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# Turbonomic 7.22.5 REST API Changes

July 27, 2020

This document describes issues that result in changes to the REST API. It is a running list of changes that accumulates these changes until the next release of the API Programming Guide. When we release a new version of the programming guide, it will include these changes. At that time, the list will start with new change to the API.

Because the API is a full reflection of the Turbonomic product, some changes to the product necessarily cause changes in the API. This can include bug fixes and improvements to the product. For example, we might add new commodities that you can get for a given entity type. Or a bug fix might change the data that is returned by an API request. We strive to make these changes backward-compatible whenever possible.

## REST API Changes

- Fix Version: 7.22.5

**Improvement:** Horizon VDI targets now report the number of connected sessions in use, as well as the total number of connected sessions (in use and not in use).

As part of this improvement, the API introduces the new group and search filter, `vmsByActiveSessions`.

- Fix Version: 7.22.3

**Customer Issue 110695**

**Improvement:** To support the user interface improvements for setting cloud tiers as scaling constraints, the API now includes new filters to create groups for the following instance types:

- VM Instance Type (compute tier)
  - `computeTiersByName` to filter by display name
  - `computeTiersByMem` to filter by VM memory capacity

- Database Instance Type (database tier)
  - `databaseTiersByName` to filter by display name
  - `databaseTiersByDBMem` to filter by database memory capacity
- Database Server Instance Type (database server tier)
  - `databaseServerTiersByName` to filter by display name
  - `databaseServerTiersByVMem` to filter by database server memory capacity
  
- Fix Version: `dbScalingImprovements`

**Improvement:** The new settings `percentileAggressivenessDatabase` and `maxObservationPeriodDatabase` were added to the `marketsettingsmanager` to support Azure Single Databases
  
- Fix Version: 7.22.5

**Improvement:** For policies, the boolean parameter used to set SLO status has been changed from "Disable SLO" to "Enable SLO".
  
- Fix Version: 7.22.5

**Deprecation:** The entity types `Application` and `ApplicationServer` have been deprecated. Instead, use the `ApplicationComponent` entity type.
  
- Fix Version: 7.22.5

**Improvement:** To support more rapid reservation planning, the call to create a reservation has changed. It no longer takes the `apiCallBlock` parameter when you create the reservation. By default every reservation is created in an asynchronous mode.

To execute call blocking, and create the reservation in synchronous mode, you first create the reservation, and then execute a call to `GET` the reservation by ID, and pass the parameter `callBlocking=true`.
  
- Fix Version: 7.22.4

**Improvement:** The search filters for `Application` and `ApplicationServer` have been replaced by the `ApplicationComponent` entity type, which will return entities that formerly used the deprecated values.
  
- Fix Version: 7.22.4

**Improvement:** The boolean search filter `UserDefinedEntity` has been implemented to filter results by entities that Turbonomic discovers or user-created entites.

`True`: Return only entities discovered by a user-defined topology probe.

`False`: Return only entities discovered by a Turbonomic probe.

- Fix Version: 7.22.3

**Improvement:** When requesting storage-related metrics, these metrics are now gathered and reported from the `volume` entity instead of the `VirtualMachine` entity.

When requesting `StorageAmount` or `StorageAccess` commodities, these commodities will return commodities bought from the associated `volume` entity.

When requesting `StorageAmount`, `StorageAccess`, and `IOThroughput` commodities with the `relatedEntityType = VirtualMachine` parameter now returns commodities bought by volume from `Storage Tier`.

