PRODUCT APPENDIX 1
SOFTWARE AND SUPPORT SUBSCRIPTIONS

This Product Appendix (which includes Exhibits applicable to specific Red Hat Products) contains terms that describe the parameters and govern your use of Software Subscriptions and Support Subscriptions. This Product Appendix does not apply to Red Hat hosted or on-line subscription offerings. When we use a capitalized term in this Product Appendix without defining it, the term has the meaning defined in the Agreement to which this Product Appendix applies, such as the Red Hat Enterprise Agreement. In the event of a conflict, inconsistency or difference between this Product Appendix and an Exhibit to this Product Appendix, the terms of the Exhibit control.

Red Hat may modify or update this Product Appendix either by posting a revised version of this Product Appendix at http://www.redhat.com/agreements, and/or by providing notice using other reasonable means. If you do not agree to the updated terms then, (a) the existing Product Appendix will continue to apply to Red Hat Products you have purchased as of the date of the update for the remainder of the then-current Subscription term(s); and (b) the updated or modified terms will apply to any new purchases or renewals of Red Hat Products made after the effective date of the updated terms.

This Product Appendix does not apply to generally available open source projects such as www.wildfly.org, www.feedhenry.org, www.fedoraproject.org, www.openstack.redhat.com, www.gluster.org, www.centos.org, Ansible Project Software or other community projects.

1. Subscription Services

1.1 Subscription Unit Definitions. Fees for Subscription Services are based on metrics that are referred to as "Units". Table 1.1 below defines the various Units that are used to measure your use of Software Subscriptions. The specific Units that apply to the various Software Subscriptions are contained in the Order Form(s) applicable to your purchases and in the Exhibit(s).

Table 1.1

Unit	Software Subscription Unit Definitions
API Call	is one inbound message to your API backend server and a response, if any, from the server.
Core	is (a) a physical processing core located in a CPU or (b) a virtual processing core within a virtual machine or supporting a container, in each case, that contains or executes the Software running for Production Purposes.
Core Band	a group of processing Cores (16 or 64).
Customer User	your and your Affiliates' third party end users with access to the Software.
Employee User	your and your Affiliates' employee users acting on your behalf (including your independent contractors and those of your Affiliates) who are able to access the Software.
Full Time Equivalent or FTE	the sum of (a) the total number of full time faculty plus one third of the part time faculty and (b) the total number of full time staff plus one half of the part time staff.
GB of RAM	a gigabyte of processing memory that contains or executes the Software.
Managed Node	each Node managed by the Software. **"Node"** means a Virtual Node, Physical Node or other instance of software.
Module	use of the Software to manage one System, Virtual Node or Physical Node.
Physical Node	a physical system which contains or executes all or a portion of the Software including, without limitation, a server, work station, laptop, blade or other physical system, as applicable.
Power IFL (Integrated Facility for Linux)	a processor core on an IBM Power system that is activated and contains or executes all or a portion of the Software.
Socket	a socket occupied by a CPU.
Socket-pair	up to two Sockets.
Storage Band	an amount of Storage (measured in terabytes "**TB**" and/or petabytes "**PB**"), where "**Storage**" is the total capacity of storage available to each instance of the Software.
System	a system which contains or executes all or a portion of the Software including, without limitation, a server, work station, laptop, virtual machine, container, blade, node, partition, appliance or engine, as applicable.
System on a Chip or SOC(s)	a single integrated circuit that includes the major components of a computer and is generally recognized as a system on a chip.
System z IFL (Integrated Facility for Linux)	a mainframe CPU that is activated and contains or executes all or a portion of the Software.
vCPU	a physical CPU, in whole or in part, which is assigned to a virtual machine or container which contains or executes all or a portion of the Software.
Virtual Node or Virtual Guest	an instance of the Software executed, in whole or in part, on a virtual machine or in a container.

1.2 Use of Subscription Services.

(a) **Basis of the Fees.** While you have Subscriptions entitling you to receive Subscription Services for a Red Hat Product, you are required to purchase the applicable Software Subscriptions and Support Subscriptions in a quantity equal to the total number and capacity of Units of that Red Hat Product from the commencement of your use or deployment of such Red Hat Product(s). For purposes of counting Units,

Units include (a) non-Red Hat Products if you are using Subscription Services to support or maintain such non-Red Hat Products and (b) versions or copies of the Software with the Red Hat trademark(s) and/or logo file(s) removed.

(b) **Supported Use Cases.** Subscription Services are provided for Software only when used for Supported Use Cases as described in the Exhibits to this Product Appendix. The Supported Use Case(s) associated with a Red Hat Product also determine the type of Subscription that is required. If your use of any aspect of the Subscription Services is contrary to or conflicts with a Supported Use Case, you are responsible for purchasing the appropriate Subscription(s) to cover such usage. For example, if you are using a Red Hat Enterprise Linux Desktop Subscription on a System that is a server, you are obligated to purchase Red Hat Enterprise Linux Server Subscription Services.

(c) **Support Levels.** You agree not to use Software Subscriptions with support service levels (e.g. Standard and/or Premium) higher than the support levels (e.g. Self-support and/or Standard) you have purchased. For example, clusters of systems all require the highest level support for that given cluster.

(d) **Transferring Subscriptions.** You may transfer, migrate or otherwise move Software Subscriptions provided you are accountable for the number and types of Units associated with the Software Subscriptions.

(e) **Scope of Use of Subscription Services.** The Agreement (including pricing) is premised on the understanding that you will use Subscription Services only for your internal use (which may include Affiliates). Your internal use may include running a web site and/or offering your own software as a service, provided that such use (a) does not include a distribution, sale or resale of any of the Subscription Services and (b) provides as the primary component of the web site or service a material value added application other than the Subscription Services. However, providing the Subscription Services to, or using them for the benefit of, a third party (for example, using Subscription Services to provide hosting services, managed services, Internet service provider (ISP) services, or third party access to or use of the Subscription Services) is a material breach of the Agreement.

(f) **Use by Contractors.** Subscription Services may be used by third parties acting on your behalf, such as contractors or outsourcing vendors provided (i) you remain fully responsible for all of your obligations under the Agreement and this Product Appendix and for the activities and omissions of the third parties and (ii) in the case of a migration to a third party cloud or hosting provider, you are qualified for and comply with the terms of the Red Hat Cloud Access program as set forth in Section 3 below.

(g) **Unauthorized Use of Subscription Services.** Any unauthorized use of the Subscription Services is a material breach of the Agreement, such as (a) only purchasing or renewing Subscription Services based on some, but not all, of the total number of Units, (b) splitting or applying one Software Subscription to two or more Units, (c) providing Subscription Services (in whole or in part) to third parties, (d) using Subscription Services in connection with any redistribution of Software and/or (e) using Subscription Services to support or maintain any non-Red Hat Software products without purchasing Subscription Services for each such instance.

1.3 Subscription Start Date. Unless otherwise agreed in an Order Form, Subscription Services will begin on the earlier of the date you purchase or first use the Subscription Services.

1.4 End User and Open Source License Agreements. The Red Hat Products are governed by the EULAs set forth at www.redhat.com/licenses/eulas. Software Subscriptions and Subscription Services are term-based and will expire if not renewed. This Agreement establishes the rights and obligations associated with Subscription Services and is not intended to limit your rights to software code under the terms of an open source license.

1.5 Red Hat Software Subscription Bundles. Red Hat offers combinations of Software Subscriptions with complimentary feature sets and price discounts ("**Bundle(s)**"). The basis of the fees for these Bundles is the combined use of such Software Subscriptions on a single Unit. When any of the combined Software Subscriptions are used independently from the Bundle, the fees for such independent usage will be Red Hat's standard fees associated with the Unit for the particular Software Subscription.

2. Subscription Service Support Terms

2.1 Evaluations. Red Hat may offer Evaluation Subscriptions for evaluation and not for Production Purposes. Evaluation Subscriptions may be provided with limited or no support and/or subject to other limitations. If you use the Evaluation Subscription(s) for any purpose other than evaluation, you are in violation of this Agreement and are required to pay the applicable subscription fees for such use in accordance with Section 1 above, in addition to any and all other remedies available to Red Hat.

2.2 Support from a Business Partner. If you purchase Software Subscriptions that include support provided by an authorized Red Hat Business Partner (not by Red Hat) then Section 2.3 does not apply to you and you should work with your Business Partner to obtain support services. Section 2.3 only applies if you have purchased Software Subscriptions with Support provided by Red Hat.

2.3 Support from Red Hat.

(a) **Development Support.** Certain Software Subscriptions include Development Support. "**Development Support**" consists of assistance with architecture, design, development, prototyping, installation, usage, problem diagnosis and bug fixes, in each case, for the applicable Software when used for Development Purposes. Requests for deployment and maintenance assistance and/or assistance for Production Purposes are not included within the scope of Development Support, but may be available on a consulting basis under the terms of a separate agreement.

