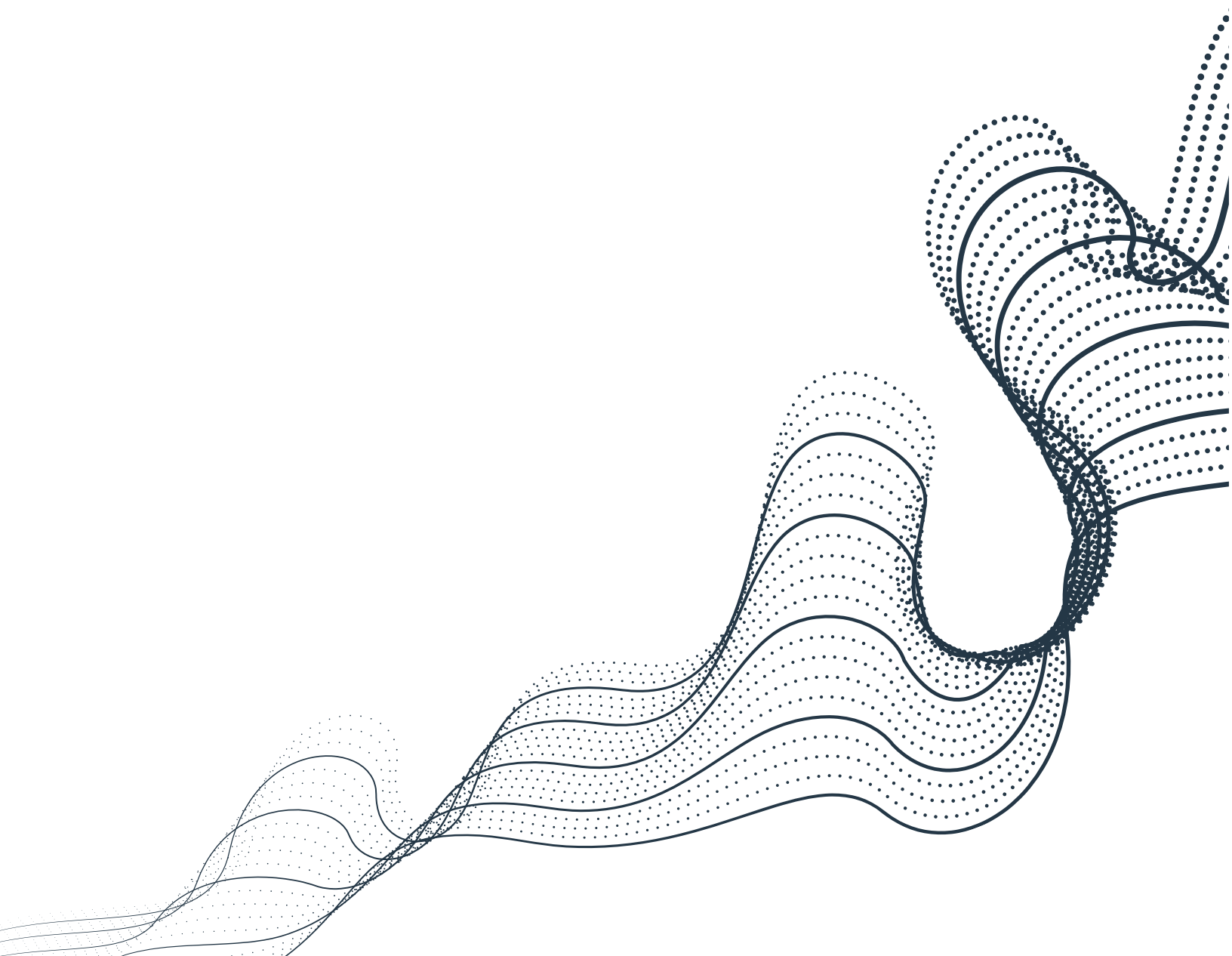

Release Notes



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What's New in this Release

Embotics vCommander 7.1.0 continues to deliver market innovation in its award-winning Cloud Management Platform (CMP). In this release, vCommander supports the full range of application types with IaaS/PaaS and now CaaS (Containers as a Service), as well as significantly enhancing orchestration to enable DevOps automation. vCommander continues to expand on its integrated cloud governance capabilities, delivering a true CMP 2.0 platform with release 7.1.0. Key capabilities in this release include:

- [Google Cloud Platform](#)
- [Service Portal Enhancements](#)
- [vSphere VM Performance Charts](#)

We frequently publish plug-in workflow steps, and scenarios that demonstrate how to use them, to the [Embotics GitHub repository](#). Workflow plug-in steps and scenarios may be published outside of a vCommander release – they're published whenever they're tested and ready to go. Currently available plug-in steps enable the creation and deletion of PKS clusters, Kubernetes deployments, Ansible playbook installation, and more.

Google Cloud Platform

vCommander now supports Google Cloud Platform (GCP). In this release, vCommander offers key capabilities related to inventory management, lifecycle and policy management, and self-service for GCP.

Because we're using a phased release delivery model for our support for GCP, not all functionality is available for GCP in this release. To learn what features are supported for GCP, see "vCommander Capability Matrix" in the vCommander User Guide.

We've added support for:

- [Inventory management](#)
- [Lifecycle and policy management](#)
- [Cost analytics](#)
- [Cloud expense management](#)
- [Self-service with delegated administration](#)
- [Support for GKE Clusters](#)

