



KO Technologies Ltd

G Cloud 15 Service Definition Catalogue



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Overview

KO Technologies combines the power of AWS, Alibaba Cloud, Datadog, and IBM/HashiCorp with an automation-first mindset to deliver unrivalled Cloud and DevOps solutions. We replace manual effort with high-performance scalability, ensuring you get maximum quality and cost-efficiency. With KO Technologies, you're not just keeping up with innovation – you're leading it.

Why KO Technologies

- KO Technologies is a founder-led, innovative Cloud & DevOps consultancy. With unmatched accountability and commitment to deliver quality solutions, we invest heavily to build strong long term partnerships.
- KO Technologies provide organisations with the speed and scalability needed for explosive growth, leveraging our AI-powered Cloud and DevOps expertise. Our automation-first approach dramatically reduces overhead, giving you a competitive edge and allowing you to focus purely on innovation.
- Our approach is technology-led with an 'automation first' mindset, ensuring efficient and modern solutions for our clients.
- We actively contribute to technology partner communities through open-source projects, saving clients time and money while fostering a collaborative environment.
- Our simple aim is to excel and exceed expectations - we have some amazing testimonials for our projects. Read about our public and private sector clients here - <https://kotechnologies.co.uk/clients/>

Amazon Web Services (AWS) Partnership & Services

KO Technologies brings elite cloud capabilities to your organisation. Our certified AWS consultants, backed by our AWS Advanced Tier status and multiple specialized competencies, offer a rigorously audited depth of expertise that guarantees successful delivery.

Our services



We offer the following accelerators

- Accelerated Landing Zones
- OGVA/Billing/Discounts/Credits/FinOps
- Complimentary Well Architected Reviews/Risk free POC's
- Managed Services & support
- Additional specialist services



We are proud to hold the Migration Competency after rigorous auditing of our migration services.

Leverage the Migration Assessment Program(MAP) to Assess, Migrate & Modernise. MAP provides a fully funded and risk free way to move to AWS.



Our services also offer the ability to transform business to use modern AWS services. These services provide lower cost of operations and increased security posture.



We're Microsoft & Windows technologies experts. This service provides migration and modernisation for Active Directory, Certificate Authorities, Windows & end user compute.



Data is key for modern services - we help migrate data to AWS RDS to leverage, better security and operational effectiveness.

We partner with your organisation to deliver comprehensive commercial and technical AWS services. Our unwavering commitment is to ensure the proper and effective utilisation of AWS through dedicated support.

Service Overview

KO Technologies provides end-to-end AWS cloud solutions characterized by innovation, security, and operational excellence. As an AWS Advanced Tier Partner with specific Migration Competencies, we specialize in helping public sector organizations modernize their infrastructure.

Our approach is "Automation-First." We believe that manual intervention invites error and inefficiency. By defining well-architected solutions through Infrastructure as Code (IaC) and rigorous DevOps practices, we ensure your cloud environment is scalable, resilient, and cost-optimized from Day 1.

Key Features

- AWS Advanced Tier Expertise: Delivery by certified architects and engineers with deep knowledge of the AWS ecosystem.
- Automation-First Approach: Extensive use of Terraform, AWS CloudFormation, and CI/CD pipelines to automate provisioning and management.
- Migration Acceleration: Proven methodologies (assess, mobilize, migrate, and modernize) backed by AWS Migration Competencies.
- Well-Architected Framework: All solutions are designed against the six pillars of the AWS Well-Architected Framework (Operational Excellence, Security, Reliability, Performance Efficiency, Cost Optimization, and Sustainability).
- Security & Compliance: Guardrails and governance built-in by default, compliant with NCSC guidelines and ISO standards.
- Cloud-Native Modernization: Refactoring legacy applications into serverless (Lambda) and containerized (EKS/ECS) architectures.
- Data & Artificial Intelligence: Data migration, cleansing and classification services to ensure business can leverage the AI with ease.
- Amazon Connect and AI Agent solutions to improve customer experience..

Service Benefits

- Reduced Operational Risk: Automation removes human error, ensuring consistent and repeatable deployments.
- Accelerated Time-to-Value: Rapid migration and deployment strategies allow you to realize cloud benefits faster.
- Cost Efficiency: "Pay-as-you-go" optimization and continuous monitoring to eliminate waste and control spend.
- Scalability & Agility: Infrastructure that automatically scales to meet citizen demand without degradation of service.
- Knowledge Transfer: We work alongside your teams, upskilling them to manage the new environment confidently.

Amazon Web Services (AWS) - Cost Optimisation & Consulting

Service Overview

KO Technologies specializes in providing comprehensive cost optimization services specifically tailored for Amazon Web Services (AWS) environments. Our expertise is focused on helping organizations maximize the value of their cloud investment by ensuring cost-efficiency, effective resource utilization, and alignment of cloud spending with business objectives.

Key Features

AWS Reselling

- **Reselling (+Discounts):** KO Technologies offers discounts on standard AWS pricing by acting as a certified AWS Reseller, ensuring clients achieve immediate cost savings on their AWS consumption. Comes with 60 days credit.
- **OGVA (Optimised Gross Volume Agreement):** We assist clients in negotiating and structuring an Optimised Gross Volume Agreement with AWS, providing a clear path for future cost predictability and deeper discounts based on committed usage.
- **PPA/EPA (Private Pricing Agreement / Enterprise Pricing Agreement):** Expertise in negotiating tailored private or enterprise pricing agreements with AWS, securing favourable, long-term commercial terms for significant or specialised workloads that standard public pricing does not accommodate.

FinOps, Cost Management

- **Proactive Monthly FinOps Tune-up:** A comprehensive, scheduled monthly service focusing on continuous cost governance. This includes deep-dive reviews of resource utilisation, identification of idle or underutilised assets, right-sizing recommendations, and validation of Reserved Instance (RI) and Savings Plan (SP) coverage.
- **FinOps Support (Financial Operations Support):** Dedicated, on-demand support for financial stakeholders and cloud engineers covering budget tracking, cost allocation strategy refinement, creation of custom cost and usage reports (CUR), and integration of FinOps best practices into the client's operational workflows.

AWS Marketplace & Proof of Concept (POC) Enablement

- **Help with Marketplace:** Guidance and support for purchasing third-party software and services through the AWS Marketplace. This includes consolidation of billing, and leveraging Marketplace private offers to secure better deals.
- **POC Funding:** Assistance in securing funding or credits from AWS for approved Proof of Concept projects, lowering the initial investment barrier for clients exploring new services, features, or complex migrations.

Strategic & Commercial Advisory

- **Commercial Advice:** Provision of expert, unbiased advice on complex AWS commercial decisions, including commitment strategies (RIs/SPs), architectural cost impact analysis, and strategic roadmap planning to ensure long-term cloud financial sustainability and maximisation of AWS partnership benefits.

Service Benefits

Our AWS Cost Optimisation services deliver tangible financial and operational benefits by ensuring your cloud investment is highly efficient. Clients gain immediate cost reduction through reseller discounts and favourable pricing agreements (OGVA, PPA/EPA). Furthermore, continuous FinOps tune-ups and expert commercial advisory eliminate wasteful spending and align cloud costs precisely with strategic business objectives, maximizing the long-term value and predictability of your AWS environment.

Access our other Cost Optimisation services at no additional charge when reselling or utilizing the OGVA through our existing contractual agreement.

Scope

Our commercial optimisation service is designed to ensure your organisation is fully informed of and actively capitalising on the cost-saving benefits available within AWS.

Amazon Web Services (AWS) - Landing Zone Accelerator

Service Overview

We deliver a Well-Architected AWS Landing Zone foundation, deployed via secure Infrastructure as Code (IaC) and automated pipelines. This multi-account solution is fully modular, allowing inclusion of components such as Organisations, Control Tower, IAM Identity Centre, AWS Budgets, and VPCs based on each specific requirement.

Key Features

- **Secure AWS Landing Zone creation:** Our IaC driven approach will deliver secure, well architected multiple AWS accounts.
- **Secure AWS Access via IAM ID Centre:** User access to AWS Identity Center. We can also integrate this to an external identity provider for SSO.
- **Secure VPC and Network creation:** Create the foundations of a secure & scalable network with our industry experience.
- **Visible budget and cost management per account:** Budget reports and alerts built into the delivery of landing zones.
- **AWS Control tower for AWS accounts management:** Fine grained secure control policies to define security from the get go.
- **AWS Organisations for AWS account governance:** Organisations provide isolation and security to different use cases and company structures and provide easier operational management.
- **Consolidated billing:** View and tune costs from a single management account with AWS consolidated billing.
- **Secure controls built-in adhering to CIS, NIST, NCSC frameworks:** Define the security framework right from day 1 and be sure creation of AWS services meets the security requirements.
- **Tagging strategy:** An important part of the deployment strategy. Our landing zones control and enforce the required tagging strategies.

Service Benefits

Utilizing the Landing Zone Accelerator (LZA) is highly beneficial because it provides a pre-configured, scalable, and secure foundation for your AWS environment in an accelerated manner. It enforces critical governance, security controls (adhering to standards like CIS and NIST), and best practices automatically, reducing the time and complexity typically associated with setting up a compliant cloud infrastructure. This automation frees up your teams to focus on innovation and application development, rather than the tedious and error-prone task of building and securing the underlying infrastructure from scratch, ensuring a fast, consistent, and well-architected path to cloud adoption.

Scope

A minimum of 3 AWS accounts are created for best practice. Unique email addresses will be required for each AWS account that is created. The Management account will require a credit card or billing transfer to be set up. Billing/Reselling might be eligible for discounts OGVA/consumption discount (2-20%). A MFA device is required for the root account login credentials. Company tax information is required for VAT eligible organisations. A general view of the company structure to AWS Organisation mapping is beneficial. A list of users which will need access to AWS accounts is required.

Output

- IAC repo with the code required to create the landing zones.
- Access for an administrator and additional users.
- Budget reports.
- Tagging strategy and guidance.
- Cloudtrail to a centralized account.
- Terraform/OpenTofu/Terragrunt/CDK/Cloudformation account factory implementation.
- Continuous integration and Continuous Delivery pipelines.
- Training.

Note: Additional systems to create the landing zones are not supplied and will incur additional cost. Examples of this are, GitHub Enterprise & Terraform Infrastructure Cloud.

Amazon Web Services (AWS) - Migration & Modernisation

Service Overview

Elevate & Innovate by taking advantage of what the cloud has to offer! Our cloud migrations are tailored for organisations to realise the benefits of technology available. Our primary focus is to elevate not only the infrastructure to the cloud, but to enhance the systems to take advantage of the innovations of the cloud. KO Technologies holds the Migration Competency and is able to offer MAP funding to help with migration costs.

Key Features

- **Migration & Modernisation Competency:** Our migration practices have been scrutinized and validated by AWS to ensure they meet the quality and well architected standards.
- **Elevate & Innovate:** Our migration strategy is to bring the benefits of the AWS cloud to the forefront to an organization. We don't simply lift and shift, instead our focus is creating a platform fit for the cloud.
- **Skill Gaps Analysis and Training Plan:** Identifying areas where in-house skills need uplift and developing a structured knowledge transfer and training program for your operations and development teams.
- **Business Case Development & TCO Analysis:** Creation of a compelling business case, including a detailed Total Cost of Ownership (TCO) analysis, financial projections, and identification of AWS funding/credit opportunities (e.g., MAP funding).
- **Target Operating Model (TOM) Design:** Defining the future-state operating model for your cloud environment, covering organizational structure, process changes (FinOps, SecOps), and required skill sets.
- **Migration Accelerator Program (MAP):** Leverage the MAP program to Assess, Mobilize & Migrate & Modernise for migration to AWS.
 - i. **Assess Phase**
We offer comprehensive support in developing a compelling business case for your AWS migration. Our assessment, which is typically fully funded by AWS, includes a thorough review of your current infrastructure, identification of potential cost efficiencies and performance gains, and a clear Total Cost of Ownership (TCO) analysis.
 - ii. **Mobilize & Migrate Phase**
Leveraging substantial AWS funding, we partner with you to design and test your ideal target architecture on AWS. We provide expert guidance and best practices for a seamless migration, followed by comprehensive handovers to ensure your team achieves autonomy.

iii. Modernisation Phase

Migrate your workloads to AWS with our expert assistance and benefit from AWS credits to offset costs. We optimize for performance and scalability, ensuring a successful transition. Furthermore, we offer continuous support through our FinOps and Managed Services.

- **MAP Funding:** All eligible migration programs can be supplemented with AWS funding. Which reduces financial risk for your company.
- **AI & AWS Transform & Migration Hub:** Budget reports and alerts built into the delivery of landing zones.
- **Tagging strategy:** An important part of the deployment strategy. Our landing zones control and enforce the required tagging strategies.
- **Scaling strategy:** Bring the power of the cloud to migrated systems, but elastic scalability to meet demand.
- **Minimal zero downtime:** Wave planning and cutovers to minimise downtime.
- **Hyper care:** We will support post cutover activities to ensure the systems are running smoothly.

Service Benefits

- **Kanban/DevSecOps:** We help introduce better techniques and technologies for teams. End to End delivery management via backlogs and Kanban to increase collaboration and project visibility
- **Speed of innovation:** Faster innovation due to a modern approach of migration.
- **DevSecOps Tools:** Tooling fit to drive modernization quickly.
- **Increased Automation:** Automation more which drives down operational costs.
- **Better Observability:** Use cloud based monitoring for deeper insights.
- **Reduced need for patching:** Our shift left patching approach helps reduce patching overheads.
- **Low/No Cost:** Migration funding is available to ensure that the migration makes commercial sense.
- **Code First:** Industry grade infrastructure as code to ensure security, operational resilience and scalability.

Scope

A full end to end delivery of a migration from an external source to AWS. We will help assess, migrate and modernise the environments and make them suited to the cloud operating environment.

Output

- Full end to end delivery of the migration.
- IAC repo with the code required to create the AWS services.
- Access for an administrator and additional users.
- Budget reports.
- Tagging strategy and guidance.
- Cloudtrail to a centralized account.
- Terraform/OpenTofu/Terragrunt/CDK/Cloudformation IaC implementation.
- Continuous integration and Continuous Delivery pipelines.
- Training.
- AMI Factory for building images.

Note: Additional systems to create the landing zones are not supplied and will incur additional cost. Examples of this are, GitHub Enterprise & Terraform Infrastructure Cloud.

Amazon Web Services (AWS) - Docker Containers & EKS, ECS & AppRunner

Service Overview

KO Technologies provides end-to-end containerization services leveraging AWS managed container platforms, Amazon Elastic Kubernetes Service (EKS), Amazon Elastic Container Service (ECS), and AWS App Runner. Our expertise ensures your applications are packaged efficiently using Docker, deployed securely, and managed at scale with an "Automation-First" and DevSecOps approach. We specialize in transforming monolithic applications into portable, resilient microservices architectures.

Key Features

- **Container Strategy & Development:** Expert guidance on container best practices, Dockerfile optimization, and security scanning, ensuring container images are lean and secure.
- **Kubernetes (EKS) Implementation:** Full lifecycle management for Amazon EKS clusters, including design, deployment via IaC (Terraform/CloudFormation), networking (VPC, CNI), and operations. We focus on scalability, high availability, and cost-efficient node management (Managed Node Groups, Fargate profiles).
- **ECS & Fargate Deployment:** Modernizing applications onto Amazon ECS, utilizing AWS Fargate for serverless container execution. This removes the operational overhead of managing EC2 instances, optimizing costs and improving security posture.
- **Simplified Container Deployment with App Runner:** Utilizing AWS App Runner for simple, fast, and scalable deployment of web applications and APIs, ideal for developers requiring minimal operational management.
- **DevSecOps & CI/CD for Containers:** Implementation of robust CI/CD pipelines (e.g., AWS CodePipeline, GitHub Actions) to automate container build, push (to ECR), and deployment to EKS, ECS, or App Runner, incorporating security scanning at every stage.
- **Service Mesh and Observability:** Deployment of service mesh technologies (like AWS App Mesh) and comprehensive observability solutions (Datadog, Amazon CloudWatch) for deep insights into microservices performance and behavior.
- **Cost Optimization for Containers:** Implementing best practices for rightsizing container resources, leveraging reserved instances/savings plans, and optimizing EKS/ECS cluster usage to minimize run costs.

Service Benefits

- **Operational Efficiency:** Automated deployment and management of containers drastically reduces manual effort and operational costs.
- **Enhanced Portability & Scalability:** Docker containers ensure applications run consistently across environments, while EKS/ECS provides elastic scaling to meet variable demand.
- **Reduced Time-to-Market:** Accelerated CI/CD pipelines enable faster feature releases and continuous deployment.
- **Improved Security Posture:** Security best practices, image scanning, and network policies are enforced automatically.
- **Focus on Innovation:** By managing the underlying container infrastructure, your teams are free to concentrate purely on application development.

Scope

KO Technologies will execute the discovery, design, build, and deployment of containerized applications onto the selected AWS services (EKS, ECS, or App Runner). This includes:

- Container image creation and optimization.
- IaC definition for the chosen container platform (EKS Cluster/ECS Service/App Runner).
- CI/CD pipeline setup for automated deployment.
- Integration with associated AWS services (e.g., ECR, VPC, IAM, Load Balancers).
- Knowledge transfer and training sessions for client teams.

Output

- Containerized application running on the selected AWS platform (EKS, ECS, or App Runner).
- IAC repository with all necessary configuration files (Terraform/CloudFormation).
- Fully automated CI/CD pipelines.
- Comprehensive monitoring and logging configuration.
- Operational documentation and training materials.

Amazon Web Services (AWS) - Microservices, API Gateway & Lambda & Serverless

Service Overview

KO Technologies delivers bespoke serverless microservices solutions on AWS, leveraging core services like AWS Lambda, Amazon API Gateway, and managed databases. Our approach focuses on building highly scalable, cost-efficient, event-driven architectures that eliminate the need for infrastructure management. We specialize in transforming traditional applications into modern, nimble serverless functions, ensuring automatic scaling, high availability, and reduced operational overhead.

