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Azure is coming

Architecting for NZ North Azure Region

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3 things

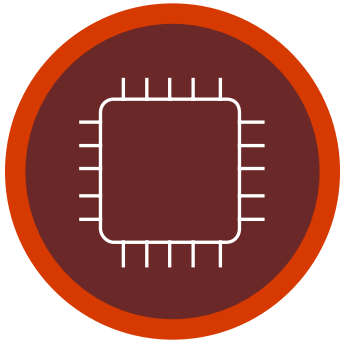
Azure is coming!

Be ready for this industry defining event

Embrace Availability Zones

Multi-zone designs are better for most customers

DR Region of choice



Choose your own data replication target

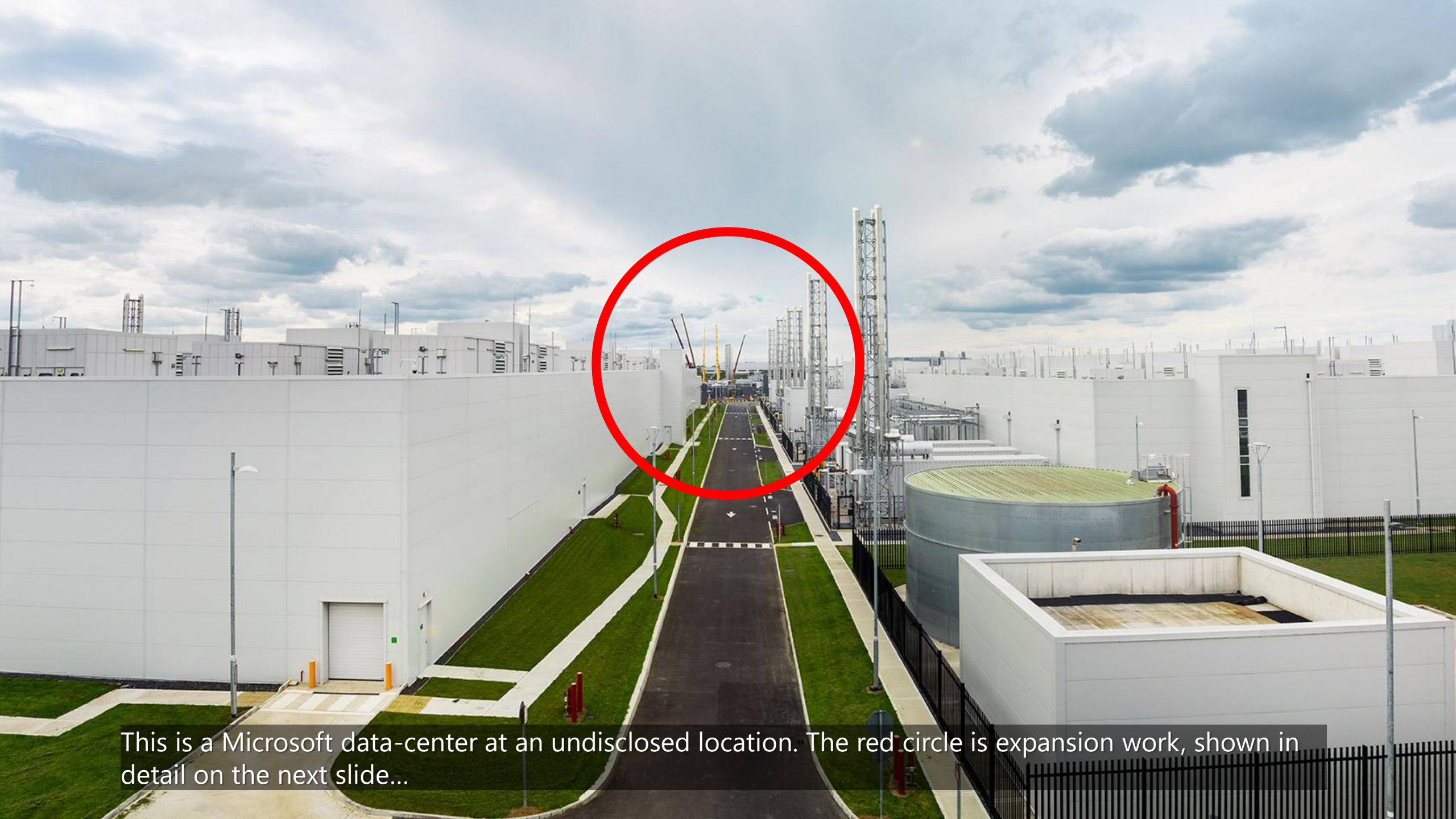
Azure is coming

Azure global expansion

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

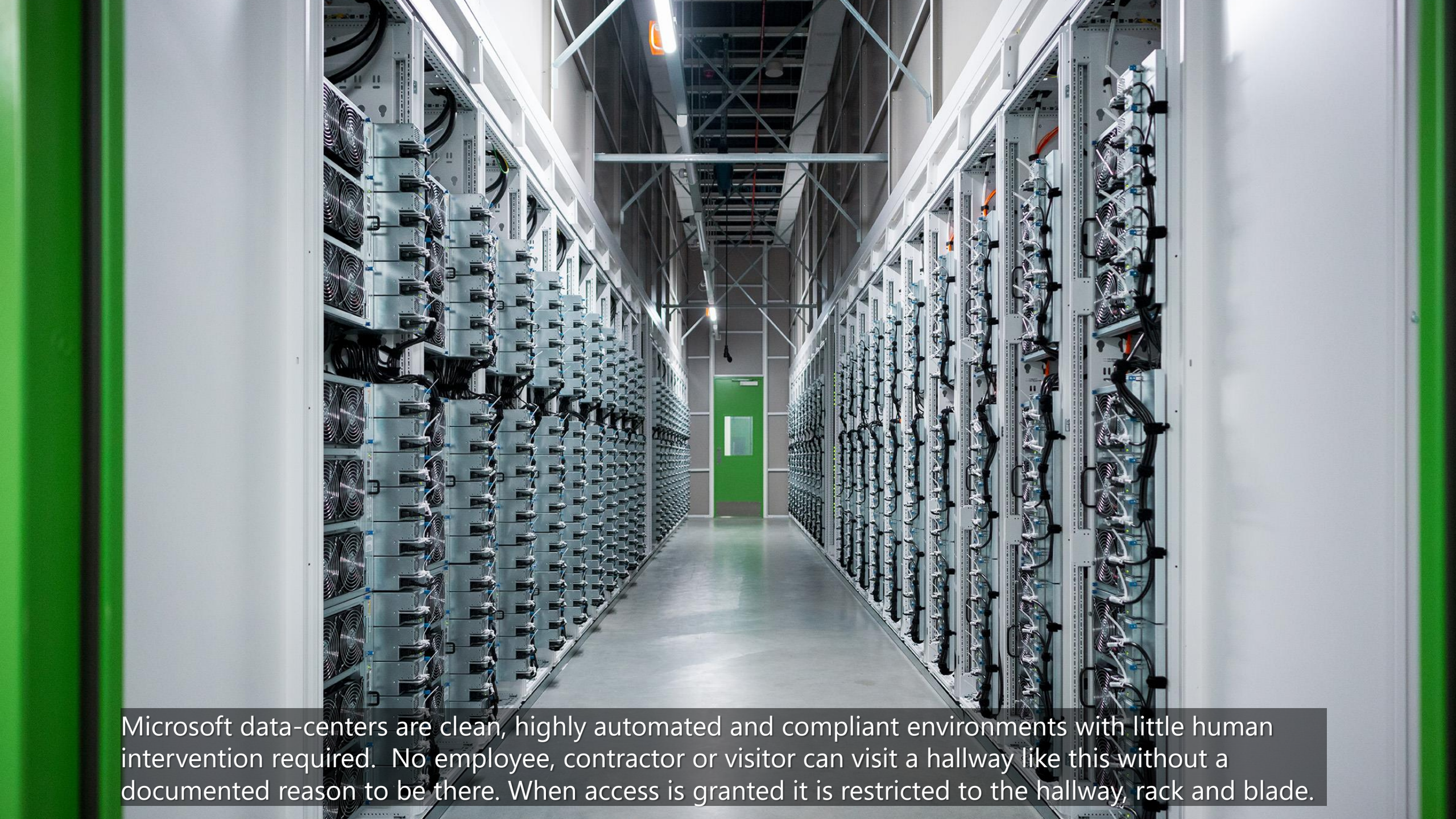
* https://www.channelasia.tech/article/687817/microsoft-plans-build-up-100-new-data-centres-each-year/


Norway East
Sweden Central
West Europe
UK South