(b) **Production Support.** Certain Software Subscriptions include Production Support. "**Production Support**" consists of assistance with installation, application testing, usage, problem diagnosis and bug fixes, in each case, for the applicable Software when used for Production Purposes. Production Support does not include assistance with (i) code development, system design, network design, architectural design, optimizations, tuning recommendations, development or implementation of security rules or policies, (ii) third party software made available with Red Hat Software, (iii) software on the supplementary, optional or Extra Packages for Enterprise Linux ("EPEL") channels and/or (iv) preview technologies.

(c) **Support Coverage.** Support is provided in the English language but may be available in other languages based on available resources. Red Hat does not provide support for (a) any underlying infrastructure or for any third party products; (b) Software that (i) you (or a third

party) have modified or recompiled, (ii) is running on hardware or platforms that are not Supported Configurations or (iii) is not running in its Supported Use Case. You are responsible for testing the Software before deploying it in your environment, backing up your systems on a regular basis and having those backups available if needed for support purposes. Except as otherwise expressly stated, Support does not include data migration or data recovery support.

(d) **Service Level Guidelines.** Red Hat will use commercially reasonable efforts to provide Support at one or more of the following support levels, depending on the Red Hat Product: Self-support, Standard or Premium, as set forth at https://access.redhat.com/support/offerings/production/sla. After the initial response to a support request, Red Hat will provide status updates on the issue consistent with the update guidelines applicable to the Severity Level (which may be downgraded to a lower Severity Level during the course of resolving the support request) until the issue is resolved or the parties agree on an alternative update schedule.

(e) **Obtaining Support.** To receive Support, you must provide Red Hat with sufficient information to validate your entitlement to the relevant Support. Certain Support is provided only during Red Hat's local standard business hours. You may contact Red Hat through your designated Support Contacts. You may designate up to the number of contacts described at https://access.redhat.com/support/offerings/production/contacts based on the number of Standard and Premium Software Subscriptions you have purchased (other than for Academic Edition Customers with Campus Wide Subscriptions which are based on the number of FTEs).

2.4 **Software Subscription Lifecycle.** During the life cycle of Software, the scope of Software Maintenance and Support evolves and, after a number of years, we discontinue Software Maintenance and Support for older versions of Software. The life cycle for Software Maintenance and Production is described at https://access.redhat.com/support/policy/update_policies.html and, in certain instances, in the Exhibit(s). For certain versions of Software, you may purchase Extended Update Support ("EUS") and/or Extended Life Cycle Support ("ELS") Add-On Subscription(s) to extend your Subscription Services as further described at https://access.redhat.com/support/policy/updates/errata/, provided EUS Subscriptions are included in certain Software Subscriptions.

3. **Cloud Access: Deploying Software Subscriptions in a Public Cloud**

3.1 **Transferring Eligible Subscriptions to a Cloud.** You may transfer Eligible Subscriptions for use in a Vendor's Cloud under the Cloud Access program if you (a) complete the registration set forth at https://engage.redhat.com/forms/cloud-access-registration and (b) have a sufficient number of Eligible Subscriptions to transfer. For Eligible Subscriptions that you purchased for on-premises use and transfer to a Vendor's Cloud, the Unit of measurement will be the Unit as set forth in the conversion table located at http://www.redhat.com/en/technologies/cloud-computing/cloud-access. For Eligible Subscriptions that were originally purchased for use in a Vendor's Cloud, no conversion is required. The number of concurrent Units used under the Cloud Access program in the Vendor Cloud may not exceed the total number of Units (a) transferred from Eligible Subscriptions and/or (b) purchased for use in a Vendor Cloud. The transfer of Software Subscription(s) to a Vendor's Cloud via Cloud Access does not change the start date or the duration of the original Software Subscription(s). This means that when your Software Subscription expires, your access to the Software Subscription in the Vendor's Cloud will cease, unless renewed.

3.2 **Cloud Usage Reporting.** You consent to the Vendor reporting to Red Hat your usage of Red Hat Software Subscriptions in the Vendor's Cloud.

3.3 **Public Cloud Terms of Service.** Through the Cloud Access program, you may obtain access to Software images and/or updates to the Software, if and when available, either (a) via new images obtained from the Vendor's Cloud or (b) from a Red Hat Portal. Certain information (such as Software related notices) may only be available to you via the Red Hat Portal. Payments to Red Hat for Software Subscriptions do not include any fees that may be due to the Vendor for the Vendor's Cloud services. Red Hat is not a party to your agreement with the Vendor and is not responsible for providing access to the Vendor's Cloud or performing any other obligations of the Vendor. The Vendor is solely responsible and liable for the Vendor's Cloud. Red Hat may have a support relationship with the Vendor that enables Red Hat and the Vendor to collaborate and you consent to (i) Red Hat discussing your Software Subscriptions and related Support with the Vendor and (ii) Red Hat and the Vendor sharing information for the purpose of providing Services. Red Hat will provide Support to you for each Eligible Subscription pursuant to this Agreement. Certain software components or functionality of the Software contained in the original Software Subscription (or Add-on Subscription) may not be available or supported when used in the Vendor's Cloud.

3.4 **Vendor Specific Services**. Vendors may offer other services, offerings or commitments related to their Clouds, which may include the provision of services by US only personnel, compliance with various legal regimes or other Vendor Cloud specific obligations. Notwithstanding what may be offered by a Vendor, the Software Subscriptions are not provided subject to the terms of those Vendor offerings, and any Vendor offerings solely relate to the Cloud itself and not to the Software Subscriptions operated on the Cloud. As between Red Hat and you, you are solely responsible for complying with any applicable export laws or regulations related to your use of the Software Subscriptions and you agree not to transmit information, data or technology governed by the International Traffic in Arms Regulations to Red Hat in the course of your use of the Software Subscriptions.

3.5 **Vendor Termination**. Red Hat may terminate the availability of a particular Vendor that offers Cloud Access with sixty (60) day notice, provided you may continue to use any Software Subscription for the remainder of the term of the Software Subscription on another Vendor's Cloud or on your premises under the terms of this Agreement.

4. **Definitions**

"**Add-On Subscriptions**" are optional Software Subscriptions that may be purchased in addition to the base Software Subscription (e.g. a Red Hat Enterprise Linux Software Subscription).
"**Cloud**" means a Vendor's hosted computing infrastructure that provides systems, virtual machines or container hosts to end users.
"**Cloud Access**" is the Red Hat program that allows you to use Eligible Subscriptions in a Vendor's Cloud under the terms set forth in Section 3.
"**Development Purposes**" means using the Software for development related tasks that are performed by a single-user acting in a standalone mode such as (a) an individual developer writing software code, (b) a single user performing prototyping or quality assurance

testing, where neither involves any form of automated testing, multi-user testing and/or multi-client testing and (c) a user demonstrating software or hardware that runs with or on the Software.

"**Eligible Subscriptions**" means certain Software Subscriptions that meet the criteria for Cloud Access set forth at www.redhat.com/solutions/cloud/access.

"**EULA**" means the end use license agreements for the Red Hat Products located at https://www.redhat.com/en/about/red-hat-end-user-license-agreements.

"**Evaluation Subscriptions**" means Red Hat Products offered without charge solely for evaluation and not for Production Purposes or Development Purposes, including offerings described as evaluation, preview or beta.

"**Product Appendix(ces)**" means the specific terms applicable to the Red Hat Products posted at http://www.redhat.com/agreements or otherwise attached to or incorporated into an Order Form.

"**Production Purposes**" means using the Software (a) in a production environment, (b) generally using live data and/or applications for a purpose other than Development Purposes, (c) for any automated quality assurance or testing, multi-user quality assurance or testing, and/or multi-client quality assurance or testing and/or (d) for backup instances.

"**Red Hat Portal**" means the Red Hat hosted delivery portal, such as Red Hat Customer Portal, Red Hat Container Catalog and/or Red Hat Update Infrastructure ("**RHUI**") that provides Software Access and Software Maintenance.

"**Red Hat Products**" means Software, Subscription Services, and other Red Hat branded offerings made available by Red Hat.

"**Software**" means Red Hat branded software that Red Hat provides as part of a Red Hat Product.

"**Software Access**" means access to various Software versions if and when available.

"**Software Maintenance**" means access to updates, upgrades, corrections, security advisories and bug fixes for Software, if and when available.

"**Software Subscription**" means a Subscription that contains Software Access, Software Maintenance and Support.

