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Cloud Services
Service Definition Document

G-Cloud 12

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WE GO BEYOND TO CHANGE THE WAY YOU WORK TODAY AND THE IMPACT YOU HAVE TOMORROW

We're Kainos

We overcome big challenges for businesses, using the best in talent and technology.

Kainos
Meaning new, fresh and innovative.

34 years
Of going beyond for our customers and our people.

15 offices
Across Europe and North America.

1,715 people
Who thrive on complex problems.

465 customers
Across commercial, healthcare and the public sector.

£178.8 million
In revenue, and ten consecutive years of organic growth.

kainos®

Our specialisms

Across two specialist business areas, we work globally for clients across commercial, healthcare and the public sector to make the world a little better, day by day.

Digital Services

We're trusted to deliver robust, secure and scalable solutions which have helped over 55 million people and saved our clients hundreds of millions of pounds.

Driver & Vehicle Standards Agency | Home Office | NHS | Telensa

Workday Practice

Experienced in complex deployment and integrations, and a leader in Workday test automation, we're trusted by big brands to deliver, enhance and maintain Workday for their global workforces.

NETFLIX | salesforce | PUMA | Penn University of Pennsylvania

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Who we work with

Public Sector

We work with government departments to help them design, develop, modernise and streamline their systems, whatever the scale or complexity.

Commercial

We partner with businesses across the globe to deliver efficiencies, increase capabilities and future-proof their organisations.

Healthcare

We have been using technology to enable better patient care and outcomes for more than a decade.

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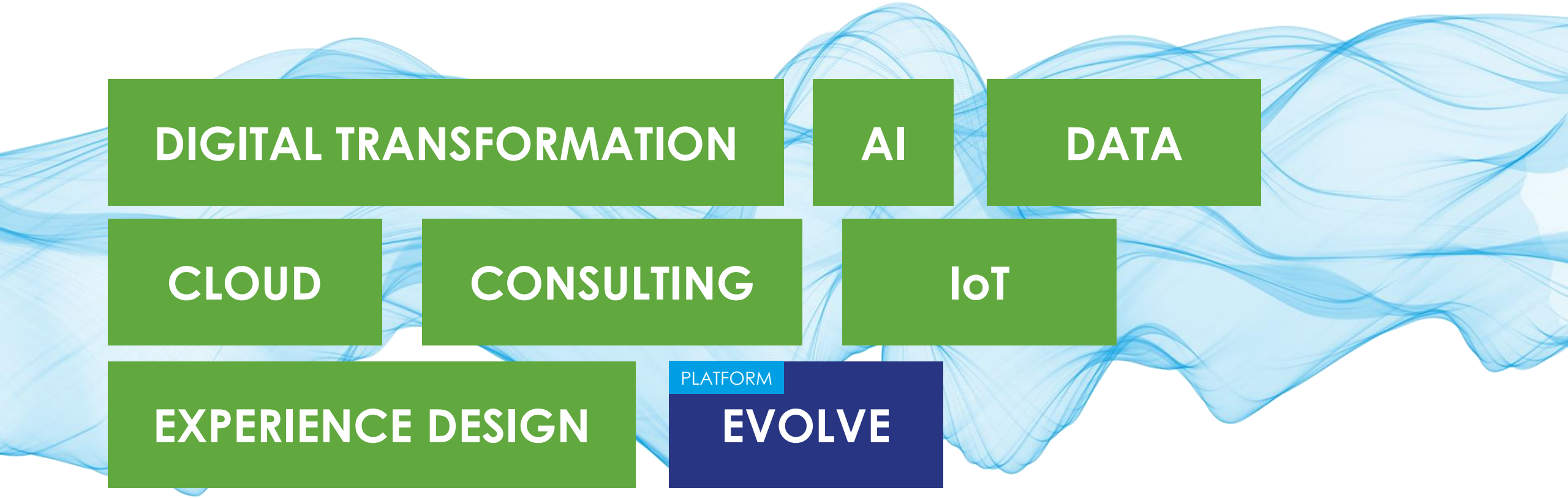
Digital Services

We work collaboratively with customers across commercial, healthcare and the public sector to drive transformation from the ground up, delivering truly intelligent solutions that are secure, accessible and cost-effective.



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Digital Services

55 million UK citizens
positively impacted by services we've delivered

465 blue-chip customers

100+ Agile projects
successfully delivered

97% of customers
rate our service as good, great or excellent

Key partners
Microsoft 2018 UK Partner of the Year and AWS Advanced Consulting Partner

Award-winning
40+ national industry awards

Cabinet Office
Driver & Vehicle Standards Agency
Home Office
Ministry of Justice
HM Land Registry
Llywodraeth Cymru Welsh Government
NHS Digital
New Day
SKEYOS
Telensa

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HM Passport Office

Digitising the passport application process

HM Passport Office

Challenges

- Costly and inefficient legacy contracts in place
- Largely paper-based process – slow and expensive
- Complexity of paper application resulted in significant number of applicants needing to resubmit

Benefits and Outcomes

Service now completely in-house
Avoiding costly & inefficient legacy contracts

World-class customer experience
90%+ satisfaction score

Reduced post-application follow-up by 50%
Saving £5 million per year

40% increase in digital applications
HMPO now processing 5 million+ applications digitally

Removal of 6.5m+ pieces of paper annually
Saving £2.6m per year

Reduced renewal turnaround from 6 weeks to 6 days, on average

Philippa Manley
Digital Services Director, HMPO

"When we set out our transformation programme to 2020, we had the clear aim of becoming a modern, digital business. In partnering with Kainos, we have created a service which is truly valuable for the public and sets a high standard within UK Government."

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NHS App

A simple and secure way for people to access a range of NHS services

NHS Digital

Challenges

- Develop a mobile app that could integrate with third party healthcare data providers
- Build a platform that could support the NHS in a way that is flexible, scalable and robust.
- Seamlessly cater for significant peaks and troughs in user activity

Benefits and Outcomes

70+ People
Multi-disciplinary and multi-supplier model

Self-Service Environments
42 seconds to deploy a production-like environment and we've deployed over 3.5k environments

7 External Integrations
Each with unique requirements

Adopt the right Technologies
Underpinned by Kubernetes, TeamCity and Helm

Automated Pipelines
Each commit triggers a build with an extremely short feedback cycle for developers

"The NHS app is a world-first which will put patients firmly in the driving seat and revolutionise the way we access health services."

