



## **Service Description**

# **VMware Horizon™ Cloud Service® with Hosted Infrastructure**

*Last Updated: June 08, 2018*

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## 1. Introduction

VMware Horizon™ Cloud Service® with Hosted Infrastructure (“Horizon Cloud” or the “Service Offering”) is a family of cloud services from VMware that enables the delivery of virtual desktops and applications to end users on any device, anywhere. VMware Horizon Cloud provides three distinct workload options: Horizon Cloud Desktops, Horizon Cloud Apps, and Horizon Cloud Graphical Workstations.

### Standard Service Model Options

Horizon Cloud **Standard Service** allows customers to purchase Horizon Cloud Desktops and Horizon Cloud Apps capacity on a 1-, 12-, 24-, 36-, 48 or 60-month subscription. During the subscription term, customers can provision desktops and hosted apps virtual machines (“VMs”) at any time up to the full capacity purchased through the subscription. The **Standard Desktop Capacity** “unit” (“SDC”) contains one vCPU, 2GB vRAM, 30GB Hard Disk capacity, and 20 storage IOPS. Customers can provision desktop or hosted application VM instances based on predefined models that consume one or more SDC units. For example, a customer that purchases a 100 SDC subscription on a 12-month term can provision between one and 100 Value Desktop VMs, or between one and 50 Professional Desktop VMs, or 25 Premium Desktop VMs, or a mixture of VMs of different model types at any time during that 12-month term. Customers can provision VMs with any predefined desktop model so long as the customer has sufficient SDC units to satisfy the provisioning task.

Standard Service Horizon Cloud Desktops and Horizon Cloud Apps are available in five predefined SDC models:

- **Value Desktop** provides one vCPU, 2GB vRAM, 30GB HD, 20 IOPS.
- **Professional Desktop** provides two vCPU, 4GB vRAM, 60GB HD, 40 IOPS, and the benefits of Soft3D for the end user.
- **Premium Desktop** provides four vCPU, 8GB vRAM, 120GB HD, 80 IOPS, and the benefits of Soft3D for the end user.
- **Performance Desktop** provides eight vCPU, 16GB vRAM, 240GB HD, 160 IOPS, and the benefits of Soft3D for the end user.
- **Hosted Apps Server** provides eight vCPU, 16GB vRAM, 240GB HD, 160 IOPS, and the benefits of Terminal Services and Published Applications for the end user.

All model specifications are fixed and cannot be adjusted.

Add-On Storage is required to use advanced functions such as App Volumes (to store Application Stacks), and User Environment Management (to store user settings and user profiles). Add-On Storage can also be allocated to Utility Server VMs as one additional disk mount. Utility Server E:/Drive maximum size is limited to 12TB. If an individual hard disk is greater than 1TB, storage must be purchased in increments that are greater than the largest hard disk. Those increments are 1, 2, 4, 8, and 12TB.

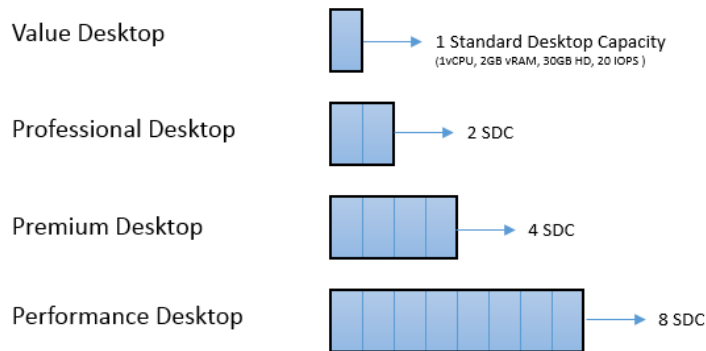
Customers may choose to buy additional hard disk storage in 1TB increments; however, existing hard disks (such as utility server drives) cannot be expanded.

For all virtual machine Microsoft OS licensing (Windows client or server OS), customers must use their own licenses purchased through their Microsoft licensing distributor. See Appendices C and D for details on supported Guest OS and Microsoft licensing guidance.

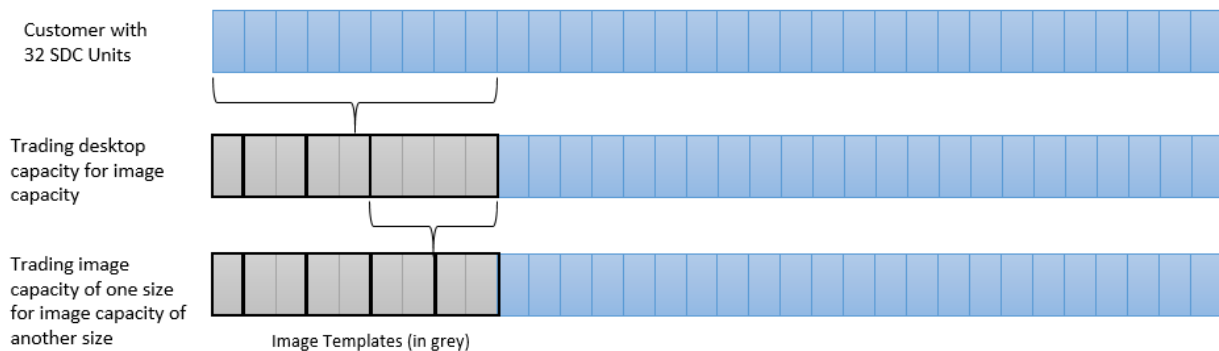
Use of the VMware Horizon desktop and mobile clients to access the Service Offering is governed by separate license terms accepted at install time of those clients.

All Standard Service options include 10 Image Templates with 60GB HD each for use as the basis of the virtual desktops and hosted applications. Customers may convert their Standard Desktop Capacity into additional Image Templates. The amount of Standard Desktop Capacity required to convert to an Image Template will be directly proportional to the size of the image's hard disk. For example, if a customer needs five additional Image Templates with 60GB C:/Drive, the customer may request to convert 10 Standard Desktop Capacity units to five Image Templates of 60GB hard disk size. Customers may also convert Image capacity of one size to another. For example, a customer that needs six 30GB templates may request to trade out three 60GB Images. A customer may convert up to 20% of its purchased Standard Desktop Capacity into image capacity (meaning a customer with 1000 SDC can use up to 200 SDC for images).

### Desktop Models Visualized



### Converting Desktop Capacity to Images



All utility servers must be sized to one of the predefined Horizon Cloud desktop model hardware specifications, and will consume SDC units based on the size selected except as noted in Appendix B.

All Standard Service options are deployed by default on dedicated computing servers with VMware High Availability clusters and layer-2 network isolation for workload traffic isolation, dedicated storage volumes, and a dedicated desktop management instance. Each service instance is deployed with a public IP address for VPN-less remote access. Desktops and published applications can be accessed through VMware Horizon View clients directly, or through the Horizon Cloud Desktop Portal by using View Client and clientless HTML5 (Horizon Blast Protocol).

