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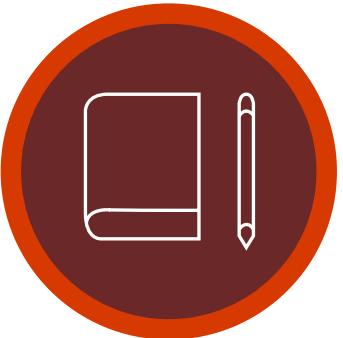
Azure is coming

Architecting for
NZ North Azure Region

Daniel Larsen
Principal Customer Engineer
FastTrack for Azure
dalars@microsoft.com

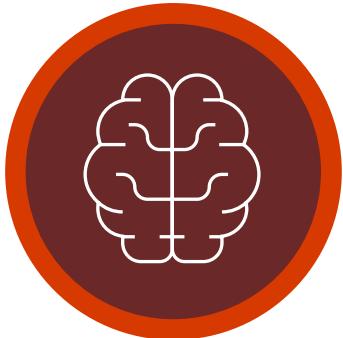
3 things

Azure is
coming!



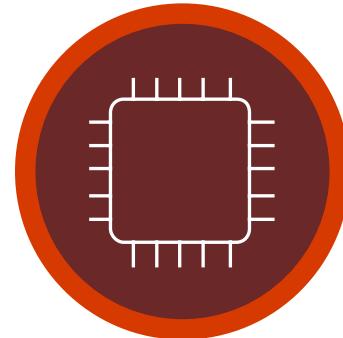
Be ready for this
industry defining
event

Embrace
Availability
Zones



Multi-zone designs
are better for most
customers

No
“Region Pair”



Choose your own
data replication
target

Azure is coming



Azure global expansion

60+ Azure regions worldwide
50 – 100 new data centres planned each year*
10 new countries announced in 2021 alone







This is a Microsoft data-center at an undisclosed location. The red circle is expansion work, shown in detail on the next slide...



The investment Microsoft makes in global infrastructure is massive. The global expansion programme is continually investing in new Azure regions as well as expanding and enhancing existing ones.



This is data-center infrastructure at industrial scale. In some geographies these projects will be among the largest infrastructure investments ever made.



Microsoft data-centers are clean, highly automated and compliant environments with little human intervention required. No employee, contractor or visitor can visit a hallway like this without a documented reason to be there. When access is granted it is restricted to the hallway, rack and blade.





Well-Architected Framework

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Overview of the reliability pillar

11/13/2021 • 4 minutes to read • +6

In this article

[Topics and best practices](#)
[Next step](#)

Reliability ensures your application can meet the commitments you make to your customers. Architecting resiliency into your application framework ensures your workloads are available and can recover from failures at any scale.

Building for reliability includes:

- Ensuring a highly available architecture
- Recovering from failures such as data loss, major downtime, or ransomware incidents

To assess the reliability of your workload using the tenets found in the [Microsoft Azure Well-Architected Framework](#), reference the [Microsoft Azure Well-Architected Review](#).

<https://docs.microsoft.com/azure/architecture/framework/resiliency/overview>

Enabling data residency & data protection in Azure



<https://azure.microsoft.com/resources/achieving-compliant-data-residency-and-security-with-azure/>

Microsoft Learn

The screenshot shows the Microsoft Learn homepage with a personalized greeting and learning activity summary.

Welcome back, Daniel Larsen

Some items for you since your last visit:

- LEARNING PATH**
Fundamentals of Bicep
Next module: Build flexible Bicep templates by using conditions and loops
Progress: 74%
Dismiss Resume
- LEARNING PATH**
Introduction to version control with Git
Next module: Introduction to Git
Progress: 14%
Dismiss Resume
- MODULE**
Build flexible Bicep templates by using conditions and loops
Progress: 58%
Dismiss Resume

Help us customize your path [See all activity](#)

