Mathew Lambeth

Hall Farm Barns, 11 Hillam Hall View,
Hillam, Leeds, LS25 5NR

Contact: 07970 546 090
Email: mat@mlcit.co.uk

Executive Summary

A senior Cloud focussed Architect/technical leader with a thirst for all things automated. 20+ years experience in large multinationals designing, building and modernising enterprise class mission critical systems.

Able to operate at all levels. A wealth of experience operating in a senior leadership capacity right through to very hands-on technical lead positions.

Global technical project/program management leading both remote and local teams. Experience of bootstrapping offshore delivery teams from ground zero.

SC security cleared.

Skills and experience

Architecture: An experienced hands-on architect. Architectural experience in traditional and cloud-based hosting. A wealth of experience in both green-field and transformational architecture.

Cloud: Comfortable applying age old principles in todays highly elastic cloud environments. Vast experience in GCP, AWS and Microsoft Azure. Extensive automation experience of PaaS, IaaS and traditional infrastructure/virtual appliances.

DevOps: Experience of building application & infrastructure delivery pipelines from the ground up with alignment to the organisational culture and tech stack.

Desired State Configuration: Hands on/design lead experience. Technologies including (but not limited to): Puppet, Chef, Ansible, Terraform, Packer/Azure Image Builder, Kubernetes, ARM, Bicep, and Salt.

PCI: Responsible for the architecture of an AWS implementation from ground zero. The implementation was certified for large amounts of PCI data within the year.

Leadership: An individual capable of selling, prototyping and building architectures and guiding others to deliver against them.

Agile: Experience in working in a high velocity delivery team whilst co-existing within a more traditional organisation.

Technology Evangelist: Confident to pick up, evaluate and where appropriate champion right-fit technology.

Kubernetes/Containerisation: Extensive experience with Kubernetes including cloud native (e.g. AKS/ ACI,GKE, EKS etc). Ability to provide patterns and guidance to development teams enabling self-service delivery of products and components using containers.

Remote Desktop Deployment: Experience of utilising cloud native technologies to deploy remote desktops to >10,000 users for both government and private sector customers. Heavy usage of automation and immutable components to reduce operational effort.

Security: Knowledge and deployment experience of patterns and tools to keep infrastructure and data secure. Extensive use of automation to ensure products remain secure.

Performance Testing and Tuning: An ability to test and performance tune large enterprise applications by breaking down into smaller more manageable sub components. Deployment of APM tooling, log aggregation, dashboards, alerts and monitors to support the ongoing management/observation of enterprise platforms.

Disaster Recovery: Experience of owning and leading the global disaster recover strategy in a heavily regulated environment (including governance in partnership with the Federal Reserve).

Hands on Problem Solving: An ability to break problems down and get to the centre of a problem in a structured efficient way.

Professional Experience

Snr Cloud Consultant *Microsoft (Contract)*

May 2021 - Current

Working with both government and private sector customers to deploy services into the Microsoft Azure Cloud.

Use of workshops to elicit requirements in large complex organisations. Provide high level architectures and detailed design documents. Solutions delivered according to the design working closely with the customer (and in many cases, integrating within the customers delivery teams). Mentoring other technical delivery consultants within Microsoft. Providing solutions, handover and fully operational (and configurable) delivery pipelines to the customer.

Though I am required to provide a broad level of expertise across the Microsoft Azure Cloud and dependent services (typically GCP, AWS an on premises), under this contract I provide detailed consultancy on the following services:

1. DevOps tools and practices.
2. Azure Kubernetes Services (AKS) and other container-based technologies.
3. Azure Virtual Desktop (AVD) – Including automated image building and deployment processes for environments with > 10,000 seats.
4. Private network design (including DNS).
5. Kafka integration.
6. High availability.

Development of Microsoft internal resources and patterns that are included in a library used by Microsoft Consultants around the globe to accelerate project delivery. I have also been involved in understanding customers pain areas and championing enhancements with the relevant product development function.

