



# High-availability pairs in Azure

## Cloud Manager 3.6

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April 22, 2020

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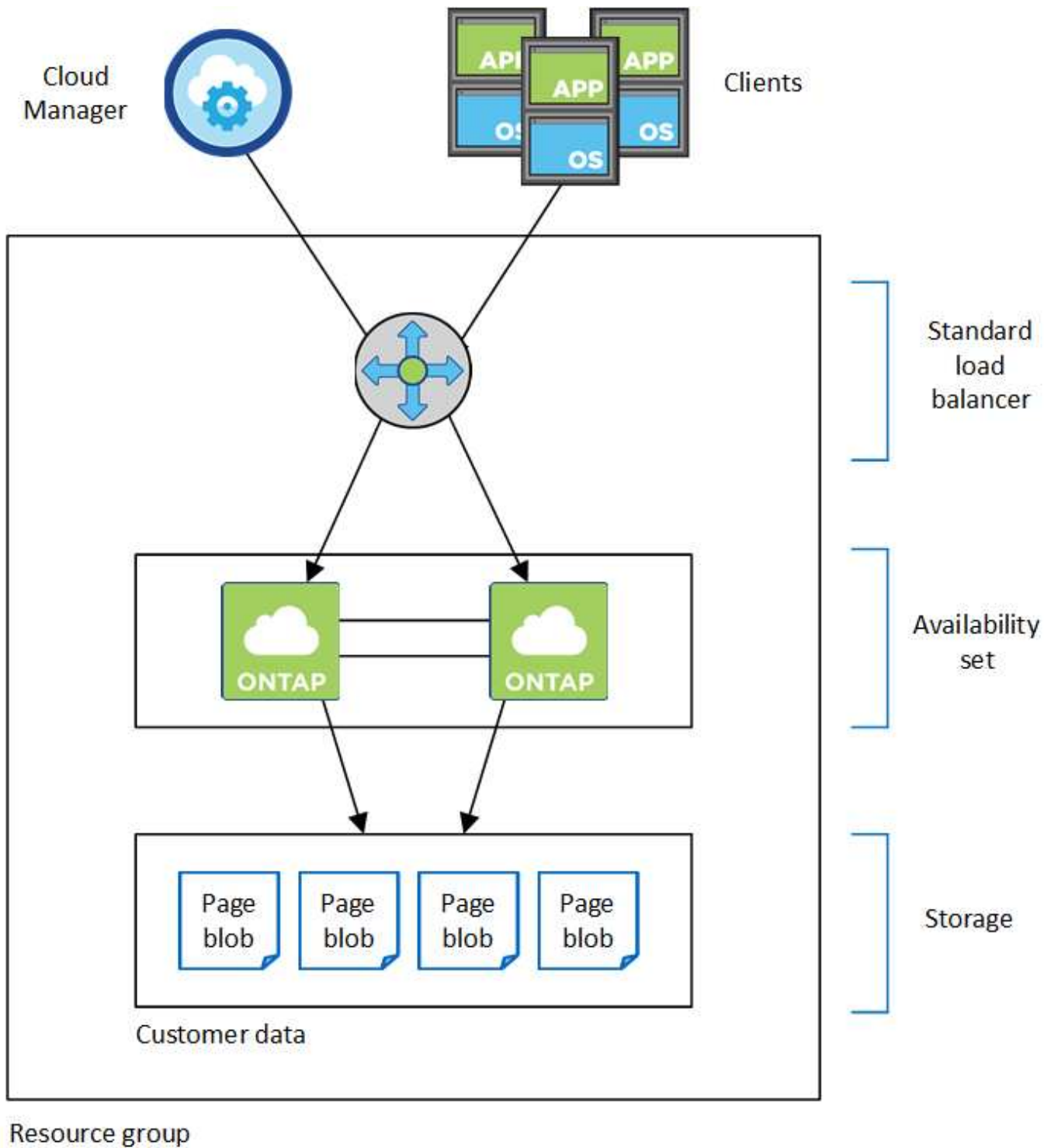
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# High-availability pairs in Azure

A Cloud Volumes ONTAP high availability (HA) pair provides enterprise reliability and continuous operations in case of failures in your cloud environment. In Azure, storage is shared between the two nodes.

## HA components

A Cloud Volumes ONTAP HA configuration in Azure includes the following components:



Note the following about the Azure components that Cloud Manager deploys for you:

**Azure Standard Load Balancer**

The load balancer manages incoming traffic to the Cloud Volumes ONTAP HA pair.

**Availability Set**

The Availability Set ensures that the nodes are in different fault and update domains.

## Storage

Customer data resides on Premium Storage page blobs. Each node has access to the other node's storage.

Additional storage is also required for boot and root data:

- A node's boot data resides on a Premium SSD Managed Disk.
- A node's root data resides on a Premium Storage page blob.

## RPO and RTO

An HA configuration maintains high availability of your data as follows:

- The recovery point objective (RPO) is 0 seconds.  
Your data is transactionally consistent with no data loss.
- The recovery time objective (RTO) is 60 seconds.  
In the event of an outage, data should be available in 60 seconds or less.

## Storage takeover and giveback

Similar to a physical ONTAP cluster, storage in an Azure HA pair is shared between nodes. Connections to the partner's storage allows each node to access the other's storage in the event of a *takeover*. Network path failover mechanisms ensure that clients and hosts continue to communicate with the surviving node. The partner *gives back* storage when the node is brought back on line.

For NAS configurations, data IP addresses automatically migrate between HA nodes if failures occur.

For iSCSI, Cloud Volumes ONTAP uses multipath I/O (MPIO) and Asymmetric Logical Unit Access (ALUA) to manage path failover between the active-optimized and non-optimized paths.



For information about which specific host configurations support ALUA, see the [NetApp Interoperability Matrix Tool](#) and the Host Utilities Installation and Setup Guide for your host operating system.

## Storage configurations

You can use an HA pair as an active-active configuration, in which both nodes serve data to clients, or as an active-passive configuration, in which the passive node responds to data requests only if it has taken over storage for the active node.

## HA limitations

The following limitations affect Cloud Volumes ONTAP HA pairs in Azure:

- HA pairs are supported with Cloud Volumes ONTAP Standard, Premium, and BYOL. Explore is not supported.
- Data tiering is not supported.
- NFSv4 is not supported. NFSv3 is supported.
- HA pairs are not supported in some regions.

[See the list of supported Azure regions.](#)

[Learn how to deploy an HA system in Azure.](#)

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