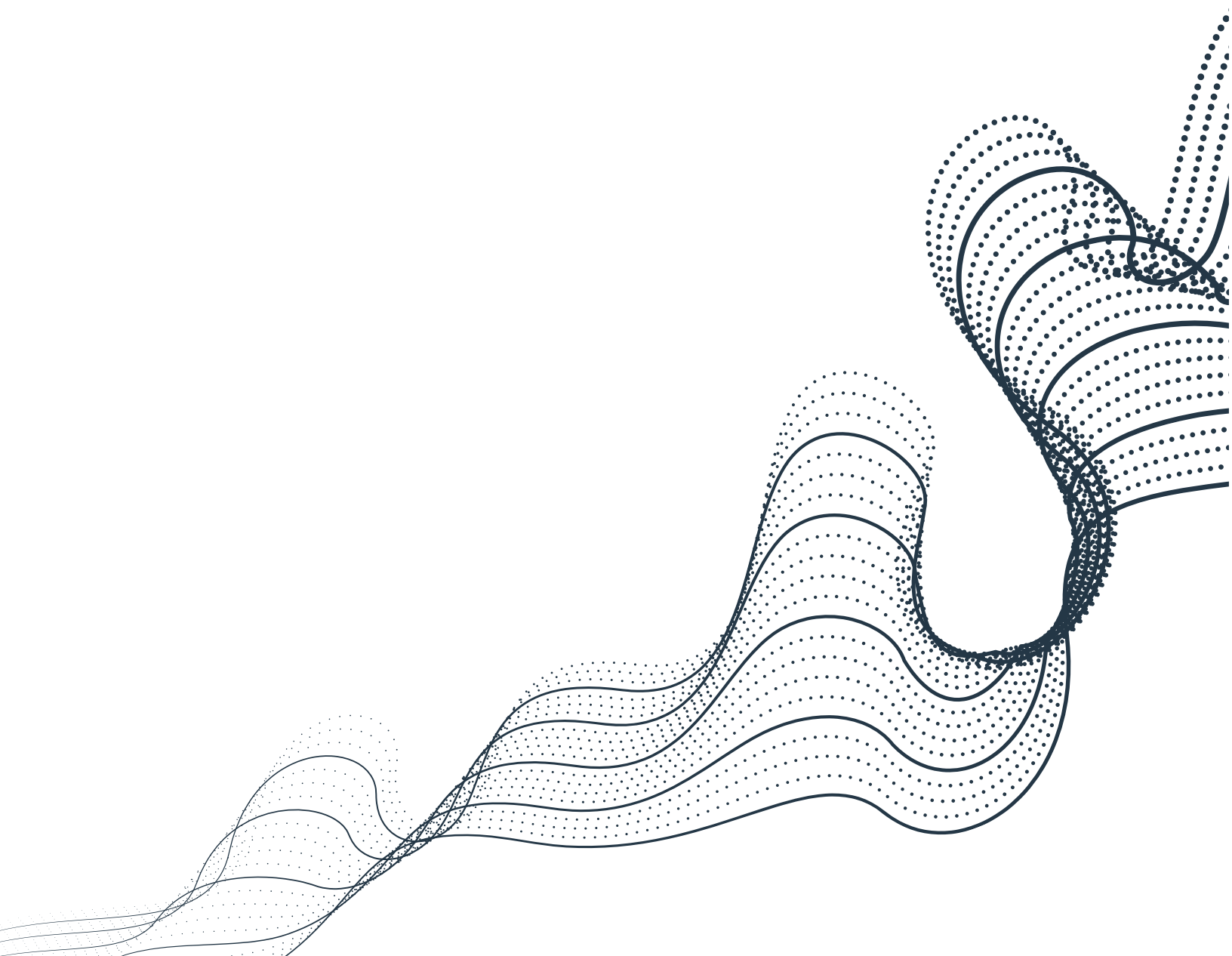

Release Notes



Contents

What's New in this Release	2
System Requirements	5
Software requirements	5
Hardware requirements	6
VM Access Proxy hardware requirements	7
Network requirements	7
Guest OS Scanning Port Requirements	9
Required administrative accounts	9
Third-party integrations	9
Upgrade Notes	11
Supported upgrade paths	11
Changes to system requirements	11
Changes affecting upgrading users	11
Deprecated and Removed Features and Platforms	13
Issues Resolved in this Release	14
Known Issues	15

What's New in this Release

vCommander 7.1.2 includes several [resolved issues](#).

