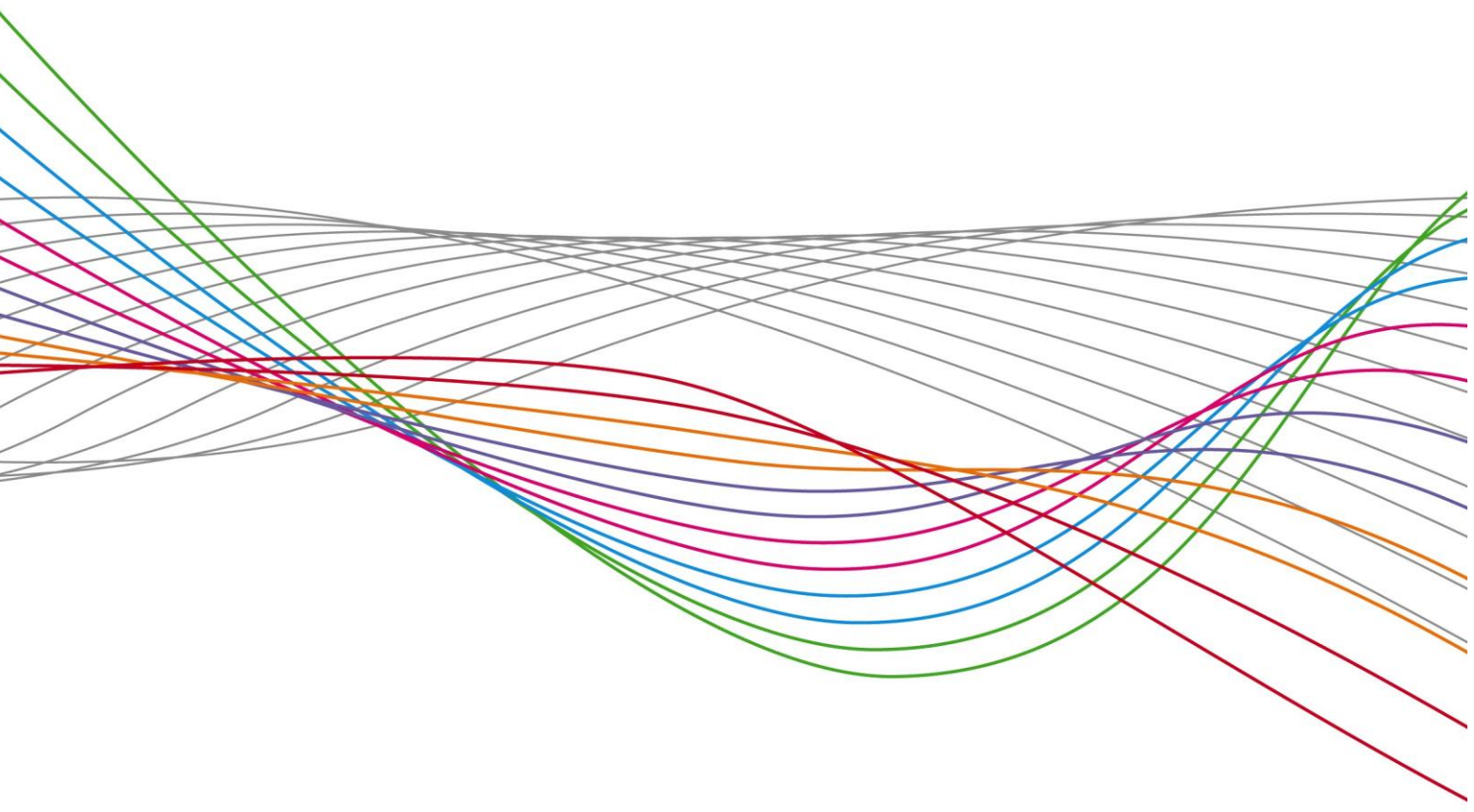
Service Definition

Compute as a Service

IaaS

G-Cloud 8



Introduction 3

Service Benefits 3

Service Features 4

Technical Information 4

Choosing the right service components 6

Service Management Options 10

Service Enablement 10
Solution Design 10
Service Management 10
Tailored services 11
Availability Service Levels 12

G-Cloud Service Information 13

Ordering and Invoicing 13
Onboarding 13
Service Constraints 13
Technical requirements 14
Customer responsibilities 14
Offboarding 15
Terms 15
Costs 15

© CDS Digital

Introduction

CDS Compute as a Service offers a trusted, connected and flexible cloud platform that helps you deliver your critical enterprise or cloud native applications in the cloud.