Jeremy Hunt, Health and Social Care Secretary (2012-2018)

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Welsh Government

Vision Workshop, Migration & Modernisation, Managed Cloud & Enablement

Llywodraeth Cymru
Welsh Government

Challenges

- Hosted in a VMware cloud platform, the solution had sprawled to 80+ VMs requiring significant operational overhead
- Expensive SQL Enterprise
- Unable to scale up/down to meet seasonal demand
- Complex manual release process
- Disaster recovery failover complex and manual

Benefits and Outcomes

Reduced Cloud costs
50% reduction in hosting costs

Secure Platform
Azure security services to secure data both at rest and in transit

Reduced maintenance costs
Basic VM management tasks completely removed

Autoscaling available across all applications

Azure DevOps Pipelines

Detailed environment insights

Kainos has supported the Welsh Government for 5+ years.

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Secure Azure Managed Services

Kainos enables customers to consume Azure and avail of Kainos' secure design, implementation and managed services.

The service provides UK government organisations with on-demand, scalable public cloud resources to migrate and deliver transformational solutions. This service can be purchased alongside our technical supporting services, helping customers simplify the buying process.

Features

1. Microsoft Azure services: IaaS, PaaS, Serverless Data, AI and IoT.
2. WebApps, WebAPIs, Functions, AzureSQL, Service Bus, Storage, LogicApps, Key Vault.
3. Flexible expert design and implementation services, baking in cyber security.
4. Expert WebOps/DevOps automation using Terraform and Azure Resource Manager.
5. Secure Azure migration and managed services.
6. UK support centre, ISO20000, ISO27001, ISO9000 accredited, HSCN connectivity.
7. Designed for UK Government OFFICIAL workloads, managing citizen/patient data.
8. 24/7/365 monitoring and alerting and SLA.
9. Continuous delivery, continuous integration, enabling agile application development. Application management.
10. Suitable for re-platforming or new digital solutions.

Benefits

1. Azure hosting and Kainos services in single procurement contract.
2. Pay-as-you-go cloud consumption.
3. Expert cloud infrastructure, cyber security, data and compliance specialists.
4. 130+ DevOps / WebOps engineers, experts in Azure engineering.
5. Rapid deployment using automation, minimising risk, project lead time.
6. Security Privacy Compliance Transparency (https://www.microsoft.com/en-us/trustcenter/default.aspx).
7. Secure cloud architectural patterns, proven in UK government deployments.
8. New services investment: https://azure.microsoft.com/en-gb/roadmap/
9. Availability, Integrity, Security, Privacy, Compliance, Transparency.
10. Microsoft Gold Cloud Platform and UK Partner of the Year.

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Secure Azure Managed Services

Microsoft defines clear service boundaries and adopts a shared responsibility model for their cloud service offerings. In this model Microsoft will provide management of their IaaS, PaaS and SaaS services, ensuring these services are highly available, secure and compliant. The end-customer retains full responsibility of the workloads deployed on top of the IaaS, PaaS and SaaS services. Kainos brings its public sector expertise and bridges the gap between the cloud provider and the end-customer.

Kainos ensures the ongoing configuration, security and compliancy of the workloads deployed on top of the IaaS, PaaS and SaaS service are maintained. We offer flexible support options including full end-to-end management of the Azure estate.

Kainos has been delivering its Azure managed service to UK Government since 2013. The service is proven in OFFICIAL/OFFICIAL SENSITIVE environments, is independently audited to ISO 20000 and ISO 27001, and uses ITIL Service Management best practice combined with an automated DevOps process.

We specialise in helping customers move to the next level of cloud adoption, including Azure PaaS and serverless adoption, achieving significant hosting and management cost reduction.

Customers enjoy the flexibility and economic benefits of the cloud and receive the reassurance of a professional, secure managed cloud service, including SLA, Incident, Change, Configuration Management and Service Improvement processes.

The Azure managed service is available across the Azure platform. Customers get access to Kainos' breadth and depth of technical and security capability, provided by over 1300 technical consultants and engineers.

The 'core' managed cloud service provides a support wrapper for your cloud infrastructure, up to and including the operating system / platform end point. We then offer flexible services for ancillary expert support.

Kainos is an approved partner to resell Microsoft Azure services to our end customers. Kainos offers a managed service, support and the ability to bill Azure customers directly.

Kainos is a certified Gold Cloud Platform Partner and works closely with Microsoft's UK public sector teams.

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Secure Azure Managed Services

Flexible Service Options

Our broad experience in agile software development and administration is a key differentiator that enables us to optionally extend support to all aspects of your workload; from the platform /Operating System, through the data and application stack, to the presentation layer. We can tailor your support solution and offer flexible consumption models that allow you, the customer, to choose the aspects of your cloud workload you wish Kainos to support.

- Support and management of PaaS, containers and serverless.
- Implementation, management and support for data and services above the Operating System.
- Vertical and horizontal scaling of cloud servers in line with demand.
- Application management.
- Database maintenance (AzureSQL, MS SQL Server, Oracle, MySQL, PostgreSQL, MongoDB).
- Data analytics and platform management.
- Automated security vulnerability testing.
- Triage of incidents in multi-supplier environments.
- Building and automating the deployment of bespoke server templates.
- OFFICIAL/OFFICIAL-SENSITIVE cross domain security zone design.
- Assistance with risk assessments, security reviews, penetration tests and other compliance requirements (e.g. managing logging and auditing).
- High availability and secure architecture design.
- Disaster Recovery planning for cloud.
- Assist in multi-supplier and SIAM tower environments.

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Secure AWS Managed Services

Kainos is an Amazon Web Services (AWS) Advanced Consulting Partner and a Public Sector Partner enabling customers to consume AWS services at list price and avail of Kainos' secure-by-default design, implementation and managed services.

The service provides government organisations with on-demand, scalable public cloud resources to deliver transformational digital solutions.

