UKFAST®
YOUR FUTURE IS OUR BUSINESS

G-CLOUD SERVICE DEFINITION

LOT: CLOUD HOSTING

DRaaS

DISASTER RECOVERY AS A SERVICE

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YOUR FUTURE IS OUR BUSINESS

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INTRODUCTION TO UKFAST

UKFast is the largest privately-owned hosting provider in the UK, with a comprehensive network of fully owned, high specification data centres, from which cloud services, managed hosting and colocation services are delivered. UKFast has more than 20 years' experience in delivering cloud-based solutions to a range of public sector clients including the NHS, MoD, the Cabinet Office and police forces.

As an exclusively UK-based company, we offer guaranteed data sovereignty. We fully own, manage and operate the UKFast data centre complex including the land it's built on, housing more than 30,000 sq. ft. of enterprise-grade, ISO-certified facilities.

Our PCI compliance and ISO certifications, including ISO 27001, are managed by a dedicated compliance team to ensure our customers have a professional partner in UKFast. Our continued investment, dedication and credentials are further reinforced by high levels of accreditations and qualifications across support personnel, technology and infrastructure. All services, including administration and support and all data including backups and DR capabilities, are entirely hosted within the UK, and all members of the system administration team are vetted by UKVS, holding SC Clearance.

UKFast's dedicated hosting solutions are complemented with award-winning client support, provided by a highly knowledgeable and skilled team, with extensive experience within the sector. Implementing bespoke support structures unique to client requirements, UKFast's 24/7/365 comprehensive support is exclusively UK based. We pride ourselves on our industry-leading Net Promoter Score (NPS), which is consistently in excess of +80 (ten times the industry average).

HIGHLIGHTS

- Accredited as a Secure Data Centre by HMG Departments including Home Office (PASF)
- HSCN, PSN, PSN for Policing, MoD RLI/ALI and Internet Connectivity
- Protective monitoring compliant with NCSC GPG-13
- Separation of personnel administering public-sector operations to those supporting commercial operations with strong two-factor authentication logged profile-based access
- Centralised authentication and authorisation throughout the corporate environment
- Large volume of bespoke proprietary software developed in house to facilitate operational control and reduce supply-chain dependency
- In-house team of experts in penetration testing and ethical hacking, providing additional security service for proactive testing and verification of high security standards
- Support and data centre work all undertaken by UKFast personnel, without reliance on third parties

DATA CENTRE SPECIFICATION

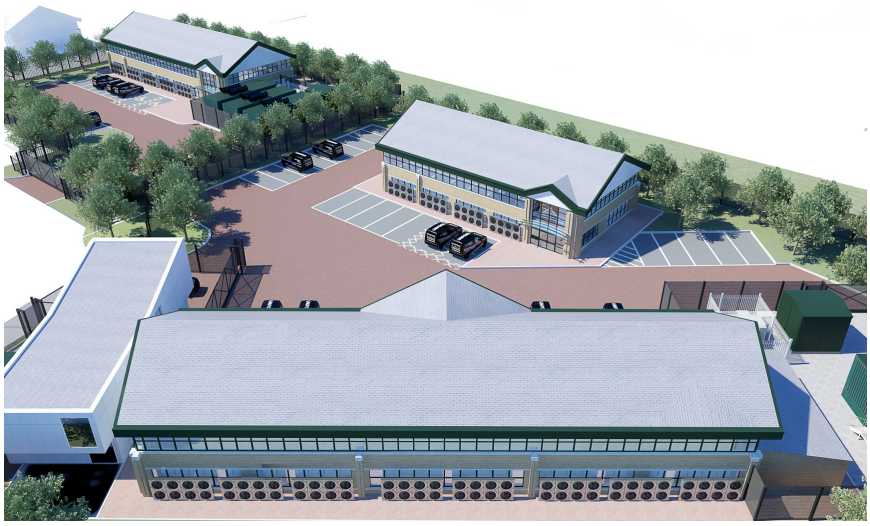
UKFast owns and operates a 6.52MW tier 3 1,200 rack data centre estate. This contains multiple physically separate buildings, connected by dedicated fibre. High voltage power connections are provided from separate primary sub-stations. All mission-critical services including Standby Generation, Cooling systems and UPS (uninterruptible power system) are provided at N+1 or greater across the whole facility. The complex has a power density of over 6KW per square foot, providing diverse A & B power to each data rack, and all eCloud service platforms are supported from quadruple power feeds.

