



Turbonomic 8.0.0 Release Notes

October 9, 2020

This document describes issues that are addressed in Turbonomic 8.0.0 – Release Date: October 9, 2020. Please see the Turbonomic 7 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>

What's New for Version 8.0.0

For a list of the new features in 8.0.0, please refer to "What's New" in the *Turbonomic User Guide* or the *Online Help*.

Configuration Requirements

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

Transport Layer Security Requirements

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 fails to validate, this is could be 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.

Fixed Issues

- **Fixed Issue:**

Customer Issue 112887

After updating to version 7.22.9, under some circumstances analysis does not correctly assign groups to policies. This can happen for dynamic groups that are based on tags.

- **Fixed Issue:**

Customer Issue 112845

When analysis is calculating actions for a group of entities that is scoped to a policy, under some circumstances the policy does not take effect for all the entities in the group, and so actions can violate the policy.

This can occur when Turbonomic fails to fully map resource utilization to the policy for one of the group members. In that case, analysis stops mapping resource utilization for the rest of the members of the group.

- **Fixed Issue:**

Customer Issue 112794,112845

In environments that have multiple placement policies that can impact the same entity, under some circumstances analysis can generate incorrect actions. For example, analysis could generate placement actions that violate a Do Not Place policy.

- **Fixed Issue:**

Customer Issue 112761

For Nutanix AHV environments, under some circumstances a resize action from Turbonomic fails to execute.

- **Fixed Issue:**

Customer Issue 112749

When you run a plan that reduces memory capacity for many VMs in a cluster, the plan simulates a reduced average utilization but does not simulate a reduced peak utilization. This can result in the plan not suspending hosts, and so it leaves the environment with many underutilized hosts.

- **Fixed Issue:**

Customer Issue 112747

When you configure a New Relic target, the Account ID field does not validate for integer-only input. This can cause confusion if you enter an invalid ID and the target fails to validate.

- **Fixed Issue:**

For DIF developers, it is possible to create two entities of different types, and give them the same UID. For example, an Application entity and a VM entity might both use the same IP address as their UIDs. In this case, Turbonomic cannot stitch both entities into the topology, or display both entities in the user interface.

- **Fixed Issue:**

Customer Issue 112659,112700,113014

For Hyper-V environments that also include SQL Server targets, under some circumstances the values discovered for SQL Server can overwrite values that were discovered by the associated Hyper-V target.

- **Fixed Issue:**

For ServiceNow targets, when you configure the target to use a proxy host, under rare circumstances the target fails to validate. When validation fails, it logs the error, `Unsupported 'HTTP/1.1 407 Proxy Authentication Required'`.

- **Fixed Issue:**

Customer Issue 112478

For UCS Manager environments, under some circumstances Turbonomic can lose connection with a given UCS Manager target due to timeouts.

- **Fixed Issue:**

Customer Issue 112504

For Response Time and Transactions charts, there are circumstances where the chart displays data as a percentage utilization of capacity. These charts should never show percentage values.

- **Fixed Issue:**

The performance for displaying data in Storage Summary charts and in the Storage Breakdown charts must be improved. In large environments it can take an unacceptable amount of time to get the full dataset and display it.

- **Fixed Issue:**

Customer Issue 112285

For UCS environments, under some circumstances discovery can fail when it encounters excessively large values for total throughput on a port.

Known Issues

- **Known Issue:**

When you set the scope of the Turbonomic view to a group, you can then view the automation policies that impact the given group. If you edit a policy for that group (in Settings: Policies), and then scope the view to that group again, the policy changes do not appear in the display for that group. The display should update within ten minutes, after the next round of incremental discovery. If the condition persists, log out of your session and log in again to update the display.

- **Known Issue:**

When configuring schedules in an automation policy, you should not the same schedule to both Policy Schedule and Action Execution Schedule. If you do, then the schedule information that displays in the user interface shows that the schedule has been applied to two different policies. Also, information about the action scheduling only appears when the policy is active.

- **Known Issue:**

For Nutanix environments, the Target Guide states that Turbonomic supports automation for VM Move actions. However, it does not state that you can automate VMotion to hosts, but for storage moves on Nutanix Turbonomic only supports the Recommend action mode.

- **Known Issue:**

In order to execute cross-VC migrations as a non-admin user, you must have the following permissions enabled for the user account in both origination and destination vCenters:

- Virtual Machine: Edit Inventory, Create From Existing (Move, Register, Remove, Unregister sub-options), Create New
- Datacenter: Reconfigure Datacenter
- Network: Assign Network

- **Known Issue:**

Customer Issue 112950

- **Known Issue:**

Customer Issue 112876

For consistent scaling groups in on-prem environments, if the VMs in the group have different core speeds, then CPU scaling actions might not be consistent. For example, if you set the maximum target CPU size to 2, Turbonomic might recommend resizing to more than 2 CPUs to account for the VMs with slower cores.