Features

1. AWS services: SaaS, PaaS, IaaS, Data, AI/ML and reselling services.
2. High security, hyper-scale cloud: multi-zone resiliency, auto-scaling and auto-healing.
3. Flexible expert-level design and implementation services, baking in cyber security.
4. Expert WebOps/DevOps automation using tooling such as Terraform, CloudFormation.
5. Secure cloud management services.
6. UK support centre, ISO20000, ISO27001, ISO9000 accredited, PSN & HSCN connectivity.
7. Designed for UK Government OFFICIAL workloads, managing citizen/patient data.
8. 24/7/365 monitoring and alerting and SLA.
9. Continuous delivery, continuous integration, enabling agile application development. Application management.
10. Suitable for re-platforming or new digital workloads.

Benefits

1. AWS hosting and Kainos management services in single procurement contract.
2. Flexible and cost-optimised pay-as-you-go cloud consumption.
3. Deploy compliant-by-default services, following NCSC principles and leveraging pre-established patterns.
4. Guidance from expert cloud infrastructure, cybersecurity, data and compliance specialists.
5. Guidance from 130+ DevOps/WebOps engineers, specialists in continuous integration/delivery.
6. Rapid automation-first continuous deployment, minimising project risk and lead time.
7. Availability, Integrity, Security, Privacy, Compliance, Transparency.
8. Use secure cloud architectural patterns, proven in UK government deployments.
9. Specialists in production-proven best practices and modern open source tooling.
10. AWS Advanced Consulting Partner and Public Sector Partner.

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Secure AWS Managed Services

Amazon Web Services (AWS) defines clear service boundaries and adopts a shared responsibility model for their cloud service offerings. In this model AWS will provide management of their IaaS, PaaS and SaaS services, ensuring these services are highly available, secure and compliant. The end-customer retains full responsibility of the workloads deployed on top of the IaaS, PaaS and SaaS services. Kainos brings its public sector expertise and bridges the gap between the cloud provider and the end-customer.

Kainos ensures the ongoing configuration, security and compliancy of the workloads deployed on top of the IaaS, PaaS and SaaS service are maintained. We offer flexible support options including full end-to-end management of the AWS estate.

Kainos' managed cloud service focuses on business outcomes and is technology agnostic. The service is proven in OFFICIAL/OFFICIAL SENSITIVE environments in live service operation and is independently audited to ISO 20000 and ISO 27001 and uses ITIL Service Management best practice.

Customers enjoy the flexibility and economic benefits of the cloud and receive the reassurance of a professional, secure managed cloud service, including SLA, Incident, Change, Configuration Management and Service Improvement processes.

The Kainos managed cloud service is available across IaaS, PaaS and Serverless and is enabled for PSN and HSCN based support.

Customers get access to Kainos' breadth and depth of technical and security capability, provided by over 1300 technical consultants and engineers.

Kainos' core managed cloud service provides a support wrapper for your cloud server infrastructure, up to and including the operating system.

Kainos is an approved partner to resell AWS services to our end customers. We offer the full end-to-end ownership and management of the entire AWS estate, including simple and flexible AWS billing management, access to tailored AWS support plans, existing estate cost optimisations, AWS Well-Architected reviews and AWS training plans.

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Secure AWS Managed Services

Flexible Service Options

Our broad experience in software development and administration provides a key differentiator that enables us to optionally extend support to all aspects of your workload; from the underlying platform and Operating System, through the data and application stack, to the presentation layer. We can tailor your support solution and offer flexible consumption models that allow you, the customer, to choose the aspects of your cloud workload you wish Kainos to support.

- Support and management of PaaS, containers and serverless.
- Implementation, management and support for data and services above the Operating System.
- Dynamic vertical and horizontal scaling of cloud servers in line with demand.
- Application management.
- Database maintenance (AWS Aurora, RDS, MS SQL Server, Oracle, MySQL, PostgreSQL, MongoDB).
- Data analytics platform management (Cloudera, Hadoop).
- Automated security vulnerability testing.
- Triage of incidents in multi-supplier environments.
- Building and automating the deployment of bespoke server templates.
- OFFICIAL/OFFICIAL-SENSITIVE cross domain security zone design.
- Assistance with risk assessments, security reviews, penetration tests and other compliance requirements (e.g. managing protective monitoring logging and auditing).
- High Availability and secure architecture design incorporating AWS Well-Architected principles.
- Disaster Recovery planning for cloud.
- Assist in multi-supplier and SIAM tower environments.

Managed Cloud

Kainos offers flexible support for cloud workloads allowing clients to offload operational management to an ISO20000 certified managed service. Managing networking, server operating systems, applications, and end-to-end digital services. Available for Azure, Amazon Web Services (AWS), other cloud platforms. Delivered by experienced engineers supporting IaaS, PaaS, Kubernetes and serverless automation.

Features

1. 24/7 monitoring and response for IaaS, PaaS, Kubernetes and serverless platforms.
2. Support across networking, operating systems, applications and end-to-end services.
3. Pay as you go support - per item monthly pricing.
4. Cloud hosting, cost optimisation and management.
5. Cloud design, continuous improvement and deployment services on demand.
6. NCSC aligned approach and suitable for OFFICIAL/OFFICIAL SENSITIVE solutions.
7. ISO 9001, ISO 20000 and ISO 27001 (ITIL) certified.
8. UK based support centre with 24/7 Service Desk support.
9. Application Development, Application Management, Service Management, Incident and Change Management.
10. Example tools used: Ansible, Puppet, Terraform, Kubernetes, Docker, Jenkins, Vagrant.

Benefits

1. Secure, accredited ITIL aligned managed service.
2. Scalable and flexible service with a commercial model that is tailored to your needs.
3. Ability to draw upon wide range of skills as required.
4. Pay-As-You-Go charging model providing ease of cost management.
5. Proactive cloud cost optimisation to drive down costs.
6. Easily scale support up/down in alignment with cloud platform consumption.
7. Rapid and repeatable deployment and operation driven by automation tooling.
8. Enhanced access to cloud providers through extensive, award winning partnerships.
9. Securely managed cloud platform monitored 24x7.
10. Tailored SLAs to meet your service requirements.

