

# Azure VM Failover

- [Overview](#)
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## Overview

<b>Platform:</b>	<b>Azure</b>
<b>Owner of this SOP:</b>	Fully Managed POD A
<b>Cloud Services:</b>	Azure VM DR ASR

## Problem

When requesters are asking to failover VM from primary to secondary region

tester	Reviewer
@ Senthilkumaran Gurusampandian	

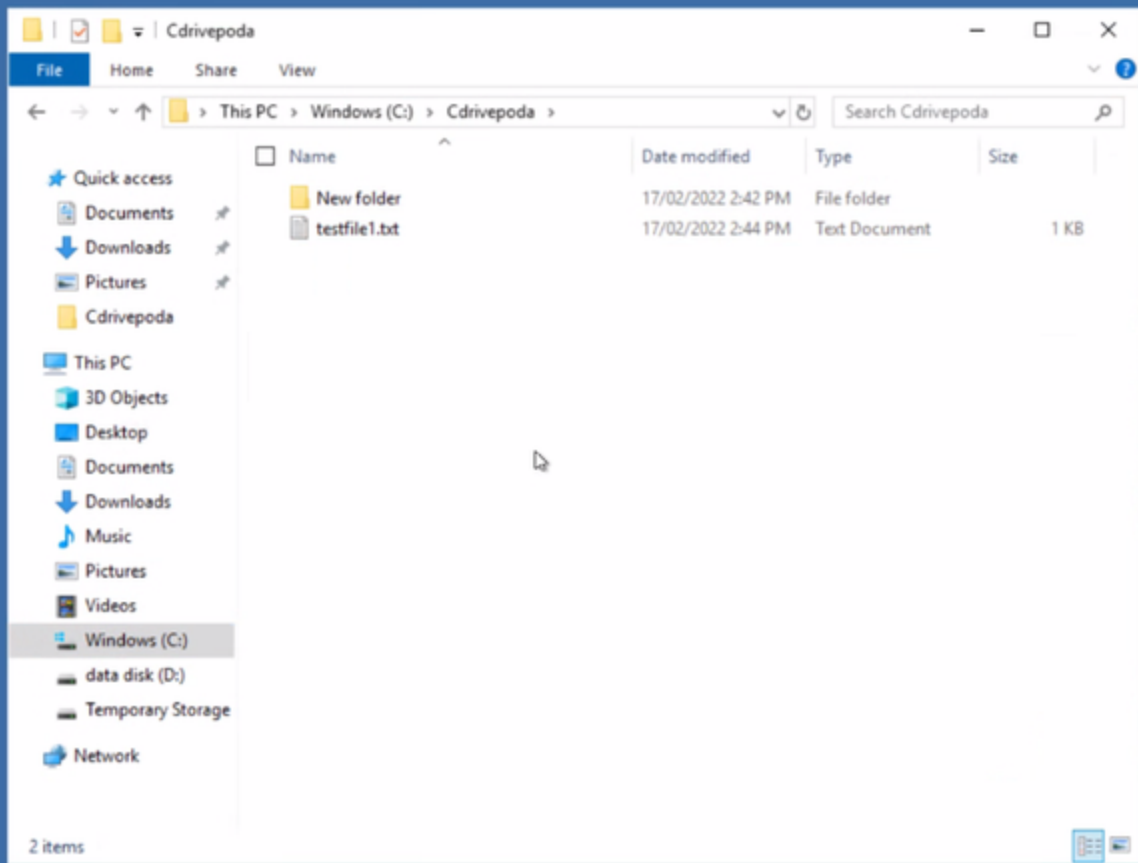
## Process

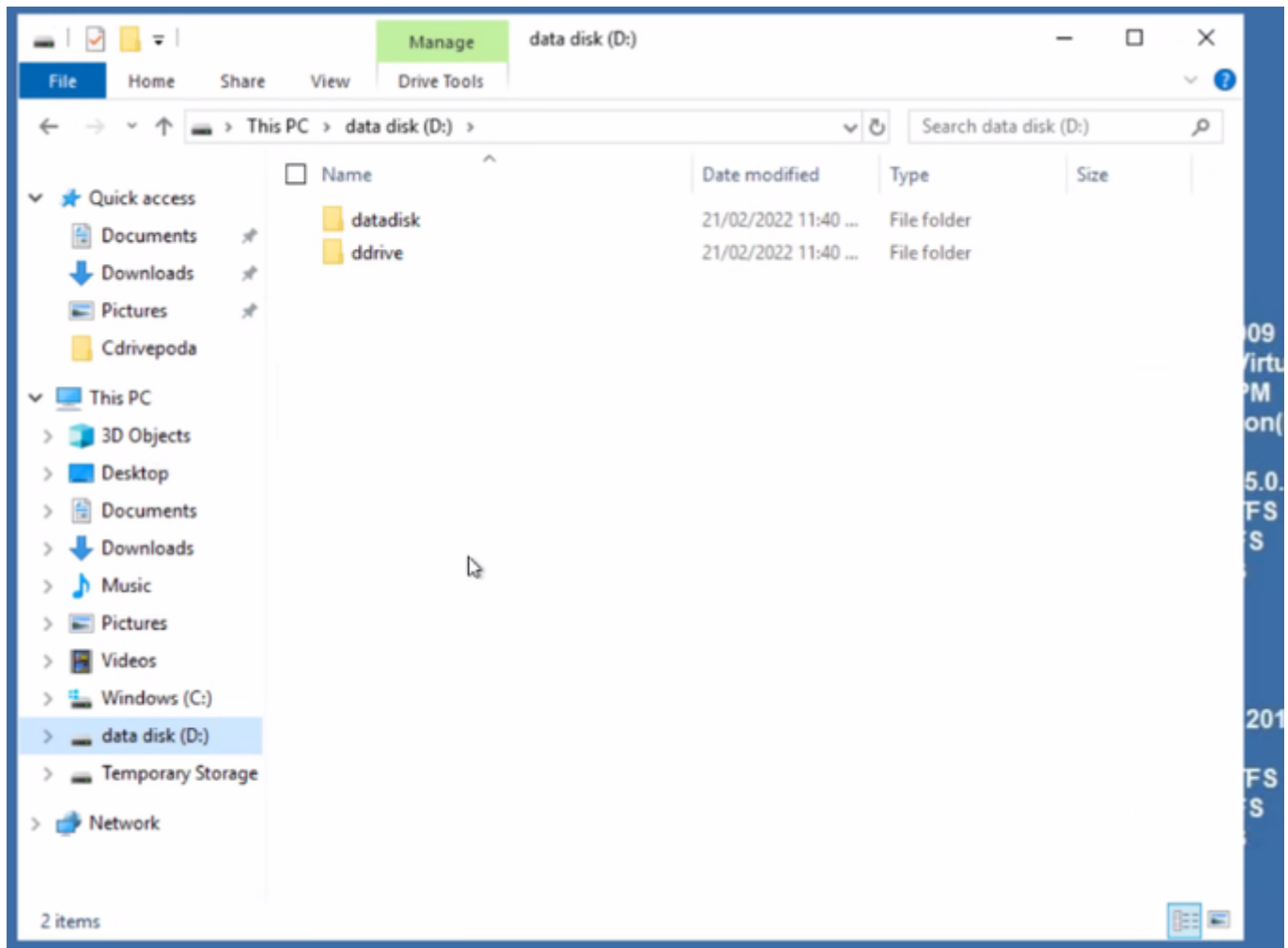
### Raise a Normal Change Request

Please open a Normal change request and get it approved before executing the VM region failover activity, And respective stake holders and application owners should be informed prior to this activity as downtime is required.