To avoid this problem, only add VMs with the same core speed to a Consistent Scaling Group.

- **Known Issue:**

Customer Issue 112783

For ServiceNow integrations, the documentation fails to describe a configuration requirement. Failure to meet this requirement results in no approvals created in ServiceNow for Turbonomic actions.

For approval of its actions to succeed, Turbonomic relies on Cross-Scope privileges to certain tables in ServiceNow. These tables are set by default to be:

- `cmdb_ci_vm_instance`
- `cmdb_ci_hyper_v_instance`
- `cmdb_ci_vmware_instance`

If you create a business rule that uses a different table, then you must find the Application Cross-Scope Access for Turbonomic on that table, and update the status to `Allowed`

If there is no Application Cross-Scope Access entry for the table in question, then you must create the entry and allow it for Turbonomic.

- **Known Issue:**

Customer Issue 112607

For Action Script developers, the User Guide says that you can use the `VMT_TARGET_UUID` environment variable to get the UUID of the entity the given action will affect. It also says you can use that UUID to access the entity via the Turbonomic REST API. However, the value of this environment variable does not access the entity in the API.

To access the entity via the API, use the `VMT_TARGET_INTERNAL` system variable.

- **Known Issue:**

When using Embedded Reports, you can generate a PDF file as a report based on an Embedded Reports dashboard. If a chart in that dashboard includes multiple pages, the PDF file will not contain all the pages of data for that table. Embedded Reports use the Grafana platform to display data, and this behavior is implemented in that platform.

To generate output for a multi-page table, download the table data as CSV.

- **Known Issue:**

For Azure environments, Turbonomic does not discover the Brazil Southeast region. Azure provides this region only to give business continuity and disaster recovery to workloads in Brazil South that require data residence.

The user interface does not display the Brazil Southeast region in any lists or charts. Also, if you do have workloads on that region, Turbonomic will not discover those workloads.

- **Known Issue:**

For Azure environments, if you perform self-service exchanges for your RIs, Turbonomic does not discover the new charges for the exchanged RIs through the Azure EA target.

To track the charges after you have exchanged RIs, ensure you have an Azure subscription target for the affected scope of Azure workloads, and that subscription has read access to reserved instances information.

- **Known Issue:**

Customer Issue 112461

If you have configured MySQL 5.7 as an external database for your Turbonomic installation, under some circumstances you can experience poor performance when working with dynamic groups. This can happen when you use extensive regular expressions as filters to generate the dynamic groups.

If you experience poor performance with dynamic groups, consider making them static groups, or consider using MariaDB as your database.

- **Known Issue:**

Customer Issue 112327

Under some circumstances, when you download the data for Pending Actions, the download does not match the data that you see in the Pending Actions chart. This can happen when the categories that the Pending Actions chart uses to group actions do not contain the correct actions. The actions are all correct, and the downloaded data groups the actions correctly.

- **Known Issue:**

When you download a CSV file from an Actions chart, the CSV file only contains the list of actions that show in the current page of data. As a result, if the actions for the current scope of the chart exceed the number of entries in the page, the CSV data will be incomplete.

- **Known Issue:**

For Embedded Reporting, the VM Rightsizing Report only covers On-Prem recommendations.

- **Known Issue:**

For ServiceNow environments, Turbonomic fails to save any automation policy that sets the Action Type to **Request Approval from ServiceNow**.

- **Known Issue:**

For AppDynamics environments, Turbonomic cannot discover databases if the target authentication uses `oAuth` for credentials.

- **Known Issue:**

Under some circumstances, the logs can show the following error:

The following settings don't have a mapping in the API component. Not returning them to the user. Settings: [remainingGcCapacityUtilization, responseTimeCapacity, autoSetResponseTimeCapacity, transactionsCapacity, autoSetTransactionsCapacity]

This occurs because these settings have been deprecated.

- **Known Issue:**

For existing dashboards that include the Capacity And Usage chart for databases, after an upgrade to 7.22.7 or later, the chart can appear empty.

Starting with version 7.22.7, Turbonomic tracks the DTU and Storage Amount commodities for databases. Charts that you configured for earlier versions will not include these commodities. To correct this, edit the charts to display the DTU and Storage Amount commodities. Also, when you create a new Capacity and Usage chart for databases, you must configure it to show these commodities.

- **Known Issue:**

For Application Component automation policies, the user interface allows you to make conflicting settings. The Action Generation setting can show incorrect values that you can choose for the policy. As a result, you cannot save the policy.

