

CenturyLink Service Guide

Dedicated Cloud Compute

This Service Guide (“SG”) sets forth a description of the Dedicated Cloud Compute service offered by CenturyLink, including technical details and additional requirements or terms. This SG is subject to and incorporated into the Agreement and Hosting Service Schedule between the parties. The specific details of the Service ordered by Customer will be set forth on the relevant Service Order. For avoidance of doubt, any references in the Agreement, Schedule, or Service Orders to SSG, shall mean SG.

Version	Previous	Section Modified	Date
CLO-SG-Dedicated-Cloud-Compute-021119	CLO-External-SG-Dedicated-Cloud-Compute-021918	Updated multiple sections	February 11, 2019

Table of Contents

CenturyLink Service Guide	1
Dedicated Cloud Compute	1
.....	1
Dedicated Cloud Compute	4
Service Description	4
Dedicated Cloud Compute Nodes	4
Intel v4 Dedicated Cloud Nodes (VIH Nodes) HP DL-Gen9 Series Standard Server Configurations	5
Dedicated Cloud Nodes (VIH Nodes) RAM Options HP DL-Gen9—Standard Memory Configurations	6
Dedicated Cloud Compute Instances	6
Customizable Dedicated Cloud Compute Instance Configuration	6
Storage for Dedicated Cloud Compute Instances.....	7
Dedicated Cloud Compute Instance Failover Service.....	7
Dedicated Cloud Compute Dynamic Resource Scheduler	7
Service Description.....	8
Dedicated Cloud Compute – Node VMware Operating System.....	8
Dedicated Cloud Compute Integration with the Portal.....	8
Cloning Live Virtual Machine (“VM”) Instances and Cloning to Template.....	8
Managed Applications for Dedicated Cloud Compute Instances	10
Domain Name Service (DNS) and IP Addresses	10
Monitoring	10
Software and Security Patch Deployment.....	11

Hot-Fixes and Patches	11
Operating System and Managed Application Software Upgrades	11
User Privileges	12
Unix-Based Servers.....	12
Hosting Area Network	12
Available VLAN Options	13
URL, TCP and ICMP Monitoring	14
URL Check Options	14
Dedicated Cloud Compute Onboarding Service	14
QuickStart Onboarding Services	14
Definitions.....	18

Dedicated Cloud Compute

Service Description

Dedicated Cloud Compute is a Managed Hosting product that provides services on dedicated server hardware. CenturyLink provides the infrastructure including space and power, compute resources, virtualization operating system license, instance operating system license, hosting area network connectivity, use of Utility/Unified Storage (as described herein), management and monitoring of the server instance and infrastructure, and use of Dedicated Cloud Compute Portal ("Portal") for management and automated instance provisioning. The Service Level Agreement ("SLA") for this service is covered by the "Managed Hosting Services" SLA Attachment.

Dedicated Cloud Compute Nodes

A Dedicated Cloud Compute Node (also known as Virtual Intelligent Hosting ("VIH") Node) is defined as a dedicated, managed server as well as licensing, monitoring and management of the Virtualization Operating System (VMware®). Dedicated Cloud Compute Nodes are built upon the HP ProLiant rack mount servers. Traditional server nodes are available in various configurations.

Intel Skylake Dedicated Cloud Nodes (VIH Nodes) HP DL-Gen10 Series and HP DL-Gen9 Standard Server Configurations

