

# How do I Identify Hardware Specifications and Capabilities Available in a Data Center Location

## Description

This article describes how to identify the capabilities of a specific data center including maximum resource specifications, available disk speeds, etc.


## All CloudControl Usage uses Base 2 ("gibibyte") Methodology

When provisioning and managing assets in CloudControl, a "Gigabyte" (GB) is actually based on Base 2 (binary) methodology, meaning that 1 GB =  $1024^3$  bytes ("gibibyte"). For example, if you provision a "100 GB" local disk, the system provisions a local disk of  $100 \times 1024^3$  bytes = 107374182400 bytes.



Usage reporting follows the same methodology. For more details, see [Introduction to Usage Reporting](#).

## Content / Solution:

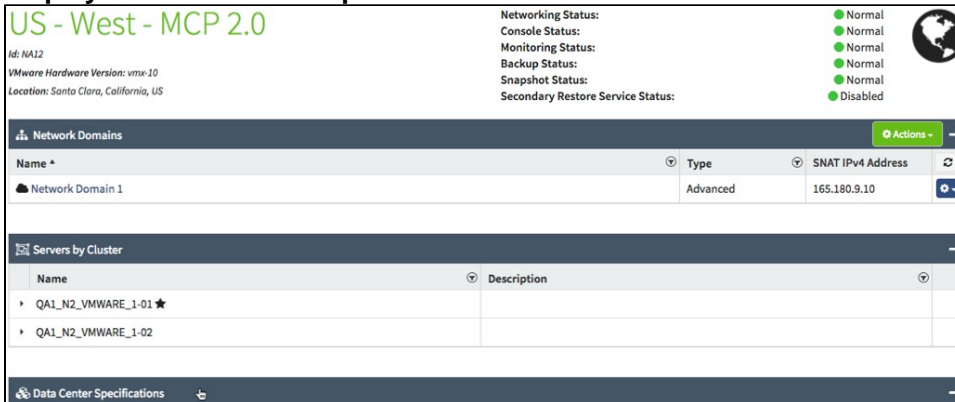
- From the Home page, click on the Data Center Location whose available capabilities you want to check:









The dashboard shows four key metrics: ALL MCPs OPERATIONAL, 4 SERVERS ONLINE, 0 SERVERS OFFLINE, and 3 NETWORKS AND VLANS. Below is a summary table:

Data Center	Status	Servers Running	Total CPU	Total RAM	Total Storage	Backup Enabled	Monitoring Enabled
<a href="#">US - East 3 - MCP 2.0 (NA9)</a>		3 of 3	3	3 GB	90 GB	-	1
<a href="#">US - West - MCP 2.0 (NA12)</a>		1 of 1	1	1 GB	20 GB	-	-

- The Data Center Dashboard will be displayed. Click on the Data Center Specifications tab to display the Data Center Specifications:



**US - West - MCP 2.0**  
Id: NA12  
VMware Hardware Version: vmx-10  
Location: Santa Clara, California, US

Networking Status:  Normal  
Console Status:  Normal  
Monitoring Status:  Normal  
Backup Status:  Normal  
Snapshot Status:  Normal  
Secondary Restore Service Status:  Disabled

**Network Domains**

Name	Type	SNAT IPv4 Address
Network Domain 1	Advanced	165.180.9.10

**Servers by Cluster**

Name	Description
QA1_N2_VMWARE_1-01	
QA1_N2_VMWARE_1-02	

**Data Center Specifications**

**Note:** The Servers by Cluster tab is only displayed if the Data Center has been enabled for User-Manageable Clusters. See [Introduction to User-Manageable Clusters](#)

- The Data Center Specifications tab displays information about the Data Center in which your Network Domain resides:

Data Center Specifications		
<b>Networking</b>		
Type:	MCP 2.0	
Maximum Node Connection Limit:	100,000	
Maximum Node Connection Rate Limit:	4,000	
Maximum Virtual Listener Connection Limit:	100,000	
Maximum Virtual Listeners With SSL Offload Profile in a Network Domain:	100	
Private Key Acceptable Bit Lengths:	512,1024,2048	
Default Cipher:	MEDIUM:HIGH:EXPORT:3ADH:IMDS:RC4:SSLV2:SSLV3:3DES:TLSv1:ECDDHE:ECDDH_RSA:IEC DH_ECDSA:IECDHE_ECDSA:@SPEED	
<b>Storage</b>		
Minimum Disk Count:	0	
Maximum Disk Count:	60	
Maximum Total Storage for an Image:	3,000 GB	
<b>VLAN / Server Security Groups</b>		
Security Groups Enabled:	True	
Maximum NICs/Servers Per Security Group:	100	
Maximum Security Groups Per Network Domain:	300	
<b>Snapshot</b>		
Snapshot Enabled:	True	
Maximum Manual Snapshots Per Server:	10	
Manual Snapshot Retention (Days):	14	
Maximum Total Snapshot Storage:	10,000 GB	
Maximum Snapshot Preview Servers:	2	
Snapshot Replication Enabled:	True	
Snapshot Replication Locations:	QA_GEO1_2_GALWAY	
Snapshot Archive Enabled:	True	
Snapshot Retention Before Archive (Days):	1	
Snapshot Long Term Retention Enabled:	True	
Minimum Long Term Frequency (Days):	30	
Maximum Long Term Frequency (Days):	365	
Minimum Long Term Retention (Days):	90	
Maximum Long Term Retention (Days):	5000	
<b>Disaster Recovery Service</b>		
DRS Replication Locations:	QA_GEO1_2_GALWAY	
Maximum DRS Journal Size:	10,000 GB	
Guest OS Customized Servers with Non-Unique IP Addresses:	Supported	
<b>Cluster Properties</b>		
	Cluster1 ★	Cluster2
<b>CPU</b>		
Maximum CPU Count	32	32
Minimum Memory	1 GB	1 GB
Maximum Memory	256 GB	256 GB
<b>CPU Speed</b>		
Standard ⓘ	✔	✔
High Performance ⓘ	✔	✔
<b>Disk</b>		
Minimum Disk Size	1 GB	1 GB
Maximum Disk Size	1000 GB	1000 GB
Maximum Total Storage	3000 GB	3000 GB
<b>Disk Speed</b>		
Standard ⓘ	✔	✔
Provisioned IOPS ⓘ	✔	✔
High Performance ⓘ	✔	✔
Economy ⓘ	✔	✔
<b>Anti Affinity Rules</b>		
Create Anti Affinity Rules Enabled	✔	✔
Advanced Virtualization Settings ⓘ	✔	✘

**Note:** The ✔ icon indicates that a property is enabled. A ✘ icon indicates that a property is **disabled**

**Note:** Hovering your mouse over the ⓘ information icon will display a popup with further information

## Data Center Specifications

### 1. Networking

- Type** - Displays the Network Version (MCP 1.0 or MCP 2.0). See [Understanding MCP 1.0 vs. MCP 2.0 Data Center Locations](#)
- Maximum Node Connection Limit** (MCP 2.0 only) - Displays the maximum connection limit for Nodes in an MCP 2.0 Data Center. See [Introduction to Virtual Listeners / VIPs in MCP 2.0](#)
- Maximum Node Connection Rate Limit** (MCP 2.0 only) - Displays the maximum connection rate limit for Nodes in an MCP 2.0 Data Center. See [Introduction to Virtual Listeners / VIPs in MCP 2.0](#)
- Maximum Virtual Listener Connection Limit** (MCP 2.0 only) - Displays the maximum connection limit rate for Virtual Listeners in an MCP 2.0 Data Center. See [Introduction to Virtual Listeners / VIPs in MCP 2.0](#)
- Maximum Virtual Listener Connection Rate Limit** (MCP 2.0 only) - Displays the maximum connection rate limit for Virtual Listeners in an MCP 2.0 Data Center. See [Introduction to Virtual Listeners / VIPs in MCP 2.0](#)
- Maximum Virtual Listener Per SSL Offload Profile in a Network Domain** - The maximum number of Virtual Listeners with SSL Offload Profiles allowable in the Data Center. See [Introduction to VIPs in MCP 2.0](#)
- Private Key Acceptable Bit Lengths (Per Location)** - The maximum allowable bit lengths for Private Keys for the Data Center. See [Introduction to VIPs in MCP 2.0](#)
- Default Cipher (Per Location)** - The default Cipher for the Data Center if one is not provided by the user. See [Introduction to VIPs in MCP 2.0](#)