"**Stacking**" (or "**Stacked**" or "**Stackable**") means the use of more than one Subscription to account for the capacity of a System or Physical Node.

"**Standard Business Hours**" are listed at https://access.redhat.com/support/contact/technicalSupport.html.

"**Subscription**" means a time bound Red Hat Product offering, other than professional services.

"**Support**" means access to Red Hat support for issues relating to Software as described in Product Appendix 1.

"**Supported Configuration(s)**" means the supported Red Hat Product hardware and platform configurations that are listed at https://access.redhat.com/supported-configurations.

"**Support Contact(s)**" is a person authorized by you to open support requests and/or contact Red Hat support personnel.

"**Support Subscriptions**" means a Subscription that contains a specialized Support offering that is supplemental to Support provided in a Software Subscription.

"**Subscription Services**" means Red Hat offerings consisting of Software Access, Software Maintenance, Support and/or any other services associated with and during the term of a Subscription.

"**Supported Use Case**" means the manner and/or environment in which a particular Subscription(s) is used and supported as further defined in an applicable Exhibit.

"**Vendor**" means the Red Hat authorized third party from whom you purchase Cloud services and who is authorized by Red Hat to participate in this Cloud Access program.

EXHIBIT 1.A
RED HAT ENTERPRISE LINUX AND
RELATED SOFTWARE SUBSCRIPTIONS

This Exhibit 1.A. to Product Appendix 1 contains terms that describe the parameters and govern your use of the Red Hat Enterprise Linux, Red Hat Virtualization, Red Hat OpenStack Platform product lines and related offerings.

1. Unit of Measure and Purchasing Requirements for Red Hat Enterprise Linux Server, Red Hat Virtualization and Red Hat OpenStack Platform

Table 1 sets forth the support level, Units of measure, capacity limitations, and stacking capabilities for various Red Hat Enterprise Linux Server, Red Hat Virtualization and Red Hat OpenStack Platform Software Subscriptions. You must purchase the appropriate number and type of these Software Subscriptions based on the Unit and other parameters described in Table 1 below.

Table 1

Software Subscription	Support Level	Unit of Measure	Capacity		Stackable
			Socket(s) or SOCs	Virtual Nodes	
Red Hat Enterprise Linux Server (Physical or Virtual Nodes) Red Hat Enterprise Linux for SAP HANA Red Hat Enterprise Linux for SAP Solutions Red Hat Enterprise Linux for Distributed Computing (see Note 1 below)	Standard or Premium	Physical Node or Virtual Node	Socket-pair for each Physical Node or 2 Virtual Nodes		Physical Node: Yes
Red Hat Enterprise Linux for Virtual Datacenters Red Hat Enterprise Linux for Virtual Datacenters for SAP Solutions (see Notes 2 and 3 below)	Standard or Premium	Physical Node	Socket-pair	Unlimited Virtual Nodes running on a Socket-pair	Physical Node: Yes
Red Hat OpenStack Platform Red Hat OpenStack Platform for Atom	Standard or Premium	Physical Node	Socket-pair	Unlimited Virtual Nodes running on a Socket-pair	Physical Node: Yes
Red Hat Enterprise Linux for Real Time Red Hat Virtualization (see Note 4 below) Red Hat Enterprise Linux with Smart Virtualization Red Hat Enterprise Linux with Smart Virtualization for SAP Applications Red Hat Enterprise Linux for ARM	Standard or Premium	Physical Node	Socket-pair	N/A	Physical Node: Yes
Red Hat Enterprise Linux for Power Red Hat Enterprise Linux for Power with Smart Virtualization Red Hat OpenStack Platform for Power Red Hat Enterprise Linux for SAP Solutions for Power	Standard or Premium	Power IFL	Up to 4 processor cores	N/A	Power IFL: Yes
Red Hat Enterprise Linux for System z	Standard or Premium	System z IFL	N/A	N/A	System z IFL: Yes
Red Hat Enterprise Linux for Hyperscale	Standard	Physical Node	Band of SOCs	None	Physical Node: No
Red Hat Enterprise Linux Server Entry Level (see Note 1 below)	Self-support	Physical Node	Socket-pair	None	Physical Node: No
Red Hat OpenStack Platform Red Hat Enterprise Linux with Smart Virtualization	Standard or Premium	Physical Node	Socket-pair	Unlimited Virtual Nodes running on a Socket-pair	Physical Node: Yes
Red Hat Enterprise Linux for PRIMEQUEST (see Note 1 below)	Premium	Physical Node	1-2 Sockets, 9 Logical Partitions 4 Sockets, 10 Logical Partitions 6 Sockets, 11 Logical Partitions or 8 Sockets, 12 Logical Partitions		Physical Node: No
Red Hat Enterprise Linux Desktop	Self-support, Standard	System	1 CPU Up to 8GB	1 Virtual Guest	CPU: No

			RAM		
Red Hat Enterprise Linux Workstation	Self-support, Standard or Premium	System	2 CPU Unlimited RAM	1 Virtual Guest or 4 Virtual Guests	CPU: No
Red Hat Enterprise Linux Academic Site Subscription Red Hat Infrastructure for Academic Institutions - Site Subscription	Standard or Premium	Full Time Equivalent (FTE)	1-2 Sockets	1 Virtual Guest	N/A

Note 1: Each Physical Node supports a maximum number of four (4) virtual instances that may consist of Red Hat Enterprise Linux Virtual Nodes, Virtual Guests or any other guest operating system, provided containers do not count towards the maximum four (4) virtual instances.

Note 2: Please note that Red Hat Enterprise Linux for Virtual Datacenters Subscriptions do not include an entitlement for the host operating system.

Note 3: Please note a Red Hat Enterprise Linux for Virtual Datacenters Subscription is limited when deployed on Red Hat Enterprise Linux Servers to the four (4) virtual instances support limit per Note 1, provided that limitation does not apply when Red Hat Enterprise Linux for Virtual Datacenters is deployed on either Red Hat Virtualization or Red Hat OpenStack Platform.

Note 4: A Red Hat Virtualization Subscription comes with RHEV-Manager, which requires the purchase of an underlying Red Hat Enterprise Linux Subscription for each Unit (i.e., Physical Node or Virtual Node) running RHEV-Manager.

2. **Red Hat Enterprise Linux Server Add-Ons**

Red Hat Enterprise Linux Server Subscriptions may be purchased with one or more optional Add-On Subscriptions. Add-On Subscriptions require a separate paid and active Software Subscription for each Unit that deploys, installs, uses or executes such Add-On. Each Unit of an Add-On Subscription (i) must match the Unit of Measure and capacity of the underlying Red Hat Enterprise Linux Unit and (ii) inherits the Support Level of the underlying Red Hat Enterprise Linux Unit. Add-On Subscriptions are not supported on Red Hat Enterprise Linux Subscriptions with a Self-support service level except Smart Management Add-Ons.

3. **Red Hat Enterprise Linux Server Supported Use Cases**

Table 3

Software	Supported Use Case
Red Hat Enterprise Linux Server (see Note 1 below) Red Hat Enterprise Linux for ARM Red Hat Enterprise Linux for Power Red Hat Enterprise Linux Server for System z	Supported only for server computing on Supported Configurations, including delivery of services to other logical or physical client or server systems and the execution of multi-user applications.
Red Hat Enterprise Linux for Real Time	Supported only on systems running (a) operating environments identified at www.redhat.com/mrg/hardware as Red Hat Enterprise Linux for Real Time compatible and (b) hardware systems identified as Red Hat Enterprise Linux for Real Time certified at https://hardware.redhat.com will be supported.
Red Hat Enterprise Linux for PRIMEQUEST	Subscription Services are provided only on Fujitsu PRIMEQUEST systems.
Red Hat Enterprise Linux for SAP HANA Red Hat Enterprise Linux for SAP Solutions	Subscription Services are provided only on Supported Configurations certified by SAP solely to run SAP's HANA platform and/or NetWeaver product.
Red Hat Enterprise Linux for Hyperscale	Subscriptions Services are provided only on Supported Configuration in the form of chassis that contain and use at least five (5) SOCs.
Red Hat Enterprise Linux for HPC Compute Nodes Red Hat Enterprise Linux for HPC Head Nodes Red Hat Enterprise Linux for ARM for HPC Compute Nodes Red Hat Enterprise Linux for ARM for HPC Head Nodes	Supported only for high performance computing ("**HPC**") that consists of a minimum set of four Systems that are networked and managed to perform compute-intensive workloads ("**cluster**") with all of the following characteristics: (a) the cluster is used for compute-intensive distributed tasks sent to individual compute nodes within the cluster, (b) the cluster works as a single entity or system on specific tasks by performing compute-intensive operations on sets of data (Systems running a database, web application, load balancing or file serving clusters are not considered HPC nodes), (c) the number of management or head nodes does not exceed one quarter of the total number of nodes in the cluster and (d) all compute nodes in the cluster have the same Red Hat Enterprise Linux configuration. When Red Hat Enterprise Linux for HPC Head Nodes (an optional Software Subscription for management of compute nodes) is combined with Red Hat Enterprise Linux for HPC Compute Nodes Software Subscriptions for the compute nodes in the same cluster, the compute node inherits the Service Level (as set forth in Section 2.3(d) of the Product Appendix) of the Head Node.

