SCHEDULE H: SERVICE DEFINITION FOR STORAGE GATEWAY (SG) SERVICE

1.   SG Service Description

Exponential-e's SG Service comprises of the following components:

  i.   physical or virtual appliance(s) (the SG Appliance);
  ii.   Central Management Plane;
  iii.   Cloud Storage;
  iv.   Management; and
  v.   optional Client software (if required).

each as further described below.

Virtual Storage Gateway Appliances

Virtual SG Appliances can be deployed within existing VMWare & Hyper-V environments within any of the following locations:

- the Partner's / End User's non-Exponential-e-provided non-public cloud platform ("Non-EE Private Cloud"),
- the Partner's / End User's public cloud environment ("Partner Public Cloud")
- Exponential-e's Virtual Data Centre or Hyper-Converged Infrastructure environments ("EE Private Cloud").

The Partner shall allocate (or procure that the End User allocates) sufficient resources (vCPU, vRAM & Storage) to the virtual SG Appliance and its associated cache when Virtual SG Appliances are run within Non-EE Private Cloud or Partner Public Cloud. When run within EE Private Cloud environments, Exponential-e will provide the underlying resources specified in the Order Form as part of the SG Service.

Physical Storage Gateway Appliances

Physical SG Appliance(s) can be deployed at an End User Site or Exponential-e Data Centre Managed Hosting Racks with the option of SSD storage within the physical SG Appliance for high I/O access. Files can be accessed on the physical SG Appliance(s) using a number of standard storage protocols including CIFS/SMB, NFS, AFP, FTP, WebDAV & rsync. Where a physical SG Appliance is deployed outside Exponential-e data centres, the Partner / End User 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 physical SG Appliance(s), and shall ensure that the physical SG Appliance(s) at the Site(s) are physically secured at all times.

ASHRAE 2008 Thermal Guidelines

Class	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

Equipment Environment Specifications — Product Operation / Product Power Off

Regardless of the size of the dataset held within the underlying Cloud Storage, the SG Appliance(s) provide a cache of the most recently used dataset, providing LAN speed access to the files currently being worked on with old, infrequently used data being stored only within the cloud. Though the smart eviction protocol removes the last used files from the cache, customisable polices and the pinning of data to the cache can be enabled to make files locally accessible at all times. Distributed caching and global namespace enable a common set of files to be utilised and collaborated on, users in any office location can see and access entire centralised cloud file systems from the desktop, where an unlimited number of files can be stored. Source-based global-deduplication reduces WAN traffic and storage requirements, whilst automated resumption of interrupted file transfers and configurable bandwidth throttling optimise WAN usage. Data cache held on the SG Appliance(s) is encrypted using AES-256, SHA-1 fingerprints and optionally a secret passphrase. Data in transit is encrypted using TLS. Active Directory/LDAP integration or SAML to AD FS for user authentication and single-sign-on (SSO) to the Storage Gateway Service gateway and the portal is included.

Users will be redirected to the cloud for Cloud Storage file access in the event of a SG Appliance outage.

Central Management Plane

A centralised data management and appliance administration portal is provided via a single pane-of-glass, with the capability to enforce centralised data protection polices such as Enterprise Mobility Management (EMM), Data Loss Prevention (DLP) and Anti-Virus (AV). This allows the Partner / End User to manage the way in which data is managed across the SG Service, as well as manage all of the SG Appliance(s) controlling policies, caching and data replication. The Charges payable include licensing for the Central Management Plane to the total capacity of data within the Cloud Storage.

Cloud Storage

Cloud Storage provides virtualised software defined storage resources to the Partner / End User allowing the Partner / End User to create and configure their own storage resources via a portal. Exponential-e uses Tier 3 data centres to house the underlying hardware and virtualisation technology which deliver virtual storage resources to multiple customers. Exponential-e shall manage all hardware and software defined storage required to provide the Cloud Storage and the portal to enable the Partner / End User to manage and view the virtual resources. The Partner / End User shall be responsible for managing the Stored Data and any software and applications utilising the Stored Data. Partner / End User access to Stored Data is via the following protocols: Object, HDFS.

Protocols		Supported	Interoperability
Object	S3	Additional capabilities like Byte range Updates and Rich ACLS	HDFS
	Atmos	Version 2.0	N/A
	Swift	Version 2.0 APIs and Swift Authentication	HDFS
	CAS	SDK version 3.1.544 or later	N/A
HDFS		Hadoop version 2.7 compatibility	S3

This element of the SG Service is made up of Object Storage – the amount of space allocated by the Partner / End User when creating a storage resource, measured in GB (1,000,000,000 bytes). A Hybrid billing model applies to this element of the Service with the committed amount being set out on the Order Form.

Cloud Storage when used in delivery of the Storage Gateway solution will be delivered as "Geo Protected" using an Object Storage instance located across three geographically separate Exponential-e data centres with a "high-availability" configuration.

Management

Exponential-e will provide management of the Storage Gateway Service as set out in Appendix A to this Service Definition.

Client Software

Optional software is available for deployment onto iOS and Android Mobile Clients, Windows, and Linux Desktop sync applications and web browser which acts as a client side Virtual Gateway appliance, syncing data in to the Service for users who don't have close proximity to a SG Appliance. The number of licences will be specified on the Order Form.