## Graphical Workstations Service Model Options

Horizon Cloud allows customers to purchase and provision virtual Graphics Processor Unit (vGPU) backed desktops and workstations. In addition to Standard Desktop Capacity, customers can choose from two types of vGPU capacity, which have different graphics cards and desktop model specifications:

Capacity Type	vCPU	RAM (GB)	HD Storage (GB)	Graphics Mem (GB)	Graphics Card
Standard (SDC)	1	2	30	N/A	N/A
vGPU Desktop (M10)	2	4	30	1	M10
vGPU Workstation (M60)	4	16	120	2	M60

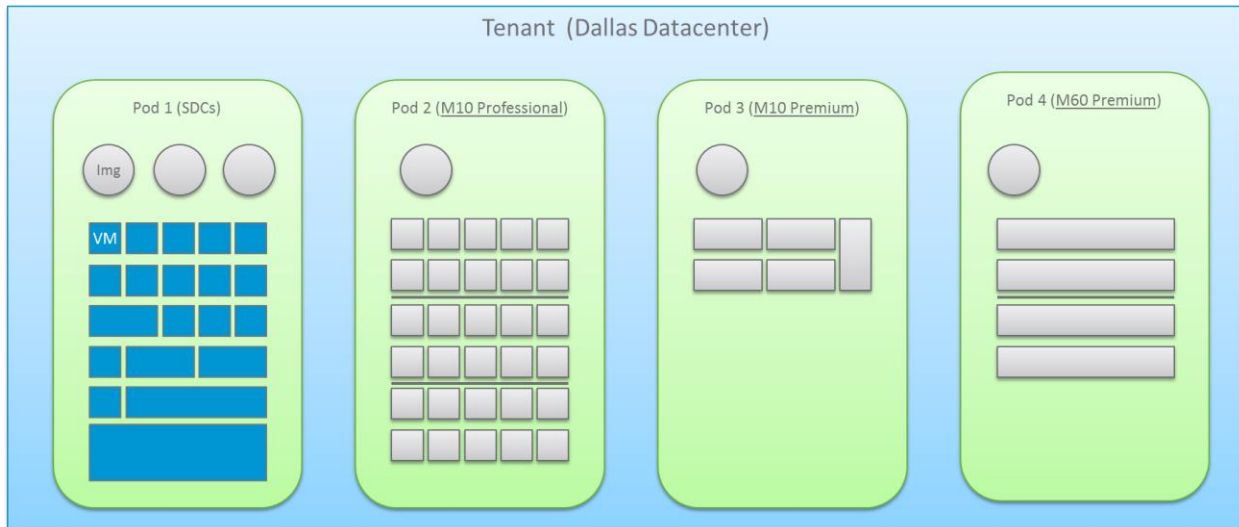
Each capacity type has a minimum purchase requirement. The following Desktop Models are available for provisioning within each vGPU capacity type:

M10 Desktop Models	vCPU	RAM (GB)	HD Storage (GB)	Graphics Mem (GB)	Segment Size
Professional	2	4	30	1	64
Premium	4	8	60	2	32

M60 Workstation Models	vCPU	RAM (GB)	HD Storage (GB)	Graphics Mem (GB)	Segment Size
Professional	4	16	120	2	16
Premium	8	32	240	4	8
Performance	16	64	480	8	4

vGPU desktops and workstations are provisioned in segments; each segment size is set forth in the table above. A pod can contain one or more segments. vGPU model capacities are not interchangeable within a segment, and cannot be mixed within a pod. Because you cannot easily modify the capacity allocated to a particular model type after it has been provisioned, it is important to size pods with vGPU models by planning how many segments each pod should contain, based on the capacity of each model's segment size. For example: if you are planning to deploy some number of standard desktops (i.e., not vGPU desktops), 192 Professional M10 desktops, 64 Premium M10 desktops, and 16 Premium M60 Workstations, you would allocate your tenant capacity as four pods, each with sufficient capacity for a model type.

As an example, see the following graphic:



If you need to re-allocate your pod capacity for a different model configuration, you may do so by contacting VMware support. For further questions regarding planning for vGPU Desktops and Workstations, consult your VMware EUC sales engineer.

**IMPORTANT NOTES:**

- vGPU desktops and workstations are exempt from the Horizon Cloud Service Level Agreement
- Use of vGPU VMs requires NVIDIA licenses. Customers are responsible for providing their own NVIDIA software licenses. See the following links more information regarding NVIDIA licensing and installation requirements:
  - <http://images.nvidia.com/content/grid/pdf/1612017-GRID-Packaging-and-Licensing-Guide.pdf>
  - <http://docs.nvidia.com/grid/latest/grid-license-server-user-guide/index.html>

**Horizon Cloud Identity Manager**

Horizon Cloud includes the VMware Identity Manager feature. With Identity Manager, you can set up single sign-on (SSO) for Horizon Cloud apps and desktops, ensure security with multi-factor authentication (including VMware Verify, VMware’s multi-factor authentication solution included in the VMware Identity Manager feature that is powered by a third party service provider), and control conditional access. If you opt to use VMware Verify, then VMware, its affiliates, and its third party service provider will have access to your personal information, including the name, phone number and email address of individual users. You are responsible for compliance with applicable laws. VMware, its affiliates and service providers will use the personal information collected through VMware Verify to provide the multi-factor authentication service. Information collected by VMware may be transferred, stored and processed by VMware in the United States or any other country in which VMware or its affiliates or service providers maintain facilities.

Use of Identity Manager within the Service Offering requires a VMware Identity Manager connector, which can be installed and managed on a customer-owned server or on a Horizon Cloud utility server (SDC cost to be determined based on server sizes required).

The Identity Manager feature within Horizon Cloud may only be used for SSO, identity federation, multi-factor authentication, and app catalog access for your Horizon Cloud apps and desktops. If you want to use Identity Manager with other apps such as Horizon 7 apps and desktops, SaaS apps, or mobile apps, please

consult with your VMWare End User Computing (“EUC”) Sales Engineer to purchase the appropriate subscription.

If you have previously purchased an Identity Manager on-premise license for general use, and the version of Identity Manager is compatible with the Service Offering, we will support use of that Identity Manager feature for your Horizon Cloud apps and desktops. Please consult with your EUC Sales Engineer regarding your planned use of your existing on-premise Identity Manager entitlement with the Service Offering.

## Horizon Cloud App Volumes

Horizon Cloud supports the use of containerized applications via VMware’s App Volumes technology. Using a separately downloadable app capture application, a customer can create containerized application bundles, which are then imported and usable with Horizon Cloud desktops. Windows 7 and Windows 10 based applications are supported by App Volumes.

Use of App Volumes requires a Utility Server and purchase of additional storage capacity in the amount of the customer’s expected usage, with consideration to how much storage the customer plans to use for the following:

- Containerized applications,
- App Volumes import file share, a file share on a local utility server dedicated to keeping a copy of all imported application bundles
- An optional network fileshare and utility server for user data and user profile settings

Note that desktop C:/ Drive storage cannot be used for App Volumes functionality.

Please consult with your VMWare End User Computing (“EUC”) Sales Engineer regarding availability of and planning for App Volumes.

## Horizon Cloud User Environment Manager

Horizon Cloud User Environment Manager (User Environment Manager) offers user profile personalization and dynamic policy configuration across Horizon Cloud’s Windows environment. User Environment Manager must be installed as a separate Utility Server VM inside the Horizon Cloud Tenant and will require a network file share to be established to save system and user settings.

User Environment Manager requires a Utility Server and purchase of additional storage capacity in the amount of the customer’s expected usage (typically between 125MB to 150MB per user).

Please consult with your VMWare EUC Sales Engineer regarding planning for usage of the User Environment Manager.

## Horizon Cloud Virtual Machine Types

Horizon Cloud supports the creation of VMs through use of Full Clone and Instant Clone-based provisioning. There are advantages and disadvantages to each type. The choice is made by the customer when base images are created. Images can only be created for use as one type (not both) and the type of VMs provisioned in a pool will depend on the image selected.