Software	Supported Use Case
Red Hat Enterprise Linux for Grid Nodes	Supported only in a compute Grid where a "**Grid**" means a minimum of fifty (50) Socket-pairs that are networked and managed to solve workloads with the following characteristics: (a) all the nodes in the group of systems have the same Red Hat Enterprise Linux configuration, (b) the group of systems is running a single application or is controlled by a single job scheduler, (c) the workloads are sent to the group of systems by a job scheduler, (d) the workloads are maintained in a single distributed application across the nodes in the group of systems, (e) the workloads are non-interactive, and (f) the production outage of the complete group of systems is defined as 30% of the nodes in the group of systems being unable to run the workload. This Supported Use Case does not include nodes running databases, web applications, load balancing, or file services.
Red Hat Enterprise Linux with Smart Virtualization Red Hat Enterprise Linux for Power with Smart Virtualization	Supported on physical hardware solely to support virtual guests. Red Hat Enterprise Linux with Smart Virtualization is designed to run and manage virtual instances. The included Red Hat Enterprise Linux Software Subscription is supported solely when used as the host operating system with the Red Hat Enterprise Virtualization Hypervisor or when used as the guest operating system with virtual machines.
Add-Ons: High Availability, Load Balancer, Resilient Storage, Scalable File System, Extended Update Support, Extended Life Cycle Support, and Red Hat Insights	Supported only on active Standard and Premium level Red Hat Enterprise Linux Server Software Subscriptions.
Red Hat Enterprise Linux Server used as a Virtual Guest	Virtual Guests may be pooled or shared on any other System that has a Software Subscription with the same (a) Support Level (Standard or Premium) and (b) number of Virtual Guests (1, 4 or unlimited Virtual Guests), provided that you do not exceed the total number of Virtual Guests associated with the underlying Software Subscriptions.
Red Hat Enterprise Linux for Disaster Recovery	Supported only on Systems or Physical Nodes used intermittently for disaster recovery purposes such as systems receiving periodic backups of data from production servers, provided those disaster recovery systems have the same Service Levels (as set forth in the Subscription Appendix, Section 2.3(d)) and configurations (e.g. Socket-pairs, Virtual Guests, Cores).
Red Hat Enterprise Linux for Distributed Computing (Endpoint)	Supported only on special purpose devices used to collect, store and forward raw data in a distributed computing scenario, and excludes any Gateway, Edge Server and data center deployments.
Red Hat Enterprise Linux for Distributed Computing (Gateway)	Supported only on systems that establish secured connections and transfer data from Endpoints to either End Servers or data centers, and not used for general purpose computing.
Red Hat Enterprise Linux for Distributed Computing (Edge Server)	Supported only on systems that (a) establish secured connections, (b) transfer data from Endpoints or Gateways to data centers and (c) perform rudimentary data analytics or consolidation.
Red Hat Enterprise Linux for ARM	Supported only when used on a Physical Node that is a server running an ARM processor.
Red Hat Virtualization	Supported on physical hardware solely to support virtual guests. Red Hat Virtualization is designed to run and manage virtual instances and does not support user-space applications. Red Hat Virtualization may be used as a virtual desktop infrastructure solution, however, the Subscription does not come with software or support for the desktop operating system. You must purchase the operating system for each instance of a desktop or server separately.
Red Hat Enterprise Linux Desktop	Supported only on personal computing systems with a primary purpose of executing applications and/or services for a single user who is typically working from a directly connected keyboard and display. Red Hat Enterprise Linux Desktop does not include support for open source server applications (e.g., Apache, Samba, or NFS), testing and development purposes or to share data with peers. Each Red Hat Enterprise Linux Desktop Software Subscription includes one Smart Management Module, each to be used solely with a single Red Hat Enterprise Linux Desktop System.
Red Hat Enterprise Linux Workstation	Supported only on personal computing systems with a primary purpose of executing applications and/or services for a single user who is typically working from a directly connected keyboard and display. Each Red Hat Enterprise Linux Workstation Software Subscription includes one Smart Management Module to be used solely with a single Red Hat Enterprise Linux Workstation System.
Red Hat OpenStack Platform (Physical Node) Red Hat OpenStack Platform for Power	Supported only when used on a Physical Node that is a server. Red Hat Enterprise Linux is supported solely when used as the host operating system for running Red Hat OpenStack Platform or when used as the guest operating system with virtual machines created and managed with Red Hat OpenStack Platform. Red Hat Enterprise Linux is currently the only supported operating system for Red Hat OpenStack Platform. Red Hat CloudForms is included and only supported when used to manage virtual machines created with Red Hat OpenStack Platform.
Red Hat OpenStack Platform (without guest OS) Red Hat OpenStack Platform for Power (without guest OS)	Supported only when used on a Physical Node that is a server. Red Hat Enterprise Linux is supported solely when used as the host operating system for running Red Hat OpenStack Platform. Red Hat Enterprise Linux is currently the only supported operating system for Red Hat OpenStack Platform. Red Hat CloudForms is included and only

Software	Supported Use Case
	supported when used to manage virtual machines created with Red Hat OpenStack Platform.
Red Hat OpenStack Platform for Atom	Supported only when used on a Physical Node that is a server running an Intel Atom processor. Red Hat Enterprise Linux is supported solely when used as the host operating system for running Red Hat OpenStack Platform. Red Hat Enterprise Linux is currently the only supported operating system for Red Hat OpenStack Platform. Red Hat CloudForms is included and only supported when used to manage virtual machines created with Red Hat OpenStack Platform.
Red Hat Enterprise Linux – Academic Server Red Hat Enterprise Linux Academic Desktop Red Hat Enterprise Linux Academic Workstation	Supported only for use by qualified academic institutions for teaching and learning purposes that consist of (a) faculty, staff, or student laptops or desktops for personal and academic use, (b) computer labs available to faculty, staff, and students for general education use, (c) classroom desktops, (d) laboratories for technical and research use and/or (e) laboratories for software development use. Red Hat Enterprise Linux – Academic Edition is not supported when used for any purpose other than as described in (a) – (e) above. Qualified academic institutions must be accredited by a national accreditation agency (e.g. the United States accreditation is located at http://ope.ed.gov/accreditation/Search.aspx). **Note:** When you use Red Hat Enterprise Linux – Academic Edition for non-qualified academic purposes as described above, standard Red Hat Enterprise Linux subscription rates apply.
Red Hat Enterprise Linux Academic Site Subscription	Supported only for use by qualified academic institutions. Qualified academic institutions must (a) be accredited by a national accreditation agency (e.g. the United States accreditation is located at http://ope.ed.gov/accreditation/Search.aspx) and (b) have at least one thousand (1,000) FTEs.
Red Hat Infrastructure for Academic Institutions - Site Subscription	Supported only for use by qualified academic institutions. Qualified academic institutions must (a) be accredited by a national accreditation agency (e.g. the United States accreditation is located at http://ope.ed.gov/accreditation/Search.aspx) and (b) have at least one thousand (1,000) FTEs.
Red Hat Enterprise Linux Developer Suite	Supported only for Red Hat Enterprise Linux Developer Suite for Development Purposes.

Note 1: The Red Hat Enterprise Linux Server Use Case applies to the Red Hat Enterprise Linux Server variants in this Table 3.

3.1 Red Hat Enterprise Linux Server – Atomic Host. Red Hat Enterprise Linux Server may be deployed using RPM package manager or in Atomic Host mode. Atomic Host mode is an optional image based delivery, deployment and updating mechanism designed to support container based environments. Each deployment of Red Hat Enterprise Linux, regardless of the method, constitutes a Unit.

3.2 Red Hat Enterprise Linux Desktop and Workstation Software Subscriptions
Production Support for Red Hat Enterprise Linux Desktop subscriptions is limited to Support Contacts that are helpdesk support personnel and not end users.