- **Known Issue:**

For ServiceNow environments, the Turbonomic user interface allows you to set orchestration for actions that the ServiceNow integration does not support. If you configure orchestration for these actions, then either the action never generates a ServiceNow CR, or the action can fail when the CR is approved.

The actions you can configure but will not generate a CR are:

- Storage Suspend
- VSan Storage Resize

Note that storage resize for a VSan is accomplished by provision/suspend of Host. You should not configure ServiceNow orchestration for VSan Storage Resize. However, Host Provision is not currently supported for ServiceNow orchestration (see next).

- Host Provision
- File Delete
- Application Component - No actions are supported

The actions you can configure but that can fail include actions that you must also configure for execution on the affected targets. These actions include:

- Host Suspend

For this action to succeed, it must be enabled in the given hypervisor, and there must be no VMs currently running on that host.

- Storage Provision

Currently Turbonomic can only execute a CR for this action on Pure and Dell Compellent storage.

- **Known Issue:**

For updates from versions earlier than 7.22.4, the update does not fully migrate policies for Application and Application Server entities.

Starting with version 7.22.4, the supply chain for applications has changed. Application and Application Server are now represented by the Application Component entity type. If you had created policies that affect these older entity types, then many of the settings will revert to their defaults. Before updating to the new version, you should check for affected policies and record the settings.

- **Known Issue:**

When you create reservations (in the Placement page), if you provide a Network constraint the reservation does not recognize that constraint. The user interface displays a notification that the reservation cannot be created. However, the platform does create the reservation, and it does not include the network constraint.

- **Known Issue:**

For vSAN environments, under certain circumstances a plan to add workloads can fail to place workloads, or it can fail to generate actions to increase storage capacity by provisioning new hosts.

- If you scope the plan to a user-created group that only provides vSAN storage, or to a discovered storage cluster group, then the plan can fail to place VMs with multiple volumes. This can occur for VMs that use conventional storage (not vSAN) along with vSAN storage.
- If you scope the plan to a vSAN host group and add workloads, the plan can fail to increase storage capacity by provisioning new hosts. For example, assume you scope the plan to a vSAN host group and add 20 VMs to the environment. In that case, you need hosts to provide compute capacity for the VMs, and you also need hosts to provide storage capacity. The plan can represent the compute provisioning correctly, but it can incorrectly fail to add more storage capacity to the vSAN.
- If the vSAN RAID type is `Raid6/FTT=2`, if you scope the plan to any vSAN groups then the plan will fail to place any of the VMs.

- **Known Issue:**

For Azure environments, when you inspect resource groups, Turbonomic does not currently show the billed costs for those resource groups.

- **Known Issue:**

Customer Issue 111396

For cloud environments, under rare circumstances Turbonomic can recommend resizing a VM to an instance type that is older and less capable than an equally priced instance type.

Under most circumstances, when a cloud provider offers a new instance type that is meant to replace an older type, the provider offers it at a lower cost. In at least one instance we have seen a case with identical costs for the newer and older instance types. If this occurs, and capacity and cost are equal, Turbonomic cannot ensure that it chooses the newer instance type.

To work around this issue, you can create an Action Automation policy that excludes the older instance type.

- **Known Issue:**

Customer Issue 111019

API responses including templates imported from vCenter targets will not have the `"type": "disk"` key/value pair.

- **Known Issue:**

For public cloud environments that include AWS and Azure, when you run the Optimize Cloud plan with a scope that includes All Providers, the RI Coverage and RI Utilization charts do not display data for AWS. To view AWS data, scope the plan to only AWS providers.

- **Known Issue:**

The Business User entity now has an associated aspect that will return the current session list for the associated Business User.

- **Known Issue:**

If you deploy Turbonomic to work with a remote database instead of the included database, then you must specify the correct SQL modes for the database. Configure the database to support:

`STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION`

In particular, the SQL modes should *not* include `ONLY_FULL_GROUP_BY`

- **Known Issue:**

For Azure environments, analysis currently does not generate resize actions for SQL Server databases.

- **Known Issue:**

The All Actions chart does not include pending actions for databases or database servers.

- **Known Issue:**

For Azure environments with VMs in Scale Sets, for any VMs that are powered off the associated storage shows a utilization of zero GB. This is an accurate presentation of the data that the Azure environment returns for such a powered-off VM. However, it is likely that some of the storage capacity is currently utilized.

- **Known Issue:**

Customer Issue 110123

There is a memory limit for the data you can download from the All Actions chart. For example, assume you have executed many actions over time in your environment. As a result, the list of all executed actions might exceed the data limit. In that case, downloading a CSV file from the All Actions chart will fail.