CDS Compute as a Service is underpinned by Skyscape compute solutions and provides a combined hosting and service management layer designed around the needs of the UK public sector.

Service Benefits

CDS Compute as a Service enables you to:

- Adopt a flexible cloud platform that can meet the demands of both Enterprise and Cloud Native digital workloads
- Reduce costs by driving operational efficiency
- Build hybrid cloud solutions to add operational resilience to your existing facilities, or extend your estate to cope with growing workloads
- Prolong the life of existing applications by removing the tight coupling with aging hardware
- Create environments that offer a blend of cloud native flexibility backed by an enterprise grade robust platform, all delivered as true cloud services
- Deliver digital transformation projects that require high levels of security and assurance
- Enable the transformation of legacy services by facilitating test and proof-of-concept exercises
- Transition to a platform that enables better scalability and resilience

© CDS Digital

Service Features

CDS Compute as a Service solutions can be tailored to meet your operational needs:

- Uses the power of known and trusted enterprise technologies (for example, VMware, EMC and Cisco) to de-risk your transition to cloud computing
- Broad options (including optional dedicated resource pools, multiple storage options and a variety of on-platform data protection technologies) that enable you to deliver the right environment, and performance, for your applications
- Flexibility to mix and match virtual machine sizes and service levels to suit the requirements of your enterprise workloads
- Create simple or complex solutions spanning the internet-facing Assured domain and the trusted Elevated domain via Skyscape's pioneering Cross Domain Security Zone
- Expert advice from CDS' experienced technical architects

Technical Information

Data Centres & Security

- Independently audited and verified by trusted public sector organisations such as HSCIC (NHS Digital), MoJ and the Police (Police Approved Secure Facility – PASF) to host and run workloads powering public sector applications requiring a higher assurance for sensitive data
- The most trusted cloud platform of the UK public sector; optimised for OFFICIAL and fully aligned with the CESG 14 Cloud Security Principles
- UK-based telephone service desk and NOC function, with 24/7 support for high priority incidents, including access to Skyscape's technical experts
- Four Tier 3 data centres separated by more than 100km and connected by CESG assured, high-bandwidth, low-latency dedicated connectivity
- UK sovereign – assured cloud platform delivered from two secure UK sites by a UK-based company with UK government security-cleared staff
- Platform that hosts both Enterprise and Cloud Native workloads exclusively to the UK public sector, a known and trusted community of neighbours
- Protective Monitoring. Both the Assured and Elevated OFFICIAL security domains feature enhanced Protective Monitoring (that is, SIEM) at the hypervisor layer and below to ensure that we provide the highest levels of assurance aligned with CESG good practice guidance.

© CDS Digital

Cloud characteristics

- Elastic – genuine cloud platform that enables dynamic, autoscaling workloads and can scale to support the most complex UK public sector workloads
- Managed Self-service – complete autonomy to provision, change and manage your virtual data centre via the Skyscape Portal or API; CDS will do this on your behalf of purchased as part of a CDS solution
- Measured – true consumption-based pricing from just 1p per virtual machine per hour
- Broad networking – connect via the internet (with DDoS protection provided as standard), government community networks (PSN Assured service, PSN Protected service, N3, JANET, RLI; or legacy networks including GSI, PNN, CJX, and so on) or by HybridConnect — using your own dedicated circuits
- Resource pooling – secure multi-tenant platform, available immediately on both our Assured and Elevated domains with zero delay to your project

© CDS Digital

Choosing the right service components

CDS will help you choose the right combination of options for your solution, based on workload characteristics (e.g. resilience and performance), type of storage and the level of data protection you require.

