

# Turbonomic Release Notes

## Release: 5.7

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January 24, 2017

This document describes issues that are addressed in Turbonomic 5.7 – Release Date: January 24, 2017. All builds are cumulative. Applying 5.7 onto any release of Turbonomic v5.0 or later will include all previous fixes. Please see the Turbonomic documentation for earlier versions of the Release Notes:

<https://greencircle.vmturbo.com/community/products/pages/documentation>

For any questions, please contact Turbonomic Technical Support at [support@turbonomic.com](mailto:support@turbonomic.com), or open a ticket at:

<https://greencircle.vmturbo.com/support>

## Configuration Requirements

For the 5.7 release of Turbonomic, you should satisfy the following configuration requirements.

### Security Requirements for Apache Configurations

Turbonomic versions 5.5.2 and earlier shipped with the default Apache configuration – this configuration is no longer considered secure. Versions 5.5.3 - 5.7 ship with an Apache configuration that is considered secure in most environments. Updating to these versions updates the Apache configuration as well. If you do not want to update, contact Turbonomic Technical Support for the correct Apache configuration.

Note that after updating the Apache configuration (either by updating Turbonomic, or by editing the Apache configuration), you must restart Apache. We suggest that you reboot the Turbonomic VM.

In addition, you should be sure to maintain a secure OS platform. Starting with Turbonomic version 5.5 on openSUSE, you must run openSUSE 13.2 or later. If you are running an earlier version of openSUSE, please contact Turbonomic Technical Support.

If you are updating Turbonomic on an existing openSUSE platform, you should be sure to update your OS components. Systems with internet connections can use the `zypper update` command. If you are migrating to a new Turbonomic OVA, that OVA includes updated OS components.

For web browsers to communicate with Apache, this configuration requires TLS versions 1.1 or later. To use versions of Microsoft Internet Explorer 9 and 10, you must enable TLS 1.1 or later (in **Internet Options > Advanced**). For more information, see the following Green Circle article:

[The DROWN Attack: Configuring Your Operations Manager's Web Security.](#)

## Storage Requirements for the Turbonomic Server

Turbonomic now states 150GB or greater as a requirement for disk storage. For Turbonomic servers hosted on VMware hypervisors, you should provide 150GB *plus* swap space to match the RAM allocation.

## Transport Layer Security Requirements

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Starting with version 5.4, by default Turbonomic requires Transport Layer Security (TLS) version 1.2 to establish secure communications with targets. Most targets should have TLSv1.2 enabled. However, some targets might not have TLS enabled, or they might have enabled an earlier version. In that case, you will see handshake errors when Turbonomic tries to connect with the target service. When you go to the Target Configuration view, you will see a Validation Failed status for such targets.

In particular, we have found that NetApp filers often have TLS disabled by default, and that the latest version they support is TLSv1. If your NetApp target suddenly fails to validate after installing Turbonomic 5.4 or later, this is probably the cause.

If target validation fails because of TLS support, you might see validation errors with the following strings:

- `No appropriate protocol`  
To correct this error, ensure that you have enabled the latest version of TLS that your target technology supports. If this does not resolve the issue, please contact Technical Support.
- `Certificates does not conform to algorithm constraints`  
To correct this error, refer to the documentation for your target technology (for example, refer to NetApp documentation) for instructions to generate a certification key with a length of 1024 or greater on your target server. If this does not resolve the issue, please contact Turbonomic Technical Support.

## SMI-S Provider Versions for EMC VNX and EMC VMAX Storage Solutions

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To connect to EMC VNX and VMAX disk arrays, Turbonomic uses EMC SMI-S providers that have the given disk arrays added to them. You should know that VNX and VMAX support different versions of SMI-S Providers:

- VNX  
For VNX and VNX2 arrays, use SMI-S version 4.6.2, based on Solutions Enabler 7.6.2. We have verified Turbonomic control of VNX block storage using SMI-S version 4.6.2 as a target.
- VMAX  
For VMAX arrays, use SMI-S version 8.1, which is included in Solutions Enabler 8.1 – We have verified Turbonomic control of VMAX storage arrays using SMI-S version 8.1 as a target.

