

Service Definition

Private Cloud for Storage

IaaS

Service assessment guide

What the service provides

Our Private Cloud for Storage product provides single-tenant storage Infrastructure as a Service. Your data is hosted in one of our UK data centres, to gain the benefits of our mature and proven Assured OFFICIAL and Elevated OFFICIAL cloud platforms; or within Crown Campus.

Private Cloud for Storage is designed to be deployed as part of a larger solution to include genuine cloud services such as UKCloud for VMware and UKCloud for OpenStack. This enables you to leverage the benefits of the UKCloud assured cloud platform; even on infrastructure that is entirely dedicated to you.

What the service can help you achieve

- Flexible location of your infrastructure — UKCloud hosted or within the Crown Campus
- Ownership of the underlying hardware asset, ideal for customers who prefer capital expenditure (CAPEX)
- Day one economies of scale — especially if you're moving large volumes into the cloud
- Your own private environment to mitigate the risk of contention from other organisations

Key service capabilities

- UKCloud-supplied storage infrastructure or option to 'bring your own' hardware
- A choice of CAPEX or OPEX models for UKCloud-supplied infrastructures
- A choice of locations for your infrastructure — UKCloud hosted or within the Crown Campus
- Cross Domain Security Zone (secure managed or self-managed area), to enable citizen access over the DDoS-protected internet to data that is securely hosted on the Elevated domain

Why UKCloud

- Our multi-cloud platform offers choice, scalability and flexibility for our public sector customers, without locking them into a single proprietary technology stack
- We are UK sovereign, with secure and resilient government-grade UK data centres separated by over 100 kilometres, located in Crown Campus. We give 2% of our pre-tax profits to charity, and our values, beliefs and behaviours are aligned to the needs of the UK Public Sector
- Secure cloud platforms optimised for public sector workloads, fully aligned to the NCSC 14 Cloud Security Principles and subject to regular technical CHECK tests - information security and data governance comes as standard. We're compliant with GDPR/UK DPA 2018 (CISPE certified), the Network and Information Security Directive (NIS) and the new NHS Data Security and Protection Toolkit. These are supported by our wide portfolio of industry and public sector accreditations and certifications

- UK-based telephone service desk providing 24/7 support for P1 critical incidents, and a dedicated UK 24/7 Network Operations Centre (NOC) using industry-leading monitoring solutions on our platform. Access to UKCloud's technical experts including Technical Account Managers, Cloud Delivery Managers, and Customer Success Managers to help customers through the onboarding and ongoing delivery of their solutions – all at no extra cost
- We work with a community of over 240 partners, including Independent Software Vendors, System Integrators and Managed Service Providers, to deliver end-to-end solutions specifically for the UK Public Sector

Cloud characteristics delivered

- Elasticity — scalable as your needs grow and evolve
- Self-service — the UKCloud Portal provides transparent interaction with the UKCloud service desk
- Measured — service credit-backed SLA and capacity reporting
- Broad networking — connect via DDoS-protected internet; a government community network such as PSN, N3/HSCN, Janet or RLI; or HybridConnect, using your own dedicated circuits
- Resource pooling — leverage UKCloud's mature cloud automation platform and team of focused, UK based and SC cleared, cloud specialists

Key characteristics of our service

This service offers a dedicated storage infrastructure as a service, which provides increased performance consistency and data security over traditional multi-tenant public cloud storage options. It is ideal if you need:

- Scale — offering petabyte-scalable storage
- Enhanced isolation — providing insulation from other workloads and customers
- Control over your budget — offered with a predictable cost model

Technical features

Private Cloud for Storage provides the following features:

- Integration with existing, native and virtualised enterprise applications with no change to the application or stack
- Native support for a wide variety of network protocols such as SMB/CIFS, NFS, HTTP and, optionally, HDFS
- Custom hardware sizing from 500TiB upwards with support for a single, large file system if required
- Option to implement a multi-site replicated solution
- Extensibility with WAN acceleration solutions (for example, Riverbed) and cloud storage gateways (for example, EMC CloudArray)
- Option to add advanced software features such as auto-tiering, deduplication, retention, replication, quotas and snapshots

Please note: This offering delivers your dedicated storage asset to you conveniently as a cloud service. If you need the control of root access or the bespoke nature of a managed service, this product is not for you.

