



kainos®

# G-Cloud 10 Cloud Service Descriptions

April 2019



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# Who we are

Kainos Group plc is a leading UK-based provider of Digital Services and Platforms.



## Kainos

Meaning 'innovation'



## 31 years

Successful in business



## Over 1,100

Exceptional people



## 6 years

Sunday Times Top 100 Companies to Work For



## 250

Blue-chip customers



## 15 offices

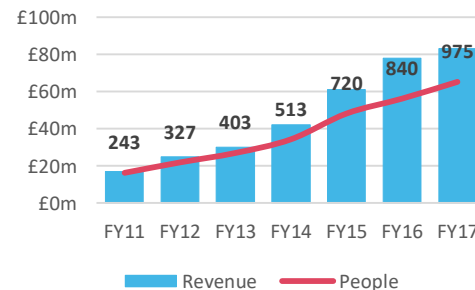
Across the UK, Ireland, Europe and USA



## Experts

Across Healthcare, Government and private sector

## Growth



# What we do

We create digital solutions for public and private organisations around the globe, and build innovative software products that make life easier for our clients and their customers.



## Digital Services

- Our Digital Services include full lifecycle development and support of customised technology solutions for government and commercial customers.



## Digital Platforms

Our Digital Platforms comprise specialised software products for mobile healthcare and automated software testing.



# What sets us apart



## People

**1,100**

Staff

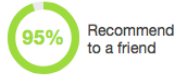
**11,222**

Applicants

**93.6%**

Staff retention

 glassdoor



2013 2014 2015  
2016 2017 2018



## Customers

**250**

Blue-chip customers

**89%**

Revenue from existing customers

**96%**

of customers rate service as good, very good or excellent



## Innovation

### Services

New ways to help customers work faster, smarter, better

### Platforms

Innovative platforms that streamline business processes

 evolve  
innovation by kainos

 meridio

 Smart  
innovation by kainos

 SpeechStorm



# Digital Services

Our Digital Services include full lifecycle development and support of customised technology solutions for customers, and implementation and testing of Workday's cloud-based ERP suite.



## Agile consulting & development

We work hand-in-hand with customers to design and build successful digital services using agile delivery.



## Continuous improvement & support

We combine our long-standing expertise with a mature Dev Ops capability to provide assured and reliable production services.



## Workday implementation

We help clients deploy and configure Workday's SaaS enterprise product suite.

# Digital Platforms

Our Digital Platforms comprise specialised digital products in the mobile healthcare and automated testing arenas.



## Electronic Medical Records (EMR)

EMR is the market-leading product for the digitisation of patient notes, promoting digital maturity in healthcare organisations across the UK & Ireland.

## Integrated Care (IC)

Evolve IC is a SaaS-based platform for UK and international healthcare providers that enables better patient care through effective collaboration and information sharing between teams and organisations.



## Kainos Smart

Smart is an automated testing platform for Workday customers.

# Who we work with

- Government
- Healthcare



Driver & Vehicle  
Licensing  
Agency



Department  
for Environment  
Food & Rural Affairs

South East Coast  
Ambulance Service **NHS**  
NHS Trust



Chelsea and  
Westminster Hospital  
NHS Foundation Trust



Department of  
**Justice**



Department  
for Work &  
Pensions



Ministry  
of Justice

Bradford Teaching Hospitals **NHS**  
NHS Foundation Trust



Luton and Dunstable  
University Hospital  
NHS Foundation Trust



SOCIAL  
SECURITY  
AGENCY



Home Office



Cabinet Office

Royal Brompton  
& Harefield **NHS**  
NHS Foundation Trust



The Ipswich Hospital  
NHS Trust



Foreign &  
Commonwealth  
Office



Driver & Vehicle  
Standards  
Agency



Department of  
Agriculture, Environment  
and Rural Affairs



Parliamentary  
and Health Service  
Ombudsman



Buckinghamshire  
Healthcare  
NHS Trust



Department  
for Transport



# Giving back

Our people dedicate their time to pioneering social outreach initiatives through our Tech Outreach programme, a ground-breaking initiative that helps young people improve their digital skills.



We help young people increase their technical abilities.



We deliver dozens of CodeShows to encourage young people to consider a career in IT.



We help teachers become more confident in teaching ICT and shape their IT curriculum.



We run Code Clubs in schools across the country.



Students create and build a working app in a real development environment.