- Fix Version: 7.22.2

**Improvement:** The following search filters are now available for `Business User` and `Desktop Pool` entities:

- `businessUserByDesktopPool`
- `businessUserByViewPod`
- `DesktopPoolByViewpod`

- Fix Version: 7.22.1

**Improvement:** The following search filters are now available for `Containers`, `Container Pods`, `Container Specs`, `Namespace`, and `Workload Controller` entities:

- `containersByNamespace`
- `containerPodsByNamespace`
- `containerSpecsByName`
- `containerSpecsByNamespace`
- `namespacesByName`
- `workloadControllersByName`
- `workloadControllersByNamespace`
- `workloadControllersByKind`

Additionally, the following search filters were refactored to return expected results:

- `containersByPodName`
- `containerPodsbyVMName`

- Fix Version: 7.22.1

**Improvement:** The new setting `containerRateOfResize` was added to the `marketsettingsmanager`.

This setting contains the global resize rate for `Container` entities.

- Fix Version: 7.22.1

**Improvement:** The `telemetrymanager` settings manager has been implemented. This settings manager contains a single boolean setting, `telemetryEnabled`. When `true`, telemetry data will be collected and sent periodically

- Fix Version: 7.22.1

**Improvement:** This release improves the support for API searches. When searching a scope of a given ServiceProvider, the API returns associated entities, actions, and aspects. Search also returns a virtualDiskAspect for Delete actions on virtual volumes.

- Fix Version: 7.22.0

**Improvement:** The API now includes support for the CSP (Cloud Service Provider) filter type in Stats calls.

- Fix Version: 7.22.0

**Customer Issue 108434,108988**

**Improvement:** When searching for entities or creating groups, you can create a filter by Resource Group. With this release, you can now use REGEX expressions for the filter criteria.

- Fix Version: 7.21.5

**Improvement:** To support requirements in the user interface, and to streamline internal data usage, the API must change the naming it uses for commodities in Action DTOs.

For example, the following RISK object in the action DTO shows a commodity in the `reasonCommodity`:

```
"risk": {
  &nbsp;&nbsp;&nbsp;"subCategory": "Performance Assurance",
  &nbsp;&nbsp;&nbsp;"description": "Storage Provisioned congestion in Storage vsanDatastore",
  &nbsp;&nbsp;&nbsp;"severity": "CRITICAL", "importance": 0.0,
  &nbsp;&nbsp;&nbsp;"reasonCommodity": "StorageProvisioned"
}
```

The names change as follows:

Old Value	New Value
CLUSTER	ClusterCommodity
THREADS	Threads
CPU_ALLOCATION	CPUAllocation
NUMBER_CONSUMERS	NumberConsumers
FLOW_ALLOCATION	FlowAllocation
Q1_VCPU	Q1VCPU

Old Value	New Value
STORAGE_PROVISIONED	StorageProvisioned
LICENSE_COMMODITY	LicenseCommodity
STORAGE_AMOUNT	StorageAmount
Q16_VCPU	Q16VCPU
Q32_VCPU	Q32VCPU
SAME_CLUSTER_MOVE_SVC	SameClusterMoveSvc
Q3_VCPU	Q3VCPU
SLA_COMMODITY	SLACommodity
CROSS_CLUSTER_MOVE_SVC	CrossClusterMoveSvc
NUMBER_CONSUMERS_PM	NumberConsumersPM
STORAGE_ALLOCATION	StorageAllocation
Q8_VCPU	Q8VCPU
SPACE	Space
Q6_VCPU	Q6VCPU
POWER	Power
MEM	Mem
STORAGE_LATENCY	StorageLatency
Q7_VCPU	Q7VCPU
COOLING	Cooling
PORT_CHANEL	PORT_CHANNEL
VCPU	VCPU
QN_VCPU	QNVCPU
CPU_PROVISIONED	CPUProvisioned
RIGHT_SIZE_SVC	RightSizeSVC
MOVE	Move
Q2_VCPU	Q2VCPU
Q5_VCPU	Q5VCPU
SWAPPING	Swapping
SEGMENTATION	SegmentationCommodity
FLOW	Flow