Snr Consultant Architecture & TechOps *PricewaterhouseCoopers (Contract)*

November 2019 – May 2021

This role was within the Global Assurance Transformation Team. The team is intentionally disruptive with the aim of getting technology in the hands of its user base quickly. Products are trialled by the userbase to see if they add significant value. Products are developed and executed in production across both the GCP and Azure platforms.

This disruption function has the challenge of moving fast within a heavily governed organisation and interfacing with a combination of similar teams as well as more traditional IT.

To help with this process the technology team leans heavily on the Cloud Provider, consuming PaaS wherever possible. The technology team are responsible for hosting all components regardless of technology e.g. everything from Machine Learning in Python to Spring to Front End technologies.

The challenge for myself as an architect and technology lead is to sufficiently abstract PaaS to allow the various solutions to run in both GCP and Azure. Kubernetes (AKS/GKE) and PaaS databases have been heavily used to solve some of the infrastructure challenges. Frameworks and facades were used for application challenges e.g. the differences in interfaces between Azure Storage Accounts vs Storage Buckets.

Key Delivery

- **Migration of Development and Collaboration tooling –** Migration of the self-hosted Jenkins/Github pipelines to Azure DevOps significantly reducing run effort. Build agents were migrated to immutable containers (each build executing within a fresh container). Pipelines were built to package the build agents to allow the required tools to be easily baked into the build agents (reducing build times). Zero downtime migration - the global development teams were never without their vital development tools during cut over.

- **Analysis and Design –** Analysis of complex internal finance and auditing systems and the associated interfaces. Translation of this knowledge together with business requirements into easy to consume high level designs, detailed specifications and User Stories.

- **Support –** Hands on support of Software, Infrastructure and the Delivery platform including during PwCs “Busy Season”.

- **Delivery of a Reporting and Alerting Platform –** Delivery of a reporting and alerting suite of tools across multiple environments (Mostly delivered using Terraform via ADO pipelines). The tools involved Splunk, OpsGenie, Azure Monitor, Log Analytics, GCP Cloud Monitoring/Stackdriver.

- **Product Industrialisation –** Moving products that were successful from Incubation to global products to be used by all member firms. This covered all areas of the stack. For example (but not limited to): Adding features to the applications to remove manual operational processes, removing manual support processes, adding monitoring and alerting, designing support processes, authoring runbooks, DR, migration from GCP to Azure (Azure is the main hosting location for Global applications).

- **Disaster Recovery –** Responsible for Disaster Recovery design, test design, failover run books, test planning and execution, findings and remediation, Director level report out.

Senior Consultant – Site Reliability Engineering *DWP*

April 2019 – November 2019

DWP is a large complex organisation with many hundreds of applications in production. It is a modern thinking organisation that has grown into the cloud quickly. Nearly all projects are deployed within Azure or AWS.

The ambition of DWP is to have a single SRE function providing engineering capability across all DWP applications. For that to become a reality all applications should have elements of commonality e.g. Support and Security features.

I was engaged to embed quality and consistency into DWP application deployments with the aim of improving delivery throughput, supportability and availability.

Key Delivery

- **Provide Patterns –** Provide solutions to common problems typically in the form of a documented technical artifact e.g. containers containing standard, approved, secured support tooling. By providing solutions that are well architected and hardened to DWP standards increases re-use and reduces variance across applications. Sometimes the solutions may be sourced from the project community but are packaged to promote wider use and socialised.

- **Project Support –** DWP can be an unwieldy organisation and it isn't always clear to projects who they need to connect with. Part of the role involves building a network and connecting people to solve problems.

- **Application Onboarding –** Assess projects for features required for production. This is done in an embedded and constructive way. For example, if a project is deemed to have insufficient monitoring and alerting capability for production, then I would help them deliver it.

- **Application Support –** Provide 3rd level support for complex incidents. DWP applications often rely on a string of dependent services. Some have been modernised and are in the cloud, others are not. I help to restore an acceptable level of service in the quickest time possible as well as helping to get to the true root cause.