## Work Experience

We offer young people the opportunity to find out what it's really like to work in IT.

**£35,000**

donations per year

**1,000 hours**

of staff time

**90% of staff**

feel encouraged to take part in charitable activities

**4,000+**

young people benefitted from Tech Outreach so far

# Digital Transformation

Building a successful cloud-based digital service portfolio requires digital capability and an agile, data-driven culture. Kainos offers a mature digital transformation service that helps organisations leverage their cloud investment and instill the culture and capabilities required to accelerate digital transformation.

## Features

1. Strategic alignment between digital projects and business strategy.
2. Co-ordinated multi-channel service design.
3. User research and service design expertise.
4. Product and portfolio management processes and practices.
5. Technology landscape analysis to leverage emerging technology.
6. Data-driven processes to derive measurable benefits from digital solutions.
7. Value delivery analysis to track delivery progress against outcomes.
8. Clear recommendations to optimise agile delivery success.
9. Innovation engineering workshops to identify new opportunities.

## Benefits

1. Gap analysis between business strategy and digital delivery.
2. Identification of barriers to transformation.
3. Business analysis that translates needs into live service features.
4. Improved realisation of outcomes from technology investment.
5. Shorter time-to-market through leaner product development.
6. Reduced cost and time-to-market through better component reuse.
7. Leverage of Kainos' Agile delivery best practice framework.
8. Competitive advantage through innovation and use of emerging technology.

# Digital Transformation

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Digital Transformation enables organisations to deliver their products and services in a more effective, competitive and innovative way. Leveraging cloud infrastructure, organisations can deploy and iterate their products much more rapidly, and more easily meet the rising demands of their customers. Easier access to new and emerging cloud-based technology means that digital organisations can create more innovative products, informed through data analytics and real customer insight.

Kainos' Digital Transformation service provides product management and service design, agile assurance and data and technology consulting to accelerate transformation alongside any cloud initiative. These functions work together to help your organisation create better user experiences, understand and capitalise on emerging cloud technologies, establish a data-driven culture and instil organisational agility (regardless of methodology e.g. Scrum, SAFe, Kanban).

At Kainos, we are at the forefront of transforming services through digital cloud technologies. Our people have helped to transform some of the largest Government services and introduce new, more flexible, ways of working that support continuous improvement. We use this practical experience to guide you through the process of transformation, from developing your digital strategy to creating new processes and building a user-centric culture. Combining our experience with your commitment to change, we will help your organisation transform and capitalise on the opportunities of new digital technology.

# Amazon Web Services Platform Delivery

Our technologists provide our clients with the expertise to design, build and deliver services harnessing Amazon Web Services (AWS). Following our Cloud first delivery approach we will utilise automation to establish a continuous delivery to enable robust and secure iteration of services hosted on AWS in line with NCSC guidelines.

## Features

1. Platform designed by certified AWS architects
2. Assessment of IaaS, PaaS, Serverless or hybrid-cloud options available.
3. Performance assessed and benchmarked as part of deployment.
4. Proven methods and automated delivery to migrate to AWS.
5. Operational needs addressed as part of deployment e.g. monitoring, auto-scaling
6. Version controlled Infrastructure as Code and Configuration Management.
7. Delivered by experienced AWS certified DevOps engineers.
8. NCSC aligned approach for secure design, build and data transfer.
9. Experienced technologists with in-depth understanding of Cloud centric Government services.
10. Tools used: Ansible, Puppet, Terraform, Kubernetes, Docker, Jenkins, Vault, Vagrant.

## Benefits

1. Realise cost savings using AWS.
2. Access to hyperscale computing and flexibility.
3. Realise benefits of AWS security features.
4. Realise benefits of AWS feature rich functionality.
5. Rapid deployment using Kainos' automated 'Infrastructure as Code' bank.
6. De-risk deployments using a proven provider.
7. De-risk deployments with access to high quality engineers.
8. De-risk deployments with access to robust proven project management.
9. Access to ISO27001 managed services trusted by UK Government.

# Azure Platform Delivery

Our technologists provide our clients with the expertise to design, build and deliver services harnessing Microsoft Azure. Following our Cloud first delivery approach we will utilise automation to establish a continuous delivery pipeline to enable robust and secure iteration of services hosted on Azure in line with NCSC guidelines.