## Solution

- Try RDP login to the Azure VM, Check the Drives and files





- Login to Azure portal. Select the VM
- Go to VM and click on Disaster Recovery
- <https://bhptechsi.atlassian.net/wiki/spaces/CLOUD/pages/2470707680/VM+Disaster+Recovery+-+Region+Failover+-+ASR>

Home > Virtual machines >

**MAUE10ETPOD009** ...  
Virtual machine

Search (Ctrl+/) << Connect Start Restart Stop Capture Delete Refresh Open in

Configuration

Identity

Properties

Locks

Operations

Bastion

Auto-shutdown

Backup

Disaster recovery

Guest + host updates

Inventory

Change tracking

Advisor (1 of 4): Log Analytics agent should be installed on virtual machines →

^ Essentials

Resource group [\(move\)](#)  
[Australia-East-rg3-primary](#)

Status

Running

Location

Australia East

Subscription [\(move\)](#)

[it-npe-toolingdev](#)

Subscription ID

01818878-c294-4617-a15a-8b7934a433c4

Tags [\(edit\)](#)

BusinessUnit : Fully Managed PODA

▼ More (11)

Operating system

Windows (Windows Serve

Size

Standard DS1 v2 (1 vcpu, 1

Public IP address

:

Virtual network/subnet

[it-ae1-npe-vnt-10.125.12](#)

DNS name

:

- In that Check the OS disk and Data disk in protected status

Home > Virtual machines > MAUE10ETPOD009 > MAUE10ETPOD009

### MAUE10ETPOD009 | Disks

Replicated items

Search (Ctrl+ /)

Overview

General

Properties

Compute

Network

Disks

**Operating system disk**

Name	Status	Size	Pending data in source ...	Replica disk name	Target disk name
MAUE10ETPOD009-osdisk	Protected	128.00 GB	1.55 MB	MAUE10ETPOD009-osdi...	maue10etpod009-osdisk

**Data disk**

Name	Status	Size	Pending data in source ...	Replica disk name	Target disk name
MAUE10ETPOD009-data	Protected	64.00 GB	0.00 MB	MAUE10ETPOD009-data...	maue10etpod009-data

- If Data disk is not showing - Go to Recovery services Vault Select the particular Vault name

### Recovery Services vaults

BHP

+ Create Manage view Refresh Export to CSV Open query Assign tags Feedback

Filter for any field... Subscription == it-npe-toolingdev Resource group == all Location == all Add filter

Showing 1 to 3 of 3 records. No grouping List view

Name	Type	Resource group	Location	Subscription
it-aue1-npe-rsv-grs	Recovery Services vault	it-aue1-npe-arg-backup	Australia East	it-npe-toolingdev
it-aue2-npe-rsv-grs	Recovery Services vault	it-aue1-npe-arg-backup	Australia East	it-npe-toolingdev
it-aue-npe-rsv-grs	Recovery Services vault	it-aue1-npe-arg-backup	Australia Southeast	it-npe-toolingdev

- In that go to replicated items and select the disk and enable replication

Home > Recovery Services vaults > it-aue2-npe-rsv-grs

### Recovery Services ...

BHP

+ Create Manage view

Filter for any field...

Name

- it-aue1-npe-rsv-grs
- it-aue2-npe-rsv-grs
- it-aue-npe-rsv-grs

it-aue2-npe-rsv-grs | Replicated items

Recovery Services vault

Search (Ctrl+ /)

Refresh Replicate Columns Filter

Last refreshed at: 2/17/2022, 12:39:24 PM

Finished loading data from service.

Filter items...

Name	Replication Health	Status	Active location
MAUE10ETPOD009	Healthy	Protected	Australia East

Identity

Private endpoint connections

Properties

Locks

Getting started

- Backup
- Site Recovery

Protected items

- Backup items
- Replicated items

- Do test failover ( Select the VM and click on Disaster Recovery)
- Validate the test failover settings compute, Network and Disks

Home > MAUE10ETPOD009 > MAUE10ETPOD009

## MAUE10ETPOD009 | Compute

Replicated items

Overview

General

Properties

Compute

Network

Disks

Edit

Compute properties

Properties	Source settings	Target settings
Subscription	it-npe-toolingdev	it-npe-toolingdev
Name	MAUE10ETPOD009	maue10etpod009
Resource group	australia-east-rg3-primary	australia-seast-rg4-secondary
Size	Standard_DS1_v2	Standard_DS1_v2

- And click the test failover

Home > MAUE10ETPOD009 >

## MAUE10ETPOD009

Replicated items

Overview

General

Properties

Compute

Network

Disks

Failover Test Failover Cleanup test failover Commit Resynchronize Change recovery point Re-protect

Essentials

Health and status

Replication Health Healthy

Status Protected

RPO 5 mins [As on 2/17/2022, 12:39:40 PM]

Failover readiness

Last successful Test Failover Never performed successfully

Configuration issues No issues

Agent version 9.47.6219.1

Agent status Healthy

Latest recovery points

Click above to see the latest recovery points.