### 2. Storage

- Minimum Disk Count** - Displays the minimum allowable number of (Storage) Disks that may be configured on a Server within a Data Center
- Maximum Disk Count** - Displays the maximum allowable number of (Storage) Disks that may be configured on a Server within a Data Center
- Maximum Total Storage for an Image** - Displays the total amount of Storage that can be allocated to a Server Image within a Data Center

### 3. VLAN/Server Security Groups

- a. **Security Groups Enabled** (MCP 2.0 only) - Displays whether or not VLAN Security Groups are enabled for the Data Center. See [Introduction to Security Groups](#)
  - b. **Maximum NICs/Servers per Security Group** - Displays the maximum allowable NICs per Security Group. See [Introduction to Security Groups](#)
  - c. **Maximum Security Groups per Network Domain** - Displays the maximum allowable Security Groups per VLAN. See [Introduction to Security Groups](#)
4. **Snapshot**
- a. **Snapshot Enabled** - Indicates whether Cloud Server Snapshot Feature is enabled in the Data Center. See [Introduction to Cloud Server Snapshots](#)
  - b. **Maximum Manual Snapshots per Server** - Maximum number of manual Snapshots allowable per Server
  - c. **Manual Snapshot Retention (Days)** - Indicates the duration in days of how long Manual Snapshots are retained. After the indicated amount of days, Manual Snapshots will be automatically deleted
  - d. **Maximum Total Snapshot Storage** - Maximum total Snapshot storage per Data Center
  - e. **Maximum Snapshot Preview Servers** - Maximum number of Snapshot Preview Servers allowed at one time
  - f. **Snapshot Replication Enabled** - Indicates whether or not Snapshot Replication is enabled for the Data Center
  - g. **Snapshot Replication Locations** - Indicates which Locations are enabled for Snapshot Replications
  - h. **Snapshot Archive Enabled** - Indicates whether or not Snapshot Archiving is enabled for the Data Center
  - i. **Snapshot Retention Before Archive (Days)** - If Snapshot Archive is enabled, this indicates how many days a Snapshot will stay on local storage before it is moved to Archived storage
  - j. **Snapshot Long Term Retention Enabled** - Indicates whether or not Snapshot Long Term Retention is enabled
  - k. **Minimum Long Term Frequency (Days)** - Indicates the minimum amount of time that a User can request a Long Term image to be created
  - l. **Maximum Long Term Frequency (Days)** - Indicates the maximum amount of time that a User can request a Long Term image to be created
  - m. **Minimum Long Term Retention (Days)** - Indicates the minimum amount of time that the User can request the System to keep a Long Term Retention Image once it has been created
  - n. **Maximum Long Term Retention (Days)** - Indicates the maximum amount of time that the User can request the System to keep a Long Term Retention Image once it has been created
5. **Disaster Recovery Service**
- a. **DRS Replication Locations** - Indicates where DRS Replication is available. See [Introduction to DRS for Cloud](#)
  - b. **Maximum DRS Journal Size** - Indicates the maximum allowable size for a DRS Journal. See [Introduction to DRS for Cloud](#)
6. **Backup**
- a. **Enable Backup for Servers** - Indicates the status of the Backup service in the Data Center
    - i. If **True**, this means that you can enable Backup on Cloud Servers
    - ii. If **False**, this means you cannot enable Backup on Cloud Servers
7. **Guest OS Customized Servers with Non-Unique IP Addresses**
- a. Indicates whether Guest OS Customized Servers can be created with non-unique IP addresses


## Data Center/Cluster Properties

In certain Private Cloud and Hosted Private Cloud Data Center Locations, CloudControl supports multiple User-Manageable Clusters. If the selected Data Center Location supports User-Manageable Clusters, the cluster properties table will list the availability of the following parameters by cluster. If User-Manageable Clusters is not supported in the Data Center Location, then the table will list a single set of parameters for the entire location. See [Introduction to User-Manageable Clusters](#) for more information.

