

ShareGate Overcast monitors Azure consumption and generates recommendations whenever it detects an opportunity to rightsize, downscale, or otherwise minimize a given resource in order to save costs. Below is an overview of the optimization recommendations currently included in the app's scope.

Abandoned disks

Description

Abandoned disks are classic virtual machine disks or managed disks that are no longer attached to a virtual machine. These disks were typically forgotten when deleting the virtual machine and can often be safely deleted.

Criteria

To be considered **idle** by ShareGate Overcast, a disk must meet the following criteria:

- Not be currently attached to a virtual machine
- Not be on a free tier

Empty services

Description

Empty services are App Service plans that are empty and have no applications, sites or jobs currently associated to it. These services can typically be deleted to save costs.

Criteria

To be considered **empty**, an App Service plan must meet the following criteria:

- No applications, sites or jobs associated to it
- App Service plan is not on a free tier

Geolocalized storage

Description

Storage accounts can set their replication settings to GRS (geo-redundant storage) and RA-GRS (read-access geo-redundant storage). In fact, GRS is the default option when creating a new storage account in the Azure portal. Both of these settings will make additional copies of the data stored in the account to a secondary data center in case of disaster in the primary data center. Please note that is not a durable backup of your data. Any changes made to the primary data will immediately be replicated to the secondary data center. As such, this type of replication cannot be used as a safeguard against user or application error.

In most cases, geo-replication is not required and LRS (Locally-redundant storage) can be used instead. LRS already makes 3 copies of the same data within different locations of a single data center. As such, it is highly unlikely that the data be lost. The only situation where data loss can happen permanently is in a disaster situation where the entire data center is lost.

Additionally, using GRS or RA-GRS will slow down write operations to the storage account since the data must be replicated to the secondary data center for each operation. Finally, GRS does not allow read operations to the data and can only be accessed when and if Microsoft fails over to the secondary data center in case of disaster. RA-GRS accounts, however, can read from the secondary data center.

Criteria

To trigger this recommendation, a storage account must meet the following criteria:

- Storage account must be set to GRS or RA-GRS replication
- Storage account must not be empty

Idle databases

Description

Idle databases are SQL databases that have very little DTU activity over the past 30 days. These databases can typically be downscaled or even deleted to save costs.

Criteria

To be considered **idle** by ShareGate Overcast, a service must meet the following criteria:

- Average DTU usage for the database is under 5% for every hour over the past 30 days

Idle services

Description

Idle services are App Service plans and Virtual machines that have very little CPU activity over the past 30 days. These services can typically be downscaled or even deleted to save costs.

Criteria

To be considered **idle** by ShareGate Overcast, a service must meet the following criteria:

- Average CPU usage for the App Service plan is under 15% for every hour over the past 30 days
- Average CPU usage for the virtual machine is under 10% for every hour over the past 30 days
- Resource is not on a Free tier

Idle storage

Description

Storage is considered idle when no read or write operations were detected in the past 30 days. This includes blobs, tables and queues.

NOTE: In some cases, it can be normal for there to be no activity (e.g. archival or backup). As such, it is important to verify that the data is indeed no longer needed before deleting the account.

Criteria

To trigger this recommendation, a storage account must meet the following criteria:

- No activity (reads or writes) in the past 30 days
- Resource is not on a Free tier

Intermittent activity

Description

Intermittent activity is triggered for virtual machines that have variable CPU activity over the past 30 days with typical low usage and occasional peaks of high CPU activity. These virtual machines can typically be converted to B-Series virtual machines to significantly reduce their cost.

Criteria

To trigger this recommendation, a virtual machine must meet the following criteria:

- CPU activity averages to under 20% over the past 30 days
- CPU activity does not breach B-Series credit system when verified for each minute over the past 30 days
- VM is not already B-Series

Old snapshots

Description

Old disk snapshots that were created more than one year ago. These snapshots should be reviewed and removed when applicable.

Criteria

To be considered **old** by ShareGate Overcast, a snapshot must meet the following criteria:

- Creation time is at least one year ago

Oversized services

Description

Oversized services are App Service plans that have low CPU activity over the past 30 days compared to what their tier allows. These services can typically be downscaled to save costs.

