Turbonomic 8.0.2 Release Notes

November 9, 2020

This document describes issues that are addressed in Turbonomic 8.0.2 – Release Date: November 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 8.0.2

Version 8.0.2

- **VMware vCenter Support**

  Turbonomic now supports VMware vCenter 7.0 U1 as a hypervisor target.

  See the Target Configuration Guide for a list of supported vCenter versions.

Configuration Requirements

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

SQL Modes for External Databases

If you deploy Turbonomic to work with an external database instead of the included historical 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`, `NO_ZERO_IN_DATE`, or `NO_ZERO_DATE`.

Multi-tenant External DBs and Updates to 8.0.1 or Later

> **NOTE:**
> Azure database services are multi-tenant. If you deployed an external database on Azure, this configuration requirement applies to you.

If you are updating from Turbonomic 8.0.0 or earlier to version 8.0.1 or later, *and* you have deployed an external MariaDB or MySql database service that is multi-tenant, then you must update the database service before you update your Turbonomic instance. This modification includes:

- Manually creating a database for the `repository` component

  This includes creating the database in your DB instance, creating a user to access the database, and granting access to the user.
- Manually adding the repository database to your cr.yaml file

  For deployments that manually add the component databases (a requirement for multi-tenant DBs), the cr.yaml file declares entries for each component databases. Each entry names the component, and gives the user and password that the component can use to access that database. You must add a new entry for the `repository` component.

> **NOTE:**
> If you have already updated to the latest version of Turbonomic, and you did not perform the steps to update your multi-tenant DB service, please contact your support representative.

To create the new database:

1. Connect to your multi-tenant DB using a global account.

   The account must have privileges to create databases and users. If you have specified `dbRootUsername` in the cr.yaml file, you can use that account.
2. Create the database that the `repository` pod requires:

   ```
   create database repository;
   ```
3. Create the account the pod will use to access the database:

   ```
   create user 'repository'@'%' identified by 'vmturbo';
   ```

   > **NOTE:**
   > The value **vmturbo** is the default password that uses for all component database accounts. If you have manually created accounts with different credentials, you can do so for this database as well.
4. Set the user account privileges for the `repository` pod's account:

   ```
   GRANT SELECT, INSERT, UPDATE, DELETE, CREATE, DROP, REFERENCES, INDEX, ALTER, CREAT
   E TEMPORARY TABLES, LOCK TABLES, EXECUTE, CREATE VIEW, SHOW VIEW, CREATE ROUTINE, A
   LTER ROUTINE, EVENT, TRIGGER ON repository.* TO 'repository'@'%';
   ```
5. Flush privileges to make the privileges take effect:

   ```
   flush privileges;
   ```

Now that the repository database is created in your multi-tenant DB service, you must declare the access in the Turbonomic cr.yaml resource.

1. Open the .cr file for editing. The location of the file depends on the type of Turbonomic installation you are configuring.

OVA installation of Turbonomic:	Turbonomic on a Kubernetes node or node cluster:

Open a SSH terminal session on your Turbonomic instance
 	
Log in with the System Administrator that you set up when you installed Turbonomic:
 	
• Username: `turbo`
• Password: `[your_private_password]`
 	
Then edit the file:
 	
`/opt/turbonomic/kubernetes/operator/d`
`eploy/crds/charts_v1alpha1_xl_cr.yaml`
	Open the following file for editing:
	
	`deploy/crds/charts_v1alpha1_xl_cr.yaml`

2. Add the credentials for the `repository` component database.

    Add the entry to the `properties:` section of the cr.yaml file, where **vmturbo** is the password that you assigned to that user account, and **yourDB** is the qualified name of your multi-tenant DB partition::

    ```
    repository:
      repositoryDbUsername: repository@yourDB
      repositoryDbPassword: vmturbo
    ```

    The resulting cr.yaml file should be similar to:

    ```
    properties:
        global:
          enableSecureDBConnection: true
          sqlDialect: MYSQL
          dbRootPassword: yourPassword
          dbRootUsername: xladmin@yourDB
          #dbUserPassword:
          #dbUsername:
        action-orchestrator:
          actionDbUsername: action@yourDB
          actionDbPassword: vmturbo
        auth:
          authDbUsername: auth@yourDB
          authDbPassword: vmturbo
        clustermgr:
          clustermgrDbUsername: clustermgr@yourDB
          clustermgrDbPassword: vmturbo
        cost:
          costDbUsername: cost@yourDB
          costDbPassword: vmturbo
        group:
          groupComponentDbUsername: group_component@yourDB
          groupComponentDbPassword: vmturbo
        history:
    ```

```
      historyDbUsername: history@yourDB
      historyDbPassword: vmturbo
    plan-orchestrator:
      planDbUsername: plan@yourDB
      planDbPassword: vmturbo
    topology-processor:
      topologyProcessorDbUsername: topology_processor@yourDB
      topologyProcessorDbPassword: vmturbo
    repository:
      repositoryDbUsername: repository@yourDB
      repositoryDbPassword: vmturbo
```

After you have done this, you can update to the latest version of Turbonomic and then apply the cr.yaml file.