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Managed Cloud

Kainos' Managed Cloud support service has been designed specifically to support the UK Government's digital services. We have developed a Service Management approach which is ITIL aligned and accredited to IT Service Management ISO20000 standard. This approach provides customers with the ability to consume cloud resources with the assurance of high quality, flexible support delivered by a trusted, ISO27001 security accredited partner.

Our service is cloud agnostic, with specialists able to support your cloud environments across Public Cloud.

Managed Cloud – Full Core Service

Our full core operational management service provides server management up to and including the operating system level, which includes:

- Monitoring and alerting / event management.
- Capacity monitoring.
- Availability monitoring.
- Anti-virus management.
- Operating system patching.
- Backup management.
- 24/7 Service Desk.
- Incident management, logging and tracking service.
- Production and Non-production SLA and service targets.
- Agreed escalation procedures.
- Agreed system failure process.
- Identification of continuous improvement opportunities.
- Dedicated Service Management team.
- 24/7 Out of Hours On-call support.

Managed Cloud – Flexible Service

Our flexible service allows you to tailor the service to fit your needs. Services available include:

- Out of hours Support - Including on-call
- Management On-call services.

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Managed Cloud

- Implementation, management and support for data and services above the operating system.
- Non-standard services – E.g. 3rd party firewalls, and other cloud services.
- Database support and maintenance (MS SQL Server, Oracle, MySQL, PostgreSQL, MongoDB).
- Data analytics platform management (Cloudera, Hadoop).
- Automation – Implementation of auto scaling and automatic start-up/shut down of cloud servers, building and automating the deployment of bespoke server templates.
- Deployment, migration and transition services.

Service Management

The service is ITIL aligned with ISO20000 and ISO27001 accreditations - and operates using mature Incident and Change Management services. Our services are professionally managed and include:

- Kainos Service Desk – A reliable single point of contact into Kainos support.
- Incident Management toolset – We provide an industry leading web-based incident management portal, or we can use your ITSM toolset if required.
- Standard or Extended Service Hours – We offer flexible support hours to suit your needs up to 24x7 x365 days a year.
- Service Level Agreement – We agree SLAs for all interactions and will report on performance monthly.
- Reporting – On at least a monthly basis, we will report on service performance, service improvement, risks and commercials. We will work with you to amend and augment reporting to meet your needs.
- Point of contact – In addition to an experienced team, all clients will have a dedicated Service Manager as a day-to-day point of contact for reviewing the service report and discussing broader service enhancement issues.

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Secure Cloud Platform

Leading cloud transition in public sector-moving key line of business applications to the cloud or wholesale shift from on-premise to cloud.

Kainos certified Azure/Amazon Web Services (AWS) architects create secure landing zone for your infrastructure and applications or validate existing cloud platform. Aligned to NCSC and cloud provider best practices.

Features

1. Secure landing zone built by certified Azure/AWS architects.
2. Secure cloud adoption through the application of proven architectural patterns.
3. Assurance that the platform will meet security and compliance needs.
4. Assessment of IaaS, PaaS, AKS, EKS, Serverless or hybrid-cloud options.
5. Proven automated deployment and migration methods to Azure /AWS.
6. Rapid deployment using Kainos' automated 'Infrastructure as Code' accelerators.
7. Operational needs addressed as part of build.
8. Enablement of your operational teams through standardised processes.
9. Tooling: Ansible, Puppet, Terraform, ARM, Kubernetes, Docker, Jenkins, Azure DevOps.
10. NCSC aligned approach for secure zone design and build.

Benefits

1. Proven cloud platform ready to host production workloads.
2. Secure cloud platform designed to meet NCSC recommendations.
3. Reusable automation to further extend the platform in a safe and robust way.
4. Realise hosting and operational management cost savings.
5. Access to hyperscale computing and flexibility.
6. Leverage latest Azure/AWS industry leading functionality and security features.
7. De-risking the cloud deployment of your current and future services.
8. Access to ISO27001 managed services trusted by UK Government.
9. Operational and security policies and tooling baked into the platform.
10. Comprehensive full-stack observability – auditing, protective monitoring, proactive alerting, SIEM integration.

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Secure Cloud Platform

Kainos has extensive experience in leading cloud transition in the public sector. For some, this has focused on moving key line of business applications to the cloud; for others it was a wholesale shift from on-premise to the cloud.

Our customers consider cloud adoption for several reasons, typically:

- To safely exit an expensive legacy hosting contract.
- Modernising to mitigate risk e.g. legacy hardware and software.
- Their current infrastructure is not able to meet business needs through speed, cost, availability, performance constraints.
- Existing operational teams find difficulty delivering the digital demands of the business.
- Commercial need to realise cost savings from cloud.
- Need to adopt a higher security position.

Kainos has one of the largest teams of cloud engineers serving the UK public sector, helping customers to migrate applications running on old software and hardware to be made safe, modern and cost effective on a cloud platform.

We don't just lift and shift on-premise architectural patterns to the cloud without due consideration; we optimise using cloud best practices. We start with building an understanding of the service to be migrated, and the business and user need, using industry leading tooling. If a cloud provider hasn't already been selected, we will work closely with you to identify the cloud options and help you to make an informed decision.

Service Scope

We have proven experience of architecting over 100 cloud-based platforms. We use this experience to deliver secure, robust cloud platforms in line with NCSC guidelines. We have in-depth experience in delivering highly sensitive workloads including those hosting official-sensitive data on public cloud.

As part of delivering a secure cloud platform, we identify the security needs including the risk and threat actors to ensure we build not only an operationally secure platform but one that will proactively deal with potential threats.

We have a dedicated Cyber Security team within Kainos who work as part of our delivery teams to guide and independently assess the platforms being delivered. The Cyber Security team has worked closely with the NCSC to deliver some of the highest profile citizen-facing services and platforms in government.

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Secure Cloud Platform

As part of securing the platform we will design and build the secure landing zone which covers all aspects required to secure cloud adoption, including but not limited to:

- Implementation of firewalls to protect the Ingress/Egress of traffic
- Implementation of DDOS services
- Implementation of Web Application Firewalls
- Implementation role-based access controls
- Implementation of application and network security groups
- Implementation of security policies
- Implementation of IDS/IPS
- Implementation or integration into an existing SIEM solution
- Implementation of encryption and associated policies
- Implementation of secrets and key management.

