

# Friday from Walldorf

## Azure Availability Zones

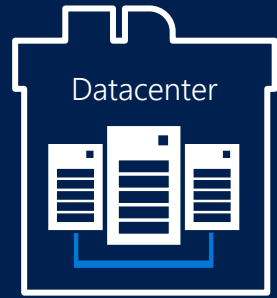
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Azure Global | AzCAT SAP

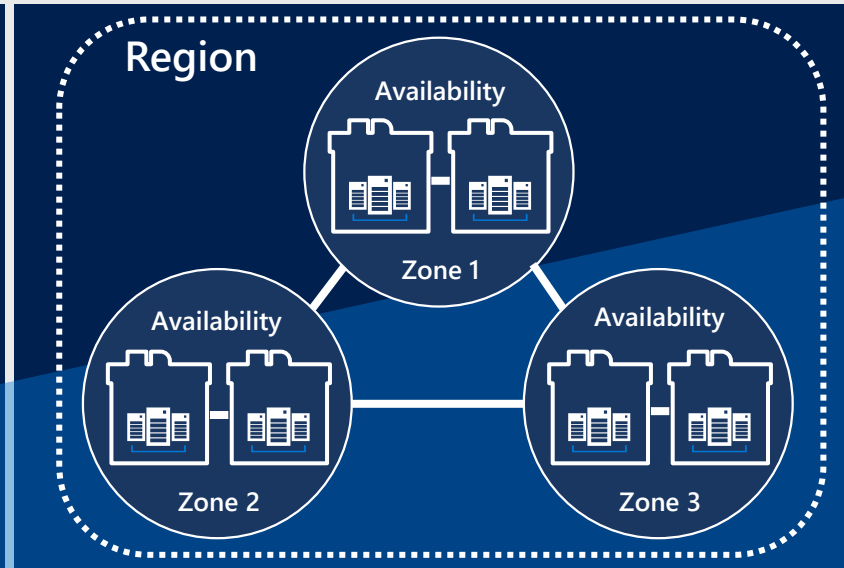
# Azure protection options for all scenarios

Introducing Availability Zones, protecting from datacenter level failures



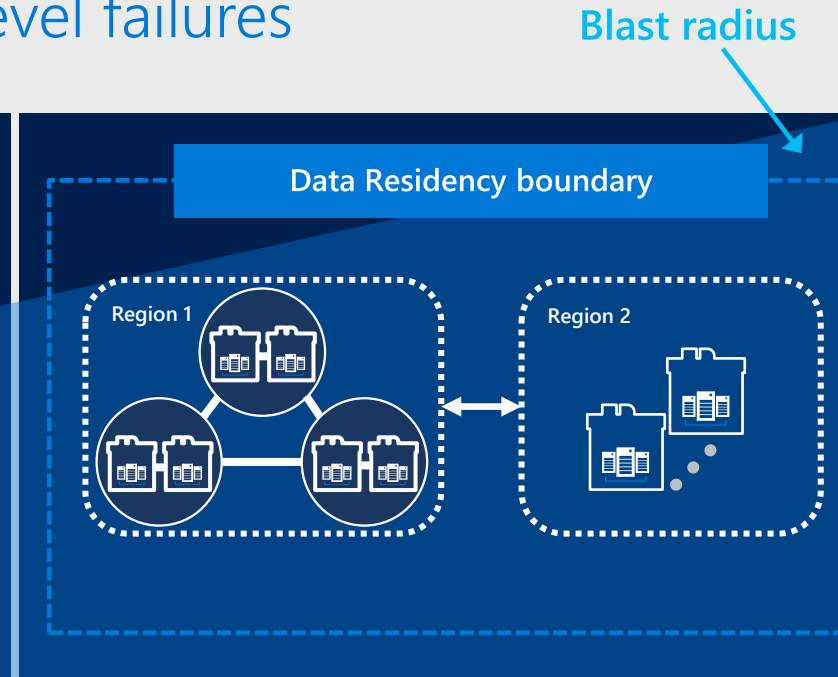
## Availability Sets

High Availability protection from hardware failures in a datacenter.