Instant Clone VMs provision very quickly (in minutes) but have the following image limitations:

- An Instant Clone image can only provision desktop instances to a single domain chosen at image publish time. If you have more than one domain, you will need an equivalent number of images even if they are identical in content.
- Only Windows 7 and Windows 10 client operating systems are supported.
- Maximum of two monitors with maximum display resolution of 2560 x 1600 pixels.
- Best used for Non-Persistent / Floating desktop use cases.
- If a customer intends to provide a “Dedicated” desktop experience, an Instant Clone desktop is



best used together with App Volumes and User Environment Manager

Full Clone VMs provision at a much slower rate and are familiar to individuals with VDI (“Virtual Desktop Infrastructure”) background as the classic Dedicated / Persistent desktop experience. Full Clone VMs can also be used for Windows Server VDI desktops as well as Remote Desktop Session Host (“RDSH”) Hosted Application Servers.

## Service Objects

The Service Offering includes the capability to access these objects:

- **Domain Binding** may be managed through the Horizon Cloud Administration Console to set up active directory, administrator roles and permissions, and end user groups.
- **Image Template** may also be managed through the Horizon Cloud Administration Console and are used as the base image from which VMs are cloned.
- **Desktop Pools** are the grouping object for VMs, Remote Desktop Session Host (RDSH) published desktops, and RDSH published applications. Pools specify which Model, Image, VM type, and other policies to apply when creating VMs. Desktop VMs can only be created as part of a pool.
- **Virtual Machine (VM)** is the computer that is accessed by the end user.
- **RDSH Published Desktops (Sessions)** are the published desktops running on hosted RDSH servers that are accessed by the end user.
- **RDSH Published Applications (Apps)** are the published applications running on hosted RDSH servers that are accessed by the end user.
- **App Volumes Application Bundles** are containerized applications for use within VDI desktops.
- **User Environment Manager** is a standalone application for managing user settings.
- **Cloud Monitoring** is used to capture and display guest VM performance and usage statistics

## 1.1 Service Portals

The Service Offering includes access to four self-service consoles:

- **My VMware Account Management Console (“My VMware™”)** provides access to subscription status, integrating navigation, incident management, viewing and management of all VMware product licenses and support under a single account.
- **VMware Horizon Cloud Administration Console (“Console”)** is the primary interface for consumption and management of Horizon Cloud, including domain binding, Image management, desktop provisioning, end user entitlement, and multi-factor authentication under the same sign-on.
- **VMware Horizon Cloud Desktop Portal** is the primary web interface for end users accessing the desktop and published apps. This interface provides browser-based access via HTML5. Users are not required to use the portal to access their desktop or app – they can do so with the VMware Horizon View clients supported on Windows, Mac, Linux, iOS, Android, and through various third-party thin and zero clients.
- **VMware Horizon Cloud Helpdesk Portal (Beta)** is a web interface for administrators with advanced prototype functionality including Console Access, VM Health Check, Remote Assistance, Usage Trends, and Custom Image Upload functions. The Helpdesk portal is delivered as a beta feature set without any support, as more particularly referenced in the Terms of Service.

VMware will also provide organization administrator access to the Horizon Cloud Application Programming Interface (API) for programmatic resource management.

## 1.2 Additional Information

### Technical Documentation and Training

Online help outlining Key Concepts with usage examples, a “Getting Started” guide, and “How To” guides for key objects are available through the Console.

### Legal Terms

Use of Horizon Cloud is subject to the VMware Cloud Service Offerings Terms of Service located at <https://www.vmware.com/download/eula.html>.

Note: As provided in Section 1.6 of the Terms of Service, any feature or functionality in the Service Offering offered on a “beta” basis: (1) is not intended for production use, (2) is provided free of charge and without any support commitment from VMware, (3) is “as is”, (4) excludes any service level commitment, and (5) is provided without any indemnification, warranty, or condition of any kind. Some beta offerings may be available on an invitation-only basis. Some beta offerings may be very early technology preview or prototypes, and may or may not be productized in the form offered for use as beta, or at all. You must contact your VMware EUC Sales Engineer or Account Executive to get further details on and availability of any beta offering.

If a particular service, feature, or functionality of the Service Offering is not expressly provided or specified in this Service Description or elsewhere in the Agreement, then it is not available, and VMware is under no obligation to provide such service, feature, or functionality.

## 2. Service Operations

The following outlines VMware’s roles and responsibilities in the delivery of Horizon Cloud. While specific roles and responsibilities have also been identified as being owned by you, any roles or responsibilities not contained in this Service Description are either not provided with the Service Offering or are assumed to be your responsibility.

VMware’s service level commitments are set forth in in the Horizon Cloud with Hosted Infrastructure Service Level Agreement document available at the following link:

<https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/support/vmware-horizon-cloud-hosted-sla.pdf>

### 2.1 Support

VMware Horizon Cloud includes support for problems that you report as related to account and desktop/application availability, and selected additional services to assist with adoption of Horizon Cloud. Support may be provided from both U.S. and non-U.S. locations, as appropriate to meet VMware’s support obligations.

Additional support information can be found at:

- SaaS Production Support Web Page:  
<https://www.vmware.com/support/services/saas-production.html>
- SaaS Support Policies:  
<https://www.vmware.com/support/policies/saas-support.html>

## 2.2 Service Provisioning

VMware will provide the following provisioning services:

- Implementation of service components (physical servers, physical storage, and physical network devices) needed to support contracted resource pools.
- Providing initial network resources including default public IP addresses.
- Providing initial capacity resources for Desktop Models (memory, processing, primary storage, and networking) and Hosted Apps Servers.
- Enabling a secure point to point network interconnect (a.k.a. backhaul) via VPN or other dedicated connection from the Horizon Cloud network (to your corporate network). Note that dedicated connectivity from your data center to VMware's port of access in VMware's data center is purchased separately from your carrier or telecommunications provider. Direct Connect from VMware's port of access to your tenant network (i.e., within the Service Offering) must be purchased separately from VMware and will have an additional monthly charge.
- Providing up to 10 VMware-approved 60GB (Professional Desktop) Images from the current Image catalog.
- Installing qualified Utility Server VMs in your VMware tenant cloud environment (see "Usage Restrictions" in Appendix A).
- Providing Utility Server for network share use with App Volumes and User Environment Manager (note: purchase of add-on storage required).
- Providing access to self-service training videos.
- Providing up to two hours of Administration Console and Desktop Portal walkthrough.
- Validating tenant setup by provisioning a desktop with a VMware-provided image template.

You will be responsible for the following provisioning services:

- Providing corporate resource assistance for establishing site-to-site network connectivity.
- Completing Active Directory domain binding.
- Customizing Image Templates.
- Creating desktop, session, native and RDSH application pools and assigning to users.
- Windows Client OS licensing (if applicable, and if so, compliance with applicable license agreements).
- Installing and configuring custom or third party applications and operating systems on Image Templates or deployed VMs.
- Creating App Volumes Application Bundles.
- Configuring and supporting User Environment Manager.
- Configuring and supporting Utility Server VMs.
- Configuring and supporting an NTP server usable by the Horizon Cloud tenant if using quad zero network routing (0.0.0.0) where all network traffic is routed via your corporate network.

## 2.3 Disaster Avoidance and Disaster Recovery

VMware will provide the following services with respect to disaster avoidance and disaster recovery:

- Data protection, such as routine backups for the Horizon Cloud infrastructure, including management and user-management interfaces owned and operated by VMware.
- Data and infrastructure restoration for the Horizon Cloud infrastructure, including management and user-management interfaces owned and operated by VMware.
- Note VMware does not provide backup or recovery for any customer managed assets such as customer provisioned Virtual Machines and Images.