The data centre complex is supported by 11MW of standby generation with over 130,000 litres of fuel storage and eight hour fuel supply SLA. All critical services are supported by 5.2MW of UPS power and 5.3MW of data centre cooling. All systems are monitored by UKFast's DCIM system (Data Centre Infrastructure Management) 24/7/365 with on and offsite monitoring of all systems. The data centre complex is protected against fire with gaseous fire suppression and VESDA double knock detection.

The complex is manned 24/7/365 by UKFast's security guards and the site is protected by multiple physical and electronic security systems including 2.8m prison fencing, CCTV and multi-factor access control systems. The data centre complex is managed 24/7/365 by an in-house team of data centre engineers and facility management engineers. UKFast are also the only UK data centre owner and operator to have NICEIC-accredited electrical engineers and building services consultant engineers.

Following our £22m investment in data centres in 2013, UKFast has recently invested a further £2.4m to build a separate hosting suite dedicated solely to public sector clients. This incorporates enhanced security and resiliency features, including:

- Dual-factor access, with weight sensors
- Fully resilient networking, switches and carrier-redundant leased lines, separated from the rest of the UKFast network and data centre complex
- Isolated power and backup generator redundancy, again separated from the rest of the UKFast network and data centre complex
- Accessed only by SC cleared employees



INFORMATION ASSURANCE

We have an extremely robust and proven security policy and have gained the following accreditations through being independently audited and assessed. We continually improve our processes in information security, quality management and environmental management to facilitate a secure and efficient quality-of-service to our customers.

- ✓ ISO 27001:2013 Information Security Management System
- ✓ ISO 27017:2015 Code of practice for information security for cloud services
- ✓ ISO 27018:2014 Protection of personally identifiable information in public clouds
- ✓ ISO 22301:2012 Business Continuity Management System
- ✓ ISO 9001:2015 Quality Management System
- ✓ ISO 14001:2016 Environmental Management System
- ✓ PCI DSS Level 1 Service Provider
- ✓ Cyber Essentials +
- ✓ Monitoring service compliant with GPG-13
- ✓ NIC EIC approved contractor
- ✓ The environment follows NCSC guidelines and architectural patterns, including HMG standards with a fully-implemented BCS (Baseline Control Set)
- ✓ Tier 1 accreditation/certification from CyDR, NCSC, Home Office

A number of options are available for connectivity to environments equivalent to OFFICIAL and OFFICIAL-SENSITIVE standards at UKFast. A basic guide is provided below but further dialogue with UKFast's solution architects is encouraged to ensure the correct guidance is followed.

OFFICIAL / OFFICIAL-SENSITIVE

- For Dedicated Circuit Connectivity you will require one of the following:
  - Site-to-site IPSEC or SSL-based VPN
  - Dedicated fibre direct to our data centre
  - CAS(T) \ Non-CAS(T) compliant connections via MPLS and leased line
  - CPA overlay encryption where required
- For access to the PSN you must be a PSN service provider or hold a PSN certification
- Access to HSCN requires an ODS code and compliance with NHS Digital obligations framework

DR AS A SERVICE (DRAAS)

UKFast's DR as a Service can be used to extend and provide resilience to your existing in-house infrastructure. Hosted in our fully-owned ISO-accredited data centres in the UK, our DR as a Service offering allows you to replicate VMs from your existing cloud architecture, be that your in-house systems or at another cloud provider, into our secure Public-Sector-only cloud environment. Using Veeam you can replicate into any of our VMware-based cloud offerings, giving you peace of mind that your data is protected at a remote location, and with the knowledge that you can bring your solutions back online within hours in the event of a disaster. Our cost-efficient billing model reduces the total cost of DR by ensuring you only pay for live services in the event of failover.