## Features

1. Platform designed by certified Azure architects.
2. Assessment of IaaS, PaaS, Serverless or hybrid-cloud options available.
3. Performance assessed and benchmarked as part of deployment.
4. Proven methods and automated delivery to migrate to Azure.
5. Operational needs addressed as part of deployment e.g. monitoring, auto-scaling.
6. Version controlled Infrastructure as Code and Configuration Management.
7. Delivered by experienced Azure certified DevOps engineers.
8. NCSC aligned approach for secure design, build and data transfer.
9. Experienced technologists with in-depth understanding of Cloud centric Government services.
10. Tools used: Ansible, Puppet, Terraform/ARM, Kubernetes, Docker, Jenkins, Vault, Vagrant.

## Benefits

1. Realise cost savings using Azure.
2. Access to hyperscale computing and flexibility.
3. Realise benefits of Azure security features.
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# Cloud Development

Kainos is cloud computing specialists who empower organisations to design, deploy and operate digital services using commodity cloud platforms in an efficient, cost-effective and secure manner. We are passionate technologists who want to get your code to production more quickly, reliably and with less risk using a Continuous Delivery approach.

## Features

1. Identify appropriate cloud services for application development.
2. Use open source, open standards, simple frameworks, lightweight technologies.
3. Iterative and incremental; a 'release early and often' principle.
4. Apply Continuous Integration and Continuous Delivery techniques.
5. Employ pair programming, code reviews and Test-driven development (TDD).
6. Ensure each build is a production release candidate.
7. 'DevOps' culture/WebOps functions: automated environment build and release mechanisms.
8. Delivery of user focused minimal viable product.
9. Identify and address cloud specific risks, issues and constraints.
10. Automated testing to increase confidence and reduce risk.

## Benefits

1. Value to production faster via continuous delivery pipeline.
2. Transparent approach ensures on-going visibility of development progress.
3. Agile delivery enables reprioritisation of requirements with each iteration.
4. Ensuring the most valuable features are continually being delivered.
5. Exceptional pool of developers, QA, Security and WebOps staff.
6. Delivery Managers ensure business objectives are realised.
7. Continual deployment facilitates constant visibility to stakeholders.
8. Dedicated UX Design team to lead User Experience aspects.
9. User needs at the centre of everything we develop.
10. Exploits benefits of speed/cost without compromising security or reliability.

# Cloud Development

Kainos has been closely involved with the development of digital services for UK Government since the inception of GDS and the Digital by Default agenda.

We worked on seven of the 25 initial exemplar projects and since then, we have delivered around 40 UK Government digital projects embracing the GDS design principles for departments and agencies including the Home Office, DEFRA, DVSA, DVLA, Cabinet Office, FCO, Land Registry and DWP.

We have an exceptionally strong WebOps capability that understands and knows how to deliver services consistent with the Digital Service Standard. We know what it will take to “design, build and manage the provision of the highly available infrastructure components” you require, and how to “help teams to rapidly prototype, deliver, and run, high-impact and high-value services”.

We foster a ‘DevOps’ culture, encouraging increased ownership in teams to deploy working software to production. This results in software that is operationally ready rather than simply feature complete, with a view to delivering value early.

We use automation extensively to provision, monitor and scale on cloud infrastructures, enabling new environments to be created quickly and with minimal effort, thereby ensuring pipeline integrity is maintained consistently across all environments. We incorporate standardised but flexible approaches for building, deploying, securing and running live services.

We can advise on and work with every combination of public and private clouds, and ensure secure integration with legacy systems as appropriate. Effectively, we create a wide-reaching roadmap for change that covers every last consideration, ensuring no conflict with existing infrastructures or investments.

# Cloud Development



Agile  
Delivery

Iterative, Collaborative and aligned to GDS Digital-By-Default service standard.



Value  
Orientated

Fast learning and risk mitigation through a focus on early delivery of an MVP.



Continuous  
Delivery

Frequent releases through full automation of environments and deployment processes.



Collaborative

Open, transparent and collaborative team approach.

# Cloud Integration

Design, implementation and testing of interfaces between cloud computing components (SaaS, PaaS and IaaS) and on-premise technology. This service involves implementing production ready, fully tested, automated technical solutions allowing customers to realise the objectives of their cloud strategy.