Key Features

- **Serverless Architecture Design:** Expert design and implementation of event-driven architectures using AWS Lambda, Amazon API Gateway, and other serverless components (e.g., SQS, SNS, DynamoDB).
- **Function Development & Optimisation:** Development of secure, high-performance Lambda functions in various languages (Node.js, Python, Java, etc.), focusing on cold start optimisation and cost efficiency.
- **API Gateway Implementation:** Full setup and configuration of Amazon API Gateway for REST and WebSocket APIs, including security (IAM, Cognito, custom authorizers), throttling, and caching.
- **DevSecOps for Serverless:** Implementation of CI/CD pipelines (e.g., AWS SAM, Serverless Framework, CodePipeline) to automate deployment, testing, and security scanning for Lambda functions.
- **Data Tier Integration:** Seamless integration with serverless and managed data services, including Amazon DynamoDB (NoSQL), Amazon Aurora Serverless, and Amazon RDS.
- **Security by Design:** Implementation of fine-grained security policies using IAM roles and resource policies, ensuring the principle of least privilege for all serverless components.
- **Cost-Efficient Scaling:** Architectures are inherently "pay-per-use," ensuring costs scale directly with actual demand, providing significant savings over fixed-capacity infrastructure.

Service Benefits

- **Eliminated Server Management:** Focus solely on application code; AWS handles all compute, scaling, and patching.
- **Massive Cost Reduction:** Transition from fixed costs to a consumption-based "pay-per-invocation" model, significantly lowering Total Cost of Ownership (TCO).
- **Unprecedented Scalability:** Applications automatically scale to handle millions of requests without manual intervention or performance degradation.
- **Accelerated Development:** Faster time-to-market due to modular design, simplified deployment, and focus on business logic.
- **High Availability & Durability:** Leverage AWS services that are inherently highly available and fault-tolerant by design.

Scope

KO Technologies will execute the discovery, design, build, and deployment of one or more defined microservices using AWS serverless technologies. This includes:

- Requirements gathering and microservice definition.
- Design of the serverless architecture (Lambda, API Gateway, data stores).
- Development of the Lambda function code and associated infrastructure.
- IaC definition using Serverless Framework or AWS SAM/CloudFormation.
- CI/CD pipeline setup for automated deployment.
- Configuration of API security, monitoring, and logging.
- Knowledge transfer and training sessions for client teams.

Output

- Production-ready serverless microservice running on AWS Lambda and API Gateway.
- IAC repository with all necessary configuration files (Serverless Framework/SAM/CloudFormation).
- Fully automated CI/CD pipelines for deployment.
- Comprehensive monitoring, logging (CloudWatch/Datadog), and tracing configuration.
- Operational documentation and training materials.

Amazon Web Services (AWS) - Cloud Native Application Development

Service Overview

KO Technologies specializes in building resilient, scalable, and modern cloud-native applications on AWS, leveraging contemporary programming languages and frameworks such as **GoLang, Python, Rust, React, and Flutter**. Our approach focuses on delivering applications that are designed from the ground up for the cloud, utilizing serverless (Lambda, App Runner) and containerized (EKS, ECS) architectures. We adhere to DevOps/DevSecOps practices and Infrastructure as Code (IaC) to ensure rapid development cycles, high quality, and operational excellence for your next-generation public sector solutions.

Key Features

- **Modern Language Expertise:** Development utilizing high-performance and modern languages like **GoLang** and **Rust** for backend services, **Python** for data-intensive and ML applications, and **React (web) / Flutter** (cross-platform mobile) for dynamic, responsive frontends.
- **Serverless & Container Integration:** Seamless integration of application components with appropriate AWS compute, including AWS Lambda for event-driven functions, ECS/EKS for containerized microservices, and AWS App Runner for simplified web deployment.
- **DevSecOps & CI/CD Pipelines:** Implementation of automated CI/CD pipelines (e.g., AWS CodePipeline, GitHub Actions) to compile, test, scan, and deploy code written in various languages to the target AWS services.
- **Infrastructure as Code (IaC):** All application infrastructure (compute, networking, database) is defined using Terraform/CloudFormation, ensuring version control, repeatability, and security compliance.
- **Microservices Architecture:** Designing applications as loosely coupled microservices, enabling independent deployment, faster iteration, and resilience.
- **Managed Database Services:** Integration with managed, scalable AWS databases (e.g., Amazon Aurora, DynamoDB) optimized for modern application requirements.
- **Front-end Hosting & Delivery:** Secure hosting and global distribution of web and mobile backends using services like Amazon S3, AWS Amplify, and Amazon CloudFront.

Service Benefits

- **Enhanced Performance:** Leveraging high-performance languages (GoLang, Rust) delivers faster execution and lower latency for mission-critical services.
- **Future-Proof Architecture:** Applications are built on modern, maintainable architectures that are easy to update, scale, and secure.
- **Cost-Efficiency:** Optimization of compute resources through serverless functions and right-sized containers leads to a consumption-based cost model.
- **Accelerated Time-to-Market:** DevOps automation and modular design enable rapid feature deployment and continuous innovation.
- **Improved User Experience:** Responsive and modern user interfaces built with React and Flutter ensure high citizen satisfaction across all platforms.
- **Security by Design:** Security scanning and compliance checks are built into the development process ("Shift Left"), reducing vulnerabilities in production.

Scope

KO Technologies will execute the discovery, design, development, and deployment of a defined cloud-native application or microservice set. This includes:

- Requirements analysis and technical specification development.
- Architecture design utilizing serverless, container, and database services.
- Application development using agreed-upon modern languages (GoLang, Python, Rust, React, Flutter).
- IaC definition (Terraform/CloudFormation) for all application components.
- Implementation of automated CI/CD and DevSecOps pipelines.
- Comprehensive unit, integration, and load testing.
- Knowledge transfer and training for client development teams.

Output

- Production-ready cloud-native application/microservices deployed on the target AWS environment.
- Code repositories containing the application source code (e.g., GoLang, Python, React, Flutter).
- IAC repository with all infrastructure configuration files (Terraform/CloudFormation).
- Fully automated CI/CD/DevSecOps pipelines.
- Comprehensive operational, security, and developer documentation.
- Monitoring and observability dashboards (e.g., CloudWatch, Datadog) for application health and performance.

Amazon Web Services (AWS) - Developer & DevOps, AI Productivity

Service Overview

KO Technologies enhances Developer and DevOps productivity by integrating cutting-edge Artificial Intelligence (AI) tools and practices, focusing specifically on services like **Amazon Q Developer**. Our approach automates routine coding, debugging, and operational tasks, enabling public sector development teams to accelerate innovation, improve code quality, and operate their cloud environments with greater efficiency and security. We bridge the gap between development and operations by embedding AI-driven assistance directly into the developer workflow.

Key Features

- **AI-Powered Code Generation and Completion:** Implementing **Amazon Q Developer** to provide real-time, context-aware code suggestions, generation of functions, and automated scaffolding, dramatically reducing manual coding effort.
- **Intelligent Debugging and Remediation:** Utilizing AI to analyze code, identify bugs, suggest fixes, and even perform automated remediation for common security vulnerabilities and errors, improving time-to-resolution.
- **Automated Infrastructure as Code (IaC) Generation:** Leveraging AI to translate natural language requirements or existing code patterns into compliant, secure IaC templates (Terraform, CloudFormation, CDK), accelerating infrastructure provisioning.
- **Code Review and Security Scanning:** Integrating AI-driven tools into CI/CD pipelines to perform enhanced security scanning, identify complex logic flaws, and ensure adherence to best practices before deployment.
- **Optimized Deployment Strategies:** Using AI to analyze deployment metrics and application performance to suggest optimal canary, blue/green, or linear deployment strategies, minimizing downtime and risk.
- **Knowledge Retrieval and Documentation:** Implementation of AI tools that can instantly query vast internal knowledge bases (wikis, runbooks, previous incident reports) to provide developers and operators with instant, accurate answers and relevant documentation.
- **Customization and Fine-Tuning:** Expertise in customizing Amazon Q Developer or other models for an organization's specific codebase, compliance standards, and internal domain-specific languages.

Service Benefits

- **Accelerated Time-to-Market:** AI speeds up coding, debugging, and deployment, delivering features and fixes to users faster.
- **Improved Code Quality & Security:** AI-driven code suggestions and automated security scanning lead to fewer bugs and proactively address vulnerabilities early in the development cycle (**Shift Left**).
- **Reduced Operational Burden:** AI automates incident triage, root cause analysis, and operational runbook execution, freeing up DevOps engineers from routine tasks.
- **Increased Developer Productivity:** Developers spend less time on boilerplate code, documentation searches, and mundane tasks, allowing them to focus on complex problem-solving and innovation.
- **Effective Knowledge Transfer:** AI agents act as always-on assistants, quickly sharing organizational knowledge and best practices with new or rotating team members.
- **Lower Cost of Operations:** Faster issue resolution and highly optimized, AI-generated infrastructure reduce cloud running costs and operational expenditure.

Scope

KO Technologies will execute the discovery, design, and integration of AI productivity tools into the client's Developer and DevOps environments. This includes:

- Assessment of current development workflows and identification of high-impact AI opportunities.
- Configuration and deployment of Amazon Q Developer for the target development environment (IDE integration, CLI setup).
- Integration of AI tools into the existing CI/CD pipelines (e.g., GitHub Actions, AWS CodePipeline).
- Development of custom models or knowledge bases to tailor AI assistance to organizational code and operational data.
- Establishing governance and monitoring for AI usage, quality, and output safety.
- Knowledge transfer and training for development and operations teams on leveraging AI tools effectively.

Output

- Amazon Q Developer fully integrated and operational within the target development environment.
- Automated CI/CD workflows utilizing AI for code review and security scanning.
- IAC repository containing code for AI services provisioning and configuration.
- Operational documentation and best practices guide for AI-assisted development.
- Training materials and knowledge transfer sessions for client teams.

Amazon Web Services (AWS) - Digital Workplaces, Telephony, Connect, Chatbot & Agentic AI

Service Overview

KO Technologies enables the modern, flexible workplace by providing secure, scalable, and cost-effective digital workplace solutions on AWS. We specialize in transforming contact centers using **Amazon Connect** and integrating cutting-edge **Agentic AI and AI Bots** (via Amazon Lex, Amazon Bedrock, and other AWS AI services) to automate interactions, enhance customer experience, and boost agent productivity. This service suite allows public sector organizations to deliver world-class citizen services with reduced operational overhead.

Key Features

- **Amazon Connect Implementation:** Full design, deployment, and configuration of Amazon Connect cloud contact centers, replacing legacy systems with a modern, pay-as-you-go platform.
- **Agentic AI & Chatbot Development:** Creation and deployment of intelligent conversational interfaces using Amazon Lex and Amazon Bedrock, capable of handling complex queries, automating tasks, and escalating only necessary interactions to human agents.
- **Digital Workplaces (Amazon WorkSpaces/Workspaces Applications):** Provisioning of secure, cloud-native desktop and application streaming solutions, enabling remote work flexibility while maintaining security and compliance.
- **AI-Powered Agent Assistance:** Integrating AI services into the contact center workflow to provide real-time guidance, knowledge retrieval, and summarization for human agents, reducing handle time and improving first-call resolution.
- **Contact Flow Optimization:** Designing intelligent contact flows in Amazon Connect to personalize caller experience, dynamically route requests, and leverage AI/ML for intent recognition.
- **Integration with Enterprise Systems:** Seamlessly integrating Amazon Connect and AI bots with existing CRM, service management, and backend systems for a unified customer journey.
- **Data & Analytics for CX:** Implementing comprehensive logging and analytics using Amazon Connect Contact Lens and Amazon Kinesis to derive actionable insights on customer behavior and operational efficiency.

Service Benefits

- **Operational Cost Reduction:** Automation via AI Bots and the shift to cloud-based Amazon Connect reduces telephony costs and reliance on large, fixed-cost agent teams.
- **Enhanced Customer Experience:** 24/7 availability, instant resolution of simple queries via AI, and personalized interactions lead to higher citizen satisfaction.
- **Scalability & Resilience:** Digital workspaces and Amazon Connect scale instantly to meet fluctuating demand without infrastructure bottlenecks.
- **Workforce Flexibility:** Secure provision of desktops and applications via WorkSpaces/AppStream enables easy and secure remote/hybrid working models.
- **Increased Agent Productivity:** AI-powered tools assist agents in real-time, decreasing training time and improving the quality of human interactions.
- **Compliance & Security:** Solutions are deployed with integrated security and compliance controls suitable for public sector environments.

Scope

KO Technologies will execute the discovery, design, build, and deployment for a defined digital workplace or contact center transformation initiative. This includes:

- Discovery and analysis of current contact center or desktop infrastructure.
- Design of the target AWS architecture (Connect, WorkSpaces, AI services).
- Implementation of Amazon Connect contact flows and queues.
- Development and training of custom Amazon Lex or Bedrock-powered bots.
- Setup of Amazon WorkSpaces or AppStream environments.
- Integration testing and user acceptance testing (UAT).
- Comprehensive knowledge transfer and training for administrators and agents.

Output

- A fully operational, cloud-based Amazon Connect contact center environment.
- Deployed Agentic AI/Chatbot solution integrated into the contact flow/web channels.
- Securely configured Amazon WorkSpaces or AppStream 2.0 deployment (if included in scope).
- IAC repository with the code required for resource provisioning.
- Operational documentation, including contact flow diagrams and bot training data.
- Monitoring and reporting dashboards for contact center and AI performance.

Amazon Web Services (AWS) - Machine Learning, SageMaker & MLOps

Service Overview

KO Technologies delivers end-to-end Machine Learning (ML) and Artificial Intelligence (AI) solutions on AWS, with a specialization in **Amazon SageMaker** and establishing robust **MLOps** practices. Our service enables organizations to move from raw data to deployed, production-ready ML models efficiently and securely. We focus on automating the entire ML lifecycle, from data preparation and model training to deployment, monitoring, and governance, leveraging services like AWS Glue, Amazon S3, Amazon EMR, and the entire SageMaker suite.

Key Features

- **ML Strategy & Use Case Identification:** Consulting to identify high-value ML use cases, assess data readiness, and define a clear, strategic roadmap for AI adoption.
- **Data Preparation & Feature Engineering:** Utilizing services like **AWS Glue** and **Amazon EMR** for large-scale data ingestion, cleaning, transformation, and feature store implementation (**Amazon SageMaker Feature Store**).
- **Amazon SageMaker End-to-End Utilization:** Full deployment of SageMaker components, including Studio, Notebooks, Training, Hyperparameter Tuning, and Inference (Real-time and Batch).
- **Automated MLOps Pipelines (CI/CD/CT):** Implementation of continuous integration, continuous delivery, and continuous training (CI/CD/CT) pipelines using **SageMaker Pipelines** and integrated with CI/CD tools (e.g., AWS CodePipeline, GitHub Actions) for automated model build, test, and deployment.
- **Model Deployment & Scaling:** Secure, scalable model hosting using SageMaker Endpoints, Serverless Inference, or multi-model endpoints, ensuring low latency and cost-effective operation.
- **Model Monitoring & Governance:** Establishing automated model monitoring for performance drift, data quality, and bias detection using **Amazon SageMaker Model Monitor** and providing necessary governance documentation.
- **Advanced AI Services Integration:** Integration with high-level AI services for specific tasks, including **Amazon Comprehend** (NLP), **Amazon Rekognition** (Vision), and **Amazon Transcribe** (Speech-to-Text).
- **Generative AI with Amazon Bedrock:** Consultancy and implementation services to leverage foundation models via **Amazon Bedrock** for novel applications in content generation, summarization, and agentic AI.

Service Benefits

- **Accelerated Time-to-Value for ML:** MLOps automation significantly reduces the time required to move models from experimental development to production.
- **Operational Excellence:** Automated pipelines ensure consistent, reproducible, and reliable deployment of ML models, reducing manual error and operational risk.
- **Cost Efficiency:** Optimization of SageMaker instance usage, auto-scaling for inference endpoints, and efficient data processing reduce overall compute costs.
- **Improved Model Performance:** Continuous monitoring and automated retraining (CT) ensure models maintain accuracy and relevance over time in dynamic environments.
- **Scalability & Resilience:** Architectures are designed to handle massive data volumes and scale models serving capacity to meet unpredictable demand.
- **Compliance & Governance:** Built-in auditing, version control, and monitoring capabilities support regulatory compliance and responsible AI practices.

Scope

KO Technologies will execute the discovery, design, build, and deployment of a defined ML workflow, focusing on the chosen business problem. This includes:

- Requirements gathering, data source identification, and target metric definition.
- Design of the data and MLOps architecture on AWS.
- Data preparation and feature engineering pipeline development.
- Model training, optimization, and registration in SageMaker.
- Implementation of the automated MLOps CI/CD/CT pipeline.
- Deployment of the model to a production SageMaker endpoint.
- Configuration of monitoring, logging, and alerting.
- Knowledge transfer and training for client Data Science and Engineering teams.

Output

- Production-ready ML model deployed on Amazon SageMaker.
- IAC repository (Terraform/CloudFormation) for all underlying AWS infrastructure.
- MLOps pipeline code (SageMaker Pipelines, CodePipeline) for automated model lifecycle management.
- Data preparation scripts and feature store definitions.
- Comprehensive monitoring dashboards (CloudWatch/Datadog) for data and model drift.
- Operational documentation and MLOps best practice guides.

Amazon Web Services (AWS) - Generative AI (GenAI) & Artificial Intelligence (AI)

Service Overview

KO Technologies helps public sector organisations harness the transformative power of Generative AI (GenAI) and broader Artificial Intelligence (AI) using AWS services. Our focus is on strategic implementation of solutions that drive innovation, automate complex tasks, and improve citizen services. We leverage the entire AWS AI/ML stack, including **Amazon Bedrock** for foundation models, **Amazon SageMaker** for custom model development, and high-level AI services (e.g., Comprehend, Transcribe) to deliver tangible business outcomes securely and at scale.