Denmark East
Poland Central
UK West
Austria East
France Central
Germany West Central
Italy North
Switzerland North
Greece Central
Israel Central
Qatar Central
UAE North
West India
Central India
South India
China North 3
China North
China North 2
Korea Central
Korea South
Japan East
Japan West
China East 2
China East
East Asia
Taiwan North
Malaysia West
Southeast Asia
Indonesia Central
South Africa North
Australia East
New Zealand North
Australia Southeast


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

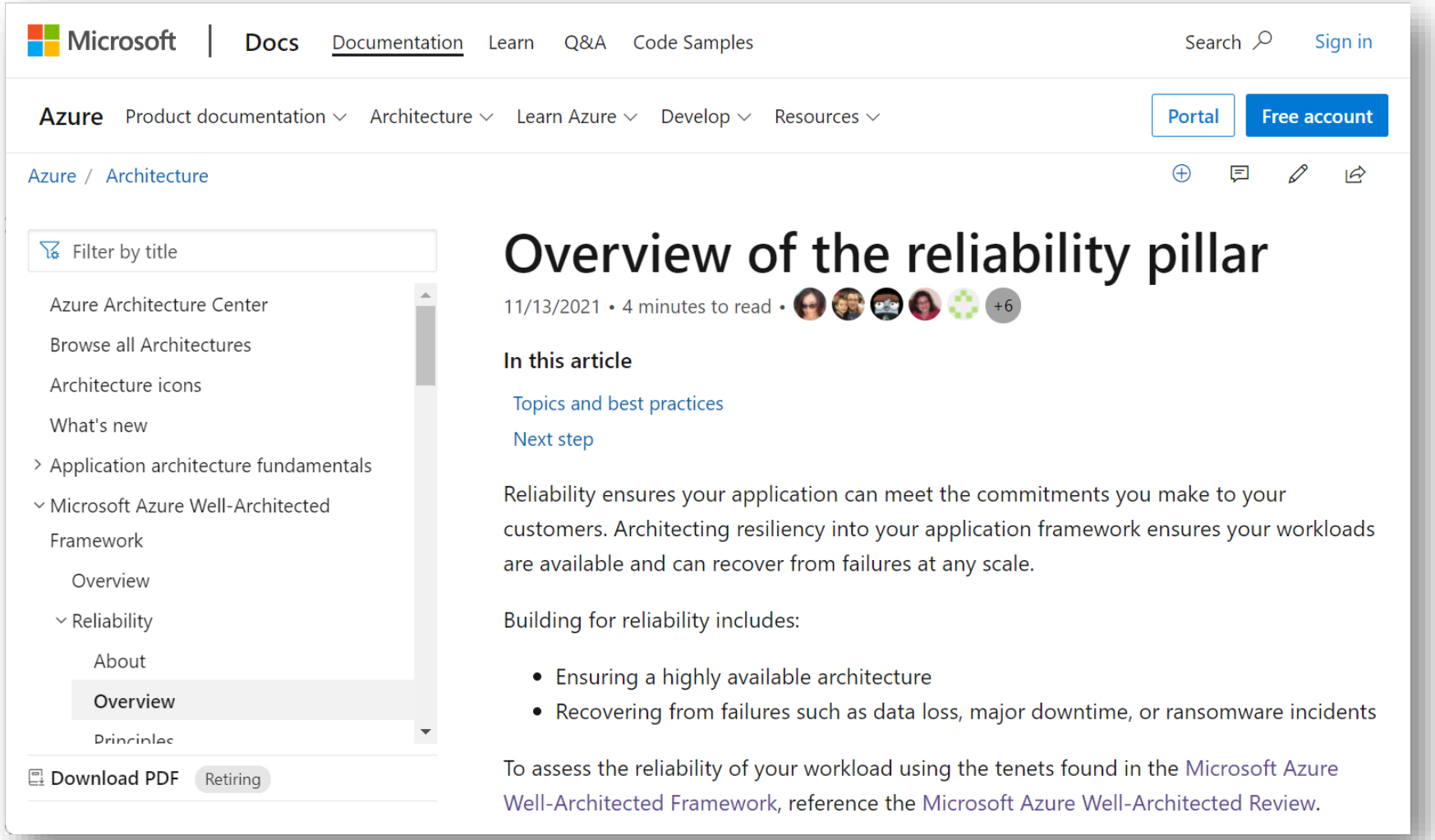
The investment Microsoft makes in global infrastructure is massive. The global expansion programme is continually investing in new Azure regions as well as expanding and enhancing existing ones.