Old Value	New Value
DATASTORE	DatastoreCommodity
CROSS_CLOUD_MOVE_SVC	CrossCloudMoveSvc
RIGHT_SIZE_DOWN	RightSizeDown
IO_THROUGHPUT	IOThroughput
CPU	CPU
BALLOONING	Ballooning
VDC	VDCCommodity
Q64_VCPU	Q64VCPU
CONNECTION	Connection
MEM_PROVISIONED	MemProvisioned
STORAGE	Storage
NET_THROUGHPUT	NetThroughput
NUMBER_CONSUMERS_STORAGE	NumberConsumersStorage
TRANSACTION	Transaction
MEM_ALLOCATION	MemAllocation
DSPM_ACCESS	DSPMAccessCommodity
RESPONSE_TIME	ResponseTime
VMEM	VMem
ACTION_PERMIT	ActionPermit
DATACENTER	DataCenterCommodity
APPLICATION	ApplicationCommodity
NETWORK	NetworkCommodity
Q4_VCPU	Q4VCPU
STORAGE_CLUSTER	StorageClusterCommodity
EXTENT	Extent
ACCESS	Access
RIGHT_SIZE_UP	RightSizeUp
VAPP_ACCESS	VAppAccess
STORAGE_ACCESS	StorageAccess
VSTORAGE	VStorage

Old Value	New Value
DRS_SEGMENTATION	DrsSegmentationCommodity
DB_MEM	DBMem
TRANSACTION_LOG	TransactionLog
DB_CACHE_HIT_RATE	DBCACHEHitRate
HOT_STORAGE	HotStorage
COLLECTION_TIME	CollectionTime
BUFFER_COMMODITY	BufferCommodity
SOFTWARE_LICENSE_COMMODITY	SoftwareLicenseCommodity
VMPM_ACCESS	VMPMAccessCommodity
HA_COMMODITY	HACommodity
NETWORK_POLICY	NetworkPolicy
HEAP	Heap
DISK_ARRAY_ACCESS	DISK_ARRAY_ACCESS
SERVICE_LEVEL_CLUSTER	ServiceLevelCluster
PROCESSING_UNITS	ProcessingUnits
HOST_LUN_ACCESS	HOST_LUN_ACCESS
COUPON	Coupon
TENANCY_ACCESS	TenancyAccess
LICENSE_ACCESS	LICENSE_ACCESS
TEMPLATE_ACCESS	TemplateAccess
NUM_DISK	NumDisk
ZONE	Zone
ACTIVE_SESSIONS	ActiveSessions
POOL_CPU	PoolCPU
POOL_MEM	PoolMem
POOL_STORAGE	PoolStorage
IMAGE_CPU	ImageCPU
IMAGE_MEM	ImageMem
IMAGE_STORAGE	ImageStorage
INSTANCE_DISK_SIZE	InstanceDiskSize

Old Value	New Value
INSTANCE_DISK_TYPE	InstanceDiskType
BURST_BALANCE	BurstBalance
TEMPLATE_FAMILY	Unknown
DESIRED_COUPON	DesiredCoupon
VCPU_REQUEST	VCPURequest
VMEM_REQUEST	VMemRequest
VCPU_REQUEST_QUOTA	VCPURequestQuota
VMEM_REQUEST_QUOTA	VMemRequestQuota
NETWORK_INTERFACE_COUNT	NetworkInterfaceCount
BICLIQUE	Biclique
VCPU_LIMIT_QUOTA	VCPULimitQuota
VMEM_LIMIT_QUOTA	VMemLimitQuota
UNKNOWN	Unknown

- Fix Version: 7.21.5

**Improvement:** When you request actions, if one or more of the entities in the scope of your request no longer exists in the topology, the Actions DTO for such entities will contain minimal information about the entities.

For earlier releases, the request would fail because the call could not return full information about the entity. However, there are circumstances where such a scope is valid for an actions request. For example, you can request actions history for entities that did exist within the time period of your request.

- **Customer Issue 110650**

**Known Issue:** When retrieving statistics for a cluster, using the `/groups` endpoint will return the aggregated statistics for all applicable cluster entities, and using the `/stats` endpoint returns the statistics for each individual entity.