Key Features

- **Generative AI Strategy & Implementation:** Consulting and delivery for GenAI use cases, including content generation, knowledge retrieval (RAG), summarization, and code generation, primarily utilizing **Amazon Bedrock**.
- **Foundation Model Selection & Customisation:** Guidance on selecting the appropriate Large Language Models (LLMs) or multimodal models (e.g., Anthropic Claude, AI21 Labs, Meta Llama) on Bedrock, and expertise in fine-tuning or customising models for specific public sector data and compliance requirements.
- **RAG (Retrieval-Augmented Generation) Architecture:** Design and implementation of secure RAG patterns using Amazon Bedrock and **Amazon OpenSearch Service** or **Amazon Kendra** for grounding GenAI outputs in proprietary, trusted data sources.
- **AI Agent Development:** Building autonomous or semi-autonomous AI agents (Agentic AI) for complex workflows, such as automated compliance checks, policy analysis, or multi-step citizen interaction, using Bedrock Agents and AWS Step Functions.
- **MLOps for AI:** Establishing robust MLOps practices, similar to our SageMaker offering, tailored for GenAI to ensure automated deployment, monitoring, and governance of RAG and fine-tuned models.
- **High-Level AI Services Integration:** Seamless integration of pre-trained AI services (e.g., **Amazon Comprehend** for text analytics, **Amazon Transcribe** for speech, **Amazon Rekognition** for image analysis) to accelerate non-generative AI initiatives.
- **Security and Compliance:** Architecting AI solutions with built-in security, data governance, and ethical AI best practices suitable for sensitive public sector data.

Service Benefits

- **Accelerated Innovation:** Rapid prototyping and deployment of GenAI capabilities via Amazon Bedrock reduce the time-to-value for complex AI projects.
- **Data-Grounded Reliability:** RAG implementations ensure AI outputs are accurate, verifiable, and based on the organisation's authoritative data, mitigating hallucination risks.
- **Operational Automation:** Agentic AI and automation of knowledge work free up human capital to focus on high-value, complex decision-making.
- **Enhanced Citizen Services:** Deployment of intelligent interfaces improves the speed and quality of citizen interactions across digital and voice channels.
- **Secure AI Adoption:** Solutions are delivered with stringent security and compliance guardrails, enabling safe exploration and deployment of cutting-edge AI technologies.
- **Cost-Efficient Experimentation:** Leveraging managed AWS services and consumption-based pricing models for GenAI reduces the high fixed cost associated with running custom LLMs.

Scope

KO Technologies will execute the discovery, design, and initial deployment of a defined Generative AI or AI use case. This typically includes:

- Requirements analysis and GenAI/AI use case definition.
- Data readiness assessment and ingestion pipeline design.
- Architecture design (e.g., Bedrock RAG pattern, SageMaker MLOps pipeline).
- Proof of concept (POC) development and model testing/evaluation.
- Initial deployment of the solution to a secure AWS environment.
- Setup of monitoring and logging for AI service usage and performance.
- Knowledge transfer and training for client teams on AI operations and governance.

Output

- Production-ready GenAI or AI solution running on AWS (e.g., a RAG-powered chatbot, an automated text summarization pipeline, or an integrated high-level AI service).
- IAC repository (Terraform/CloudFormation) for all underlying AWS infrastructure.
- Code repository for RAG pipelines, custom agents, or SageMaker components.
- Comprehensive operational documentation and governance guides.
- Monitoring and usage reports for the deployed AI service.

Amazon Web Services (AWS) - Certificate Manager, Certificate Lifecycle Management, PKI/PCA

Service Overview

KO Technologies provides specialized consulting and implementation services for Public Key Infrastructure (PKI) and Certificate Lifecycle Management on Amazon Web Services (AWS). We leverage **AWS Certificate Manager (ACM)** for seamless public and private certificate provisioning and management, and **AWS Private Certificate Authority (PCA)** for establishing and operating secure, highly available internal PKI. Our service ensures compliance, automation of certificate renewal, and robust security posture for all encrypted communications across your AWS and hybrid environments.

Key Features

- **AWS Certificate Manager (ACM) Implementation:** Automated provisioning, renewal, and deployment of public SSL/TLS certificates for AWS services (e.g., Load Balancers, CloudFront distributions, API Gateway).
- **Private PKI with AWS PCA:** Design and deployment of a secure, multi-tier Private Certificate Authority (PCA) tailored to your organizational structure, enabling the issuance of private certificates for internal servers, microservices, and devices.
- **Certificate Lifecycle Automation:** Implementation of MLOps/DevOps practices and IaC (Terraform/CloudFormation) to fully automate the certificate lifecycle, including issuance, revocation, and compliance checks, minimizing manual errors and outages.
- **Cross-Service Integration:** Integration of ACM and PCA with key AWS services (e.g., IAM, Secrets Manager, EC2, ECS/EKS) to ensure private credentials and certificates are securely distributed and consumed by applications.
- **Compliance and Auditing:** Configuration of logging and auditing (via AWS CloudTrail) for all PKI operations to meet stringent public sector compliance and security requirements.
- **Cost Optimization:** Strategy consulting to minimize third-party certificate costs by leveraging ACM's free public certificates and optimizing PCA usage.

Service Benefits

- **Enhanced Security:** Robust PKI foundation ensures secure, verifiable identity for internal and external communications, adhering to the highest security standards.
- **Operational Efficiency:** Full automation of certificate issuance and renewal eliminates the risk of unexpected outages due to expired certificates.
- **Compliance Adherence:** Services are delivered in line with industry best practices (e.g., NIST, CIS) and are suitable for regulated public sector environments.
- **Reduced Complexity and Cost:** Simplifies the operation of a complex PKI, offloading the heavy lifting of security, redundancy, and hardware management to AWS.
- **Trust and Control:** AWS PCA provides the control of an on-premises CA without the operational burden, ensuring you own the root of trust for your internal systems.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of your chosen PKI/Certificate Management solution on AWS. This typically includes:

- Requirements analysis for public and private certificate needs.
- Design and deployment of the AWS PCA hierarchy (Root CA and subordinate CAs).
- Configuration of certificate templates and usage policies.
- Implementation of automated certificate request and distribution mechanisms (e.g., using ACM Private CA service integration).
- Integration with a pilot application or service to demonstrate automated certificate deployment.
- Knowledge transfer and documentation for ongoing PKI governance.

Output

- A fully operational, hierarchical AWS Private Certificate Authority (PCA).
- IAC repository (Terraform/CloudFormation) defining the PCA structure and lifecycle automation.
- Operational procedures and training for certificate issuance and revocation.
- Deployment of a set of public or private certificates to a defined pilot service via ACM.
- Configuration of monitoring and alerting for certificate expiry and usage.

Amazon Web Services (AWS) - Microsoft Windows Directory Services

Service Overview

KO Technologies specializes in the migration, modernization, and management of Microsoft Windows Directory Services on AWS. This includes leveraging **AWS Directory Service** (Managed Microsoft AD), deploying custom **Windows Server** infrastructure (EC2), and integrating hybrid identity solutions. Our service ensures a secure, highly available, and scalable platform for Active Directory, domain trust relationships, and dependent Windows workloads, reducing operational complexity and licensing costs. We focus on enabling seamless hybrid cloud environments and modernizing legacy server roles.

Key Features

- **AWS Managed Microsoft AD Implementation:** Deployment and configuration of AWS Managed Microsoft AD for a fully managed, highly available, and secure directory service, eliminating the need to manage domain controllers.
- **Hybrid Identity and Trust Configuration:** Establishing secure, one-way or two-way domain trust relationships between on-premises Active Directory and AWS Managed Microsoft AD, ensuring seamless authentication and resource access across hybrid environments.
- **Custom Windows Server Domain Services:** Deployment and configuration of Windows Server domain controllers on Amazon EC2 for scenarios requiring full administrative control or specialized configurations.
- **Active Directory Migration and Modernization:** Planning and execution of the migration of existing Active Directory forests and domains to AWS, including domain join services for EC2 instances and integration with other AWS services.
- **Server and Serverless Integration:** Secure integration of Windows domain services with modern serverless and containerized AWS applications, allowing seamless authentication and authorization for services running on AWS Lambda, ECS/EKS, and EC2.
- **End User Compute (EUC) Integration:** Integration with Amazon WorkSpaces and Workspaces Applications to provide secure, domain-joined virtual desktop and application streaming environments.
- **Certificate Authority (CA) Services:** Migration or deployment of Microsoft Certificate Authority (CA) services on AWS, integrated with the directory service for secure issuance and management of digital certificates.
- **Security and Compliance:** Configuration based on Microsoft and AWS security best practices, including NCSC guidelines, focusing on least-privilege access and continuous monitoring.

Service Benefits

- **Reduced Operational Overhead:** Offloading the management, patching, and monitoring of domain controllers to AWS via Managed Microsoft AD frees up IT staff.
- **Enhanced Security Posture:** Leveraging AWS security features, including VPC isolation and security groups, combined with best-practice configuration for Active Directory.
- **Seamless Hybrid Access:** Secure and reliable domain trusts enable users to access resources both on-premises and in the AWS cloud with a single set of credentials.
- **Scalability and High Availability:** Directory services are deployed across multiple Availability Zones by default, ensuring continuous operation and automatic scaling.
- **Modernization Enabler:** Provides the critical identity layer required to support the migration and modernization of Windows-dependent applications to cloud-native architectures.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of your chosen Microsoft Windows Directory Services solution on AWS. This includes:

- Discovery and assessment of the current Active Directory environment and required trust relationships.
- Design of the target AWS Directory Service architecture (Managed AD or EC2-based).
- Configuration of required domain trust relationships (on-premises to AWS).
- Implementation of the AWS Directory Service, including DNS configuration and networking.
- Integration with pilot EC2 instances, Amazon WorkSpaces, or serverless workloads.
- Security configuration and compliance checks.
- Knowledge transfer and documentation for ongoing directory service management.

Output

- A fully operational AWS Managed Microsoft AD or custom Windows Server domain environment.
- Securely configured domain trust relationships with on-premises environments (if required).
- IAC repository (Terraform/CloudFormation) for all underlying AWS infrastructure.
- Operational documentation, including trust diagrams and best practice guides.
- Configuration of monitoring and alerting for directory service health and replication.
- Training for client teams on managing the AWS Directory Service and hybrid trusts.

Amazon Web Services (AWS) - Data Migration & Data Lake Formation

Service Overview

KO Technologies provides specialized services for migrating legacy data to AWS and establishing modern, scalable Data Lake solutions. Our approach ensures data integrity, security, and accessibility, enabling organizations to unlock advanced analytics, Machine Learning (ML), and Generative AI (GenAI) capabilities. We leverage AWS services like **AWS Database Migration Service (DMS)**, **AWS Lake Formation**, **Amazon S3**, **Amazon Redshift**, and **AWS Glue** to create a robust, cost-effective, and future-proof data platform.

Key Features

- **Data Migration Strategy & Execution:** Full lifecycle support for migrating on-premises or other cloud databases and data warehouses to AWS, utilizing AWS DMS for minimal downtime and heterogeneous/homogeneous migrations.
- **Data Lake Design & Implementation:** Architecting and deploying a centralized, secure data lake on **Amazon S3**, governed by **AWS Lake Formation** to manage permissions and access control at the table and column level.
- **ETL/ELT Pipeline Development:** Building scalable and resilient data pipelines using **AWS Glue** (Serverless ETL) or **Amazon EMR** for large-scale data transformation, cleansing, and preparation for analytics.
- **Data Warehousing:** Implementing or migrating to **Amazon Redshift** for high-performance petabyte-scale data warehousing, optimized for complex query processing and business intelligence.
- **Serverless Data Querying:** Enabling direct, ad-hoc querying of data lake data using **Amazon Athena** and integration with **Amazon QuickSight** for visualization and BI.
- **Security and Governance:** Implementing encryption, compliance, and strict access policies via **AWS Lake Formation**, ensuring data governance suitable for public sector data.
- **Integration with AI/ML:** Structuring the data lake to be a seamless source for Machine Learning workflows on **Amazon SageMaker** and GenAI use cases via **Amazon Bedrock**.

Service Benefits

- **Unlocks Advanced Analytics:** Consolidating data into a modern data lake enables new capabilities, including ML and GenAI, for deeper organizational insights.
- **Reduced TCO:** Moving away from expensive, proprietary databases and infrastructure to scalable, consumption-based AWS services significantly lowers Total Cost of Ownership.
- **Enhanced Scalability & Performance:** The serverless and distributed nature of the AWS data platform ensures data ingestion and query performance scale to meet any demand.
- **Improved Data Governance:** Centralized management via AWS Lake Formation simplifies security, auditing, and compliance across disparate data sets.
- **Faster Time-to-Insight:** Streamlined ETL/ELT pipelines and fast querying services accelerate the process of turning raw data into actionable business intelligence.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of a data migration and/or data lake solution. This includes:

- Discovery and profiling of source data, including schema analysis and migration compatibility.
- Design of the target Data Lake architecture (S3, Lake Formation, Glue).
- Implementation of the data migration plan (e.g., DMS task setup).
- Development of initial ETL/ELT data pipelines using AWS Glue to transform data.
- Configuration of data governance and access control via AWS Lake Formation.
- Integration with a pilot analytics/BI tool (e.g., Amazon Athena, QuickSight).
- Knowledge transfer and training for client data engineering and analytics teams.

Output

- Production-ready, governed Data Lake environment on Amazon S3 and AWS Lake Formation.
- IAC repository (Terraform/CloudFormation) for all underlying AWS data services.
- Operational data ingestion and ETL/ELT pipelines (AWS Glue jobs/workflows).
- Comprehensive data governance policies and access controls defined in Lake Formation.
- Operational documentation and training materials.
- Monitoring and alerting configuration for data pipeline health and resource usage.

Amazon Web Services (AWS) - Managed Services

Service Overview

KO Technologies' AWS Managed Services go beyond standard monitoring and incident response. We provide a proactive, "Automation-First" operational model designed for continuous improvement and security enhancement. Our "Shift Left" philosophy integrates operational excellence and security practices early into the development lifecycle, drastically reducing risks and driving down operational costs. We act as an extension of your team, leveraging advanced tooling and our expertise to ensure your AWS environment is not just stable, but continuously optimized, secure, and aligned with your evolving business needs.

Key Features

- **Proactive Automation and Remediation:** Extensive use of Infrastructure as Code (IaC) and automation scripts to detect and automatically remediate common operational issues, minimizing manual intervention and response times.
- **Continuous Improvement Loop:** Dedicated service management focused on identifying and implementing opportunities for cost optimization, performance tuning, and security posture improvement on an ongoing basis.
- **"Shift Left" Security & Governance:** Integrating security scanning, compliance checks, and governance policies directly into CI/CD pipelines and infrastructure provisioning, ensuring that issues are caught and fixed before deployment.
- **Observability and Monitoring (Datadog/CloudWatch):** Comprehensive, unified monitoring and alerting across applications and infrastructure, providing deep insights into operational health, performance, and user experience.
- **Dedicated FinOps Integration:** Continuous cost governance, including monthly reports, optimization recommendations (RI/SP coverage, rightsizing), and budget alerts to maintain cost efficiency.
- **Patch Management and Vulnerability Scanning:** Automated patching strategies and vulnerability scanning (e.g., AWS Inspector) to maintain security compliance and minimize exposure.
- **Disaster Recovery (DR) and Backup Management:** Automated backup, recovery, and DR testing strategies tailored to RPO/RTO requirements.

Service Benefits

- **Maximized Uptime & Reliability:** Proactive automation and continuous monitoring drastically reduce the frequency and duration of service interruptions.
- **Significant Cost Savings:** Ongoing FinOps management and optimization ensure your AWS spend is efficient and aligned with actual usage.
- **Enhanced Security & Compliance:** A "Shift Left" approach and continuous monitoring maintain a high-security posture, meeting public sector compliance standards.
- **Reduced Operational Burden:** Offloading routine, complex management tasks allows your in-house teams to focus purely on core innovation and mission-critical work.
- **Transparent and Collaborative:** Regular reporting, knowledge transfer, and joint service reviews ensure complete visibility and alignment.

Scope

KO Technologies provides management and continuous optimization for defined AWS environments, workloads, and services, agreed upon during the initial engagement. The scope includes:

- 24/7 Monitoring and Alerting for in-scope AWS services.
- Incident response and automated remediation up to the agreed service level.
- Regular (e.g., monthly) FinOps and Well-Architected review tune-ups.
- Management of IaC configuration for in-scope services.
- Security and compliance guardrail maintenance.

Output

- Comprehensive monthly operational and FinOps reports.
- Automated incident reports and root cause analysis (RCA) for critical incidents.
- Updated Infrastructure as Code (IaC) repositories reflecting continuous improvements.
- A defined backlog of continuous improvement and optimization tasks.
- Documentation for operational runbooks and automation scripts.

Amazon Web Services (AWS) - Well Architected Framework Review (WAFR) (FREE)

Service Overview

KO Technologies offers a complimentary Well-Architected Framework Review (WAFR) for your critical AWS workloads. Leveraging the AWS Well-Architected Tool and our certified expertise, we assess your architecture against the five (or six, including Sustainability) pillars: Operational Excellence, Security, Reliability, Performance Efficiency, and Cost Optimization. This review provides immediate, actionable insights to mitigate high-risk issues and drive continuous improvement, ensuring your workload is secure, high-performing, resilient, and efficient.

Key Features

- **Expert-Led Review:** Conducted by certified AWS Well-Architected Practitioners.
- **Risk Identification:** Pinpoint high-risk issues (HRIs) and medium-risk issues (MRIs) across the chosen workload.
- **Pillar-Based Assessment:** Structured review against all six pillars of the AWS Well-Architected Framework.
- **Actionable Improvement Plan:** Delivery of a prioritized list of remedial actions and best practice recommendations.
- **Potential for AWS Funding:** Identification of workloads potentially eligible for AWS funding/credits to remediate critical issues.

Amazon Web Services (AWS) - Proof of Concept (POC) Enablement (FREE)

Service Overview

We offer complimentary support to help you initiate and de-risk your cloud innovation through Proof of Concept (POC) enablement. This service focuses on securing AWS POC funding or credits, defining a focused scope, and providing architectural guidance to rapidly test new AWS services or migration strategies before a full commitment, minimizing initial financial and technical risk.