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

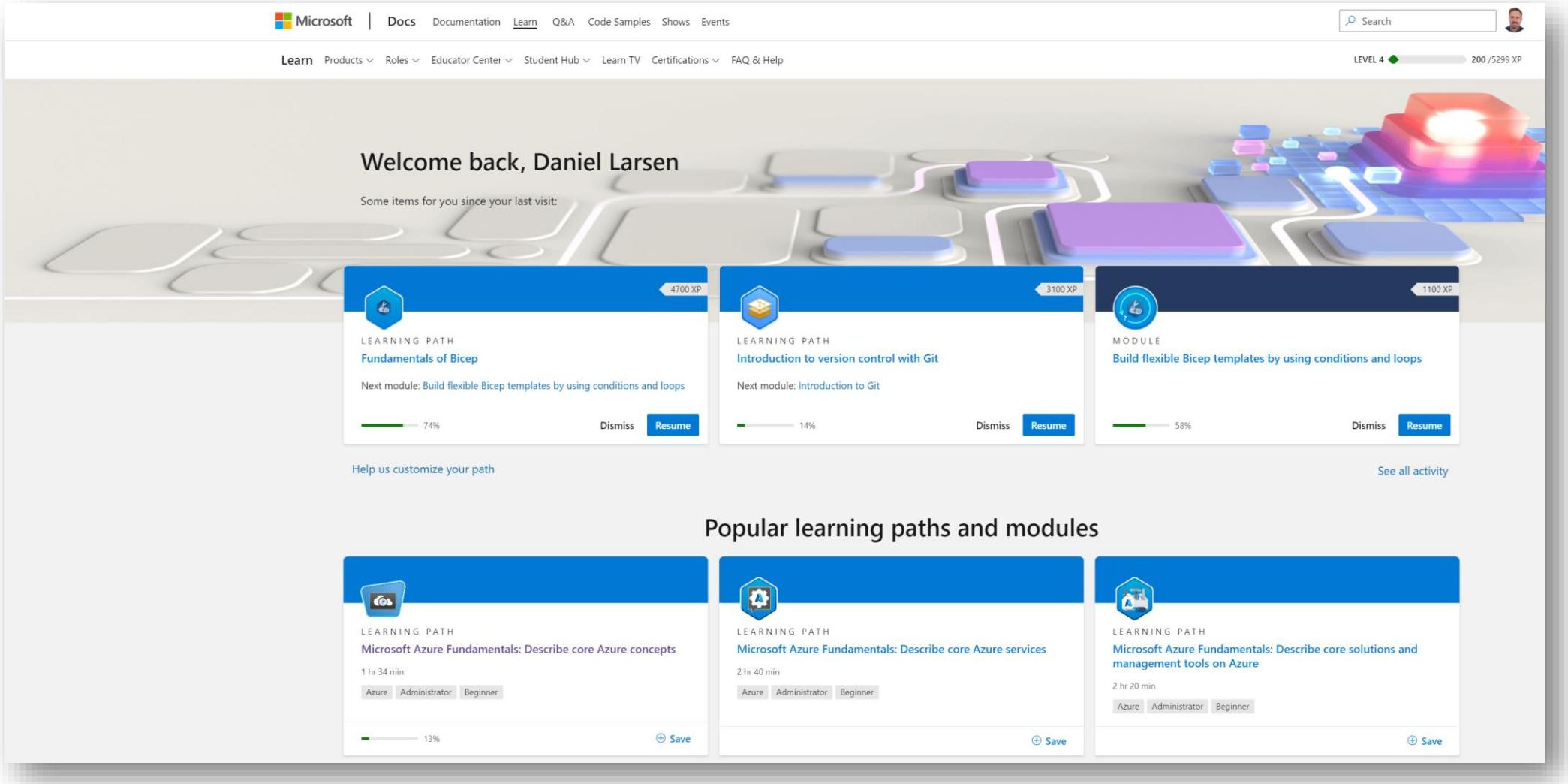


https://docs.microsoft.com/azure/architecture/framework/resiliency/overview

Enabling data residency & data protection in Azure

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