## Availability Zones

High Availability protection against loss of datacenters. Multiple datacenters per physically separated zone. Each zone features independent network, cooling, and power.



## Region Pairs

Protection for your data and applications from the loss of an entire region with Geo-redundant storage (GRS) and Azure Site Recovery.

# Protection through redundancy

Avoid single points of failure for business continuity



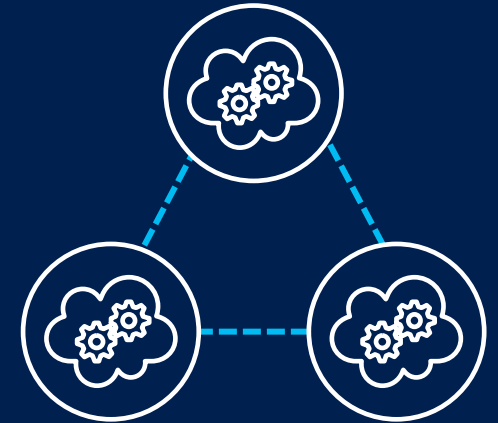
Minimum of three physically separated locations

Three Availability Zones to support quorum based workloads like SQL, Service Fabric, Cassandra, MongoDB.



Independent power, cooling, network

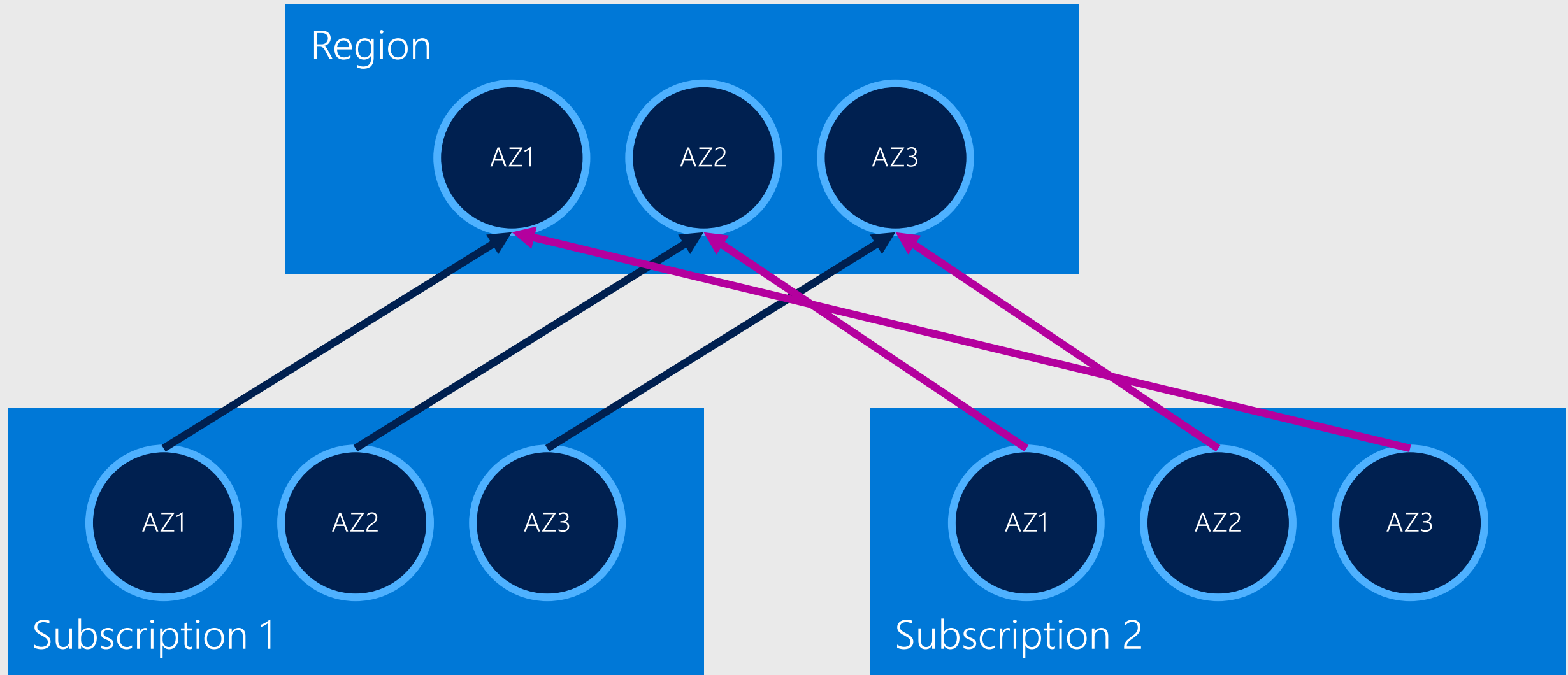
A facility level failure or single fiber path failure will affect only one zone.