Key Features

- **POC Funding Assessment:** Evaluation of the proposed POC project for eligibility for AWS credits or funding programs.
- **Scope Definition:** Defining clear, time-bound objectives, success metrics, and required AWS resources for the POC.
- **Architectural Blueprint:** Provision of a high-level architecture for the POC, focusing on simplicity and speed of deployment.
- **IaC Boilerplate:** Provision of initial Infrastructure as Code (IaC) templates to quickly stand up the necessary testing environment.
- **Risk Mitigation:** Ensuring the POC environment is isolated, secure, and decommissionable upon completion.

Service Benefits

- **Risk-Free Experimentation:** Utilize AWS funding/credits to test new technologies without internal budget expenditure.
- **Accelerated Innovation:** Rapidly validate the viability and business value of new cloud solutions (e.g., GenAI, EKS).
- **Clear Decision Pathway:** Receive a structured outcome report to inform go/no-go decisions for full deployment.

Amazon Web Services (AWS) - Migration Assessment & OLA (FREE)

Service Overview

A complimentary, in-depth assessment service to evaluate your current on-premises or co-located infrastructure and produce a clear, data-driven strategy for migration to AWS. This service leverages the **AWS Migration Assessment Program (MAP)** methodology to deliver a Total Cost of Ownership (TCO) analysis and an **Operational Level Agreement (OLA)**, quantifying the technical and financial benefits of moving to the cloud. This assessment is the essential first step to accessing potential AWS MAP funding for the subsequent migration.

Key Features

- **Current State Discovery:** Automated scanning and manual review of on-premises servers, applications, and dependencies.
- **Total Cost of Ownership (TCO) Analysis:** Detailed comparison of current infrastructure running costs versus projected AWS running costs (covering compute, storage, networking, and labour).
- **Optimized Landing Architecture:** High-level design of the secure, well-architected target environment on AWS.
- **Operational Level Agreement (OLA):** Quantifying the technical benefits (e.g., improved uptime, reduced latency, increased scalability) of the target AWS environment.
- **Migration Roadmap:** A phased plan, including Wave definitions and an estimate for the full migration project (Mobilize & Migrate phases).
- **MAP Funding Eligibility:** Confirmation of eligibility and estimated value of AWS funding available for the migration project.

Service Benefits

De-risked Migration: Data-driven strategy reduces surprises and ensures a clear, predictable migration path.

- **Clear Financial Justification:** TCO analysis provides the business case required for executive buy-in.
- **Access to AWS Credits:** Eligibility for significant AWS MAP funding to offset migration and modernization costs.
- **Quantified Operational Gain:** OLA provides tangible metrics on how the migration will improve performance and reliability.

Datadog Partnership & Services

KO Technologies leverages its partnership with Datadog, a leading monitoring and security platform, to provide comprehensive, full-stack observability solutions for our clients' cloud and hybrid environments. Our consultants are certified experts in deploying, configuring, and optimizing Datadog across Cloud, Kubernetes, Serverless, and traditional infrastructure, ensuring deep visibility and proactive incident management.



Our services

We offer the following accelerators

- Datadog Reselling & Managed Services
- Accelerated Observability Deployment (APM, Infrastructure, Logs, Security)
- Custom Dashboards and Alerting Configuration
- Continuous Cost and Performance Optimization using Datadog data
- Datadog Migration and Integration from legacy monitoring tools

We are experts in integrating Datadog with complex Cloud and DevOps environments, utilizing Infrastructure as Code (IaC) to embed observability from Day 1.

Our services also offer the ability to transform business operations by providing unified, real-time insights across the entire technology stack. These services provide better operational effectiveness and increased security posture.

We partner with your organisation to deliver comprehensive, end-to-end visibility and security solutions. Our unwavering commitment is to ensure you maximize the value of your Datadog investment through proactive operational support.

Datadog - Cost Optimisation & Consulting

Service Overview

KO Technologies specializes in providing comprehensive cost optimization services specifically tailored for Datadog environments. Our expertise is focused on helping organizations maximize the value of their investment by ensuring cost-efficiency, effective resource utilization, and alignment of spending with business objectives.

Key Features

Datadog Reselling

- **Resell/Usage Agreements (UAs):** Expertise in negotiating tailored Usage Agreements with Datadog, securing favourable, long-term commercial terms for significant or specialised usage that standard public pricing does not accommodate.
- **Datadog License Review (+Savings):** KO Technologies offers a detailed review of your current Datadog license consumption (e.g., APM hosts, log ingestion volumes, RUM sessions) to identify over-licensing and immediate areas for cost reduction. We provide recommendations for rightsizing your plans and negotiating favourable terms.
- **Optimised Metric and Log Management:** We assist clients in implementing best practices for metric and log filtering, retention, and ingestion controls to reduce unnecessary data processing costs. This includes advising on Datadog's Cost Management features.

FinOps, Cost Management

- **Proactive Monthly FinOps Tune-up:** A comprehensive, scheduled monthly service focusing on continuous cost governance within your observability stack. This includes deep-dive reviews of metric and log volume trends, identification of high-cost components (e.g., custom metrics, high-volume log sources), and validation of license usage against actual requirements.

Datadog - Organization (Landing Zone) Accelerator

Service Overview

KO Technologies provides specialized services to accelerate the secure and compliant setup of your Datadog Organization, often referred to as a Datadog Landing Zone. We leverage our expertise in Infrastructure as Code (IaC) to define and deploy the foundational Datadog environment, ensuring it is scalable, governed, and integrated with your core identity systems from Day 1. This service focuses on establishing organizational best practices for multi-team usage and security.

Key Features

- **Datadog Organization Setup via IaC:** Defining and deploying the core Datadog Organization configuration using Infrastructure as Code (e.g., Terraform), ensuring repeatability, version control, and auditability.
- **Subdomain Strategy Implementation:** Expert guidance and implementation of a best-practice subdomain strategy within Datadog, optimizing for data isolation, governance, and monitoring.
- **SSO (Single Sign-On) Integration:** Configuration of secure Single Sign-On integration with your chosen Identity Provider (IdP), enforcing corporate access policies.
- **SCIM (System for Cross-domain Identity Management) Implementation:** Enabling automated user and group provisioning and de-provisioning using SCIM, ensuring accurate access control and efficient lifecycle management for user accounts.
- **Team and Role Creation/Management:** Designing and implementing a robust roles and permissions matrix within Datadog, defining teams, and assigning least-privilege access roles to align with organizational structure and security requirements.
- **Custom Security and Compliance Configuration:** Implementing organization-wide security policies, audit trails, and compliance guardrails suitable for public sector environments.

Service Benefits

- **Accelerated Time-to-Value:** Rapidly establish a secure, production-ready Datadog environment optimized for multi-team use.
- **Enhanced Security & Compliance:** Enforce centralized identity management (SSO/SCIM) and least-privilege access through IaC-defined roles and teams.
- **Operational Consistency:** IaC ensures your Datadog setup is standardized, version-controlled, and easily replicated across environments or different organizational units.
- **Streamlined User Management:** Automated user lifecycle management (SCIM) reduces administrative overhead and improves security posture by ensuring timely access revocation.

Scope

KO Technologies will execute the design and deployment of the core Datadog Organization structure. This includes:

- Analysis of client organizational structure and mapping to Datadog Subdomains/Teams.
- Configuration of SSO and SCIM integration with the client's IdP.
- Deployment of core teams, roles, and user access policies via IaC.
- Knowledge transfer and documentation for ongoing governance of the Datadog Organization.

Output

- Fully configured Datadog Organization with a defined subdomain structure.
- IAC repository (e.g., Terraform) containing the code for organization, teams, and roles configuration.
- Operational SSO and SCIM integration with the client's Identity Provider.
- Operational documentation and governance guide for the Datadog Landing Zone.

Datadog - Observability & Monitoring

Service Overview

KO Technologies provides comprehensive consulting, implementation, and managed services for the Datadog observability platform. Our service is designed to give clients unified, real-time insights across their entire technology stack, including infrastructure, applications, logs, and security. We specialize in rapidly deploying Datadog agents using Infrastructure as Code (IaC) to embed observability from day one, ensuring a proactive approach to operational excellence across all major pillars: Application Performance Monitoring (APM), Infrastructure Metrics, and Log Management. We extend this expertise to advanced use cases such as serverless monitoring, cloud cost optimization, and specialized SNMP monitoring.

Key Features

- **Full-Stack Observability Deployment:** Rapid deployment and configuration of Datadog agents and integrations across cloud (AWS, etc.), hybrid, and on-premises environments.
- **Application Performance Monitoring (APM):** Implementation of Datadog APM and Distributed Tracing to monitor application code performance, identify bottlenecks, and map service dependencies down to the individual request level.
- **Metrics and Infrastructure Monitoring:** Configuration of custom and out-of-the-box metrics collection for hosts, containers (Kubernetes/Docker), and cloud services, providing deep visibility into resource utilization and operational health.
- **Log Management and Analytics:** Unified log ingestion, processing, indexing, and live tailing for all application and infrastructure logs, enabling fast troubleshooting and compliance auditing.
- **Serverless Monitoring:** Specialized setup for monitoring AWS Lambda functions and other serverless components, including cold start analysis and cost attribution.
- **Network and SNMP Monitoring:** Deployment of specialized Datadog components for monitoring network devices, performance, and utilizing SNMP for legacy or specialized hardware.
- **Cloud Cost Management:** Utilizing Datadog's Cost Management capabilities to tie operational performance directly to cloud spend, enabling FinOps best practices.
- **Custom Dashboards and Alerting:** Creation of highly relevant, real-time operational dashboards and configuration of intelligent, threshold-based, and anomaly detection alerts.

- **DevSecOps Integration:** Integrating Datadog security monitoring, cloud security posture management (CSPM), and vulnerability scanning into CI/CD pipelines.

Service Benefits

- **Unified Visibility:** Consolidate disparate monitoring tools into a single, comprehensive platform, reducing tool sprawl and complexity.
- **Accelerated Troubleshooting:** Rapidly isolate the root cause of issues using correlated data across traces, metrics, and logs, minimizing Mean Time To Resolution (MTTR).
- **Proactive Incident Management:** Intelligent alerting and anomaly detection enable teams to address issues before they impact end-users or citizens.
- **Optimized Performance and Cost:** Data-driven insights identify performance bottlenecks and costly, underutilized resources across the cloud infrastructure.
- **Improved Security Posture:** Continuous security monitoring and real-time threat detection protect cloud resources and applications.
- **Enhanced Collaboration:** Common operational language and shared dashboards foster better collaboration between Development, Operations, and Security teams.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of Datadog for a defined set of target workloads or environments. This includes:

- Datadog Account and Organization setup (if not already completed - see Datadog Landing Zone service).
- Agent deployment across target infrastructure (VMs, Containers, Serverless).
- Configuration of necessary integrations (AWS, Kubernetes, custom applications).
- Implementation of APM tracing for defined applications.
- Configuration of Log Management pipelines and filters.
- Creation of core operational dashboards and alert definitions.
- Knowledge transfer and training sessions for client engineering and operations teams.

Output

- Fully operational Datadog environment providing full-stack observability.
- IAC repository (e.g., Terraform) for all Datadog resource configurations
- Comprehensive operational dashboards for key workloads..
- Training materials and knowledge transfer completion report.

Datadog - SIEM

Service Overview

KO Technologies offers specialized consulting, implementation, and managed services for **Datadog Security Monitoring (SIEM)**. This service is designed to provide clients with real-time threat detection, comprehensive log analysis for security events, and proactive posture management across their cloud and hybrid infrastructure. Leveraging Datadog's unified observability platform, we embed security visibility directly into the operational workflow, enabling DevSecOps practices and ensuring rapid response to modern security threats. We focus on continuous cloud security posture management (CSPM), detailed compliance monitoring, and automated threat investigation.

Key Features

- **Security Monitoring & Threat Detection:** Configuration of Datadog Security Monitoring to analyze logs, metrics, and network flows in real-time, detecting advanced threats, suspicious activity, and known attack patterns across applications and infrastructure.
- **Cloud Security Posture Management (CSPM):** Implementation and continuous monitoring of CSPM rules against major frameworks (e.g., CIS Benchmarks, NIST) for AWS, ensuring secure configuration and automatic identification of misconfigurations and vulnerabilities.
- **Compliance and Audit Trail:** Utilizing Datadog for comprehensive log retention and analysis to support public sector compliance requirements (e.g., ISO, NCSC). We configure audit trails for critical services and provide compliance dashboards.
- **Vulnerability Management (VM):** Integration of Datadog's VM capabilities to continuously scan and report on known vulnerabilities in container images, dependencies, and hosts, prioritizing remediation efforts.
- **Security Orchestration, Automation, and Response (SOAR):** Development and deployment of automated response playbooks within Datadog to triage, investigate, and auto-remediate common security incidents, reducing manual effort and response time.
- **Application Security Monitoring (ASM):** Implementation of Datadog ASM for real-time protection against application-layer attacks (e.g., injection, cross-site scripting) in production environments.
- **Custom Security Rules & Dashboards:** Creation of tailored security rules specific to the client's risk profile and environment, along with custom dashboards for CISO/Security Operations Center (SOC) visibility.

Service Benefits

- **Real-Time Threat Visibility:** Gain instant detection and context-rich alerting on security threats across the full stack, including application code, containers, and cloud infrastructure.
- **Proactive Risk Reduction:** Continuous CSPM and VM capabilities identify and help remediate vulnerabilities and misconfigurations before they are exploited.
- **Accelerated Incident Response:** Automated detection and SOAR playbooks drastically reduce Mean Time To Detect (MTTD) and Mean Time To Respond (MTTR) to security incidents.
- **Simplified Compliance:** Centralized logging and compliance monitoring simplify the auditing process and maintain regulatory adherence.
- **Embedded Security (DevSecOps):** Integrating security checks into the operational platform fosters a collaborative "Shift Left" approach between development and security teams.
- **Reduced Tooling Cost:** Leverage the unified Datadog platform for both observability and security, consolidating tool spend and data silos.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of Datadog Security Monitoring for a defined set of target workloads or environments. This includes:

- Security requirements analysis and threat modeling for the target environment.
- Deployment of Datadog agents and configuration of relevant security integrations.
- Implementation of out-of-the-box and custom security detection rules.
- Configuration of CSPM checks against chosen compliance frameworks.
- Development of initial SOAR automation playbooks for common incidents.
- Creation of SOC dashboards and security alerting definitions.
- Knowledge transfer and training sessions for client security and operations teams.

Output

- Fully operational Datadog Security Monitoring (SIEM) environment.
- IAC repository (e.g., Terraform) for all Datadog security resource configurations.
- Operational dashboards for security posture, compliance, and threat activity.
- Training materials and knowledge transfer completion report.

Datadog - Managed Services

Service Overview

KO Technologies' Datadog Managed Services offer a comprehensive, proactive operational model focused on continuous observability, cost optimization, and security posture improvement for your Datadog environment and the workloads it monitors. Leveraging our expertise in Datadog and Infrastructure as Code (IaC), we go beyond simple alerting. We act as a dedicated extension of your team, ensuring that your Datadog platform is continuously tuned, accurately configured, and providing maximum value across all key pillars: Infrastructure, APM, Logs, and Security.

Key Features

- **Continuous Optimization and Tuning:** Proactive management of Datadog configurations to ensure optimal performance, accurate data collection, and continuous alignment with the latest best practices and features.
- **FinOps for Observability:** Dedicated management to monitor Datadog usage, identify opportunities for log/metric filtering, optimize retention policies, and ensure cost efficiency, providing transparency over your observability spend.
- **24/7 Monitoring and Alerting Management:** Management of all Datadog monitors, alerts, and composite alerts, ensuring they are highly relevant, minimizing alert fatigue, and integrated with client incident response workflows.
- **Agent and Integration Lifecycle Management:** Automated deployment, update, and maintenance of Datadog agents and integrations across all monitored environments (Cloud, Kubernetes, VMs) using Infrastructure as Code (IaC).
- **Dashboard and Reporting Maintenance:** Regular review and refinement of operational, business, and security dashboards to maintain relevance and clarity for all stakeholders (DevOps, SRE, CISO).
- **Security and Compliance Posture:** Continuous management of Datadog Security Monitoring (SIEM) and Cloud Security Posture Management (CSPM) rules to ensure ongoing adherence to security best practices and public sector compliance.
- **Knowledge Transfer and Best Practice Sharing:** Regular service reviews and collaborative sessions to upskill client teams on effective use of the Datadog platform.

Service Benefits

- **Maximized ROI on Datadog:** Ensures the platform is utilized to its full potential, directly linking observability insights to business outcomes and cost savings.
- **Enhanced Operational Efficiency:** Our proactive management and alert refinement significantly reduce alert noise and accelerate Mean Time To Resolution (MTTR).
- **Reduced Operational Burden:** Offloads the complex, continuous task of maintaining a high-performing observability platform from internal engineering teams.
- **Improved Security and Compliance:** Continuous monitoring of security events and cloud configuration reduces risk and simplifies audit readiness.
- **Full Observability Confidence:** Guaranteeing unified, accurate, and consistent visibility across your entire application and infrastructure stack.

Scope

KO Technologies provides management and continuous optimization for the client's Datadog Organization and defined set of monitored environments and applications. The scope includes:

- 24/7 Management of Datadog monitoring and alerting for in-scope workloads.
- Ongoing FinOps management focused on reducing metric and log ingestion volume without compromising visibility.
- Maintenance of agent deployment and configuration via IaC.
- Quarterly review of all dashboards, monitors, and security rules.
- Incident support related to Datadog platform health or data ingestion issues.

Output

- Comprehensive monthly Datadog usage and FinOps reports detailing cost optimization achievements.
- Updated IAC repositories reflecting continuous improvements to Datadog configurations (e.g., monitors, roles, dashboards).
- A defined backlog of continuous improvement tasks for the observability environment.
- Documentation for custom monitors and refined operational procedures.