Kainos services are accredited to ISO 20000 and ISO 27001 and we are an established cloud support provider for UK Government.

Experience

Kainos has significant experience in delivering secure cloud platforms including OFFICIAL-SENSITIVE workloads. We assess all aspects of security posture to deliver a higher security position by cloud adoption. We assess, design and implement cloud platforms in line with NCSC guidance. We are experienced in working flexibly and collaboratively with our customers, staff and other suppliers to ensure success.

Kainos invests heavily in developing its cloud capabilities which have been proven across many government engagements. We are independent, using the best tools and platforms to achieve the right results. We endeavour to align closely with your organisation, seeking to work as a trusted partner and not just a supplier.

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Cloud Discovery & Strategy

Kainos will work in partnership with you to go through a detailed discovery process defining and/or building on your existing cloud strategy.

The Cloud Strategy will have a positive business case and an actionable plan to take full advantage of services cloud has to offer.

Features

1. Application Discovery process to understand your existing landscape.
2. Technical analysis of your current infrastructure estate.
3. Cloud readiness assessments of your application stack.
4. Application migration recommendations (Retain, Retire, Rehost, Re-platform, Replace, Re-Factor).
5. Applications heatmap for cloud adoption, lowest investment for highest return.
6. Evaluation of current and potential future development practices.
7. Cost assessment and optimisation recommendations.
8. Security and governance assessment of risks to cloud adoption.
9. Assess cloud operational management capability.
10. Provider agnostic e.g. Azure, Amazon Web Services AWS, Google, UKCloud.

Benefits

1. An actionable cloud strategy created in partnership with your organisation.
2. A high-level Business Case and a Roadmap.
3. A high-level tailored cloud sourcing strategy.
4. Organisational, people, process and technology cloud adoption readiness assessment.
5. Identification of opportunities, risks and key mitigations activities.
6. A diverse team with deep experience of cloud implementations/migrations.
7. Know where the security risks/challenges exist with cloud adoption.
8. Identification of gaps and opportunities to influence future strategy.
9. We can become an implementation partner for cloud adoption.
10. Regulatory and compliance assessment.

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Cloud Discovery & Strategy

A structured 4-6 week discovery process with clear deliverables to help you define or build on your existing cloud strategy, create a positive business case and an actionable plan to take full advantage of what cloud can offer.

Service Scope

Delivery of a tried and tested 7-part process:

1. Meet the sponsors – agree high-level objectives and process, participation commitments, agree access to relevant documents.
2. Review information and plan workshops – review and seek clarifications, adjust and plan workshop.
3. Group workshops – delivery of the workshops.
4. Stakeholder meetings – meet key stakeholders to understand any constraints.
5. Group playbacks – run playback sessions and seek feedback on the findings.
6. Finalise the report – completed based on data collected.
7. Next Steps – agree the next steps with the sponsor, with focus on activities providing an in-year return.

The outputs will vary based on the agreed objectives, however typically it would include:

- Cloud adoption heatmap detailing the current status for areas such as People and Culture, Processes, Technology, Security and Commercial.
- Cloud migration heatmap showing the readiness status for a full cloud adoption of Dev Tooling, Ops Tooling, networking, application clusters and if these need to be redesigned, re-platformed etc.
- Cloud operations heatmap showing the readiness to take full advantage of cloud in areas such as WebOps, DevOps, logging, monitoring, ticketing, security.
- A high-level Business Case, with focus on high return, low investment cases.
- A high level 3 to 5-year roadmap, addressing the above findings.

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Cloud Maturity Assessment

Kainos offers 2-4 week assessment to analyse your current capabilities across people, skills, processes, tools against those required for optimal cloud adoption. Identifies areas for Improvement and gaps in processes, skills, technology. Delivers set of prioritised, practical recommendations and a plan on how to close gaps identified during the assessment.

Features

1. A structured process to assess your current cloud adoption maturity.
2. Assessment based on your cloud journey and perceived improvement areas.
3. Independent assessment of your cloud platform, processes and costs.
4. Assessment of current Continuous Integration and Continuous Delivery processes.
5. Review of tools, architecture, security and compliance.
6. Suitable for all service types: IaaS, PaaS, Serverless, Kubernetes etc.
7. Evaluation of potential savings from efficiency / optimisation gains.
8. Review of Key Performance Indicators (KPI) against business needs.
9. Assessment of skills and operational capability.
10. Highlight upskilling training needs based on the assessment.

Benefits

1. Allows baselining the current maturity level to measure future improvements.
2. A repeatable CMMI maturity assessment for each focus area.
3. A practical roadmap to deliver cloud capability improvements.
4. Report containing prioritised recommendations and practical action-plan.
5. Extend your capabilities across the business with further cloud adoption.
6. Team moral and cultural improvements, resulting in higher productivity.
7. Optimise your investment in Public Cloud leading to a lower TCO.
8. An objective, independent assessment working in partnership with your organisation.
9. A diverse team with deep experience of public/private cloud implementations.
10. Cloud agnostic partner (Including Azure, AWS, GCP, UKCloud).

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Cloud Maturity Assessment

A targeted 2-4 week assessment to analyse your current capabilities across people, skills, processes and tools against those required for optimal cloud adoption. Identifies areas for improvement and gaps in processes, skills and technology. Delivers a set of prioritised and practical recommendations working closely with you to make the necessary improvements and plan how to close the gaps identified during the assessment.

Service Scope

Delivery of a tried and tested 4-part process:

1. Planning – Clarify the assessment objectives, identify the key stakeholders, a high-level plan for the deliverables.
2. Interviews – Facilitated interviews with the stakeholders based on pre-prepared questions.
3. Reviews – review of the draft report indicating the current maturity, areas of improvement, how to improve any current blockers.
4. Delivery of the assessment – presentation to all the stakeholders, baseline of the current maturity levels in general cloud adoption and the specific focal areas. The three most beneficial next steps to get the improvements underway as soon as possible.

CMMI model helps to classify the current capability against a score of 1 to 5, with 5 indicating the most optimised and efficient processes.

