Van Manh MAI

B. Software Engineering with Honours

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Senior Global Digital Architect

Summary of Experience and Qualifications

- 17+ years professional experience and a solid, proven track record of designing and delivering major multi-million dollar programs and solutions within technology and financial institutions
- **Technical Excellence and Expertise** built from solid software engineering education and principles combined with hands on technical design and development experience
- **Exceptional Communicator** of complex ideas/problems, business transformation strategies, business and IT architecture and solutions at all levels of the organisations, across both business and technology
- **Authentic Leader** who subscribes to the **Servant Leadership** model to guide, lead and support team in achieving a shared vision, future state architecture, outcomes and program/team success
- Experienced **Agile Advocate and Practitioner** focused on delivering value in a timely fashion whilst evolving solution to serve the needs of fast paced, ever changing, digital transformation environment
- **Strategic and Visionary mindset** whilst remaining pragmatic in defining roadmaps and transition states in order to achieve desired future state and strategic outcomes
- 8+ years Front to Back office IT experience in Global Banking and Financial Markets
- Demonstrable experience designing and building Machine Learning (Artificial Intelligence) solutions in Financial Crime Risk
- In depth understanding and experience of **multiple disciplines** across business, transformation, analysis, **design & architecture**, engineering, project management, Agile and DevOps domains
- In depth experience working with **3rd Party Vendor Solutions, vendor management** and integration.
- **Natural Business Acumen,** an intimate understanding of Business objectives and a **focus and drive towards delivering solutions** to achieve strategic business outcomes
- **Passion for technology,** well researched and practical experience implementing latest technology:
- Microservices and APIs
- HSBC Cloud First Strategy and Google Cloud Platform (GCP) adoption
- Data Architecture, **NoSQL, BigData**, Hadoop, Elastic Search, Robotics and RPA
- Natural Language Processing, A.I. and Machine Learning solution applications in FinTech

Experience

Jan 2019 – Current   **HSBC Digital Solutions – RBWM Technology,** **HSBC Group**   South Bank, London, UK

Senior Global Digital Architect

HSBC Digital Solutions (HDS) combined **business and technology** collaboration is largest and leading division within HSBC **Retail Business** and Wealth Management (RBWM) with the **purpose to design, deliver with agility**, manage and continuously **evolve digital features, products, services, platforms,** and capabilities **from inception to customer delivery across global markets**.

- Played a **critical role as a senior architect** within an architecture team of 10 and a driving force for initiating, designing and architecting customer facing value propositions within the **Digital Banking and Payments domains** across **Mobile, Browser, Open Banking / API** and other channels
- **Successfully delivered the US Real-time Payments (US RTP) Solution Design** in a previously challenging project as the **End-to-End Enterprise Digital Solution Architect** - leading from an Digital customer facing perspective but also driving architecture change through legacy and strategic Payment, Integration and Core Banking Platforms. US RTP is flagship payments project in the US aimed at leveraging the most modern payment rails in over 40 years of US payments history
- **Lead RBWM Digital Architect** on the **Payment Service Directive (PSD2)/CMA and Open Banking (OB)** programs aimed at ensuring HSBC is compliant with the latest payment UK/EU regulations in addition to leading the industry in opening up payments markets to new entrants. PSD2/OB is a fundamental shift in the way HSBC customers interact with their Banking and Payments' needs from improved user experience, customer journey, access and security which can only be enabled by a **step change in the solution architecture discipline, design led thinking** and technology delivery.

- Delivered strategic business and technology outcomes as a **Lead architect** in a pivotal role driving organisation change from people and technology perspective from a specific Banking cross functional lens to an End to End **Domain Driven Design approach, adopting Microservices and API enabled design ethos** across all of HDS.
- **Lead global digital payments domain architect** delivering strategic API product outcomes to payments that span multiple projects, globally - promoting API/solution reuse, global normalised product, market and system-specific abstraction, channel-specific abstraction and delivery at scale across all markets
- Successfully lead and architected critical solutions on **Cosmos** developing foundation building blocks to enable RBWM Digital to deliver **Real-time mobile wallet and international FX and payment solutions** to compete with today's startup Digital Banks
- Successfully architected and designed the digital **e2e solution for US Bill Payments to rollout Company payments to US Market** to leading payments **vendor FIS**

Technologies: Java, SpringBoot, MuleSoft, Experience/System/Process APIs, Microservices, RAML, Pivotal Cloud Foundry (PCF), Visio, PowerPoint, Amazon Web Service (AWS), AWS Lambdas, Cloud Adoption, Mainframe, API Security

Aug 2017 – Dec 2018   **HSBC UK – FCR Simplification Program, FCR Operations IT**   Bank, London, UK

Senior/Portfolio Architect

FCR Simplification (FCR SP) is a global transformation programme to improve HSBC's capability to manage financial crime risk through the application of more efficient and effective systems and processes. All FCR domains included – KYC, Transaction Monitoring, Name Screening, Fraud and Payments Screening.