Popular learning paths and modules

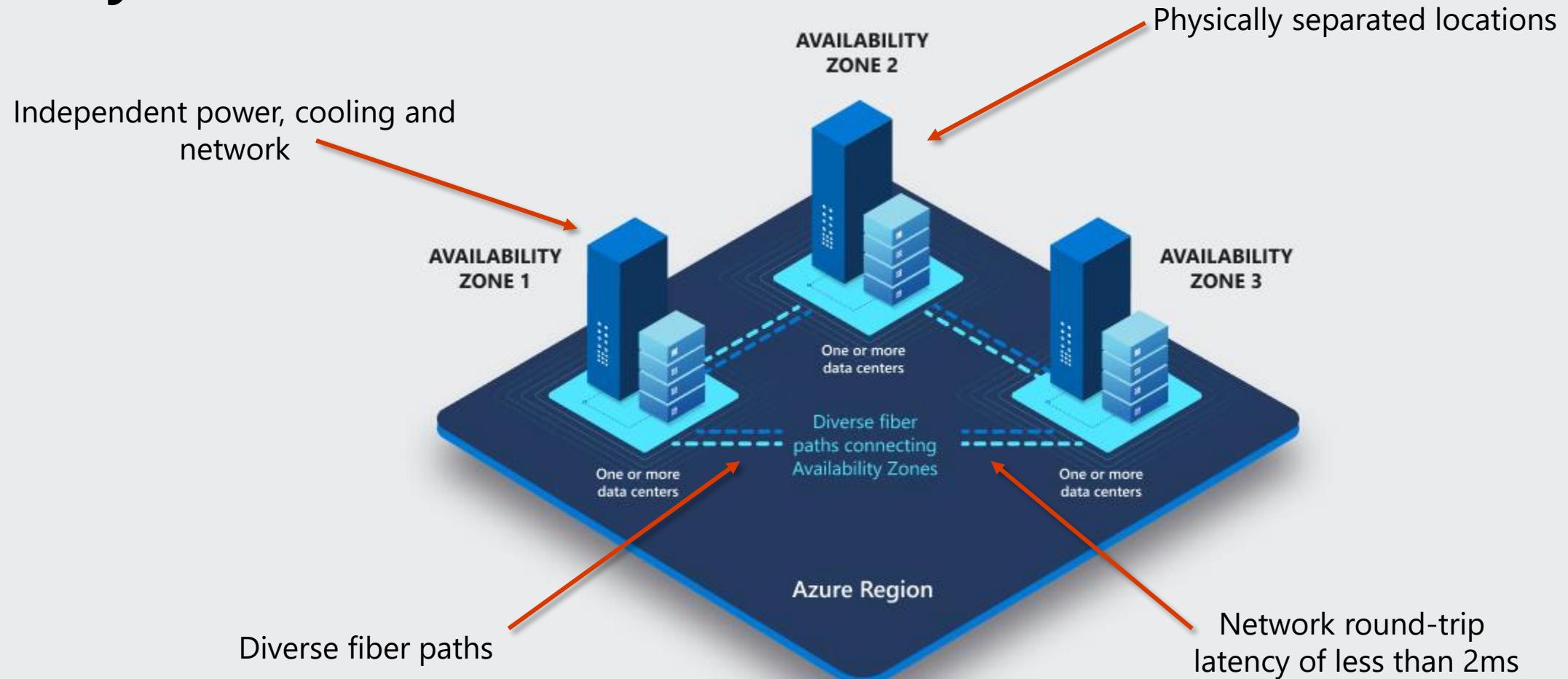
- LEARNING PATH**
Microsoft Azure Fundamentals: Describe core Azure concepts
1 hr 34 min
Azure Administrator Beginner
Progress: 13% [Save](#)
- LEARNING PATH**
Microsoft Azure Fundamentals: Describe core Azure services
2 hr 40 min
Azure Administrator Beginner
Progress: 0% [Save](#)
- LEARNING PATH**
Microsoft Azure Fundamentals: Describe core solutions and management tools on Azure
2 hr 20 min
Azure Administrator Beginner
Progress: 0% [Save](#)