Datadog - Cloudcraft

Service Overview

KO Technologies leverages Cloudcraft to bring instant, accurate, and collaborative architecture visualization to your organization. As a powerful cloud visualization and design tool, Cloudcraft integrates directly with your existing AWS and Azure environments. Our service focuses on deploying and integrating Cloudcraft securely, enabling real-time, high-fidelity diagrams that reflect the actual state of your cloud infrastructure. This capability dramatically accelerates documentation, auditing, disaster recovery planning, and collaboration across engineering, operations, and security teams by ensuring everyone works from a single, accurate source of truth.

Key Features

- **Real-time Cloud Visualization:** Securely connects to AWS and Azure accounts to generate live, interactive diagrams that automatically update to reflect infrastructure changes, ensuring 100% accuracy.
- **Proprietary IaC Integration:** Utilizes KO Technologies' custom Terraform Provider to integrate both AWS and Azure into Cloudcraft, managing the secure connection credentials and configuration as code.
- **Multi-Cloud Support:** Expertise in setting up Cloudcraft to monitor and map architectures spanning both AWS and Azure, providing a unified view of hybrid or multi-cloud environments.
- **Security and Compliance Diagramming:** Automatically visualizes security groups, network segmentation, and resource relationships, simplifying compliance audits and security posture review.
- **Cost Visualization:** Integration allows for overlaying real-time cost data onto architecture diagrams, enabling teams to instantly identify and plan for cost optimization opportunities within a visual context.
- **Collaboration and Documentation:** Configuration of Cloudcraft's collaboration features to share live diagrams, embed them in confluence/runbooks, and maintain version history for architecture changes.

Service Benefits

- **Unprecedented Accuracy:** Eliminates manual, outdated documentation by providing real-time, live-synced diagrams of your cloud architecture.
- **Accelerated Collaboration:** Provides a common visual language for Dev, Ops, Security, and Leadership, drastically reducing time spent on architectural reviews and handovers.
- **Improved Operational Speed:** Enables faster troubleshooting and incident response by immediately visualizing the scope and impact of infrastructure failures.
- **Simplified Auditing & Compliance:** Real-time architectural visibility simplifies regulatory compliance checks and security reviews.
- **Cost Transparency:** Visually linking cloud architecture to spending helps drive FinOps best practices and optimization efforts.

Scope

KO Technologies will execute the secure deployment and integration of Cloudcraft with defined AWS and Azure accounts. This includes:

- Cloudcraft Organization setup and user access configuration.
- Deployment of our custom Terraform Provider integration layer via Infrastructure as Code (IaC) to connect AWS and Azure accounts.
- Configuration of initial real-time architecture blueprints for target environments.
- Setup of collaboration features, diagram sharing, and embedding configurations.
- Knowledge transfer and training sessions for client engineering and documentation teams.

Output

- Fully configured Cloudcraft Organization with real-time connectivity to defined AWS and Azure environments.
- IAC repository (Terraform) containing the code for the Cloudcraft Provider integration and secure credentials management.
- Initial set of production-ready, live-synced architecture diagrams.
- Operational documentation and training materials.

IBM Partnership & Services

KO Technologies leverages its partnership with IBM Automation and HashiCorp Technology to deliver powerful, end-to-end automation and infrastructure-as-code solutions for our clients' complex cloud and hybrid environments. Our consultants are certified experts in deploying, configuring, and optimizing IBM's automation portfolio (e.g., Cloud Pak for Automation, Turbonomic) alongside HashiCorp's suite (Terraform, Vault, Consul), ensuring streamlined operations, compliance, and accelerated digital transformation.



Our services

We offer the following accelerators

- IBM Automation & HashiCorp Technology Advisory and Managed Services
- Accelerated Infrastructure as Code (IaC) Deployment with HashiCorp Terraform
- Custom Automation Runbooks and Workflow Configuration
- Continuous Governance and Security Posture Improvement using HashiCorp Vault and Consul
- Automation Platform Migration and Integration

We are experts in integrating IBM Automation with complex Cloud and DevOps environments, utilizing Infrastructure as Code (IaC) principles to embed automation and governance from Day 1.

Our services also offer the ability to transform business operations by providing unified, real-time control and orchestration across the entire technology stack. These services provide better operational effectiveness and increased compliance and security.

We partner with your organisation to deliver comprehensive, end-to-end automation and governance solutions. Our unwavering commitment is to ensure you maximize the value of your IBM Automation and HashiCorp investment through proactive operational support.

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IBM HashiCorp - Cost Optimisation & Consulting

Service Overview

KO Technologies, an IBM HashiCorp Automation Partner, specializes in providing comprehensive cost optimization services specifically tailored for your HashiCorp software usage, including **Terraform, Vault, Consul, and Nomad**. Our expertise is focused on helping organizations maximize the value of their investment by ensuring cost-efficiency, effective resource utilization, and alignment of software spending with business objectives, leveraging our preferential reselling discounts.

Key Features

IBM HashiCorp Reselling

- **Reselling & Preferential Discounts:** As an IBM HashiCorp Automation Partner, KO Technologies acts as a certified reseller, offering preferential discounts and optimized usage agreements on HashiCorp products (e.g., Terraform Enterprise, Vault Enterprise). This ensures clients achieve immediate and long-term cost savings on their licensing and consumption.
- **License Review & Optimization:** A detailed review of your current HashiCorp license consumption and features used to identify over-licensing, under-utilized features, and opportunities to right-size your commitment.
- **Favorable Usage Agreements:** Expertise in negotiating and structuring optimized Usage Agreements directly with IBM/HashiCorp, securing favorable commercial terms for significant or specialized workloads.

FinOps, Cost Management

- **Proactive License and Usage Tune-up:** A scheduled service focusing on continuous governance of your HashiCorp environment. This includes reviewing resource utilization (e.g., Vault secrets, Terraform state file growth, Consul service mesh usage) to ensure the current licensing tier remains appropriate and cost-effective.
- **Operational Cost Reduction via Automation:** Utilizing HashiCorp tools (especially Terraform and Nomad) to drive down operational costs by enforcing efficiency, auto-scaling cloud resources, and automating resource decommissioning.
- **Policy-as-Code (Sentinel) Cost Guardrails:** Implementation of HashiCorp Sentinel policies to enforce cost-saving practices within development workflows, such as preventing the provisioning of overly expensive cloud instance types.

Strategic & Commercial Advisory

- **Commercial Advice:** Provision of expert, unbiased advice on complex IBM HashiCorp commercial decisions, including commitment strategies, feature utilization analysis, and strategic roadmap planning to ensure long-term financial sustainability and maximization of your investment.
- **Tool Consolidation Strategy:** Guidance on consolidating disparate automation and security tooling onto the unified HashiCorp platform, reducing complexity and external vendor costs.

Service Benefits

Our IBM HashiCorp Cost Optimisation services deliver tangible financial and operational benefits by ensuring your automation and security platform investment is highly efficient. Clients gain immediate cost reduction through preferential reseller discounts and tailored usage agreements. Furthermore, continuous usage tune-ups and expert commercial advisory eliminate wasteful spending and ensure the platform is optimally configured to maximize automation, reducing your overall cloud and operational expenditure.

Scope

Our commercial optimization service is designed to ensure your organization is fully informed of and actively capitalizing on the cost-saving benefits available through your IBM HashiCorp partnership and product usage. This service includes a detailed analysis of current licensing against technical utilization and future requirements.

IBM HashiCorp - HCP Infrastructure Cloud Infrastructure Lifecycle Management

Service Overview

KO Technologies, an IBM HashiCorp Automation Partner, delivers end-to-end solutions for Infrastructure Lifecycle Management using core HashiCorp Infrastructure Cloud tools: **HCP Terraform** (Infrastructure as Code), **HCP Packer** (Image Building), **Waypoint** (Application Deployment), and **Nomad** (Workload Orchestration). We enable organizations to adopt a modern, automated, and governed approach to provisioning, deployment, and orchestration across any cloud or infrastructure platform, focusing on repeatability, speed, and operational consistency.

Key Features

- **HCP Terraform (Infrastructure as Code - IaC):** Full-lifecycle management of cloud, infrastructure, and services using Terraform. This includes module development, state management (e.g., Terraform Cloud/Enterprise), and implementation of governance via Policy-as-Code (Sentinel).
- **HCP Packer (Image Management):** Standardization and automation of virtual machine and container image creation (AMI, Docker, Vagrant) using Packer. We ensure images are pre-configured, hardened, and consistently deployed across all environments, reducing configuration drift and accelerating security patching.
- **Nomad (Workload Orchestration):** Deployment and management of containerized, virtualized, and legacy applications using Nomad for flexible, efficient, and scalable resource utilization across on-premises and cloud environments.
- **Waypoint (Application Deployment):** Streamlining the application deployment process with Waypoint, providing developers with a simple, unified interface to build, deploy, and release applications to Nomad, Kubernetes, or other platforms.
- **Automation and CI/CD Integration:** Integration of Terraform, Packer, Waypoint, and Nomad into automated Continuous Integration/Continuous Delivery (CI/CD) pipelines (e.g., GitHub Actions, GitLab CI, AWS CodePipeline) to enforce automated governance and rapid deployment.
- **Governance and Policy-as-Code (Sentinel):** Implementation of HashiCorp Sentinel to enforce business, security, and cost policies on Terraform and Nomad configurations before resources are provisioned or workloads are scheduled.
- **Hybrid Cloud Enablement:** Architecting solutions using these tools to provide consistent infrastructure and workload deployment across hybrid

and multi-cloud environments, ensuring vendor lock-in avoidance and operational parity.

Service Benefits

- **Operational Consistency:** IaC (Terraform) and image standardization (Packer) ensure environments are built identically every time, reducing configuration errors and facilitating compliance.
- **Accelerated Deployment:** Automated pipelines using Packer, Terraform, and Waypoint significantly reduce the time required to provision infrastructure and release applications.
- **Increased Resilience:** Nomad provides flexible, self-healing, and highly available orchestration for applications, maximizing uptime and resource efficiency.
- **Stronger Governance:** Policy-as-Code (Sentinel) enforces necessary security, cost, and compliance guardrails automatically within the automation pipeline.
- **Developer Empowerment:** Waypoint simplifies complex deployment logic, allowing developers to focus purely on application code rather than infrastructure complexity.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of a modernized infrastructure lifecycle solution using Terraform, Packer, Waypoint, and Nomad. This includes:

- Assessment of current infrastructure provisioning and application deployment processes.
- Development of core Terraform modules and a standard Packer image build pipeline.
- Implementation of a pilot Nomad cluster for workload orchestration.
- Configuration of Waypoint for simplified application deployment to the Nomad cluster.
- Integration of the workflow into the client's existing CI/CD system.
- Implementation of initial Policy-as-Code (Sentinel) rules for governance.
- Knowledge transfer and training for client infrastructure and development teams.

Output

- Production-ready IaC repository (Terraform) with re-usable infrastructure modules.
- Packer template repository and automated image build pipeline.
- Operational Nomad cluster for workload scheduling.

- Configured Waypoint deployment pipelines for pilot applications.
- Automated CI/CD pipelines integrating all HashiCorp tools.
- Operational documentation and training materials.

IBM HashiCorp - HCP Infrastructure Cloud Security Lifecycle Management

Service Overview

KO Technologies, an IBM HashiCorp Automation Partner, delivers comprehensive Infrastructure Security Management solutions by leveraging the core HashiCorp Infrastructure Cloud tools: **Vault** (Secrets Management), **Vault Radar** (Secrets Hygiene), **Boundary** (Secure Remote Access), and **Consul** (Service Mesh and Segmentation). Our service focuses on implementing a modern, zero-trust security architecture that secures credentials, manages identity-based access, and segments network traffic across hybrid and multi-cloud environments, ensuring compliance and minimizing the attack surface.

Key Features

- **Vault (Secrets Management):** Full lifecycle implementation of HashiCorp Vault for secure storage, access, and rotation of secrets (API keys, passwords, certificates). This includes configuration of various secrets engines (e.g., database, dynamic, PKI) and secure authentication methods (e.g., AWS IAM, Azure AD, Kubernetes).
- **Vault Radar (Secrets Hygiene):** Configuration and integration of Vault Radar to continuously scan code repositories and development environments for leaked, hardcoded, or exposed secrets, proactively improving secrets hygiene and preventing credential misuse.
- **Boundary (Secure Remote Access):** Deployment of HashiCorp Boundary to provide secure, identity-based access management for dynamic infrastructure. Boundary isolates access to specific hosts and services without requiring direct network access or managing VPNs, enforcing a zero-trust model for remote access.
- **Consul (Service Mesh & Segmentation):** Implementation of HashiCorp Consul Service Mesh to secure service-to-service communication with mutual TLS (mTLS), enabling fine-grained, identity-based network segmentation across heterogeneous environments.
- **Identity-Based Security:** Architecting security controls around trusted identity (via Vault, Boundary, and Consul) rather than network perimeter, aligning with Zero Trust principles.
- **Policy-as-Code (Sentinel) for Security:** Implementing HashiCorp Sentinel to enforce security policies and compliance guardrails across infrastructure (Terraform) and secrets access (Vault), ensuring no sensitive resources are provisioned or accessed improperly.
- **Audit and Compliance:** Configuration of comprehensive auditing and logging for all security-critical operations (Vault access, Boundary sessions), ensuring traceability and compliance with public sector regulations.

Service Benefits

- **Zero Trust Architecture:** Establishes a true zero-trust security model, securing both human and machine access across your cloud and hybrid infrastructure.
- **Minimized Attack Surface:** Centralizes and automates secrets management (Vault/Vault Radar), removing secrets from configuration files and code.
- **Secure Remote Access:** Boundary provides auditable, identity-aware access to infrastructure, eliminating the risks associated with broad network access via VPNs.
- **Automated Security & Governance:** Policy-as-Code enforces security standards automatically, preventing misconfigurations and ensuring continuous compliance.

- **Secure Service Communication:** Consul Service Mesh secures inter-service traffic with mTLS, protecting microservices from man-in-the-middle attacks and enabling granular network segmentation.
- **Operational Consistency:** Utilizes IaC and automation to deploy security controls consistently across all platforms, ensuring uniform security posture.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of a modernized infrastructure security solution using Vault, Vault Radar, Boundary, and Consul. This includes:

- Assessment of current secrets management, remote access, and network security posture.
- Deployment and configuration of a resilient HashiCorp Vault cluster and integration with required secrets engines and authentication backends.
- Integration of Vault Radar for secrets scanning in target repositories.
- Design and implementation of a HashiCorp Boundary deployment for secure remote access.
- Pilot implementation of Consul Service Mesh for mTLS service-to-service encryption.
- Development and implementation of initial Policy-as-Code (Sentinel) rules for security governance.
- Knowledge transfer and training for client security and operations teams.

Output

- Production-ready, highly available HashiCorp Vault cluster for secrets management.
- Operational Vault Radar integration for secrets hygiene monitoring.
- Production-ready HashiCorp Boundary environment for secure remote access.
- Pilot implementation of Consul Service Mesh securing defined services with mTLS.
- IAC repository (Terraform) containing the code for all HashiCorp security component deployments.
- Operational documentation, runbooks, and training materials.
- Audit trail configuration and security monitoring dashboards.

IBM HashiCorp - Terraform Infrastructure As Code Development

Service Overview

KO Technologies, an IBM HashiCorp Automation Partner, specializes in utilizing **Terraform Community Edition** to provide scalable, secure, and multi-cloud Infrastructure as Code (IaC) solutions. This service focuses on establishing robust IaC practices that support deployment across major cloud providers (e.g., AWS, Azure, GCP) while enforcing security and compliance. We deliver a best-practice IaC framework, integrate it seamlessly into your CI/CD pipelines, and ensure your infrastructure is defined in a clear, repeatable, and maintainable manner.

Key Features

- **Terraform Multi-Cloud IaC Development:** Creation of reusable, provider-agnostic Terraform modules to provision and manage infrastructure consistently across diverse cloud platforms (AWS, Azure, GCP, etc.).
- **Retrofit Automation:** retrofit Terraform automation to existing resources and realise the benefits from IaC.
- **CI/CD Pipeline Integration:** Seamless integration of Terraform runs into Continuous Integration/Continuous Delivery (CI/CD) systems (e.g., GitHub Actions, GitLab CI) to automate planning, review, and application of infrastructure changes.
- **Secure State Management:** Implementation of secure remote state backends (e.g., S3, Azure Blob Storage) with encryption and state locking mechanisms to manage and protect the critical state file.
- **Policy-as-Code Implementation:** Utilizing tools like **Open Policy Agent (OPA)** or HashiCorp Sentinel (where applicable) to define and enforce security, compliance, and cost guardrails on Terraform plans before execution, ensuring a "Shift Left" governance model.
- **Module and Registry Strategy:** Design and implementation of a private module registry for managing and sharing standardized, versioned infrastructure modules across teams, promoting the DRY principle and consistency.
- **Workspace Management for Scalability:** Configuration of Terraform workspaces to manage multiple, isolated environments (Dev, Test, Prod) effectively within a single codebase, improving scalability and security.
- **Secret Management Integration:** Secure integration with secrets management platforms (e.g., HashiCorp Vault, AWS Secrets Manager) to securely inject sensitive credentials into the IaC workflow.

Service Benefits

- **Accelerated Multi-Cloud Deployment:** Consistent IaC approach enables rapid and repeatable deployment of infrastructure across any target cloud or on-premises environment.
- **Enhanced Security and Compliance:** Policy-as-Code ensures mandatory security controls and compliance standards are enforced automatically before infrastructure is provisioned.
- **Operational Consistency:** Version-controlled IaC eliminates configuration drift and ensures all environments are built identically, reducing operational risk.
- **Cost Control:** Guardrails via Policy-as-Code prevent the deployment of overly expensive resources and enforce right-sizing practices.
- **Improved Auditability:** Every infrastructure change is recorded in a version control system and executed via an auditable CI/CD pipeline, simplifying governance and compliance reporting.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of a production-ready Terraform IaC solution for a defined set of multi-cloud infrastructure components. This includes:

- Requirements analysis and mapping of infrastructure resources to target cloud providers.
- Development of core, reusable Terraform modules for key infrastructure components.
- Implementation of secure remote state management and workspace configuration.
- Integration of Terraform into the client's existing CI/CD system.
- Development and implementation of initial Policy-as-Code rules for governance.
- Knowledge transfer and training for client infrastructure engineering teams.