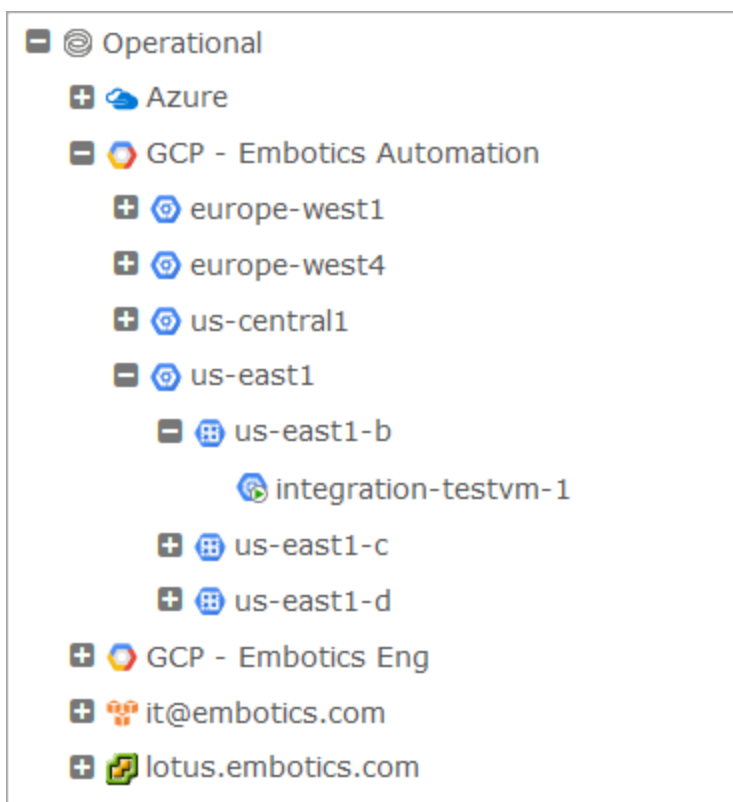


Self-service provisioning and automation will be delivered in the follow-on vCommander release. For more information please contact support@embotics.com.

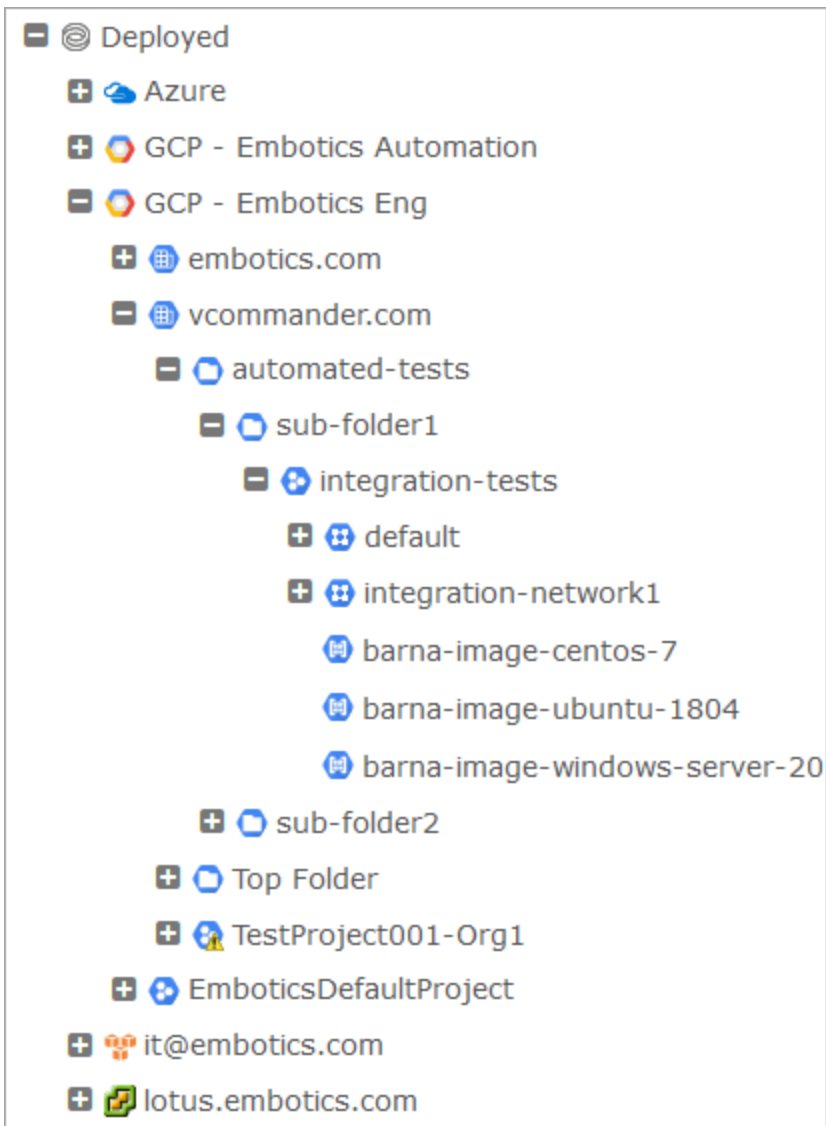
Inventory management

Once you've added Google Cloud Platform to vCommander as a managed system, you can view your GCP inventory using the three main vCommander views.

The **Operational view** shows a hierarchy of the entire compute infrastructure and is designed for daily operations. Because this view groups resources by region and zone, it's the view you should use when thinking about geographic distribution. VM images aren't shown in this view.