The ability to test is what drives business forwards. UKFast's DRaaS solution allows your business to hand over the management of your disaster recovery strategy to our team of dedicated experts, making it much easier to test that your failover works before you encounter a real disaster.

BENEFITS

Supporting the Government's initiative to improve service quality, reduce costs and increase efficiency, UKFast's eCloud platform enables public sector organisations to do more with less.

FASTER	COST-EFFECTIVE	SAFER
Protect as many virtual machines as your resources allow. 100% network uptime guaranteed as standard. 99.99% infrastructure availability guarantee. Fully compliant with any Veeam based DR strategies. Reduce Carbon Footprint	Reduce your in-house IT footprint by moving your DR infrastructure to the cloud. Equipment/licences can be procured by UKFast or by the customer. Pay-as-you-go model to increase cost efficiency. Custom built RTO and RPO (Recovery Time and Recovery Point Objectives) options available.	UK based, ISO-accredited data centres, fully owned and operated by UKFast. UK based, in-house expert SC cleared support 24/7/365. Designed around NCSC specifications across multiple networks (Internet, PSN, N3, Legacy GCF and other Carrier networks).

FEATURES

- Connect through Internet, HSCN or PSN.
- Adherent with NCSC cloud security principles.
- Tier 1 (OFFICIAL / OFFICIAL-SENSITIVE) solutions available.
- NCSC and PGA accredited provider.
- Replicate data onto our world-class eCloud platform.
- Schedule DR invocation tests.
- Maintain business continuity.
- Recover data and bring critical applications back online within one hour to mitigate disruption.

PRODUCT FEATURES

ENTERPRISE-GRADE DR AS A SERVICE

UKFast DR as a Service is built on the core industry-standard Veeam to bring enterprise-grade Disaster Recovery on your remote site for minimal cost and configuration complexity.

CHOICE OF DR ENVIRONMENT

UKFast DRaaS can be used with any of our VM cloud compute offerings, giving you the flexibility to choose the performance and cost-effectiveness of your DR solution in line with your business needs. Utilising Cisco UCS blade infrastructure, dedicated or shared hardware nodes you can power any number of virtual machines as required, in any configuration. Flexible and fully-redundant, virtual machines can be spread across as many hypervisors as required.

CUSTOMISABLE RTO AND RPO

We recognise that RTO is an important factor in the choice of DR platforms and the criticality of the data that is stored upon them. We offer a comprehensive RTO and RPO package to suit the needs of your service.

BUSINESS CONTINUITY

Business continuity plans (BCP) protect organisations from the potentially devastating impacts of unexpected events. From power outages to natural disasters, pandemics to terrorism, organisations must be prepared to handle a range of 'what if' scenarios, to ensure critical operations are maintained. In the event of a disaster, a business continuity plan helps to minimise data loss and ensure key operations remain online, reducing the negative impacts to revenue, business relationships and employee trust.

Business continuity and disaster recovery are often used interchangeably but are not the same process. BCPs provide a framework for implementing effective response and recovery strategies, encompassing communication and collaboration with all stakeholders, operational practicalities and any technical considerations. Disaster recovery plays a vital role in supporting technical requirements of a business continuity plan, ensuring businesscritical data is recovered and essential applications are brought back online as quickly as possible.