## Features

1. Design and implementation of cloud platforms integrating various cloud services.
2. Design of secure custom interfaces between cloud and on-premise technology.
3. Development of custom integration between cloud APIs and existing components.
4. Development of custom integration between multiple diverse cloud deployments.
5. Development of extensions to SaaS products/services providing additional functionality.
6. Development of customised functionality to complement deployed cloud services.
7. Automated testing to increase confidence and reduce risk.

## Benefits

1. ISO 27001 security accredited supplier.
2. Design and support of OFFICIAL and OFFICIAL-SENSITIVE.
3. Allows access to scalable, flexible solutions.
4. Technology and vendor independent.
5. Reassurance of Kainos 30 years' Systems Integration experience.
6. Proven cloud solutions delivered in Government with multiple cloud providers.
7. Agile delivery enables reprioritisation of requirements with each iteration.

# Cloud Integration

Kainos' pedigree lies in software development. From our inception we were providing complex integration solutions relying on bespoke software development, and this foundation forms the basis of many of our current service offerings which are hosted in the Cloud. Being a systems integration specialist with over 30 years' experience of handling some of the most complex technical challenges facing our customers, Kainos is ideally positioned to prepare organisations for adopting Cloud based solutions. We can help test out a new venture with minimal risk, vary IT capacity to suit fluctuating demands, or provide more flexible remote access to applications or data.

We are technology agnostic, with broad experience across public and private cloud, building development platforms for solutions across Public sector, Healthcare and Financial Services organisations. For example, as a key integration partner for the leading HCM SaaS provider, Workday, Kainos has been involved in several key projects with responsibility for integrating on-premise applications with the public, cloud-based Workday application. Other significant engagements include clients such as Telenor, Cornell, Trafigura and RBSI. We've provided integration services to a range of customers working with Amazon, Azure, Rackspace, UK Cloud, FCOS and others as their cloud providers, and have used the Ruby-based Heroku platform as an efficient way to create lightweight web based applications.

Our approach to developing cloud hosted applications is based on what's most appropriate to the solution requirements, while accommodating the unique client environment in which development is to take place; very often applying the Agile Methodology caters for these areas by ensuring both user needs and the objectives of the business stakeholders are fully met. We can take you through the pros and cons of moving operations or applications into the Cloud, determine the optimum solution (whilst remaining technology agnostic) for your particular requirement, and work with you to ensure a smooth transition.



# Cloud Integration

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We can advise on and work with every combination of public and private clouds, and ensure secure integration with legacy systems as appropriate. Effectively, we create a wide-reaching roadmap for change that covers every last consideration, ensuring no conflict with existing infrastructures or investments.

# Cloud Migration Services

Realise cost savings, modernise tooling and simplify service management through migration to a new or existing cloud platform. We first understand your applications/platforms and look after the design, delivery, security, performance and testing of the migration. We will work in partnership with you, applying DevOps automation and collaboration principles.

## Features

1. Understand your businesses strategic objectives and motivations for change.
2. Assessment and dependency mapping of applications/platforms to be migrated.
3. Options for cloud first, lift-and-shift and lift-and-enhance migrations.
4. Coverage of IaaS, PaaS, Serverless or hybrid-cloud migrations.
5. Estimation of potential savings or reduced costs from efficiency gains.
6. Adoption of Continuous Integration and Continuous Delivery for migrated workloads.
7. Performance assessment and understanding interdependencies for applications pre/post migration.
8. NCSC aligned approach for secure design, build and data transfer.
9. Cloud agnostic partner (Azure, AWS, Google, UKCloud, Carrenza, etc.).
10. Tools used: Ansible, Puppet, Terraform, Kubernetes, Docker, Jenkins, Vault, Vagrant.

## Benefits

1. Reduce Risk – real world experience migrating aging mission critical services.
2. Leverage cost savings of cloud-native services over lift and shift.
3. A better understanding of your environments and assets.
4. A diverse team with experience of development, DevOps and testing.
5. Leverage business flexibility of built-in cloud platform services.
6. Reduce capital and operational cost with commodity cloud services.
7. Reduce technical debt through simplification.
8. Confidence to make informed decisions about your service.
9. Business satisfaction through accelerated IT service with cloud delivery.
10. Option for Kainos to support the service post migration.

# Cloud Migration Services

## Additional Information

Over the last six years we have helped many public and private sector customers make the transition to cloud. For some this focused on moving key line of business applications to the cloud and for others it was a wholesale shift from on-premise to cloud.