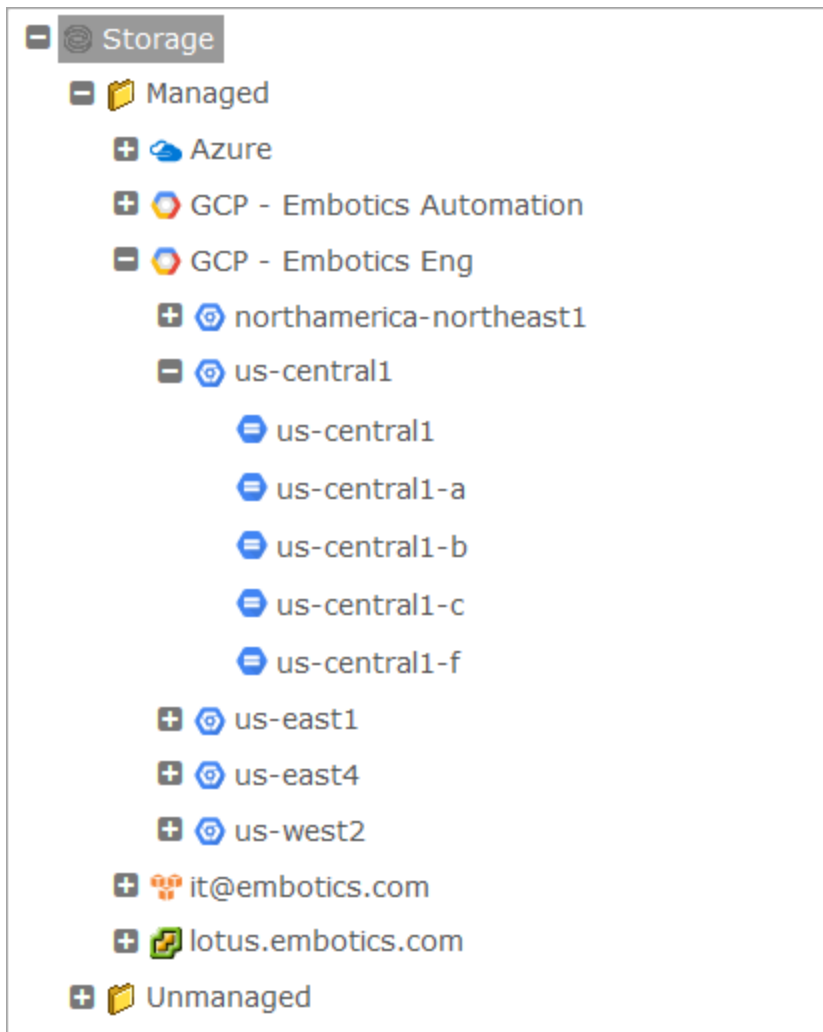


The **Deployed view** shows a hierarchy of VMs and images and is designed for deploying new resources. This view provides an application-centric view of GCP resources, logically grouped by organization, folder and project.



The **Storage view** shows storage resources grouped by region. For GCP, all storage resources are displayed under the Managed folder. Both regional and zonal storage resources are organized into vCommander datastores, which are logical groups for aggregating persistent VM disks. When you look at a datastore, you can see which VMs have persistent disks, as well as the total storage usage in that zone or region. vCommander shows both regional and zonal storage resources.

The image below shows how vCommander displays regional and zonal storage resources: us-central1 is Google Cloud Regional Persistent Storage, whereas us-central1-a, us-central1-b and so on are Google Cloud Zonal Persistent Storage.



vCommander regularly retrieves updates from GCP, but you can manually synchronize the inventory when required.

Lifecycle and policy management

You can assign metadata to GCP services both manually and through policy, enabling the automation of service lifecycle management, self-service with delegated administration. Metadata assignment allows you to:

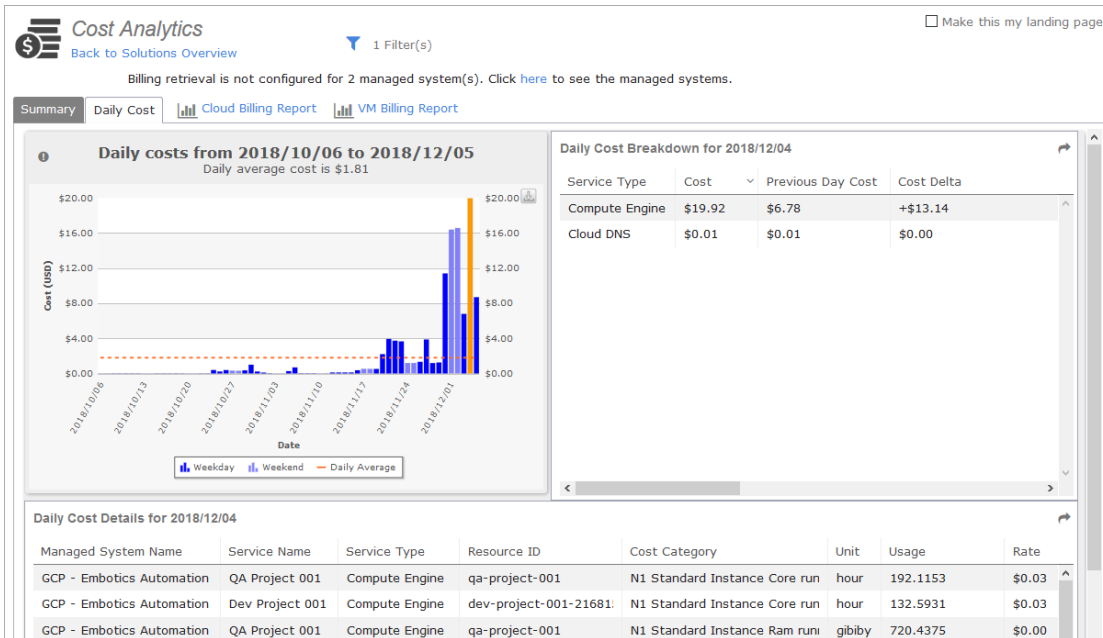
- know exactly what a workload is being used for
- keep services active for as long as they're needed, without introducing sprawl
- delegate administrative tasks
- keep track of who's incurring service costs

Combined with vCommander's powerful search and reporting capabilities, metadata provides insight and analytics not only for your Google infrastructure, but across your entire hybrid cloud infrastructure.

Cost analytics

vCommander and Service Portal users can see detailed costs for GCP services, as well as benefit from vCommander's powerful cost analytics. You can configure vCommander to retrieve GCP billing data, including historical data from before vCommander started managing GCP. Retrieving billing data improves