Output

- Production-ready, multi-cloud Infrastructure as Code repository using Terraform.
- Reusable Terraform module repository.
- Operational CI/CD pipeline for automated IaC deployment.
- Implemented Policy-as-Code guardrails (e.g., OPA policies).
- Operational documentation and best practice guides for ongoing IaC development.

IBM HashiCorp - Packer Image Factory Development

Service Overview

KO Technologies, an IBM HashiCorp Automation Partner, specializes in establishing a secure, automated Image Factory using HashiCorp Packer. This service focuses on standardizing the creation and management of hardened Virtual Machine (VM) and container base images (e.g., AMIs, VHDs, Docker images) for multi-cloud deployments (AWS, Azure, GCP). By automating the image build process, we ensure security patches, corporate policies, and compliance guardrails are embedded from the start, significantly reducing configuration drift, accelerating patching cycles, and enhancing the overall security posture.

Key Features

- **Automated Multi-Cloud Image Building:** Development of Packer templates to build hardened, pre-configured base images (e.g., Golden Images) for various operating systems (Linux/Windows) across multiple cloud providers (AWS AMIs, Azure VHDs, etc.) from a single source configuration.
- **Security Hardening and Compliance:** Integration of security tools (e.g., CIS benchmarks, vulnerability scanners) directly into the image build pipeline. Images are created, tested, and validated to meet strict public sector security and compliance requirements before deployment.
- **Image Pipeline Automation:** Integration of Packer build processes into Continuous Integration/Continuous Delivery (CI/CD) systems (e.g., GitHub Actions, Jenkins) to ensure continuous, automated image refreshment and distribution, minimizing patching latency.
- **Infrastructure as Code (IaC) Integration:** Utilizing Packer templates defined via IaC to ensure the image build process is repeatable, auditable, and version-controlled, aligning with the "GitOps" operational model.
- **Artifact Management:** Implementation of an image registry strategy (e.g., AWS EC2 Image Builder, HashiCorp Registry) to manage, version, and distribute approved, signed images across multi-account and multi-region environments.
- **Secret Management Integration:** Secure integration with secrets platforms (e.g., HashiCorp Vault) to inject necessary credentials (e.g., API keys, service accounts) securely during the image build process without hardcoding.
- **Testing and Validation:** Development of automated testing procedures within the build process (e.g., using InSpec or Serverspec) to validate image integrity, configuration correctness, and functionality before promotion.

Service Benefits

- **Reduced Configuration Drift:** Standardized, immutable base images ensure every deployed instance starts from a known, secure, and consistent state, drastically simplifying operations.
- **Accelerated Patching Cycles:** Automation of the build-and-test process enables security patches and software updates to be delivered as new images rapidly and consistently.
- **Enhanced Security Posture:** Security hardening and vulnerability checks are embedded into the creation process ("Shift Left"), ensuring compliance is built-in, not bolted on.
- **Operational Efficiency:** Eliminates manual image creation and configuration tasks, freeing up engineering time to focus on innovation.
- **Multi-Cloud Consistency:** Enables a unified operational model for image management across diverse cloud platforms, simplifying hybrid cloud strategy.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of a production-ready HashiCorp Packer Image Factory. This includes:

- Requirements analysis for target operating systems, cloud providers, and security hardening standards.
- Development of core, reusable Packer templates for multi-cloud image creation.
- Integration of security scanning and compliance testing tools into the build process.
- Setup of the automated CI/CD pipeline for continuous image building and distribution.
- Configuration of an image registry/artifact management strategy.
- Knowledge transfer and training for client infrastructure and security teams.

Output

- Production-ready, version-controlled Packer template repository.
- Automated Image Factory CI/CD pipeline for continuous image refreshment.
- Secure, hardened "Golden Images" deployed to target cloud image registries (e.g., AWS AML catalog).
- Operational documentation and best practice guides for image governance.

IBM HashiCorp - Vault Secrets Management Development

Service Overview

KO Technologies, an IBM HashiCorp Automation Partner, specializes in implementing HashiCorp Vault for secure, centralized secrets management. Our service delivers a modern, identity-based security solution that automates the storage, access, rotation, and auditing of secrets (passwords, API keys, certificates) across hybrid and multi-cloud environments. We enable organizations to adopt a Zero Trust security model, drastically reducing the risk of secrets sprawl and credential misuse while ensuring compliance and operational efficiency.

Key Features

- **Full Lifecycle Secrets Management:** Design, deployment, and configuration of a highly available and resilient HashiCorp Vault cluster (Open Source or Enterprise).
- **Secrets Engines Implementation:** Configuration of various Vault Secrets Engines, including:
 - **Key/Value (KV):** Secure storage of static secrets.
 - **Dynamic Secrets:** Generating short-lived, on-demand credentials for databases (e.g., AWS RDS, PostgreSQL), cloud platforms (e.g., AWS IAM, Azure AD), and SSH/certificates.
 - **PKI/TLS:** Vault as a Certificate Authority (CA) for generating and managing internal TLS certificates.
 - **Transit:** Encryption-as-a-Service for data encryption without exposing the key.
- **Identity and Authentication Backends:** Implementation of secure, identity-based authentication methods, including:
 - Cloud Providers (AWS IAM, Azure AD)
 - Kubernetes/EKS Service Accounts
 - LDAP/Active Directory
 - AppRole and OIDC/JWT for application authentication
- **Policy-as-Code (HCL/Sentinel):** Development and implementation of fine-grained access control policies (ACLs) using HashiCorp Configuration Language (HCL) to enforce the principle of least privilege.
- **Audit and Compliance:** Configuration of comprehensive audit logging to track all secrets access and configuration changes, ensuring traceability for security and compliance reporting.
- **Unsealing and Operational Automation:** Implementation of automated unseal mechanisms (e.g., using AWS KMS or Azure Key Vault) and operational runbooks for cluster maintenance and backup.

- **Integration with Applications and CI/CD:** Secure integration of Vault with developer workstations, CI/CD pipelines, and target applications using client libraries, the Vault Agent, or Kubernetes Sidecar injection.

Service Benefits

- **Zero Trust Security:** Enforces identity-based access control, ensuring that only authenticated and authorized machines and humans can access secrets.
- **Reduced Attack Surface:** Eliminates hardcoded secrets from configuration files, source code, and CI/CD pipelines, significantly minimizing the risk of credential compromise.
- **Compliance and Auditing:** Centralized logging and policy enforcement simplify meeting stringent public sector security and compliance requirements.
- **Operational Efficiency:** Automation of secrets rotation, certificate issuance, and credential lifecycle management reduces manual effort and operational overhead.
- **Multi-Cloud Consistency:** Provides a unified, consistent secrets management layer across diverse cloud providers and hybrid infrastructure.
- **Elimination of Secrets Sprawl:** All secrets are centralized, version-controlled, and governed from a single platform.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of a production-ready HashiCorp Vault secrets management solution. This includes:

- Assessment of current secrets management practices and identification of all required secrets, authentication methods, and target applications.
- Design and deployment of a resilient, highly available Vault cluster architecture.
- Configuration of chosen authentication backends and development of access control policies (ACLs).
- Implementation of required secrets engines (static, dynamic, PKI, Transit).
- Integration of a pilot application or service with Vault for secure secrets consumption.
- Configuration of audit logging and monitoring.
- Knowledge transfer and training for client security, operations, and development teams.

Output

- Production-ready, highly available HashiCorp Vault cluster.
- IAC repository (Terraform) containing the code for the Vault deployment and initial configuration.
- Comprehensive set of HashiCorp Vault ACL policies enforcing least privilege.
- Operational runbooks, including disaster recovery and unseal procedures.
- Documentation and training materials for secrets management best practices and developer integration.

Gruntwork Partnership & Services

KO Technologies leverages its partnership with Gruntwork to deliver powerful, end-to-end automation and infrastructure-as-code solutions for our clients' complex cloud and hybrid environments. Our consultants are certified experts in deploying, configuring, and optimizing Gruntwork's battle-tested modules and blueprints, using tools like OpenTofu and Terragrunt, ensuring streamlined operations, compliance, and accelerated digital transformation.



Our services

We offer the following services:

- Gruntwork AWS Accelerator
- Gruntwork Support: Technology Advisory and Managed Services
- Accelerated Infrastructure as Code (IaC) Deployment with Gruntwork Terratest and Terraform Modules
- Custom Automation Runbooks and Workflow Configuration
- Continuous Governance and Security Posture Improvement using Gruntwork Security Tools and Compliance Modules
- Gruntwork Accelerator: Automation Platform Migration and Integration
- Gruntwork Multi Cloud Enterprise Landing Zone

We are experts in integrating Gruntwork's patterns and tools with complex Cloud and DevOps environments, utilizing Infrastructure as Code (IaC) principles to embed automation and governance from Day 1.

Our services also offer the ability to transform business operations by providing unified, real-time control and orchestration across the entire technology stack. These services provide better operational effectiveness and increased compliance and security.

Gruntwork - Terragrunt Development

Service Overview

KO Technologies partners with Gruntwork to deliver expert solutions leveraging **Terragrunt**, a thin wrapper for Terraform that enforces best practices and keeps your Infrastructure as Code (IaC) configuration DRY (Don't Repeat Yourself). Our service focuses on transforming monolithic or repetitive Terraform configurations into highly scalable, maintainable, and governed multi-environment codebases. By implementing Terragrunt, we drastically reduce code duplication, simplify configuration management across multiple AWS accounts/regions, and accelerate deployment velocity.

Key Features

- **DRY Configuration Implementation:** Restructuring existing or new Terraform codebases using Terragrunt to eliminate configuration duplication across staging, production, and development environments.
- **Terragrunt Module Development:** Creation of reusable, flexible Terraform modules and a robust Terragrunt folder structure to manage complex, multi-account, multi-region deployments.
- **Automated Remote State Management:** Configuration of Terragrunt to automatically manage and provision remote state backends (e.g., S3, DynamoDB, Terraform Cloud) and manage state locking.
- **Dependency Management:** Implementing explicit, run-time dependencies between infrastructure components to ensure resources are provisioned and destroyed in the correct order across different modules and environments.
- **CI/CD Integration:** Integrating Terragrunt with existing Continuous Integration/Continuous Delivery (CI/CD) pipelines (e.g., GitHub Actions, AWS CodePipeline) to enforce consistent, automated deployment workflows.
- **Policy-as-Code Governance:** Implementing governance policies (e.g., OPA within the Terragrunt workflow) to ensure compliance and cost guardrails are enforced across all environments.

Service Benefits

- **Significant Code Reduction (DRY):** Terragrunt radically reduces the total lines of infrastructure code required, making the codebase easier to read, maintain, and audit.
- **Accelerated Deployment Speed:** Automated dependency management and streamlined configurations enable faster, more reliable deployments across all environments.
- **Enhanced Maintainability:** Centralized module definition simplifies updates and patching; a fix or change to a single module instantly propagates across all environments.
- **Improved Consistency:** Ensures that infrastructure deployed in staging is an exact, configuration-controlled replica of production, reducing environmental drift.
- **Simplified Multi-Account Management:** Provides a clean, scalable framework for managing infrastructure across complex AWS multi-account strategies.

Scope

KO Technologies will execute the discovery, design, and deployment of a Terragrunt-driven Infrastructure as Code solution for a defined set of infrastructure components or a migration of an existing Terraform codebase. This includes:

- Assessment of the current Terraform codebase and identification of redundant code.
- Design of the optimal Terragrunt folder structure and module hierarchy.
- Refactoring of existing Terraform code into reusable modules.
- Implementation of Terragrunt configuration files (terragrunt.hcl) for environmental configuration and remote state management.
- Configuration of a pilot CI/CD pipeline to deploy infrastructure using Terragrunt.
- Knowledge transfer and training for client infrastructure engineering teams.

Output

- Production-ready, DRY Infrastructure as Code repository using Terragrunt and Terraform.
- Reusable Terraform module repository.
- Operational CI/CD pipeline for Terragrunt-driven deployment.
- Operational documentation, folder structure diagrams, and best practice guides.

Gruntwork - OpenTofu Development

Service Overview

KO Technologies, in partnership with Gruntwork, provides expert solutions leveraging OpenTofu, the community-driven fork of Terraform. This service focuses on implementing OpenTofu to manage your Infrastructure as Code (IaC) with enhanced stability, community support, and freedom from vendor control. We specialize in migrating existing Terraform codebases to OpenTofu, setting up secure and maintainable multi-environment architectures, and integrating OpenTofu with Terragrunt to enforce best practices and achieve a DRY (Don't Repeat Yourself) configuration across all your cloud platforms.

Key Features

- **OpenTofu Migration & Adoption:** Expert migration of existing Terraform configurations to the OpenTofu CLI, ensuring seamless transition and validation of provider compatibility.
- **OpenTofu Module Development:** Creation of robust, reusable OpenTofu modules and integration with module registries (e.g., Terraform Cloud/Enterprise, GitLab) for consistent infrastructure delivery.
- **OpenTofu/Terragrunt Integration:** Combining the benefits of OpenTofu's core IaC engine with Terragrunt to manage configurations across multiple accounts and regions, eliminating code redundancy.
- **Automated Remote State Management:** Configuration of OpenTofu's state management capabilities, often managed via Terragrunt, to securely provision and lock remote state backends (e.g., S3, Google Cloud Storage).
- **CI/CD Pipeline Integration:** Seamless integration of OpenTofu and Terragrunt into existing Continuous Integration/Continuous Delivery (CI/CD) systems (e.g., GitHub Actions, Jenkins) or Gruntwork's native CI/CD to automate and govern deployment workflows.
- **Policy-as-Code (e.g., Sentinel/Open Policy Agent):** Implementation of governance policies to enforce security, compliance, and cost guardrails on OpenTofu plans before any infrastructure changes are executed.
- **Community & Ecosystem Alignment:** Guidance on leveraging the growing OpenTofu ecosystem and ensuring alignment with the community roadmap and feature set.

Service Benefits

- **Vendor Neutrality & Stability:** Adopt a stable, open-source IaC tool governed by the Linux Foundation, providing assurance against licensing changes and ensuring long-term project viability.
- **DRY & Maintainable Codebase:** Leveraging Terragrunt with OpenTofu drastically reduces configuration code duplication, making the codebase easier to update, audit, and manage.
- **Accelerated Deployment:** Streamlined, automated configurations and dependency management enable faster, more reliable infrastructure provisioning.
- **Improved Consistency:** Ensures the infrastructure deployed in development and staging environments is a consistent, configuration-controlled replica of production.
- **Enhanced Governance:** Policy-as-Code integration ensures compliance and cost controls are enforced at every deployment stage.

Scope

KO Technologies will execute the discovery, design, and deployment of an OpenTofu-driven Infrastructure as Code solution, typically including a migration from a current IaC platform (if applicable) and integration with Terragrunt. This includes:

- Assessment of current IaC platform and feasibility analysis for OpenTofu migration.
- Design of the optimal OpenTofu/Terragrunt folder structure and module hierarchy.
- Migration and refactoring of existing IaC code into reusable OpenTofu modules.
- Implementation of Terragrunt configuration files (terragrunt.hcl) for environmental configuration.
- Configuration of a pilot CI/CD pipeline to deploy infrastructure using OpenTofu/Terragrunt.
- Knowledge transfer and training for client infrastructure engineering teams on OpenTofu operations.

Output

- Production-ready, DRY Infrastructure as Code repository using OpenTofu and Terragrunt.
- Reusable OpenTofu module repository.
- Operational CI/CD pipeline for automated OpenTofu/Terragrunt-driven deployment.
- Operational documentation, migration reports, and best practice guides.

Gruntwork - CIS Benchmarked Module Repository Access and Consulting

Service Overview

KO Technologies, in partnership with Gruntwork, provides specialized access, reselling, and consulting services for the Gruntwork CIS Benchmarks-Hardened AWS Module Repository. This repository contains over 200 battle-tested, high-quality, and maintained Infrastructure as Code (IaC) modules for AWS, which are pre-hardened to comply with the stringent security controls defined in the Center for Internet Security (CIS) AWS Foundations Benchmark. Our service enables public sector organizations to rapidly deploy secure, compliant, and production-ready cloud infrastructure, significantly reducing the time and effort required to meet complex security standards. We ensure your foundational AWS environment is secure by default, leveraging the best practices of Gruntwork's IaC and our expertise in cloud security.

Key Features

- **Module Repository Access & Reselling:** Provisioning of access to the private Gruntwork CIS-Hardened AWS Module Repository via preferential reselling agreements, ensuring immediate access to a secure library of over 300 IaC modules.
- **CIS Benchmark Compliance:** The modules are pre-configured and continuously maintained to meet or exceed the requirements of the CIS AWS Foundations Benchmark, dramatically accelerating compliance efforts.
- **Architecture Integration & Customization:** Consulting to design and implement a target AWS architecture using the Gruntwork modules (e.g., VPC, EKS, RDS, S3), ensuring modules are customized where necessary to align with specific organizational policies.
- **Terragrunt Integration:** Utilizing the modules in conjunction with Terragrunt to enforce a DRY (Don't Repeat Yourself) configuration, ensuring security guardrails and standards are consistently applied across all multi-account and multi-environment deployments.
- **Security and Governance Guardrails:** Leveraging the hardened nature of the modules to implement security-first deployment pipelines, minimizing the risk of misconfiguration and reducing the attack surface.
- **Module Maintenance and Updates:** Guidance and managed services for integrating Gruntwork's upstream updates (including security patches and feature improvements) into your custom environments, ensuring continuous maintenance and security hygiene.

- **Knowledge Transfer:** Comprehensive training sessions on effective utilization, customization, and long-term maintenance of the CIS-Hardened module library and the associated Terragrunt deployment model.