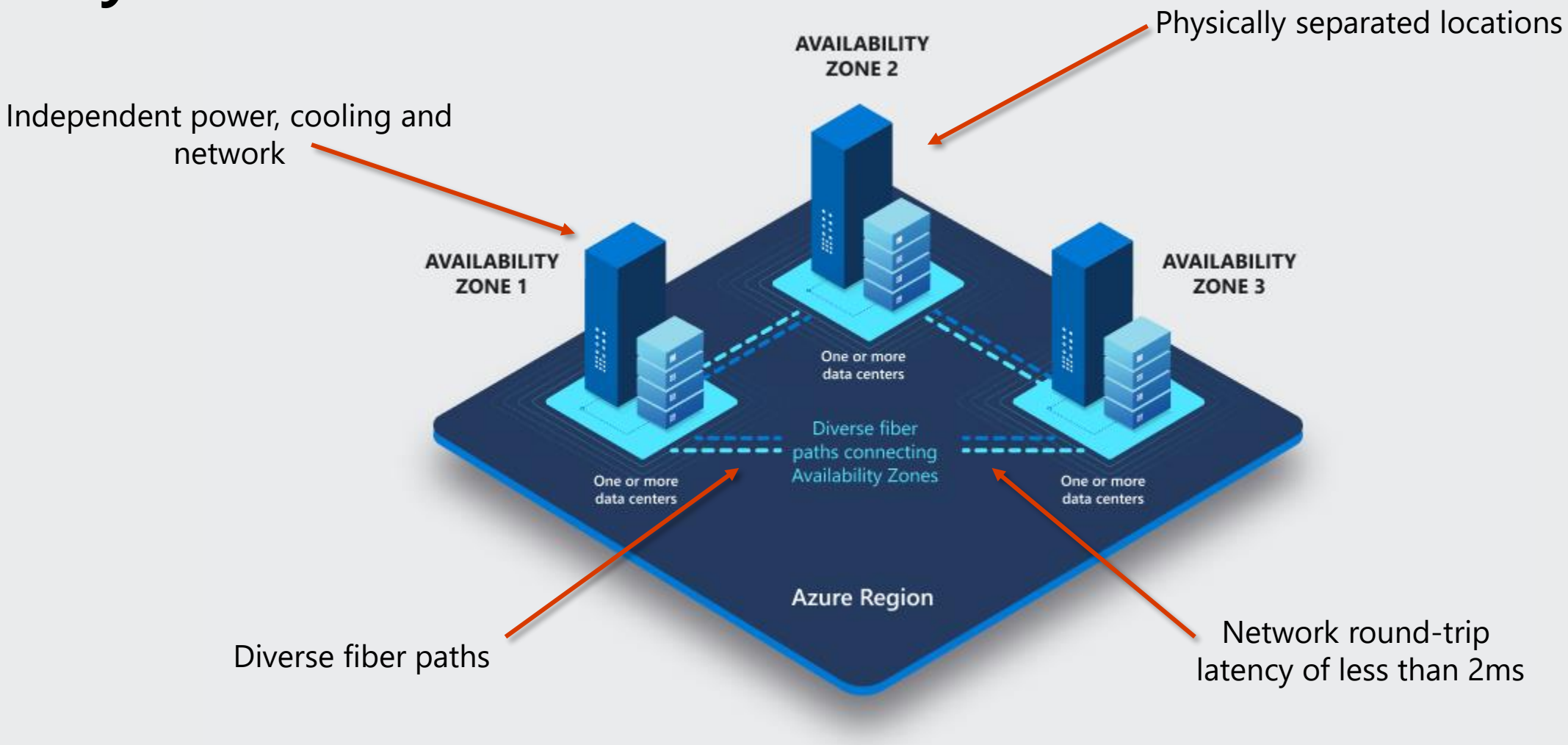
Microsoft Learn



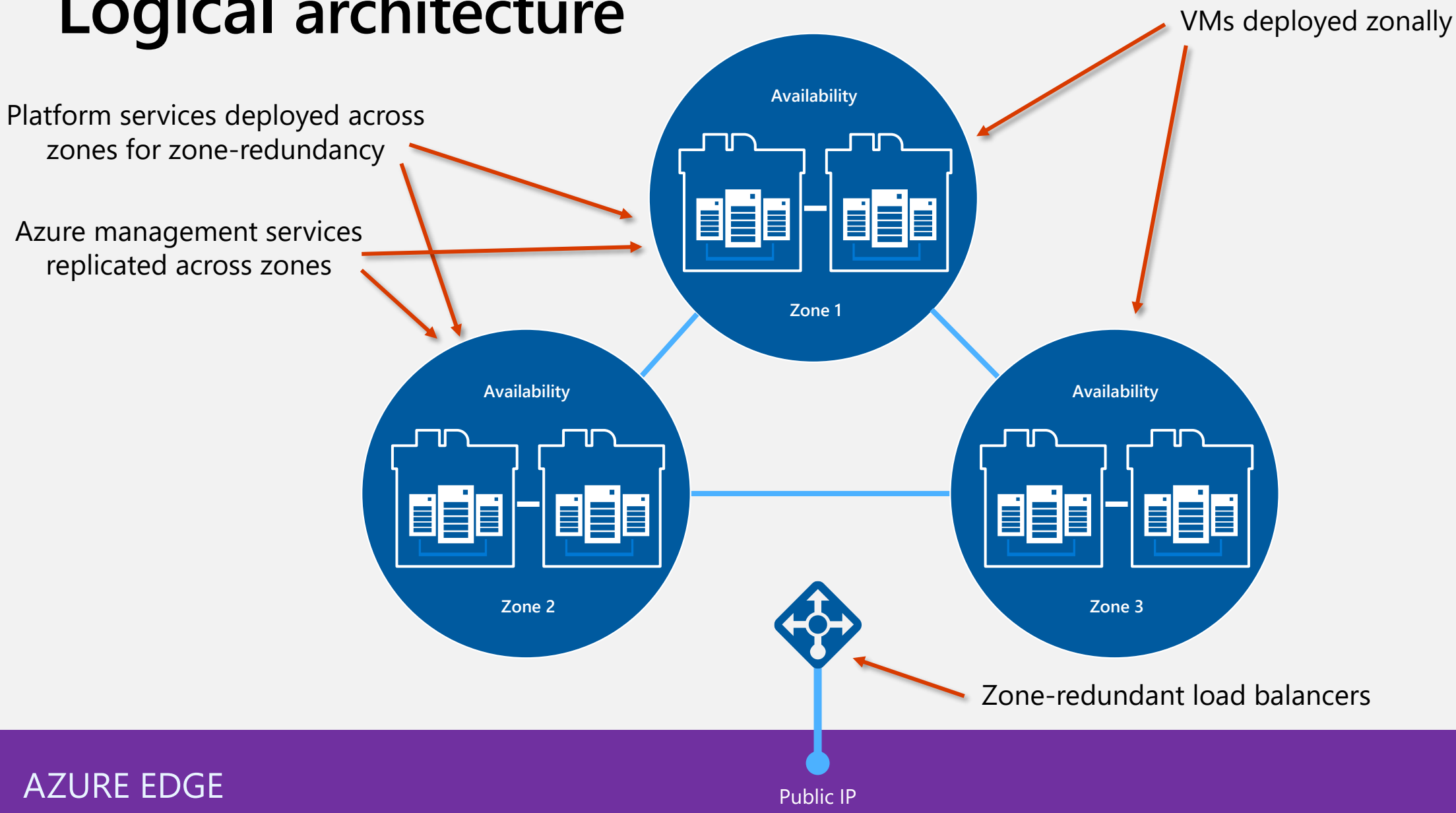
https://docs.microsoft.com/learn

High availability (HA) with Availability Zones

Physical architecture



Logical architecture



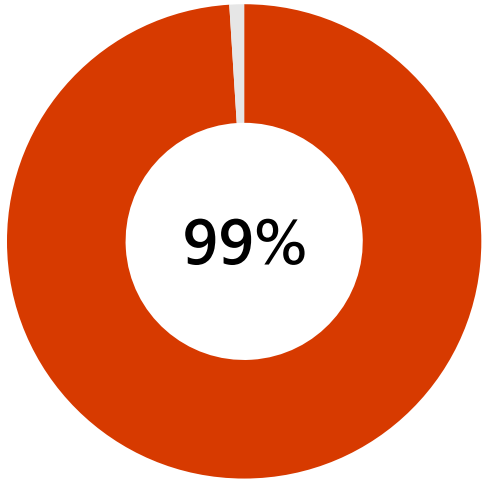