You are responsible for the following services with respect to disaster avoidance and disaster recovery:

- Data protection, such as routine backups, for the data and content accessed or stored on Horizon Cloud VMs or storage devices, configuration settings, etc.
- Data, content, VM, and configuration restorations for assets accessed or stored on your Horizon Cloud account.

## 2.4 Monitoring

VMware will provide the following services with respect to monitoring:

- Monitoring the Horizon Cloud infrastructure, infrastructure networks, top-layer management and user-management interfaces, and compute, storage and network hardware for availability, capacity, and performance. VMware will also provide customers with a service summary level view of desktop model quota utilization and desktop state.
- Horizon Cloud datacenter status can be viewed at the following website:  
<http://status.horizon.vmware.com/>

You are responsible for the following services with respect to monitoring:

- Monitoring the assets deployed or managed within your Horizon Cloud tenant infrastructure, including, but not limited to inside the guest operating systems, applications, inside the guest storage utilization, dedicated network connectivity / VPN, or application vulnerabilities, etc.
- Monitoring the assets deployed within your own corporate infrastructure that are critical to Horizon Cloud tenant operations, including, but not limited to Domain Controller, Active Directory, DHCP, VPN, and user roles and permissions.

## 2.5 Incident and Problem Management

VMware will provide incident and problem management services (detection, severity classification, recording, escalation, and return to service) pertaining to:

- Infrastructure over which VMware has direct, administrative, and/or physical access and control, such as Horizon Cloud servers, storage and network devices.
- Service software over which VMware has provided the customer administrative access and control, such as the Horizon Cloud Console.
- VMware-provided operating system templates to the extent that:
  - Published templates cannot be accessed
  - Published templates cannot be used for provisioning without modification
  - Published templates cause errors at first run time

- There are substantial hangs or excessive delays in the retrieval of a template
- The configuration of a published template affects the virtual machine's interaction with the hypervisor
- Time synchronization issues (NTP) exist
- App Volumes assets to the extent that:
  - Application Stacks are not available for provisioning
  - Application Stacks are not available at run time

You are responsible for incident and problem management (e.g., detection, severity classification, recording, escalation, and return to service) pertaining to:

- Your account settings under our administrative management (domain, 2-factor authentication).
- User-deployed and configured assets such as VMs, App Volumes Application Bundles, User Environment Manager, custom-developed or third-party applications, custom or user-deployed operating systems, network configuration settings, and user accounts.
- Operating system administration including the operating system itself or any features or components contained within it.
- VPN integration.
- Performance of user-deployed VMs, App Volumes components, User Environment Manager, custom or third-party applications, your databases, operating systems imported or customized by you, or other assets deployed and administered by you that are unrelated to the Horizon Cloud Console, Horizon Cloud Desktop Portal, or the Horizon Cloud service offering.
- Anything else not under the direct control and administration of VMware.

## 2.6 Change Management

VMware will provide the following change management elements:

- Processes and procedures to maintain the health and availability of the Horizon Cloud Administration Console and Horizon Cloud service components. Please see the VMware Horizon Cloud Service Level Agreement for maintenance and downtime details.
- Processes and procedures to release new code versions, hot fixes, and service packs related to the Horizon Cloud Administration Console, and Horizon Cloud service components.
- Notifications of service upgrades required by a certain date and time and requests for scheduling of maintenance windows before that time. VMware will automatically schedule such upgrade if you fail to respond to the scheduling request or if you and VMware cannot agree on an earlier date and time before specified date and time.

You are responsible for:

- Management of changes to your VMs, App Volumes Application Bundles, User Environment Manager, operating systems, custom or third-party applications, and administration of general network changes within your control.
- Administration of self-service features provided through the VMware Horizon Cloud console and user portal, up to the highest permission levels granted to you, including but not limited to VM and domain functions, App Volumes functions, backup administration, and general account management, etc.
- Cooperating with VMware when scheduled or emergency maintenance is required.

- Scheduled maintenance is defined as pre-scheduled maintenance that has the potential to impact the availability of the customer's environment.
  - Maintenance Windows: Scheduled maintenance is generally performed between the hours of 12:00AM – 6:00AM local data center time. However, on rare occasions it may be necessary for VMware to perform maintenance outside of this window, and VMware reserves the right to do so.
  - Advance Notice: A minimum of 24 hours advance notice will be given for scheduled maintenance.
- Emergency maintenance is defined as potentially impactful maintenance activity that must be executed quickly due to an immediate, material threat to the security, performance, or availability of the Service Offering. Every attempt will be made to provide as much advance notice as possible, but notice depends on the severity and critical nature of the emergency maintenance.

## 2.7 Security

The end-to-end security of Horizon Cloud is shared between VMware and you. VMware will provide security for the aspects of the Service Offering over which it has sole physical, logical, and administrative level control. You are responsible for the aspects of the Service Offering over which you have administrative level access or control. The primary areas of responsibility between VMware and you are set forth below.

VMware will use commercially reasonable efforts to provide:

- **Physical Security:** VMware will protect the data centers housing Horizon Cloud from physical security breaches.
- **Information Security:** VMware will protect the information systems used to deliver Horizon Cloud for which it has sole administrative level control.
- **Network Security:** VMware will protect the networks containing its information systems up to the point where you have some control, permission, or access to modify your networks.
- **Security Monitoring:** VMware will monitor for security events involving the underlying infrastructure servers, storage, networks, and information systems used in the delivery of Horizon Cloud for which it has sole administrative level control. This responsibility stops at any point where you have some control, permission, or access to modify an aspect of the Service Offering.
- **Patching and Vulnerability Management:** VMware will maintain the systems it uses to deliver the Service offering, including the application of patches VMware deems critical for the target systems. VMware will perform routine vulnerability scans to surface critical risk areas for the systems it uses to deliver the Service Offering. Critical vulnerabilities will be addressed in a timely manner.

You are responsible for:

- **Information Security:** Ensuring adequate protection of the information systems, data, content or applications that you deploy and/or access on Horizon Cloud. This includes, but is not limited to, any level of patching, security fixes, data encryption, access controls, roles and permissions granted to your internal, external, or third party users, etc.
- **Network Security:** The security of the networks over which you have administrative level control. This includes, but is not limited to, maintaining effective firewall rules, exposing only communication ports that are necessary to conduct business, locking down promiscuous access, etc.
- **Security Monitoring:** Detection, classification, and remediation of all security events that are isolated with your Horizon Cloud account, associated with VMs, operating systems, applications, data, or content, surfaced through vulnerability scanning tools, or required for a compliance or certification program in which you are required to participate, and which are not serviced under

another VMware security program.

- **Compromised Desktops:** Any compromised desktops and resolving related issues. VMware reserves the right to suspend desktops or whole customer accounts if compromised desktops are detected to protect VMware's infrastructure and business operations.

## 2.8 Image Templates

VMware will provide a catalog of supported virtual desktop Image Templates that you may deploy into your Horizon Cloud environments. The deployment and use of such templates will be subject to the Third Party Terms located at <http://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/support/vmware-horizon-cloud-hosted-third-party-terms.pdf>. VMware will provide these templates, test them for quality, check for viruses, and install security patches before making them available in the Administration Console. VMware will also maintain and update these cataloged templates from time to time. You are responsible for deploying and configuring the virtual desktop Image Templates that you choose to use, activating related licenses, and maintaining compliance with such license terms.