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

- To safely exit an expensive legacy hosting contract
- Modernise your application deployments to mitigate risk e.g. legacy hardware
- Current infrastructure is not able to meet business needs through speed, cost, availability, performance
- Existing operational teams having difficulty delivering what your digital teams are requesting
- Realise cost savings from cloud
- Adopt Platform-as-a-Service and Function-as-a-Service offerings

Kainos has one of the largest teams of DevOps and WebOps engineers in the UK. Our cloud migration service enables customers to migrate applications operating on old software and hardware to be made safe, modernised and cost effective on a cloud platform.

The migration service is more than just 'lift and shift'. At Kainos we don't just lift and shift on-premise architectural patterns to the cloud without due consideration, we optimise with cloud best practices in mind. We start with building an understanding of the service to be migrated and the user need. 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.

# Cloud Migration Services

## Service Scope

At Kainos we have proven experience of architecting cloud based platforms. We use this experience to optimise for cloud, often simplifying or enhancing any services as part of the migration process. Migrating to cloud enables customers to escape end of life hardware or exit from expensive and inflexible legacy hosting arrangements. If required, as part of migration, we will perform physical to virtual transformation of the service.

As part of the migration the security and operational needs are identified and gaps addressed to deliver a migrated service that is robust and secure.

We assess all aspects of the solution being migrated, including integration interfaces and application dependencies. This service 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. Kainos services are accredited to ISO 20000 and ISO 27001 and we are an established support provider for UK Government.

As part of service migration efforts our teams are committed to helping deliver your services to production and 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.

# Cloud Migration Services

## Experience

Kainos has significant experience in migrating both services already developed and supported in addition to engagements where we have provided specialist migration partner services working with incumbent third parties. We assess all aspects of the solution being migrated, including integration interfaces and application dependencies. Kainos invests heavily in developing its DevOps and WebOps capabilities which have been proven across many government engagements.

- Being a technology agnostic provider we can be relied upon to recommend and employ only the most appropriate tooling and approach for safely migrating your service; we're not affiliated or associated with any vendors or tools and are thus positioned to provide impartial (but opinionated!) judgments on the best approach appropriate for our client's specific circumstances and this impartiality often results in us assisting with our client's migration decisions.
- We have a exceptional engineering base with a broad range of skills that includes infrastructure provisioning on public and community cloud providers; Windows and Linux; COTS and open source applications and tooling; which enables Kainos to build an share with you a thorough understanding of your service and how it can be simplified and migrated safely.
- We endeavour to align very closely with your organisation and want to work as a trusted partner not just a supplier. Where appropriate, we incorporate an element of delivery management in our services to ensure ongoing alignment.
- Our teams are committed to helping deliver your services to production and support, we expect a similar level of commitment from you and existing partners in helping us achieve this.



# Cloud Performance and Testing Services

Our test specialists provide our clients with a wide range of professional testing services that assure the software product produced, including: functional testing, exploratory testing, 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 promotion of software products 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. Performance, Load, Stress and Soak testing supporting assurance to Production.
8. Disaster Recovery Testing of digital services to ensure operational stability.
9. Penetration testing supporting assured promotion of features for internet use.
10. Advising and supporting clients for UAT activities and signoff.

## Benefits

1. Successful software product delivery as part of integrated agile teams.
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.

# Cloud Performance and Testing Services

Kainos has an integrated test capability that involves skilled test specialists working within our delivery teams to deliver cloud-based digital services. Our test specialists provide a wide range of professional testing services for our clients that assure the service produced; our focus is on agile testing.

## **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 has built its agile teams to include specialist testers to ensure the digital service iterated in each sprint by its teams has been fully tested and assured when marked done. Without this approach quality assurance remains a separate event that will slow down the promotion of the latest digital service to users. Our people are experienced working with this approach and can bring it to your organisation.

## **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, due to the faster route of features to users. It is vital that digital services for citizens are non-functionally tested to simulate the stresses and strains they will be put under during production use.

Kainos has significant experience testing and assuring large transactional services that have large user bases and are sensitive to downtime. We optimise and tune services during their development and can monitor this performance during production use to proactively identify issues.

# Managed Cloud

Flexible support for cloud solutions which frees clients of operational responsibilities. Coverage can be tailored to extend from networking and server operating systems up to the application layer. Available for Microsoft Azure, Amazon Web Services, UKCloud and other cloud platforms. Our technologists are experts in operational excellence driven by automation.