vCommander 7.1.1 includes the following new capabilities:

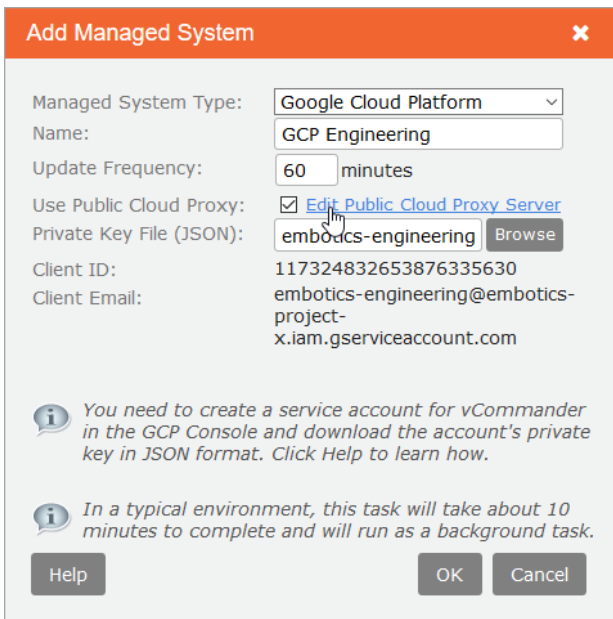
Enhanced support for Google Cloud Platform

In this release, we've expanded our support for Google Cloud Platform (GCP).

Because we're using a phased delivery model for our support for GCP, not all functionality is available for GCP in this release. To learn what features are currently supported, see [vCommander Capability Matrix](#). Self-service provisioning and automation, for example, will be delivered in a later release. For more information, contact support@embotics.com.

Connect to GCP using a web proxy server

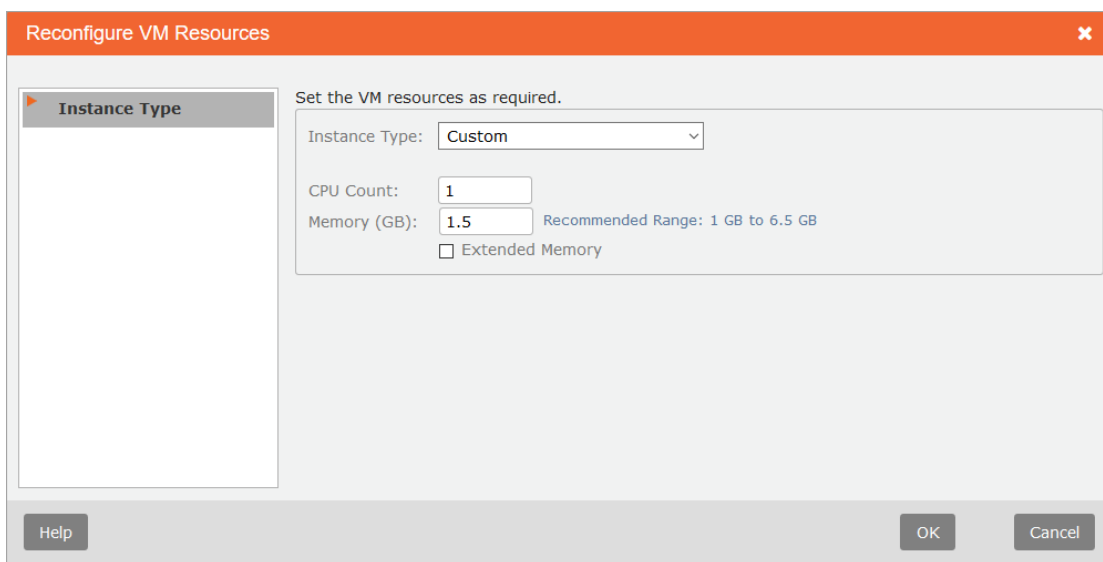
When managing a public cloud, vCommander must be able to reach the Internet. vCommander now supports connecting vCommander to GCP in environments where a web proxy server is in use on the network.



To learn more, see [Connecting Public Clouds to vCommander through a Web Proxy Server](#).

Change the memory and CPU resources for existing GCP instances

vCommander and Service Portal users can now reconfigure CPU and memory resources for GCP instances. Users can pick from predefined GCP instance types or set custom values for CPU and memory. vCommander helps you tailor workload resources to user needs while keeping costs down.



Reconfigure VM Resources

Set the VM resources as required.