HP Server	# of CPUs	Processor Type	Disk Drives	Network Interface
DL360 gen10	2	2.2 GHz 28-Core Intel® Xeon® P-8176 2.2 GHz 22-Core Intel® Xeon® G-6152 2.0 GHz 20-Core Intel® Xeon® G-6138 2.3 GHz 18-Core Intel® Xeon® G-6140 2.1 GHz 16-Core Intel® Xeon® G-6130 2.1 GHz 14-Core Intel® Xeon® G-5120 2.1 GHz 12-Core Intel® Xeon® G-5118 2.2 GHz 10-Core Intel® Xeon® S-4114 2.3 2.2 GHz 8-Core Intel® Xeon® S-4110	2 x Drives in Raid-1 Configuration to Host VMWare OS	Dual 8 Gbps Fibre Channel Dual 1 Gbps Ethernet for Data; Dual 1 Gbps Ethernet for Management Additional Network Interface Cards ("NICs") can be added
DL560 gen10	4	2.2 GHz 28-Core Intel® Xeon® P-8176 2.2 GHz 22-Core Intel® Xeon® G-6152 2.0 GHz 2-Core Intel® Xeon® G-6138 2.3 GHz 18-Core Intel® Xeon® G-6140 2.1 GHz 16-Core Intel® Xeon® G-6130 2.1 GHz 12-Core Intel® Xeon® G-5118 2.2 GHz 10-Core Intel® Xeon® S-4114	2 x Drives in Raid-1 Configuration to Host VMWare OS	Standard option for 10 GigE NICs
DL580 gen9 (SAP HANA)	4	2.2 GHz 24-Core Intel® Xeon® E7-8890v4 2.2 GHz 22-Core Intel® Xeon® E7-8880v4 2.3 GHz 18-Core Intel® Xeon® E7-8880v3	2 x Drives in Raid-1 Configuration to Host VMWare OS	Dual 8 Gbps Fibre Channel 10 GigE NICs only Requires Dedicated 10 GigE Switches

Dedicated Cloud Nodes (VIH Nodes) RAM Options HP DL-Gen10 and Gen9— Standard Memory Configurations

HP Server	64 GB	128 GB	256 GB	384 GB	512 GB	768 GB	1024 GB	1536 GB	2048 GB	3072 GB	4096 GB
DL360 gen10 (8/10/12/14/16/18/20/22/28 - Core) – DDR4 2666 MHz RAM	x	x	x	x	x	x	x				
DL560 gen10 (10/12/16/18/20/22/28 - Core) – DDR4 2666MHz RAM	x	x	x	x	x	x	x	x	x		
DL580 gen9 (18/22/24 - Core) – DDR4 2133 MHz RAM							x	x	x	x	x

Dedicated Cloud Compute Instances

Dedicated Cloud Compute Instances (also known as Virtual Intelligent Hosting Instances) are instances of CenturyLink managed operating systems where CenturyLink provides operating system licensing, installation, management and monitoring of CenturyLink standardized operating system builds.

Customers approve operating system patch or service pack upgrades that may impact their applications, before patches or upgrades are added to their Dedicated Cloud Compute Instances. Customers may place as many Dedicated Cloud Compute Instances on their Dedicated Cloud Compute Nodes as feasible; however, CenturyLink recommends that customers do not oversubscribe more than 200% of the available memory across a Dedicated Cloud Compute Node.

Each Dedicated Cloud Compute Instance has equal priority for access to hardware resources on the Dedicated Cloud Compute Node. Each Dedicated Cloud Compute Node requires at least one Dedicated Cloud Compute Instance or managed operating system.

Customizable Dedicated Cloud Compute Instance Configuration

From 1 to 32 vCPU Cores	vRAM is configurable from 2 to 64 GB from the Portal
--------------------------------	---

- **ESXi 5.1 is allowed a max of 32 vCPU per VM, ESXi 5.5 is allowed a max of 64 vCPU per VM and ESXi 6.0 and ESXi 6.5 allows a max of 128 vCPU.**
- **Larger vRAM VMs can be built manually if the Node configuration has 10 GigE NICs.**

Storage for Dedicated Cloud Compute Instances

No storage for the Dedicated Cloud Compute Instances is available via the Utility/Unified Storage service unless customer purchases such storage separately to provide storage for Dedicated Cloud Compute Instances. Information on the Utility/Unified Storage service is contained within the *Utility or Unified Storage Services* sections of the *Service Guide*.