## Features

1. Flexible support for servers, networks virtual appliances and data platforms.
2. Pay as you go support with per item monthly pricing.
3. Option to include design, implementation, and configuration services.
4. Automation driven deployment, auto-scaling and maintenance.
5. NCSC aligned approach and suitable for OFFICIAL/OFFICIAL SENSITIVE solutions.
6. ISO 9001, ISO 20000 and ISO 27001 certified.
7. UK support centre with PSN and N3/HSCN connectivity.
8. Help desk support (single point of contact) and incident management.
9. ITIL v3 Service Management compliant processes.
10. Tools used: Ansible, Puppet, Terraform, Kubernetes, Docker, Jenkins, Vault, Vagrant.

## Benefits

1. Pay as You Go charging model provides clear cost visibility.
2. Easily scale support up/down in alignment with cloud platform consumption.
3. Rapid and repeatable deployment and operation driven by automation tooling.
4. Customisable offering with additional/specialist services available.
5. Reassurance of a supplier proven in seven GDS exemplar projects.
6. Cloud agnostic - including Azure, Amazon, Google, UKCloud, Carrenza.
7. Microsoft Gold competency in Cloud Platform, Amazon Public Sector Partner.
8. Direct access to technical support staff at Levels 3/4.
9. A trusted partner, not just a supplier.
10. Recognised as UK Industry Digital Leaders for four consecutive years.

# Managed Cloud

Cloud providers, like Microsoft Azure, Amazon Web Services and UKCloud define clear boundaries to the service they provide. For example, they provide excellent management of servers, storage and networks (i.e. the physical resources), making sure that they are available to your virtual servers. However, once a virtual server is running in an IaaS environment, e.g. a web or database server on the cloud platform, the consumer of the service is responsible for managing the virtual server.

Kainos Managed Cloud focuses on business outcomes. Our service is technology agnostic and supports public, private and hybrid clouds. The service is proven in OFFICIAL/OFFICIAL SENSITIVE environments in live service operation, is fully and independently audited to ISO 20000 and ISO 27001, and uses ITIL v3 service management.

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

The Kainos Managed Cloud service is available across IaaS, PaaS and SaaS and is enabled for PSN and N3 based support. Customers get access to Kainos breadth and depth of technical and security capability, provided by over 1000 technical consultants and engineers.

Kainos offers its core Managed Cloud service to provide a support wrapper for your cloud infrastructure, up to and including the operating system.

# Managed Cloud

## Core Service Elements

- Monitoring and alerting / event management.
- Capacity monitoring.
- Availability monitoring.
- Anti-virus management.
- Backups management.
- Operating System security patching.
- Help desk support (single point of contact).
- Incident logging and tracking service.
- SLA and service targets.
- Agreed escalation procedures.
- Agreed system failure process.
- Monthly report.

## Flexible Service Options

Our broad experience in software development and administration provides a key differentiator that enables us to optionally extend support from the 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 the cloud solution you wish Kainos to support.

- Implementation, management and support for data and services above the operating system.
- Vertical and horizontal scaling of cloud servers in line with demand.



# Managed Cloud

- Application management.
- Database maintenance (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 zone design.
- Assistance with RMADS, 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.

The service is available to support multi-component solutions (involving IaaS, PaaS, SaaS and on-premise) and to assist in multi-supplier and SIAM tower environments.

## Managed Infrastructure as a Service (Managed IaaS)

Flexible support for cloud solutions which frees clients of operational responsibilities. Coverage can be tailored to extend from networking and server operating systems up to the application layer. Available for Microsoft Azure, Amazon Web Services, UKCloud and other cloud platforms. Our technologists are experts in operational excellence driven by automation.

### Features

1. Flexible support for servers, networks virtual appliances and data platforms.
2. Pay as you go support with per item monthly pricing.
3. Option to include design, implementation, and configuration services.
4. Automation driven deployment, auto-scaling and maintenance.
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### Benefits

1. Pay as You Go charging model provides clear cost visibility.
2. Easily scale support up/down in alignment with cloud platform consumption.
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8. Direct access to technical support staff at Levels 3/4.
9. A trusted partner, not just a supplier.
10. Recognised as UK Industry Digital Leaders for four consecutive years.

