



Turbonomic 5.8.5 Release Notes

July 7, 2017

This document describes issues that are addressed in Turbonomic 5.8.5 – Release Date: July 7, 2017. All builds are cumulative. Applying 5.8.5 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, or open a ticket at:

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

End of openSUSE Support

Turbonomic ships as a pre-configured virtual machine image. For the last several years, that VM ran the openSUSE distribution of Linux. Starting with release 5.7, Turbonomic has begun a process to migrate away from openSUSE 13.2 and to base further releases on CentOS. You should prepare to migrate from openSUSE to CentOS at the nearest time that is reasonable for you.

For more information, and for a roadmap that describes how we will make this transition, see the Green Circle article, [Retirement of openSUSE Support](#).

Migration Requirements

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 platform 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 ADDRESS THE END OF SUPPORT FOR openSUSE 13.2, Turbonomic IS BEGINNING AN OVERALL MIGRATION TO CentOS.

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 5.8.5.

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* can you perform an update to a later version.

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

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

Configuration Requirements

For this 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 - 5.8.5 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 your Turbonomic installation, 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. Note that you should also consider migrating to the CentOS delivery of Turbonomic as soon as possible. Turbonomic is on a roadmap to retire support of openSUSE as its platform OS. For more information, see the Green Circle article, [Retirement of openSUSE Support](#).

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 Turbonomic Web Security](#)

Updating the Tomcat Server

There are circumstances when you might choose to upgrade the Tomcat server on Turbonomic to a later version. In this case you must copy a local configuration file to the tomcat installation.

After you update the Tomcat server:

- Copy the file `/usr/libexec/tomcat/server.local` to `/usr/libexec/tomcat/server`
- To ensure that this server configuration file is executable, perform the command: `chmod 755 /usr/libexec/tomcat/server`

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

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.

Enabling Reports on Custom SELinux Platforms

When you install the provided Turbonomic OVA, the SELinux platform is configured to enable the generation and delivery of Turbonomic reports. However, if you install the Turbonomic software on a custom SELinux platform, you must perform configuration changes to enable reports.

To configure reporting, execute the following command with root privileges:

```
setsebool -P httpd_can_network_connect on
```

Further, on RHEL 7.1 you must change the context of the cgi-bin directory to enable the execution of cgi scrips by executing the following commands with root privileges:

```
semanage fcontext -a -t httpd_sys_script_exec_t /srv/www/cgi-bin/  
restorecon /srv/www/cgi-bin
```

If you need additional assistance, contact Turbonomic Technical Support.

Enabling IOPS and Network Monitoring for OpenStack Mitaka

The Target Configuration Guide gives instructions to connect to OpenStack targets. However, if you are running OpenStack Mitaka, you must perform additional configuration on the Mitaka platform to enable IOPS and Network data collection from Physical Machines. For those instructions, please see the Green Circle article, [Enabling OpenStack PM Metric Collection](#).

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

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.

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

NOTE: If your Turbonomic installation is running on an older version of openSUSE, contact Turbonomic Technical Support to confirm your update path.

Note that if your Turbonomic software is running on openSUSE 13.2, then you should consider migrating as soon as possible to a delivery of Turbonomic running on CentOS. Turbonomic is on a roadmap to retire support of openSUSE as its platform OS. For more information, see the Green Circle article, [Retirement of openSUSE Support](#).

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>

Known Issues

- **Customer Issue 25858**
Turbonomic experiences an error when discovering Dell Compellent targets. As a result, Hyper-V VMs that use Compellent storage disappear from the Turbonomic topology. To rediscover the Hyper-V VMs, remove the Dell Compellent Enterprise Manager from the Turbonomic list of targets, add it again, and then rediscover your environment.
- In the new user interface, for virtual machines with more than one Virtual Storage resource, the Turbonomic user interface only shows a single storage resource, as the sum of all the datastores for that VM.
- For vCenter 6.5 targets, Turbonomic does not discover groups of VMs by their tag name/value pairs.
- If you ignore hyperthreading for a scope that is less than a datacenter and then restart tomcat for the Turbonomic application, then Turbonomic does not calculate the CPU capacity correctly for the affected scope of hosts.
 If this problem occurs, perform a full rediscovery to show correct CPU capacity.
- You can create a merge segment to support cross-vCenter move actions. You should always use Host Cluster merge segments for this case, instead of Data Center merge segments. The valid use for Data Center merge segments is to support moves between public and private clouds.
- In Virtual Cloud Director environments, it's possible that your environment includes a Consumer Virtual Datacenter (VDC) that has no VMs assigned to it. In that case, utilization charts for the VDC will appear empty.
- Earlier versions of Turbonomic on the CentOS platform include an Apache configuration that enables directory browsing. Please contact Technical Support if you have migrated to a 5.8 version of Turbonomic running on CentOS..
- **Customer Issue 95094**
For AWS environments with multiple AWS targets, deleting one of the targets sometimes resulted in Turbonomic removing from its market some of the entities that are managed by the remaining targets. This issue has been resolved. However, when you delete the last AWS target, you must restart the Turbonomic server.
- For AWS environments, Turbonomic does not recommend resize down actions.

- In the New User Interface, when you expand an entry for a host in the cloud, the user interface does not show any values for host or datacenter resources. This is expected behavior because cloud services handle these entities differently than on-prem environments.
- **Customer Issue 95980**
In environments with 3Par storage targets, Turbonomic does not discover datastores hosted directly on concrete pools. However, Turbonomic generates log messages that mention these datastores.
- In RedHat installations, generated PDFs may fail to load. The workaround is to change the ownership of the `/srv/reports/pdf_files/` directory from `apache` to `tomcat`. For assistance, contact Turbonomic Technical Support.

Fixed Issues

- WMI, SNMP, and Docker targets can now be found in the "Guest OS Processes" section of the Add Target dialog.
- **Customer Issue 96361**
Under certain conditions, executing an action for a target currently in discovery could result in the action failing.
- **Customer Issue 96254**
When creating a user on an aggregator control instance, creation would fail if the user was scoped to a group that only existed on an underlying instance.
- **Customer Issue 95016**
Resize Info panels in custom dashboards would not allow scoping to custom groups.
- **Customer Issue 96021**
Under some circumstances, the user interface or the REST API would experience a 400 error when loading user-created groups.
- Under certain conditions when a Hyper-V VM's VHD was removed, an NPE would be displayed for the underlying host.
- **Customer Issue 95785**
Rollup operations for large databases could cause the query to timeout, preventing rollup completion.
- In OpenStack environments without the Ceilometer service installed, discovery would fail.
- **Customer Issue 96088**
Under certain conditions involving long-running hosts, incorrect provision actions could appear.
- **Customer Issue 95873**
Under some circumstances after a cross-cluster move, a virtual machine could request a move to a host outside of a cluster.
- When browsing datastores, if directories were deleted after receiving the directory list, but before datastore browsing completed, an exception would occur which would abort browsing of that datastore.
- In VMM environments, debug log warnings were being displayed erroneously at the default log levels.
- In Hyper-V environments, an exception could be thrown during discovery.
- **Customer Issue 95011, 95019**
In vCenter environments, storage vMotions would sometimes be recommended from a piece of storage to a vmk file.
- In Xen environments, storage IOPS would sometimes be reported higher than the actual value.
- Under certain conditions, an NPE could appear during probe registration.