In the event of a disaster, DRaaS greatly accelerates the speed of recovery. Initiating the failover of the primary solution to the DRaas solution often requires only a few clicks within a user portal. This begins the process of automatically setting dormant virtual machines into an active state, without the manual task of failing over a solution. This saves valuable time and resources in a stressful situation in which business continuity is paramount. As DRaaS also minimises data loss, less time is wasted trying to find and restore lost data, further speeding up recovery

TESTING AND DEVELOPMENT

Traditionally, many businesses have cut corners by failing to test their DR plans, which often results in a range of issues should the 'big red button' ever need pressing. Ensuring recovered data can be read, and that all devices and applications are workable is key. The main reasons testing is often overlooked centre around the amount of time and tech resource needed to 'practise' solution failover, data recovery and then to restore the original solution. However, failing to test and develop DR protocols has a huge impact on business continuity; flawed DR plans result in longer timeframes of recovering data on which key operations depend to get back up and running.

Without DRaaS, DR testing often involves moving IT staff to an off-site location and manually running a disaster recovery drill. With DRaaS, it can be as simple as signing onto a login screen and testing your application stack. The ability to activate and deactivate a single VM or the entire solution at the click of a button, while knowing the exact costs per hour, means testing can be planned into annual budgets. In addition, no manual efforts are required to failover the solution and any concerns over whether the underlying resource can handle the capacity of the solution are abolished by the scalable nature of the platform. For many tech teams, being able to test DR plans with ease is one of the key selling points of DRaaS

REDUCING DR COSTS

Due to having both active and dormant states of resource consumption, DRaaS offers an affordable approach when compared with traditional DR.

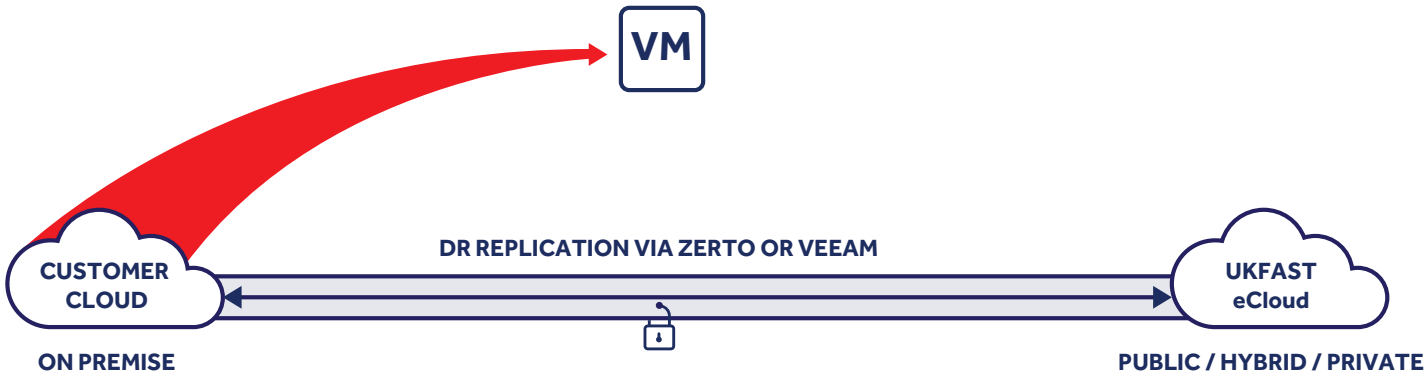
TECHNICAL SPECIFICATION

UKFast's DR as a Service solution provides:

- Customer- or UKFast-provided licenses for Veeam
- Fully-managed service to architect DR requirements and assist with service launch.
- Utility billing model providing PAYG cost-efficiencies.
- Virtual-to-virtual DR replication possible.
- Choice of our secure cloud compute platforms.

Replicated resources are stored on any of our eCloud-based platforms (excluding Flex) until DR is invoked. Upon invocation the platform is brought online on top of our eCloud Private compute platform and we recommend that customers familiarise themselves with our eCloud Private documentation. The platform is built on a VMware-based architecture and is compatible with Veeam DR software. There may be limitations for DR and we recommend users discuss their DR plans with us to ensure the best replication solution is selected for their needs.