The outcome of this exercise would be:

- Classification of the assessment areas based on CMMI scores.
- A three-year capability improvement roadmap.
- A repeatable process to assess improvements on an ongoing basis.
- List of blockers and how these could be overcome.
- Next key actions.

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Legacy Modernisation

Leverage cloud to modernise existing legacy applications by using the latest tools and cloud native technology to deliver enhanced scalability, reliability, cost effectiveness, performance, and security. Kainos' architecture, development and operations technologists enable our clients to embrace cloud native and PaaS services, minimising 'keep the lights on' operational costs.

Features

1. Service designed, built and optimised to harness PaaS capabilities.
2. PaaS hosted service delivery underpinned by automation practices.
3. Hyperscale Cloud support e.g. Azure App Services, AWS Elastic Beanstalk.
4. Innovate at a faster pace using flexible and modern technology.
5. Standardised modernisation process to support feature-based continuous delivery.
6. Service health check and performance monitoring and dashboards.
7. Reduces risk with fully managed automation and configuration management.
8. Creation of a standardised, fast, test-driven, robust, continuous deployment pipeline.
9. Rapid implementation using proven architectural patterns and accelerators.
10. Experienced technologists with in-depth understanding of cloud-centric government services.

Benefits

1. Enables service owners keep pace with development of services.
2. Faster delivery by harnessing ready-made PaaS capabilities.
3. Utilising cloud native services that minimise run and operational costs.
4. Delivers a blueprint of how to deliver future cloud services.
5. Services designed, optimised and scaled to meet user demands.
6. Reduces risk of change with robust continuous deployment pipeline.
7. Facilitates application portability to other PaaS providers.
8. NCSC aligned approach for secure design, build and data transfer.
9. Improved service levels for performance, reliability and security.
10. Existing staff enabled to operate the modernised application.

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Legacy Modernisation

Kainos leads cloud transition in the public sector. For some, this has focused on moving key line of business applications to the cloud; for others it was a wholesale shift from on-premise to cloud.

Our customers consider cloud adoption for a number of reasons, typically:

- To safely exit an expensive legacy hosting contract.
- Modernising to mitigate risk e.g. legacy hardware and software.
- Their current infrastructure is not able to meet business needs through speed, cost, availability and performance constraints.
- Existing operational teams find difficulty delivering the digital demands of the business.
- Commercial need to realise cost savings from cloud.
- Need to adopt a higher security position.

Kainos has one of the largest teams of cloud engineers serving the UK public sector, helping customers to migrate applications running on old software and hardware to be made secure, modern and cost effective on a cloud platform.

We don't just lift and shift on-premise architectural patterns to the cloud without due consideration; we optimise using cloud best practices. We start with building an understanding of the service to be migrated, and the business and user need, using industry leading tooling. If a cloud provider hasn't already been selected, we will work closely with you to identify the cloud options and help you to make an informed decision.

Service Scope

We have proven experience of architecting over 100 cloud-based platforms. We use this experience to optimise for cloud, simplifying or enhancing any services as part of the modernisation process and minimising costs.

As part of modernisation, we identify security and operational needs and address gaps to deliver a service that is robust and secure.

We assess all aspects of the service being modernised, including integration interfaces and dependencies. This capability is a natural extension of our systems integration services and includes the design, implementation and testing of interfaces between cloud computing components (SaaS, PaaS and IaaS) and on-premise technology.

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Legacy Modernisation

We are leaders in Continuous Delivery and automation; this expertise enables our customers to iterate and maintain their mission critical services in a robust, reliable and secure manner.

As part of service modernisation efforts our teams are committed to helping deliver your services to production and live operation support. We can enable your teams to be part of this process and help you build internal capability to support your service once migrated. Additionally, Kainos can provide a post-migration support service tailored to your business needs

Kainos services are accredited to ISO 20000 and ISO 27001 and we are an established support provider for UK Government.

Experience

Kainos has significant experience in modernising legacy workloads harnessing cloud native services. We assess all aspects of the solution being modernised, including integration

interfaces and dependencies, and we are experienced in working flexibly and collaboratively with our customers, staff and other suppliers to ensure success.

Kainos invests heavily in developing its cloud capabilities which have been proven across many government engagements. We are independent, using the best tools and platforms to achieve the right results. We endeavour to align closely with your organisation, seeking to work as a trusted partner and not just a supplier.

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Cloud Migration

Kainos leads cloud transition in public sector including migrating key line of business applications to the cloud and a wholesale shift from on-premise to cloud. Our migration services include Migration Discovery, Planning, Pilot Migration, Migration Factory, building a secure Cloud Landing Zone, re-platforming, Cloud Native Modernisation and capability enablement.

Features

1. IaaS, PaaS, Serverless, or hybrid-cloud migrations: AWS, Azure, and Google.
2. Analysis and planning to discover, assess and prioritise.
3. Dependency mapping and migration plan.
4. Pilot migration: agreed candidate applications, communications plans, validation test plans.
5. Commercial checkpoint – assess cloud consumption and delivery costs – optimise.
6. Automated DevOps Continuous Integration / Continuous Delivery approach.
7. Migration factory – migration team, establish roles, scale and promote innovation.
8. Manage through assessment, modernisation, deployment through to live operation.
9. NCSC aligned approach for secure design, build and data transfer.
10. Example tooling: Ansible, Puppet, Terraform, Kubernetes, Docker, Jenkins, Vault, Vagrant.

Benefits

1. Minimise cloud costs through intelligent delivery of cloud services.
2. Minimise operational management costs by using cloud-native / platform services.
3. Reduce licensing and support costs. ISO 20000, ISO 27001 accredited.
4. Maximise security and technical benefits through advanced cloud engineering.
5. Reduce risk, gain increased confidence through experience migrating mission-critical workloads.
6. IT operations more responsive to business demands and innovation.
7. Access to over 100 cloud, automation, security and application experts.
8. Joint teams and skills/ knowledge transfer – enablement of your staff.
9. Gain greater insight into your applications and data.
10. Available 24/7 managed cloud service – interim help or long-term basis.

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Cloud Migration

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Service Scope

We have proven experience of architecting over 100 cloud-based platforms. We use this experience to optimise for cloud, simplifying or enhancing any services as part of the migration process and minimising costs.

