Turbonomic 8.0.1 Release Notes

October 28, 2020

This document describes issues that are addressed in Turbonomic 8.0.1 – Release Date: October 28, 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 8.0.1

Version 8.0.1

There are no new features in this release.

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.

Improvements

- **Improvement:**

  Customer Issue 112814

  You can now declare tags as storage annotations in the Turbonomic operator as a global entry:

  ```
  global:
    storageAnnotations:
      turbo: tag
  ```

- **Improvement:**

  For Migrate to Cloud Plans, this release now includes the RI Purchase Profile wizard in the plan configuration workflow.

- **Improvement:**

  Customer Issue 111621

  Starting with this release, you can specify Rate of Resize in scoped automation policies.

- **Improvement:**

  Customer Issue 110416

  Starting with this release, you can now create placement policies for storage volumes and storage tiers. For example, you can now create a policy the will not place specific volumes on a given storage tier.

- **Improvement:**

  The new settings `percentileAggressivenessDatabase` and `maxObservationPeriodDatabase` were added to the `marketsettingsmanager` to support Azure Single Databases

Fixed Issues

- **Fixed Issue:**

  In some cases, HTTP responses within the platform do not include the necessary security headers.

- **Fixed Issue:**

  Customer Issue 113099

For Nutanix environments with AHV clusters, under some circumstances resize actions fail. This can occur when Turbonomic tries to power on a VM that the Nutanix service has already powered on.

- **Fixed Issue:**

  Customer Issue 113091

  For XtremIo environments, under some circumstances discovery of volumes can fail. This can occur when the volume does not have the expected entry for a volume name.

- **Fixed Issue:**

  For configuration of Database policies, the user interface enables you to specify **Scaling Target VCPU Utilization** and **Scaling Target VMEM Utilization**. However, these settings are not used for Database policies, and should be removed.

- **Fixed Issue:**

  Customer Issue 113075

  For Nutanix Prizm environments, the host capacity that Turbonomic reports can be greater than the capacity that Nutanix reports. This can occur when there are more threads on the host than cores.

- **Fixed Issue:**

  Customer Issue 113070

  For Google Clout Platform environments, under some circumstances discovery can fail. This can occur when a discovered VM is missing a required data field.

- **Fixed Issue:**

  Customer Issue 113054

  For Kubernetes environments, under some circumstances Turbonomic does not report namespace quotas. This can occur when the quota is declared via an older syntax. This syntax is not deprecated, but it is no longer documented by Kubernetes. Turbonomic should support this older syntax.

- **Fixed Issue:**

  Customer Issue 113028

  For Hyper-V environments, under some circumstances Turbonomic can report excess values for storage access IOPS.

- **Fixed Issue:**

  Customer Issue 113002

  For AppDynamics environments, under some circumstances during incremental discovery the AppDynamics target does not return VMem for a given VM. This can result in incorrect scaling actions.

- **Fixed Issue:**

  Customer Issue 112995

  For VSan environments, if you run a plan that removes workloads, the plan can fail to suspend hosts when they are not needed. In extreme cases, this can result in more hosts than VMs in the plan scope.

- **Fixed Issue:**

  Customer Issue 112988

  For VMax environments, under some circumstances the latency capacity that Turbonomic discovers can be too low. As a result, analysis can fail to generate actions that would otherwise be appropriate.

- **Fixed Issue:**

  Customer Issue 112978

In VCenter Server environments, under rare circumstances discovery can fail with the exception, `java.util.ConcurrentModificationException`.

- **Fixed Issue:**

    Customer Issue 112945

    For Azure environments, if the cloud provider has a temporary outage in returning pricing data, Turbonomic charts fail to display any cost data.

- **Fixed Issue:**

    Customer Issue 112922

    When inspecting a dashboard, you can display the SHOW ALL page of a given chart. If the user interface refreshes the dashboard while SHOW ALL is open, the refresh closes that page and returns to the top level of the dashboard.

- **Fixed Issue:**

    Customer Issue 112875

    Under some circumstances, the user interface fails to create a new dashboard.

- **Fixed Issue:**

    If you search for VMs in the user interface, and set the filter to search for VMs with `OS = Unknown`, then the search does not return any VMs.

- **Fixed Issue:**

    Customer Issue 112804

    Under some circumstances, when you run a plan with **Ignore Constraints** turned on, the performance is unacceptable.