<https://docs.microsoft.com/learn>

High availability (HA) with Availability Zones



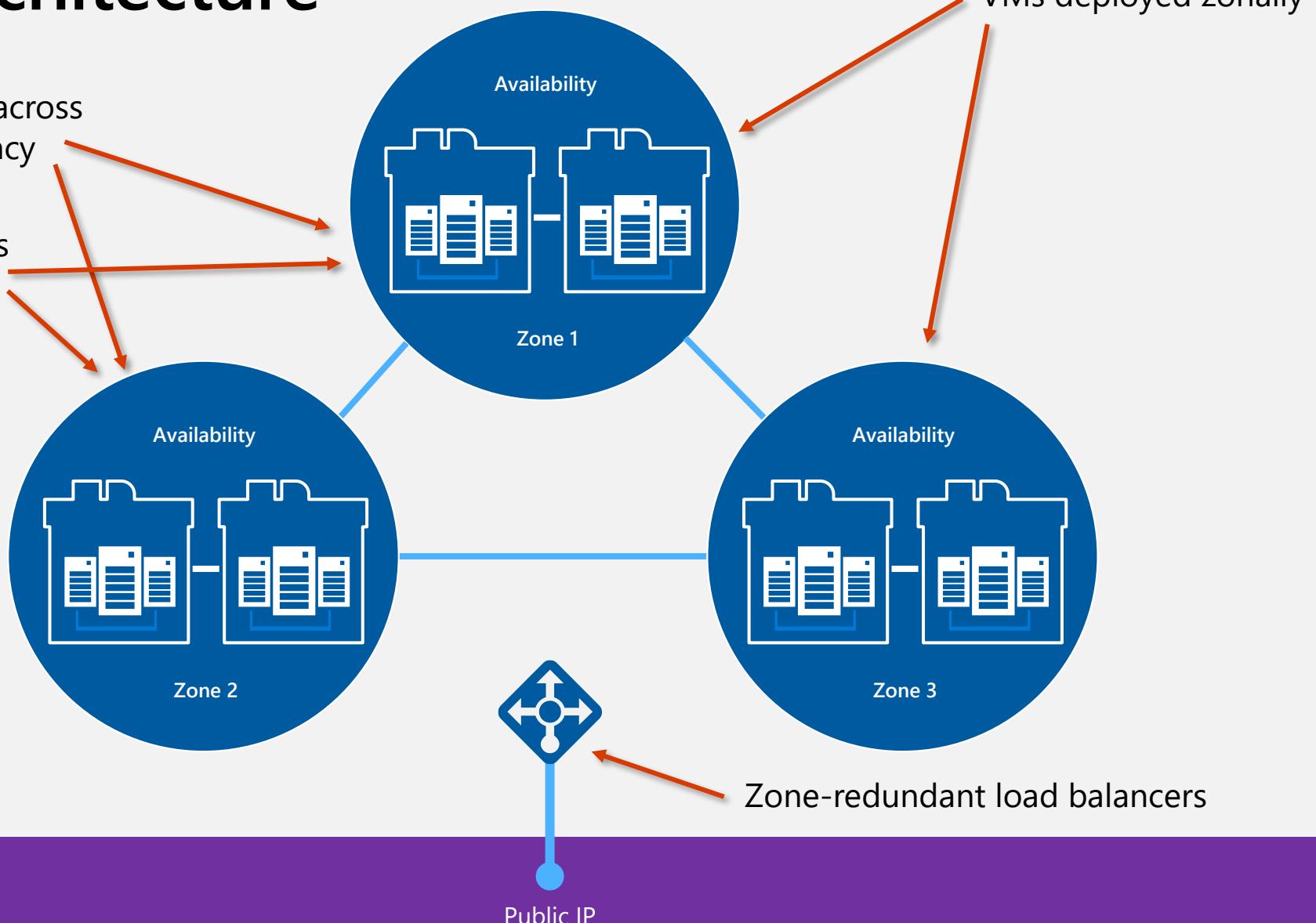
Physical architecture



Logical architecture

Platform services deployed across zones for zone-redundancy

Azure management services replicated across zones



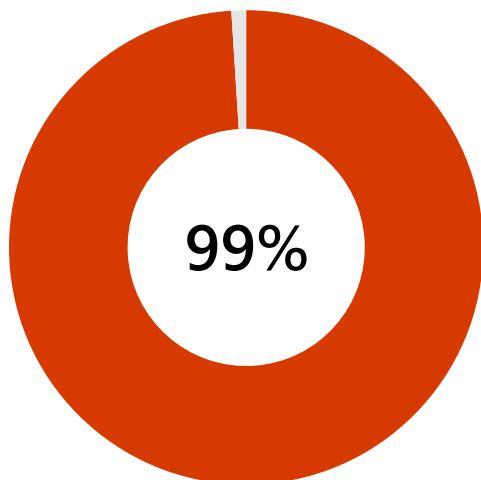
HA Discussions