Business requirements for HA

Q. What is your RTO?

Q. What is your uptime SLO?

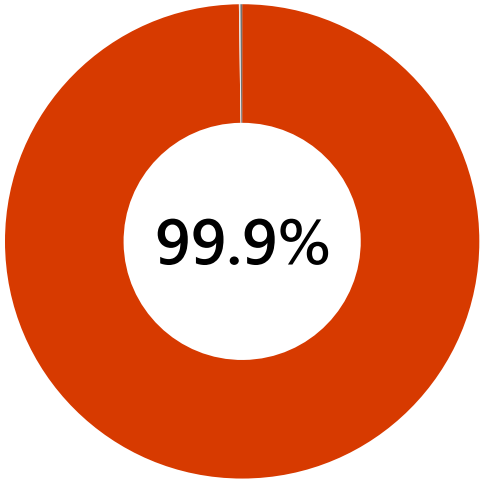
What is the business requirement for uptime?

Two nines



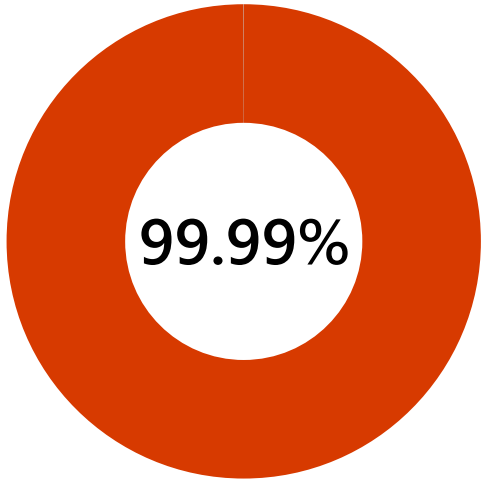
Plan for **7 hours, 18 minutes** of downtime per month