Our tried and tested process includes the following phases,; Discovery, Design, Landing Zone Build, Pilot and Migration Sprints. All the phases are underpinned by a number of key principles such as security, enablement, stakeholder engagement, maximising benefits and reducing costs.

As part of the migration, we identify security and operational needs and address gaps to deliver a migrated service that is robust and secure.

Kainos services are accredited to ISO 20000 and ISO 27001 and we are an established support provider for UK Government.

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Cloud Migration

During Discovery, we assess all aspects of the solution being migrated, including integration interfaces, data and application dependencies. This capability is a natural extension of our systems integration services and includes the design, implementation and testing of interfaces between cloud computing components (SaaS, PaaS and IaaS) and on-premise technology.

We are leaders in Continuous Delivery and automation; this expertise enables our customers to iterate and maintain their mission critical services in a robust, reliable and secure manner.

As part of service migration efforts our teams are committed to helping deliver your services to production and live operation support. We can enable your teams to be part of this process and help you build internal capability to support your service once migrated. Additionally, Kainos can provide a post-migration support service tailored to your business needs.

Experience

Kainos has significant experience in migrating cloud workloads. We assess all aspects of the solution being migrated, including integration interfaces and application dependencies, and we are experienced in working flexibly and collaboratively with our customers, staff and other suppliers to ensure success.

Kainos invests heavily in developing its cloud capabilities which have been proven across many government engagements. We have a highly experienced engineering base with a broad range of skills that includes infrastructure provisioning Windows and Linux, COTS and open source applications and tooling. We are independent, using the best tools and platforms to achieve the right results. We endeavour to align closely with your organisation, seeking to work as a trusted partner and not just a supplier.

Cloud Performance and Testing Services

Kainos test specialists provide our clients with a wide range of professional testing services for assuring software, including functional testing, exploratory testing, test governance & assurance, test guidance for product owners, test automation, non-functional testing (such as performance, security and accessibility), test strategy, test management and test guidance for developers.

Features

1. Rigorous testing of software products produced by agile teams.
2. Test Automation supporting rapid deployments to Production.
3. Test guidance for developers to inform test paths, edge conditions.
4. Guidance for product owners informing acceptance criteria for user needs.
5. Exploratory testing determining regression and assurance beyond test automation.
6. Advising on BDD and TDD approaches.
7. Penetration, Performance, Load, Stress and Soak testing supporting assurance to Production.
8. Disaster Recovery Testing of digital services to ensure operational stability.
9. Test governance and assurance promoting standards and auditability.
10. Advising and supporting clients for UAT activities and signoff.

Benefits

1. Our test governance and assurance builds strong relationships and trust with clients.
2. Integrated multi-disciplinary team testing and development ensuring early test feedback.
3. Successfully tested software products, including multiple system and supplier integration.
4. Integration of functional and non-functional testing within single team.
5. Reduction of regression issues with effective test automation.
6. Reduction of testing tools cost through using open source technologies.
7. Reduced risk when delivering value to users in Production.
8. Successful software product delivery as part of integrated agile teams.
9. Full transparency and critique of all work undertaken across the delivery.

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Cloud Performance and Testing Services

Kainos has an integrated test capability of skilled test specialists working within our delivery teams to deliver cloud-based digital services with a focus on agile testing. Our test governance and assurance professionals can also provide a detailed and independent guarantee of the quality of work across the whole software lifecycle.

Assured Integrated Testing in Agile Teams

Testing is integral to the successful delivery of digital services, particularly those that are released to Production early and often.

Kainos' full-stack delivery teams include embedded specialist testers who ensure delivered features are fully tested and are functionally and non-functionally acceptable to the customer.

Our dedicated Test Assurance and Governance professionals will ensure adherence to internal and external standards for delivery, building strong, trusted relationships, and preparing the delivery for successful audits. This service will be integrated or stand-alone and can be tailored to suit your approach.

Kainos also specialises in test metrics and reporting, integrating this within the Test Assurance and Governance process.

Performance Testing: Load, Stress, and Soak Testing

Non-functional testing of any digital service is vital to its success. This is even more significant when using an agile approach, which encourages rapid and incremental feature development, enabling faster delivery of features to users. It is vital that digital services for citizens are functionally and non-functionally tested to simulate the stresses and strains they will be put under during production use.

Kainos has significant experience testing and assuring citizen-scale transactional services that have large user bases and are not tolerant of downtime. We optimise and tune services during their development and monitor performance during production use to proactively identify issues.

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Cost Optimisation

Kainos provides a focused 2-4 weeks assessment of your cloud costs. Identifies areas for improvement, reduction, optimisation techniques and technology adoption to get the most value from your public cloud platform.

Features

1. Assessment available across Azure, Amazon Web Services AWS and Google.
2. Proven methodology to quickly assess cloud consumption and utilisation.
3. Assessment of people, processes and technology to optimise value.
4. Consumption strategy created to guide cloud deployment and on-going savings.
5. Recommendations for licensing models for cloud providers in use.
6. Workload uptime and usage aligned to business need.
7. Dashboards created to visualise consumption and usage.
8. Adoption of cloud-native platform services to reduce cost.
9. Improvements in tooling and automation.
10. Implementation of cost controls and policies to manage usage.

Benefits

1. Reduce cloud costs through optimisation of cloud services.
2. Minimise operational management costs by using cloud-native / platform services.
3. Assessment of licensing models applicable to your scenario.
4. Reduction of licensing and support costs.
5. Leverage Cloud Partner agreements to reduce run costs.
6. A RAG scored actionable set of tasks to maximise savings.
7. IT operations able to improve services with reduced costs.
8. Joint teams and knowledge transfer – enablement of your staff.
9. Gain greater insight into your cloud landscape.
10. Access to over 100 cloud, automation, security and application experts.

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Cost Optimisation

A structured 2-4 week process with clear deliverables, identifying cloud cost optimisation opportunities, assessing the size of the opportunities and categorising these in terms of ease of delivering the benefits.