Q. What is your
uptime SLO?

Q. What is your
RTO?

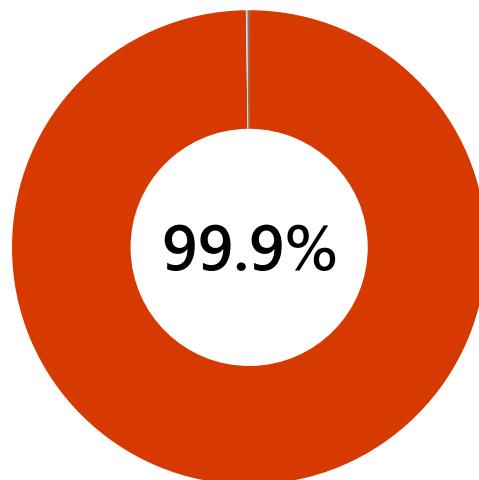
What is the business requirement for uptime?

Two nines



Plan for 7 hours, 18 minutes
of downtime per month

Three nines



Plan for 44 minutes of
downtime per month

Four nines



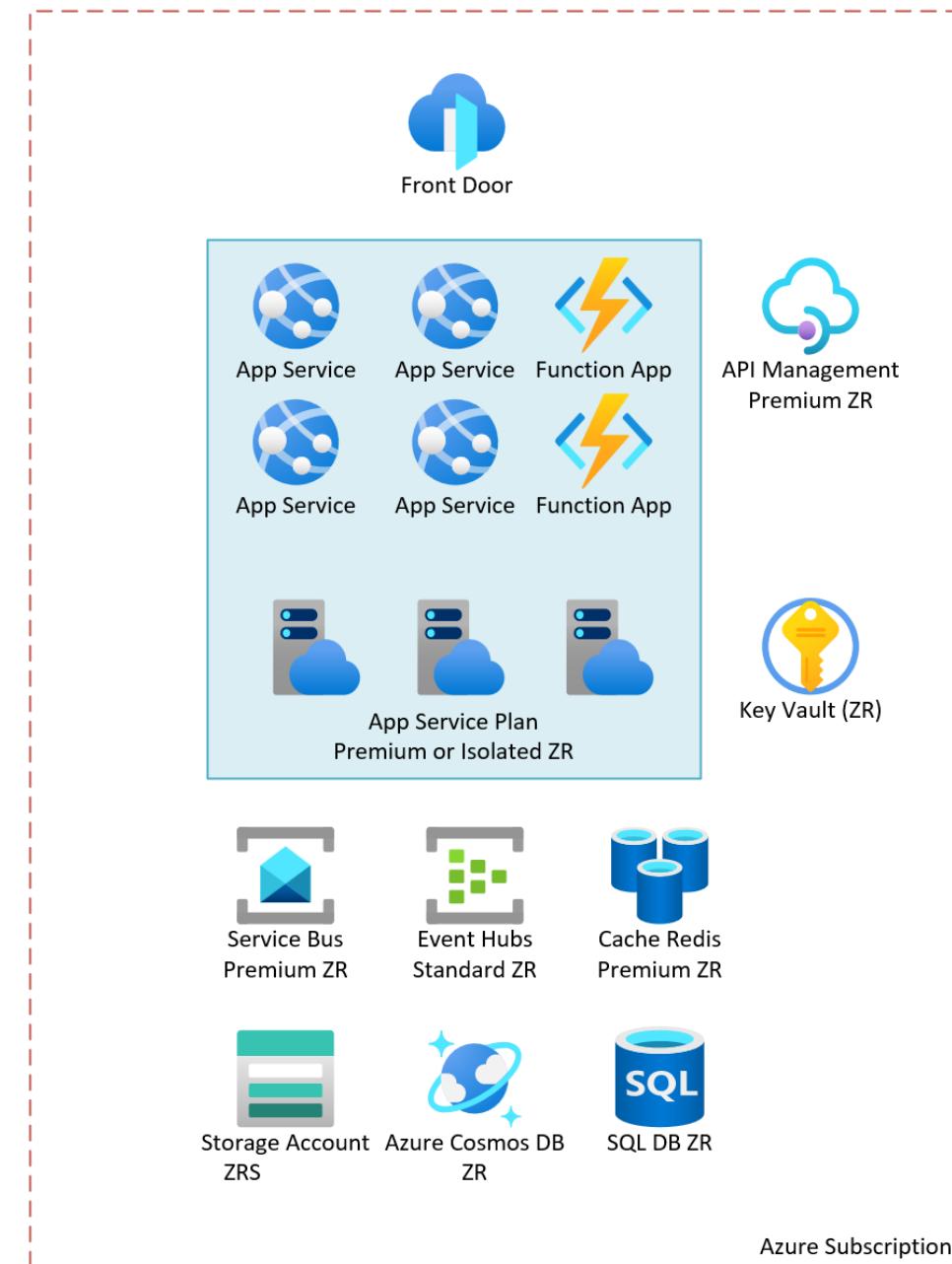
Plan for 4 minutes of
downtime per month