Dedicated Cloud Compute Instance Failover Service

For customers that purchase more than one Dedicated Cloud Compute Node in a failover group, should a hardware failover occur with a Dedicated Cloud Compute Node, the Dedicated Cloud Compute Instances will automatically be restarted and distributed across the other available nodes within the failover group. Failover groups can be configured with up to 16 Dedicated Cloud Compute Nodes. Instances on a node can only fail over to other nodes within the defined failover group. Once the failed node is restored and confirmed as stable by CenturyLink Operations, instances may be redistributed across the nodes. The instance redistribution is automated via the Dedicated Cloud Compute Dynamic Instance Balancing capability. The speed of the failover is a function of available resources on the remaining nodes within the failover group.

Dedicated Cloud Compute Dynamic Resource Scheduler

Customers that choose to have the same Dedicated Cloud Compute Node type and CPUs and have more than one server within a failover group will be able to use Dynamic Instance Balancing.

This service feature allows Dedicated Cloud Compute Instances to move across identical Dedicated Cloud Compute Nodes without interruption to the operating system or applications based on Dedicated Cloud Compute Instance CPU requirements and available memory. This service feature allows customers to manage capacity issues by simply adding additional Dedicated Cloud Compute Nodes to a failover pool. Individual Dedicated Cloud Compute Instances will dynamically balance themselves across the available Dedicated Cloud Compute Nodes over time as load characteristics change.

Dedicated Cloud Compute Standard Managed Operating Systems

Dedicated Cloud Compute Operating System	Version
Microsoft® Windows®	2016 Standard 64-bit edition
	2012 R2 Standard 64-bit edition
	2008 R2 Enterprise 64-bit edition
	2008 R2 SP1 Enterprise 64-bit edition
	2008 R2 SP1 Enterprise 64-bit edition (Japanese)
Red Hat® Enterprise Linux	RHEL 7.x 64-bit
	RHEL 6.x 64-bit
	RHEL 5.x 64-bit

*Clustered Operating Systems are not supported on Dedicated Cloud Compute Instances.

Dedicated Cloud Compute – Node VMware Operating System

Operating System	Version
VMware®	ESXi 6.5 U1 or ESXi 6.0 u3

Dedicated Cloud Compute Integration with the Dedicated Cloud Compute Portal

Dedicated Cloud Compute services are viewable via the [Portal](#). Customers may use the Portal to order additional Dedicated Cloud Compute Instances and manage their current Dedicated Cloud Compute deployment. Users with purchase authority may configure, authorize the purchase, and begin the automated build of new instances. Any additional orders placed in the Portal are subject to the Agreement and any applicable Service Attachments.

In addition, Customers may define user privileges to view, configure, and/or delete instances via the Portal. Users with configure authority may specify new instance configurations including operating system, and managed applications. Additional changes such as instance memory configuration can be performed during the burn-in period by users with purchase authority (or a designated agent). *Customer is solely and exclusively responsible for password and user access level administration related to the Portal and any activity therein.*

Cloning Live Virtual Machine (“VM”) Instances and Cloning to Template

Dedicated Cloud Compute VM instances can be cloned. This is a self-service function available through the Portal. CenturyLink can provide cloning services which may require additional contractual documents. Non-standard configurations in Dedicated Cloud Compute may not be cloneable.

CenturyLink provides the Customer with two cloning options at this time: Clone Live VM Instance and a Save to Template function. Both of these functions automatically clone the primary boot volume and secondary volumes of a VM. *Customer may not clone CenturyLink-managed applications, and may clone non-CenturyLink-managed applications at its own risk.*

Clone Live VM Instance: Allows customers to actively replicate a running VM for use and deployment. An existing VM is shut down and cloned. The clone is stripped of its previous system identity or “prepped/sysprep” and redeployed as a new VM with similar characteristics as the original VM. When cloning a VM, customers have the option to change the CPU, RAM size and IP Address of the clone, compared to the original VM.