Azure management services replicated across zones

Azure management services are redundant, so a single zone failure will not affect other zones. Azure maintenance orchestrated zone by zone.

# Availability Zones

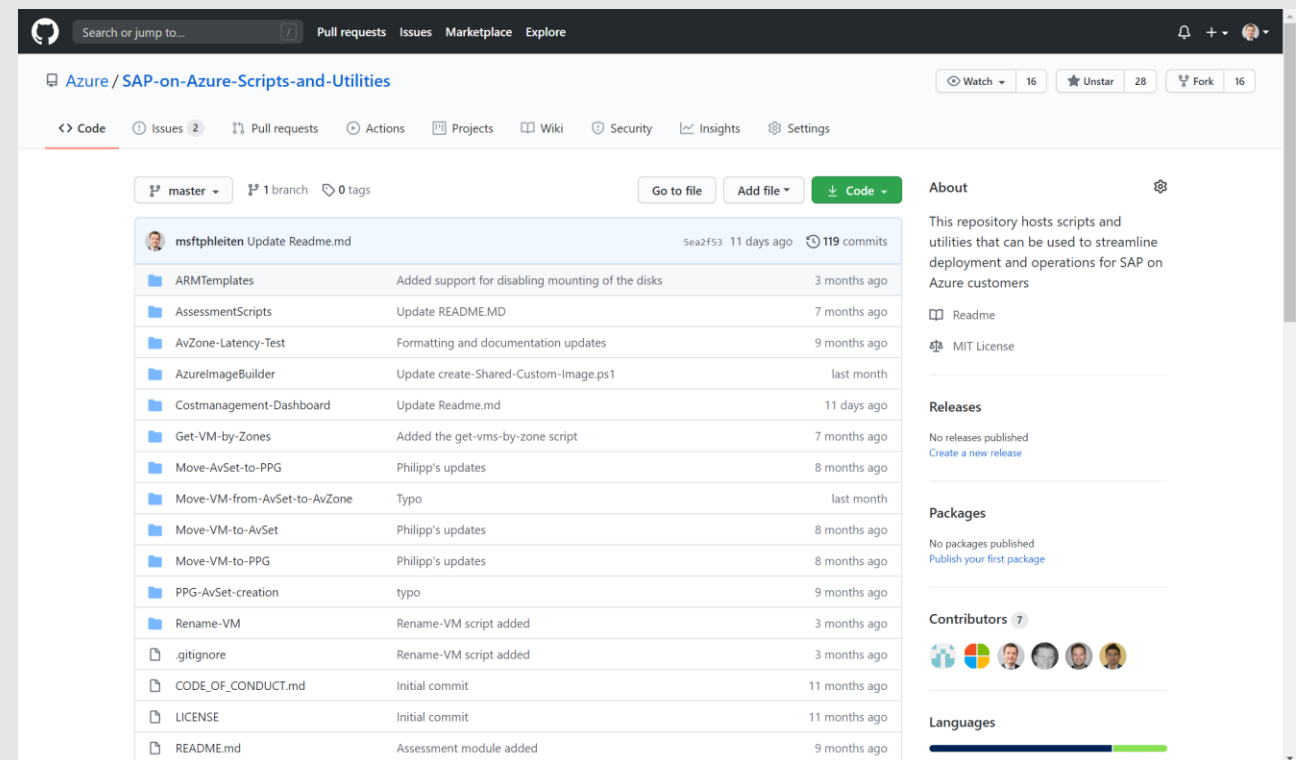


# Azure CAT GitHub Repo

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Scripts are available at