- **Problem Management Support –** Most incidents are preventable. After helping to triage incidents, I am often involved in implementing technical fixes to reduce the likelihood of reoccurrence e.g. improving the build process, the automated testing, the infrastructure, monitoring, alerting, the self-healing capability or working with the application teams.

Senior Cloud Architect *Newday*

June 2017 – August 2019

A hands-on architecture role to support the Newday "Cloud First" IT strategy. The role involved composing architectural blueprints and frameworks, receiving assurance from relevant business groups, and building of reusable deployable artifacts which conform to these templates e.g. Terraform modules.

The role also involved creating a cloud migration strategy and migrating some of the legacy static on premise technology to the cloud.

The role provided support for two business functions.

- Online Mission Critical Web Application hosting (Mostly Microsoft Azure)
- Providing a 100% automated Data Science environment for processing PCI Data built out in AWS from ground zero.

Key Delivery

- **Data Migration –** Migrating many terabytes of PCI data from legacy platforms (Oracle and SQL Server) into the AWS Cloud Platform (ingested at speed using Kafka). Heavy lifting performed using AWS Snowball with catch up data streamed over Direct Connect. Responsible for performance testing and tuning ahead of production migration.

- **Developing Architectural Blueprints** – Agreeing solutions to common business problems at a holistic level (rather than specific implementation). For example, developing a framework to help select the mechanism used to connect third parties based on certain characteristics**.**

- **Enterprise Connectivity –** Extending the existing Premise to Azure Cloud technology (using ExpressRoute) to cater for AWS. Equinix Cloud Exchange and AWS Direct Connect used. Connectivity extended to allow Cloud Providers to Premise (Geographically redundant links) as well as Cloud to Cloud (reducing dependency to premise). Solution architected to allow security between zones (using Checkpoint) as well independent maintenance).

- **Automation of Foundational Infrastructure Components** – Building out a Terraform framework (using many industry standard features) to deploy core infrastructure components e.g. VPC's, Routing Tables, Security Groups, ACLs, Bastion hosts etc. This was in partnership with automation engineers who were building within the framework. The entire infrastructure spanned many AWS accounts (PCI requirement) and was 100% automated.

- **Modernising the CI Platform –** The development teams were functionally happy with Atlassian Bamboo to support their DevOps efforts, however it didn't perform or scale. The teams had also lost track of what a build agent needs. This was migrated to a highly Elastic AWS version of the product. The build agents were built nightly using Packer. The development teams were provided with additional artifact management capability (JFrog Artifactory). This supported the CI/CD processes but also helped centralise artifacts which makes security license governance, scanning and assurance a lot easier.

- **AWS Checkpoint Delivery** – Working closely with a senior Checkpoint engineer to fully automate the deployment of the core security architecture for AWS. The solution allowed the reprovisioning from nothing to a fully automated estate in around 20 minutes. Checkpoint is in the process of growing into the cloud rather than being truly cloud native, thus this required a combination of automation technologies. The infrastructure involves 8 HA pairs of firewalls as well as management infrastructure.

- **Traditional IT Conduit –** Some areas of the IT teams are still very traditional in nature, other areas are fully cloud based and want to run fast. Part of my role was to harmonise the two.

Senior Cloud Architect *PricewaterhouseCoopers (Contract)*
Feb 2016 – October 2018

A hands-on architecture role to take PwC's Global Data Analytics suite of products from traditional on premise hosting to a hybrid model incorporating Microsoft Azure. Migrating a combination of COTS and in-house products, on both Windows and Linux, adding capacity, the ability to scale (significant processing peaks around the fiscal cycle) and support for new products. The organisation had very little in the way of scalable infrastructure. They now have the ability to provision one of many server roles in a matter of minutes.