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.

Improvements

*   **Improvement:**

    Customer Issue 113217

    Starting with this release, Turbonomic now supports running the platform in an Openshift environment that uses Security Context Constraints (SCC) to limit the valid user IDs for the platform components. The platform components now run with the assigned User IDs.

*   **Improvement:**

    To simplify management of Operator during Turbonomic updates, a number of properties have been removed from Operator and are now specified in component configuration files.

*   **Improvement:**

    Customer Issue 112877

For the Top Database Serves charts, you can now choose the Data Type for the chart. The choices are:

- ◦ Health: The chart displays the health of the top utilized entities in the chart's scope.
- ◦ Utilization: The chart displays the utilization of specific resources for the top utilized entities. You can add commodities to the chart to track their utilization.

- **Improvement:**

  For Container environments, this release introduces filtering to create groups of namespaces or entities based on the labels and annotations applied to entities in the environment. With this filter, you can use namespaces to group workloads related to a given application.

- **Improvement:**

  Customer Issue 113008

  For Azure environments, starting with this release Turbonomic discovers updated RI cost data via the Azure cost catalog API. Previous releases used a static CSV file that was published by Microsoft.

- **Improvement:**

  Customer Issue 111367,112917

  In Hyper-V and vCenter Server environments, under some circumstances a host in a cluster can have multiple `D:` drives. In previous versions, discovery would fail for a cluster with such a host. With this version, Turbonomic now supports discovery of hosts with multiple `D:` drives.

- **Improvement:**

  When using **Show All** from the Savings and Investments charts, the table shows actions and now includes the ability to execute actions from that table.

Fixed Issues

- **Fixed Issue:**

  Customer Issue 113314

  For Active Directory user accounts, after updating to Turbonomic version 8.0.1, there are cases where members of AD groups cannot log in.

  This can occur for members of groups where the LDAP distinguished name (DN) contains certain special characters.

- **Fixed Issue:**

  Customer Issue 113051,113100

  When using the Top Utilized charts, if you scope the chart to a dynamic group, then it does not display data correctly.

- **Fixed Issue:**

  For this release, when you scope the view to entities related to container environments, the Details view shows more relevant data. If you scope to Container, Pod, ContainerSpec, or WorkloadController entities, the single resource charts in the Details view now show:

- ◦ The allocated resource capacity
- ◦ Summary informaton
- ◦ Display as a Band chart

- **Fixed Issue:**

  For scaling actions in cloud environments, under some circumstances the action details do not indicate the commodity shortage that caused analysis to recommend the action.

- **Fixed Issue:**

  Customer Issue 113153

  For large VPLEX environments, under some circumstances it is possible that discovery does not complete. As a result the supply chain can show the affected storage entities as VM datastores.

- **Fixed Issue:**

  Customer Issue 113174

  For vCenter Server environments, under some circumstances Turbonomic can fail to close idle sessions that it has opened with vCenter Server. This can occur after timeouts or other communication failures with vCenter.

- **Fixed Issue:**

  Customer Issue 113070

  For Google Cloud environments, Turbonomic must discover the default CPU speed for each region.

- **Fixed Issue:**

  Customer Issue 113102

  Users with the Site Administrator role cannot view all the plans that have been created by other users.

- **Fixed Issue:**

  Customer Issue 113130

  In Azure environments, under some circumstances a resize can fail with the error, `Async operation failed with provisioning state: Failed: Allocation failed`.

  This can happen when the resize action requires a deallocation of the initial VM instance.

- **Fixed Issue:**

  Customer Issue 113079

  For vCenter Server environments, under rare circumstances discovery encounters a null value and fails to complete.

- **Fixed Issue:**

  For Azure environments, under some circumstances a Service Principle can fail to return data for all of its underlying subscriptions. As a result, Turbonomic can remove the affected VMs from the supply chain.

  There are occasions when the Azure environment can momentarily fail to return data for some of the underlying subscriptions. In that case, Turbonomic discovery immediately removes the affected VMs. Because this is a momentary break in data, Turbonomic should wait for a timeout period before removing the VMs from the supply chain.

- **Fixed Issue:**

  Customer Issue 112866

  For environments that include hyperthreaded hosts, analysis can fail to scale down the VCPU for a workload that shows low utilization.

  This can occur if the VM is allocated a high VCPU amount to exploit the host's hyperthreading, and that VCPU amount is greater than the host's CPU capacity.

- **Fixed Issue:**

  Customer Issue 112567

When you place a host in Maintenance Mode, it can take an unacceptable amount of time for Turbonomic to migrate workloads off of that host.