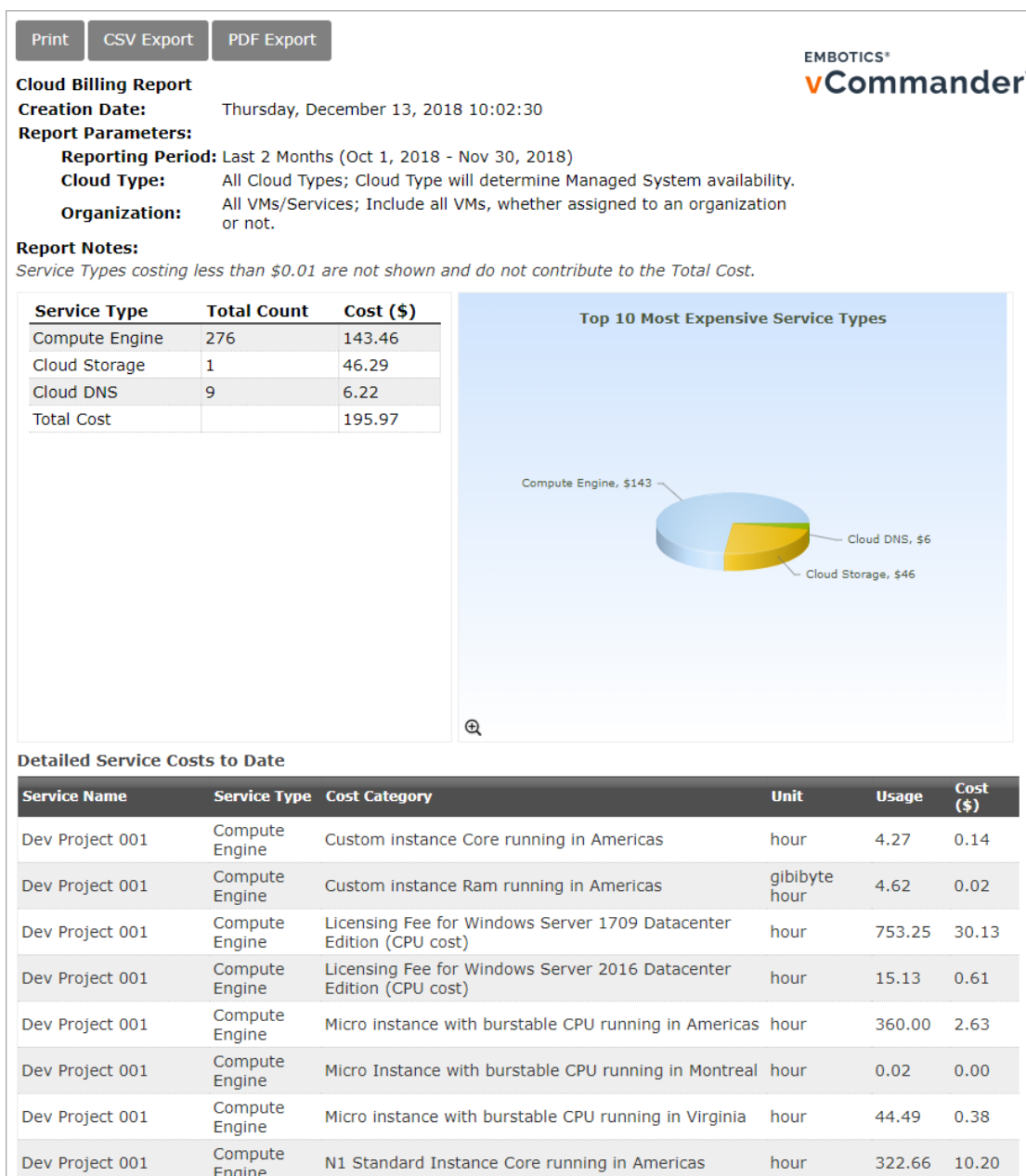
the accuracy of cost analytics.



To learn more, see "Cost Analytics" in the vCommander User Guide.

Cloud expense management

Get insight into your GCP spending and compare it to costs in your entire hybrid cloud environment. Customize the cost model used for GCP. Automatically assign ownership to new resources, so that costs are assigned to the users and organizations incurring the expense. Use the Cloud Billing Report to calculate the accrued costs to date for all private and public cloud services. It contains accurate costs from Google on a per project level, so that costs can be reported on for specific business units or customer tenants. You can also run the VM Comparative Economics Report to assess the benefits of moving application workloads to another cloud.



To learn more, see "Chargeback and IT Costing" in the vCommander User Guide.

Self-service with delegated administration

The vCommander Service Portal provides end-user self-service as well as delegated administration and organization management capabilities. Depending on the permissions you assign, Service Portal users with ownership of GCP instances can:

- view detailed costs for their GCP instances
- view information such as guest OS and resource configuration
- power their instances on and off
- view and report on metadata, such as expiry date, custom attribute values and compliance state

Users with delegated administration permissions in the Service Portal can also:

- assign VM ownership to other Service Portal users
- assign metadata, such as expiry date, custom attribute values and compliance state
- assign VMs to groups, such as power schedule and expiry groups

Support for GKE Clusters

You can now add Google Kubernetes Engine (GKE) clusters as managed systems in vCommander.

When GKE clusters are added to vCommander, you can view the configuration details for those GKE clusters. You can also view the linkages between the nodes listed for the clusters and the underlying GCP VMs if GCP is added as a managed system to vCommander.

To learn more about adding GKE clusters, see "Adding Kubernetes managed systems" in the vCommander User Guide.

To get started with GCP, see "Managing Google Cloud Platform" in the vCommander User Guide.

Service Portal Enhancements

You can now select the page that users will see when they log in to the Service Portal. This provides the ability to customize the first impressions of the self-service experience.

Each organization that users belong to can now have its own dedicated landing page. You can put the fully configurable external page menu item at the top or the bottom of the Service Portal menu bar. You can also select one of four pages that users will view when they log in to the Service Portal. The options for the Service Portal landing page are:

- Dashboard
- Cost Dashboard
- Service Catalog
- External Page

To learn more, see "Selecting a landing page in the Service Portal" in the vCommander User Guide.

vSphere VM Performance Charts

For any vCommander VM managed by vCenter, you can monitor CPU, memory, disk and network metrics to analyze how a VM is performing and what issues may be affecting its performance. This capability was previously unavailable in vCenter versions 6.5 and beyond, however now vCommander has provided this capability for all supported vCenter versions. Just like previously, you can select from several **Time Range**

options to narrow or widen the performance interval you're measuring. This capability is available in both vCommander and the Service Portal.



To learn more, see "Analyzing the performance of vCenter VMs, hosts and clusters through charts" in the vCommander User Guide.

System Requirements

This section provides information on:

- [Software requirements](#)
- [Hardware requirements](#)
- [vCommander VM Access Proxy hardware requirements](#)
- [Network requirements](#)
- [Required administrative accounts](#)
- [Third-party integrations](#)

See also [Changes to system requirements](#).

Software requirements

Virtualization and Cloud Platforms Supported	<ul style="list-style-type: none"> • VMware vSphere 6.7, 6.5, 6.0 (see Notes) • Amazon Web Services • Microsoft Azure • Google Cloud Platform • Kubernetes • Microsoft® Hyper-V System Center Virtual Machine Manager (SCVMM) 2016 (see Notes) • VMware Cloud on AWS (see Notes)
Operating Systems Supported for vCommander Installation	<ul style="list-style-type: none"> • Microsoft Windows Server 2016 • Microsoft Windows Server 2012 R2 • Microsoft Windows Server 2012 • Microsoft Windows Server 2008 R2 or higher
Languages Supported	<ul style="list-style-type: none"> • English
Recommended Databases	<ul style="list-style-type: none"> • Microsoft SQL Server 2016 • Microsoft SQL Server 2014 • Microsoft SQL Server 2012 • Microsoft SQL Server 2008 R2
Default Database	<ul style="list-style-type: none"> • PostgreSQL is included with vCommander for evaluation environments
Browser Recommended	<ul style="list-style-type: none"> • Mozilla Firefox latest version
Browsers Supported	<ul style="list-style-type: none"> • Mozilla Firefox latest version • Google Chrome latest version • Microsoft Internet Explorer 11
Network	<ul style="list-style-type: none"> • Gigabit Ethernet Minimum
Licensing	<ul style="list-style-type: none"> • For more information about licensing, please refer to the terms in your license agreement or contact your Embotix representative.