Key Delivery

- **Strategy and Communication** – Achieving buy in and significant project sponsorship of a modern architecture in a very traditional organisation.
- **Hands on delivery of a provisioning framework** – Build out of a framework capable of provisioning Windows and RHEL servers within Microsoft Azure via both GUI and RESTful interfaces.
- **Infrastructure Code Management** – Development of a code packaging and promotion framework using the PwC preferred tooling Microsoft VSTS.
- **Puppet code development** – Development of desired state artefacts.
- **Delivery of a highly scalable database platform** – Delivery of the MemSQL (on RHEL) platform in a highly automated way allowing very hot scale up and down. Responsible for detailed performance tuning, high availability, backups, scalability and security hardening.
- **Automated Infrastructure Components** – Development of a powershell framework to set Azure infrastructure components to desired state e.g. Loadbalancers, Storage Accounts, Automation Accounts, Network Security Groups etc.
- **High Quality Documentation** – Build out, contribute and maintain design artefacts, how-to's and proof of concepts.
- **Team leadership** - Local and remote technical team leadership. Assurance that components are built in accordance with Architecture. Mentoring and hands on training of team of various skill levels in the DevOps domain.
- **Test Automation** – Move PwC away from a hands on approach to application testing. The complex application would take five heads two days to smoke test. This was reduced to two hours with far more accurate results.
- **Project Management** – Supporting of agile processes in the absence of the dedicated PM.

Senior Infrastructure Architect *William Hill PLC (Contract)*

July 2015 – Feb 2016

Program architect for delivery of a new product distributed to the William Hill retail estate. Responsibility for providing the infrastructure to manage and support 6000 devices on a remote variable retail network. Acting as the conduit to ensure that the extremely fast paced Agile/DevOps program delivery aligns to the wider William Hill strategy. My role cut across hands on delivery, high level strategy and anything in between.

Key Skills

- **Brocade Virtual Traffic Managers** – Deployed and configured via Jenkins jobs. Responsible for configuration and traffic scripting.
- **Deployment of Elasticsearch, Logstash and Kibana (Elk Stack**) – Provisioning of a NOSQL data store for both logging and operational data.
- **Docker** – Container delivered functionality.
- **Git, Aptly, Nexus, Jenkins** – Support application and config management development.
- **Hardening** – governance of the product to ensure that it is Secure and supportable.
- **Java application stack** – Provide the application development teams with JRE, Tomcat, Apache, Chromium etc to support application development. The entire stack is delivered with Puppet.
- **Microservices –** Designed and implemented to abstract complexity and in this case to reduce data flow on the network.
- **Puppet** – Used for configuration management of both the disparate clients and data centre hosted infrastructure.
- **Performance tuning** – In this project, every byte matters! Design and implementation of throttling, caching, application tuning and smart use of limited bandwidth.
- **Rundeck** – Used to simplify operational handover of what would otherwise be complex estate management.
- **Saltstack** – Estate management.
- **Ubuntu/RHEL** – Detailed hands on configuration of Ubuntu clients and RHEL server estate all via puppet.
- **Vagrant** – Ensure that the development and operations teams are always working locally with the latest application and infrastructure components so that they fail fast and resolve early.

Financial Crimes Compliance Architecture Lead *GE Capital HQ, Global*

January 2011 – July 2015

Responsible for the definition of the target architectural landscape of the Financial Crimes Compliance HQ systems globally for GE Capital. I was responsible for large technical program delivery against this strategy.

Consistently rated 'Top Talent' in the GE ranking system for delivering compliant solutions that support the long-term strategy whilst also addressing the immediate/tactical needs of the business.

Responsibility for the provisioning of Anti Money Laundering (AML) and other solutions across the diverse sectors within GE Capital. The business lines include traditional high street banking, consumer finance, aircraft financing and anything in between.

Key responsibilities

- FCC IT Strategy – Owner of the IT strategy for the Financial Crimes Compliance function.
- Technical Team Management – Management of a global technical delivery team.
- Infrastructure Management – Ensure that the infrastructure is both fit for purpose for the as-is, but also well placed to support demanding future business needs.
- Solution Optimisation – Using technology to constantly optimise the way that we do things, to get the best possible value for the business.
- Security and Governance – Overall ownership of system security process. Responsible for ensuring system compliance to global legislation. Interface to senior internal audit staff as well as the various regulators (most recently the Federal Reserve).
- Service Delivery Liaison – Close working relationship with the service delivery management. Providing support for run activities as well as incident and problem management processes.
- Architecture & Design – Define systems strategy. Assurance, review and governance of application, infrastructure and data model design.