- Played a critical role as a senior architect within an architecture team of 5 and a driving force for initiating and designing multiple technology enabled projects within FCR SP
- Designed solutions and Future State Architecture for key projects collaborating with senior stakeholders including Chief Architects, Global Business Leads across Transformation, Operations, FCR and Lines of Business (LOB) to align with business and enterprise architecture strategy
- Facilitated and lead architecture workshops to drive alignment, strategic architecture vision and direction across multiple change programs within FCR, Operations and LOB including:
    o Google Cloud Platform (GCP) and HSBC Cloud First Strategy , Customer Centricity Strategy, Intelligence-Led Financial Crime Risk (ILFCRM), FCR 2.0 Strategy , Global Social Network Analytics, Line of Business Architecture and Strategies, Digital ID&V and FCR Common Data Model
- Effectively documented architecture and successfully presented at senior Technical and Functional Design Authorities (TDA, FDA) as well as group enterprise level Strategic Architecture Forums (SAF) to successfully gain approval
- Performed architectural reviews and provided guidance and support to solution architects to help produce design and architecture artefacts and supported the TDA/FDA presentation for approval
- Steer and influence strategy and solutions away from tactical approaches such as Robotics (Blue Prism) and Light Automation in favour of more robust, strategic STP, automation and integration.
- Worked collaboratively with Lead Developers and Technical Architects to feed into design decisions but also on a daily basis at standups and leading design spikes to realize the solution architecture in order to GO LIVE.

Technologies: Google Cloud Platform (GCP), Pivotal Cloud Foundry (PCF), Erwin Casewise, Visio, PowerPoint, Anaplan, Pega Systems, IBM BPM, RPA, Blue Prism

Perpetual KYC Project (PKYC)

Perpetual KYC was a key program within FCR SP aimed at transitioning the Bank away from periodic customer review model towards a risk based, event driven review paradigm. Further PKYC will amalgamate existing common FCR Operations processes, people and technology across current silo-ed FCR controls, starting with KYC and Transaction Monitoring.

- Instrumental in launching the Perpetual KYC project from inception – leading and supporting business to adopt agile methodology and through strategic thinking based on FCR business domain experience and expertise
- Effectively formulated architecture vision, designed Minimal Viable Product (MVP) solution architecture, decomposed into transition states and presented to senior business stakeholders to gain approval and successful sponsorship and funding
- Designed HSBC on premise MVP architecture, transition hybrid architecture and future state GCP cloud-native architecture
- Successfully navigated competing programs, teams, priorities and roadmaps to deliver an approved solution in a complex organisation and landscape
- Lead vendor selection engagements and workshops to understand capability and evaluate potential suitability and application to deliver solutions for PKYC project
- Performing Technical Product Owner role to create technical Epics and Stories that deliver the architecture building blocks for Pods to consume and build

Technologies: GCP Pub/Sub, Google Kubernetes Engine (GKE), Cloud Firestore/Datastore, MongoDB, Elastic Search, Apache Kafka, Microservices, Resful APIs / JSON, Docker, SOAP/XML, Angular.JS, Node.js, Java, SpringBoot, LDAP/AD, Social Networks Solutions

Intelligent Quality Assurance (iQA KYC)

iQA was a leading edge project to introduce some **automation**, **natural language processing (NLP)** and **machine learning (ML)** capabilities into the FCR Transaction Monitoring Quality Assurance (QA) function. iQA improves the quality and risk coverage of QA undertaken to better manage the Banks financial crime risk. iQA would identify and prioritise high risk QA fail cases for investigator to review, which proved to be more effective than a random 15% sample.