## Managed Infrastructure as a Service (Managed IaaS)

### Service Scope

Cloud providers, like Microsoft Azure, Amazon Web Services and UKCloud define clear boundaries to the service they provide. For example, they provide excellent management of servers, storage and networks (i.e. the physical resources), making sure that they are available to your virtual servers. However, once a virtual server is running in an IaaS environment, e.g. a web or database server on the cloud platform, the consumer of the service is responsible for managing the virtual server.

Kainos Managed Cloud focuses on business outcomes. Our service is technology agnostic and supports public, private and hybrid clouds. The service is proven in OFFICIAL/OFFICIAL SENSITIVE environments in live service operation, is fully and independently audited to ISO 20000 and ISO 27001, and uses ITIL v3 service management.

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

The Kainos Managed Cloud service is available across IaaS, PaaS and SaaS and is enabled for PSN and N3 based support. Customers get access to Kainos breadth and depth of technical and security capability, provided by over 1000 technical consultants and engineers.

Kainos offers its core Managed Cloud service to provide a support wrapper for your cloud infrastructure, up to and including the operating system.

## Managed Infrastructure as a Service (Managed IaaS)

### Core Service Elements

- Monitoring and alerting / event management.
- Capacity monitoring.
- Availability monitoring.
- Anti-virus management.
- Backups management.
- Operating System security patching.
- Help desk support (single point of contact).
- Incident logging and tracking service.
- SLA and service targets.
- Agreed escalation procedures.
- Agreed system failure process.
- Monthly report.

### Flexible Service Options:

Our broad experience in software development and administration provides a key differentiator that enables us to optionally extend support from the 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 the cloud solution you wish Kainos to support.

- 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.

## Managed Infrastructure as a Service (Managed IaaS)

- Database maintenance (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 zone design.
- Assistance with RMADS, 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.

The service is available to support multi-component solutions (involving IaaS, PaaS, SaaS and on-premise) and to assist in multi-supplier and SIAM tower environments.

# Managed Virtual Server (Managed VM)

Flexible support for cloud solutions which frees clients of operational responsibilities. Coverage can be tailored to extend from networking and server operating systems up to the application layer. Available for Microsoft Azure, Amazon Web Services, UKCloud and other cloud platforms. Our technologists are experts in operational excellence driven by automation.

## Features

1. Flexible support for servers, networks virtual appliances and data platforms.
2. Pay as you go support with per item monthly pricing.
3. Option to include design, implementation, and configuration services.
4. Automation driven deployment, auto-scaling and maintenance.
5. NCSC aligned approach and suitable for OFFICIAL/OFFICIAL SENSITIVE solutions.
6. ISO 9001, ISO 20000 and ISO 27001 certified.
7. UK support centre with PSN and N3/HSCN connectivity.
8. Help desk support (single point of contact) and incident management.
9. ITIL v3 Service Management compliant processes.
10. Tools used: Ansible, Puppet, Terraform, Kubernetes, Docker, Jenkins, Vault, Vagrant.

## Benefits

1. Pay as You Go charging model provides clear cost visibility.
2. Easily scale support up/down in alignment with cloud platform consumption.
3. Rapid and repeatable deployment and operation driven by automation tooling.
4. Customisable offering with additional/specialist services available.
5. Reassurance of a supplier proven in seven GDS exemplar projects.
6. Cloud agnostic - including Azure, Amazon, Google, UKCloud, Carrenza.
7. Microsoft Gold competency in Cloud Platform, Amazon Public Sector Partner.
8. Direct access to technical support staff at Levels 3/4.
9. A trusted partner, not just a supplier.
10. Recognised as UK Industry Digital Leaders for four consecutive years.

## Managed Virtual Server (Managed VM)

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# PaaS Architecture, Development and Operations

Our architecture, development and operations technologists provide our clients with the expertise to design, build and deliver services harnessing PaaS offerings. Supporting our Cloud first delivery approach we will utilise automation to establish a continuous deployment pipeline to enable robust and secure iteration of services hosted on PaaS.

## 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. Delivery of user focused minimal viable product.
5. Standardised process to support controls for 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. Experienced technologists with in-depth understanding of Cloud centric Government services.
10. 12 factor principles underpin our delivery of digital services.