Key achievements

- Leveraging Chef to automate infrastructure and application delivery.
- Rollout of Actimize SAM (Suspicious Activity Monitoring).
- Deployment of a Know Your Customer platform (Actimize CDD). Provides global visibility of customers and entities, cutting across all GE Capital Business Units.
- Deployment of centralised global Watch List Screening Solution (Bridger XG). The application screens individuals/organisations/transactions against over 100 global watch lists as well as huge negative media sources with an average response time of 0.6 seconds.
- Enterprise Service Bus – Served as Architectural and technical project lead of a number of ESB's to serve high volume/high availability requests.
- Set up of technical delivery function in La Coruna, Spain.
- Optimisation – Cost reduction of 25% on infrastructure costs whilst increasing functionality. Close working relationship with the Vendor Management team to ensure that we get great value from our vendors.
- Data modelling – Use of IBM's Financial Service Data Model, to simplify and standardise transactions across GE Capital.
- Disaster Recovery – raising the bar on DR capabilities. Provisioning of hot stand by in Budapest data centre. Use of best of breed technologies to achieve the best value for money for our business customers. Achieved top rating from auditors during the last two years of DR tests.

- Technical refresh – On-going commitment to ensure that the AML infrastructure is hosted on supportable and modern platform. Including significant Oracle RAC Migration.
- Systems maintenance – Implementation of a monthly patching and maintenance cycle.
- Automated Reporting – Use of technology to demonstrate to our regulators that we are in control and are operating according to process.

Key Skills

- **Architecture Domains:** Enterprise architecture, Application architecture and Infrastructure architecture
- **Capacity management:** Technical and financial planning for service growth reduction.
- **Databases:** Oracle 10g and 11g RAC**,** Large data migrations, SQL Server 2008 R2
- **Design:** Enterprise Architect (including delivery of runnable artefacts), Eclipse, Netbeans, XML Spy
- **Disaster Recovery:** Disaster recovery leader**,** DR Test execution, Oracle Data Guard, PlateSpin, Chef, SRDF, Snap Mirror, Active: Active, DNS, SQL Server Mirroring, Cold tape based recovery.
- **DevOps/Continuous Integration/Automation:** Chef, Jenkins, Groovy Scripting, Junit, SOAP UI Test Automation, Selenium, PMD, FindBugs, Bash Shell Scripting, PowerShell
- **Financial Crimes Compliance Applications:** Actimize CDD (Know Your Customer/Customer Due Diligence), Actimize SAM (Anti Money Laundering), FircoSoft (Watch List Screening), Complinet (Enhanced Due Diligence), Bridger XG Enterprise (Watch List Screening).
- **Governance:** Audit, regulatory and governance single point of contact. Regulated by the Federal Reserve as a Systemically Important Financial Institution (SIFI)
- **Middleware:** GlassFish ESB, Fuse ESB, SOAP, SOA, MQ, SOAP UI
- **Monitoring:** SiteScope, HP Open View, Mercury Topaz (including web service monitoring), Oracle Enterprise Manager, Capacity Mananagement
- **Performance Testing:** Load runner, SOAP UI, Load UI, Application Profiling, Detailed Performance Tuning.
- **Project/Programme Management:** Agile, Waterfall, ITIL, Technical Programme Management, supplier management.
- **Resilience:** Load balancing (F5, DNS based, Apache/IBM HTTP Server), Clustering, SAN, NAS with failover.
- **Security:** Splunk, sudo, PowerBroker, SAPM, SUPM, Qualys, AppScan, WebInspect, FindBugs, PMD, IP Tables, Firewalls, automated environment lock down via Chef, in house developed access review tool, Patching & Maintenance lead.
- **Service Delivery:** Service Now, Incident Management, Change Management (including architectural governance), Problem Management.
- **Operating Systems:** RHEL (Various), OEL (Various), Ubuntu, Mac OS, Windows 2012, Windows 2008 R2, Windows 2003
- **Web/Application Server:** WebSphere, GlassFish, Apache, Jboss, Tomcat, SiteMinder, IBM HTTP Server. All deployed in 24x7 resilient mission critical environments.