Three nines



Plan for **44 minutes** of downtime per month

Four nines



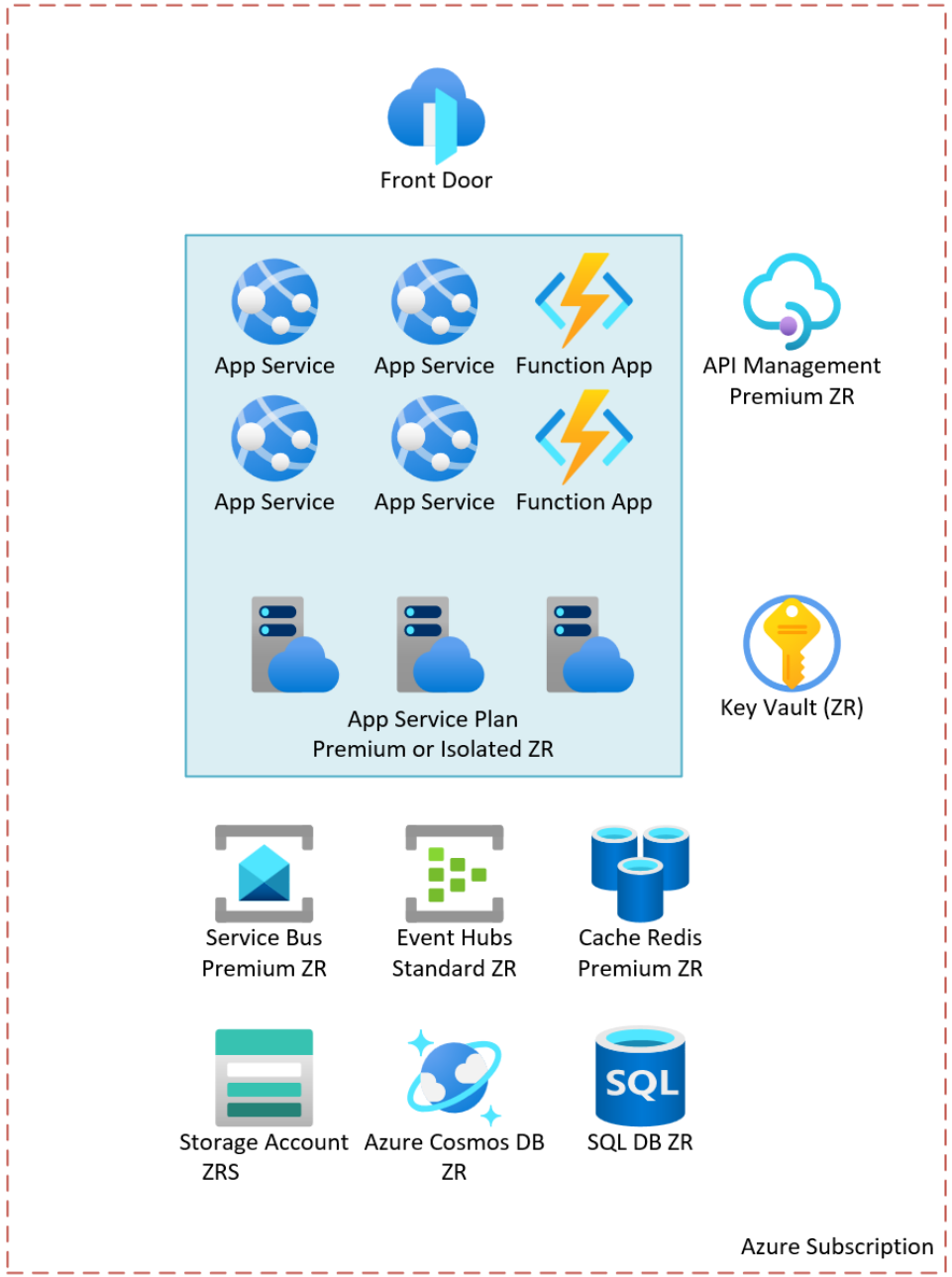
Plan for **4 minutes** of downtime per month