In order to comply with VMware's legal obligations to our third-party licensors, you will not be permitted to export, download, or remove certain templates or any installed forms of certain templates for installation or use outside of the Service Offering. For more details regarding the licensing of Desktop Image Templates, please see the Third-Party Terms

You may implement or import your own Image Templates so long as you have the legal right to deploy and use the software contained in such templates.

Templates that are provided by VMware but that are infrequently used, out-of-date, or no longer supported may be removed at any time.

## 2.9 Template Upload

Horizon Cloud will allow custom templates. All templates must use Open Virtual Machine Format (OVF). Customers can coordinate with VMware to upload any custom templates. Once transfer is completed, VMware will mount the received template into the customer account, and thereafter it will be usable as an Image Template. Customers may also use the self-service image upload function available, as a beta offering, as part of the Horizon Cloud Helpdesk Console.

# 3. Business Operations

This section summarizes processes for ordering, scaling, renewing, suspending, and terminating VMware Horizon Cloud.

## 3.1 Ordering and Invoicing

### Subscription Ordering

- Initial orders for the Service Offering include core named or concurrent user licensing, Standard Desktop Capacity, Support, IP Address, and Internet Bandwidth components for a single Service Offering instance ("Service Identifier" or "SID") as described in further detail in Appendix A. The initial purchase establishes the default billing relationship that applies to all transactions for that SID for the duration of the contract; for example, if the initial order is placed through a VMware Authorized Reseller, then any subsequent payments related to that Service Identifier will be made through that Reseller. This billing relationship may be modified at time of subscription renewal.
- When you order the Service Offering, you will be required to fill out a detailed provisioning questionnaire provided to you by VMware (via email or link to the online account configuration

portal). The information you provide is required to provision your order. It is your responsibility to complete and return the questionnaire within 10 business days of submitting your order. Your subscription term and Billing Period will begin on the earlier of (i) the date the service has been provisioned or (ii) 60 calendar days after the order date (irrespective of whether you complete the provisioning questionnaire). If you do not provide a completed questionnaire, we will provision the order on a commercially reasonable basis. In that case, your subscription term will terminate one year after the beginning of the term without further extension. VMware can elect to delay the start of the Billing Period at our discretion, and we will notify you via email if such action is taken. via email if such action is taken.

- Additional capacity or services, such as additional Hard Disk Storage, may be purchased at the time of your initial order or through the My VMware portal at any time during the subscription term. Additional terms and fees may apply to such additional services. Those additional orders will terminate concurrently with the term of the initial order.
- Account changes to capacity can be made by ordering additional capacity or services any time before the end of the contracted term.
- Changes to the VMware Authorized Reseller associated with a SID may be made at the time of renewal by contacting VMware.
- Service capacity reductions must be coordinated with VMware at the time of subscription renewal and will require a new order for the reduced Service Offering capacity. However, if the capacity associated with your reduced Service Offering order is less than the capacity required to sustain your then-current workloads, VMware will continue to bill you for the excess capacity at the then current rates until you have released the excess capacity and VMware has reclaimed it. Reduction orders must be submitted to VMware a minimum of 30 calendar days prior to the date of subscription renewal. Reduction orders on subscription terms less than 12 months must be submitted to VMware a minimum of five calendar days prior to the date of subscription renewal.
- Order contents are not considered available for use until fulfillment is fully acknowledged by VMware.

## Invoicing

- If you purchase the Service Offering directly from VMware, VMware will invoice you for all ordered services within thirty (30) business days after the beginning of each Billing Period. If you purchase the Service Offering through a VMware authorized reseller, the reseller will invoice you as mutually agreed between you and the reseller.
- Plan Charges, as defined in Appendix A, will be invoiced by VMware for the then-current Billing Period unless you choose a prepaid Service Offering SKU, in which case you will be billed for the ordered subscription term. If the Service Offering is not provided for the entire Billing Period, then the fees for such period will be prorated (a) from the day the Service Offering was first provided through the end of the Billing Period, or (b) from the beginning of the Billing Period through the last day in the Billing Period on which the Service Offering was provided, as appropriate.

## 3.2 Add-On Capacity

Add-on capacity (such as additional Standard Desktop Capacity and storage) may be purchased at any time to meet new or expanded requirements.

- Additional desktop capacity and storage may be added via the My VMware portal or by issuing a purchase order to VMware or to your authorized VMware reseller.



- The subscription term for add-on capacity or services will be set to terminate at the same time as the core subscription term for the SID.

### 3.3 Renewal

VMware reserves the right to not renew any SID at the end of its subscription term, in which case we will notify you 30 days prior to the end of the subscription term. Renewal options for each SID may be selected using the My VMware administrative portal.

#### Auto-Renewal (the default setting)

Except as set forth in this Section 3.3, each SID will automatically renew using the current configuration and the existing subscription term duration. The then-current SKUs and pricing, based on the applicable price list at the time of renewal, will be applied to the renewal term. You may opt out of auto-renewal by changing your renewal option setting for the SID within the My VMware Portal available at <https://my.vmware.com>. The deadline to change the renewal option is 30 days prior to the last day of the current SID subscription term.

#### Modify Subscription Service at End of Term

If you select the renewal method “Modify”, you will be contacted prior to the end of the SID subscription term to discuss your renewal options. Selecting “Modify” as the renewal method setting allows you to modify your Service Offering configuration and to make changes to your reseller relationship, if applicable, by both changing your setting for the SID within the My VMware Portal available at <https://my.vmware.com> and issuing a new purchase order. If you do not make any changes to your current SID profile and/or you do not issue a new purchase order for the new Service Offering to VMware or to your VMware authorized reseller (if applicable) by the deadline specified below, then your existing SID, as then currently configured, will automatically renew. If you purchase the Service Offering through a VMware authorized reseller, a manual renewal is the only time you may elect a change in your reseller relationship for that specific SID. The deadline to change the renewal option is 30 days prior to the last day of the current SID subscription term.

#### Terminate at End of Subscription Term

You may terminate your existing SID subscription by changing your setting for the SID within the My VMware Portal (available at <https://my.vmware.com>) to “Cancel”. When this option is set, your access to the Service Offering will expire at the end of the SID subscription term. The deadline to select the termination option is 30 days prior to the last day of the current SID subscription term.

### 3.4 Suspension and Re-Enablement

- During the time a SID is suspended by VMware for delinquent payment or any other reason as set forth in the Terms of Service, VMware will restrict access to all SIDs and block all traffic across their Public IP addresses. VMware will retain SIDs with configurations and data intact until the issue is resolved or the subscription expires or is terminated.
- SID re-enablement will be initiated immediately upon resolution of the account issues that led to suspension; access to the Service Offering and traffic across IP Addresses will be restored.

### 3.5 Termination

- Full termination of an SID due to contract expiration, termination, cancellation, or any other cause will result in permanent loss of access to the environments, discontinuation of account services, and a deletion of such environments, configurations and data pursuant to applicable VMware policies.
- Data from a terminated SID will not be retained by VMware beyond termination date of such SID.

### 3.6 Early Termination

Horizon Cloud monthly-paid subscriptions with an initial term of 12 months or more are eligible for early termination. Horizon Cloud annually-paid subscriptions with an initial term of 24 months or more are eligible for early termination. Prepaid subscriptions are not eligible for early termination. Add-ons are eligible for early termination only to the extent that the underlying core subscription is also terminated. Any early termination is effective only after the first three months of the applicable subscription term, and only upon advance notice to VMware. You also must pay a fee equal to one month of contracted subscription fees (including add-on fees) for every 12-month period (or portion thereof) remaining on your Subscription Term as of the effective termination date. For example:

Months Remaining on Subscription Term at Effective Termination Date	Early Termination Fee Amount	Eligible Plans
Less than 12 months	Equal to 1 month of contracted subscription fees (including add-on fees)	Monthly
At least 12 months, but less than 24 months	Equal to 2 months of contracted subscription fees (including add-on fees)	Monthly Annually
At least 24 months, but less than 36 months	Equal to 3 months of contracted subscription fees (including add-on fees)	Monthly Annually

To give the required notice for the SID you want to terminate, please contact the VMware Global Support and Services team by filing a Support Request in the My VMware Portal, at <https://my.vmware.com>.