Clone to Template: Allows customers to save a VM as a stored image or template for future use. An existing VM is cloned; the clone is stripped of its previous system identity or “prepped/sysprep” and stored in CenturyLink Image Management Storage repository. Customers can then deploy that image multiple times in the future, updating the CPU, RAM and IP Address settings on the newly deployed VMs.

CenturyLink Image Management Storage

The CenturyLink Image Management Storage repository for Dedicated Cloud Compute is available for additional storage of CenturyLink’s instance template(s) and may be subject to additional charges.

CenturyLink provides operating system licensing, installation, management and monitoring of CenturyLink standardized operating system builds. Non Standard Operating System builds

may exclude any or all of the licensing, installation, management and monitoring. CenturyLink will make a commercially reasonable effort to support custom customer images; however, CenturyLink is not responsible for the support of non-standard operating system builds.

An instance template is a standard configuration image created from a virtual machine that contains pre-configured operating systems and customized non-CenturyLink managed applications (if applicable). Instance template(s) allows Customers to consistently apply a template to multiple instances simultaneously.

The process of deploying a template can be done via the Portal. A multiple instance deployment is automated through the Portal and can be created from a single template.

Customers may deploy as many Dedicated Cloud Compute instances as feasible; however, for mass deployment of multiple simultaneous instances, CenturyLink recommends customers do not deploy more than five instances at a time. For customers that have the business need to deploy more than five instances at a time, the customer can contact CenturyLink to increase the Customer's instance deployment threshold to exceed five mass deployment instances in the Portal.

- The Portal can be utilized to deploy, manage or remove templates stored in the Image Management Storage repository.
- A customer can save a CenturyLink Image into the **Image Management Storage** repository. The image can be deployed or deleted at any time.

Managed Applications for Dedicated Cloud Compute Instances

Managed Application Services, Managed Web Application Services, and Managed Database Application Services for the Dedicated Cloud Compute instances are available for purchase separately as set forth in the applicable Service Guides and subject to additional charges.

Domain Name Service (DNS) and IP Addresses

DNS and IP Address services available with Dedicated Cloud Compute include:

- Authoritative domain name service
- Backup domain name service and address space sub-delegation
- DNS name resolving (caching) service
- Domain registration service for new domains
- Domain modification service for existing domains
- IP allocation and assignment service (public addresses) through ARIN, APNIC or RIPE

If ordered by Customer, CenturyLink will use commercially reasonable efforts to assign Internet address space for the benefit of Customer during their Service Term. Any IP addresses and space provided to Customer by CenturyLink are solely for Customer's use with the Service, and are non-portable and non-transferable. Neither Customer nor any End Users will own or route any IP addresses or space provided by CenturyLink, and, upon any termination of Service, Customer's access to such IP addresses and space will cease.

Monitoring

Once the Dedicated Cloud Compute Node(s) and Instance(s) are deployed, the customer may supply their own application software and respective licenses to complete the solution meeting their business needs. CenturyLink does not provide any monitoring or management of customer-provided software or services with the base Dedicated Cloud Compute service; provided, however, customers may order an advanced monitoring feature by separately ordering CenturyLink Intelligent Monitoring or CenturyLink Managed Application Services, both of which have separate Service Guides and SLAs.

CenturyLink maintains and monitors all components of the Dedicated Cloud Compute physical servers, including the repair and replacement of defective or failed hardware and the installation of firmware updates, as CenturyLink deems is necessary. Hardware upgrades, such as increasing RAM or increasing Storage, can be performed by CenturyLink for an additional fee. CenturyLink may subcontract any hardware support to the manufacturer or equivalent vendor in order to expedite repairs.

Software and Security Patch Deployment

CenturyLink will update Dedicated Cloud Compute Nodes with all vendor recommended security patches, updates or hot-fixes and will address the overall integrity and performance of servers. Security threats are evaluated, verified and tested before a patch is recommended to customers. Sometimes a reboot is necessary when a patch is distributed and installed, which CenturyLink will conduct during maintenance hours or coordinate with the Customer.