## Migration Requirements

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Turbonomic supports two ways to upgrade to a new version:

- Update – Use an online or offline update to upgrade the software running on the Turbonomic server
- Migrate – Install a new Turbonomic VM that includes updated software, and also includes updates to the openSUSE OS or other components of the VM

**NOTE:** openSUSE ENDED ITS SPONSORED MAINTENANCE OF openSUSE 12.3 AS OF JANUARY 29, 2015, AND ENDED OFFICIAL SUPPORT ON JANUARY 17, 2016. TO RUN WITH MINIMAL SECURITY, YOU MUST MIGRATE TO A NEW TURBONOMIC VM IF YOUR CURRENT INSTALLATION RUNS ON A VERSION OF openSUSE THAT IS EARLIER THAN 13.2. TO ADDRESS THE END OF SUPPORT FOR openSUSE 13.2, TURBONOMIC IS BEGINNING AN OVERALL MIGRATION TO CentOS. FOR MORE INFORMATION, PLEASE SEE THE GREEN CIRCLE ARTICLE:

<https://greencircle.vmturbo.com/docs/DOC-4276-retirement-of-opensuse-support>

Turbonomic began delivering the platform on openSUSE version 13.2, starting with Turbonomic version 5.0. However, you could have updated to 5.0, 5.1, 5.2, or 5.3 without performing a migration. If that is the case, then you must perform a migration to 5.4 before you can update to version 5.5. After that, you can then update to version 5.7.

To see the version of openSUSE that your Turbonomic platform is currently running on:

- Open a secure shell session to your Turbonomic VM, logged in as `root`
- In the shell, enter `cat /etc/os-release`

The results will show the OS version for that machine. If the OS is earlier than 13.2, then *you must perform a migration* to Turbonomic version 5.4 running on openSUSE 13.2, *and only after you have migrated to version 5.4* you can perform an update to a later version.

For information about migrating to a new version, please see the Turbonomic Installation Guide at the following location:

<https://greencircle.vmturbo.com/community/products/pages/documentation>

## Update Recommendations

You can apply this update to any GA version of Turbonomic from version 5.0 or later, if it is running on openSUSE 13.2 – Otherwise you should perform a migration. To upgrade older versions of Turbonomic, contact Turbonomic Technical Support to confirm the update path.

## Update Links

If your server is able to connect to the Internet, you can apply the update through the online process by going to Admin > Maintenance > Software updates > Update. If you require an offline update, please see the Green Circle article:

[How To Perform an Operations Manager "Offline Update" - Latest Links Included](#)

## Related Green Circle Articles

- Offline and Online Update Instructions:  
<https://greencircle.vmturbo.com/docs/DOC-1649>
- Release Notes and Product Documentation:  
<https://greencircle.vmturbo.com/community/products/pages/documentation>

## Resolved Issues

This release includes resolutions for the following issues:

### Action Issues

- **Customer Issue: 21902**  
For VMware environments, under some circumstances a disruptive resize action fails and leaves the VM in a powered-off state.
- **Customer Issue: 27918**  
In VMM environments, Turbonomic can fail to move a VM when it cannot properly read the VM's paths to its datastores.
- **Customer Issue: 36056**  
For NetApp in 7-Mode, Turbonomic Storage Resize actions can fail to execute.

- **Customer Issue: 36207**

For a single Provision Host action, the PRE\_PROVISION\_PhysicalMachine action script is executed multiple times.

- **Customer Issue: 36353**

For CloudStack environments, migration of vRouter VMs is executed via the underlying hypervisor target (the vCenter Server), instead of executing moves via the CloudStack target.

- **Customer Issue: 36806**

This release includes performance improvements for Shared-Nothing moves.

- **Customer Issue: 38703**

If you change the name of a group that is used in an Action Schedule Window, then Turbonomic deletes that Action Schedule Window.

## REST API Issues

- **Customer Issue: 36229,API,**

When creating or editing a template via the API, you cannot use decimals in values that you pass for resource capacity in the template.

- **Customer Issue: 39046,API,**

REST API calls to get entities from the market do not return the full set of data for each entity.

## Configuration Issues

- **Customer Issue: 29078**

For earlier versions, Turbonomic could sometimes freeze when receiving data over the web. In earlier versions, the workaround was to increase the websocket.binaryBufferSize in tomcat. Starting with version 5.6, Turbonomic ensures that data transfers do not exceed the buffer size.

- **Customer Issue: 37272**

Turbonomic includes a feature to load a serialized topology and perform analysis on that. For example, you can use this to load a large topology into a remote Turbonomic server, and run plans without impacting the server that performs your real-time Turbonomic analysis.

If you load a topology and perform analysis, then Turbonomic can experience an exception where Tomcat does not close unused socket requests, and processing cannot continue.

To fix this issue, users who deploy Turbonomic on a VMware .OVA can migrate the current installation of Turbonomic to the latest delivery of the Turbonomic OVA. For more information, please see the Turbonomic Installation Guide, and please contact your support representative.

To work around this issue so you can run large plans on a remote Turbonomic server, disable the Turbonomic mediation web application for that remote server, as follows:

1. Stop Tomcat
2. Delete the directory, `/srv/tomcat/webapps/vmturbo-mediation`
3. Move `vmturbo-mediation.war` to a location outside of the `webapps` directory
4. Restart Tomcat

**NOTE:** Before you perform these steps, please contact Turbonomic Support for additional information.

- **Customer Issue: 40015**

The Turbonomic OVA does not deploy correctly to VMware vSphere version 6.5.