Senior Technical Architect/Technical Team Leader Banco Santander, Leeds

January 2009 – January 2011

The divestiture of GE Money UK to Santander brought a huge shift in organisational culture and operating model. My role was to guide the technical delivery team though this alongside delivery of a significant systems integration program

Key achievements

- Understanding the "As Is" – Leading detailed analysis of the available technology from both an ex-GE and Santander perspective.
- Re-defining short, medium and long term strategy and roadmaps
- Leveraging sound architectural decisions made under GE – e.g. I have led strategy where SOA is key. This has supported the business' needs to quickly connect to Santander strategic systems.
- Leading the integration design of many peripheral systems into the Santander core platform - Partenon
- Technical project management of large strategic programs of work, for example data centre exits from the GE web centre and disaster recovery sites. This has included a complete rebuild of multiple mission critical systems in an active-active set up across Santander data centres.
- Technical project management of smaller tactical pieces of work, such as exiting GE Dublin operational offices.

Key Skills Employed in Role

- **Architecture Domains:** Application architecture and Infrastructure architecture
- **Databases:** Oracle 8/10g RAC (including data migration), MySQL
- **Design:** Eclipse, Netbeans, XML Spy
- **Disaster Recovery:** Oracle Data Guard, Active: Active, DR test execution.
- **Continuous Integration/Automation:** Hudson, Junit, SOAP UI Test Automation, Selenium, PMD, Bash Shell Scripting, Windows Batch
- **Financial Applications:** Falcon, Bharosa, Various Authorisation Systems, Experian, Pega, Equifax, In house development payment system.
- **Middleware:** Axis1 & 2, SOAP, SOA, Web Services, MQ, SOAP UI
- **Monitoring:** SiteScope, Mercury Topaz (including web service monitoring), Oracle Enterprise Manager
- **Performance Testing:** Load runner, SOAP UI, Load UI, Application Profiling, Connection Pooling, Detailed Performance Tuning.
- **Project/Programme Management:** Waterfall, ITIL, Technical Programme Management, supplier management.
- **Programming languages & Frameworks:** Scripting, Java, J2EE, Struts, Spring SOA, Axis 2, Lead architect of In house developed SOA Platform.
- **Resilience:** Load balancing (Alteon Load balancing, F5, DNS based, Apache/IBM HTTP Server, Sun Web Server), Clustering, SAN, NAS with failover
- **Security:** Spring, AppScan, JAAS, WebInspect, In hose developed server side validation design pattern.

- **Service Delivery:** Service Now, Incident Management, Change Management (including architectural governance), Problem Management.

- **Operating Systems:** RHEL (Various), Solaris
- **Web/Application Server:** WebSphere, GlassFish, Apache, Sun Application Server, Sun Web Server, Jboss, Tomcat, SiteMinder, IBM HTTP Server. All deployed in 24x7 resilient mission critical environments.

Education

BSc (Hons) Computing And Management Sciences 2:1	Sheffield Hallam University 1998 – 2002
'A' Levels - (including Maths, Computing, Business)	Selby College 1996 –1998
2nd Dan Martial Artist	Phoenix Martial Arts 2015 - Current

Professional Certification

TOGAF 9 Certified	The Open Group 2013
ISEB Certificate in IT Architecture (including TOGAF)	Parity Training 2009
Sun Certified Enterprise Architect for Java Platform Enterprise Edition Technology http://www.sun.com/training/certification/java/scea.xml	Sun Education 2007-2008

References

Available on Request