Customers must approve patches or updates prior to them being applied to their environment; however, CenturyLink is not responsible for any failure in the service, including SLAs if a Customer does not approve the installation of necessary patches or updates.

Please note that VMware Software (e.g., ESXi or vCenter) Upgrades are not included as part of the standard Service, but can be quoted and implemented for an additional fee.

Hot-Fixes and Patches

All hot-fixes and non-security patches are evaluated for impact and urgency and follow the same testing and integration guidelines as service pack upgrades. Non-critical patches and hot-fixes are typically incorporated into the CenturyLink standard system build on a quarterly basis.

CenturyLink uses third-party anti-virus (AV) software in conjunction with centralized management tools to maintain AV policy control and regular signature file updates. Anti-virus technology provides protection against malware, including viruses, spyware and Trojans. Should disruption or changes occur due to malware, CenturyLink will use commercially reasonable efforts to remedy the situation as soon as possible after being notified of the problem. CenturyLink is not responsible for any damages or loss of or corruption of any Customer information, content, or data due to worms, phishing attacks, rootkits, Trojan horses and other malware, including infection of end-user devices.

Operating System and Managed Application Software Upgrades

CenturyLink does not upgrade operating systems (OS). If a customer wishes to go to a new version of Managed OS, the customer would build a new VM with the new guest OS and then

migrate or copy the data from the old to the new OS. If assistance is needed, CenturyLink Support can copy the data files over to the new guest OS through a support case requested by Customer.

Upgrades of managed application software can be accomplished by customer submitting a change order with consulting engineering approval, however this will be an additional charge. Customer may also request minor configuration changes (i.e., requests that will not degrade service performance) through the CenturyLink Operations Center.

User Privileges

CenturyLink provides system, hardware and operating system management for all managed servers. Additional security and managed application services are available. CenturyLink maintains full ROOT or ADMINISTRATOR access on managed servers and Customer is not granted such access. It is CenturyLink security policy that ROOT logins be limited to console access only and any such access is logged. In certain situations, Customer may require higher-level access in order to effectively manage certain applications that are running on managed servers. In such cases, Customer may request such higher level access and CenturyLink will use reasonable efforts to grant such access subject to Customer acknowledging in writing that any Service to which Customer is granted ROOT, ADMINISTRATOR, or any similar level of access shall be excluded from any otherwise applicable SLA and CenturyLink shall have no responsibility whatsoever to the extent the applicable Service incurs any incident, outage or other service issues caused by any act or omission of Customer.

Unix-Based Servers

For customers running Red Hat or Solaris, privileges will be set by CenturyLink system engineering to provide customers with the appropriate level of authorization on the system in order to manage their applications. CenturyLink recommends utilizing "pseudo" access, which permits specifically authorized users to execute certain privileged commands without explicitly being root on the system. This recommended practice limits access to the system level configuration and resources that CenturyLink will maintain.

Hosting Area Network

The CenturyLink Hosting Area Network (HAN) offers a comprehensive set of network services for hosting customers. The HAN provides access to the Internet as well as between customer servers and Colocation space if purchased separately. The following HAN-related networking services are supported and are subject to separate charges and their respective Service Guides and SLAs will apply:

- **Load Balancing and SSL Acceleration:** Provides load balancing and SSL acceleration services to the Hosting Area Network via optional managed dedicated or Virtual Services solutions. Server load balancing is the process of distributing service requests across a group of servers to address Customer requirements to optimize web applications performance. SSL acceleration is the process of offloading the processor-intensive public key encryption algorithms involved in SSL transactions to a hardware accelerator.
- **HAN Ports:** Provide physical Ethernet connectivity to the Hosting Area Network. Each

Dedicated Cloud Compute Node includes a Gigabit HAN port for Customer-related network traffic and a second Fast Ethernet HAN port for Integrated Lights Out (iLO) connectivity. Additional HAN ports are available for an incremental fee.