Service Benefits

- **Instant Security & Compliance:** Deploy infrastructure that is secure and compliant with the CIS AWS Benchmark from day one, drastically reducing security review time.
- **Accelerated Deployment:** Skip the complex, manual process of building secure, hardened IaC modules from scratch by utilizing battle-tested, maintained code.
- **Reduced Security Risk:** The pre-hardened nature of the modules minimizes the risk of accidental misconfiguration, which is a leading cause of cloud security incidents.
- **Lower Cost of Ownership:** Reduce the engineering time spent on maintaining and patching foundational infrastructure code by relying on Gruntwork's continuous upstream updates.
- **Operational Consistency:** Enforce security standards uniformly across all environments (Dev, Test, Prod) and accounts using the single, hardened source of truth.
- **Access to Preferential Pricing:** Leverage KO Technologies' reselling partnership for optimal commercial terms and streamlined procurement of the repository access.

Scope

KO Technologies will execute the discovery, design, deployment, and knowledge transfer for integrating the Gruntwork CIS-Hardened AWS Module Repository into the client's IaC practice. This includes:

- Access provisioning and initial configuration of the module repository.
- Design of the client's AWS account and folder structure utilizing Terragrunt and the Gruntwork modules.
- Deployment of foundational infrastructure (e.g., VPC, IAM roles, S3 buckets) using the CIS-Hardened modules in a pilot account.
- Customization of module inputs and configuration to align with specific organizational naming conventions and non-CIS requirements.
- Integration of the deployment workflow into the client's existing CI/CD system.
- Knowledge transfer sessions on module usage, security compliance reports, and update management.

Output

- Secure, provisioned access to the Gruntwork CIS-Hardened AWS Module Repository.
- Production-ready IaC repository using OpenTofu/Terraform and Terragrunt integrating the CIS-Hardened modules.
- Initial deployment of core, CIS-compliant AWS foundational infrastructure in a pilot environment.
- Operational documentation, including module customization guides and CIS compliance mapping.
- Training materials and knowledge transfer completion report for client engineering and security teams.

Alibaba Cloud Partnership & Services

KO Technologies delivers powerful, end-to-end automation and infrastructure-as-code solutions for our clients' complex Alibaba Cloud environments. Our consultants are certified experts in deploying, configuring, and optimizing infrastructure on Alibaba Cloud.



Our services

We offer the following accelerators:

- Alibaba Cloud Advisory and Managed Services
- Accelerated Infrastructure as Code (IaC) Deployment with Alibaba Cloud Resource Orchestration Service (ROS) and Terraform Modules
- Custom Automation Runbooks and Workflow Configuration
- Continuous Governance and Security Posture Improvement using Alibaba Cloud Security Center and Compliance Modules

We are experts in integrating Alibaba Cloud's best practices and tools with complex Cloud and DevOps environments, utilizing Infrastructure as Code (IaC) principles to embed automation and governance from Day 1.

Our services also offer the ability to transform business operations by providing unified, real-time control and orchestration across the entire technology stack. These services provide better operational effectiveness and increased compliance and security.

Alibaba Cloud - Cost Optimisation & Consulting

Service Overview

KO Technologies, an Alibaba Cloud Partner, specializes in providing comprehensive cost optimization and advisory services for organizations leveraging Alibaba Cloud. Our expertise ensures clients maximize the value of their investment by achieving significant cost savings, optimizing resource utilization, and aligning cloud spending with strategic business objectives. We leverage our partnership to offer preferential reselling discounts, conduct detailed FinOps reviews, and implement technical efficiency improvements across Compute, Storage, Networking, and PaaS services.

Key Features

- **Alibaba Cloud Reselling & Preferential Pricing:** As a certified partner, KO Technologies offers preferential reselling discounts and tailored Usage Agreements on Alibaba Cloud services, providing immediate and long-term savings on your consumption.
- **FinOps and Consumption Review:** Detailed monthly review of Alibaba Cloud consumption (e.g., ECS instances, OSS storage, RDS usage) to identify wasted resources, implement rightsizing recommendations, and ensure reserved instance/saving plan coverage is optimal.
- **Architectural Efficiency Consulting:** Technical deep-dives into your workload architecture to recommend and implement cost-saving changes, such as leveraging serverless compute (Function Compute) or optimizing database configurations (PolarDB, RDS).
- **Resource Lifecycle Automation:** Implementation of automation (e.g., Terraform/ROS) to enforce resource governance, including automated de-commissioning of unused environments and scheduled startup/shutdown of non-production resources.
- **Billing and Account Governance:** Configuration of Alibaba Cloud account structures, resource tagging policies, and budgeting alerts to maintain financial governance and accurate cost attribution across organizational units.
- **Strategic Commercial Advisory:** Provision of expert advice on complex Alibaba Cloud commercial models, commitment strategies, and strategic roadmap planning to ensure financial sustainability.

Service Benefits

- **Immediate Cost Reduction:** Achieve significant savings through preferential reseller discounts and identification of immediate waste.

- **Sustainable Financial Model:** Establish continuous FinOps practices that maintain cost efficiency as your cloud usage scales.
- **Optimized Performance:** Rightsizing and architectural efficiency often lead to performance improvements alongside cost savings.
- **Enhanced Visibility and Control:** Gain clarity over your cloud spend with centralized governance, accurate attribution, and proactive alerting.
- **Expert Commercial Support:** Navigate complex contract negotiations and consumption commitments with the guidance of certified experts.

Scope

KO Technologies will execute the discovery, analysis, and implementation of a defined set of cost optimization and reselling strategies for your Alibaba Cloud environment. This includes:

- Discovery and analysis of current Alibaba Cloud consumption and billing data.
- Identification of cost-saving opportunities (rightsizing, resource waste, commitment gaps).
- Presentation of a prioritized remediation plan with estimated savings (The FinOps Tune-up).
- Implementation of agreed-upon technical changes (e.g., automation scripts, instance rightsizing).
- Configuration of billing alerts and initial resource tagging policies.
- Commercial review and proposal for an optimized reselling/usage agreement.

Output

- Comprehensive monthly FinOps report detailing cost trends, optimization achievements, and remaining opportunities.
- Updated IAC repository (Terraform/ROS) for automated resource lifecycle management.
- A proposed optimized Alibaba Cloud Usage Agreement or reselling contract.
- Documentation and training on new cost governance practices and resource tagging standards.

Alibaba Cloud - Resource Directory (Landing Zone) Accelerator

Service Overview

KO Technologies provides specialized services to accelerate the secure and compliant setup of your Alibaba Cloud Account Structure, often referred to as an Alibaba Cloud Landing Zone. We leverage our expertise in Infrastructure as Code (IaC), specifically Terraform and the native Resource Orchestration Service (ROS), to define and deploy the foundational environment. This ensures the environment is scalable, governed, and integrated with your core identity systems from Day 1, establishing organizational best practices for multi-team usage and security posture across your Alibaba Cloud footprint.

Key Features

- **Alibaba Cloud Account Structure via IaC (Terraform/ROS):** Defining and deploying the core Alibaba Cloud organizational structure (e.g., Resource Management, Resource Groups) using Infrastructure as Code, ensuring repeatability, version control, and auditability.
- **Resource Access Management (RAM) Configuration:** Designing and implementing a robust roles and permissions matrix within RAM, defining users, groups, and assigning least-privilege access roles to align with organizational structure and security requirements.
- **Single Sign-On (SSO) Integration:** Configuration of secure SSO integration with your chosen Identity Provider (IdP) for centralized user authentication to the Alibaba Cloud Console.
- **VPC and Networking Foundation:** Deployment of a best-practice Virtual Private Cloud (VPC) network foundation, including vSwitches, security groups, and Network Access Control Lists (NACLs) across target regions.
- **Centralized Log and Audit Configuration:** Setup of Alibaba Cloud Log Service and ActionTrail to ensure comprehensive logging, auditing, and centralized storage of all security and operational events for compliance purposes.
- **Resource Tagging and Governance:** Implementation of mandatory resource tagging policies using Resource Group tags to enforce accurate cost attribution (FinOps) and governance across the environment.
- **Security Baseline Configuration:** Implementing organization-wide security policies, including password policies, API access controls, and initial threat detection rules suitable for public sector environments.

Service Benefits

- **Accelerated Time-to-Value:** Rapidly establish a secure, compliant, and production-ready Alibaba Cloud environment optimized for multi-team use.
- **Enhanced Security & Compliance:** Enforce centralized identity management (SSO/RAM) and least-privilege access through IaC-defined roles and policies.
- **Operational Consistency:** IaC ensures your Alibaba Cloud setup is standardized, version-controlled, and easily replicated across environments or different organizational units.
- **Streamlined Governance:** Centralized logging, auditing, and enforced resource tagging enable clear cost attribution and simplified compliance tracking.

Scope

KO Technologies will execute the design and deployment of the core Alibaba Cloud Organization structure and foundational services. This includes:

- Analysis of client organizational structure and mapping to RAM roles/groups and Resource Groups.
- Configuration of SSO integration with the client's IdP.
- Deployment of core RAM users, groups, roles, and access policies via IaC.
- Deployment of the foundational VPC network and initial security baselines.
- Configuration of centralized logging via Log Service and ActionTrail.
- Knowledge transfer and documentation for ongoing governance of the Alibaba Cloud Landing Zone.

Output

- Fully configured Alibaba Cloud Account Structure with defined Resource Groups.
- IAC repository (Terraform/ROS) containing the code for account structure, RAM, and VPC network configuration.
- Operational SSO integration with the client's Identity Provider.
- Operational documentation and governance guide for the Alibaba Cloud Landing Zone.

Alibaba Cloud - Infrastructure, Containers, Serverless and AI

KO Technologies, an Alibaba Cloud Partner, offers specialized consulting, migration, and implementation services across the full spectrum of Alibaba Cloud infrastructure, platform, and application services. Our expertise covers core compute (ECS), networking, scalable databases (RDS, PolarDB), modern container services (ACK - Alibaba Cloud Container Service for Kubernetes), serverless computing (Function Compute), and cutting-edge Generative AI capabilities via Alibaba Cloud's proprietary Qwen-series Large Language Models (LLMs). We empower public sector clients to build secure, highly scalable, and cost-efficient cloud-native solutions while leveraging the unique AI and data ecosystem of Alibaba Cloud.

Key Features

- **Infrastructure Deployment & Management:** Full lifecycle management of core infrastructure using Alibaba Cloud's Elastic Compute Service (ECS), Virtual Private Cloud (VPC), and Resource Orchestration Service (ROS)/Terraform for IaC deployment.
- **Database Migration & Optimization:** Strategy and implementation for migrating legacy databases to scalable, high-performance Alibaba Cloud database services (e.g., RDS, PolarDB, ApsaraDB for Redis), ensuring data integrity and reduced operational cost.
- **Containerization and Orchestration:** Design and deployment of modern, scalable application platforms leveraging Alibaba Cloud Container Service for Kubernetes (ACK), including integration with Alibaba Cloud's image registry (ACR) and service mesh.
- **Serverless Computing:** Implementation of event-driven and cost-efficient architectures using **Function Compute (FC)** for application logic, and integration with message queues (Message Queue for Apache Kafka) and object storage (OSS).
- **Generative AI with Qwen LLMs:** Integration and fine-tuning of Alibaba Cloud's **Qwen** family of large language models (LLMs) via the PAI platform and related AI services to build custom GenAI solutions (e.g., chatbots, summarization, content generation).
- **Security and Compliance:** Architecting environments using Security Center, WAF, and Resource Access Management (RAM) to meet stringent security and compliance requirements suitable for public sector workloads.
- **DevOps and Automation:** Implementation of CI/CD pipelines using Alibaba Cloud DevOps tools or third-party systems (e.g., Jenkins, GitLab) to automate deployment and management across all service layers.

Service Benefits

- **Accelerated Cloud Adoption:** Rapid deployment of best-practice, secure environments across IaaS, PaaS, and Serverless layers.
- **AI-Native Capabilities:** Immediate access to and utilization of Alibaba Cloud's advanced Qwen LLMs for innovative, secure, and data-driven GenAI solutions.
- **Scalability and Resilience:** Solutions are designed for high availability and elastic scalability, leveraging Alibaba Cloud's global network and multi-zone architecture.
- **Operational Efficiency:** Reduction in infrastructure management burden through the adoption of managed services (ACK, RDS, Function Compute) and robust automation.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of a defined workload or service utilizing Alibaba Cloud infrastructure, database, container, serverless, or AI capabilities. This typically includes:

- Requirements analysis and architectural design for the target workload.
- Implementation of core compute/network resources via IaC (ROS/Terraform).
- Migration or setup of target database services (e.g., RDS, PolarDB).
- Deployment and configuration of ACK clusters for containerized applications.
- Development and deployment of serverless functions using Function Compute.
- POC integration of the Qwen LLM via API or fine-tuning for a specific use case.
- Configuration of core security and compliance guardrails (RAM, VPC).
- Knowledge transfer and training for client operations and development teams.

Output

- Production-ready workload running on Alibaba Cloud (e.g., containerized application on ACK, serverless backend, or a Qwen-powered GenAI application).
- IAC repository (ROS/Terraform) for all underlying infrastructure and platform services.
- Operational runbooks and governance guides for managed services and AI integration.
- Monitoring and logging setup using Alibaba Cloud Log Service and ARMS.

Alibaba Cloud - Managed Services

Service Overview

KO Technologies' Alibaba Cloud Managed Services offer a comprehensive, proactive operational model focused on continuous cost optimization, security posture improvement, and operational excellence for your Alibaba Cloud environment. Leveraging our deep expertise in Alibaba Cloud and Infrastructure as Code (IaC), we go beyond simple alerting. We act as a dedicated extension of your team, ensuring your cloud platform and the critical workloads running on it are continuously tuned, accurately configured, and providing maximum value across all key pillars: Compute, Networking, Storage, Database, and Container Services.

Key Features

- **Continuous Optimization and Tuning:** Proactive management of Alibaba Cloud configurations (e.g., ECS, RDS, ACK) to ensure optimal performance, security, and continuous alignment with the latest best practices and service updates.
- **FinOps and Cost Governance:** Dedicated management to monitor Alibaba Cloud usage, identify rightsizing opportunities (e.g., ECS instances, PolarDB), optimize storage and database usage, and ensure cost efficiency across the entire environment. We provide transparency over your cloud spend through monthly reporting.
- **24/7 Proactive Monitoring and Alert Management:** Configuration and management of Alibaba Cloud native monitoring tools (e.g., Cloud Monitor, ARMS) and third-party solutions (e.g., Datadog) to ensure alerts are highly relevant, minimizing alert fatigue and integrating with client incident response workflows.
- **Resource Lifecycle Management via IaC:** Automated deployment, update, and maintenance of Alibaba Cloud resources (ECS, VPC, ACK clusters) using Infrastructure as Code (ROS/Terraform), ensuring configuration consistency and auditability.
- **Security and Compliance Posture:** Continuous management of security features (e.g., Security Center, WAF) and access controls (RAM) to ensure ongoing adherence to security best practices and public sector compliance requirements.
- **Data and Database Management:** Oversight and operational support for managed database services (e.g., RDS, PolarDB), including routine patching, backup management, performance tuning, and high-availability configuration.
- **Knowledge Transfer and Service Reviews:** Regular service reviews and collaborative sessions to upskill client teams on effective use of the Alibaba Cloud platform and new feature adoption.

Service Benefits

- **Maximized ROI on Alibaba Cloud:** Ensures the platform is utilized to its full potential, directly linking cloud investments to business outcomes and significant cost savings.
- **Enhanced Operational Efficiency:** Our proactive management and alert refinement significantly reduce operational burden and accelerate Mean Time To Resolution (MTTR).
- **Reduced Operational Burden:** Offloads the complex, continuous task of maintaining a high-performing, secure cloud platform from internal engineering teams.
- **Improved Security and Compliance:** Continuous monitoring of security events and cloud configuration reduces risk and simplifies audit readiness.
- **Full Platform Confidence:** Guaranteeing unified, accurate, and consistent visibility and security across your entire Alibaba Cloud application and infrastructure stack.

Scope

KO Technologies provides management and continuous optimization for the client's Alibaba Cloud Account structure and defined set of monitored environments and applications. The scope includes:

- 24/7 Management of monitoring and alerting for in-scope workloads.
- Ongoing FinOps management focused on reducing waste and improving commitment coverage.
- Maintenance of core infrastructure configuration and deployment via IaC.
- Quarterly review of security policies, access controls, and database performance.
- Incident support related to Alibaba Cloud platform health or resource availability.

Output

- **Monthly FinOps Reports:** Comprehensive reports detailing cost optimization achievements, performance trends, and usage metrics.
- **Updated IaC Repositories:** ROS/Terraform code reflecting continuous improvements to Alibaba Cloud configurations (e.g., performance tuning, new feature adoption).
- **Continuous Improvement Backlog:** A defined backlog of tasks prioritized for the ongoing optimization of the cloud environment.
- **Operational Documentation:** Operational runbooks and refined monitoring/alerting procedures.

DevOps Services

KO Technologies delivers comprehensive DevOps services, including CI/CD pipeline implementation, end-to-end automation, and process improvement across major DevOps systems.

Our services

We offer the following accelerators:

- **Continuous Integration/Continuous Delivery (CI/CD) Pipeline Implementation:** Utilizing tools like Jenkins, GitLab CI, GitHub Actions, or Azure DevOps to automate the build, test, and deployment process.
- **Containerization and Orchestration:** Implementing Docker and Kubernetes for application portability, scalability, and management.
- **Infrastructure as Code (IaC) with Terraform and Ansible:** Automating infrastructure provisioning and configuration management for consistent environments.
- **Agile and DevOps Process Coaching:** Implementing and optimizing processes such as Scrum, Kanban, and SAFe for improved collaboration, flow, and delivery speed.

We are experts in integrating these widely adopted DevOps practices and technologies with complex Cloud and IT environments, utilizing Infrastructure as Code (IaC) principles to embed automation and governance from Day 1.

Our services also offer the ability to transform business operations by providing unified, real-time control and orchestration across the entire technology stack. These services provide better operational effectiveness and increased compliance and security.