Pricing and packaging

Private Cloud for Storage offers three packaging options:

- All-inclusive
- UKCloud Hosted
- Crown Campus Hosted

Option 1: All-inclusive

Choose an Assured OFFICIAL or Elevated OFFICIAL cloud storage platform for your exclusive use.

We offer cost-effective purchasing options to suit your preferred budget model, including upfront capital expenditure (CAPEX) and ongoing operational expenditure (OPEX).

Private Cloud for Storage can span both our UK data centres, which offer exceptional geographic diversity.

Option 2: UKCloud Hosted

We supply you with data centre capacity and give you the choice of hosting your storage infrastructure in our Assured OFFICIAL or Elevated OFFICIAL security domain.

You choose your own storage infrastructure and arrange for the build. You must provide a maintenance contract with your vendor and enable us to contact them, for example, to arrange for hardware maintenance and obtain software updates and patches.

We provide network connectivity and perform platform monitoring and maintenance.

Service options (All-inclusive and UKCloud Hosted)

Service options for All-inclusive and UKCloud Hosted packages include:

- Offline facilities to support data ingestion and extraction
- Connectivity options including HybridConnect, PSN, N3/HSCN, Janet, RLI, DDoS-protected internet and data centre interconnect

Other service options are available — see the UKCloud Pricing Guide.

Option 3: Crown Campus Hosted



Have your storage infrastructure hosted directly within your Crown Campus facility, while benefiting from UKCloud running your storage infrastructure as a private cloud — enabling you to consume storage as a service.

You supply your own storage infrastructure and arrange for the build (which must be compliant with UKCloud requirements). You must provide a maintenance contract with your vendor and enable us to contact them, for example to arrange for hardware maintenance and obtain software updates and patches. A disk retention policy / replacement policy should also be considered.

Package feature comparison and responsibilities

| | All-inclusive | | UKCloud Hosted | | Crown Campus Hosted | |
|--|---------------|----------|----------------|----------|---------------------|----------|
| | UKCloud | Customer | UKCloud | Customer | UKCloud | Customer |
| Hardware design | ✓ | | ✓ | ✓ | ✓ | ✓ |
| Provision of data centre capacity | ✓ | | ✓ | | | ✓ |
| Procurement of hardware - including network infrastructure | ✓ | | | ✓ | | ✓ |
| Installation of storage hardware — including additional capacity | ✓ | | | ✓ | | ✓ |
| Installation of networking infrastructure | ✓ | | ✓ | | ✓ | |
| Connectivity between Crown Campus suite and UKCloud platform | n/a | | n/a | | | ✓ |
| Availability management | ✓ | | ✓ | | ✓ | |
| Capacity management — including additional capacity | ✓ | | | ✓ | | ✓ |
| Health management | ✓ | | ✓ | | | ✓ |
| Platform monitoring and maintenance | ✓ | | ✓ | | ✓ | |
| Performance management of storage | ✓ | | ✓ | | ✓ | |
| Performance management of customer workload | | ✓ | | ✓ | | ✓ |
| Assurance and compliance | ✓ | | ✓ | | ✓ | |

Pricing comparison by platform

| | All-inclusive | | UKCloud Hosted | Crown Campus Hosted |
|---|---|---------------------------------|---|--|
| Upfront payment design and installation | CAPEX From 10% of asset cost | OPEX From £10k | From £10k | From £10k |
| Platform fees [†] charged monthly | | | | |
| 1 Rack | from £30,000 per Rack * | | from £30,000 per Rack | from £15,000 per Rack |
| 2–3 Racks | from £16,000 per Rack * | | from £16,000 per Rack | from £8,000 per Rack |
| 4–8 Racks | from £10,000 per Rack * | | from £10,000 per Rack | from £4,000 per Rack |
| 9–12 Racks | from £6,500 per Rack * | | from £6,500 per Rack | from £2,500 per Rack |
| 13+ Racks | from £5,000 per Rack * | | from £5,000 per Rack | from £2,000 per Rack |
| | * additional asset cost applies | | customers own storage infrastructure | customers own storage infrastructure |
| |   | | | |
| | CAPEX | OPEX | | |
| Asset prepayment charged annually | Asset Cost / 2 years | N/A | N/A | customer responsibility for Crown Campus hosting fee |
| Asset Finance charged monthly | N/A | Asset Cost + 20% / 24 months | | |
| Minimum term | 24 months | | 24 months | 24 months |
| Early exit charge | Remainder of asset cost | | Remainder of contract | Remainder of contract |
| Premium for Elevated OFFICIAL | From 20% | | From 20% | From 20% |
| Unit of billing | Usable storage upfront + Platform fee per month | | Platform fee per month | Platform fee per month |

[†] Platform fees are priced as per the table above. Once the number of racks used reaches the next pricing tier, all usage for the month will be charged at that lower price. Based on 8 node rack with consumption of 750W per node, total rack power consumption of 6.5KW.