Figure 1. UKFast DRaaS



SERVICE MANAGEMENT AND SUPPORT

AN EXTENSION OF YOUR IT DEPARTMENT

Our support extends from the base infrastructure to the OS and supported applications and is based on customer requirements.

- Formal end-to-end support, which is extremely flexible and highly scalable
- UK-based support available 24/7/365
- Aim to answer every call within three rings
- "Support pods" made up of dedicated teams of support specialists; seven UKFast staff, including level-3 technical specialists and account managers
- PRINCE2, ITIL, Microsoft, Linux (Red Hat and LPI), VMware, Citrix, Cisco, and Commvault accreditations
- Regular service and solution reviews

SUPPORT BOUNDARY

From day one, our focus has been to deliver the highest standard of hosting solutions alongside customer service excellence. When you choose a managed solution from UKFast, not only will you get the best in technology, but also access to our in-house experts who will architect, manage and support your solution.

Dedicated Support Teams

As standard, you will be assigned a dedicated "support pod" of specialists to work on your solution and be on hand when support is required. Made up of a team of seven, each pod includes account managers and level-3 certified engineers who get to know you and your solution. We ensure you are automatically directed to them each time you call. Please refer to the UKFast Pod System overleaf for an example pod design.

UK-Based Support 24/7/365

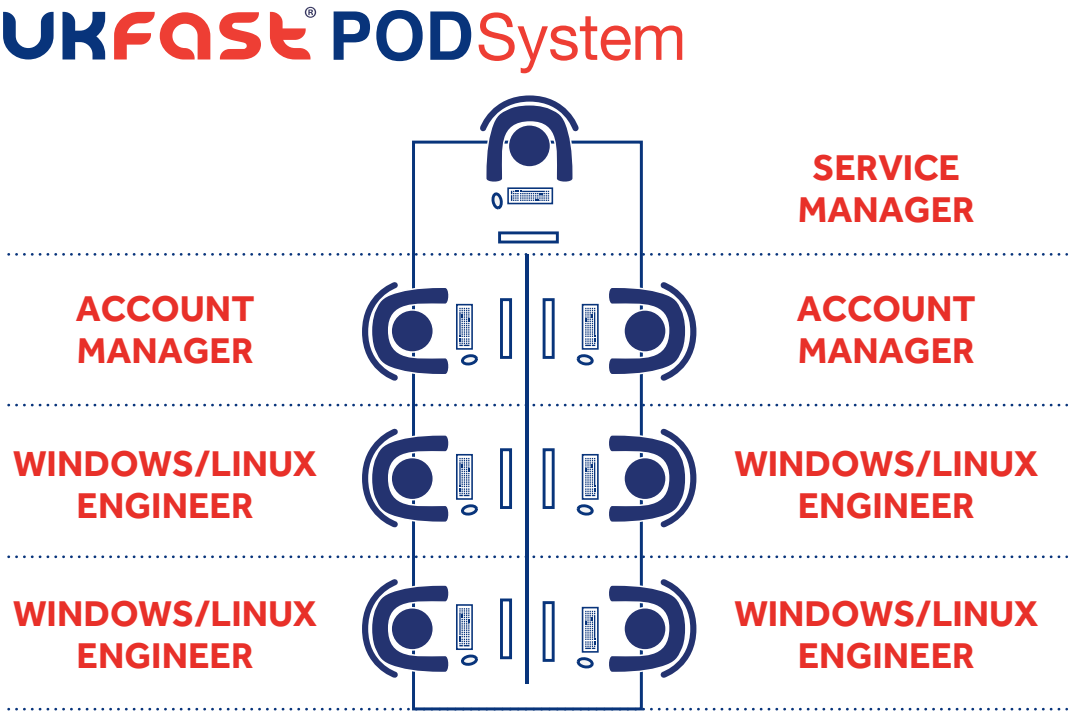
We directly employ all technical and support staff, 100% onsite in the UK from our head office and data centre locations in Manchester. We aim to answer your calls within three rings, so you get through to a qualified level-3 engineer straightaway.