You must provide 30 to 60 days advance notice. The termination (the last active day for your SID) will be effective on the last day of your next subscription Billing Period.

- For example, if your subscription Billing Period ends on the 15<sup>th</sup> of each month (please note that this may be different from your billing date), you must notify us by April 15<sup>th</sup> to terminate your SID effective May 15<sup>th</sup>; if notice is provided on April 16<sup>th</sup>, the SID will be terminated effective June 15<sup>th</sup>.

## Appendix A – Ordering

This Appendix A to the Service Description outlines the components that may be purchased by the Customer in its initial or subsequent orders.

### Definitions:

“Application Stacks” or “Application Bundles” are containerized applications that can be entitled to users accessing a VDI Session.

“Bandwidth” is the network connectivity from your Horizon Cloud to the public Internet using VMware’s Internet service providers. Bandwidth is consumed when data is either transferred or received by your purchased class of service.

“Billing Date” is the date when VMware will periodically bill for the Service Offering. Billing Dates will occur monthly unless otherwise indicated.

“Billing Period” is the period for which the customer is being billed for use of the Service Offering. Billing Periods are monthly and are related to the provisioning of your SID, unless otherwise indicated.

“Dedicated Desktop” is a desktop that retains user entitlements to that desktop as well as any changes done to that desktop’s operating environment by the user from one session to another.

“Desktop Model” is a bundle of compute, memory, storage and bandwidth capacity that consists of a multiple of Standard Desktop Capacity and that can be instantiated as a desktop. For example, a desktop model may have twice as much resources as a Standard Desktop Capacity.

“Core Components” are Desktop Models that include a public IP Address and support, and storage for 10 Image Templates.

“Floating Desktop” is a desktop that does not retain any changes from one session to another.

“Graphical Workstation Desktop Capacity” is a fixed bundle of compute, memory, storage, vGPU memory and bandwidth capacity that can be instantiated as a desktop.

“Image Templates” are master images that can be modified in the Administration Console and that are used to create virtual desktops.

“IOPS” (pronounced “eye-ops”) means Input/output operations per second, and is a performance measurement used to characterize computer storage devices like hard disk drives (HDD), solid state drives (SSD), and storage area networks (SAN).

“IP Addresses” are used to provide connectivity from the public Internet.

“LUN” in computer storage, is a logical unit number used to identify a logical unit, which is a device addressed by the SCSI protocol or Storage Area Network protocols which encapsulate SCSI, such as Fiber Channel or iSCSI

“NAT” is a method of remapping one IP address space into another by modifying network address information in Internet Protocol (IP) datagram packet headers while they are in transit across a traffic routing device.

“Plan Charges” are those Service Offering components that you have committed to purchase and are recurring during the subscription term without regard to use. These charges will be invoiced for the then-current Billing Period as described in Section 3.1 of this Service Description.

“Pod” is a logical boundary unit within a tenant instance. Each tenant has one or more pods. Each pod contains capacity, images, and pools that are provisioned from these images. Customers with large tenants containing multiple pods can request that images be synced automatically across all pods in the tenant. Pods can contain up to 2,000 VDI and RDSH-provisioned VMs, and can contain up to 4,000 SDC units.

“Published Application” is an application running on a remote server but being accessed and used on a local user device as if it were running locally. What is happening is the application screen is being streamed back to the user’s local device, and the user’s interactions are being streamed back to the remote application.

“Standard Desktop Capacity” is a fixed bundle of compute, memory, storage and bandwidth capacity that can be instantiated as a desktop. A core order consists of a quantity of Standard Desktop Capacity as defined below.

“Storage” contains block level VM capacity surfaced to you through your purchased class of service. Storage is ordered in the increments defined below. Storage usage is intended for core operating system and applications only.

“Support” is the service delivered by VMware as set forth at <https://www.vmware.com/support/policies/saas-support.html>.

“Terminal Services” (known as Remote Desktop Services (RDS) in Windows Server 2012 and later) is a component of Microsoft Windows that allows a user to take control of a remote computer or virtual machine over a network connection.

“Third-Party Licenses” are those licenses for third-party software that are made available to you as optional services (either through the Service Catalog or otherwise).

## Ordering Core and Add-On Components

A Horizon Cloud with Hosted Infrastructure subscription is comprised of two categories of SKUs: (i) a Core SKU and (ii) add-on SKUs. Each subscription account must contain one core SKU, with the remaining SKUs being add-ons.

For Horizon Cloud, the core SKU is a user licensing SKU, which can be either a named user or concurrent user subscription entitlement for a particular term (i.e., 1, 12, 24, or 36 months). The user entitlement governs how many **unique** users (named) or **concurrent** user sessions (concurrent) can access VDI and / or RDSH workloads on a single tenant account within the Service Offering. The user license SKU can be used either with this Service Offering or with Horizon Cloud with On Premises Infrastructure service offering. How many licenses are used with this Service Offering must be provided to VMware at deployment time or future add-on purchase time.

The two service classes of user licenses are:

1. **Horizon Cloud Apps:** provides the customer rights of use for RDS Published Apps, RDS Published Desktops, and User Environment Manager,
2. **Horizon Cloud:** Includes Horizon Cloud Apps and adds Full Clone and Instant Clone VDI Desktops, and App Volumes Appstacks.

Add-on SKUs can be purchased for additional user license quantities, upgrading from Horizon Cloud Apps to Horizon Cloud service class, as well as cloud capacity SKUs such as SDC, M10, M60, Storage, and network options (e.g., Direct Connect). Add-on SKUs purchased together with the core SKU will have the same subscription term as the related core licensing SKU; if purchased after the core SKU, they will expire concurrently with the core SKU.

As an example only, a new customer order could look as follows:

- 1 Core Horizon Cloud Concurrent User Entitlement (50 users)
- 5 Add-on Horizon Cloud Concurrent User Entitlement (10 user) (that is, an additional 50 users)
- 200 Add-on Standard Desktop Capacity units
- 3 Add-on 1TB Add-on Storage

Core and add-on components are ordered for specific subscription terms. Each component will be invoiced and payable monthly, or invoiced and payable as a lump sum if a prepaid Service Offering subscription is

ordered. One core licensing SKU must be ordered for each set of SKUs under the same order (subscription duration, discount level, etc). Separately, each tenant instance must have a minimum capacity of 400 SDC 16 M60 Workstation Capacity units or 64 M10 Desktop Capacity units.

For example, a customer that has three tenants -- West Coast Production, East Coast Production, and East Coast Staging -- will require at least one core licensing SKU and 1200 SDC SKUs, 400 SDC for each tenant. (Note that SKUs are defined at the region level, not at the data center level.) A region may contain one or more data center locations.

