

Turbonomic Release Notes

Release: 5.8.1

April 7, 2017

This document describes issues that are addressed in Turbonomic 5.8.1 – Release Date: April 7, 2017. All builds are cumulative. Applying 5.8.1 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 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 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.

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>

Configuration Requirements

For the 5.8 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

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

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 – 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>

Known Issues

- **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, for large environments there are conditions where some charts fail to load data. To work around this issue, manually update the appropriate configuration file. For more information, please contact Technical Support.

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- On Red Hat and CentOS systems, setting an HTTP proxy may appear to succeed, but the proxy will not actually be used for connections. To work around this issue, manually update the appropriate configuration file. For more information, please contact Technical Support.
- On Red Hat and CentOS systems, ntpd (the Network Time Protocol Daemon, which keeps the time maintained by the Operations Manager in sync with external reference clocks) may fail to start. To work around this issue, manually update the appropriate configuration file. For more information, please contact Technical Support.

Resolved Issues

This release includes resolutions for the following issues:

- For Hyper-V environments and VMs that are set up with dynamic memory, if the VM display name included parenthesis characters then Turbonomic could incorrectly show 100% memory utilization.
- Under certain conditions for environments with multiple AWS targets, discovery can fail when Turbonomic discovers the same AWS entity through different AWS targets.
- When running plans in the new UI to migrate workload to the public cloud, the plan can fail with an exception when it encounters unplaced workload.
- For Azure environments, Turbonomic does not recommend VM resize actions.
- **Customer Issue: 16292**
Support for Pure Storage M-Series storage is incomplete, and target validation appears to fail.