All support engineers working with public sector customers are SC-cleared.

Support Pod

UKFast is well-known for its innovative Pod System. Dedicated to enterprise and public sector customers, it combines expert layers for product knowledge, customer experience, Windows and Linux. Our highly qualified engineers communicate and collaborate as a team, and with the customer, to provide a level of service well above industry standard. This results in UKFast's Net Promoter Score (NPS) being consistently in excess of +80 (more than ten times the industry average of +7). Contributing to this is our three rings policy for any incoming calls to the support team, which ensures that you are always routed to the correct support pod.

UKFast Pod System



MYUKFAST

MyUKFast, your unique customer portal, gives you total control of your UKFast servers and related resources. From this portal you can monitor and manage each element of your UKFast solution, and access the Priority Support System to send, secure and track your support requests in real time. Whether you are looking to increase your RAM and storage or even configure your firewall, MyUKFast offers a scalable and flexible service enabling you to make any changes as and when you need to.

QUALIFICATIONS

Having invested £5m into Training and Education in recent years, we are a Microsoft Gold Partner, VMware Premier Partner, Cisco Cloud & Managed Service Programme (CMSP) Partner. Our purpose-built in-house training facility, run by fully qualified teachers, is available for UKFast employees and our customers to access world-class training programmes, and has achieved a number of recognised accreditations including:

- Gold Linux Professional Institute (LPI) Approved Training Provider
- CompTIA Authorised Academy
- Person VUE Authorised training and exam centre
- Red Hat Academy for training and exams (one of only three Red Hat Academies in the UK)

UKFast has some of the most qualified teams in the country in Windows, Red Hat, Linux, VMWare and Cisco certifications. The Linux Professional Institute (LPI) has recognised UKFast as having the most qualified LPI team in the UK – demonstrating to clients that the business has engineers who they can trust to manage their technology and quickly resolve issues as they arise. Our Training and Education Team monitors all completed training through a software system developed in-house; which also allows employees to track their own training, courses, exams and quiz scores. Having the ability to provide this training in-house gives our teams access to more qualifications with greater ease, and without having to leave the office.

Our apprenticeship programmes have won multiple awards, including The Princess Royal Training Award (PRTA), and we have had almost 80 (20% of the business) UKFast apprentices since launching the programme in 2013. We are listed on the Register of Apprenticeship Training Providers (RoATP) which means we have been assessed by the Government to have training, capability, quality and financial health to deliver high-quality apprenticeship training. As a result of being on the register we have now opened our doors for other employers to have their apprentices trained by our expert team.

SERVICE LEVELS

Our network is provided with a 100% network uptime guarantee and 24/7/365 expert technical support as described in table 1. UKFast will reasonably endeavour to meet the following timescales for a support requirement:

AVAILABILITY	
Network	100%
Infrastructure *	99.99%
customer Portal	99.90%

* Monthly
** Based on customer's software architecture following our high availability guidelines.

Availability is based on the total number of operating hours of a given calendar month and excludes planned and emergency maintenance.

Downtime is defined as including issues arising from the UKFast-based network, hardware, virtualisation and base operating system components of the IaaS offering, not at the customer's application layer.

MAINTENANCE NOTIFICATIONS

We custom-built our UK data centres using only enterprise-grade, highly resilient infrastructure, allowing full control and flexibility. UKFast therefore applies the following procedures for the notification of maintenance:

PLANNED MAINTENANCE

Planned maintenance means periods of maintenance of which the customer has been made aware in advance on five (5) days prior notice by UKFast and which may cause disruption of service due to non-availability of the specific service.

