintained a branch front-line banking system built on a COBOL/CICS/DB2 back-end with distributed DB2 databases deployed to branch environments.
- Contributed to the design and implementation of an early Internet Banking platform using COBOL, CICS DLI, and Sybase Gateway integration.
- Provided second-line, 24-hour operational support for mainframe batch processing, ensuring reliability of end-of-day and overnight financial workflows.

Skills

Languages: C#, JavaScript/TypeScript, SQL, PL/SQL, PHP, Python, Java, Groovy, Powershell, Bash, HTML, C, C++, COBOL**JS Frameworks:** React, Svelte-Kit, Vue, Vite**Testing:** JUnit, xUnit, NUnit, Jest, Selenium, Postman, Playwright, Mockito, Cobertura, Cucumber**Source Control:** Git, GitHub, Subversion, CVS**CI/CD:** GitHub Actions, Azure DevOps, Azure Pipelines**Databases:** Oracle, PostgreSQL, SQL Server, MySQL/MariaDB, SQLite, Sybase, DB2**Messaging & Integration:** Azure Service Bus, RabbitMQ, Tibco EMS/BW, Websphere MQ, RESTful APIs, SOAP Web Services**Web Servers & SSL:** nginx, Apache HTTP Server, IIS, certbot**Containers & Orchestration:** Docker, Docker Compose, Podman, Kubernetes, Kustomize**Infrastructure:** Terraform, Cloudformation, Bicep, AWS, GCP**Cloud Platforms:** Microsoft Azure, AWS**Cloud Services:** Azure (DNS; Container Registry; AKS; Vault), Github Container Registry, AWS (Route 53; EC2; S3)**Collaboration Tools:** Azure DevOps, JIRA, Confluence