Instance Type: Custom

CPU Count: 1

Memory (GB): 1.5 Recommended Range: 1 GB to 6.5 GB

☐ Extended Memory

Help OK Cancel

To learn more, see [Manually Reconfiguring VM Resources](#).

Secure RDP connection enhancements for VM Access Proxy 3.3

vCommander VM Access Proxy version 3.3 now supports TLS and NLA security modes for secure RDP connections. When you're configuring the VM Access Proxy, you can specify whether the connection should use standard RDP encryption, TLS encryption, network level authentication (NLA), or allow the server to decide the protocol to use.

The vCommander VM Access Proxy version 3.3 can be used with vCommander versions 7.1.x, 7.0.x, 6.1.x and 6.0.x.

To download the vCommander VM Access Proxy version 3.3. package, go to the [Embotics Downloads](#) page.

To learn more, see [Configuring the VM Access Proxy for Secure VM Connections](#).

Option to hide the service portion of the service request form

When you're making a service available for users to request, there may be situations when it's not applicable to display the service portion of the service request form. While generic service-level forms are great for traditional application provisioning, options like expiry date and quantity don't make sense for services that perform administrative actions, such as onboarding a new AWS account for an organization.

You can hide the service portion of the service request form from users by clearing the **Display service form when this service is requested** checkbox on the Service Description page of the service catalog wizard. This applies to vCommander and the Service Portal.

Getting Started | Intelligent Placement | **Service Catalog** | Form Designer | Approval Workflow | Provisioning Configuration

Add Service

Service Description

- Component Blueprints
- Deployment
- Intelligent Placement
- Visibility
- Summary

Enter a name and description for the service.

Name:

Description:

Icon:
 [Manage Icons](#)

Categories:
 [Manage Categories](#)

☐ Windows
 ☐ Linux
 ☐ Database
 ☐ Production
 ☐ Development
 ☐ Multi Tier
 ☐ Public
 ☐ Private

☒ Display service form when this service is requested [?](#)

[Help](#)
[Back](#)
[Next](#)
[Finish](#)
[Cancel](#)

To learn more, see [Managing the Service Catalog](#).

Downloadable workflow plug-in steps and scenarios

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.

System Requirements

In this topic:

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

See also [Changes to system requirements](#) and [Deprecated and Removed Features and Platforms](#).

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
Languages Supported	<ul style="list-style-type: none"> English
Recommended Databases	<ul style="list-style-type: none"> Microsoft SQL Server 2017 Microsoft SQL Server 2016 Microsoft SQL Server 2014 Microsoft SQL Server 2012 SP3
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 Embotecs 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 dedicated Microsoft SQL Database server • Minimum 20.0 GB disk space (data partition) for database • SAN backing for database files

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 following ports are used by the various vCommander components. You configure some of these ports during installation, and you can also configure ports after installation using the vCommander Control Panel. Certain ports can be configured only through a system property. For more information, contact support@embotics.com.

IMPORTANT: 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.

Network Requirements - Basic Operations

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

Connection	Ports	Protocol	Direction	Description
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.

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.
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.

Connection	Ports	Protocol	Direction	Description
VM Access (Remote Desktop)	3389	TCP	Inbound	Access to remote control VMs using RDP.
VM Access (Virtual Network Computing)	5900	TCP	Inbound	Access to remote control VMs using VNC.
VM Access Console - WebMKS (HTML5)	9443	TCP	Inbound	Access to remote control VMs using WebMKS Console.
VMware Console - Plug-in	443 (vCenter) 902 (ESX)	TCP	Inbound	Access to remote control VMs using VMware Remote Console (VMRC) Plug-in.

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.

Connection	Ports	Protocol	Direction	Description
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

Integration Category	Supported Systems and Protocols	Integration Type
Configuration Management and Application Deployment/Automation	Chef™ 12.18.14	Bundled
	Puppet™ Enterprise 2019.1	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 7.1.2
7.1.x	Yes
7.0.x	Yes
6.1.x	Yes
6.0.2	No
6.0.1	No
5.7.x	No
5.6.x and earlier versions	No End of Life was 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

Note the following changes to our [system requirements](#). See also [Deprecated and Removed Features and Platforms](#).

- If modifications to JVM memory are required, see the Knowledge Base article [Adjusting Java Virtual Machine Memory](#).
- In vCommander version 7 and higher, the hardware requirements have changed. Review the [System Requirements](#) before upgrading.

Changes affecting upgrading users

The following changes were made in version 7.1. There are no changes affecting upgrading users in version 7.1.1 or 7.1.2.