Service Scope

Delivery of a tried and tested 3-stage process:

1. **Workshop with sponsors: -** understand the key drivers, agree high-level objectives, current cost base and saving targets, and the timeline to achieve the expected savings.
2. **Data Collection -**
    - discussions with key stakeholders in technology, IT operations, finance and commercial to identify opportunities and understand existing constraints such as business readiness, licensing, contracts etc.
    - Run cloud-specific cost optimisation tooling on the IT estate.
3. **Produce the report -** A RAG status for each cost optimisation opportunity, detailing the next actions to realise the savings.

The outputs will vary based on the agreed objectives; however it would address several cost optimisation areas:

- **Technology** – Server retirement, re-architect to rationalise, right sizing, best cloud service for the workload, consolidation, tooling improvements etc.
- **Operational** – best consumption model for workloads, optimisation of server uptimes, leverage geographical cost differences, reduction of internal effort by use of managed services, optimisation of DR and BCP consumption, automation and use of cloud-native services such as remote desktops etc.
- **Commercial** – licensing rationalisation, using cloud partners to purchase compute, storage etc.

Cloud Delivery - Risks, Assumptions, Dependencies

Customer will:

- Provide software licenses and subscriptions required by Kainos
- Provide Administrator\Root access to Kainos for all source servers/virtual machines or, if not possible, agree a process of accessing workloads to install agents, run tools, collect information and remediate migration issues
- Provide network access to the Customer LAN and remote access from Kainos offices/via a corporate VPN (to facilitate remote working)
- Provide outbound internet access of sufficient speed to support migration of workloads to the cloud
- Provide technical support to support the migration activity, including the unblocking of any items deemed to cause issues during migration activity (firewall changes, network routing etc.)
- Provide technical team input into the Kainos delivery, to include attendance at stand-ups, meetings, planning exercises and any other items deemed reasonably necessary by Kainos
- Support the rebuild of services in Azure when it makes better sense than migrating (e.g.) Customer team support for activities involved in installing updated operating systems
- Provide any documentation or other artefacts to support Kainos discovery, migration planning, migration activity and post-migration remediation
- Provide support in testing activity (User Acceptance Testing, Disaster Recovery testing etc.), as agreed with by the Kainos Delivery Manager and Architects
- Liaise and co-ordinate third party suppliers and workstreams required to support the project
- Accept that estimates costs and/or timelines may be impacted where:
  - It is a requirement for discovery tools to be run on the Customer's estate, which differ from Kainos' standard tooling
  - Discovery uncovers more complex workloads than originally envisaged
  - The Customer's business has complex requirements around 'application downtime' windows for applications which are being migrated to the cloud
  - Migration is impacted by slow internet speeds
  - Modernisation and optimisation work is required which is not originally planned for
  - There is a lack of Customer IT team readiness
  - Customer does not adhere to agreed turnaround times on documents and requests for information as agreed at during the planning phase.

Cloud Delivery - Risks, Assumptions, Dependencies

Kainos will:

- Undertake a Discovery exercise early in the project, working alongside Customer teams internally to determine a migration approach and plan, to include running tools on the wider estate to gather supporting information
- Design and build a landing zone in the cloud, which will form the virtual datacentre to host the migrated workloads
- Provide a migration plan, taking inputs from Customer business requirements, technical teams and stakeholders to inform the overall approach for migration of workloads to the cloud
- Migrate the agreed workloads set out in the migration plan to the cloud, in the order defined, supporting agreed requirements around application uptime or Service Level Agreements
- Provide Customer with a pragmatic, best practice approach to dealing with unsupported workloads or deprecated operating systems/software working in conjunction with Customer business and technical teams to agree steps to remediate workloads
- Use standard tooling to support both Discovery and Migration activity where possible, using custom scripts (i.e. PowerShell, BASH scripts) only where necessary
- Engage Customer IT teams to advise where workloads require low level changes to support their running in the cloud, providing advice on the changes required and direct the Customer IT teams, where possible, to make these changes. Where applications require further remediation, Kainos will provide guidance and best practice on the best approach
- Treat any cloud modernisation and optimisation with a modern, agile approach to any software development work required and provide where possible iterative value in a logical fashion throughout the delivery. Kainos will involve Customer IT teams to become members of our Scrum teams (where appropriate) throughout delivery, to collaborate toward achieving the best results
- Agree with Customer the acceptance criteria for the migration of services
- Endeavour to complete majority of engineering work remotely, with a view on mitigating spend and restrictions in force associated with Covid-19
- Agree during the planning phase turnaround times for communications, requests for information and documentation reviews/sign-off.

BCDR and Exit Plan

Business Continuity and Disaster Recovery (BCDR)

A Business Continuity Plan can be provided if required. This shall set out the arrangements to be invoked in the event of an actual or perceived threat to business continuity, to ensure continued operation of the system and continuity of the services provided by Kainos pursuant to the Prime Agreement and shall include: the alternative processes, options and responsibilities that may be adopted in the event of a failure or disruption to the system and/or services provided by Kainos pursuant to the Prime Agreement; and the steps to be taken by Kainos upon resumption of the system and services provided by Kainos pursuant to the Prime Agreement in order to address any prevailing effect of the failure or disruption including a root cause analysis of the failure or disruption.

Exit Plan

An Exit Plan can be provided if required to detail the steps that would be carried out to ensure smooth transition of Kainos services to a new supplier. The steps outlined in the Exit Plan will help mitigate against any disruption to the service during the transition period. It is assumed that any new supplier will themselves have a procedure they wish to follow during the transition period, and as such the steps in this Exit Plan will serve as a checklist for the new supplier to ensure all key areas of the transition have been covered. The Exit Plan will therefore be subject to refinement should it be exercised.

Commercial Statement

Confidentiality and Copyright

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Caveats

Kainos has used all reasonable endeavours to ensure that the contents of this document are accurate but is not responsible for any errors or omissions.

All information provided prior to execution of a contract is provided ‘as is’ and ‘subject to contract’ without warranty of any kind.

This document does not constitute an offer from Kainos. In the event that the parties elect to work together, they will only be contractually bound to each other upon signature of a contract.

Corporate Information

“Kainos” is the trading name of the Kainos group of companies, further information on which can be found here: https://www.kainos.com/corporate-information/

Kainos Software Limited will be the contracting entity for the provision of the services and may be assisted from time to time by other Kainos group companies.

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