3.3 Red Hat Enterprise Linux Extended Life Cycle Support Software Subscriptions

(a) **Limited Maintenance and Production Support.** Red Hat Enterprise Linux ELS entitles you to receive Software Maintenance and Production Support for Severity 1 and 2 problems on x86 architectures and z systems, but only for a limited set of software components listed at https://access.redhat.com/articles/2901071. Red Hat Enterprise Linux ELS Software Maintenance is limited to those Software updates that Red Hat considers, in the exercise of its sole judgment, to be (a) critical impact security fixes independent of customer support requests and (b) selected urgent priority defect fixes that are available and qualified for a subset of the packages in specific major releases of Red Hat Enterprise Linux beyond the end of its regular production cycles. The Red Hat Enterprise Linux ELS stream will be maintained for an additional period of time immediately after the end-date of the regular production cycles of the relevant release as set forth at https://access.redhat.com/support/policy/updates/errata/. Red Hat will only provide one code base for Red Hat Enterprise Linux ELS and will not make functional enhancements to versions of Red Hat Enterprise Linux during the ELS cycle.

(b) **Red Hat Enterprise Linux ELS Unsupported Components.** Red Hat Enterprise Linux ELS covers components supported prior to the end of the life cycle but does not cover the following (in addition to those noted in Section 3.3(a) above): (a) desktop applications, (b) Red Hat Cluster Suite, (c) content from the Extras channel ("Extras" is a set of content with a shorter life cycle) and (d) Independent layered or Add-on products such as Directory Server, Red Hat Satellite, or Scalable File System. Red Hat reserves the right to exclude additional packages.

(c) **Red Hat Enterprise Linux ELS Content Delivery.** Red Hat Enterprise Linux ELS Software Maintenance is delivered through separate Red Hat Portal base channels for the specific release and corresponding child channels if applicable. You must install a modified redhat-release package downloaded from Red Hat Portal to subscribe a Unit to a Red Hat Enterprise Linux ELS channel.

4. Red Hat Enterprise Linux Developer Suite
Red Hat Enterprise Linux Developer Suite provides an open source development environment that consists of Red Hat Enterprise Linux with built-in development tools, certain Red Hat Enterprise Linux Add-Ons, Red Hat Enterprise Linux for Real Time, Smart Management and access to Software Maintenance, but no Support. If you use any of the Subscription Services or Software associated with Red Hat Enterprise Linux Developer Suite for Production Purposes, you agree to purchase the applicable number of Units of the applicable Software Subscription.

5. Red Hat Enterprise Linux Developer Workstation and Red Hat Enterprise Linux Developer Support Subscriptions
For each paid, active Red Hat Enterprise Developer Workstation and/or Red Hat Enterprise Linux Developer Support Subscription, Red

Hat will provide you with (a) access to the supported versions of Red Hat Enterprise Linux and updates through a Red Hat Portal; and (b) assistance for: (i) installation, usage and configuration support, diagnosis of issues, and bug fixes for Red Hat Enterprise Linux, but only for issues related to your use of Red Hat Enterprise Linux for Development Purposes and (ii) advice concerning application architecture, application design, industry practices, tuning and application porting (collectively, "**Developer Support**").

The Red Hat Enterprise Linux Developer Workstation and Red Hat Enterprise Linux Developer Support Subscriptions do not include support for (a) modified software packages, (b) wholesale application debugging or (c) software included in the Red Hat Extras repository, supplementary channels, preview technologies or software obtained from community sites.

5.1 **Red Hat Enterprise Linux Developer Support Subscription Levels.** You may purchase Professional (two (2) business day response time) or Enterprise (four (4) Standard Business Hours response time) with web and phone support for an unlimited number of requests for Red Hat Enterprise Developer Workstation (one (1) System) and/or Red Hat Enterprise Developer Support Subscriptions (twenty-five (25) Systems).

EXHIBIT 1.B
RED HAT MIDDLEWARE, OPENSHIFT & APPLICATION PLATFORM SOFTWARE SUBSCRIPTIONS

This Exhibit 1.B. to Product Appendix 1 contains terms that describe the parameters and govern your use of the Red Hat JBoss Middleware, Red Hat OpenShift Container Platform and Red Hat Application Platform product lines.

1.   Unit of Measure and Purchasing Requirements for Red Hat JBoss Middleware Software Subscriptions.
Table 1 sets forth the Units of measure, stacking capabilities and Supported Use Cases for various Red Hat JBoss Middleware Subscriptions. You must purchase the appropriate number and type of Software Subscription(s) for each Unit, based on the Unit and other parameters described in Table 1.

1.1   Supplemental JBoss Software. During the term of a JBoss Middleware Software Subscription, you will receive access to certain additional Red Hat JBoss Middleware Software ("**Supplemental JBoss Software**"). The Software Access and Software Maintenance for Supplemental JBoss Software is for Development Purposes only and for up to two (2) users for each Core Subscription that you purchase. If you use the Supplemental JBoss Software for Production Purposes or for more than two (2) users per Core, you agree to purchase the appropriate Software Subscriptions based on each such Unit that you use.

1.2   Supported JBoss Middleware Software. Using Red Hat JBoss Middleware Software Subscriptions, (or any portion thereof) to support software obtained from community sites without purchasing a corresponding Software Subscription for such community software, is a material breach of the Agreement.

1.3   Red Hat JBoss Core Services Collection. "**Red Hat JBoss Core Services Collection**" is a collection of components that provide common functionality (such as monitoring and management, load balancing, process control and single sign-on) across a majority of the JBoss Middleware portfolio and is subject to the following terms:
(a)   You will receive entitlements for Red Hat JBoss Core Services Collection in a quantity equal to the number of Cores of Red Hat JBoss Middleware Software Subscriptions you purchased (for Software Subscriptions where the Unit is a Core).
(b)   You will receive entitlements to Red Hat JBoss Core Services Collection equal to sixteen (16) Cores for each Red Hat JBoss Middleware Software Subscription you purchase on a per socket-pair basis.
(c)   Red Hat JBoss Web Server and Red Hat JBoss Web Server Plus Subscriptions (which only include the management components of the Core Services Collection) do not include Red Hat JBoss Core Services Collection.

1.4   JBoss Middleware for OpenShift Container Platform. Red Hat JBoss Middleware Software Subscriptions in Table 1 include access to the Red Hat JBoss Middleware Software enabled for Red Hat OpenShift Container Platform (i.e. the Software described in Table 3 below ("**JBoss OpenShift Enabled Software**"). The JBoss OpenShift Enabled Software is supported when deployed on Red Hat OpenShift Container Platform, which requires a separate active paid Software Subscription. The capacity restrictions in Table 3 below apply to the Red Hat JBoss OpenShift Enabled Software. Red Hat JBoss Middleware Software Subscriptions listed in Table 1 are not configured for use with Red Hat OpenShift Container Platform.

1.5   Red Hat's Open Source Assurance Program applies only to the JBoss Middleware Software Subscription that you purchased and does not apply to Supplemental JBoss Software or JBoss OpenShift Enabled Software that may be provided (for no additional fee) with the Red Hat JBoss Middleware Subscription that you purchased.

Table 1

Software Subscription	Unit of Measure	Stackable	Supported Use Case
Red Hat JBoss Enterprise Application Platform	Core Band	No	These Red Hat Products are only supported on Supported Configurations.
Red Hat JBoss Web Server			
Red Hat JBoss Web Server Plus			
Red Hat OpenShift Application Runtimes			
Red Hat OpenShift Application Runtimes Plus			
Red Hat JBoss Data Grid			
Red Hat JBoss Fuse			
Red Hat JBoss AMQ			
Red Hat JBoss Data Virtualization			
Red Hat JBoss BPM Suite			
Red Hat Decision Manager (formerly Red Hat JBoss BRMS)			
Red Hat JBoss Middleware Add On-Extended Life Cycle Support			

Note: Unless otherwise stated in an Order Form, one (1) Core is equivalent to two (2) vCPUs with hyper-threading active for the Red Hat Products in this Exhibit 1.B.

2.   Unit of Measure and Purchasing Requirements for Red Hat OpenShift Container Platform
Table 2 sets forth the Units of measure, capacity limitations, stacking capabilities and Supported Use Cases for various Red Hat OpenShift Container Platform Subscriptions. You must purchase the appropriate number and type of Software Subscription(s) for each

Unit, based on the Unit and other parameters described in Table 2. Red Hat OpenShift Container Platform for RHEL and Container Platform for RHEL are layered products and require a separate paid and active Software Subscription to Red Hat Enterprise Linux for Virtual Datacenters with matching Support Levels for each Unit that deploys, installs, uses or executes such layered products.

