

Hyper Converged Infrastructure (HCI)

GCloud 11 Service Definition document

Lot 1 - Hosting

Crown
Commercial
Service
Supplier

RM1045, RM3804
& RM1557

 **HEALTH &
SOCIAL CARE
NETWORK**

RM3825 ACCESS SERVICE FRAMEWORK



HM Government | G-Cloud



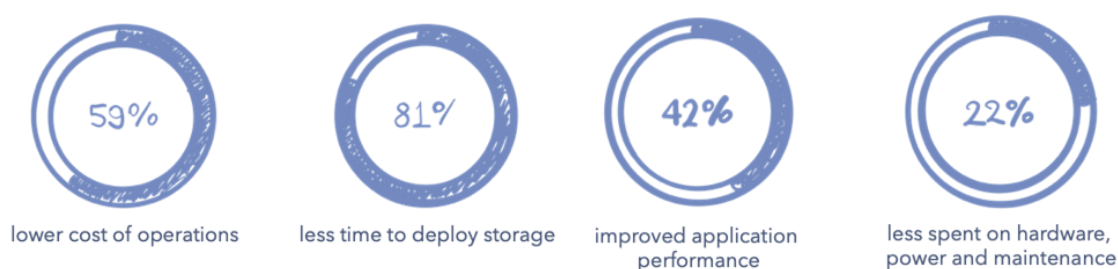
Table of Contents

Overview of the Service	3
Service Components	3
Standard HCI Deployment Templates	4
Deployment Specifics – Customer Responsibilities	5
Licensing	5
Target Service Commencement Date*	6
HCI Service Level Agreement	6
Virtual Machine (VM) Availability	6
Service Credits	6
Data Processing	6
Subject Matter of Processing	6
Nature of the Processing	6
Return of Personal Data	6
Appropriate Technical and Organisational Measures	6
HCI Management	7
Working with Exponential-e	8
Introduction	8
Our Network	8
Our Accreditations	8
Our Promise	9
Exponential-e's Approach	10
Thought Leadership and Applied Innovation	10
Meeting our Brand Promise	11
Our Security Capabilities	12
Security assurance	12
Connectivity	12

Overview of the Service

Exponential-e's HCI Service provides virtualised hardware resources to the customer allowing the customer to create and configure their own Virtual Machines (VMs) via a portal. The HCI Service can be provided at Exponential-e's managed hosting racks within Exponential-e Data Centres or at customer sites. Exponential-e shall manage all hardware and underlying virtualisation technology required to provide the HCI Service and the portal to enable the customer to manage and view the virtual resources. The customer shall be responsible for the VMs and all software and applications within the VMs that may be used in connection with the HCI Service.

The service is focussed on driving the following benefits over traditional architectures



Exponential-e leverage the market leading Hyperconverged technology from Dell Technologies, VxRail to deliver the service, allowing customer a best in class service and operational model.

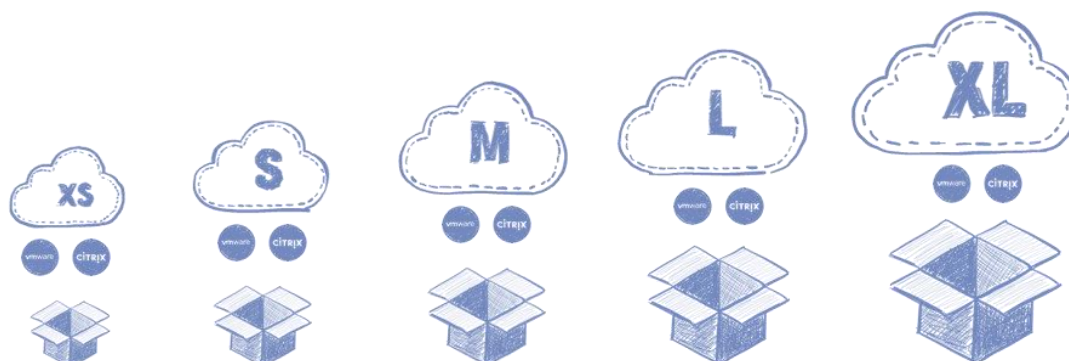
Service Components

The following components will be provided by Exponential-e as standard:

- ✓ 10Gbps Dell Switching included where the HCI Service is provided at a customer site
- ✓ VxRail Appliances (either Extra Small, Small, Medium, Large, Extra Large for bespoke sizings) providing both Compute via VMWare vSphere, and SSD storage via VMWare VSAN
- ✓ VMWare vSphere to host server infrastructures or Virtual Desktop Infrastructures including full VMWare and Windows Server Licensing.
- ✓ Predefined access levels provided via Role Based Access Controls (IaaS) VMWare vCenter Policies, VMWare vCloud Director or Exponential-e's Cloud Management Platform.
- ✓ Management by Exponential-e (up to but excluding the Operating System) with integration to the Exponential-e Service Desk for support.
- ✓ Deployment by Exponential-e at the applicable site.

Standard HCI Deployment Templates

The HCI Service is available in the following standard “T-Shirt” sizes:



Size	vCPU (Virtual Cores 4:1)	vRAM (GB 1:1)	vDisk (GB)
0 (Extra Small)	216 vCPU	691 GB vRAM	24 TB Effective All Flash Storage
1 (Small)	432 vCPU	691 GB vRAM	24 TB Effective All Flash Storage
2 (Medium)	576 vCPU	1843 GB vRAM	61 TB Effective All Flash Storage
3 (Large)	720 vCPU	2304 GB vRAM	64 TB Effective All Flash Storage
4 (Extra Large)	864 vCPU	2765 GB vRAM	82 TB Effective All Flash Storage

The service comes as standard as a full IaaS offering, however there are opportunities for customers to re-use existing licenses or take management control of the IaaS elements. These along with custom T-Shirts can be provided upon request as tailored solutions to meet all solution and service variants required by our customers e.g. Virtual Server Infrastructure, Virtual Desktop Infrastructure, GPU based solutions etc.



Deployment Specifics – Customer Responsibilities

Where the HCI Service is deployed outside the Exponential-e data centres, the customer shall provide power, racking and a suitable environment (as per the Recommended Dry Bulb Temperature and Recommended Non-Condensing Humidity Range stated in the below ASHRAE guidelines) within the site for the relevant HCI and shall ensure that the HCI at the customer site(s) are physically secured at all times.

ASHRAE 2008 Thermal Guidelines

Class	Equipment Environment Specifications									
	Product Operation							Product Power Off		
	Dry Bulb Temperature (°C)		Humidity Range Non Condensing		Maximum Dew Point (°C)	Maximum Elevation (m)	Maximum Rate of Change (°C/h)	Dry Bulb Temperature (°C)	Relative Humidity (%)	Maximum Dew Point (°C)
	Allowable	Recommended	Allowable (%RH)	Recommended						
1	15 to 32	18 to 27	20 to 80	5.5°C DP to 60%RH and 15°C DP	17	3050	5/20	5 to 45	8 to 80	27
2	10 to 35	18 to 27	20 to 80	5.5°C DP to 60%RH and 15°C DP	21	3050	5/20	5 to 45	8 to 80	27
3	5 to 35	NA	8 to 80	NA	28	3050	NA	5 to 45	8 to 80	29
4	5 to 50	NA	8 to 80	NA	28	3050	NA	5 to 45	8 to 80	29

In addition, where the HCI is deployed at customer sites, the customer shall:

- ✓ Provide adequate contiguous rack space for the HCI, inclusive of VxRails and VxRail switching;
- ✓ provide reasonable remote access for Exponential-e and VxRail remote management, through firewall policies where connectivity is via the internet or Exponential-e Core network;

The customer will not be able to utilise the included switching for any purpose beyond VxRail connectivity to local area network.

Licensing

- ✓ By default, Exponential-e will provide VMWare vSphere & vSAN licensing for the HCI under the VMware Cloud Provider Program. Over contention of vRAM is not permitted. The customer may bring their own VMWare vSphere & vSAN Licenses, subject to having the required licensor permissions in place.
- ✓ By default Exponential-e will provide Microsoft Windows Server Datacentre Edition Licenses under the Microsoft Service Provide License Agreement. The customer may bring their own Windows Datacentre Licenses, subject to having the required licensor permissions in place.
- ✓ Guest Application Licensing is not included, unless specifically agreed with the customer.
- ✓ The customer may bring their own Microsoft Application Licenses where permitted by Microsoft licensing rules.