- **Known Issue:**

Under rare circumstances the Turbonomic platform stops responding. This occurs when `etcd.service` fails. When it does occur, you should see the following error:

```
Error response from daemon: endpoint with name etcd1 already exists in network host
```

To recover from this situation, restart the docker service for the Turbonomic platform. execute the command:

```
sudo systemctl restart docker.service
```

- **Known Issue:**

Customer Issue 108841

In NetApp environments, the storage controller shows 100% utilization when there are no more disks in a `SPARE` state that the storage controller can utilize in an aggregate. This does not indicate that the storage controller has no capacity.

- **Known Issue:**

You may now add ActionScript targets from both the Target Addition dialog in the UI and the Turbonomic API.

- **Known Issue:**

When you use the **PLACE** page to set up a reservation or a deployment, you choose the templates to represent the workload you will deploy. The templates you choose must include an **Image** specification that gives the path to the VM package, and optional placement constraints.

Typically, you will use templates that are discovered through your hypervisor targets. Along with discovering resource capacities for the given VM, Turbonomic should also discover the Image specification for a given discovered template. However in this version, Turbonomic does not discover the Image descriptions. In addition, discovered templates and their image specifications are read-only. For this reason, you cannot set up placement or reservations using discovered templates.

- **Known Issue:**

If you run the Alleviate Pressure plan in Turbonomic 7, and then compare it to the same plan and scope in a 6.1 release, then the display of instances in the supply chain are not identical for both versions.

- **Known Issue:**

Ring charts that show the utilization of different resources show a yellow segment whenever the Reserved Capacity for the resource is zero. For some resources there is no concept of reserved capacity, yet the ring chart still shows a yellow segment.

- **Known Issue:**

For cases where actions indicate provisioning new hosts, the Optimized Improvements chart does not include the hosts to provision in the After Plan section.

- **Known Issue:**

Customer Issue 99189,99805

In vCenter environments, you might see unusually high storage latency values or excessive recommendations to provision new storage. There is a known problem with the storage latency values that vCenter Server versions 6.5.u1x and earlier return via the API. These versions can return unusually high storage latency values.

Turbonomic considers storage latency when calculating whether to move a VM to existing storage, or whether to provision new storage. Because of this known problem, Turbonomic can incorrectly recommend provisioning storage when moves are appropriate.

If you encounter this problem, then you should create a policy that disables storage moves for VMs that are managed by vCenter Server versions 6.5.u1x and earlier. To create this policy:

- Create a VM group that contains all the affected VMs. Note that Turbonomic automatically creates a group named `VMs_vCenter` that you might be able to use.
- Create a new VM automation policy. This policy will disable storage move actions.
- Set the group that you created to be the policy scope.
- Under **Action Automation** add the `Storage Move` action and set it to `Disabled`.

- **Known Issue:**

In cases where actions recommend that you suspend hosts, the Optimal Improvements chart should indicate no utilization on the hosts to be suspended. Under some circumstances, the chart can show utilization on these hosts. The result is incorrectly low values for utilization on the other hosts in the current scope.

- **Known Issue:**

Turbonomic generates special average or max utilization templates that it uses when calculating cluster headroom. You should not edit these templates, because Turbonomic will overwrite your changes the next time it generates the templates. However, the Template Catalog presents these templates as editable.

- **Known Issue:**

You should never use duplicate names for groups of the same entity type. However, the user interface does not validate group names to keep you from creating a duplicate name.

- **Known Issue:**

For VMs running on Hyper-V, if you set a VCPU limit (limit VCPU to less than 100%), then the VCPU utilization data that VM returns to Turbonomic is not correct. As a result, Turbonomic will not recommend that you increase the VCPU limit.

- **Known Issue:**

For AWS environments, under very rare circumstances you can have RIs on payment plans that do not resolve to 1-year or 3-year terms. In this case, AWS does not return pricing data for those RIs. Turbonomic does not include such RIs in its calculations of RI utilization or RI cost.

- **Known Issue:**

Customer Issue 105693

The Headroom chart for All On-prem Hosts does not agree with the Top Clusters chart.

Turbonomic generates the All On-prem Hosts headroom data in a nightly plan. When the plan runs, this data is correct. In the course of the day, this data can become stale. To accurately track your cluster usage, you should use the Top Clusters chart.

- **Known Issue:**

For vCenter Server environments, Turbonomic does not recognize DRS rules for VM restart dependencies that are based on `ClusterDependencyRule`. You might be able to achieve a similar effect by expressing dependencies via `ClusterVmHostRule` or cluster affinity or antiaffinity rules.

- **Known Issue:**

Customer Issue 109389

In vCenter Server environments that have Instant Clone VMs, under some circumstances Turbonomic cannot move these VMs to other hosts in the cluster, even though you can manually migrate them via the vCenter Server user interface.