Five nines

Plan for **26 seconds** of downtime per month

https://uptime.is/

Zone-redundancy



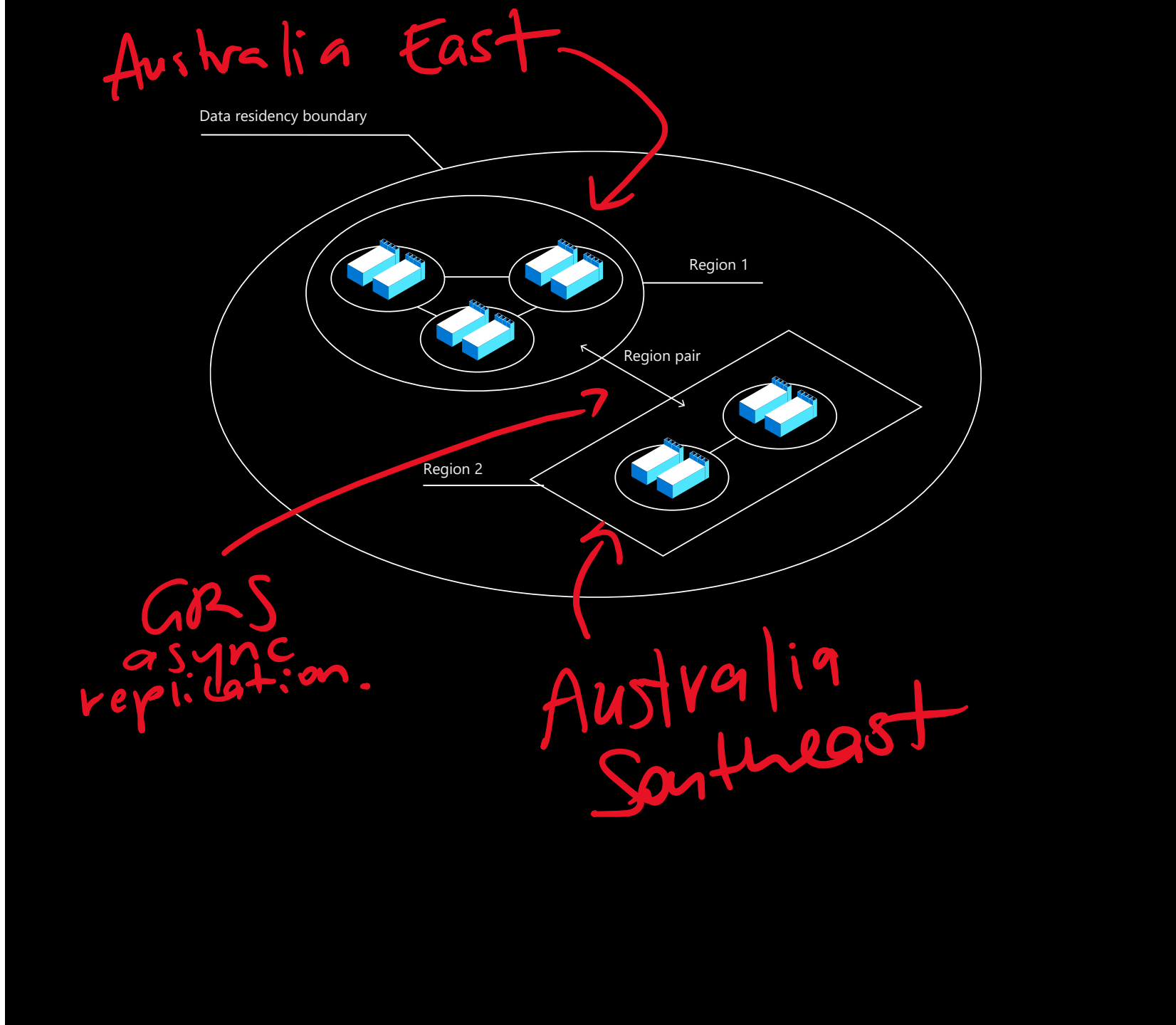
Disaster Recovery

Business requirements for DR

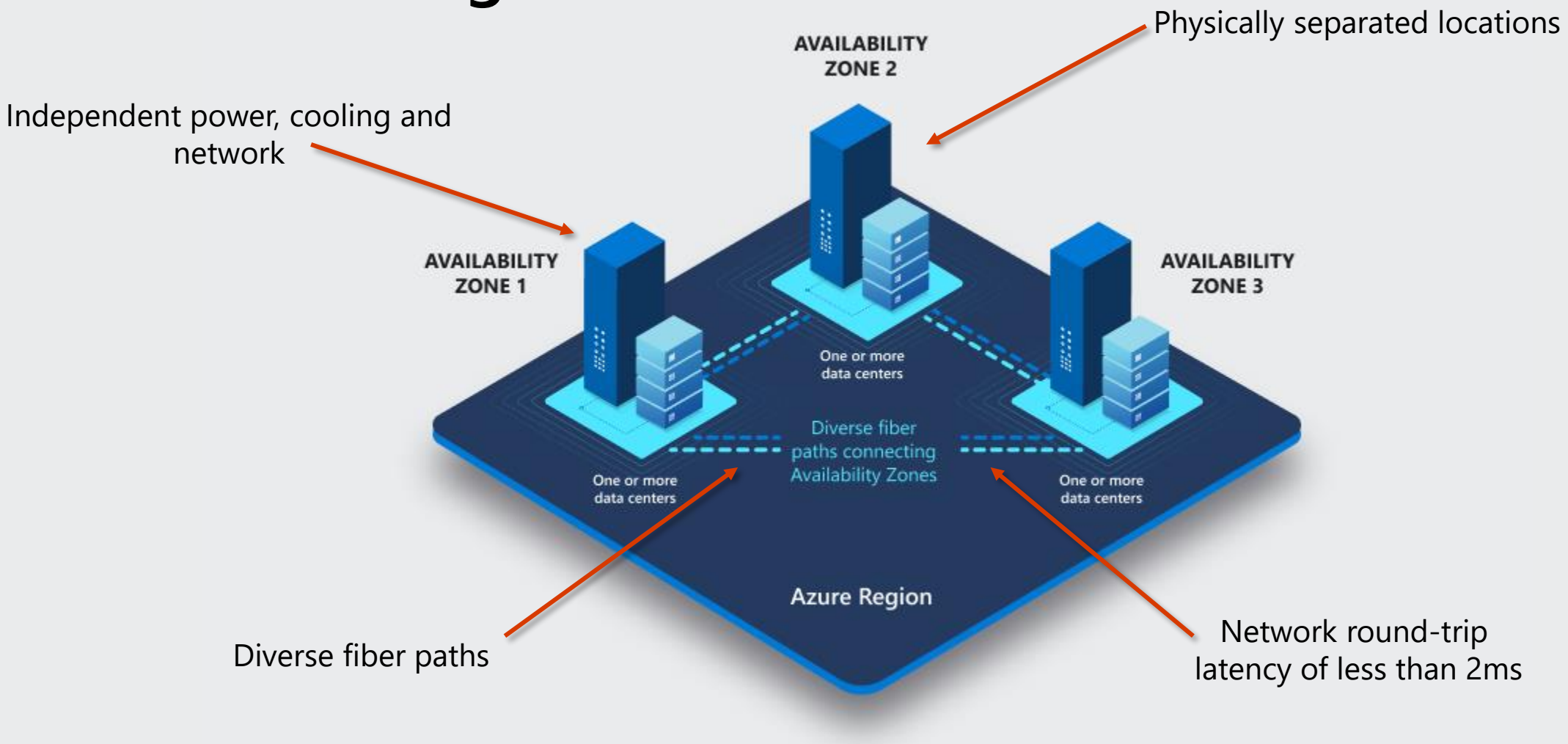
Q. What is your RPO?

