



Turbonomic 7.22.9 Release Notes

September 25, 2020

This document describes issues that are addressed in Turbonomic 7.22.9 – Release Date: September 25, 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 7.22.9

Version 7.22.9

- **Migrate to Cloud Plans**

This release introduces Migrate to Cloud plans to help accelerate and optimize your cloud migration. These plans simulate migration of on-prem VMs to the cloud, or migration of VMs from one cloud provider to another.

For details, see "Migrate to Cloud Plan" in the *User Guide*.

- **Utilization Charts for Containers**

Turbonomic uses percentile calculations to measure container resource utilization more accurately, and drive scaling actions that improve overall utilization. When you examine the details for a pending scaling action on a Container Spec, which persists historical utilization data for containers, you will now see charts that highlight resource *utilization percentiles* for a given observation period, and the projected percentiles after you execute the action. The charts also plot *daily average utilization* for your reference. If you have previously executed scaling actions on the associated Workload Controller, the charts also show the resulting improvements in daily average utilization. Put together, these charts allow you to easily recognize utilization trends that drive Turbonomic's scaling recommendations.

- **Operational Observer Role**

Users with the new Operational Observer role can view the environment, including the Home Page, Dashboards, Groups, and Policies. They can also use Search to set a scope to the session.

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 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.

Improvements

- **Improvement:**
With this release, we have improved the default views for Containers, Pods, ContainerSpec and WorkloadController to provide better charts and improve drill down to get to details faster.
- **Improvement:**
With this release, we have improved the default views for Namespace, to provide related service and workload summaries along with quota usage in a single view, making it a better experience for an app owner.
- **Improvement:**
In previous versions, when you set the session scope to a container environment, the view showed charts that are for VMs. With this release, the view no longer includes these inappropriate charts.
- **Improvement:**
This release removes Turbonomic version dependencies from the Operator. As a result, future installation and update procedures should be easier to perform.

Fixed Issues

- **Fixed Issue:**

Customer Issue 112702

For Azure environments, with some regions discovery of VMs can fail as discovery tries to collect VM IOPS capacity.

- **Fixed Issue:**

Customer Issue 112639,112683

When running a plan that removes large amounts of workloads, under some conditions the plan can fail to suspend clear and suspend hosts to account for the reduced workload in the environment.

- **Fixed Issue:**

For Kubernetes environments, Kubeturbo can fail to discover all the pods in a cluster when one pod does not return storage utilization data.

- **Fixed Issue:**

Customer Issue 112652,112811

In Azure environments, for VMs that show zero IOPS capacity, analysis can fail to generate scaling actions.

- **Fixed Issue:**

Customer Issue 112402

For vCenter Server environments, under some circumstances incremental discovery and actions generation can stop. It only begins again after restarting the TopologyProcessor pod.

- **Fixed Issue:**

Customer Issue 112616

For large very large environments, the Embedded Reporting can fail due to Out of Memory errors in the extraction component.

- **Fixed Issue:**

Customer Issue 112419

For public cloud environments, when you scope to an account, the view includes the Recommended RI Purchases chart. However, Turbonomic does not recommend RI purchases for that scope. This chart *should* appear in a Billing Family scope.

- **Fixed Issue:**

Customer Issue 112419

For public cloud environments, when you are creating or editing the RI Inventory chart, the chart scope does not support Accounts by name. This scope should be supported in the chart.

- **Fixed Issue:**

Customer Issue 112691,112715,112756

Under some circumstances, the Top Clusters chart can list clusters by their ID, and not by the cluster name. In addition, the entries for the chart do not provide any values for resource utilization. This can occur when the cluster data is stale, and it contains entries for clusters that have been removed.

- **Fixed Issue:**

Customer Issue 112511

For very large AWS environments, the AWS Billing probe can time out. The probe must optimize the loading of many large billing files that it gets from AWS.

- **Fixed Issue:**

Customer Issue 112464,112561

Performance for displaying groups and group-related data must be improved.

- **Fixed Issue:**

Customer Issue 112485

For hybrid environments (on-prem and public cloud), under some circumstances the On-Prem Optimize plan can fail to place workloads, and the plan summary can fail to load.