- Effectively built strong relationships with Business Heads and 3rd Party Vendor provider to design a cutting edge complex machine learning solution that was approved at all levels of enterprise architecture.
- Key influencer and negotiator with Vendor and Procurement to ensure that HSBC retains 100% of the Intellectual Property for the solution collaboratively built between HSBC and 3rd Party Vendor

Technologies: Python for Machine Learning, Anaconda, Hive, Hadoop, Apache Spark, Jupyter HUB,UCM BAE Systems, Oracle DB, Hive DB, 3rd Party Vendor AI/ML Partner, Node.js, Typescript, Java, PCF

Project Blue Raven

Blue Raven is an automation project that delivered Optical Character Recognition (OCR) capability to the KYC review process using IBM Datacap application. OCR was used to scan documents, retrieve attributes digitally for the purposes of Identification and verification (ID&V) of customers, which took up to 2 hours manually.

- Successfully lead and collaborated with Operations business leads, internal IT teams, IBM Vendor partners, infrastructure architects to design an end-to-end OCR solution to automate a manual, time consuming ID&V process that aimed to release resources and cost for higher value add tasks

Technologies: IBM Datacap Optical Character Recognition, Internal Cloud Platform (ICP), Oracle, FileNet, LDAP/AD

Aug 2014 – July 2017   **HSBC UK –** **Global Standards & Compliance, FCR IT**   London, UK

Senior Solution Architect

Customer Due Diligence Programme (CDD – KYC)

Customer Due Diligence is HSBC's critical global compliance programme of work designed to implement enhanced and consistent global Customer Due Diligence standards to enable HSBC to prevent individual, entities and affiliates from using its facilities for the purposes of financial crime.

- Lead and facilitate the CDD Technical Design Authority (TDA), a key forum for architecture governance to review and approve solution designs/options and provide architectural direction
- Design, gain governance agreement and deliver critical solutions and artefacts required to meet compliance objectives
- Lead role in developing the Future State Architecture (FSA) for CDD and key influencer in shaping architecture for other related projects:
  - o Move from Monolith to Microservices architecture
- Provide architecture consultancy and acted as SME for other programmes e.g. Online KYC, Country specific integrations, Name Screening, Retail Onboarding, Earth and Moon, Architecture Governance, analytics and MI systems and wider HSBC
- Conducted workshops to elicit/elaborate requirements, brainstorm solution options, define Future State Architecture, agree and communicate solution designs to scrum teams to build.
- Developed end to end high level architecture and low level solution design consumable by scrums
- Provided support in business analysis, development lead in scrums/pods and project management capacity to ensure smooth and successful delivery

Delivered key and critical outcomes for CDD program including:
- Solution architect responsible for delivering USD $3 million cost savings and FSA alignment with IBM Business Process Management (BPMv8) replacement with a lightweight, FOSS Activiti workflow engine
- Designed and delivered Country Data Mastering Self-Servicing a historically problematic area for CDD for consuming development resource and causing critical defects
- CDD solution designs for Online Know Your Client (OKYC) and Digital Platforms (Digital Customer Onboarding / DCO)
- Solution designs and Technical Lead for CDD Multi-Language (French, Spanish etc) capability
- Designed solutions and technical delivery of CDD Data Provisioning solution for downstream systems
  - o Integration with Group Big Data System and onto Hadoop Clusters

- Solution proposal and architectural design for the CDD Management information (MI) project
- Successfully delivered the Establish Risk Rating (ERR) project within the Global CDD program. ERR calculates the customer risk rating and review scheduling for the set of existing Retail Banking Wealth Mgmt (RBWM) back book customers
- Solution designs for user micro-entitlements and user segregation by country and Legal Entity
- Designs for solving many complex CDD problems including Performance Load Issues, User Authentication, Reference Data, Reconciliations and many more.
- Lead key technical design and change in component systems end to end including global Core Banking Systems (CBS), Central Triggering Unit (CTU), Data Readiness (DR), Reference Data Systems, Retail Onboarding (ROS), RAM Risk Engine, Core Central CDD, MI Analytics, and Online Digital Customer Facing Systems etc.