- **Customer Access Extension:** The Customer Access Extension service provides a Fast or Gigabit-based Ethernet cross connects from the HAN to a Customer’s Colocation-based network. This service allows Colocation customers to integrate their existing networks with the Dedicated Cloud Compute services.
- **Internet Bandwidth:** Packets moving to or from the Public Internet are charged for separately as a HAN service. CenturyLink uses the CenturyLink Internet Backbone for Internet transit services. CenturyLink manages and monitors all connectivity points both within the Data Center and on the CenturyLink Internet backbone. CenturyLink Data Centers are pre-provisioned with Ethernet cabling from the aggregation switch to each rack to minimize implementation timeframes and accidental disruption of service from build-outs in the Data Center. Every HAN Port is inventoried in the Portal for tracking, management and trouble resolution. Managed Hosting customers that use the Internet to provide access to their hosted applications must have a burstable Internet component included with their solution.
- **VLANs (Virtual Local Area Networks):** VLANs provide tagged or untagged networks that enable common or separate local area networks. Each Customer is provided a single VLAN per Data Center in addition to the IP transit VLAN at the routing gateway of the HAN. Additional VLANs are available for an incremental fee. All networking infrastructure is redundant and multiple methods of failover protection are used including VVRP and OSPF. Customer solutions can be designed with the following standard options:

Available VLAN Options

OPTION	DESCRIPTION
Public VLAN	Basic service used when traffic from multiple servers is not required to be segmented for performance or security. In most cases, the VLAN is configured to access the public Internet through the CenturyLink IP backbone.
Private VLAN	Typically, a private VLAN carries traffic that is not destined for the Internet. This can be intra-site communications, between application and database server, or for integrated connectivity with other CenturyLink Intelligent IP VPN services included in the Dedicated Cloud Compute solution.

Any Ports and VLANs in addition to those included in the standard CenturyLink design shall be subject to incremental charges as set forth in the relevant Service Order. Any Port or VLAN requested by Customer after the initial installation of the Service shall also be subject to additional, incremental charges.

URL, TCP and ICMP Monitoring

CenturyLink provides three URL, TCP and ICMP monitoring credits with each Dedicated Cloud node. Customers may use these credits to create automatic notification monitors in the Portal. Additional monitor credits are available at an additional charge.

URL Check Options

OPTION	DESCRIPTION
Content Match	Checks a URL for known content, If the content is not in the returned response, then an alarm is created. This test can also measure the latency in a response and create an alarm based on its time to respond.
Form Test	This is a two-step URL monitor. The monitoring service submits a completed web-based form and then performs a Content Match on the response. If the Content Match fails, an alarm is created.
Authentication Test	This monitoring function handles dialogue boxes that are presented in some web-based applications for authentications, for example Microsoft Outlook Web Access. If the authentication is not accepted, an alarm is created.
Transaction Thread	This is a series of the three types of URL Monitors to create a series of events to monitor a complete transaction from beginning to end.

URL Monitoring checks the Web site from an "Internet" perspective and measures whether the page and content are delivered. The additional process of checking for page content has the effect of checking whether customer applications and databases are available. This is accomplished by selecting content to be monitored that is generated by an application directory or database. If it is confirmed that the expected content is delivered with the page, then it can be confirmed that the Web server and the application or database are all in working order.

Customer Responsibilities

Customer acknowledges and agrees that its failure to perform its obligations herein may result in CenturyLink's inability to perform the Services and CenturyLink shall not be liable for any failure to perform, including any SLAs in the event of Customer's failure. CenturyLink shall not be liable for any failure to perform in the event Customer does not fulfill Customer's responsibilities and requirements as detailed herein and in the event of Customer's errors or omissions in setting up the environment. In addition, CenturyLink is not responsible for any loss or corruption of data or information. CenturyLink's obligations related to data are exclusively governed by the Security and Compliance section of the applicable Agreement.