Five nines



Plan for 26 seconds of
downtime per month

Zone-redundancy



Disaster Recovery



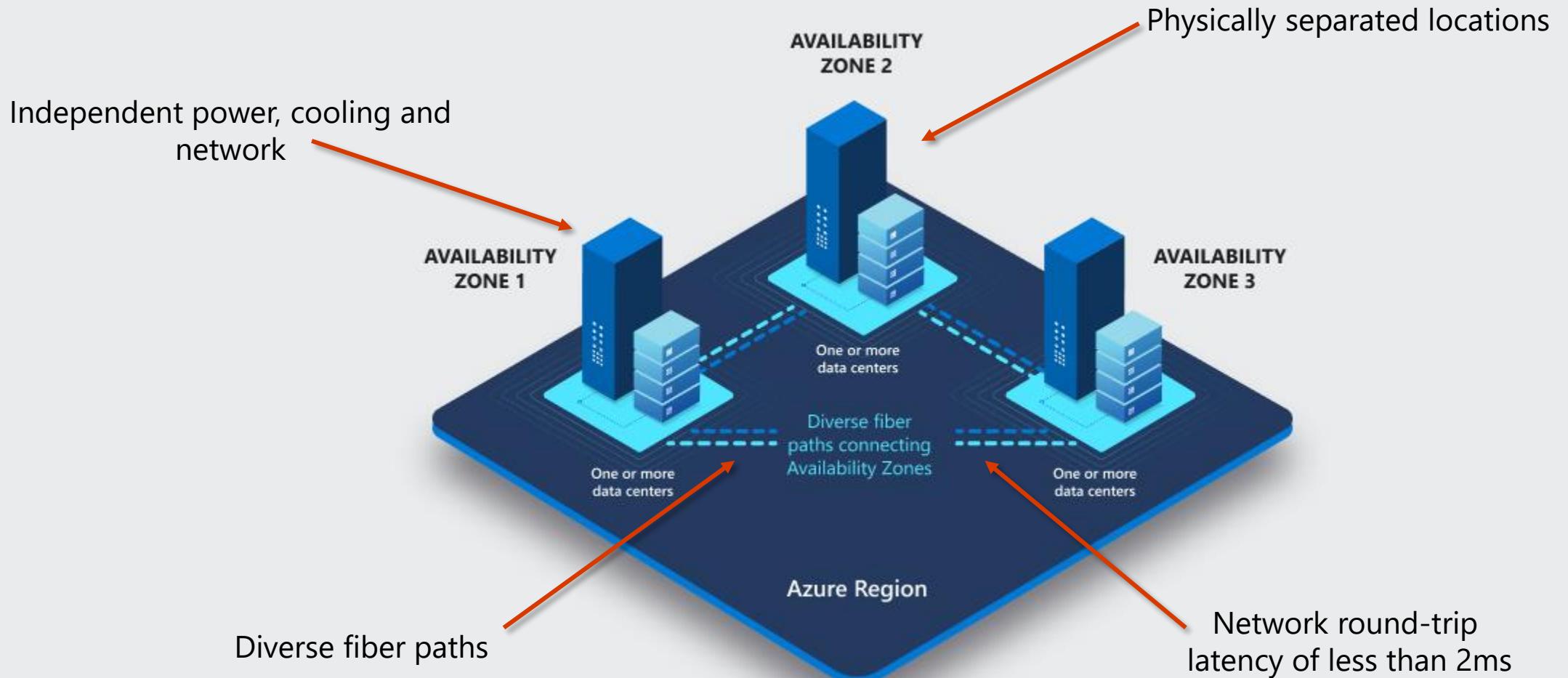
DR Discussions

Q. What is your RPO?

Q. Where will you store the backups?

Region pairs





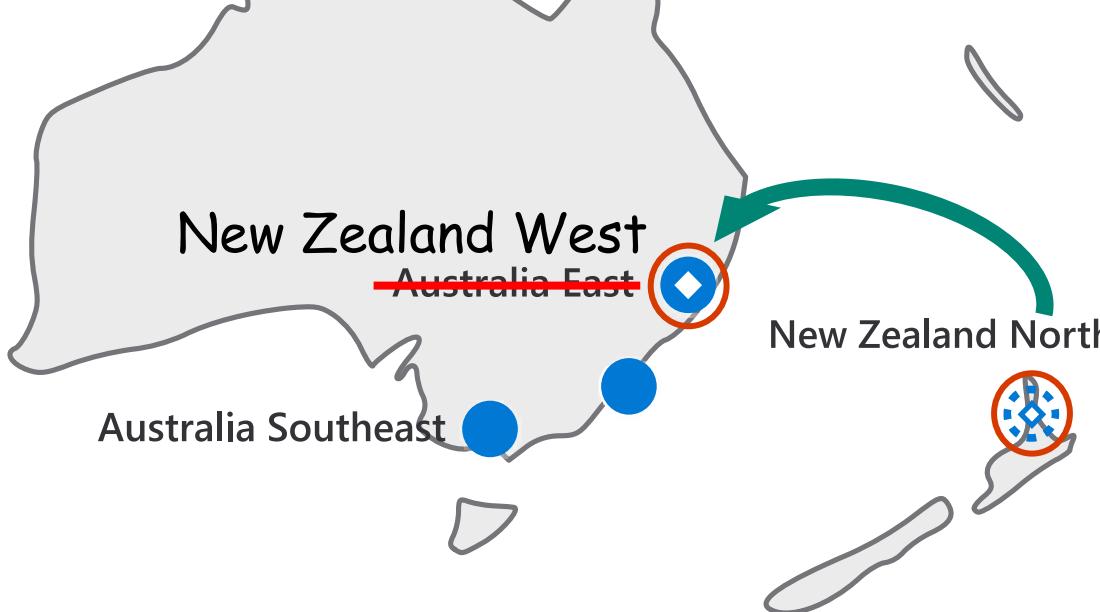