### 1. CPU

- a. **Maximum CPU Count** - Displays the maximum number of CPUs that can be allocated to a single Server within a Data Center
- b. **Minimum Memory** - Displays the minimum amount of memory (RAM) that can be allocated to a single Server within a Data Center
- c. **Maximum Memory** - Displays the maximum amount of memory (RAM) that can be allocated to a single Server within a Data Center

### 2. CPU Speed

- a. Displays which CPU Speeds are available in a Data Center, and indicates which CPU Speed is designated as the default speed for the Data Center. Gives a brief description and indicates cluster availability. See [Introduction to CPU Speeds \(vCPU Classes\)](#)
- b. **Note:** Hovering your mouse over the info icon  will display additional information about each CPU Speed

### 3. Disk

- a. **Minimum Disk Size** - Displays the minimum allowable size of any Disk (Storage) that may be added to a Server within a Data Center
- b. **Maximum Disk Size** - Displays the maximum allowable size of any Disk (Storage) that may be added to a Server within a Data Center
- c. **Maximum Total Additional Storage** - Displays the total amount of Storage that can be allocated to a single Server within a Data Center

### 4. Disk Speed

- a. Displays which Disk Speeds are available in a Data Center, and indicates which Disk Speed is designated as the default speed for the Data Center. Gives a brief description and indicates cluster availability. See [Introduction to Cloud Server Local Storage \("Disks"\) and Disk Speeds](#)
- b. **Note:** Hover your mouse over the info icon to see a brief description of each Disk Speed.
  - i. **Standard** - Standard Disk Speed
  - ii. **Provisioned IOPS** - User-defined IOPS for each disk within a range based on disk size
    - 1. **Variable IOPS**
      - a. **Min Disk IOPS** - This is the minimum amount of IOPS that can be chosen for a given disk with this disk speed
      - b. **Max Disk IOPS** - This is the maximum amount of IOPS that can be chosen for a given disk with this disk speed
      - c. **Min IOPS Per GB** - This identifies the minimum amount of IOPS per GB that must be chosen with this disk speed
      - d. **Max IOPS Per GB** - This identifies the maximum amount of IOPS per GB that must be chosen with this disk speed
  - iii. **High Performance** - Faster than Standard. Uses 15000 RPM disk with Fast Cache

iv. **Economy** - Slower than Standard. Uses 7200 RPM disk without Fast Cache

## 5. Anti-Affinity Rules

a. Displays whether or not Anti-Affinity Rules can be created in the Data Center. See [Introduction to Server Anti-Affinity](#)

## 6. Advanced Virtualization Settings

a. Displays whether or not the Cluster supports Advanced Virtualization Settings. See [Introduction to Advanced Virtualization Settings](#)

i. **Note:** Hover your mouse over the info icon to see more information.

## 7. VM Hardware Version

a. Displayed at the top of the screen, under the Data Center ID.

b. Identifies the maximum supported VMware Virtual Hardware version in the data center location. For an explanation of VMware Hardware Version, see [Virtual machine hardware versions \(1003746\)](#)



### Note

Recommended Reading:

- [What is a VMware Maintenance Event](#)
- [Cloud Backup - How Scheduled Maintenance is Performed](#)

## Recently Updated

- [Introduction to Geographic Regions](#)
- [How to Configure Existing Red Hat Servers to Use the MCP Update Infrastructure](#)
- [Cloud Backup - How Scheduled Maintenance is Performed](#)
- [How are Software Upgrades performed on the Cloud](#)
- [How are Operational Maintenance Events Performed on the Cloud](#)