Target Service Commencement Date*

HCI Service 28 Working Days

*From order acceptance. Lead-time is subject to confirmation if changes are made by the Customer and/or further information comes to light which would have affected the initial design.

HCI Service Level Agreement

Virtual Machine (VM) Availability

A VM is considered available if the VM is in “powered on” state with all required resources (vCPU, RAM & Storage) available to that VM.

Applies To	Target Availability
Each VM	99.9%

Service Credits

	Measure	Service Credit*
Availability	Below Target	5%
	>0.1 Below Target	10%
	>0.2 Below Target	20%

*The Service Credit is applied as a percentage of the Monthly Charge for the VMs that are Unavailable (calculated on a pro-rata basis). Monthly Charge is the Annual Charge divided by 12.

Data Processing

When Exponential-e provides a HCI Service, this may result in Exponential-e processing customer personal data. The following applies to the processing of such personal data by Exponential-e:

Subject Matter of Processing

The Personal Data (if any) that the customer stores within the HCI.

Nature of the Processing

Exponential-e will not block, delete, correct, pseudonymise or encrypt any data. Exponential-e has no responsibility for data accuracy in respect of the Stored Data.

Return of Personal Data

Exponential-e will not extract the customer personal data from the stored data and return it to the customer. The customer shall remain responsible for removing all the stored data.

Appropriate Technical and Organisational Measures

The customer agrees that as far as it is concerned the security measures set out in the GCloud 11 Call-Off contract and Exponential-e’s maintenance of (a) the ISO27001 (Information Security Management) standard and (b) the CSA: Star Cloud standard (or any replacement or equivalent of either subsisting from time to time) (collectively the “Security Measures”) fulfils the requirement of appropriate technical and organisational measures and the customer agrees not to contend

otherwise, recognising that the charges for the HCI Service directly relate to the Security Measures to be applied.

HCI Management

Aspect	Exponential-e Responsibilities
Capacity Planning	<p>HCI performance capacity monitoring and analysis</p> <p>Collect and aggregate OS performance data from automated monitors as it relates to the HCI Service</p> <p>Provide reports on this collected data on a monthly basis</p> <p>Recommend and dialog with the Customer to enact environment changes, including the addition of additional HCI nodes</p> <p>Discuss possible remediation options with the Customer to address capacity bottlenecks</p>
Documentation	<p>Maintain solution design documentation for the HCI.</p> <p>Maintain solution configuration documentation for the HCI.</p> <p>Implement and maintain version control for all documentation.</p>
Licensing	<p>Exponential-e is responsible for licensing and licensing maintenance under this Contract to cover:</p> <p>In scope Microsoft Datacentre Edition licenses</p> <p>In scope VMWare vSphere and vSAN</p>
Monitoring	<p>Monitor and alert on the HCI</p>
Patch & Firmware Management	<p>Updating the HCI manually or via an alternate management platform, at Exponential-e's discretion</p> <p>Review and test critical VMWare and Dell/EMC updates</p> <p>Install critical and security updates onto the HCI</p> <p>Install non-critical updates onto the HCI</p> <p>Notify the Customer of proposed updates to the HCI</p> <p>Carry out software patches to the HCI</p> <p>Configure the HCI for manual update installation by the Service Desk</p>
Proactive Remediation	<p>Investigate the cause of issues generated through the monitoring and alerting toolsets, or reported by the Customer</p> <p>Communicate recommended remediation activities to the Customer and request approval from the Customer for carrying out remediation activities</p> <p>Provide proactive remediation of issues as agreed with the Customer</p>

Working with Exponential-e

Introduction

Founded in 2002, we are an award-winning, privately owned British Cloud and Connectivity provider. The majority owner, CEO and founder of the company - Lee Wade - is still at the helm of Exponential-e and demonstrates the same passion for our customers, service innovation and business as he did at our inception. We pride ourselves on delivering super-fast, low latency Connectivity, flexible and resilient Cloud solutions Unified Communications, Cyber Security and world-class IT Services. Organisations from all sectors of the economy run critical services underpinned by our technological innovations. We deliver leading-edge solutions to over 2,200 customers in every vertical sector.

Our Network

Exponential-e's own Cloud infrastructure is fully integrated with our 100 Gigabit Carrier-Class Ethernet Network, utilising premium grade enterprise compute, and is supported by our UK based 24x7x365 Customer Service Desk to deliver a non-stop compute platform to you and your end users.