- **Known Issue:** To help you visualize and interact with the REST API resources, Turbonomic includes the open source tool, SwaggerUI. For REST API developers, if you use the SwaggerUI to try out API calls, if the API call returns an error (for example, your call uses incorrect syntax), under some circumstances SwaggerUI does not display the error. The field for the returned data is empty. This appears to be a problem with the Swagger UI tool.

- Fix Version: 7.22.5

**Customer Issue 111761**



**Known Issue:** When using the POST /stats request, including the `numStorages` statistic in the filter causes some other statistics to not appear, resulting in a partial response.

Do not use the `numStorages` statistic filter. This statistic *will* be returned when other filters or no filters are used.

- Fix Version: 7.22.5

**Fixed:** Reservations must now have a unique display name.

- Fix Version: 7.22.3

**Fixed:** For the Potential Savings chart, when you click **Show All** to display the Potential Savings table, and then scope it to Delete Volumes, the list displays unattached volumes that you can delete. However, for Azure environments this list can also include unattached volumes that are not eligible for deletion.

When getting detached volumes, you can now include the filter `volumeByDeletable`, which returns `true` if the given volume is eligible for deletion.

- Fix Version: 7.22.3

**Customer Issue 110888**

**Fixed** For environments with empty clusters (no hosts in the cluster), the display of Headroom charts can be misleading. Turbonomic should not calculate headroom for empty clusters.

- Fix Version: 7.22.0

Fix Version: 7.22.1

**Fixed:** Under some circumstances, the Headroom charts can fail to show complete data. When this occurs, the charts can fail to show data for a 2-hour time frame or for a 1-year time frame. In addition, the charts can fail to show data for all the resources they monitor.

This fix addresses the restriction only one stat snapshot per cluster is returned by the API. The cluster stats endpoints can now:

- Return more than one snapshot
- Return projected stats
- Return total headroom
- Sort by total headroom utilization

- Fix Version: 7.22.3

**Fixed:** When creating a scenario for a plan, you must provide a scope for the scenario. If you do not include a scope in a scenario, then the API should return a 400 error. However, the API returns 200.

- Fix Version: 7.22.4

**Customer Issue 111019**

**Fixed:** When creating a template, the API formerly accepted a statistic parameter for `diskIopsConsumed`. However, this parameter is not supported and has been removed from this version of Turbonomic. Instead, send this value using the `diskIops` parameter.

- Fix Version: 7.22.3

**Fixed:** When you get a discovered group, the returned data should include information about the target that discovered the group.

For discovered groups the API now includes a `TargetApiDTO` that identifies the target that discovered the group.

Note that in the case of a discovered resource group, the members can be discovered by multiple targets. As of this release, in that case the API arbitrarily returns a single target for the group.

- Fix Version: 7.22.1

**Fixed:** The POST `/actions` request now correctly accepts an `ActionApiInputDTO` and returns the expected filtered results.

Additionally, pagination is implemented for this call.

- Fix Version: 7.22.2

**Fixed:** The API call to get stats for entities ignores the parameter to filter the response by entity state.

- Fix Version: 7.22.0

**Fixed:** As part of security updates, the API no longer includes the following obsolete SAML endpoints:

- `saml`
- `saml/idpmetadata`
- `saml/keystore`

- Fix Version: 7.21.5

Fix Version: 7.22.0

**Customer Issue 110627**

**Fixed:** For API developers, the POST method to get stats does not always return the full set of data that you request. If you include a filter to return a count of entities (for example `numVMs`), along with other types of stats, the count of entities returns zero.

- Fix Version: 7.21.5

**Customer Issue 110207**

**Fixed:** For API development, when you edit a workload placement policy via the PUT method, the API returns an empty `PolicyApiDto` object. The API should return an object that reflects the modified policy.

- Fix Version: 7.22.0

**Fixed:** For filtered STATS requests, the API now supports the `relatedEntityType` filter.