Notes:

- VMware vSphere 6.7 does not support linked clone deployment.
- To manage SCVMM 2016, vCommander must be running on Windows 2016.

- VMware Cloud on AWS is a service that allows you to migrate, provision and run your vSphere environment on AWS hardware. vCommander can manage vCenter running on VMware Cloud on AWS.
- When vCommander is installed, an application called Erlang OTP is also installed, and it will appear in the list of installed programs on the vCommander host. Erlang OTP should not be uninstalled.

Hardware requirements


The following table provides vCommander deployment tiers based on typical use. See [Scaling Embotics vCommander Hardware Requirements](#) for more details. You can also contact Embotics Support (support@embotics.com) to discuss requirements, should you have any questions or unique configurations.

Profile	Description	Base Requirements
Evaluation	A deployment used to evaluate vCommander's feature set with fewer than 100 VMs, supporting fewer than five concurrent users, with infrequent reporting. It won't grow significantly beyond original occupancy, and it's not expected to be upgraded to production.	<ul style="list-style-type: none"> • 2 vCPU / 2.0 GHz dual core • 12.0 GB memory (for default Postgres database) or 8.0 GB memory (for Microsoft SQL Database server) • Approximately 1.0 GB disk space (application installation) • Minimum 4.0 GB disk space for database • Default Postgres database (Microsoft SQL Database server recommended)
Small	A production deployment for static environments of fewer than 500 VMs, supporting fewer than 10 concurrent users, with infrequent reporting.	<ul style="list-style-type: none"> • 2 vCPU / 2.0 GHz quad core • 8.0 GB Memory • Approximately 1.0 GB disk space (application installation) • Dedicated application server • Microsoft SQL Database (remote database server recommended) • Minimum 6.0 GB disk space (data partition) for database
Medium	A production deployment for dynamic environments with fewer than 1500 VMs, supporting fewer than 30 concurrent users, with frequent reporting.	<ul style="list-style-type: none"> • 2 vCPU / 2.0 GHz quad core • 10.0 GB Memory • JVM memory increased to 6 GB • Approximately 1.0 GB disk space (application installation) • Dedicated application server • Remote Microsoft SQL Database server • Minimum 12.0 GB disk space (data partition) for database • DB data file (mdf) and log file (ldf) stored on separate disks

Profile	Description	Base Requirements
Enterprise	A production deployment for dynamic environments with more than 1500 VMs, supporting more than 30 concurrent users, with frequent reporting.	<ul style="list-style-type: none"> • 2 to 4 vCPU / 2.0 GHz quad core • 12.0 GB Memory (or greater) • JVM memory increased to 8 GB • Approximately 1.0 GB disk space (application installation) • Dedicated application server • Remote Microsoft SQL Database server • Minimum 20.0 GB disk space (data partition) for database • SAN backing for database files

vCommander VM Access Proxy hardware requirements

Minimum requirements:

- 2 CPUs
 -  The higher the number of CPUs available, the more concurrent connections the VM Access Proxy can handle.
- 4 GB Memory
- 10 GB disk space

The template archive size is approximately 2.5 GB.

Network requirements

The ports listed below are used by the various vCommander components.

You may configure some ports during vCommander installation through the installation wizard. Other ports can only be configured (if required) after installation through the **vCommander Control Panel** or through a system property.

Caution:

- Aside from the few system properties that are documented in vCommander user documentation, you shouldn't edit system properties unless you have been directed by Embotecs Customer Support to do so. For more information, contact support@embotecs.com.
- To protect the security of the vCommander system, all ports must be firewalled, with the exception of ports that are required to be inbound.

Where the Direction is outbound, this implies a corresponding inbound connection to the target.

-  Some ports that are reserved for vCommander internal communications can't be configured. Any reserved ports are indicated in the table below.

Network Requirements - Basic Operations

Connection	Ports	Protocol	Direction	Description
vCommander Webserver	443	TCP	Inbound	Access to vCommander admin console, Service Portal and REST API.

Connection	Ports	Protocol	Direction	Description
vCommander Microsoft SQL Server	1433	TCP	Outbound	Access to the vCommander database. Additional ports may be required depending on the configuration of your SQL server.
vCenter	443	TCP	Outbound	Communications with individual vCenters or their external Platform Services Controllers.
vCenter Hosts	443	TCP	Outbound	Access to the vCenter hosts for VM Guest OS file copy operations.
Amazon Web Services	443	TCP	Outbound	Communications with Amazon Web Services API.
Microsoft Azure	443	TCP	Outbound	Communications with Microsoft Azure API.
Kubernetes	443	TCP	Outbound	Communications with Kubernetes API.
Windows Guest OS Features	135 139 445	TCP	Outbound	Access to Windows VMs for issuing WMI commands and file copy operations.
Linux Guest OS Features	22	TCP	Outbound	Access to Linux VMs for issuing SSH commands.
Datastore Scanning	443	TCP	Outbound	Access to VMware hosts through HTTPS to collect file layout.
Legacy Datastore Scanning	22	TCP	Outbound	Access to VMware hosts through SSH to collect file layout. Only used when HTTPS access is not available.
vCommander Message Queue	5672	TCP	Internal communication	This port is reserved for a RabbitMQ message broker used by vCommander.
vCommander Consul	8400 8500	TCP	Internal communication	This port is reserved for a Consul agent used by vCommander for service discovery and orchestration.
LinkerD Service	4440 9990	TCP	Internal communication	This port is reserved for a LinkerD service mesh.
vCommander Identity Service	8042	TCP	Internal communication	This port is reserved for a vCommander identity service.