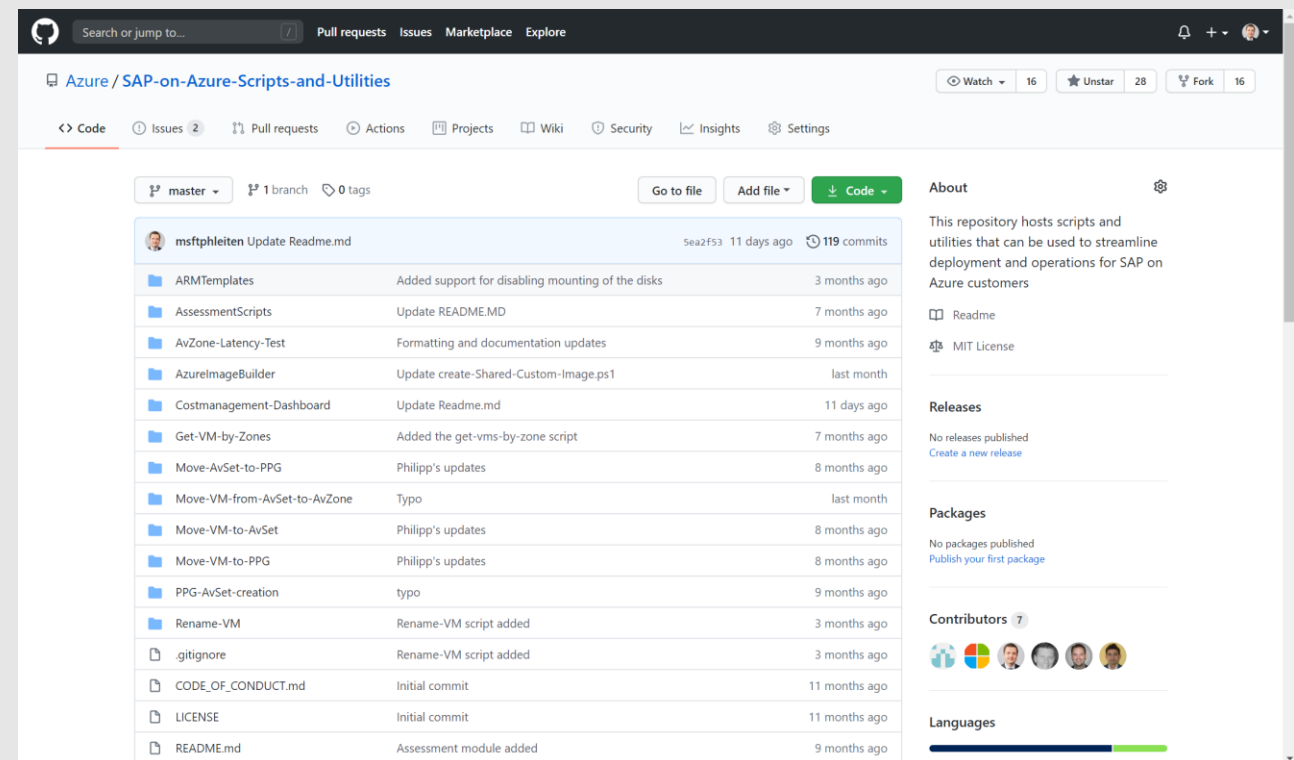
<https://github.com/Azure/SAP-on-Azure-Scripts-and-Utilities> or <https://aka.ms/saponazurescripts>



# AvZone Latency Test

- Deploys 3 Linux VMs
- Connects to all of them and install required packages
- Runs performance test
- Displays results

You can decide to destroy your environment after the test or keep it to run it multiple times.