When purchased with Standard or Graphical Workstation Capacity, each tenant comes with the following standard options:

- IP Addresses: one public IP Address for access to the Administration Console and Desktop Portal/Broker
- Bandwidth: Each account is provided an aggregate bandwidth amount equal to the sum of desktop peak bandwidths as totaled from the standard desktop capacity quantities ordered<sup>1</sup>. Average expected bandwidth is also listed for each model for customer remote site bandwidth planning purposes.
- Support: 24x7 Production Support

### Standard Capacity Desktop Models

In order to provision desktop or remote application VMs, the customer must decide which Desktop Model to use, which governs how much CPU, Memory, and Hard disk is allocated to such VMs, as well as potentially advanced option availability such as Soft3D. Each VM instantiated consumes one or more Standard Desktop Capacity (SDC) units as specified below.

Desktop Model	Value	Professional	Premium	Performance	Hosted Application Server
vCPU	1	2	4	8	8
vRAM (GB)	2	4	8	16	16
vHDD (GB)	30	60	120	240	240
Average IOPs	20	40	80	160	160
Average Bandwidth (Kbps)	100	500	500	500	500
Peak Bandwidth (Kbps) per Core Size e.g. 50	1000	2,000	2,000	2,000	2,000

<sup>1</sup> Example: An account with 150 standard desktop capacity will have 150Mbps of total aggregate bandwidth available for all the account's desktops

Desktop Model	Value	Professional	Premium	Performance	Hosted Application Server
Soft3D Available	No	Yes	Yes	Yes	No
Workload Type	VDI	VDI	VDI	VDI	Published Desktops and/or Apps
Windows 7,8 Client OS	Yes	Yes	Yes	Yes	No
Windows 10 Client OS	Yes <sup>2</sup>	Yes	Yes	Yes	No
Windows Server OS	Yes	Yes	Yes	Yes	Yes
Standard Desktop Capacity	1	2	4	8	8

Due to service improvements and performance tuning, VMware reserves the right to modify the Hosted Apps Server specifications and quantities so long as the total capacity of Hosted Apps Servers purchased is of equal to or greater than the specification in this Service Description. Customers who provisioned an older specification of the RDSH server will be required to rebuild their pools to take advantage of the new specification, as mixed RDSH server specifications are not supported in a single tenant. Customers can still purchase the new specification SKUs and provision the old specification so long as equivalent resources (compute, memory, storage) were purchased for provisioning under the retired specification.

Notes: Soft3D may only be used with compatible guest OS versions. vCPU performance is not restricted within each VM. vCPU is instead used as a factor in determining host density based on average consumption of 350Mhz per vCPU. Individual VMs are allowed to burst above 350 MHz per vCPU in order to ensure optimal aggregate performance. This could lead to potential resource contention and end user experience degradation on affected VMs. It is the customer's responsibility to ensure their VMs are properly sized to the appropriate desktop model to ensure sufficient resources are available to all VMs.

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<sup>2</sup> Please note: Value desktops are not recommended to run Microsoft Windows 10 due to the amount of base memory consumed by the OS leaving very little additional memory available for applications without a severe performance degradation.

## Graphical Workstation Capacity Desktop Models

In order to provision graphical workstation VMs, the customer must decide which model to use; that governs how much CPU, Memory, and Hard Disk capacity is allocated to those VMs. Each VM instantiated consumes one or more M10 Desktop Capacity units or M60 Workstation Capacity units as specified below.

Desktop Model	M10 Professional	M10 Premium	M60 Professional	M60 Premium	M60 Performance
vCPU	2	4	4	8	16
vRAM (GB)	4	8	16	32	64
vHDD (GB)	30	60	120	240	480
vGPU (GB)	1	2	2	4	8
Average IOPs	20	40	80	160	320
Average Bandwidth (Kbps)	500	500	500	500	500
Peak Bandwidth (Kbps) per Core Size e.g. 50	2,000	2,000	2,000	2,000	2,000
Workload Type	VDI	VDI	VDI	VDI	VDI
Windows Client OS	Yes	Yes	Yes	Yes	Yes
Windows Server OS	Yes	Yes	Yes	Yes	Yes
M10 Capacity	1	2	NA	NA	NA
M60 Capacity	NA	NA	1	2	4

Due to how vGPU is associated with VMs, customers must specify (at the time of tenant deployment) the workstation models they plan to use, and allocate units of capacity to those models in multiples of 16 M60 or 64 M10 units. Once operational, changes to this configuration can be requested by submitting a support request to VMware.

See Appendix C for Guest VM compatibility details.

## Add-on Storage

In order to use certain Horizon Cloud capabilities such as App Volumes, customers will need to purchase add-on storage. Add-on Storage can be purchased in 1 Terabyte increments and allocated in 1, 2, 4, 8, and 12 TB LUNs. For planning and budgeting considerations, add-on storage intended for use with App Volumes requires that storage LUNS be of the same size. This does not apply to add-on storage used for file share (or other utility) services. Add-on storage performs at 1.5 IOPS per gigabyte.

## Fees and Charges

When you order directly from VMware, we will invoice you based upon the fees listed in VMware's then current applicable price list, or as otherwise provided in the order. When you order from a VMware authorized reseller, that reseller will invoice you based upon its price list or as otherwise agreed with you.

Orders that add services or capacity to an existing SID may be direct with VMware or a placed with your reseller depending on how the original SID order was placed. and the subscription term(s) for such additional services or capacity will be coterminous with the end of the SID subscription period. That is, if a reseller is already billing you for the SID, then your order for additional services or capacity will also be placed through that reseller, and the price that you agree to pay and other applicable terms will be as agreed with that reseller.

## Usage Restrictions

### Minimum Tenant Location Capacity

Each Horizon Cloud tenant location must be allocated a minimum of 50 SDC or 16 WDC units irrespective of whether the tenant locations are in the same or different data centers. For example, purchasing 200 SDC units entitles you to request, at most, four different tenant location instances in one or more data centers provided each location has 50 SDCs assigned. Under this example you may, for instance, request a staging tenant in data center 1 with 50 SDCs, a production tenant in data center 1 with 75 SDCs, and another production tenant in data center 2 with 75 SDC units assigned.

### Utility Servers

Horizon Cloud utility VMs are intended for use with desktop and Terminal Services applications in direct support of the VDI and remote application service delivery functions. An exception is made for customers that wish to use a VM instance as a utility server (such as domain controller, active directory server, DHCP relay or file server). Anti-virus and OS lifecycle management tools (such as SCCM) are also allowed in limited quantities but not recommended due to their transactional nature and potential adverse impact on the performance of desktop VMs. To protect the integrity of the Service Offering, VMware reserves the right to limit the resources available to the utility server, or to require the customer to upgrade the utility server specification (by consuming additional SDC units), or ultimately to remove the utility server from the tenant environment. Utility servers have the following administration limitations:

- They will be initially deployed by VMware by using an existing catalog image or customer-provided image
- All utility servers must fit within the specification of an existing desktop model specification.
- All utility servers must be compatible with the underlying ESX host version on which they will be deployed. Maintaining OS compatibility through ESX host upgrades is a customer responsibility.



- Utility Servers can only be deployed with a single Network Interface Card (NIC).
- Max E:/Drive size per Utility Server is 12TB
- E:/Drives can only be allocated in 1,2,4,8, and 12TB sizes
- The utility servers can only be accessed either internally from the customer environment or via the Helpdesk Portal
- The utility servers can only be administered by an authorized customer administrator accessing the VM directly via remoting protocol or via built in web application running on the server
- There is no ability to customize the utility servers' deployment configuration with regards to networking, availability, load management, infrastructure performance or business continuity
- Number of Utility Servers allowed:
  - Up to 200 SDC units: 2
  - Up to 1,000 SDC units: 5
  - Plus one additional Utility Server for every additional 1,000 SDC units purchased.
  - These numbers do not include utility servers specifically used with App Volumes or User Environment Manager.
- The following are not supported for Utility Servers:
  - Load balancing, NATs, or custom firewall rules: Utility servers are intended to run applications that support cloud desktop deployments. They are not designed to support server applications that require public internet access or advanced infrastructure configurations.