2.   Service Demarcation Point

The Cloud Storage demarcation point (DP) is the point up to which (i) Exponential-e's Cloud Storage obligations apply and (ii) the Cloud Storage Service Level Agreement covers. The Cloud Storage DP is the network-facing ports on the Exponential-e core switches at each data centre.

3.   Target Service Commencement Date

Storage Gateway Service   28 Working Days*

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

4.   Service Level Agreement

Available means that:

- At least one SG Appliance is in a powered-on state and able to communicate with the Partner's/End User's Local Area Network;
- At least one SG Appliance presents file data in a structured file system to Storage Gateway users;
- Where applicable, a physical SG Appliance at an End User Site accepts file read and write requests from Client Software for users located at that End User Site, up to the capacity that it has been sized at;

- At least one SG Appliance synchronises new and modified files with the Central Management Plane;
- At least one SG Appliance requests and caches, capacity permitting, files from the Central Management Plane;
- The Central Management Plane is powered on and responding to web requests;
- The Central Management Plane is powered on and responding to application data requests;
- The Central Management Plane is accepting file synchronisation requests from the SG Appliance(s); and
- the Partner/End User is able to access the Stored Data at any data centre.

"Availability" and "Unavailability" shall be construed accordingly.

Availability

	Availability
SG Service	99.9%

Service Credits

	Measure	Service Credit*
Availability	Below target	5%
	> 0.1 below target	10%
	> 0.5 below target	15%

The Service Credit is applied as a percentage of the monthly charge for the Storage Gateway Service that is unavailable. Monthly charge is the annual charge divided by 12.

Excused Reasons

In addition to the Excused Reasons set out in the main body of this Service Document, the following shall constitute an Excused Reason for this particular Service:

- The time taken by any underlying hardware provider to fix any fault.

5. Rate Card

The Rate Card for Cloud Storage is available upon request from sales@exponential-e.com.

6. Data Processing

When Exponential-e provides the Storage Gateway Service, this may result in Exponential-e Processing Partner 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 Partner / End User stores within the Storage Gateway Service storage components.

Nature of the Processing

In respect of Personal Data within the Stored Data, storage only. Exponential-e will not block, delete, correct, pseudonymise or encrypt the Stored Data. Exponential-e has no responsibility for data accuracy.

Return of Personal Data

Exponential-e will not extract the Partner Personal Data from the Stored Data and return it to the Partner / End User. The Partner / End User shall remain responsible for removing all the Stored Data as per Clause 6.5.2.1 of the Additional Terms for Cloud and IT Services set out in this Service Document.

Appropriate Technical and Organisational Measures

With respect to the requirement set out in the General Terms in Clause 10.15 at point (ii), the Partner agrees that as far as it is concerned the security measures set out in the 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 Partner agrees not to contend otherwise, recognising that the Charges for the Storage Gateway Service directly relate to the Security Measures to be applied.

APPENDIX A: STORAGE GATEWAY MANAGEMENT

Exponential-e will provide operational management for the elements forming the SG Service up to the Application level. Exponential-e's responsibilities with respect to management of the SG Service are as follows. The Partner / End User is responsible for all management aspects other than those for which Exponential-e is responsible.

Aspect	Exponential-e's Responsibilities
Capacity Planning	• Ongoing planning for future growth involving trending of data capacity patterns within the Central Management Plane's storage repository.
Documentation	• Maintain solution design documentation for the Storage Gateway Service. • Maintain solution configuration documentation for the Storage Gateway Service. • Implement and maintain version control for all documentation.
Licensing	• Exponential-e is responsible for licensing and maintaining the licenses under the Contract to cover: - Central Management Plane storage repository
Logins	• Gateway: Manage access to the Storage Gateway Service gateway via AD/LDAP access groups through integration with the Partner's / End User's AD domain. This includes being joined to the AD domain, or using SAML for SSO authentication to ADFS. Access to the gateway is only available securely when clients are directly connected to the LAN the gateway is connected to. • Portal: Manage access to the Storage Gateway Service portal via AD/LDAP access groups through integration with the Partner / End User AD domain. This includes being joined to the AD domain, or using SAML for SSO authentication to ADFS. Access to the portal is used to facilitate remote access to data and to improve the management capability of the solution.
Monitoring	• Monitoring & alerting in respect of the Availability of the Central Management Plane.
Patch & Firmware Management	• Updating Physical Storage Gateway Appliances and Virtual Appliances deployed in Private Cloud and Public Cloud environments through the Central Management Plane, at Exponential-e's discretion. • Working with the Partner to schedule and update Virtual Gateway Appliances deployed within Non-EE Private Cloud and Partner Public Cloud environments. • Updating the Central Management Plane components manually or via an alternate management platform, at Exponential-e's discretion. • Installing critical and security updates onto the elements forming the SG Service. • Install non-critical updates onto the elements forming the SG Service. • Notify the Partner of proposed updates to the elements forming the SG Service. • Carry out software patches to the elements forming the SG Service. • Configure all elements forming the SG Service for manual update installation by the Service Desk.
Proactive Remediation	• Investigate the cause of issues generated through the monitoring and alerting toolsets, or reported by the Partner. • Provide proactive remediation of issues as agreed with the Partner. • Communicate recommended remediation activities to the Partner and request approval from the Partner for carrying out remediation activities.