What differentiates us from the competition is how we utilise our own network to deliver multiple services over one connection, with 100% Network visibility and control, and the cost efficiencies this provides our customers. Our fusion of complementary technologies, a carrier-class network and Cloud infrastructure, means we can deliver enterprise applications at super-fast, low latency, with an end-to-end SLA, for a superior end-user experience.



Our Accreditations

We support the security and compliance standards of the Public Sector by embedding our compliance certifications into our Business Management Systems. These include:

- ✓ **ISO27001** - Information Security
- ✓ **CSA Star** - Cloud Security
- ✓ **Cyber Essentials Plus**
- ✓ **PCI-DSS**
- ✓ **(HSCN)** Health Social & Care Network Stage 2 Compliance

- ✓ **CAS(T)** accreditation
- ✓ **ISO9001** - Quality Management
- ✓ **ISO20000-1** - Service Management
- ✓ **BS10012** – Personal Information (GDPR)
- ✓ **ISO22301** - Business Continuity
- ✓ **ISO50001** - Energy Management
- ✓ **ISO14001** - Environmental Management

Our certifications are fully audited every three years by BSI, NCC Group & NHS Digital, supplemented by six monthly continuing assessment audits to ensure continuing compliance. The following preventive are undertaken actions to ensure we maintain our certifications & accreditations;

- ✓ 12 month Audit Schedule
- ✓ Monthly Internal Audits in line with our audit schedule
- ✓ Six monthly external Audits
- ✓ Live Net Promoter Score on our Website
- ✓ All Engineers undertake BPSS vetting by a government approved vendor
- ✓ Corrective and Preventive Actions – CAPA
- ✓ Control of Documents and Records
- ✓ Companywide Risk Assessment
- ✓ Annual review of policies, procedures and documents
- ✓ Internal & External PEN (ITHC) Network Test by a ‘Check’ or ‘Crest’ approved vendor
- ✓ Annual off site Business Continuity Test
- ✓ Management reviews (Management Meeting, Service Review, Quality Review, Business Continuity, Security Review and Operation Review)



Our Promise

Our brand promise is to ‘Constantly exceed expectations with innovation and service’. In order to achieve this, we promise to deliver the following:

- ✓ **Customer Service Excellence:** Our first priority we never compromise on, this culture spans across every department and is championed by every board member
- ✓ **Trusted Supplier:** A reliable and fully owned carrier-class network, with pro-active support from our 24x7x365, fault find and fix Service Desk, and verified financial stability inspire customers’ confidence in us
- ✓ **Technical Capability:** Working within eight international ISO and British Standards, we design, manage and support customers’ complex, bespoke network, Cloud and Voice requirements

- ✓ **Applied Innovation:** Ensuring customers' businesses remain at the leading edge with a dynamic approach to investment, R&D and innovation, and consistently delivering industry firsts.

Our network has undergone a rigorous security assessment and has achieved PCI-DSS compliance to ensure top security standards. We design, deliver, manage and support communications solutions, both simple and complex, to international ISO management standards: 9001, 22301, 14001, 5001, 27001, 20000 and BS 10012.

By the start of FY2018, our turnover had reached approximately £115 million and ongoing recruitment activity meant that we had over 500 employees. Our success is driven by the quality of service we provide and is underpinned by investments in people and infrastructure that enable us to deliver on our brand promise.

Exponential-e's Approach

Our approach is based on a partnership philosophy, ensuring we deliver high quality, competitive services. In keeping with this, our technology solutions provide cost-effective connectivity, future-proof networking and uncompromising customer support. Our approach is designed so that there are no hidden extras from you. From the initial point of contact, including technical consultancy, project management and on-going customer support, we are entirely transparent about our work and the costs involved. To maximise the value for money customers receive, we constantly challenge the performance of the service through 24x7x365 monitoring and management via the Exponential-e Service Desk, feeding back at monthly service reviews that constantly benchmark your expectations. During these reviews, we propose and implement continuous improvement targets for service levels and cost efficiency. On award of any contract, we analyse the service required and explore how we will improve the services year-on-year.