Compute as a Service is completely configurable, and gives you the flexibility to use different service levels, VM sizes, security domains, connectivity and data protection options:

Your workload characteristics	Skyscape recommends		
	Workload type	**Storage option**	**Protection option**
Critical workloads handling important business processes that benefit from a steady state of operation	PRIORITY	Tier 1 block storage	Journaling-based backup
	VMs have an uncontended compute (CPU/GiB) resource allocation. Automated rebalancing is configured to reduce workload movement around the platform.	Fast storage optimised for data warehouses, busy transactional databases and other high IO workloads.	A non-invasive backup solution with configurable recovery points, providing near real-time data protection. Ideal for protecting important data with a high rate of change.
Key workloads that are resource intensive such as web and application workloads, mid-sized databases and caching services	POWER	Tier 2 block storage	Snapshot backup
	VMs have an uncontended compute (CPU/GiB) resource allocation. Automated rebalancing is enabled to pre-emptively optimise performance and availability.	General all-purpose storage providing a balance of performance and cost.	Automated daily backup solution of the entire VM. Simple backup protection for data that has an RPO of 24 hours.
Lower-priority workloads, such as temporary applications, data processing or system modelling tasks	ESSENTIAL	Tier 2 block storage	Catalogue and template-based recovery
	VMs can have contended resource allocation. Automated rebalancing is enabled to ensure the workload receives the requested performance.	General all-purpose storage providing a balance between performance and cost.	Configuration management solution can re-provision stateless servers to a new VM when required, using standard, catalogue-based VM templates.

© CDS Digital

Security domain — choose the security domain in which you want to run your application
Assured OFFICIAL
Elevated OFFICIAL
Workload type — choose the service type that is the best fit to power your application
PRIORITY
SLA: 99.95%
POWER
SLA: 99.99%
ESSENTIAL
SLA: 99.95%
VM size — define the VM size needed to power your application
Micro (1vCPU, 0.5GiB)
Tiny (1vCPU, 2GiB)
Small (2vCPU, 4GiB)
Medium (4vCPU, 8GiB)
Med High Mem (4vCPU, 16GiB)
Large (8vCPU, 16GiB)
Large High Mem (8vCPU, 32GiB)
Tier 1 Apps Small (8vCPU, 48GiB)
Tier 1 Apps Medium (8vCPU, 64GiB)
Tier 1 Apps Large (8vCPU, 96GiB)
Storage — define the storage required to deliver your application
All workloads include 60GiB of Tier 2 storage for free, all storage is persistant and resilient to local hardware failures
Workloads can use multiple storage profiles
Tier 1 block storage
Tier 2 block storage
Geo-mirrored storage
Protection — choose the protection required for your application
All customers can use the catalogue and template-based recovery
Catalogue and template-based recovery
Snapshot based recovery — 14 days
Snapshot based backup — 28 days
Journaling
Synchronous protection

© CDS Digital

All workloads deployed using Compute as a Service benefit from the following great features as standard:

- Proven compatibility. Powered by leading enterprise technologies from VMware (including vSphere ESX), EMC and Cisco, Compute as a Service provides a familiar and proven technology platform that de-risks running your applications in the cloud (compared to other non-enterprise cloud platforms which are often based on unproven open-source or proprietary technology).
- Comprehensive and personalised support: Works together with CDS' Service Desk to provide full support for your hosting environment, with CDS providing Application layer support. A separate CDS Support Agreement is required. The Skyscape provision includes:
    - Staffed telephone service desk and Network Operations Centre (NOC)
    - 24/7 support for high-priority incidents
    - Customer Success team focused on supporting you during onboarding and throughout the life of your workload
    - An allocated Technical Account Manager (TAM) to provide you with an assigned point of contact and additional assistance with reporting and incident escalation, at all times following Skyscape's ISO 20000-certified ITIL-based process framework
    - Cloud Architect and subject matter expert engagement (for example on networking, storage or VMware) to help you optimise your solution for cloud operation
- Choice of location. We provide a variety of options that enable you to build resilience into your applications.
    - Compute as a Service is offered from two geographically distinct regions, both located in the UK and separated by over 100 km for excellent geo-diversity
    - In addition, each region offers multiple physically separated availability zones, providing you with multiple options to build the resilience you require into your solution
- Protective Monitoring. Both our Assured and Elevated OFFICIAL security domains feature enhanced Protective Monitoring (SIEM) at the hypervisor layer and below to ensure that we provide the highest levels of assurance aligned with CESG good practice guidance.

© CDS Digital

Existing Compute as a Service customers

Customers already using Skyscape Compute will continue to receive the Test & Dev, Production (BASIC), Production (STANDARD) and Production (ENHANCED) service options they currently use, with no changes to the service. The table below shows the combination of security domains, workload types, VM sizes, storage and protection options (described on the following pages) that correspond to each of the previous service options.