Technologies: IBM BPMv8, Activiti Workflow, Dojo, Java, SpringBoot, PCF, Microservices, Oracle DB, Hibernate, SOAP/XML

Name Screening Program

- Played a major role in successfully delivering the pilot solution for the Landing Pad (LP) component to HSBC's Name Screening solution in production within project timescales
- Led a team of BAs and developers to design and build the Landing Pad solution
- Designed robust and future-proof interfaces between Customer Data Source Systems (CDSS) and Name Screening
- Consulted as a subject matter expert on Name Screening project given proven track record of delivery at HSBC

Technologies: Oracle Golden Gate, Batch File Feed, HUB AS400 Mainframe, Oracle Watch List Screening (OWS), IBM Infosphere CDC

Sep 2013 – May 2014   **HSBC UK – Global Calypso** (Global Banking & Markets)   Canary Wharf, London, UK

Senior Technical PM

Successfully delivered multiple phases of a critical regulatory Global Cancel & Amend (C&A) project within Global Calypso Front Office trading system. The Cancel & Amend project improved controls around trade activity by capturing reason codes and calculating PnL attribution for cancelations and amendments of trades. C&A feeds are produced daily for each region and are interfaced with downstream systems Global Cancel Amend Dashboard (GCAD) and Finance systems.

- Managed and delivered on all stages of project life cycle including Project Initiation, Requirements Gathering and documentation, Technical Design and Implementation, Testing and Project Release.
- Conducted and managed Daily Scrum sessions to effectively communicate between remote teams
- Utilised product and business knowledge to deliver across the entire project product scope including Credit Derivatives, Fixed Income and Interest Rate Derivatives and remaining products including Loans, Deposits, FX, Equity derivatives.
- Effectively managed a team of remote developers by providing direction on technical design and implementation aspects as well as Calypso expertise.
- Developed technical solutions to satisfy project requirements; formulated plans and managed the implementation and delivery of technical solutions.
- Designed creative and innovative solutions to overcome technical restraints imposed by architects, resolve existing issues with Calypso Core Framework and satisfy complex user requirements, all required for project success.

Aug 2012 – May 2013   **Calypso Technologies – Pohjola Bank plc**   Helsinki, Finland

Senior Calypso Technical Architect

Successfully delivered critical outcomes on project Profit3 to release Calypso V12 as the new front-to-back trading platform within Pohjola and OP banks. Phase 1 delivered Calypso as the solution for the bank's Interest Rate Derivatives business.

- Delivered numerous GO LIVE Critical solutions to satisfy customised accounting requirements related to postings, accounting rules, daily and month end accounting
- Introduced multithreading and delivered a thread safe solution for End of Day (EOD) Balance Sheet and Daily Journal/Summary accounting reports
- Played critical role in the trade migration and GO LIVE strategy and execution
- Significant contribution EOD technical and functional design and load balancing to reach a target of 8 hours for total EOD time for phase 1
- Delivered solutions for Rate Resets Confirmations for Swaps, Xccy, Caps, Floors and CapFloor

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July 2008 – Feb 2012   **HSBC - Derivatives Trade Processing (DTP)**   London, UK

Technical Engineering Lead

Successfully delivered numerous large scale, high profile, high value and mission critical projects in a technical development lead capacity for HSBC's DTP division. DTP serves as a global platform for supporting back office processing of all HSBC OTC Derivatives including commodity, FX, credit, equity, interest rate and structured fund OTC derivatives.

Sep 2006 - May 2008   **Westpac Institutional Banking (WIB)**   Sydney, Australia

Integration Analyst Programmer

Successfully delivered valued critical outcomes for Project Redhouse, that delivered a Calypso system implementation\integration that has provided straight-through processing and front-to-back office capabilities for WIB's Equity Derivatives business.

Feb 2005-Sep 2006   **Westpac Banking Corporation**   Sydney, Australia

Successfully gained placed in a competitive graduate program. Completed several rotations over a 2 year period, gaining a wide range of experiences in different areas of the bank. Offered an early promotion in July 2006 for superior performance.

Education

2000 – 2004   **University of New South Wales (UNSW)**   Sydney, Australia

Bachelor of **Software Engineering** with a **First Class Honours**

1995 – 2000   **Hurlstone Agricultural High School**   Sydney, Australia

Completed Higher School Certificate (HSC) 2000 UAI of **99.80 out of 100**

- Subjects taken for HSC include –
- Mathematics 4 unit (Accelerated 1 Year, 1999 HSC Score 99%)
- Chemistry 2 Unit (2nd overall in the state of NSW, HSC Score 98%)
- Physics 2 unit (14th overall in the state of NSW, HSC Score 95%)

Personal Interests

I am an avid snowboarder and try to get away at least once a year to the European Alps. I also enjoy travelling and gaining new experiences with family and friends all around the world.