1. Customer acknowledges that all third party components of the Service are subject to the applicable vendor's decision to (i) not continue to provide or renew the Service with CenturyLink and/or (ii) modify or end of life a component(s). If any of the foregoing occurs, CenturyLink will use commercially reasonable efforts to migrate Customer to another comparable CenturyLink service at any time. Such migration will occur without regard to Customer's current term.

2. Licensing and Third Party Terms:

If any third party software, including any corresponding documentation, is provided to Customer by CenturyLink in connection with the Service, Customer agrees to be bound by any additional licensing terms and conditions applicable to such third party software and that it will use such third party software strictly in accordance with such terms and conditions. CenturyLink makes no representations or warranties whatsoever with regard to such third party software.

For VMware, Customer must agree to the VMware End User Agreement terms located at: https://www.vmware.com/download/eula/universal_eula.html

For Red Hat RHEL, Customer must agree to the Red Hat End User License Agreement terms located at:
<http://www.redhat.com/en/about/red-hat-end-user-license-agreements>

For Microsoft Windows, Customer must agree to the Windows Server EULA located at:
<https://docs.microsoft.com/en-us/virtualization/windowscontainers/eula>

3. **Bandwidth:** To avoid degradation of the Service, Customer must not have sustained bandwidth exceeding rated capacity of the device. CenturyLink will provide the device information as part of the installation process.
4. **Access and Permissions:** Customer shall provide CenturyLink's approved personnel, immediate access to any systems and devices if there is a service outage and at reasonable times in all other situations. Should CenturyLink determine the need for CenturyLink personnel to physically access the system or devices, Customer must allow CenturyLink personnel access to the Customer site. Customer shall ensure that all permissions of any kind needed for the installation and operation of the Service are in place at all times. If the Customer has an Access Control List (ACL) that interferes with management connections, the Customer must allow CenturyLink access for management and monitoring.
5. **Third Party:** The Customer will not instruct or permit any other party to take any actions that would reduce the effectiveness of the Service. The Customer shall not attempt (nor instruct or allow others to attempt) any testing, assessment, circumvention or other evaluation or interference with any Service without the prior written consent of CenturyLink. Credentialed scans from firewalls are not allowed.
6. **Unauthorized Testing:** Customer shall not attempt, permit or instruct any party to take any action that would reduce the effectiveness of Service or any devices used to deliver CenturyLink services. Without limiting the foregoing, Customer is specifically prohibited from conducting unannounced or unscheduled test firewall attacks, penetration testing or external network scans on CenturyLink's network without the prior written consent of CenturyLink.
7. **Provide Contact:** Designate and maintain a Customer Contact during the service term and any applicable renewal term (including current contact information). "Customer Contact" means a technical point of contact with sufficient knowledge, authority and

access to address configuration issues, event notifications, system or infrastructure modifications and authentication of applicable systems.