Connectivity options

UKCloud provides one of the best connected cloud platforms for the UK Public Sector. We offer a range of flexible connectivity options that enables you to make your cloud solution accessible to virtually any government user community or system. The variety of government, public and private networks is shown in the following diagram:

| Connection type | DDoS-protected internet | PSN Assured | PSN Protected | N3 | HSCN | Janet | RLI | Hybrid Connect | Crown Connect | Cloud Connect |
|-----------------|-------------------------|-------------|---------------|--------|--------|-------|--------|----------------|---------------|---------------|
| Standard | FREE | FREE | £250 | £250 | £220 | FREE | N/A | N/A | From £200 | From £200 |
| Unlimited | FREE | £2,500 | £3,500 | £3,500 | £3,000 | FREE | N/A | N/A | N/A | N/A |
| Set-up fee | N/A | N/A | N/A | N/A | N/A | N/A | £2,000 | £2,000 | £1,000 | £1,000 |

Please refer to the pricing guide for all options and details.

PSN Assured: The general-purpose unencrypted Public Services Network. Connected to most central, local and devolved government organisations.

PSN Protected: Encrypted higher-security Public Services Network. Connected to legacy IL3 networks including GSI, PNN, CJX, GSE, GSX and others.

Janet: The UK's research and education network. Connected to all education organisations and research councils.

CloudConnect: Enables customers to establish connectivity to UKCloud-approved public cloud providers through peering exchanges or via private connections.

N3/HSCN: The NHS National Network and its replacement, the Health and Social Care Network. This enables you to connect to all health and social care organisations nationwide.

HybridConnect/CrownConnect: Supports a variety of flexible private connectivity options. Enables connection to Crown Hosting (CHDC) and other third-party facilities.

RLI: A high-security network for defence and industry partners. Connection to RLI is subject to extensive vetting and approval from the MoD.

Purchase scheme — Cloud Credits

Purchase Cloud Credits upfront and redeem them against UKCloud services over a maximum two-year period. This enables you to effectively commit your CAPEX or budget spend in advance, with monthly usage deducted from the balance until depleted. You can find full details in our pricing guide.

An SLA you can trust

We understand that UK public sector organisations need a dependable service that demonstrates value to stakeholders, which is why we offer one of the best SLAs on G-Cloud.

We back our SLA with Service Credits. If we fall short of our agreement, we will compensate you with Service Credits.

The table below outlines the SLA and Service Credit details. For more information, see the terms and conditions.

| | | |
|---------------------------------|--|--|
| Platform SLA | 99.99% | |
| Portal SLA | 99.90% | |
| Availability calculation | Availability indication is based on an average 730 hours per month. Excludes planned and emergency maintenance. | |
| SLA measurement | Availability of all or part of the storage infrastructure. | |
| Key exclusions | Applies to All-Inclusive, UKCloud Hosted and Crown Campus Hosted | Deletion or modification of files by customer resulting in data loss. Any access provided by you to your user base that takes the storage system beyond its recommended performance and connectivity thresholds. Faults within external connectivity providers (for example DDoS-protected internet, PSN, Janet or N3/HSCN) and components colocated at UKCloud. Any connectivity between data centres that is out of the control of UKCloud. |
| | Applies to customer-supplied hardware | As above, plus; any loss of connectivity or data including data corruption as a result of you or your suppliers installing new or additional capacity to the storage system. |
| | Applies to Crown Campus Hosted | As above, plus; any platform outages causing disruption to power and cooling (as they are out of UKCloud's control). |
| Service Credits* | 10% of monthly spend for Private Cloud – Storage. 1% of monthly spend per 1% below service level target or part thereof for the UKCloud API and Portal. | |

* You will not be eligible to receive a Service Credit if your account has any undisputed payments outstanding beyond their due date or you are in violation of UKCloud's Terms and Conditions including the UKCloud System Interconnect Security Policy (SISP).