- **Fixed Issue:**

  Customer Issue 112714

  If you specify an Active Directory group for a user account, and that group name includes a period character, then you cannot subsequently delete the group from the list of user accounts.

- **Fixed Issue:**

  Customer Issue 112000

  For Hyper-V environments where VMs use ISO storage, under some circumstances the values Turbonomic reports for storage utilization can be inconsistent between the VM and storage entities.

- **Fixed Issue:**

  Customer Issue 112189

  For large Horizon VDI environments, under some circumstances discovery can fail to post all of the Business User entities in the supply chain.

- **Fixed Issue:**

  Customer Issue 113204

  For the Migrate to Cloud plan, when you export the Cloud Comparison chart to CSV, the resulting data does not contain mor ethan 500 rows.

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:**

  For vSan environments, if you change the underlying Host Capacity Reservation settings, then the resource values that Turbonomic displays for the affected storage do not update to reflect that change. Values for the following resources remain unchanged:

  ◦ Storage Amount Capacity
  ◦ Storage Amount Used
  ◦ IOPS Capacity

- **Known Issue:**

  For ServiceNow integrations, when Turbonomic generates an action, it can direct ServiceNow to create a Change Request (CR) for that action. When you view the related Action Details in the Turbonomic user interface, the details should display the CR number, and a link to ServiceNow so you can inspect the CR. However, Turbonomic does not include that information in the action details.

- **Known Issue:**

When you run a Migrate to Cloud plan with more than 500 entities to migrate, the results can incorrectly show unplaced VMs.

This can occur because the user interface requests results data for 500 entities. In a large plan, the excess entities can appear as unplaced. When you export the Cloud Cost Comparison data to CSV, that data includes the complete set of entities, showing their placement correctly.

• **Known Issue:**

  Customer Issue

  If you assign a schedule to one of the default Automation Policies, Turbonomic will respect that schedule and limit action execution accordingly. However, if you restart your Turbonomic instance, then it removes all the schedules from the default policies.

  For example, assume you scheduled automation for certain VM actions in the default policy. After you restart the instance, those actions will still be automated, but they will not have a schedule. The result is that the actions are automated at all times.

  After a restart, review your default policies and reapply schedules to any policies that need them.

• **Known Issue:**

  For vSAN environments, when running plans that add or replace hosts to the environment, under some circumstances the plan can show the incorrect count for hosts, and the plan can fail.

  This can happen for plans that meet the following conditions:

  ◦ The plan type is Hardware Refresh, Add Workload, or Custom
  ◦ The plan scope is set to a datacenter, and it includes vSAN hosts
  ◦ The plan uses an HCI template to replace the hosts

  After running, the plan shows the full count of hosts in the vSAN environment, instead of the count of hosts in the plan scope. To avoid this situation, do not scope the plan to the datacenter.

• **Known Issue:**

  For ServiceNow integrations, there are circumstances where Turbonomic generates an action that it cannot execute automatically, and sends it to ServiceNow to generate a CR. In this case, when the CR is approved Turbonomic does not execute the action, and after 24 hours the CR state changes to `MISSED`.

  This is expected behavior. There are acceptable reasons for the action to be one that Turbonomic cannot execute. For example, the action can be of a type that Turbonomic cannot automate, but you configured a policy to send the action to ServiceNow. In this case, you should manually:

  ◦ Execute the action outside of Turbonomic
  ◦ Close the CR related to this action
  ◦ Close the related Action Approval record
  ◦

• **Known Issue:**

  For Horizon VDI environments, under some circumstances does not move a Business User to a different Desktop Pool, even though the current pool is congested. This can happen in an environment that contains many snapshot files.

• **Known Issue:**

  When you run an Optimize Cloud Plan, under some circumstances the results in the OPTIMIZED column of the Cloud Cost Comparison chart can show zero entities for different counts of workloads. If this happens, try navigating away from the plan results, and back again.

- **Known Issue:**

  For the *Private Preview* Partial RI feature, in Azure environments there can be delays in updates to billing information that Azure makes available to Turbonomic. In that case, there can be times when analysis uses partial billing data in its calculations. When showing utilization of RIs that are discovered outside of the targeted Azure subscriptions, this can result in changing costs for those RIs.

- **Known Issue:**

  When configuring schedules in an automation policy, you should not apply the same schedule to both the Policy Schedule and the Action Execution Schedule settings. 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:**

  When reviewing plan results, under rare circumstances the plan's actions list can show duplicate entries.

- **Known Issue:**

  Customer Issue 111995

  When the Density chart is scoped to a cluster and the `Show Density` checkbox is selected, the displayed graph intermittently shows 0 VMs per host.

- **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 groups 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 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, autoS
  etResponseTimeCapacity, 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 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:**

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:**

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:**

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.