Network Requirements - Authentication

Connection	Ports	Protocol	Direction	Description
Kerberos Key Distribution Center	88	TCP	Outbound	Access to authenticate against an Active Directory or LDAP server.
Active Directory Domain Controller for Remote LDAP Traffic	389	TCP UDP	Outbound	Access to authenticate against an Active Directory or LDAP server.
Active Directory Domain Controller for Remote Global Catalog Traffic	3268	TCP	Outbound	Access to query the global catalog of an Active Directory or LDAP server.
Active Directory Domain Controller for Remote Secure LDAP Traffic	636	TCP	Outbound	Access to authenticate against a secure Active Directory or a secure LDAP server.
Active Directory Domain Controller for Remote Secure Global Catalog Traffic	3269	TCP	Outbound	Access to query the global catalog of a secure Active Directory or secure LDAP server.

Network Requirements - Optional

Connection	Ports	Protocol	Direction	Description
Splunk Server	8089	TCP	Outbound	Communications with Splunk server for retrieval of guest OS performance metrics.

Connection	Ports	Protocol	Direction	Description
BlueCat™ Server	80	TCP	Outbound	Communications with BlueCat™ IP address management server for addressing assignments.

Network Requirements - Client Connections

All of these connections go from the client browser to the respective servers.

Network Requirements - Advanced Configuration

Connection	Ports	Protocol	Direction	Description
VM Access Proxy Appliances - Web Server	443	TCP	Inbound	Publishing listener for WebMKS open console sessions.
VM Access Proxy Appliances - Web Server	8443	TCP	Inbound	Publishing listener for RDP, VNC, SSH and plug-in-based open console sessions.
VM Access (Hyper-V Console)	2179	TCP	Outbound	Access to remote control VMs using the Hyper-V console.

Guest OS scanning port requirements

Guest OS scanning of Windows VMs requires firewall rules to handle a dynamic range of ports that are opened for the response when vCommander queries the VMs on TCP port 135. To avoid opening a large range of high ports, refer to the following Knowledge Base articles for instructions on how to configure the Windows Firewall to enable these ports:

- [Configuring Windows for Guest OS Scans Using Group Policy](#)
- [Configuring Windows for Guest OS Scans](#)

Required administrative accounts

vCommander requires an administrative account on each managed system. The account must have full administrative access on the entire managed system. Administrator privileges are required for a number of functions that vCommander performs, including retrieving VM and infrastructure information, managing VM identity, powering VMs on and off, and other policy actions.

Embotics recommends that you create a uniquely identifiable administrative account on each managed system (for example, "Embot"). Creating a unique account name allows you easily to track vCommander commands sent to the managed system by vCommander or by vCommander users.



vCommander doesn't make use of VMware's Linked Mode feature. vCommander communicates with each vCenter directly.

Third-party integrations

New vCommander integrations are continually being added. Please consult the [Embotics Knowledge base](#) or email support@embotics.com if you have a specific technology integration interest.

The following table provides a list of third-party software that can be integrated with vCommander, including supported versions where applicable.

Integration Category	Supported Systems and Protocols	Integration Type
Authentication	Active Directory®	Bundled
	LDAP	Bundled
	SAML2 WebSSO	Bundled
	Windows SSO	Bundled
Configuration Management and Application Deployment/Automation	Chef™ 12.17	Bundled
	Puppet™ Enterprise 2018.1.3	Bundled
	SCCM 2012 R2	Scripted
	Jenkins CI: Inbound integration	Additional download required
	Jenkins CI: Outbound integration	Additional download required
	ServiceNow or ServiceNow Express, with REST API access	Scripted
	Zerto Virtual Manager (ZVM) Replication 4.5u1 (vCenter only)	Scripted
	Docker 1.2	Scripted
	vCommander REST API plus scheduled workflows	Additional download required
	vCenter metadata synchronization, for all vCenter versions supported by vCommander	Scripted
	Ansible 2.4	Additional download required
	Terraform 0.11.x	Additional download required
IPAM	BlueCat™ IPAM 4.1	Bundled
	phpIPAM 1.3.1	Scripted
	Infoblox 8.1.2	Scripted
Application Monitoring	Splunk® 7.1, 7.0, 6.2, 6.1 (with HTTPS protocol)	Bundled
Notification	SNMP 2	Bundled
	SMTP	Bundled
Backup	Veeam Backup & Replication 9.0, 8.0	Additional download required
Workflow Automation	vCommander REST API v3	Bundled
	vCommander REST API v2 client for PowerShell 4, 3 with .NET Framework 4.5 or higher	Additional download required

Upgrade Notes

Supported upgrade paths

Consult the following table to see whether a direct upgrade from your currently installed version is supported.

Current installed version	Direct upgrade supported to Release 7.1.0
7.0.x	Yes
6.1.x	Yes
6.0.2	Yes
6.0.1	No
5.7.x	No
5.6.x and earlier versions	No End of Life is December 31, 2018. See End of Support for vCommander 5.5 and 5.6 . See the Knowledge Base article What Upgrade Paths are Supported? for instructions on how to upgrade from earlier versions.

Changes to system requirements

Support for Microsoft Internet Explorer 10 is removed in Release 7.1.

See also [Deprecated and Removed Features and Platforms](#).

Changes affecting upgrading users

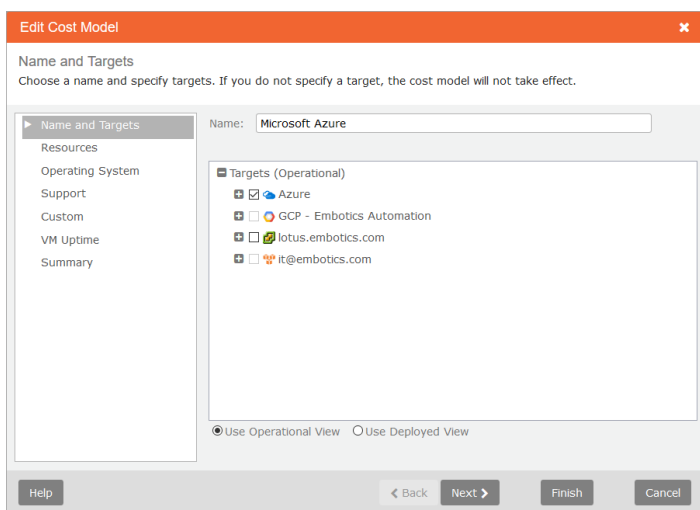
Only Superuser role can assign access rights by default

In previous releases, the Enterprise Admin role had permission to assign access rights to other users. Now, only the Superuser role has this permission. We've added an advanced system property, `embotics.permission.modifyrole.nonsuperuser`, which controls whether other roles have this permission; by default, this system property is set to false.

