

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-fog 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	London, UK
Euro conversion, Y2K and new stock reconciliation system	Feb 1998 – July 2001
<ul style="list-style-type: none"> 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. 	3 years 6 months
BACG / Armature , Analyst Programmer	Johannesburg, ZA & Salt Lake City, USA
Retail Masterdata Management System	Apr 1997 – Jan 1998
<ul style="list-style-type: none"> 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. 	10 months
Standard Bank , Programmer	Johannesburg, ZA
Branch Banking System	Feb 1995 – Mar 1997
<ul style="list-style-type: none"> 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. 	2 years 1 month

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