

Evidence-backed Azure Kubernetes Service (AKS) Design, Review and Implementation

A KPMG Service for G-Cloud 15



KPMG About us

KPMG is one of the largest AI Platforms & Cloud Engineering Advisory and Implementation providers in the UK. We bring end-to-end services across the entire cloud life-cycle from Strategy and Planning, to Architecture and Build, through to running Secure cloud-native applications. This is enabled by our diverse, industry-leading and multi-disciplined experts.

 AI Platforms & Cloud Engineering in its 10th year	 1000+ AI Platforms & Cloud Engineering Team (670+ Engineers & Architects, 500+ Advisory & Delivery consultants)	 2000+ AI & Cloud certifications in Azure, Google, AWS	 £30M + AI Platforms & Cloud Engineering spend supported annually	 600+ AI Platforms & Cloud Engineering projects completed	 50%+ Focused on highly regulated industries
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AI Platforms & Cloud Engineering Practice

- Deep domain experience across a wide range of Cloud providers and technologies
- Leading and award-winning scaled engineering capability
- Long established consulting approach and methodologies

Our Principles

- Industrialised approach reusing assets and accelerators
- Automate everything
- Deliver value for money
- Pride ourselves on high quality outcome deliverables

How we Operate

- Sprint based projects for fast iterative results
- Delivering with our clients using outcome focused multi-disciplinary teams
- Strong, established network to ensure partnering excellence

Our Core Propositions

Besides the core propositions we deliver **240+** services mentioned in our Service Catalogue

Operational Excellence  • Cloud CoE & Target Operating Model • Cloud Programme Risk and Assessment • Cloud Maturity Assessment	AI Powered Modern Platform  • Cloud Design, Build, Migrate & Transform • Cloud Risk Controls & Cyber • Cloud Security Architecture	Modern Engineering  • DevOps & DevSecOps • Secure SDLC • Site Reliability Engineering (SRE)	Value & Sustainability  • ESG • Cloud Value Management • FinOps • Sustainable Technology	AI Powered Application Modernisation  • Gen AI • Cloud Data & Analytics • Logging and Monitoring
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Across our many delivery centres, we work with clients of all industries, specialising in complex, high risk or regulated sectors.



Combining our expertise with our alliance tech solutions, we harness the power of smart technologies. Together, we solve your most complex business issues to create sustainable success.



Azure Kubernetes Service (AKS) Design, Review and Implementation



Service Description:

KPMG evidence-backed Azure Kubernetes Service design and deployment service focuses on creating scalable, secure, and efficient containerised applications, offering expert configuration, management, and optimisation of Kubernetes environments for seamless cloud-native application development and operation.



Service Categories

- AKS Cluster Architecture Design
- Containerisation and Microservices Implementation
- CI/CD Pipeline Integration
- Security and Compliance Configuration
- Performance Optimisation and Scaling
- Network Configuration and Service Mesh Integration
- Stateful and Stateless Application Deployment
- Monitoring, Logging, and Diagnostics Setup
- Disaster Recovery and High Availability Strategies



Service Benefits

- Automated CI/CD pipelines and containerisation.
- Enhances application security, significantly reducing risk and ensuring compliance.
- Optimises resource utilisation, lowering operational costs and increasing efficiency.
- Facilitates seamless scalability, easily adapting to changing business needs.
- Improves network reliability and performance with advanced configuration strategies.
- Simplifies application management, freeing up time for innovation and development.
- Increases system resilience and uptime through robust disaster recovery plans.
- Provides deep operational insights with integrated monitoring and logging.
- Streamlines development cycles, enhancing productivity and speeding up time-to-market.



Our Service Features

- AKS cluster design.
- Efficient containerisation techniques.
- CI/CD pipeline setup for automated build and deployment processes.
- Comprehensive security configurations aligned with industry compliance standards.
- Robust network architecture with integrated service mesh for enhanced connectivity.
- Expert deployment strategies for both stateful and stateless applications.
- Integrated monitoring and logging tools for real-time operational insights.
- Proven disaster recovery solutions ensuring business continuity and data integrity.