To learn how to configure system properties, see [Advanced Configuration through System Properties](#).

Cost models for supported public clouds now target the Operational view by default

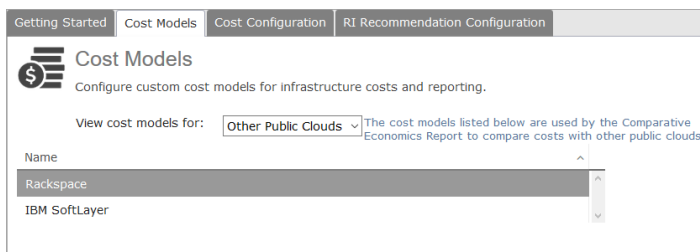
In previous releases, the AWS and Azure cost models targeted the Deployed view by default. In this release, because the region cannot be determined from the Deployed view targets, the default target for public cloud cost models is now the Operational view. Existing cost models are not modified during upgrade, so we recommend editing your AWS and Azure cost models to target the Operational view.



To learn more, see [Configuring Cost Models](#).

Google Compute Engine cost model removed from Other Public Cloud costs models

Because Google Cloud Platform is now a supported cloud with its own cost model, we have removed the Google Compute Engine cost model from the list of cost models for unsupported clouds. This cost model is removed during upgrade.



To learn more, see [Configuring Cost Models](#).

Changes to the VM Comparative Economics Report

We've made a few changes to the VM Comparative Economics report.

Because Google Cloud Platform is now a supported cloud, to compare costs on GCP, you need to select it under **Supported Cloud Costs** instead of **Other Cloud Costs**.

When selecting the **Projected Destination**, public clouds are no longer available for selection in the Deployed tree because the region cannot be determined from the Deployed view targets. You can only select a public cloud **Projected Destination** from the Operational tree. Lastly, you can now select the **Current Location** from the Deployed view.

To learn more, see [Configuring Cost Models](#).

Custom file provided for Azure Public Images

With vCommander 7.1, a new `arm-images.custom.xml` file has been added to handle custom images. If you add your custom images to this file, those customizations will be preserved for subsequent upgrades. As is recommended with all customized configuration files, back up your customized file before upgrading. After upgrading, merge your customizations into the new `arm-images.custom.xml` file (not `arm-images.xml`) in the `<vCommander installation>/tomcat/common/classes` directory, and restart the vCommander service.

Deprecated and Removed Features and Platforms

This section lists features and platforms that have been removed or are deprecated. Support for deprecated features and platforms will be removed in a future release. If you need more information about any of the deprecated or removed features, contact support@embotics.com.

- **Microsoft Internet Explorer:** Support for Internet Explorer 10 is removed in Release 7.1.
- **Microsoft Azure Classic:** Support for Azure Classic (ASM) as a cloud platform is removed in Release 7.0.
- **Microsoft Hyper-V SCVMM 2012:** Support for SCVMM 2012 as a cloud platform is removed in Release 7.0.
- **VMware vCenter 5.5, 5.1 and 5.0:** Support for VMware vCenter 5.5, 5.1 and 5.0 as cloud platforms is removed in Release 7.0.
- **vCommander Dashboard:** The vCommander Dashboard option in the vCommander Views menu has been removed in Release 7.0.
- **Projected cost model option in Reports:** The Projected option for the Cost Model setting in the VM Billing Report and the VM Comparative Economics Report is deprecated in Release 7.0.
- **User-specific component forms for new service requests:** With the introduction in 5.7 of the blueprint service catalog model, user-specific component forms for new service requests (that is, component forms created in the Form Designer) are deprecated and will be removed in a future release.
- **End of Life Policy, Suspect Policy and Approval Policy:** The End of Life policy, Suspect policy and Approval policy and the relevant VM states are deprecated and will be removed in a future release.

Issues Resolved in This Release

Issue	Description and Resolution
26048	On some systems, VM Billing Report may fail to generate <i>VM Billing Report now generates successfully, and performance has been improved.</i>
26030	Refresh Media task may stay in a running state <i>Refresh media folder tasks complete normally.</i>
26019	If the port is changed in the vCommander URL, the link to the Service Portal may not reflect the change <i>Link to the Service Portal works when the port has been changed.</i>
25997	Some users may not be able to deploy a VM requiring a single CPU when the template has more than one CPU <i>Single CPU VMs can now be deployed successfully.</i>
25967	Sublist custom attribute items may be displayed, regardless of the parent custom attribute list value <i>Display of sublist custom attribute items now reflects the value that's set in the parent custom attribute list.</i>
25965	For vCommander, curly quotes in a login password may interrupt the login process <i>Curly quotes can now be used in passwords.</i>
25964	IP address for vCommander Port Forwarding shows an internal address instead of an external address <i>IP address shows the external address as expected.</i>
25955	Encoding type for log4j.properties may cause an error during upgrade <i>Upgrade now supports multiple file encoding of supporting files.</i>
25952	Quota warning may be sent prematurely <i>Warnings for quota are only sent when quota is exceeded.</i>
25951	Unable to download SAML metadata during SAML Single Sign-On configuration <i>The vCommander SAML Metadata file (vCommander-sp-metadata.xml) now downloads as expected.</i>
25939	Storage form element may display costs when the user doesn't have permission to view costs <i>Service Portal storage tier information displays appropriately according to portal role permissions.</i>
25907	A conditional Run Module workflow step can cause the workflow to hang when the conditions aren't met <i>If a Run Module workflow step is set to conditionally execute only when a specified condition is met, the step will now be skipped if the conditions aren't met (the expected behavior) instead of preventing the entire workflow from completing.</i>
25895	Link in the approval email from a command workflow sometimes uses the incorrect port <i>The approval email link now uses the correct port.</i>
25894	The Deployment Destination field may not be editable when copying a service request <i>You can now change the Deployment Destination after copying a service request.</i>
25882	REST API v3: Link returned by /rest/v3/services/71/request-form endpoint is invalid <i>The link returned by the request-form endpoint is now a valid URL that includes the ID.</i>