Table 2

Software Subscription	Unit of Measure	Capacity		Stackable	Supported Use Case
		Socket(s)	Virtual Nodes		
Red Hat OpenShift Container Platform	Virtual Guest	2 Cores	One Virtual Guest	Cores: Yes Virtual Guest: Yes	These Red Hat Products will only be supported when used as a platform as a service on Supported Configurations. Running other applications and/or programs of any type on the operating environment can have a negative impact on the function and/or performance.
Red Hat OpenShift Container Platform	Physical Node	Socket-pair	Unlimited Virtual Guests	Physical Node: Yes Virtual Guest: N/A	
Red Hat OpenShift Container Platform for RHEL	Physical Node	Socket-pair	Unlimited Virtual Guests	Physical Node: Yes Virtual Guest: N/A	
Container Platform for RHEL	Physical Node	Socket-pair	Unlimited Virtual Guests	Physical Node: Yes Virtual Guest: N/A	

Note: Unless otherwise stated in an Order Form, one (1) Core is equivalent to two (2) vCPUs with hyper-threading active for the Red Hat Products in this Exhibit 1.B.

3. **Unit of Measure and Purchasing Requirements for Red Hat JBoss Middleware for OpenShift Container Platform**
   Table 3 sets forth the Units of measure, capacity limitations, and stacking capabilities for Red Hat JBoss Middleware for OpenShift Container Subscriptions. You must purchase the appropriate number and type of Software Subscription(s) for each Unit, based on the Unit and other parameters described in Table 3. Red Hat OpenShift Container Platform Subscriptions are sold separately.

Table 3

Software Subscription	Unit of Measure	Capacity	Stackable	Supported Use Case
Red Hat JBoss Middleware for OpenShift Container Platform	Cores or Physical Nodes	Core Band or for Physical Node a Socket-pair	Cores: Yes Physical Nodes: Yes	These Red Hat Products are only supported on Supported Configurations, on OpenShift Container Platform, or on a combination of the two so long as you have a minimum of sixteen (16) Cores (for Virtual Guest) or a Socket-pair (for Physical Node).
Red Hat JBoss Enterprise Application Platform for OpenShift Container Platform				
Red Hat JBoss Data Grid for OpenShift Container Platform				
Red Hat JBoss Fuse for OpenShift Container Platform				
Red Hat JBoss AMQ for OpenShift Container Platform				
Red Hat JBoss Data Virtualization for OpenShift Container Platform				
Red Hat JBoss BPM Suite for OpenShift Container Platform				
Red Hat Decision Manager for OpenShift Container Platform				

Note: Unless otherwise stated in an Order Form, one (1) Core is equivalent to two (2) vCPUs with hyper-threading active for the Red Hat Products in this Exhibit 1.B.

4. **Unit of Measure and Purchasing Requirements for Application Platform Software Subscriptions**
   Tables 4.1 and 4.2 set forth the Units of measure, capacity limitations, and Supported Use Cases for various Red Hat Application Software Subscriptions. You must purchase the appropriate number and type of Software Subscription(s) for each Unit, based on the Unit and other parameters described in these Tables.

4.1 **Red Hat 3Scale API Management Subscriptions.** For purposes of calculating the total number of Units that you must purchase, you must include the number of API Calls generated or Cores in both Production Purposes and Development Purposes and during traffic spikes.

Table 4.1

Software Subscription	Unit of Measure	Capacity	Supported Use Case
Red Hat 3Scale API Management Platform On Premise (Subscriptions may be purchased with Units of either API Calls or Cores)	API Calls per day	Up to 1,000,000 Up to 5,000,000, or Up to 20,000,000	The Subscription is supported (a) when used on a server, (b) on Supported Configurations, and (c) when used for the purpose of API Management. The OpenShift Container Platform Subscription provided with the Subscription Services is supported only in connection with use of the Red Hat 3Scale API Management Platform, On Premise Subscription.
	Cores	4, 16 or 64 Cores	

4.2 **Red Hat Mobile Application Platform.** In connection with your Red Hat Mobile Application Platform Subscription Service, you will have access to an optional online service called the Red Hat Mobile Application Build Farm. Use of this optional online service is subject to the terms and conditions set forth at www.redhat.com/licenses/buildfarm.

Table 4.2

Subscription Service	Unit Description		Supported Use Case
Red Hat Mobile Application Platform, Business to Employee, Unlimited	Employee User*	Unlimited Applications***	Support is provided for Software (a) when used on a System that is a server, (b) on platforms that are Supported Configurations and (c) that is within the supported Red Hat Mobile Application Platform Life Cycle. The OpenShift Container Platform Subscription that may be provided with the Subscription Services is supported only in connection with use of the Red Hat Mobile Application Platform Subscription.
Red Hat Mobile Application Platform, Business to Employee, Limited	Employee User*	Up to 5 Applications***	
Red Hat Mobile Application Platform, Business to Customer, Limited	Customer User**	Up to 5 Applications***	
Red Hat Mobile Application Platform, Business to Customer, Single Use Application	Customer User**	One Application***	

*Note: The number of "Employee Users" is equal to the number of unique Employee Users who are able to access an Application(s), regardless of whether the Employee User(s) actually access or the frequency with which they access the Application(s).
**Note: The number of "Customer Users" is equal to the number of unique monthly active Customer Users who actually access an Application(s) in a calendar month regardless of the frequency with which they access the Application(s).
***Note: For purposes of counting "Applications": (1) an Application is comprised of a project of various components dedicated to a single purpose regardless of the number of mobile operating systems on which it is provisioned or the number of other applications to which it may be connected and (2) only live production Applications are counted.

EXHIBIT 1.C
RED HAT STORAGE SUBSCRIPTIONS

This Exhibit 1.C. to Product Appendix 1 contains terms that describe the parameters and govern your use of the Red Hat Gluster Storage, Red Hat Ceph Storage product lines and related offerings. References to "**Red Hat Storage Subscriptions**" refer to both product lines.

1. **Unit of Measure and Purchasing Requirements.**
    Table 1 sets forth the support level, Unit of measure, stacking capabilities and Supported Use Case for various Red Hat Storage Subscriptions. You must purchase the appropriate number and type of these Software Subscriptions based on the Unit and other parameters described in Table 1 below. In addition, the following terms apply:
(a) Red Hat Gluster Storage includes management tools to manage one or more instances of Red Hat Gluster Storage.
(b) Red Hat Ceph Storage Software Subscriptions are priced based on the total amount of storage capacity. Each Red Hat Ceph Storage Software Subscription supports up to a certain number of Physical Nodes or Virtual Nodes. Should the number of Physical or Virtual Nodes be consumed before the Storage Band capacity is reached, you may upgrade to the next Storage Band to receive additional Physical or Virtual Nodes.

Table 1

Software Subscription	Support Level	Unit of Measure	Stackable	Supported Use Case
Red Hat Gluster Storage	Standard or Premium	Physical Node or Storage Band	Yes	Red Hat Storage is intended to be used as a storage system and will be supported only when used as a storage node. These Subscriptions are not supported on non-server hardware such as desktops or workstations and are intended for use on a dedicated Physical Node; running other applications and/or programs of any type on the Physical Node can have a negative impact on the function and/or performance of the Subscription. Each Subscription includes one Software Subscription to Red Hat Enterprise Linux Server and the Scalable File System Add-on, which are supported solely in connection with the use of the respective Red Hat Storage Subscription. Red Hat Gluster Storage Module does not include a Red Hat Enterprise Linux Software Subscription which must be purchased separately.
Red Hat Gluster Storage Module	Standard or Premium		Yes	
Red Hat Ceph Storage	Standard or Premium		Yes	
Red Hat Gluster Storage Pre-Production	Standard		No	These Pre-Production Subscriptions are subject to the same Use Case as provided in the description for Red Hat Ceph Storage and Red Hat Gluster Storage, provided that Support is only provided for Pre-Production Purposes (defined below).*
Red Hat Ceph Storage Pre-Production	Standard		No	
Red Hat Gluster Storage for Public Cloud	Standard or Premium	Virtual Node	Yes	Red Hat Gluster Storage for Public Cloud is intended to be used as a storage system and will be supported only when used as a storage node. When running in Amazon Web Services, an EC2 M1 Large dedicated instance is required in order to be supported. Running other applications and/or programs of any type on the same instance can have a negative impact on the function and/or performance of the Red Hat Gluster Storage for Public Cloud and is not a Supported Use Case.
Red Hat Gluster Storage for Red Hat OpenStack Platform	Standard or Premium	Physical Node	No	This Subscription is intended to be used as a storage system with Red Hat OpenStack Platform and will be supported only when used as a storage node. It is not supported on non-server hardware such as desktops or workstations and is intended for use on a dedicated Physical Node; running other applications and/or programs of any type on the Physical Node can have a negative impact on the function and/or performance.
Red Hat Hyperconverged Infrastructure	Standard or Premium	Physical Node	No	Red Hat Hyperconverged Infrastructure is only supported when used as an integrated compute plus storage infrastructure. These Software Subscriptions are supported on server hardware but not on desktops or workstations. Support is provided for groups of 3 Nodes, which is the minimal deployment.
Container Storage Add On for OpenShift Container Platform	Standard or Premium	Physical Node or Virtual Node	No	This Subscription is only supported when used as a (a) storage system with Red Hat OpenShift Container Platform, (b) container inside OpenShift Container Platform or (c) storage node outside OpenShift Container Platform. The Subscription is supported on server hardware but not on desktops