Supporting documents and resources

This service definition aims to give you enough information about the service, options and pricing to support your G-Cloud procurement process. The following documents, available on request or from the UKCloud Portal, should provide any additional information you need:

- Service Scope provides more details about the service; other service scopes cover services such as the Mass Transfer Facility, Cloud Enablement and Smart Hands
- FAQs for each service aim to answer the most commonly asked questions
- Factsheets provide a high-level description of each service
- Getting started guides help you to get up and running quickly using the UKCloud platform, our Portal and our API

In addition, we have:

- Cloud Architects who can help you understand how this service can address your requirements
- Over 240 partners who can provide professional and managed services

Jumpstart service

Not all customers need a full transition service consultancy package. Sometimes getting value from cloud just requires a few days with a subject matter expert to get the building blocks in place that helps your organisation understand and start consuming cloud services. The UKCloud jumpstart service provides a 4 day package of work to help you get going with whichever UKCloud technology you are planning to use. This is provided at a fixed price of £3,500.

Try before you buy

Owing to the exclusive-use, single-tenant nature of this service, trials are not available.

The small print

The appendix to this service definition provides a summary of the service terms. For full terms and conditions, refer to the Terms and Conditions document, available from the Digital Marketplace.

Appendix

Ordering and invoicing

The service can be ordered via the G-Cloud Framework and must be supported by a valid purchase order.

UKCloud will issue invoices as follows:

- At point of order for up-front fees
- Annually in advance for pre-payment fees
- Monthly in arrears for monthly fees

Payment can be made by direct bank transfer (BACS/CHAPS).

Onboarding

Given the nature of this service, on acceptance of an order, UKCloud will work with the customer to create a detailed design for the Private Cloud for Storage service. This design will formalise the dedicated components required for the solution, including storage hardware, storage software, network hardware and cables.

The dedicated components will be procured by UKCloud or by the customer, depending on the package requested.

UKCloud will also create the customer's Primary Administrator account and send a Welcome Pack which includes the URL for the UKCloud Portal for access to the Knowledge Centre and service management function.

Customers have the choice of deploying the solution in one or both of UKCloud's two UK data centres. Customers can request to be deployed into a specific data centre at the time of the order. A Crown Hosting Data Centre is also an available option.

You will be assigned a Customer Success Manager (CSM) to provide any assistance required during the first 90 days of the service.

UKCloud also has a large ecosystem of partners who can deliver additional services such as support and professional services. UKCloud would be pleased to introduce you to the right partner to suit your needs.

Crown Hosting Data Centre Environments

If the customer chooses to locate their hardware in a Crown Hosting Data Centre environment, the customer will be wholly responsible for setting this arrangement up through the Digital Marketplace.

The customer will be responsible for ensuring that the storage hardware is installed and ready for UKCloud to install the network switches and connect to the storage environment ready for testing.

The customer is responsible for ordering the connectivity between their environment in the Crown Campus suite and the UKCloud Meet Me Room.

Data migration

In many circumstances, UKCloud can help facilitate a bulk migration to the platform using local data import. This is priced on a time-and-materials basis from the UKCloud SFIA rate card.

In many circumstances, UKCloud can also help facilitate a bulk migration to the platform using offline data ingest and extraction — please ask UKCloud for details.

Service management

UKCloud will allocate a Technical Account Manager (TAM) to provide you with an assigned point of contact. The TAM will provide additional assistance with reporting and incident escalation, at all times following UKCloud's ISO20000-certified ITIL-based process framework.

Crown Hosting Data Centre Environments

For UKCloud to manage the platform for customers with Crown Hosting Data Centre environments, root access must be given to all equipment that needs to be monitored and maintained by UKCloud.

Root access must be handed over to UKCloud. The customer will not have access to the management of the platform, which will be managed by UKCloud.

A minimum of four (4) named UKCloud personnel must be added to the whitelist to access the Crown Hosting Data Centre to ensure maintenance can be carried out.

Service constraints

UKCloud will not provide customers with access to any management applications that UKCloud uses to run and maintain the customer storage environment, such as Insight IQ.

Customers will not have root access to their hardware as their hardware will be maintained and configured by UKCloud.