Q. Where will you store the backups?

Region pairs



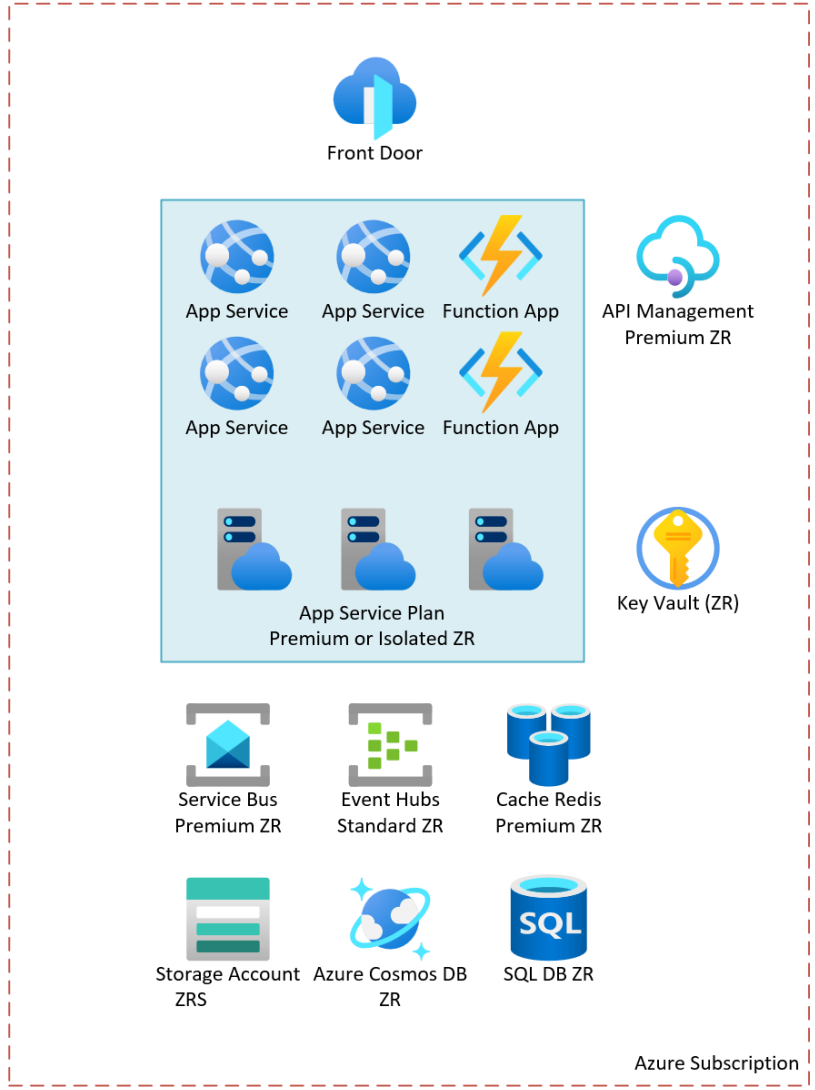
DR in same Region



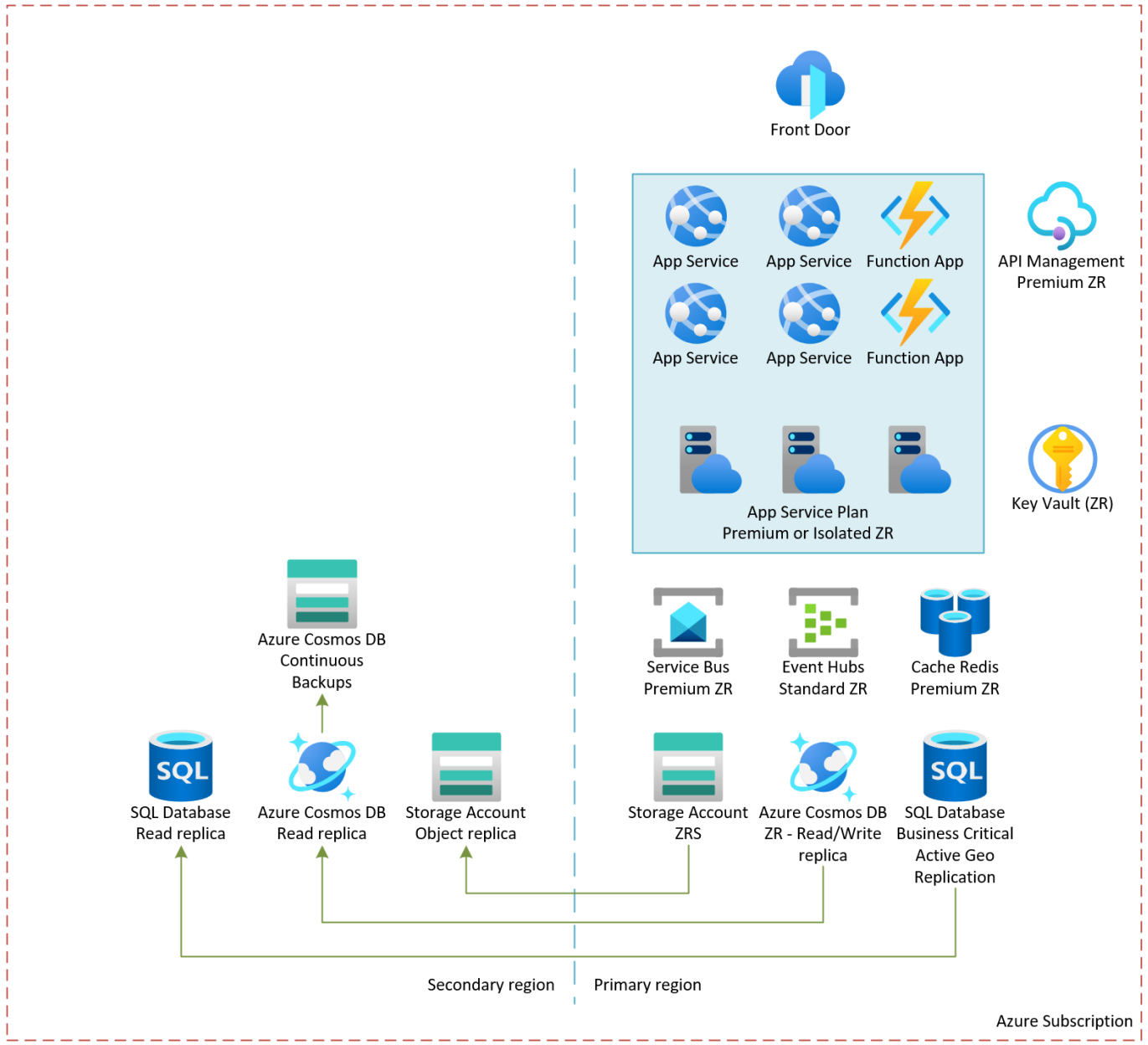
DR region of choice

DR region of choice

Zone-redundancy



Zone-redundancy + replication



https://docs.microsoft.com/azure/storage/blobs/object-replication-overview

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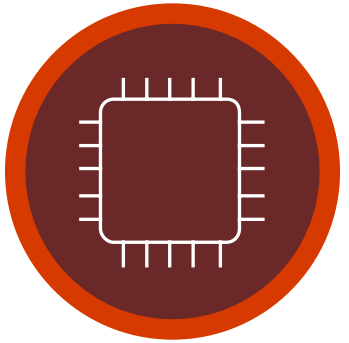

Choose your own data replication target

Microsoft

Kia ora!

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