- **Fixed Issue:**

    Customer Issue 112812

    For Azure environments, under some circumstances an Azure target can be for a subscription that is not entered in the Azure Usage Details report. In this case, Turbonomic assumes costs for Pay-As-You-Go by default. As a result, costs can be incorrect.

- **Fixed Issue:**

    For VMax environments, under some circumstances Turbonomic shows `18446744073709551615` for some monitored values. The target returns this value when there is no available data for the value, so the user interface should not display this value.

- **Fixed Issue:**

    Customer Issue 112704,112792,112972

    When running a plan that mixes VSan clusters with host clusters that do not participate in VSan, if you configure the plan to remove all the VSan hosts then the plan can fail. This can happen if the remaining VMs require the VSan storage those hosts provided.

- **Fixed Issue:**

    Customer Issue 111581

    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.

- **Fixed Issue:**

    Customer Issue 112631,113016

For environments that use application targets (such as SNMP) to discover application data, it is possible that the application values for VMem differ from the VMem discovered directly on the VM. In this case, the application data should take precedence. Under some circumstances, the application data does not fully replace the VM data. As a result, data display can be erroneous. For example, the 95th percentile for utilization can be lower than the average for utilization.

- **Fixed Issue:**

  Customer Issue 112593

  For AWS environments, if you limit Turbonomic to only certain regions in the Region Map, it still requests spot pricing data from all regions.

- **Fixed Issue:**

  Customer Issue 112590

  For Azure environments, under some circumstances after a resize action succeeds, the user interface shows it as a failed action. This can occur if the communication with Azure times out when waiting for the final response to the action.

- **Fixed Issue:**

  Customer Issue 112395

  When you run the report *Storage Top Snapshot Consumption*, under some circumstances it can fail to list all of the snapshots in your environment.

- **Fixed Issue:**

  Customer Issue 112546

  Under some circumstances, when you click Show All for the Accepted Actions chart, the table only displays the first 300 actions.

- **Fixed Issue:**

  Customer Issue 112535

  Under some circumstances, performance is unacceptable when you click SHow All for the Executed Actions chart.

- **Fixed Issue:**

  Customer Issue 112473

  Under some circumstances, if you edit a chart after clicking in it, then Turbonomic does not save the changes to the chart.

- **Fixed Issue:**

  Customer Issue 112416

  When configuring a plan, if the scope includes hosts in multiple clusters, but not all of the hosts in the clusters, then under some circumstances the plan can show a current count of VMs that includes all the VMs in the affected clusters.

- **Fixed Issue:**

  Customer Issue 112602

  For large environments, under some circumstances the user interface can become unresponsive as it tries to load a large scope.

- **Fixed Issue:**

  Customer Issue 112225

For the Pending Actions list, the filter includes an option to filter by Action Prerequisite. However, that filter is not supported. It should be removed from the user interface.

- **Fixed Issue:**

  Customer Issue 112200

  Under rare circumstances the All Actions chart can show incorrect numbers for the count of executed actions. This can occur when the Action Orchestrator component restarts while it is calculating action data.

- **Fixed Issue:**

  Customer Issue 112461,112688

  When configuring a plan, performance must improve for the display of the plan scope options.

- **Fixed Issue:**

  Customer Issue 111889

  For Azure environments, after you transfer to a new Azure Enterprise Agreement (EA), and you have set that new EA as a target, Turbonomic discovers the RI inventory that was bought under that new EA, but it no longer discovers RIs that were bought under the old EA.

- **Fixed Issue:**

  Customer Issue 111668

  The Target Configuration Guide should describe how to configure the Action Script target, and it should give a reference to the API guide for more information.

- **Fixed Issue:**

  Customer Issue 110857

  In a consistent scaling group, it's possible that one VM resizes for a performance reason, and other members of the group resize even though they have no performance issues. In that case, the action details show the reason to be *Efficiency*. Such a resize should be for *Compliance*.

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:**

  You should never assign two or more schedules to the Action Execution Schedule setting of a policy.

  Action execution only recognizes one schedule in a policy. For example, assume you set Schedule A for Mem resize actions and Schedule B for CPU resize actions, both in the same policy. Now assume that when both schedules are closed you get two actions on a VM in the policy scope - One to resize Mem, and another to resize CPU. If you accept both actions, then you can get unexpected results. For example, one of the actions can execute according to schedule, and the other can execute immediately.

To set different schedules for different actions, create individual policies with the same scope, but with a single Action Execution Schedule for each.

- **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:**

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:**

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

- **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 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, 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:**

  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:**

  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.