	Test & Dev	Production (BASIC)	Production (STANDARD)	Production (ENHANCED)
Security domain	Any	Any	Any	Any
Workload type	ESSENTIAL SLA: 99.95%	POWER SLA: 99.99%	POWER SLA: 99.99%	POWER SLA: 99.99%
VM size	Any	Any	Any	Any
Storage	Tier 1 or Tier 2 block storage	Tier 1 or Tier 2 block storage	Tier 1 or Tier 2 block storage	Geo-resilient
Protection	Catalogue and template-based recovery	Catalogue and template-based recovery	Snapshot-based recovery —14 days	Synchronous protection (includes 14-day snapshot-based recovery – dual site)

© CDS Digital

Service Management Options

Service Enablement

Hosting packages provided through this service activated through CDS' essential enablement service, which includes:

- Managed on-boarding
- Technical consultancy to assist ordering process
- Liaison with hosting supplier to ensure delivery to specification and required timescales for contract initialisation
- Ongoing enablement through liaison with hosting supplier on service delivery
- This mandatory service is a separately costed item detailed in our pricing document.

Solution Design

CDS provides specialist services relating to the technical design of environments built within Skyscape's cloud platform, as well as those that span multiple cloud and on-premises environments.

CDS' experts will ensure that your cloud solution is suitably sized for your operational needs, and reduce the complexities and effort of platform implementation.

Our design services can be procured under Lot 4 of G-Cloud, Specialist Cloud Services, and include:

- Solution Architecture Design and Definition
- Technical Definition Documentation
- Capacity Planning
- Security Consultancy
- Solution Design

Service Management

CDS provides specialist services relating to the management, maintenance and support of environments built within Skyscape's cloud platform, as well as those that span multiple cloud and on-premises environments.

CDS operates ISO20000 certified service management processes, ensuring that your live service is controlled and integrity assured at all times.

© CDS Digital

Our Service Management services can be procured under Lot 4 of G-Cloud, Specialist Cloud Services, and include:

- Standard 9-5 service management, with:
    - Critical OS patching
    - Event Monitoring
    - Availability reporting (monthly)
    - Manned Service Desk (9x5) via email, telephone and online portal
    - Monthly service incident reports
    - Quarterly service reviews via telephone
- 24x7 service option, providing access to CDS' 24x7 on-call service engineer for Priority 1 incidents

Tailored services

Subject to the service design requirements, CDS can expand the service management schedule through Lot 4 (SCS) services to include additional activities such as:

- Application-specific management tasks
- Multiple supplier investigation/fix processes and communication management
- Customised monitoring and reporting
- On-site service reviews

© CDS Digital

Availability Service Levels

Availability service levels are provided for Essential, Power and Priority solution types. The SLA is backed by Skyscape's service credit compensation scheme, so that if availability falls short of expectations, CDS will compensate you with the same service credits you would obtain directly from Skyscape.

The table below outlines the SLA and service credit details. For more in-depth information, please review the terms and conditions.

	Essential	Power	Priority
Service level agreement	99.95%	99.99%	99.95%
Portal level agreement		99.90%	
Availability calculation	Availability is calculated based on the number of hours in the billing month (for example, 744 hours for months with 31 days), excluding any emergency maintenance		
Planned Maintenance	Included in calculations	Included in calculations	Excluded from calculations
Measurement of SLA	Unavailability applies to existing VMs that become unresponsive due to a fault recognised at the IaaS layer or below, that is, the fault is within Skyscape-controlled components, such as the physical host availability, storage, power and internal networking such as physical firewalls and routers		
Key exclusions	The following are examples of what is not covered by the SLA: • Faults within your control, such as client application issues • Faults within external connectivity providers (for example internet, PSN, JANET or N3) and components co-located at Skyscape		
Service credit	3% of monthly spend per 5% below service level target or part thereof for affected compute platform	5% of monthly spend per 5% below service level target or part thereof for affected compute platform	5% of monthly spend per 5% below service level target or part thereof for affected compute platform
	1% of monthly spend per 1% below service level target or part thereof for the Skyscape API and Portal		
Protection improved service credits	• Combination of Snapshot Protection with the Power service type increases service credits to: 10% of monthly spend per 5% below service level target or part thereof for affected compute platform • Inclusion of Synchronous Protection increases service credits to: 15% of monthly spend per 5% below service level target or part thereof for affected compute platform		

© CDS Digital

G-Cloud Service Information

Ordering and Invoicing

In line with Skyscape policy, CDS will issue invoices as follows:

- At point of order for upfront fees and service options
- Annually in advance for pre-payment fees
- Monthly in arrears for monthly fees

Onboarding

CDS Essential Enablement Services will provide all the interaction with the hosting service required for onboarding. CDS will work within the onboarding service parameters set by Skyscape. Once the solution details have been confirmed, onboarding typically takes 4 hours from receipt of an order. This does not include any further configuration that may be required by CDS.