				or workstations and is intended for use on a dedicated Physical Node or as containers inside OpenShift Container Platform clusters.
Red Hat Gluster Storage – Academic Edition Red Hat Ceph Storage – Academic Edition	Standard or Premium	FTE	n/a	Red Hat Storage – Academic Edition Subscriptions are supported for use by qualified academic institutions for teaching and learning purposes that consist of (a) faculty, staff, or student laptops or desktops for personal and academic use, (b) computer labs available to faculty, staff, and students for general education use, (c) classroom desktops, (d) laboratories for technical and research use and/or (e) laboratories for software development use. Red Hat Storage – Academic Edition is not supported when used for any purpose other than as described in (a) – (e) above. Qualified academic institutions must be accredited by a national accreditation agency (e.g. the United States accreditation is located at http://ope.ed.gov/accreditation/Search.aspx). **Note:** When you use Red Hat Enterprise Linux – Academic Edition for non-qualified academic purposes as described above, standard Red Hat Enterprise Linux subscription rates apply.

*"Pre-Production Purposes" consists of assistance with issues relating to the installation, configuration, administrative tasks and basic trouble-shooting of the Red Hat Ceph Storage or Red Hat Gluster Storage Software components prior to deployment in a production environment, but it does not include architectural design reviews or advice, advanced configuration topics, performance analysis or reviews.

EXHIBIT 1.D
RED HAT INTEGRATED SOLUTIONS

This Exhibit 1.D. to Product Appendix 1 contains terms that describe the parameters and govern your use of the Red Hat Integrated Solutions product lines.

1. **Unit of Measure and Purchasing Requirements.** Table 1 sets forth the Unit of measure and Supported Use Cases for Red Hat Cloud Infrastructure Subscriptions. You must purchase the appropriate number and type of these Software Subscriptions based on the Unit and Supported Use Cases described in Table 1 below. A Red Hat Cloud Infrastructure Software Subscription comes with a Red Hat CloudForms Software Subscription but if you are managing any virtual machines with the Red Hat Cloud Infrastructure Subscription that are not running on the same Physical Node as the active Red Hat CloudForms Software Subscription, you must purchase additional Red Hat CloudForms Subscriptions for such use.

Table 1

Software Subscription	Unit	Supported Use Cases
Red Hat Cloud Infrastructure	System	Red Hat only provides Subscription Services for the Software when used on a Physical Node that is a server. Red Hat Enterprise Linux is supported solely when used as the host operating system for Red Hat OpenStack Platform or when used as the guest operating system on virtual machines created and managed with this Subscription. Red Hat Virtualization is supported solely when used to run and manage virtual guests for this Subscription. Red Hat Enterprise Linux is the only supported operating system for Red Hat OpenStack Platform. Red Hat CloudForms is included and only supported when used to manage virtual machines created with Red Hat OpenStack Platform or Red Hat Virtualization. If the Red Hat Cloud Infrastructure product contains an entitlement for Red Hat Satellite, Red Hat Satellite is only supported for managing Physical Nodes within the Red Hat Cloud Infrastructure private cloud.
Red Hat Cloud Infrastructure (without guest OS)	System	Red Hat only provides Subscription Services for the Software when used on a Physical Node that is a server. Red Hat Enterprise Linux is supported solely when used as the host operating system for Red Hat OpenStack Platform. Red Hat Virtualization is supported solely when used to run and manage virtual guests for this Subscription. Red Hat Enterprise Linux is the only supported operating system for Red Hat OpenStack Platform. Red Hat CloudForms is included and only supported when used to manage virtual machines created with Red Hat OpenStack Platform or Red Hat Virtualization. If the Red Hat Cloud Infrastructure product contains an entitlement for Red Hat Satellite, Red Hat Satellite is only supported for managing Physical Nodes within the Red Hat Cloud Infrastructure private cloud.
Red Hat Cloud Suite	System	Red Hat only provides Subscription Services for the Software when used on a Physical Node that is a server. Red Hat Enterprise Linux is supported solely when used as the host operating system for Red Hat Cloud Suite or when used as the guest operating system on virtual machines created and managed with this Subscription. Red Hat Enterprise Linux is the only supported operating system for Red Hat Cloud Suite.

EXHIBIT 1.E
MANAGEMENT SUBSCRIPTIONS

This Exhibit 1.E. to Product Appendix 1 contains terms that describe the parameters and govern your use of the Red Hat Satellite, Red Hat CloudForms, Red Hat Ansible product lines and related offerings.

1.   Red Hat Satellite, Red Hat Capsule and Smart Management

1.1   Units of Measure and Purchasing Requirements. You must purchase the appropriate number and type of Red Hat Management Subscriptions based on the Unit and Supported Use Cases described in Table 1 below.

Table 1

Software	Unit	Supported Use Case
Red Hat Satellite, Red Hat Satellite Capsule and Red Hat Satellite Proxy	System	Red Hat only provides Subscription Services for Red Hat Satellite, Red Hat Satellite Capsule or Red Hat Satellite Proxy when used on a System or Physical Node that is a server.
Red Hat Satellite Capsule Red Hat Satellite Proxy	System	Red Hat only provides Subscription Services for Red Hat Satellite Capsule and Red Hat Satellite Proxy when deployed with Red Hat Satellite.
Red Hat Smart Management	Module	Red Hat Smart Management entitlements are required for each Unit of Red Hat Enterprise Linux that is managed by Red Hat Satellite Capsule, Red Hat Satellite Proxy and/or Red Hat Satellite. Red Hat Smart Management entitlements may be used with Red Hat Portal directly.
Red Hat Satellite Starter Pack	Module	Red Hat does not provide Subscription Services for Red Hat Satellite Starter Pack if at the time of renewal, more than 50 Units (whether Systems, Physical Nodes and/or Virtual Nodes) are managed.

2.   Red Hat CloudForms

2.1   Units of Measure and Purchasing Requirements. Table 2 sets forth the Unit of measure, stacking capabilities and Supported Use Cases for various Red Hat Management Subscriptions. You must purchase the appropriate number and type of these Subscriptions based on the Unit and other parameters described in Table 2. For Virtual Nodes managed by CloudForms in a CloudForms enabled public cloud, you need to purchase Units equal to either (at your option), (a) the actual number of Units or (b) the average daily maximum Virtual Nodes managed by CloudForms in the previous 365 days. If 365 days of usage history is not available, you may use the average usage history period that is available. If managing Virtual Nodes on a public cloud, you must confirm that a specific public cloud is Red Hat CloudForms enabled.

Table 2

Software Subscription	Unit of Measure	Capacity		Stackable	Use Case
		Socket(s)	Managed Nodes		
Red Hat CloudForms	Managed Node: (Physical Node or Virtual Node)	Socket-pair for each Physical Node or Sixteen (16) Virtual Nodes		Physical Node: Yes Virtual Node: Yes	Red Hat only provides Subscription Services for Red Hat CloudForms Software when deployed on (a) a System or Physical Node that is a server and (b) Virtual Nodes if they are running on-premise or on a Red Hat CloudForms enabled public cloud. Red Hat Enterprise Linux is the only supported operating system for Red Hat CloudForms Subscriptions.

3.   Red Hat Ansible Tower and Red Hat Ansible Engine Subscriptions

The Red Hat Ansible Tower offering consists of the Red Hat branded graphical application and REST API, designed for use with (i) Red Hat Ansible Engine or Ansible Project Software. Red Hat Ansible Tower does not include the Ansible Project. "**Ansible Engine**" means the installed package, which consists of the connection plugins, inventory plugins, fact plugins, Ansible-playbook language and directives, core modules, and other miscellaneous core or plugins provided in the package. **"Ansible Project Software"** means the community version of the Ansible deployment and configuration management engine.

Red Hat Ansible Engine Subscriptions provide access to additional software components (Certified Components and Community Components) with varying levels or no support as set forth at https://access.redhat.com/articles/3166901 ("**Ansible Support Matrix**"). "**Certified Components**" means third party components listed on the Ansible Support Matrix and maintained by such third party. "**Community Components**" means components (e.g., modules, plugins...etc.) that are created and submitted by community members. Red Hat will provide limited assistance for Certified Components solely to the extent required to run Red Hat Ansible Engine and/or Red Hat Ansible Tower Software but otherwise does not provide Support or Software Maintenance for Certified Components or Community Components.