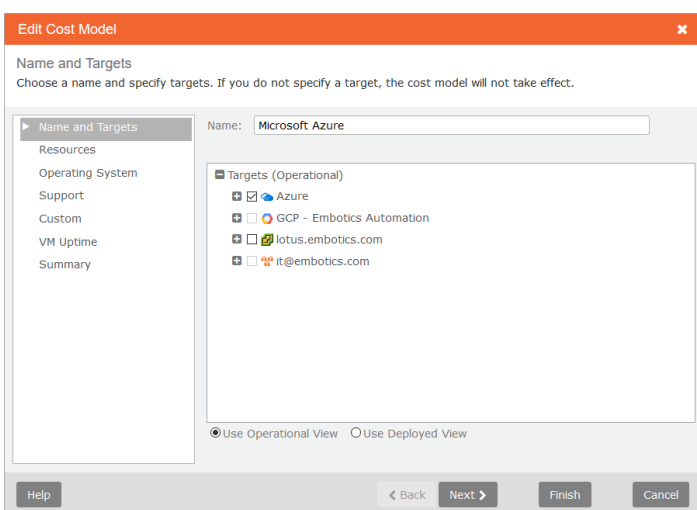
Only Superuser role can assign access rights by default

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

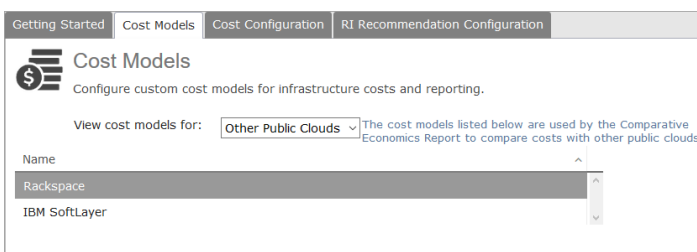
In previous releases, the AWS and Azure cost models targeted the Deployed view by default. In this release, because the region cannot be determined from the Deployed view targets, the default target for public cloud cost models is now the Operational view. Existing cost models are not modified during 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 [VM Comparative Economics Report](#).

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. See also [System Requirements](#).

- **Microsoft SQL Server 2012:** As of Release 7.1.2, our support for Microsoft SQL Server 2012 now requires SP3.
- **Microsoft Windows Server 2008 R2 and higher:** Support for Microsoft Windows Server 2008 R2 and higher has been removed in Release 7.1.2.
- **Microsoft SQL Server 2008 R2:** Support for Microsoft SQL Server 2008 R2 has been removed in Release 7.1.2.
- **Microsoft Internet Explorer:** Support for Internet Explorer 10 was removed in Release 7.1.
- **Microsoft Azure Classic:** Support for Azure Classic (ASM) as a cloud platform was removed in Release 7.0.
- **Microsoft Hyper-V SCVMM 2012:** Support for SCVMM 2012 as a cloud platform was 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 was removed in Release 7.0.
- **vCommander Dashboard:** The vCommander Dashboard option in the vCommander Views menu was 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 and will be removed in a future release.
- **User-specific component forms for new service requests:** With the introduction in vCommander 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

The following issues have been resolved in 7.1.2:

Issue	Description and Resolution
26540	When an RDS instance and its replica are located in different regions, the vCommander managed system no longer disconnects from AWS.
26535	In rare circumstances, vCommander could become disconnected from vCenter with a "No deserializer" error. This issue has been addressed.
25093	When a change request approval workflow with a Send Quota Approval Email workflow step is configured to require approval only when organization quota is exceeded, submitting a change request that exceeds member quota now proceeds as expected.

Known Issues

Issue	Description and Solution
25789	<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>For vCenter versions 6.5 and beyond, the host performance charts aren't available in vCommander.</p> <p><i>While vCenter 6.5 VM performance charts are available in vCommander, you must log in to vCenter directly to access performance charts for hosts.</i></p>
24428	<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.</i></p> <p><i>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>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>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>
21477	<p>Google Chrome no longer supports the Common Name in self-signed certificates. Chrome 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, 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>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 for SSH sessions.</i></p>
17455	<p>Performance metrics may not be available immediately after upgrade to vSphere 6. As a result, attempting to run the Update Performance and Capacity command for a cluster immediately after upgrading to vSphere 6 may fail.</p> <p><i>Wait about an hour for vSphere to make performance metrics available, and run the command again.</i></p>
16002	<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>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>