Wherever possible, planned maintenance will be carried out without affecting the service. This will generally be achieved by carrying out planned maintenance during periods of anticipated low traffic and on part, not all, of the network at any one time.

EMERGENCY MAINTENANCE

When emergency maintenance is needed, such as a major fault with a power system that is likely to affect the service, UKFast will endeavour to inform the affected parties wherever possible with a minimum of 24- hours' notice. Please note in exceptional circumstances, dependent upon the nature of the emergency, this could be without notice as the scenario dictates.

FINANCIAL RECOMPENSE MODEL

Service Credits

If UKFast does not comply with the Service Levels it shall pay Service Credits to the customer. The customer's right to such Service Credits is in addition to, and not in substitution for, any other rights arising from UKFast's failure to provide Services in accordance with the terms of the Contract.

Availability - In respect of any month when the level of Availability (as defined above under Service Levels), indicative Service Credits below:

% AVAILABILITY ACHIEVED	SERVICE CREDIT DUE (AS A % OF THE STANDARD SUPPORT FEE FOR THE MONTH IN QUESTION)
99.999% or less (but more than 99.50%)	2%
99.99% or less (but more than 99.25%)	5%
99.95% or less	10%

In respect of any month when UKFast fails to comply with the Service Levels (for P1 and P2 severity requests) indicative Service Credits listed below:

PERCENTAGE OF SUPPORT REQUIREMENTS IN RESPECT OF WHICH ONE OR MORE SERVICE LEVEL WAS NOT ACHIEVED	SERVICE CREDIT DUE (AS A % OF THE STANDARD SUPPORT FEE FOR THE MONTH IN QUESTION)
More than 2.5% (but less than 5%)	2%
5% or more (but less than 10%)	5%
10% or more	10%

TECHNICAL BOUNDARIES

RESPONSIBILITIES	UKFAST	CUSTOMER
Purchase of Hardware and infrastructure	✓	
Architecture and build	✓	
Base OS installation and IP configuration	✓	
Management above the VM level (Including OS)	✓	
Citrix environment administration	✓	
Availability and Health monitoring	✓	
Line of business and third party applications		✓
Citrix user management		✓
Third-party applications		✓

* Monitoring available to assist customer

UKFAST RESPONSIBILITIES

Managed and Unmanaged Network Infrastructure Boundaries

In all instances, UKFast takes responsibility for the management of network infrastructure from the point of the external connection terminating with the external interface of a UKFast-operated Layer 3 device (Edge Router, Firewall, VPN Terminator) within our data centres. In the case of the terminating device being customer managed, responsibility is taken from the internal facing interface port. Beyond these interfaces, management of service connectivity is deemed to be the responsibility of the individual connectivity provider (PSN, MPLS, network provider etc.). External Layer 2 termination is not permitted.

Unmanaged Support Boundaries

Unmanaged services are provided with support for the underlying base infrastructure, hardware, core networking and virtualisation. Installation of the Base OS and initial IP configuration will be performed by UKFast, but no OS or application support will be offered beyond this.

Managed Support Boundaries

Managed support provides comprehensive break/fix and health management support across the environment's networking, hardware and virtualisation stacks. It also includes OS support and coverage for applications on our supported software list when running in a supported configuration.

CUSTOMER RESPONSIBILITIES

UKFast is unable to be responsible for:

- Issues with, or which are caused by, third-party software installed by the customer and/or the support of applications that do not feature on either UKFast's supported applications list or as part of the agreed intended functionality of the platform (as agreed in the contract specification documents) and coding and/or development support
- Issues within, or which are caused by, the customer's code
- Administration/management of access and responsibilities for the customer's end-users and for the administration/management of any layers above IaaS. UKFast is not responsible for application security and/or data encryption at the application or OS level
- The suitability of UKFast's services in light of the nature of any data stored on the customer's solution and for determining what steps are appropriate for maintaining security, protection and backup.
- Issues caused by negligence on the part of the customer, its employees, servants or agents.