3.1   Units of Measure and Purchasing Requirements. Table 3 sets forth the Unit of measure and Supported Use Cases for Red Hat Ansible Engine and Red Hat Ansible Tower Software. You must purchase the appropriate number and type of these Subscriptions based on the Unit and other parameters described in Table 3 below.

Table 3

Software Subscription	Unit	Supported Use Case
Red Hat Ansible Tower	Managed Node	Red Hat only provides Subscription Services for this Software (a) when used on a system that is a server, (b) on platforms that are Supported Configurations and (c) that is within the

Software Subscription	Unit	Supported Use Case
		supported Ansible Tower Life Cycle. Support of Red Hat Ansible Tower Software does not include Subscription Services for Ansible Engine or Ansible Project Software. Red Hat may provide assistance with Ansible Project Software, solely to the extent required to run Red Hat Ansible Tower Software.
Red Hat Ansible Engine	Managed Node	Red Hat Subscriptions Services for this Software is limited to Support for the Ansible Engine and components that make-up the Ansible Engine. Red Hat provides Subscription Services for Software (a) on systems that are supported platforms set forth at https://access.redhat.com/articles/3168091, (b) modules identified via Section 4 above, and (c) that is within the supported Red Hat Ansible Engine Life Cycle. The Support of Ansible Engine does not include the creation, maintenance, support, or services related to customer playbooks, and/or roles or Ansible Project Software.
Red Hat Ansible Tower Academic Site Subscription Red Hat Ansible Engine Academic Site Subscription	FTEs	Supported only for use by qualified academic institutions. Qualified academic institutions must (a) be accredited by a national accreditation agency (e.g. the United States accreditation is located at http://ope.ed.gov/accreditation/Search.aspx) and (b) have at least one thousand (1,000) FTEs.

3.2 **Data Analytics.** Red Hat Ansible Tower Software versions 2.4 or later may collect and transmit usability data (including information identifying the source of that data) to Red Hat. Red Hat intends to use the data to enhance future releases of the Red Hat Ansible Tower Software and help streamline customer experience and success. Usability data includes information such as dashboard items clicked in the Tower Software, amount of time spent on individual pages and paths taken throughout the Red Hat Ansible Tower Software. Usability data is collected and transmitted to Red Hat via a javascript file that is downloaded to a customer's web-browser. The collection and transmission of such usability data is optional and you may (a) completely opt-out by editing the Red Hat Ansible Tower Software configuration and restarting the Red Hat Ansible Tower Software, or (b) choose between two opt-in scenarios: (i) "anonymous mode" that will provide usability data to Red Hat without any information identifying the source of that data, or (ii) "detail mode" that will provide usability data with the customer name to Red Hat. For Red Hat Ansible Tower Software (versions 2.4 or later) you may opt-out from usability data collection and transmission by following the directions found at: http://docs.ansible.com/ansible-tower/latest/html/administration/usability_data_collection.html.

3.3 **Red Hat Ansible Tower and Red Hat Ansible Engine Software Life Cycle.** The supported life cycle for Red Hat Ansible Engine and Red Hat Ansible Tower Software are set forth at: https://access.redhat.com/support/policy/update_policies.

3.4 **Red Hat Ansible Engine Networking Add-On**
Red Hat Ansible Engine Networking Add-On provides Support to networking modules listed on the Ansible Support Matrix. You are required to purchase a Unit of Red Hat Ansible Engine Networking Add-On for each Red Hat Ansible Engine Software Subscription (regardless of the number of Managed Nodes). Red Hat Ansible Engine Networking Add-On Subscription is only supported on Red Hat Ansible Engine Subscriptions with Premium support.

4. **Red Hat Insights.** Red Hat Insights is an optional Add-On hosted service designed to help you proactively identify and resolve technical issues in Red Hat Enterprise Linux and Red Hat Cloud Infrastructure environments.
Table 4

Software	Unit	Supported Use Case
Red Hat Insights	System, Physical Node or Virtual Node	Red Hat Insights provides predictive analytics and remediation steps for Red Hat Enterprise Linux 6.4 and later versions, Red Hat OpenStack® Platform 7 and later versions, Red Hat Virtualization 3.6 and later versions and Red Hat OpenShift Container Platform.

5. **Red Hat Directory Server Software Subscriptions**
Table 5 sets forth the Unit of measure and Supported Use Cases for Red Hat Directory Server. You must purchase the appropriate number and type of these Subscriptions based on the Unit and other parameters described in Table 5 below. The Service Level(s)) for Directory Server is determined by the Service Level of the underlying Red Hat Enterprise Linux Subscription for the System, Physical Node or Virtual Node running Directory Server (for example, if the Service Level for the underlying Red Hat Enterprise Linux Software Subscription is Premium, then Directory Server would receive Premium level support).

Table 5

Software	Unit	Supported Use Case
Red Hat Directory Server	System	A Replica Red Hat Directory Server must have an active Software Subscription for a Master Red Hat Directory Server and Red Hat Directory Server must be installed on a physical server with a standard Red Hat Enterprise Linux Software Subscription (not a Red Hat Enterprise Linux Desktop, Red Hat Enterprise Linux for HPC or Red Hat Enterprise Linux Workstation Software Subscription). "**Replica**" means a second instance of a Directory Server configured as a slave to the first instance of Directory Server. Red Hat Enterprise Linux Server is supported solely for the purpose of running Red Hat Directory Server Software. "**Master**" means the authoritative Red Hat Directory Server from which Replica Red Hat Directory Servers derive Red Hat Directory Server information.

EXHIBIT 1.F
SUPPORT SUBSCRIPTIONS

This Exhibit 1.F. to Product Appendix 1 contains terms that describe the parameters and govern your use of TAM Services.

1. **Technical Account Management ("TAM") Service**

   The TAM Service is a Support Subscription that you may purchase in addition to your underlying Standard or Premium Software Subscription in order to receive enhanced Support. The TAM Service does not include support for (1) Self-support Software Subscriptions, (2) any Unit of Software (such as a System, Physical Node, Core, etc.) for which you do not have an active paid Software Subscription or (3) any Software Subscription for which support is provided by a Business Partner. When you purchase a TAM Service, you receive access to a Red Hat support engineer to provide you with (a) access to Red Hat's technology and development plans, including beta testing and bug/feature escalation, (b) weekly review calls, (c) up to two (2) on-site technical review visits per year, (d) up to four Support Contacts, (e) quarterly service performance metrics via the TAM electronic dashboard, and (f) a subscription to Red Hat's TAM monthly newsletter.

Support Subscription	Unit Description
TAM Service TAM Extension	**Point of Contact:** a Red Hat associate whom you are authorized to contact to request support for a particular team, geography or Red Hat product line.

1.1 **TAM Service Coverage.** Each TAM Service Subscription will be limited to certain parameters (that is, a region, a customer team and/or a product line) and will be listed in the Order Form and, if not listed, the TAM parameters will be established upon the initiation of the TAM Service.

(a) **Regions:** North America, Latin America, EMEA, Asia-Pacific (excluding Japan, China and India), China, India or Japan.

(b) **Customer Team:** The customer team supported by the TAM, such as your development team, your system administration team, your support team, etc.

(c) **Red Hat Product Line:** The supported Red Hat product line, such as the Red Hat Enterprise Linux, Red Hat JBoss Middleware, Red Hat Mobile Application Platform, OpenShift, Red Hat Storage, Red Hat Ansible, Red Hat CloudForms or Red Hat Cloud product lines.

1.2 **TAM Service Level.** The TAM Service is offered during local Red Hat Support Standard Business Hours as set forth at https://access.redhat.com/support/contact/technicalSupport.html (based on the physical location of the TAM representative). If you have purchased Premium Red Hat Software Subscriptions, you will receive 24x7 Support for Severity 1 and 2 issues through Red Hat's 24x7 Production Support teams and not necessarily from your assigned TAM representative. Red Hat's 24x7 Production Support team will be responsible for addressing issues, but will consult with your TAM representative, as your TAM representative is available, for advice and to gain a better understanding of your infrastructure, environment and specific needs. If you have purchased multiple TAM Service Subscriptions in each of Red Hat's primary Support Regions, you will receive the benefit of extended TAM Service coverage hours, but you should follow the same process and contact the Red Hat 24x7 support numbers at https://access.redhat.com/support/contact/technicalSupport.html.

1.3 **TAM Extension Service.** The TAM Extension Service is an extension of a Red Hat Enterprise Linux TAM Service to provide additional technical knowledge such as SAP implementations on Red Hat Enterprise Linux. The TAM Extension Service requires a separate active and paid standard TAM Service Subscription.