One VM in the tenant environment may be used as a utility server (with a Professional Desktop VM specification) without drawing from the SDC quota purchased. Any increases to the free utility server or additional utility servers will count towards the desktop quota purchased by subtracting the total CPU and memory resources consumed for utility service as expressed in terms of whole number of desktops from the total VMs purchased.

Except for approved utility server functions, any use of server-based applications or transactional applications is not supported and may interfere with performance and user experience. Utility servers may not intercept network communications between the provisioned VMs and platform components. Encrypted hard disks are not allowed within the Horizon Cloud VM environment. Customers that need secure disk services should consider redirecting user data to their data center or should purchase a separate IaaS cloud instance and deploy an encrypted file server for user data.

## Load Testing

Customer load testing (such as automated or manual login stress tests) is prohibited without prior approval from and coordination with VMware. Customers who wish to perform such tests must submit a support ticket and coordinate the planning of such tests with VMware to ensure minimal interference with performance and user experience.

## SMTP Port 25

VMware will not allow port 25 egress out of the VMware-provided internet connection. TCP Port 25 (usually used for SMTP) is subject to egress filtering and not allowed for usage with no exceptions. A customer can use port 25 on VPN or Direct Connect.

## Network Management

Customer will not have access to Horizon Cloud edge (router) appliance and any ability to configure or customize the firewall and network address translation rules set and managed by VMware.

Dedicated connectivity active/passive redundancy (via BGP only) is supported, but the customer will have to choose which link is active and which link is the backup, and also will be responsible for configuration to accomplish auto-failover of link in case of active link down.

Customers may request up to 10 desktop networks to be available in the tenant environment and up to 10 VPN connections to that tenant.

In-guest VPN usage is not allowed and will block VMs from being accessible by end users.

## Appendix B - Summary of items included and available for purchase separately

Included in Horizon Cloud:

- Infrastructure for desktops, hosted apps servers and images (based on SKUs ordered)
- Up to ten 60GB VMware image templates per account
  - Choice from Microsoft Windows 7, Windows 8.1, Windows 10, Windows Server 2008 R2, Windows Server 2012 R2
- One time walkthrough of administration console (two hours) at account setup
- Optional:
  - SKUs:
    - Additional storage in 1TB increment for use with utility servers, User Environment Manager, and App Volumes assets
    - Direct Connect for dedicated connectivity bridging
  - Services included:
    - One VM to serve as a utility server (such as: domain controller, DHCP relay, or file server)
      - Sized to Professional Desktop specification
      - Additional utility servers can be created but will consume desktop quota equal to the total amount of vCPU/Memory used by the utility servers.
    - One time VPN and network configuration per Horizon Cloud data center location setup

Available for purchase separately through *VMware Professional Services*; not included in the Horizon Cloud core or add-on SKUs:

- Onboarding Services
  - Horizon Cloud Bronze Professional Service Offering
    - VPN Setup with Horizon Cloud
    - Domain Bind and Join with Horizon Cloud
    - Conversion of Desktop Images into Gold Pattern
    - Creation of Desktop Pools and assignment to end users
    - Assistance with low-complexity applications
    - Knowledge Transfer on all Horizon Cloud Portals
    - Install and Configuration of VMware User Environment Manager (UEM)
    - Functionality validation with customer
  - Horizon Cloud Silver Professional Service Offering
    - Everything in Bronze & the items below
    - AppCapture with App Volumes and Appstack delivery with Horizon Cloud
      - Integration of existing Workspace ONE environment with Horizon Cloud
  - Advanced Onboarding Assistance (SKU: CON-HZAIR-ADVON)
    - Recommended for successful proof of concept and production deployments of up to 50 end users
  - Horizon Cloud Production Integration & Deployment Service (PSO Custom Quote)
    - Recommended for successful proof of concept and production deployments of 200-2,000 end users
- Project Management
- Use Case Assessment & Definition
- Desktop Engineering and Image Management
- Miscellaneous professional services requests

Additional services available for purchase from *third parties* that may be required to complete the setup of the Service Offering:

- Dedicated connectivity service from customer's data center to VMware's data center (up to four connections supported per location)
- Direct Connect setup inside the Service Offering data center to Horizon Cloud tenant instance

## Appendix C - Horizon Cloud Guest OS Compatibility Table

Horizon Cloud supports the use of the following Windows operating systems on virtual machines hosted within Horizon Cloud.

Operating System	Patch / SP	32 / 64 bit	Additional Variants / Specs	VDI / RDSH	Instant Clone Capable	App Volumes Capable
<b>Win7</b>	Base / SP1	Both	Professional / Enterprise	VDI	Yes	Yes
<b>Win 8.1</b>		64	Professional / Enterprise	VDI		
<b>Windows 10</b>	See knowledge base link below for latest version support	64	Professional / Enterprise	VDI	Yes	Yes
<b>Win Server 2008 R2</b>	SP1	64	Datacenter Edition	Both		
<b>Win Server 2012 R2</b>		64	Standard, Data Center	Both		
<b>Win Server 2016</b>		64	Standard, Datacenter	Both		

Supported languages are English and Japanese. Supported language packs are French, French Canadian, and German.

For supported build versions of Microsoft Windows 10, see: <https://kb.vmware.com/s/article/2149393>

## Appendix D – Microsoft Licensing Recommendations

The following are recommendations only. Please verify licensing requirements and restrictions with your Microsoft Licensing distributor.

Horizon Cloud does not provide any guest OS licensing required for the full use of the Horizon Cloud solution. All necessary Microsoft licenses for operating Horizon Cloud Desktops and Hosted Apps Servers are available from the customer's preferred Microsoft Licensing distributor.

Microsoft windows 7, 8.x, and 10 OS licensed guest VMs require Microsoft Virtual Desktop Access (VDA) subscription license or Microsoft Software Assurance for Windows.

Windows Server VMs used for either VDI desktops, RDSH servers or utility services must use Windows Server OS licenses. For VDI and RDSH workloads, customers are advised to bring one Windows Server Datacenter Edition for two Processors or 24 Cores (whichever is applicable to the customer's windows server version) for every 150 Value desktops, 75 Professional desktops, 37 Premium desktops, 18 Performance desktops, or 18 Hosted Apps Servers. In every host cluster, there is one host reserved for High Availability, irrespective of how little the customer purchases. As an example, if a customer purchases a 100 Standard Desktop Capacity unit, even though that capacity fills up less than a single host, Horizon Cloud will still deploy two hosts. Consequently, up to and for every 12 host licenses, customers must include an additional license of the same type and capacity for High Availability Host. In addition, customers are required to bring one Remote Desktop Service (RDS) Customer Access License (CAL) for each user who will access a Windows Server VDI VM or Hosted Apps Server. For customers planning to use only a few Windows Server VMs as utility services, please provide sufficient licensing (Standard or DC Edition) for a minimum of two hosts. Please consult with your deployment services representative for complete details on the number of hosts and VMs that you are required to license from Microsoft.

Please note: as Horizon Cloud supporting hardware and Microsoft Licensing policy may change over time, you must check with Horizon Cloud customer services for the latest recommendations.

## Appendix E – Service Offering Feedback

We love hearing from our customers! If you would like to share your successes, difficulties, or other ideas on how we can improve the service, log into the Admin Console, click on the Help icon in the top right of the screen, and then “Give Feedback”.