BUYING OUR SERVICES

ON-BOARDING AND OFF-BOARDING

On-boarding and off-boarding are the processes for beginning to use our services and for when you finish using our services.

ON-BOARDING

We offer services to enable seamless on-boarding and collaborate to design a bespoke solution to meet your requirements. An example phased on-boarding process is demonstrated below:

1. **Discovery**
   - 1.1. Project management teams from both parties meet to identify all moving aspects and understand resource requirements for the project. This will identify any setup fees required
   - 1.2. Initial high-level process agreed and highlighted to all involved
   - 1.3. Owners of key project areas agreed & assigned
2. **Timelines**
   - 2.1. Mutually agreeable timelines are decided
   - 2.2. Milestones are determined
   - 2.3. Project phases defined with resources allocated for each phase
   - 2.4. Deliverables are agreed
3. **Risk**
   - 3.1. Project risk assessments are performed
   - 3.2. RAG reports are agreed
   - 3.3. Escalation chains are defined
4. **Implementation**
   - 4.1. This is when the on-boarding team comes alive and begins the steps from the discovery to the timeline agreed
   - 4.2. User Acceptance Testing (UAT) and initial testing completed for each milestone before sign-off to move to the next phase
5. **Quality Assurance**
   - 5.1. A post implementation clean-up of the old environment
   - 5.2. A debrief and review meeting for the project is held including lessons learned.

SOLUTION ASSESSMENT

We take an ITIL 4 compliant approach to assess your organisation in relation to your readiness for your solution. We assess your current infrastructure and applications and create a service catalogue of applications and services and make recommendations about how best to implement your solution.

OFF-BOARDING

A similar process to on-boarding is provided for customers wishing to leave UKFast. We provide full transitional services at an additional charge (please refer to the pricing document for more details). An example phased off-boarding process is demonstrated below.

1. Discovery: UKFast meets the customer's new provider who will lead the project
2. Timelines: Timelines are agreed where possible and alternatives offered when needed
3. Risk: UKFast identifies any risks that may not be apparent to the new provider or that are inherent to the UKFast solution
4. Implementation: UKFast assists the new provider if needed
5. Quality Assurance: UKFast offers a debrief and review meeting if the new provider requires.

TRAINING

We offer a range of online resources including docs.ukfast.co.uk for detailed technical guidance, UKFastTV for video content, and MyUKFast for basic FAQs and contact with the support team. We offer internally and externally resourced training options, which can be designed around your needs. Our custom-built training centre (see Qualifications section above for further details) is available for customers to host in-house training, run workshops and hold exams on a complimentary basis.

ORDERING AND INVOICING

Orders will be accepted via a signed UKFast or G-Cloud order form. UKFast order forms can be signed digitally online through your MyUKFast portal. Invoices are then raised on a monthly basis with an agreed upfront setup fee chargeable (please refer to the on-boarding process and pricing document for more details).

LEAD TIME

Once an order has been accepted, creation of a new customer within MyUKFast will be completed within 48 hours. The design and deployment of the solution will be assigned resources within five days of order acceptance, dependent on the complexity of the requirements.

CONTRACT TERMINATION

Terms

Please refer to the G-Cloud call-off contract and UKFast's Terms & Conditions for rights to terminate. Agreements shall be entered into for an initial minimum term. An exit fee would be payable if the agreement is terminated before the end of the minimum term.

Domain name transfers will not be made until all outstanding amounts have been paid by the customer, until which time domain names remain the property of UKFast.

Any customer data stored will only be extracted by UKFast with the prior consent of the customer. UKFast shall purge and destroy (as defined in security accreditation for different ILs) customer data from any of its own equipment after the contract ends.

PRICING

For Pricing please refer to the UKFast Pricing Summary and SFIA Rate Card.

TRIAL SERVICE

No trials of this product are available due to its complexity.

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MANAGED HOSTING | CLOUD | DATA CENTRES