The UKCloud Assured Cloud platform is designed and optimised to operate under specific conditions. UKCloud therefore imposes a number of service constraints, including:

- Support for specific hardware configuration (for example certain EMC Isilon configurations, certain Cisco + EMC + VMware configurations and certain Super Micro + Arista configurations)
- UKCloud must be named agents for all support and maintenance contracts
- UKCloud data centre access is available only to UKCloud staff; customers will not be allowed

access to the data centres except in exceptional circumstances

- Private Cloud for Storage must include specified top-of-rack/end-of-rack network switches which will be designed, installed and managed by UKCloud
- Private Cloud for Storage must include specific software features to enable UKCloud to provide automation, orchestration and instrumentation
- UKCloud provides no SLA or warranty related to performance

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

“Planned Maintenance” means any pre-planned disruptive 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, UKCloud shall provide affected customers with at least fourteen (14) days' advance notice of the Planned Maintenance.

Planned maintenance will be reported as an SLA event but will not be eligible for service credits.

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 and will be eligible for service credits.

“Emergency Maintenance” means any urgent maintenance required to prevent or mitigate against any event compromising the infrastructure relating to the service. Whenever possible, UKCloud 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 Friday or between the hours of Saturday 00:00 to 06:00 (UK local time) on Monday, (including bank holidays) unless there is an identified and demonstrable 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.

Emergency maintenance will be reported as an SLA event, but will not be eligible for service credits.

Technical requirements

Customers will require appropriate network connectivity such as DDoS-protected internet access or accredited connectivity such as a government secure network to our platforms. Connectivity via the DDoS-protected internet, a government secure network (PSN, Janet, N3/HSCN or RLI) 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/HSCN, Janet, RLI or PSN (including legacy networks), the customer is responsible for adhering to the relevant Code of Connection (CoCo) and for providing evidence of their CoCo to UKCloud upon request. UKCloud is unable to provide access to secure networks where such evidence has not been provided by the customer.

Customers are responsible for backing up all data relating to this service.

Management and administration of layers above the IaaS (for example the systems that use the Private Cloud for Storage platform).

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

The customer is also responsible for ensuring only lawful data that supports the UK Public Sector is stored and processed by applications on this environment, and that they fully comply with the UKCloud Security Operating Procedures (SyOPs) and other information assurance requirements as specified in the UKCloud System Interconnect and Security Policy (SISP) and associated accreditation documentation sets.

UKCloud Hosted

The customer is responsible for supplying UKCloud with all network switches and cabling to connect to the customer's storage environment. The customer may ask UKCloud to supply these on the customer's behalf.

An agreement between UKCloud and the customer will be established to cover hardware failures and associated removal and/or disposal.

Additionally, the customer will be responsible for:

- Arranging the installation of their own hardware and associated software
- Setting up a service and maintenance contract for their hardware — including replacement of failed components such as hard disk drives
- Setting up a software and maintenance agreement for all licensed software
- Covering the cost of software patch licences
- Performing capacity planning and capacity management
- Raising service requests through the portal when they need configurations implemented

- Raising incident tickets if they experience any issues with their service
- Giving UKCloud time to plan the installation of any additional hardware

Termination

Terms

Customers can terminate this service by providing UKCloud with not less than 30 days' advance notice in writing.

At the point of termination, you are responsible for removing all Content by 23:59:59 on the Effective Date of termination. If Content is not removed by this time We reserve the right to charge for any Content not removed, or for retrieving and returning your content, and may destroy or otherwise securely dispose of any of Your Content in Our possession.

Offboarding

All-inclusive package

Prior to terminating the contract, the customer can transfer all their data out of the solution or opt to make the final payment and take ownership of the storage hardware and pay any applicable early exit charges.

UKCloud Hosted package

As the storage hardware is owned by the customer, the customer must make arrangements to collect it within 14 days of contract termination.

For clarity, when the customer terminates their agreement with UKCloud, UKCloud ensures all of the organisation's data is deleted unless the customer owns the storage hardware and pay any applicable early exit charges.

Crown Hosting Data Centre

Prior to terminating the contract, the customer must notify UKCloud so that any IP/config can be removed. Once complete, the customer can terminate the connectivity between the Crown Campus and the UKCloud Meet Me room and pay any applicable early exit charges.

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