- **Fixed Issue:**

Customer Issue 112475

When you scope to a VM cluster, the utilization history charts for the cluster details do not show any data.

- **Fixed Issue:**

Customer Issue 112477

For Hyper-V environments that include VMs with static memory capacity, under some circumstances Turbonomic can recommend scaling down the vMem reservation.

- **Fixed Issue:**

Customer Issue 112428

After restarting a VM, actions do not execute for four hours. This promotes stability in the restarted VM. However, under some circumstances, actions that should execute immediately after that waiting period do not. They can wait additional hours before executing.

- **Fixed Issue:**

Customer Issue 112418

Under some circumstances, Turbonomic can recommend a move action a second time, after the action has already been executed. This can occur when analysis runs on a topology that does not reflect changes from the initially executed move action.

- **Fixed Issue:**

Customer Issue 112394

Under some circumstances Turbonomic fails to scale down a VM that has Hot Remove enabled on it. The Hot Remove should support the scale down action, but Turbonomic does not recognize that it is supported for that VM.

- **Fixed Issue:**

Customer Issue 112413

Under some circumstances, when you specify **VCPU Resize Max Threshold** for a scope of VMs, the actions analysis can calculate resizes incorrectly and recommend actions that exceed that setting.

- **Fixed Issue:**

Customer Issue 112399

For Embedded Reports, when the reporting calculates Monthly Overview and Cluster Summary, the reported cluster status can be incorrect.

- **Fixed Issue:**

Customer Issue 112396

For environments that use HPE3Par and OneView, if Turbonomic discovers storage through the OneView target, but does not stitch the storage entities into the supply chain, then the values you see for storage in the 3Par environment can be incorrect.

- **Fixed Issue:**

Customer Issue 111947

For environments with large groups, performance is not acceptable when loading Capacity and Usage charts that are scoped to those large groups.

- **Fixed Issue:**

Customer Issue 112326

For public cloud environments, Turbonomic can fail to generate scale down actions for VMs that show periods of no utilization for VMEM or VCPU.

This can occur because the percentile calculation ignores zero entries in the data set. As a result, the percentile for utilization can be artificially high.

- **Fixed Issue:**

Customer Issue 112303

When you scope to a resource group, the Executed Actions chart does not show data for actions taken within the given scope.

- **Fixed Issue:**

Customer Issue 112288

For Hyper-V environments, under some circumstances the IO Throughput capacity that Turbonomic discovers for some hosts can be lower than the actual capacity. This is most apparent for FibreChannel.

- **Fixed Issue:**

Customer Issue 111900

In vCenter Server environments, under some circumstances a Shared-Nothing move can fail with the following description in the logged error: `The source detected that the destination failed to resume..` This can happen in environments where the action is to move the VM from one vCenter datacenter to another.

- **Fixed Issue:**

Customer Issue 111654,111832,111839

Performance for the Multiple Resources chart must be improved.

- **Fixed Issue:**

Customer Issue 112637

For very large environments, Turbonomic must improve the performance of polling data to market analysis.

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:**

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:**

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:**

Customer Issue 112580

For Dynatrace environments, updates to Turbonomic version 7.22.7 or 7.22.8 do not collect historical data. If you have upgraded to either of these versions, you will see historical data again after you update to version 7.22.9 or later.

- **Known 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'`.

- **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:**

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.

- **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 112077

The user interface includes a feature to configure email and trap notifications, and the User Guide includes a description of this feature. The user interface accepts and saves your configuration, but Turbonomic does not generate any notifications.

- **Known Issue:**

After you update Turbonomic from the 7.21 version family up to the 7.22 version family, when you review saved plans the plan results do not include Storage Amount data. To regenerate the Storage Amount data, run the plans again.

- **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:**

It is possible to set the Observation Period for Percentile utilization analysis to a value that is greater than the length of data retention for historical data. For example, if you set the observation period to 90 days, that is longer than the default 60 days of data retention.

To use a 90 day observation period for percentile analysis, be sure to increase your data retention to 90 days as well.