Issue	Description and Resolution
25880	Requesting an AWS service using RESTv3 "additional_disks" may cause disk size conversion issues <i>Disk size remains constant after AWS service request.</i>
25853	The REST v2 API GET stacks method doesn't display resources or costs <i>The REST GET stacks method now returns a list of generic resources and returns a <code>cost</code> and <code>runningCost</code> property.</i>
25815	VM hardware version 13 may not link Kubernetes nodes to the corresponding VM <i>vCenter VMs created with VM hardware version 13 now link Kubernetes nodes to the corresponding VM as expected.</i>
25803	Change request workflow may stall or fail if a service is removed before the workflow is completed <i>Workflows produce error logs indicating that the target no longer exists or couldn't be loaded instead of stalling when a service is removed.</i>
25771	Deleting a parent organization may remove deployment destination assignments for child organizations <i>When the parent organization is deleted, the assignments of deployment destinations to the child organizations are no longer deleted.</i>
25761	Unable to log in to Service Portal after a failed login when vCommander is integrated with multiple Active Directory domains <i>If you attempt to log in to the Service Portal without specifying a domain (the default domain is set as a login preference), and the attempt fails because the username isn't correct, a login reattempt with a valid username and domain will succeed as expected.</i>
25710	Connection to an AWS account via ARN may occasionally disconnect <i>When an AWS account is added to vCommander using the Role ARN method, the issue of occasional disconnection has been resolved.</i>
24773	Upgrade may remove customized list of public Azure images <i>A custom file (<code>arm-images.custom.xml</code>) has been provided for adding custom images. The customizations will be preserved for subsequent upgrades.</i>
24173	The preview window for service request forms doesn't resize correctly <i>When a large number of categories are assigned to service catalog items, the preview window for service request forms now resizes correctly.</i>
23833	REST API v3: Request details don't include custom attribute values set through the UI <i>The REST service request details now include the custom attribute values.</i>
23589	Can't use RESTv3 to delete organizations that are referenced by other resources <i>If you attempt to delete organizations through REST v3, and those organizations are referenced by other resources, a 409 (conflict) error is now returned. Error messages provide links to the conflicting resources.</i>
23444	Snapshots created in vCommander may show incorrect disk size <i>After taking a VM snapshot in vCommander, the size displayed in the Snapshot Details dialog will display the correct disk size.</i>
21088	Unable to view performance charts for VMs on managed systems running vSphere 6.7 and 6.5 <i>Performance charts are now available.</i>

Known Issues

Issue	Description and Solution
25789	<p>REST API v2: Unable to request service if Instance Type element appears on blueprint form for Azure public image or Amazon Marketplace AMI</p> <p>If the Instance Type - Azure element appears on the blueprint form for an Azure public image component, using the REST API v2 to request the service may fail. Likewise, if the Instance Type - AWS element appears on the blueprint form for an Amazon Marketplace AMI component, using the REST API v2 to request the service may fail.</p> <p><i>Remove the Instance Type - Azure or Instance Type - AWS element from the blueprint form.</i></p>
25537	<p>vSphere host performance charts aren't always available</p> <p>For vCenter versions 6.5 and beyond, the host performance charts aren't available in vCommander.</p> <p><i>Log in to vCenter directly to access these charts.</i></p>
24428	<p>Linked clone deployments from a template not supported for vCenter 6.7</p> <p>Due to changes in VMware vSphere 6.7, linked clone deployments from a template are not supported for vCenter 6.7 managed systems.</p> <p><i>You can convert a template to a VM and then use that VM for linked clones for vCenter 6.7 managed systems. When VMware vSphere 6.7 supports linked clone deployments from a template, that functionality will also be provided in a future vCommander release.</i></p>
23056	<p>WebMKS not supported for direct console connections to vCenter 6.0 VMs on ESXi 5.5</p> <p>The WebMKS method isn't supported for direct (non-proxied) console connections to vCenter 6.0 VMs on ESXi 5.5.</p> <p><i>Use the VMRC method instead of the WebMKS method to open console connections in this environment. Contact support@embotics.com to learn how to edit an advanced system property that controls the preferred connection method.</i></p>
21870	<p>Deploying the VM Access Proxy disables the "Synchronize guest time with host" option</p> <p>When you deploy the VM Access Proxy, the "Synchronize guest time with host" option is disabled.</p> <p><i>In vCenter, right-click the VM Access Proxy deployment and select Edit Settings. On the VM Options tab (the Option tab in the Thick Client), enable the Synchronize guest time with host option in the VMware Tools panel.</i></p>
21147	<p>Google Chrome version 58 doesn't support Common Name in self-signed certificates</p> <p>Chrome Version 58 now requires a Subject Alternative Name instead of the Common Name used in the self-signed certificate delivered with vCommander.</p> <p><i>If you're using Chrome version 58, generate a self-signed certificate for vCommander using the Subject Alternative Name. See the Knowledge Base article Trusting a Self-Signed Certificate for more information.</i></p>
19275	<p>Open SSH Session not supported in Chrome and Firefox</p> <p>The commands Open SSH Session and Open SSH Session with Key Pair are no longer supported in Chrome and Firefox due to the discontinuation of support for the Java plug-in (applets) by these browsers.</p> <p><i>Use the VM Access Proxy to open an SSH session.</i></p>
17455	<p>Performance metrics may not be available immediately after upgrade to vSphere 6</p> <p>Attempting to run the Update Performance and Capacity command for a cluster immediately after upgrading to vSphere 6 may fail, because performance metrics are not yet available to vCommander.</p> <p><i>Wait about an hour for vSphere to make performance metrics available, and run the command again.</i></p>

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16002	<p>Mouse pointer may not be visible when opening VM console using IE 11</p> <p>When the WebMKS console connection method is configured, Internet Explorer 11 users may be unable to see the mouse pointer in the console session.</p> <p><i>To open a console to a Windows VM from Internet Explorer 11 when using WebMKS, try enabling mouse trails with the shortest option. Or, use the VMRC plug-in method instead of the WebMKS method. For Linux VMs, use the VMRC plug-in connection method. See About the Console Connection Methods to learn how to change the console connection method for HTML5 browsers.</i></p>
15602	<p>Multiple connections in same browser not supported</p> <p>vCommander and the Service Portal don't support multiple connections in the same browser. For example, you can connect to vCommander in both Firefox and Chrome at the same time, but you can't connect to vCommander in two instances of Firefox at the same time.</p> <p><i>Use a different browser to open another session.</i></p>