- For installations of Turbonomic running on RedHat, the backup script executes a command to `netstat` with a parameter that is not supported on RedHat.

## Discovery Issues

- **Customer Issue: 20894**

In NetScaler environments, Turbonomic fails to show utilization metrics for virtual applications.

- **Customer Issue: 26068**

For VMware environments, under some circumstances Turbonomic fails to discover tags that are declared in vCenter Server. Note that to discover tags, the service account that Turbonomic uses to log into the target must enable the **Global > Global Tags** privilege. In addition, the target server must open ports 7443 and 10443.

- **Customer Issue: 26258**

In some circumstances, Turbonomic fails to monitor storage correctly after you remove a datastore from a storage cluster.

- **Customer Issue: 30534**

For cloud environments, a change to the workload inventory in a virtual datacenter can cause rediscovery to fail.

- **Customer Issue: 34610**

In some circumstances, Turbonomic fails to discover NetScaler targets via HTTPS.

- **Customer Issue: 34745**

In some circumstances, when two vCenter Server targets share the same datastore, Turbonomic can flag live `.vmdk` files as wasted storage.

- **Customer Issue: 36802**

In AWS environments with multiple regions, connections to availability zones can fail.

- **Customer Issue: 37054**

For XtremIO environment, when one XMS Server manages multiple XIO clusters, Turbonomic can fail to properly discover the associated storage data.

- **Customer Issue: 37722**

Adding an Azure target results in settings that are incompatible with the SMI-S collector used for VNX and HP3PAR storage controllers. As a result, VNX and HP3PAR targets fail to validate.

- **Customer Issue: 38331**

In XTremIO environments, Turbonomic fails to discover stand-alone datastores (datastores that are not part of an XTremIO disk array).

- **Customer Issue: 39350**

For HP OneView targets, Turbonomic halts discovery if it encounters incomplete data for a component. For example, if Turbonomic fails to discover a fabric interconnect via the target, it will fail to discover any of the target's entities.

- **Customer Issue: 39364**

For Nutanix targets that are discovered in Stand-Alone mode, Turbonomic does not add the discovered VMs to the group titled VMs By PM Cluster.

- **Customer Issue: 40505**

Because of an error in discovery of Dell Compellent targets, when you add a Dell Compellent target then Turbonomic also fails to discover Hyper-V VMs.

- **Customer Issue: 40745**

In PowerVM environments, if you change the Performance Monitoring aggregation interval to an interval other than the default, Turbonomic fails to collect CPU and Memory values from the managed entities.

## Documentation Issues

- **Customer Issue: 35907**

The Turbonomic Installation Guide does not specify that the Turbonomic software runs on x86 versions of openSUSE or RHEL Linux platforms.

## Plan Issues

- **Customer Issue: 35731**

In some circumstances, plans that add VMs by Copy fail to complete.

## Performance Issues

- **Customer Issue: 36061**

Under some circumstances, the Turbonomic server consumes excess memory.

- **Customer Issue: 38218**

This release optimizes the database operation to roll up daily cluster statistics, which eliminates a database error that occurs under some conditions.

## User Interface Issues

- **Customer Issue: 29321**

For powered off VMs, the Turbonomic user interface can still show values for utilization of metrics such as latency, VCPU, or VMem. When the VM is powered off, there should be no value.

- **Customer Issue: 29737**

Under some circumstances, the Turbonomic Health Check can falsely report a memory leak.

- **Customer Issue: 29813**

The Turbonomic user interface enables users to create groups of clusters, and groups of storage clusters. When creating these groups via the user interface, Turbonomic fails to create and save the group definitions.

- **Customer Issue: 33025**

In vCenter environments, after moving a datastore the user interface can show duplicate instances of that datastore. This does not affect Turbonomic analysis.

- **Customer Issue: 35102**

For the Assure Performance dashboard, the Health Chart can show pending actions even though the actions have already been cleared.

- **Customer Issue: 35306**

In some cases, the user interface does not execute edit or delete commands for Action Schedule Windows.



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- **Customer Issue: 35830**  
In some circumstances, Turbonomic shows the wrong value for utilization of Storage Provisioned on a datastore.
- **Customer Issue: 37251**  
For aggregated deployments of Turbonomic, the audit log only shows data for a single child instance.
- **Customer Issue: 37387**  
Duplicate of OM-7876
- **Customer Issue: 37424**  
After repeatedly setting different scopes for a plan, the user interface does not update or correctly display data.
- **Customer Issue: 38704**  
In the Cluster Capacity dashboard, values for Headroom are all set to NA.
- **Customer Issue: 40407**  
The feature to save a custom View Set does not retain the View Set between logins.
- For user accounts with a restricted scope, the Supply Chain view shows the full, unscoped inventory.