GitHub - DevOps & Automation Services

Service Overview

KO Technologies, as a dedicated DevOps partner, specializes in leveraging the full power of the GitHub platform to accelerate software delivery, enhance collaboration, and enforce robust governance across the development lifecycle. Our service encompasses everything from foundational repository structure and best-practice CI/CD pipelines using GitHub Actions, to complex implementations of GitHub Enterprise features, artifact management, and the integration of AI tools within the DevOps workflow. We help organizations establish a mature, secure, and automated GitOps environment to maximize developer velocity and maintain compliance.

Key Features

- **Application & Repository Structure:** Design and implementation of best-practice repository structures (e.g., Mono-repo vs. Multi-repo) and application architectures optimized for GitHub Flow, ensuring consistency and maintainability.
- **CI/CD Pipelines with GitHub Actions:** Development and deployment of robust, automated Continuous Integration/Continuous Delivery (CI/CD) pipelines using GitHub Actions, covering build, test, security scanning, and deployment across multi-cloud environments.
- **GitHub Enterprise Implementation & Optimization:** Consulting and deployment for GitHub Enterprise Server and Cloud, including configuration of advanced security features, self-hosted runners, and organizational governance structures.
- **Artifact Store Integration:** Implementation of secure artifact management and registry solutions (e.g., GitHub Packages, external registries like JFrog Artifactory) integrated into the CI/CD workflow.
- **AI in DevOps Integration:** Guidance and implementation of Artificial Intelligence tools (e.g., GitHub Copilot, security analysis tools) within the development workflow to assist with code generation, testing, and security vulnerability detection.
- **GitHub Flow, Branching & Merging Strategies:** Establishment of clear, governed branching strategies (e.g., GitHub Flow, Trunk-Based Development) and pull request/merging policies to ensure code quality, compliance, and rapid release cycles.
- **Training and Knowledge Transfer:** Provision of specialized training for development and operations teams on advanced GitHub features, GitHub Actions development, security best practices, and effective usage of the defined CI/CD process.

Service Benefits

- **Accelerated Time-to-Market:** Automated CI/CD pipelines and streamlined workflows significantly reduce deployment time and increase release frequency.
- **Enhanced Code Quality and Governance:** Enforced branching strategies, pull request reviews, and security guardrails ensure high quality and compliance in every commit.
- **Maximized Collaboration:** Centralized, consistent workflows and repository structure foster seamless collaboration between development, operations, and security teams.
- **Scalable and Secure Enterprise Platform:** Leveraging GitHub Enterprise provides the necessary security, auditing, and organizational governance required for large-scale public sector deployments.
- **Future-Proofed Development:** Integration of AI tools improves developer efficiency and positions the organization to benefit from the latest innovations in software development.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of a modernized CI/CD and repository management solution on GitHub. This includes:

- Requirements analysis for target application architecture and CI/CD needs.
- Design of the optimal repository and branching strategy (GitHub Flow adoption).
- Development of pilot CI/CD pipelines using GitHub Actions for a defined application.
- Configuration of core GitHub Enterprise features (if applicable), including SSO and security settings.
- Integration with artifact management and secret management solutions.
- Delivery of tailored training sessions for developers and administrators.
- Knowledge transfer and documentation for ongoing CI/CD governance.

Output

- Fully operational CI/CD pipelines on GitHub Actions for applications.
- Documented and implemented GitHub Flow and branching strategy.
- IAC repository (e.g., Terraform) for GitHub organization and repository configuration (GitOps).
- Operational documentation, runbooks, and training materials.
- Defined security and compliance guardrails integrated into the pipeline.

GitLab - DevOps & Automation Services

Service Overview

KO Technologies, as a dedicated DevOps partner, specializes in leveraging the comprehensive GitLab Platform to accelerate the entire software development lifecycle, from planning and source code management to security and deployment (DevSecOps). Our service focuses on implementing and optimizing GitLab's unified suite of tools, including GitLab CI/CD, built-in security scanning (SAST/DAST), and Auto DevOps, to establish a robust, automated, and governed GitOps environment. We empower organizations to maximize developer velocity, enforce compliance, and integrate security seamlessly into their workflows.

Key Features

- **Full DevOps Platform Implementation:** Design and deployment of a unified platform leveraging GitLab's single application for the entire DevOps lifecycle, eliminating toolchain complexity and data silos.
- **CI/CD Pipelines with GitLab CI:** Development and deployment of highly efficient Continuous Integration/Continuous Delivery (CI/CD) pipelines using GitLab CI, supporting complex multi-stage, multi-cloud deployments via runners (shared, specific, or custom).
- **DevSecOps and Security Scanners:** Implementation of GitLab's built-in security features, including Static Application Security Testing (SAST), Dynamic Application Security Testing (DAST), Dependency Scanning, and Container Scanning, enforcing a "Shift Left" security approach.
- **Auto DevOps Configuration:** Rapid enablement and customization of GitLab's Auto DevOps feature to automatically detect, build, test, deploy, and monitor applications with minimal configuration effort.
- **GitLab Enterprise Optimization:** Consulting and deployment for GitLab Enterprise (Self-Managed or Cloud), including configuration of advanced compliance features, group/sub-group governance, and self-hosted runners.
- **Artifact & Registry Management:** Utilization and configuration of GitLab's built-in Package and Container Registries for secure artifact storage and distribution, integrated seamlessly with CI/CD.
- **GitOps Strategy Implementation:** Establishing a true GitOps model by leveraging GitLab's Merge Request flow and CI/CD to manage infrastructure and application deployments declaratively, ensuring traceability and auditability.
- **Training and Knowledge Transfer:** Provision of specialized training for development, operations, and security teams on advanced GitLab features, CI/CD pipeline development, and effective usage of the platform's DevSecOps capabilities.

Service Benefits

- **Unified DevSecOps:** Integrates security into every stage of the pipeline, providing real-time vulnerability feedback and enhancing compliance posture with a single tool.
- **Accelerated Release Cycles:** Robust CI/CD and Auto DevOps significantly automate and accelerate the process from code commit to production deployment.
- **Reduced Toolchain Complexity:** Replacing disparate tools with GitLab's single platform lowers licensing costs, reduces integration effort, and simplifies maintenance.
- **Enhanced Governance and Auditability:** The Git-based workflow provides a complete audit trail for every change to code, infrastructure, and security policy.
- **Scalable Enterprise Control:** Leveraging GitLab Enterprise features ensures the platform meets the organizational, compliance, and security needs of public sector deployments.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of a modernized DevSecOps and GitOps solution on the GitLab platform. This includes:

- Requirements analysis for application architecture and CI/CD/security needs.
- Design of the optimal GitLab Group/Sub-Group structure and branching strategy.
- Development of pilot CI/CD pipelines using GitLab CI and integration of security scanners.
- Configuration of core GitLab Enterprise features (if applicable), including runners and registry.
- Implementation of a GitOps flow for pilot application deployment.
- Delivery of tailored training sessions for developers and administrators.
- Knowledge transfer and documentation for ongoing DevSecOps governance.

Output

- Fully operational DevSecOps pipelines on GitLab CI for target applications.
- Documented and implemented branching and GitOps deployment strategy.
- Hardened GitLab Organization/Group structure with enforced security and access controls.
- Operational documentation, runbooks, and training materials.
- Security guardrails (SAST/DAST findings) integrated into the Merge Request workflow.

Atlassian - DevOps & Automation Services

Service Overview

KO Technologies, as a dedicated DevOps partner and Atlassian specialist, provides comprehensive consulting, implementation, and managed services for the core Atlassian suite: Jira Software, Jira Service Management (JSM), Confluence, and Bitbucket. Our service is designed to establish a unified, traceable, and collaborative platform that accelerates your entire software development and service delivery lifecycle, from planning (Jira/Confluence) and source code management (Bitbucket) to modern service desk operations (JSM). We are expert in both on-premise (Data Center) and cloud (SaaS) deployments, ensuring the solution is tailored to your specific security, compliance, and scalability requirements.

Key Features

- **Jira Software & Confluence Implementation:** Design and configuration of project management workflows (Scrum/Kanban) in Jira Software, linked seamlessly with centralized knowledge and documentation management in Confluence, fostering cross-functional collaboration.
- **Bitbucket for GitOps & Source Control:** Deployment and configuration of Bitbucket (Cloud or Data Center) for secure, enterprise-grade Git source code management, including branch permissions, pull request workflows, and repository governance.
- **Jira Service Management (JSM) Deployment:** Implementation of modern, ITIL-aligned service desk operations, including configuration of service portals, request types, SLAs, queues, and automation rules for incident, problem, and change management.
- **Bitbucket CI/CD Integration:** Development of robust Continuous Integration/Continuous Delivery (CI/CD) pipelines, leveraging Bitbucket Pipelines or integrating the Atlassian suite with other CI/CD tools (e.g., Jenkins, GitLab, GitHub Actions).
- **Security & Compliance Configuration:** Implementation of robust security controls, including Single Sign-On (SSO), integration with Identity Providers, fine-grained permissions, and audit logging to meet public sector compliance standards.
- **Custom Automation & Integrations:** Development of custom automation rules (e.g., Jira Automation, JSM automation) and integration of the Atlassian tools with third-party monitoring, security, and cloud platforms.
- **Training and Best Practice Transfer:** Provision of specialized training for administrators, developers, and service desk agents on advanced features, best practices, and maintenance of the Atlassian toolchain.

Service Benefits

- **Unified Work Management:** Connects product planning (Jira), documentation (Confluence), source code (Bitbucket), and support (JSM) into a single, traceable value stream.
- **Accelerated Service Delivery:** Streamlines development, collaboration, and IT service operations, leading to faster response times and higher quality releases.
- **Enhanced Collaboration:** Provides a single source of truth for all projects, knowledge, and code, breaking down silos between development, operations, and business teams.
- **Improved Customer & Citizen Experience:** Modern JSM implementation provides a clean, intuitive service portal, improving the self-service and support experience.
- **Auditability and Compliance:** Centralized logging, policy enforcement, and issue traceability simplify governance and compliance reporting across all workflows.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment or migration of the core Atlassian toolchain to align with the client's development and service delivery requirements. This includes:

- Requirements analysis for Jira Software, JSM, Confluence, and Bitbucket usage.
- Installation/provisioning and configuration of the chosen platform (Cloud or Data Center).
- Development of core Jira workflows, screen schemes, and project configurations.
- Design and deployment of JSM service portals, queues, and SLA definitions.
- Configuration of Bitbucket repositories, branching models, and security settings.
- Integration of SSO and identity management.

Output

- Fully configured Atlassian toolchain (Jira, JSM, Confluence, Bitbucket) optimized for client workflows.
- Documented workflows, best practices, and governance guides.
- Operational JSM instance with defined SLAs and service requests.
- Secure Bitbucket repository structure with implemented branching strategy.

Palo Alto Next Gen Firewall - AWS Network Security

Service Overview

KO Technologies specializes in the design, implementation, and management of Palo Alto Networks Next-Generation Firewalls (NGFW) within complex AWS network architectures. Leveraging our deep expertise in both cloud networking and the Palo Alto platform, we deliver robust, scalable, and secure network segmentation and perimeter protection. Our service focuses on integrating the NGFW across key AWS services, including Virtual Private Clouds (VPCs), Transit Gateway (TGW), SD-WAN overlays, and Direct Connect connections. Critically, we utilize Infrastructure as Code (IaC), specifically **Terraform**, to deploy and configure both the firewalls and the centralized management platform, **Panorama**, ensuring full auditability, version control, and collaborative governance over your network security policy.

Key Features

- **AWS Network Security Architecture:** Design and deployment of secure, high-availability Palo Alto NGFW architectures integrated with AWS services like TGW for centralized traffic inspection and routing.
- **Panorama Deployment via IaC:** Automated, auditable deployment and configuration of the Panorama management server using **Terraform**, ensuring a single source of truth for all firewall policies and configurations.
- **Security Policy and Rule Management:** Development and implementation of granular security policies, application-based control, and threat prevention profiles across all managed firewalls, aligned with client security requirements.
- **Integration with AWS TGW and VPCs:** Expert configuration of VPC attachments, TGW route tables, and network load balancers (NLB) to ensure all North-South and East-West traffic is seamlessly inspected by the Palo Alto firewalls.
- **Hybrid/SD-WAN Integration:** Configuration of secure VPN tunnels (IPsec/SD-WAN) on the Palo Alto NGFW for connectivity with on-premises data centers or remote branches via AWS Direct Connect or Transit Gateway.
- **Auditability and Version Control:** All firewall configurations, including policies, rules, and Panorama templates, are defined in version-controlled **Terraform** code, enabling full history tracking and simplified change management.
- **Advanced Threat Prevention:** Implementation of threat intelligence, WildFire malware analysis, and URL filtering features to protect workloads against zero-day threats and malicious traffic.

Service Benefits

- **Auditable Security Governance:** IaC (Terraform) integration ensures security configurations are traceable, repeatable, and subject to collaborative peer review (GitOps), drastically reducing manual errors and risk.
- **Centralized Management:** Deployment of Panorama provides a single pane of glass for managing all Palo Alto NGFWs across multi-account/multi-region AWS environments.
- **Enhanced Network Segmentation:** Leveraging TGW integration, we provide fine-grained, centralized control over network traffic flows across your entire AWS footprint.
- **Compliance and Zero Trust:** Implementation of identity-based and application-aware policies enables a robust Zero Trust security model, simplifying compliance with public sector regulations.
- **Accelerated Deployment:** Automation reduces the time required to deploy and configure complex network security solutions, accelerating project delivery.

Scope

KO Technologies will execute the discovery, design, build, and initial deployment of a production-ready Palo Alto Next-Generation Firewall solution integrated with the client's AWS network architecture. This includes:

- Architectural design of the Palo Alto NGFW deployment (e.g., in a Security VPC or via Gateway Load Balancer).
- Deployment and initial configuration of the Panorama management server via Terraform.
- Development of the core Terraform code for NGFW deployment, auto-scaling, and integration with AWS TGW/VPCs.
- Implementation of core security policy and security profiles.
- Configuration of initial site-to-site VPNs or Direct Connect integration (if in scope).
- Knowledge transfer and documentation for ongoing policy management and firewall operations.

Output

- Production-ready, highly available Palo Alto Next-Generation Firewall environment on AWS.
- Operational Panorama management server for centralized control.
- IAC repository (Terraform) containing all code for firewall and Panorama deployment/configuration.
- Operational runbooks and best practice guides for policy management.

Service Level

General support: SLA:

Initial Response. 4 - 24 hours

Time: Monday to Friday(ex public holidays) - 9am - 5pm.

Time: Weekends/Holidays - Not available.

Cost: from £0.

Priority support:

SLA: Initial Response. 0 - 4 hours

Time: 24 hours, 7 days a week.

Cost: Tailored to suit the requirements.

Additional Information

Website: <https://kotechnologies.co.uk>

Email: contact@kotechnologies.co.uk

Phone: +4 (0)208 163 7876

Service Desk: <https://kotechnologies.atlassian.net/servicedesk/customer/portals>

Case studies: <https://kotechnologies.co.uk/clients/>

Payment & Fees

Pricing is determined by the specific service being procured.

Invoices are issued monthly in arrears, with payment terms of 30 days from the date of receipt.

Other services are priced according to our SFIA rate card.

Onboard & Offboard

Onboarding

KO Technologies employs a structured and collaborative approach to the onboarding and offboarding of both services and consultants, ensuring a seamless transition and continuous knowledge transfer. Onboarding commences with a detailed discovery phase, aligning our service delivery models, including access, security, and governance with the client's existing environment and specific needs. For consultants, this includes secure provisioning of access via client-approved identity systems and immediate immersion into the project scope and team structure.

Offboarding

Offboarding is executed systematically: all delivered services and infrastructure components are fully documented and transitioned, ensuring client teams achieve autonomy; consultant access is securely revoked; and a comprehensive knowledge transfer session is conducted, leaving the client with full ownership, operational runbooks, and maintained Infrastructure as Code repositories.

Social Value

KO Technologies is committed to delivering positive social value that extends beyond our technical expertise, focusing on the well-being of our people, communities, and the planet.

Fighting Climate Change

We are dedicated to creating a sustainable digital and physical footprint. Our commitment to fighting climate change is reflected in our **automation-first** and **Well-Architected** cloud solutions, which inherently promote resource efficiency and reduce energy consumption.

- **Sustainable Cloud Architecture:** We design and deploy highly efficient AWS cloud environments, leveraging serverless and containerized services that auto-scale and use only the resources necessary, minimizing our collective carbon footprint.
- **Carbon Footprint Reduction:** We guide clients in optimizing their workloads to run in the most carbon-efficient AWS regions and utilize services optimized for sustainability.
- **Physical Footprint:** We are committed to sustainable business practices within our physical operations to minimize environmental impact.

Tackling Economic Inequality

KO Technologies is committed to nurturing local talent, promoting digital skills, and fostering economic growth within the UK.

- **Nurturing Local Talent:** We actively collaborate with local universities and colleges to nurture talent, offering education in digital practices, Cloud, and DevOps. This investment helps bridge the digital skills gap and prepares local individuals for high-value careers.
- **Local Job Creation:** We focus on creating high-quality jobs within the UK community, supporting local businesses, and contributing to the national economy.
- **Digital Inclusion:** Our services aim to make high-end digital practices and technology accessible to a broader range of organisations, including SMEs, helping them compete and grow.

Equal Opportunities

KO Technologies is a proud equal opportunities company. We foster a diverse, inclusive, and equitable environment where every individual is valued and has the opportunity to succeed.

- **Inclusive Hiring Practices:** We maintain fair and transparent hiring processes, ensuring that recruitment is based purely on merit, regardless of background, race, gender, sexual orientation, disability, or religion.
- **Diverse Workforce:** We believe that diversity drives innovation and are committed to building a team that reflects the communities we serve.

Well-being

We prioritize the mental and physical well-being of our employees, recognizing that a supported workforce is a resilient and high-performing one.

- **Mental Well-being Support:** We provide dedicated support for mental well-being, ensuring our team has access to resources and a culture that promotes work-life balance and psychological safety.
- **Flexible Working:** Our cloud-native operational model enables flexible working arrangements, supporting employees in managing their professional and personal lives effectively.
- **Healthy Work Environment:** We strive to maintain a supportive, collaborative, and healthy work environment where open communication and mutual respect are paramount.