DR region of choice



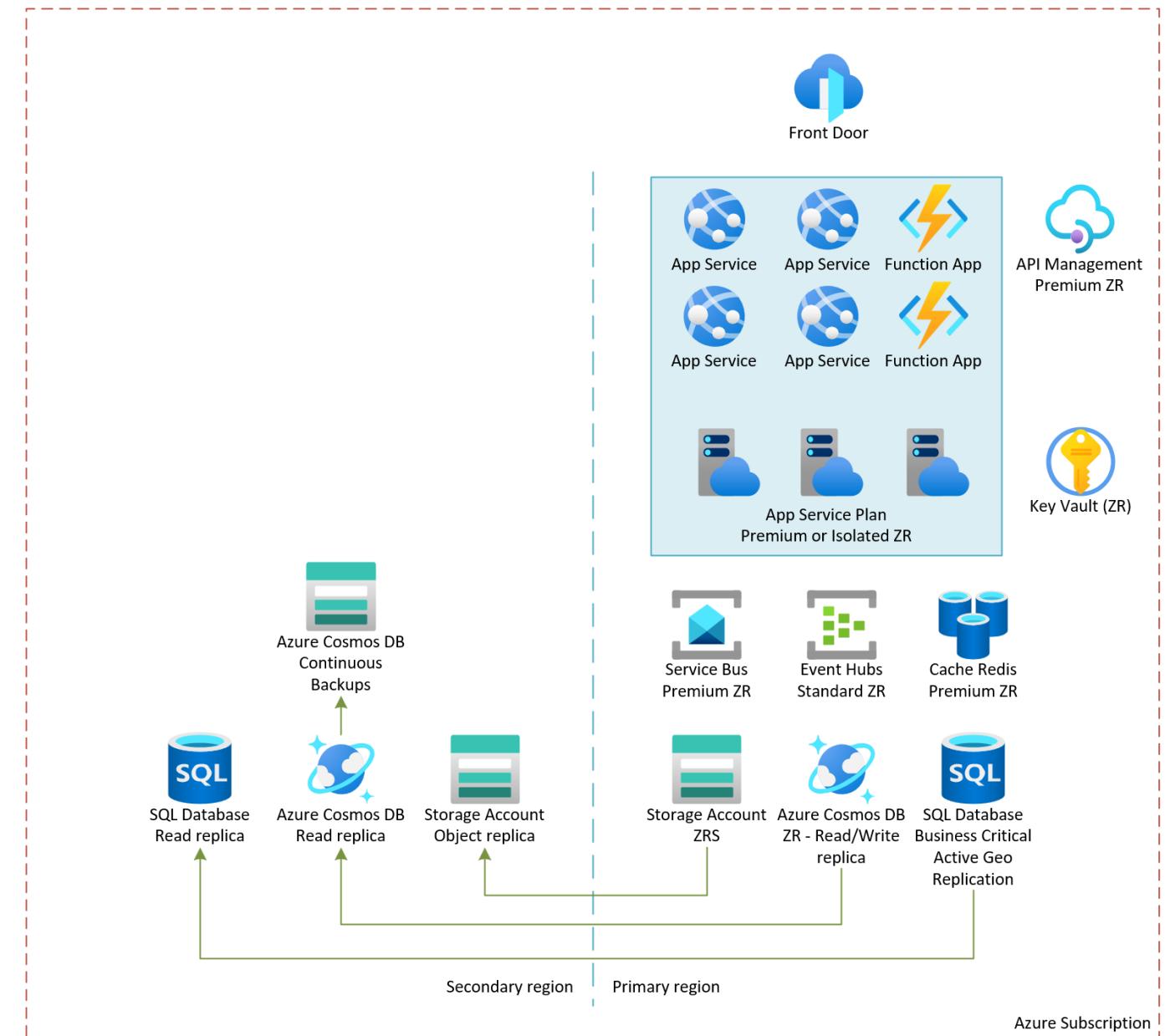
Malaysia West
Southeast Asia

DR region of choice

Indonesia Central

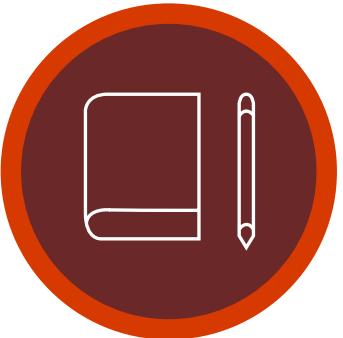


Zone-redundancy + replication



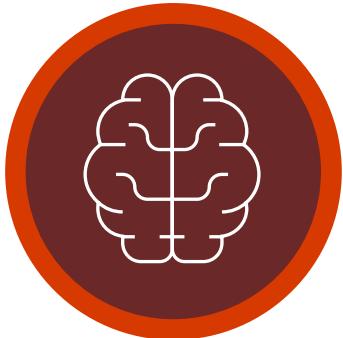
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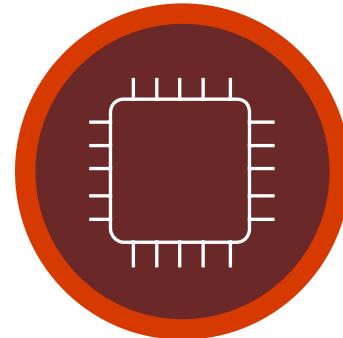
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Thank you!

Kia ora!

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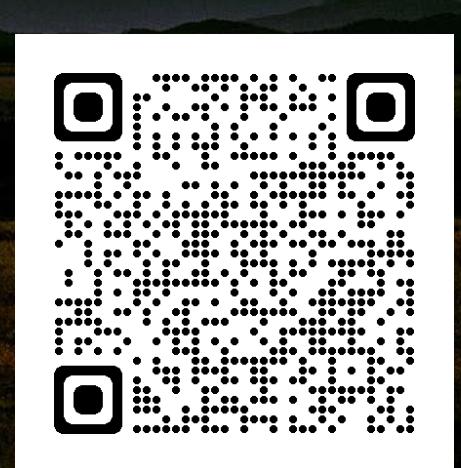


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