## Benefits

1. Enables service owners keep pace with development of services.
2. Faster project initiation by harnessing ready-made PaaS capabilities.
3. Significantly reduced deployment and infrastructure management costs.
4. Upfront cost savings by adopting extensive ready-made PaaS services.
5. High performing digital teams who fully embrace DevOps principles.
6. Service delivered with a clear focus on user needs.
7. Services designed, optimised and scaled to meet user demand.
8. Reduces risk of change with robust continuous deployment pipeline.
9. Facilitates application portability to other PaaS providers.
10. NCSC aligned approach for secure design, build and data transfer.

# Secure Azure Managed Services

Kainos is a Microsoft Azure Gold Cloud Platform and Cloud Solutions Partner, enabling customers to consume Azure services at list price and avail of Kainos secure design, implementation and managed services for Azure. The service provides UK government organisations with on-demand, scalable public cloud resources to deliver transformational, digital solutions.

## Features

1. Microsoft Azure services: IaaS, PaaS, Data and AI services.
2. High security, hyper-scale cloud: 2 UK regions, auto-scaling and auto-healing.
3. Flexible expert design and implementation services, baking in cyber security.
4. Expert WebOps/DevOps automation using Terraform (Hashicorp) tooling.
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. Ideal for continuous delivery, continuous integration and enabling agile development.
10. Microsoft Gold Cloud Platform Partner.

## Benefits

1. Azure hosting and Kainos services in single procurement contract.
2. Pay-as-you-go cloud consumption.
3. Suitable for migrations and re-platforming, or new digital workloads.
4. Guidance from expert cloud infrastructure, cyber security, data and compliance specialists.
5. Guidance from 100+ DevOps/WebOps engineers, experts in continuous integration/delivery.
6. Rapid deployment using automation, minimising risk and project lead time.
7. Security, Privacy, Compliance, Transparency (<https://www.microsoft.com/en-us/trustcenter/default.aspx>).
8. Use secure cloud architectural patterns, proven in UK government deployments.
9. New services investment: <https://azure.microsoft.com/en-gb/roadmap/>

# Secure Managed UKCloud Services

Kainos offers Enterprise Compute Cloud (Assured and Elevated), in partnership with UKCloud, providing a trusted, connected cloud platform combined with access to Kainos' DevOps and Managed Service capability. Secure UK OFFICIAL environments rapidly, connected to the Internet, PSN and N3 networks utilising Service Levels up to 99.99%

## Features

1. On demand - billed by the hour for resources used.
2. Build and configure VMs via secure self-service portal & API.
3. A range of service levels, VM sizes and licencing options.
4. 24/7 service desk included as standard with SLA response times.
5. Platform spans two UK data centres separated by over 100km.
6. Cross-domain functionality: controlled access between internet and Elevated domains.
7. Assured; UK hosted by SC and NPPV cleared personnel.
8. Aligned with NCSC Cloud Security Principles.
9. Connect over Internet, PSN or HSCN.
10. Access to Kainos' DevOps and Managed Service capability.

## Benefits

1. Enabling cost savings by controlling VM power states.
2. Get the resources you need, when you need them.
3. Configure the solution that is right for your application.
4. Drive better outcomes through access to Kainos' DevOps expertise.
5. Architect solutions with confidence that applications and services remain available.
6. Make compelling citizen facing services, whilst ensuring data remains safe.
7. Have confidence in who has access to your data.
8. Solutions on a cloud that aligns with NCSC best practice.
9. Choose the right network to connect your solution to.
10. Use known technologies to de-risk your cloud transition.

# BCDR & Exit Plan

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## **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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This document is the copyright of Kainos Software Limited ("Kainos"), is commercial in nature and is issued in confidence for use solely in connection with this Framework; it must not be reproduced, in whole or in part, for any other purpose without the prior written consent of Kainos.

## Trademarks

Kainos® is a registered trademark of Kainos Software Limited. All rights reserved. You may not delete or change or modify any copyright or trademark notice.

## Caveats

Kainos has used all reasonable endeavours to ensure that all statements contained in this document are accurate, but will not be held responsible for any errors or omissions. All information provided prior to execution of a contract is provided "as is" without warranty of any kind.

This response is submitted 'Subject to Contract' and does not constitute an offer from Kainos. Kainos reserves the right to withdraw from the tender following due diligence and/or contract negotiations. In the event that Kainos is successful in this bid the parties will negotiate a mutually acceptable document and will be contractually bound to each other only upon execution of the same by their respective authorised signatories.

## 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/>