Criteria

To be considered **oversized**, a service must meet the following criteria:

- Average CPU usage for the App Service plan is under 40% for every hour over the past 30 days
- Resource is not on the Free, B1, S1, P1 or D1 plans.

Reserved instances

Description

Reserved instances are a relatively new concept in Azure where you can commit to a 1-year or 3-year term for a virtual machine. By doing so, the price of the VM is heavily discounted (up to 50%). VMs that are consistently up for long periods of time are prime candidates for reserved instances.

Reserved instances are created for a specific VM size and region. A reservation cannot span multiple regions or multiple sizes.

Reserved Instances are not available for MSDN dev/test subscriptions and may not be available for all VM sizes and regions (e.g. A-series and G-series are not eligible).

NOTE: Reserved instances use a different permissions model than regular subscriptions. By default, only the user that has created the reservation will be able to see it. As such, it is possible that ShareGate Overcast recommendations may not 100% represent the actual state of your Azure subscription. The best way to ensure that you can see all reservations is to add the user as Reader to the root management group of your tenant.

Criteria

To be considered a reserved instance candidate by ShareGate Overcast, a virtual machine must meet the following criteria:

- Have 70% or more uptime over the past 3 months
- Be in a region and of a size that is supported by reserved instances

Specialized storage

Description

Blob and general purpose V2 storage accounts can be set to different access tiers. These tiers are **Hot**, **Cool** and **Archive**. Hot storage costs less per operation to read but will cost more for storage. Cool storage will cost less for storage but will cost more each time it is accessed. As such, these two access tiers will be tuned to different usage patterns. By analyzing the usage pattern over the past 30 days, if the alternate tier would cost less, the recommendation is shown. At this time, no recom-

recommendations for Archive tier are given as this tier functions very differently from the other two.

NOTE: This recommendation must be investigated properly before being applied. There are costs associated with changing between access tiers and as such, changing frequently should be avoided. Before changing, make sure that the new access tier meets your usage requirements.

Criteria

To trigger this recommendation, a storage account must meet the following criteria:

- Storage account must have incurred costs in the past 30 days
- Storage account must have incurred lower costs using an alternate access tier for the same operations over the past 30 days

Stopped virtual machines

Description

Virtual machines can be in three different power states: **Running**, **Stopped** and **Stopped (Deallocated)**. Only when they are in the **Stopped (Deallocated)** state do they stop incurring costs. When shutting down a VM from the Azure portal, they are automatically deallocated. However, if shut down from a Remote Desktop session or by using PowerShell, they simply transition to the **Stopped** state and still incur costs needlessly.

Criteria

To trigger this recommendation, a virtual machine must meet the following criteria:

- Power state must be **Stopped**
- Resource is not on a Free tier

Unconnected virtual network gateways

Description

An unconnected virtual network gateway is considered **unconnected** when it doesn't have any connections.

Criteria

An unconnected virtual network gateway is considered unconnected when it doesn't have any connections.

- Virtual network gateway has no configured connections

Unused IP addresses

Description

An IP address is considered **unused** when it is not attached to a network gateway or load balancer.

Criteria

To trigger this recommendation, an IP address must meet the following criteria:

- IP address is unassigned
- IP address has an assignment configuration of Static

Idle Azure Cache for Redis

Description

Overcast detects Azure Cache for Redis that have not been used for the last 30 days. These caches can be scaled down at first, then even deleted to reduce costs.

Criteria

To be considered Idle, the cache must fill the following criteria:

- No Get operations occurred in the last 30 days.

Unconnected Application Gateways

Description

An Azure application gateway is considered unconnected when every backend pool in the application gateway has no Targets configured.

Criteria

To be considered unconnected, the application gateway must fill this criteria:

- Every backend pool in the application gateway has no Targets configured.

Idle Azure Cosmos DB accounts

Description

An Azure Cosmos DB account is considered idle when it hasn't received any queries in the past 30 days.

Criteria

To be considered **idle** by ShareGate Overcast, an Azure Cosmos DB account must meet the following criteria:

- The total Request Units of the past 30 days is equal to 0

ShareGate: Overcast

Microsoft Azure cost management and optimization made easy

ShareGate Overcast is a flexible cloud cost management and optimization solution designed for Microsoft Azure.

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