Our Approach

In designing, reviewing, and implementing Azure Kubernetes Services (AKS), we focus on creating scalable, secure, and highly available container orchestration solutions. This includes optimising resource utilisation, integrating continuous deployment practices, and ensuring your infrastructure aligns with both performance goals and security standards.



Requirements

Designing and Implementing AKS requires a strategic approach to container orchestration, focusing on scalability, manageability, and security within Azure. This involves understanding the specific needs for application containerisation, deployment automation, and continuous integration and delivery (CI/CD) pipelines, while ensuring compliance with organisational and regulatory standards.



Activities

Cluster Configuration

- Configure AKS clusters to optimise performance and manage costs.
- Ensure high availability and disaster recovery capabilities.
- Utilise autoscaling features to meet dynamic workload demands.

Security Implementation

- Implement Kubernetes-specific security practices such as role-based access control.
- Configure network policies to secure pod-to-pod communication.
- Integrate security monitoring tools to continuously scan for vulnerabilities.

Networking Setup

- Configure internal and external load balancers for traffic management.
- Set up ingress controllers to manage external access to services.
- Connect AKS to Azure Virtual Network for enhanced network isolation and security.

CI/CD Pipeline Integration:

- Integrate with existing CI/CD tools for seamless application deployments.
- Automate deployment processes to reduce manual intervention and errors.
- Establish feedback loops for continuous improvement and deployment reliability.



Outcomes

The deployment of AKS provides a highly efficient, scalable, and secure environment for managing containerised applications. This platform enhances operational flexibility, reduces deployment times, and improves resource utilisation, offering an optimised solution that supports continuous innovation and growth.



High-Level Timelines

Our indicative timeline is based on our experience of delivering similar engagements for multiple organisations. Once engaged, we will work with you to create and agree a bespoke plan to meet your specified requirements.

Weeks: Varies

Why KPMG



Top Professional Brand

KPMG has a strong brand and excellent reputation. We are focused on customer needs and have a pragmatic approach for the design and delivery of our Projects. Our team has a proven track record of delivering similar engagements and an intimate knowledge of challenges faced by our clients.



Constructive Input and Challenge

We consider it to be our responsibility to bring an independent perspective and constructively challenge existing processes and systems. We will highlight and share with you both internal and external leading practices.



We Employ a Collaborative and Integrated Team Approach

We deliver a full suite of evidence-backed recommendations in collaboration with KPMG sector and technical experts in all parts of our business around the globe. By working in multi-disciplinary teams, we can deliver holistic thinking and insights for even the most complex challenges.



We Have Strong Relevant Recent Credentials

We have worked across multiple industries and will bring insights from other sectors to challenge your thinking. We have vast Cloud and DevOps expertise within our technology practice in the UK region alone, who cover everything from hosting strategies to building landing zones. We produce agile, resilient and efficient IT functions that support the wider enterprise.

Our Team, Stories and Solutions

Business Outcomes Powered by Cloud

Our Solutions

Cutting-edge technology, business focused solutions

Our Stories

Discover the impact we've made in the Cloud industry

Our Insights

What are the big issues at the top of your business agenda? Read our latest thinking and research to stay on top of change.

AI and Machine Learning

Thought-leadership, expert analysis, and guidance on all things AI.

AI and Machine Learning

Technology and innovation

Trusted insights and actionable advice on emerging technologies.

Technology and Innovation



The CEO Guide to AI Value



Agentic AI: the what, the why and the how

And many more....

KPMG Industry Analyst Recognition

Industry analysts recognition and accolades - KPMG Global



Microsoft Partner of the Year for 2023
Microsoft Prestige Award for Supplier of the Year



KPMG named a **Global Leader** in Verdantix Green Quadrant: **ESG and Sustainability Consulting 2024**



Global Partner of the Year 2024
Google Cloud DE&I Partner 2024



2x Guinness World Records for DevOps and Cloud Upskilling

DevOps upskilling in KPMG and the community



2020, 2021, 2022

Highly Commended / DevOps Leader of the Year 2023



The Forrester Wave™: Cybersecurity Consulting Services in Europe, Q1 2024





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