8. Provide Technical Support. Customer agrees to provide technical support during implementation and on-going support. Customer shall ensure environments are provisioned with servers, local incremental and replica storage, network connectivity, CPU and memory resources, and other infrastructure components; and replication is operational.
9. Neither Customer nor its representatives shall attempt in any way to circumvent or otherwise interfere with any security precautions or measures of CenturyLink relating to the Service or any other CenturyLink equipment.
10. Customer acknowledges and agrees that it is solely responsible for selecting and ensuring its software and systems are up to date and supportable.
11. Customer further acknowledges it is solely responsible for ensuring all devices and hardware are upgraded to meet vendor configurations and agrees that CenturyLink's SLA only applies to currently supported configurations (including but not limited to related devices, software, and operating systems) at the time SLA support requests are triggered. If any configuration or version is identified as "unsupported" by a vendor, the Services are subject to all of the following conditions and/or requirements: (i) a service level objective ("SLO") referring to CenturyLink's reasonable effort to provide support will apply in lieu of any other applicable SLA and will automatically apply from the time CenturyLink receives notice from the vendor of such unsupported service; (ii) CenturyLink, in its reasonable discretion may elect to charge the Customer for any support or additional tasks/work incurred by CenturyLink resulting from Customer's continued use of unsupported configuration until Customer purchases the required and supported upgrades or extended support at an additional cost from the vendor. The requirement to purchase upgrades or extended support from vendor shall apply at any time, regardless of any contract term, term commitments, or renewal periods. Customer's failure to do so may result in CenturyLink's inability to provide the Services and CenturyLink shall have no liability therefrom.
12. CenturyLink is not responsible for the service or the SLA if any changes by Customer affect the infrastructure or monitoring capability of CenturyLink.
13. Customer consents to CenturyLink's and its affiliates or subcontractors' use and transfer to the United States, or other countries, data or information (including Customer Contact information such as names, phone numbers, addresses and/or email addresses) of the Customer for the sole purpose of: (i) fulfilling its obligations under the Agreement; and (ii) providing information to Customer about CenturyLink's products and services. Customer represents that it will ensure that all information provided to CenturyLink is accurate at all times and that any business contact has consented to CenturyLink's processing of such information for the purposes identified herein.

14. Customer consents to CenturyLink collecting and compiling system and security event log data to determine trends and threat intelligence. CenturyLink may associate this security event log data with similar data of other Customers so long as such data is merged in a manner that will not in any way reveal the data as being attributable to any specific Customer.

Definitions

Data Center means the facility in which the Systems are located.

Dedicated Cloud Compute Instance means a single occurrence of a virtualized operating system that includes an operating system license, monitoring and management of the operating system. The Dedicated Cloud Compute Instance requires both Dedicated Cloud Compute Node to operate and Utility Storage services to provide disk space.

Dedicated Cloud Compute Instance Template means a standard configuration image created from a virtual machine that contains pre-configured operating systems and customized applications (if applicable). The template typically includes a specified operating system, configuration and can also include a set of applications.

Dedicated Cloud Compute Node means a managed server service that includes use of a dedicated standalone server, space and power for the server, virtualization operating system license, HAN, management and monitoring of the server hardware and virtualization operating system.

Dedicated Cloud Compute, means a managed server service that includes use of a physical server, space and power for the server, virtualization operating system license, instance operating system licenses, network connectivity, use of storage services on a managed storage area network, management and monitoring of the server hardware, virtualization operating system and instance operating systems, and use of the Portal for automated instance provisioning.

Dedicated Cloud Compute Portal or the "Portal" is located at <http://dccctl.io> and is the interface that ties together centralized systems that CenturyLink uses to provide services to customers. Included in the Dedicated Cloud Compute Portal are systems for order processing, provisioning, procurement, management and monitoring, change management, billing, customer support/ticketing and reporting.

Dynamic Resource Scheduler (DRS)- VMware DRS dynamically balances computing capacity across a collection of hardware resources aggregated into logical resource pools, continuously monitoring utilization across resource pools and intelligently allocating available resources among the virtual machines based on pre-defined rules that reflect business needs and changing priorities. When a virtual machine experiences an increased load, VMware DRS automatically allocates additional resources by redistributing virtual machines among the physical servers in the resource pool.

Hosting Area Network (HAN) means the managed networking infrastructure that supports CenturyLink Managed Hosting services. This is a separate service that has its own Service Guide and SLA.

Managed Hosting means the set of CenturyLink managed server services that include but are not limited to Intelligent Hosting, Foundation Hosting, and Dedicated Cloud Compute each of which have their own respective SGs.

Utility/Unified Storage is a CenturyLink managed storage service that includes use of a storage area network, which is provided and managed by CenturyLink. This is a separate service that has its own Service Guide and SLA.