# AvZone Latency Test

```
.\AvZone-Latency-Test.ps1 -SubscriptionName "phleiten Azure (Philipps Azure)" -region westeurope
```

```
PS C:\Users\phleiten\Desktop> .\AvZone-Latency-Test.ps1 -SubscriptionName "phleiten Azure (Philipps Azure)" -region westeurope

Name                               Account                               SubscriptionName
-----                               -
phleiten Azure (Philipps Azure) (232b... phleiten@microsoft.com    phleiten Azure (Philipps Azure)
Creating resource group
Creating vNET and Subnet
Creating NSG
Creating VMs
All jobs created, waiting ...
All jobs completed
Waiting for three minute for all systems to come up ...
Creating SSH sessions
Installing qperf on all VMs
Running bandwidth and latency tests
Region: westeurope
VM Type: Standard_D8s_v3
Latency:
```

	zone 1	zone 2	zone 3
zone 1		62.5 us	605 us
zone 2	58.7 us		632 us
zone 3	574 us	671 us	

Bandwidth:

	zone 1	zone 2	zone 3
zone 1		478 MB/sec	415 MB/sec
zone 2	475 MB/sec		394 MB/sec
zone 3	418 MB/sec	392 MB/sec	

Removing SSH Sessions  
Deleting Resource Group

AvZoneLatencyTest

Resource group

Search (Ctrl+F)

Overview

Activity log

Access control (IAM)

Tags

Events

Settings

Quickstart

Deployments

Policies

Properties

Locks

Export template

Cost Management

Cost analysis

Cost alerts (preview)

Budgets

Advisor recommendations

Monitoring

Insights (preview)

Alerts

Metrics

Diagnostic settings

Logs

Advisor recommendations

Workbooks

Support + troubleshooting

New support request

+ Add

Edit columns

Delete resource group

Refresh

Move

Export to CSV

Open query

Assign tags

Delete

Export template

Feedback

Subscription (change)

phleiten Azure (Philipps Azure)

Subscription ID

232b6759-a961-4fb7-88c0-757472230e6c

Tags (change)

Click here to add tags

Deployments

No deployments

Filter by name...

Type == all

Location == all

Add filter

Showing 1 to 13 of 13 records

Show hidden types

Name	Type	Location
azping-mgmt-vnet	Virtual network	West Europe
azping-nsg	Network security group	West Europe
azping-vm01	Virtual machine	West Europe
azping-vm01-nic1	Network interface	West Europe
azping-vm01-nic1-pip	Public IP address	West Europe
azping-vm01_OsDisk_1_e4e4efc004654dabb827ca5da88bc3e1	Disk	West Europe
azping-vm02	Virtual machine	West Europe
azping-vm02-nic1	Network interface	West Europe
azping-vm02-nic1-pip	Public IP address	West Europe
azping-vm02_OsDisk_1_7350538b2aeb42ef92b8defafadc5b23	Disk	West Europe
azping-vm03-nic1	Network interface	West Europe
azping-vm03-nic1-pip	Public IP address	West Europe
azping-vm03_OsDisk_1_9626a4a825234b4aa17f88e820119312	Disk	West Europe



# AvZone get VM types available by zone

```
.\Get-VM-by-Zones.ps1 -SubscriptionName "phleiten Azure (Philipps Azure)" -region westeurope -vmseries M
```

```
PS C:\Users\phleiten\Desktop> .\Get-VM-by-Zones.ps1 -SubscriptionName "phleiten Azure (Philipps Azure)" -region westeurope -vmseries E
WARNING: Unable to acquire token for tenant
```

Name	Account	SubscriptionName
phleiten Azure (Philipps Azure) (232b...	phleiten@microsoft.com	phleiten Azure (Philipps Azure)

VM Type	Zone 1	Zone 2	Zone 3
E16_v3	X	X	X
E16_v4	X		X
E16-4ds_v4	X	X	X
E16-4s_v3	X	X	X
E16-4s_v4	X		X
E16-8ds_v4	X	X	X
E16-8s_v3	X	X	X
E16-8s_v4	X		X
E16a_v4	X	X	X
E16as_v4	X	X	X
E16d_v4	X	X	X
E16ds_v4	X	X	X
E16s_v3	X	X	X
E16s_v4	X		X
E2_v3	X	X	X
E2_v4	X		X
E20_v3	X	X	X
E20_v4	X		X
E20a_v4	X	X	X
E20as_v4	X	X	X