Skyscape will create the customer's Primary Administrator account for CDS and provide access to the solution via the Skyscape Customer Portal.

The CDS Administrator will set policies, create additional user accounts and allocate roles and privileges for users as appropriate.

Service Constraints

CDS will adhere to the following in terms of maintenance windows:

"Planned Maintenance" means any pre-planned maintenance to any of the infrastructure relating to the service. Planned Maintenance activity may result in periods of degradation or loss of availability depending on the nature of the activity required. In such cases, Skyscape shall provide affected customers with at least fourteen (14) days' advance notice of the Planned Maintenance.

If during Planned Maintenance there is a loss of availability outside the scope described in the planned maintenance notification to the service, an SLA event will be triggered. For ESSENTIAL and POWER services this event will count in SLA calculations. For VMs running as a PRIORITY configuration, this time will be excluded from the availability calculation but will be included in monthly service reporting related to the service.

"Emergency Maintenance" means any urgent maintenance required to prevent or mitigate against any event compromising the infrastructure relating to the service. Whenever possible, Skyscape shall: a) provide affected customers with at least six (6) hours' advance notice and b) carry out the emergency maintenance between the hours of 00:00 and 06:00 (UK local time) Monday to Sunday or between the hours of 08:00 and 20:00 (UK local time) on Saturday, Sunday and bank holidays unless there is an identified and demonstrable

© CDS Digital

immediate risk to customer environment(s). Emergency Maintenance may result in periods of degradation or loss of availability depending on the nature of the activity required.

If during Emergency Maintenance there is a loss of availability to the service, an SLA event will be triggered. This time will be excluded from the availability calculation but will be included in monthly service reporting related to the service.

Technical requirements

Customers will require appropriate network connectivity such as internet access or accredited connectivity such as a government secure network to the Skyscape cloud platforms. Connectivity via the internet, a government secure network (PSN, JANET or N3) or private leased line is available but may incur additional charges if the hosting of CPE routers is required — see the pricing section for more details. Where they are required, customers are responsible for procuring and managing appropriate devices or software to meet the requirement for data security over the various forms of connectivity.

Customer responsibilities

The control and management of access and responsibilities for end users including appropriate connectivity, security and accreditation if required. If access is required over government secure networks such as N3, JANET, RLI or PSN (including legacy networks), the customer is responsible for adhering to the Code of Connection.

Management and administration of layers above the hypervisor (OS patching, application performance monitoring, user administration).

As a core benefit of the cloud platform, customers are expected to self-manage the environment including provisioning, stopping/starting virtual machines, AV, patching, and so on. If customers license operating systems through Skyscape, they will have access to update repositories.

Customers must be aware of the variable nature of the billing based on usage.

The customer is also responsible for ensuring only appropriate data (for example OFFICIAL) is stored and processed by applications on this environment and that they comply with the Skyscape Security Operating Procedures (SyOps) and other information assurance requirements as specified in the Skyscape System Interconnect and Security Policy (SISP) and associated accreditation documentation sets.

© CDS Digital

Offboarding

Terms

The Terms of termination will be those agreed in the G-Cloud order form, based on the combined services to be provided as a whole.

In any event, customer can terminate this service by providing CDS with not less than 90 days' advance notice in writing.

Customers using dedicated compute are required to provide 180 days advance notice of termination.

Customers using the Global Load Balancing or Application-tuned DDoS Protection additional services have a minimum term of 12 months for these specific services.

At the point of termination, all customer data, accounts and access will be permanently deleted, or restored.

Customers are expected to maintain a master copy or backup copy of the data used in the Compute as a Service. So there is no requirement for the customer to transfer their data out of the solution at the end of the contract. Rather, the customer simply has to securely delete the data prior to the termination of the contract.

Costs

There are no termination costs for this service. Customers are responsible for extracting their own data from the Compute as a Service if required.

CDS may make an additional charge for transferring data out of the service.

© CDS Digital