Thought Leadership and Applied Innovation

We have an entire team devoted to seeking out new products, features and enhancements. We pride ourselves on our ability to generate, identify, and deploy the latest technologies. Our commitment to innovation has seen us develop pioneering new products and services for our customers and deliver all manner of industry firsts.. We will constantly keep you informed of new technologies that ensure you remain current and knowledgeable as to innovative solutions and best practices. The most effective means of doing that is during our regular Service Management review meetings; the reviews will take place on a monthly or quarterly basis, or upon request. These sessions are used to understand your requirements, address any current service issues, and for our team to update you on new market trends or technologies our researchers have identified.

You will have the opportunity to attend regular events that provide an opportunity to speak with our subject matter specialists and to exchange ideas and experiences with other Exponential-e customers. We are firmly committed to listening and collaborating with our customers, and partners, in order to deliver innovative technical solutions that drive tangible business benefits.

We organise industry focused and private seminar events at exclusive venues, such as the Ritz and Emirates Stadium. We invite key speakers to present, as well as our in-house technical experts and evangelists, and look at topics including 'Demystifying SD-WAN' These events are excellent networking opportunities which present you with a chance to speak with like-minded individuals in an informal environment and gain real technical knowledge and insight from our team of experts.

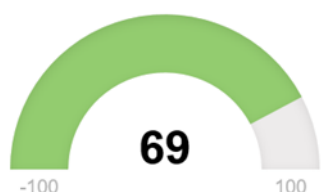
Details of our events can be found on our website, <http://www.exponential-e.com/about/events>, where you can register.

You will also be sent updates from our marketing department, highlighting new features or services available in the market. New products, features or services that we feel are well suited to our customer's infrastructure, or will benefit their IT environment, will be brought to their attention. Initially, many of our customers adopt our WAN solution and are often keen to complement this service with our Cloud, IT and Voice services.

Meeting our Brand Promise

For over 17 years we have focused on building trusting relationships with our customers by placing service excellence at the heart of our operations. Key to our success is the development and sustainment of effective working partnerships through regular service review meetings, proactive management and - most importantly - continually seeking to improve the services which will be delivered.

In order to ensure that we are continuously improving, we benchmark customer satisfaction which provides us with the analysis to improve. Measuring our customer satisfaction is achieved through our Net Promoter Score and our Voice of the Customer Programme.



Rolling 3 month average. Industry average 17

<https://www.exponential-e.com/about/customer-service-promise>

Our current 3 monthly rolling NPS score is more than double the UK Industry average.

Our Voice of the Customer Programme gives you the opportunity to provide real-time feedback by simply clicking on one of four icons on each Exponential-e employee's email-signature (Gold- Excellent, Green- Good, Amber- Could have been better, Red- Poor).

These awards are all testament to our solutions and achievements in innovation. Details of our other awards can be found on our website:

<https://www.exponential-e.com/about/our-accreditations-awards>

Meeting our brand promise through customer service excellence is embedded into our culture; anytime our customers recognise our people doing well, we reward this throughout the business. At Exponential-e, we're committed to service excellence and are empowering our people to deliver it.

Our Security Capabilities

Security assurance

Our services are designed, built and optimised with clear alignment to the 14 CESG Cloud Security Principles that UK Public Sector organisations use when assessing cloud hosted solutions for information assurance compliance.

The Exponential-e cloud benefits from extensive independent validation via certifications ranging from international standards e.g. ISO9001, ISO27001 and ISO20000 to UK public sector specific standards such as CAS(T) and HSCN Stage 2 certification.

The Exponential-e Cloud Platforms are subject to regular, extensive IT Security Health Check (ITSHC) CHECK Tests by independent, CESG-approved assessors to ensure that our customers have confidence in the physical and technical security controls which have been implemented to protect their valuable data assets. Platforms are suitable for all data classified at OFFICIAL under the Government Security Classification Policy (GSCP)

All customer data is stored in Exponential-e's two secure UK data centres with SC-cleared UK staff. Customer identifiable data does not leave the UK.

Connectivity

Our UK Data Centres have resilient connections to secure UK government networks such as HSCN Assured as well as large scale, DDoS protected internet connectivity. We also offer the ability for customers to present their own connections (such as direct connectivity into your MPLS, or inexpensive point to point connections via leased lines) and the Secure Remote Access solution to allow security assured VPN access to the Elevated OFFICIAL platform.