- **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, Database resize actions do not properly consider storage capacity. As a result, Turbonomic can recommend resize down actions that are too aggressive, or it can fail to recommend appropriate resize actions. You should use `MANUAL` or `RECOMMEND` action modes, and verify that recommended actions are appropriate.

Turbonomic is aware of this problem and is working to address it as soon as possible.

- **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:**

Under rare circumstances, when the Turbonomic platform restarts it can fail to mount the platform storage. This occurs when the heketi pod does not start up correctly. Turbonomic uses heketi and glusterfs pods for storage, and when heketi fails to start it cannot mount the storage.

To recognize this situation, use the following command to monitor the heketi and glusterfs pods:

```
kubectl get pods -A | egrep "glusterfs|heketi"
```

You should see messages similar to the following:

```
Warning FailedMount 79s kubelet, node1 MountVolume.Setup failed for volume
"db" : mount failed: mount failed: exit status 1
```

If this occurs, delete the glusterfs pod with a command similar to the following, where `{Unique_ID}` is the ID of the glusterfs pod:

```
kubectl delete pod -n default gluster-{Unique_ID}
```

- **Known Issue:**

When you update from 7.21.0 to this version, the update process sets your **Data Retention** setting back to the default values. If you have made custom data retention settings, you should reset them after you update.

- **Known Issue:**

Updates from the 7.17 version family to the 7.21 version family cancel and delete any reservations that you have set up in the Placement view. If you require these reservations, then you should configure the reservations again in the updated version of Turbonomic

- **Known Issue:**

If you are performing an *Online Update* from a 7.17 version of Turbonomic, then your update can inherit old configurations for the maximum MySQL connections. In large environments, or environments with many users of the same Turbonomic instance, this can result in the error, `error code [0]; Too many connections;`

Your Turbonomic instance should be configured for a maximum of 151 connections. You can find this configuration in the following files on the Turbonomic instance:

- `/etc/my.cnf.d/server.cnf`
- `/opt/turbonomic/kubernetes/etc/my.cnf`

To correct this issue, change the configuration to allow 151 connections. The new setting should read `max_connections = 151`. After you make these changes, then restart the database. Either open a shell session as `root` or use `sudo`, and run the command, `systemctl restart mariadb`.

For assistance, contact Technical Support.

- **Known Issue:**

When you update Turbonomic from the 7.17 version family to 7.21.0, you can lose any Accepted Action charts that you have included in your dashboards and views. The update changes these Accepted Action charts to All Actions charts.

To resolve this problem, edit the All Actions charts to change them to Accepted Actions charts.

- **Known Issue:**

Update Deletes Saved Plans

Because of changes to Turbonomic plans, when you update from the 7.17 version family to the 7.21. version family, the update process deletes your saved plans.

- **Known Issue:**

For very large environments that use the WMI targets, the WMI discovery can run out of memory. To address this issue, Turbonomic has improved memory handling with WMI discovery.

As stated in the *Target Configuration Guide*, Turbonomic recommends a maximum of 500 WMI entities per WMI target. If your WMI target manages more than 500 entities, then you can see further memory issues. If you must manage more than 500 entities per WMI target, please contact Technical Support.

- **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:**

In Azure environments, a subscription can use locked storage or locked resource groups. For such subscriptions, Turbonomic discovers incomplete data. Locked resources affect Turbonomic discovery in either of these scenarios:

- A locked resource group

Turbonomic discovers all the entities in the resource group, but does not discover the resource group itself. For example, in the Top Accounts chart, the Resource Groups field will show no resource groups for a subscription that has a locked resource group.

- Locked storage

Turbonomic discovers all the entities in the resource group except the locked storage. It also discovers the resource group.

- **Known Issue:**

The Turbonomic audit log tracks all communications with the platform via HTTPS. The log entries should include the IP address of the requesting client, as well as the user account. However, the log entries do not include the IP address of the originating client.

- **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:**

After you run a plan, the user interface enables you to make changes to the plan configuration and then run the plan again. If you do this, the plan results will be inconsistent. If you want to run a plan with a different configuration, you should start a new plan.

- **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.