Errors(0)

No errors

Open in new page

Events - Last 72 hours(9)

Open in

Time	Event Name	Severity
2/17/2022, 9:36:03 AM	Replication health cha...	Informational
2/17/2022, 9:35:08 AM	The latest recovery poi...	Warning
2/17/2022, 9:34:35 AM	Replication health cha...	Warning

- Select the Virtual network and click on OK

## Test failover ...

MAUE10ETPOD009

### Failover direction

From ⓘ

Australia East

To ⓘ

Australia Southeast

### Recovery Point

Recovery Point ⓘ Latest processed (low RTO) Thu Feb 17 2022 12:44:05 GMT+0530 (India Standard Time) [Choose a recovery point](#)

Azure virtual network \* ⓘ

it-ause-npe-vnt-10.125.201.0



It is recommended that for a test failover you use a network different from production network (as specified under Compute and Network settings of the virtual machine). [Learn more.](#)

OK

- Once the Test Failover process complete, you can see the test VM will get deployed.

## Virtual machines ...

BHP

+ Create ▾ ↺ Switch to classic ⌚ Reservations ▾ ⚙ Manage view ▾ ↻ Refresh ⬇ Export to CSV 🔗 Open query | 🏷 Assign tags ▶ Start ⏮ Restart ☐ Stop ...

009

Subscription == it-npe-toolingdev

Resource group == all ✕

Location == all ✕

+ Add filter

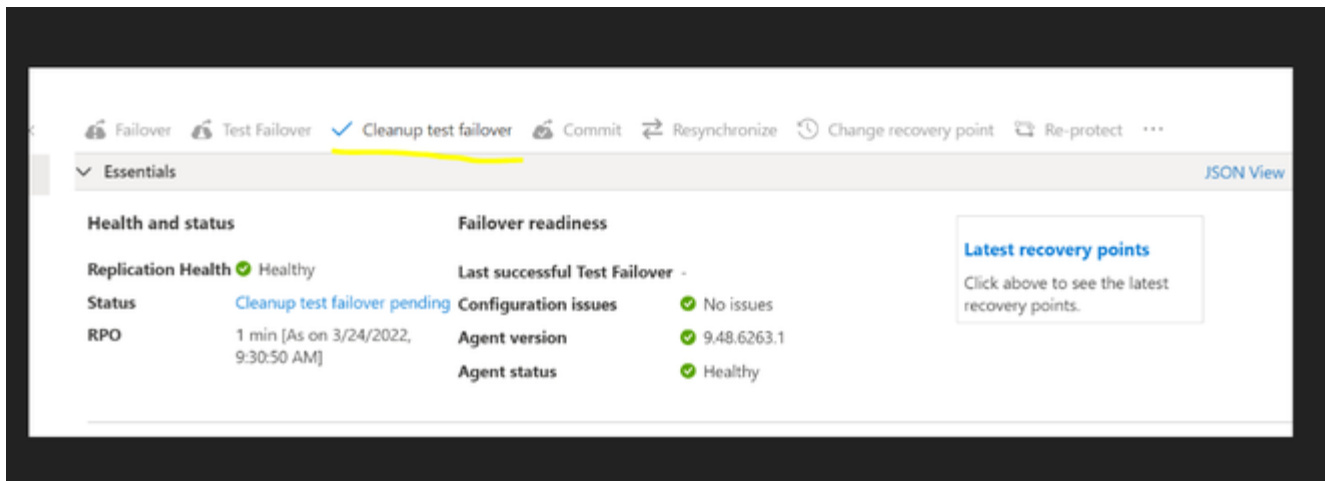
Showing 1 to 2 of 2 records.

No grouping ▾

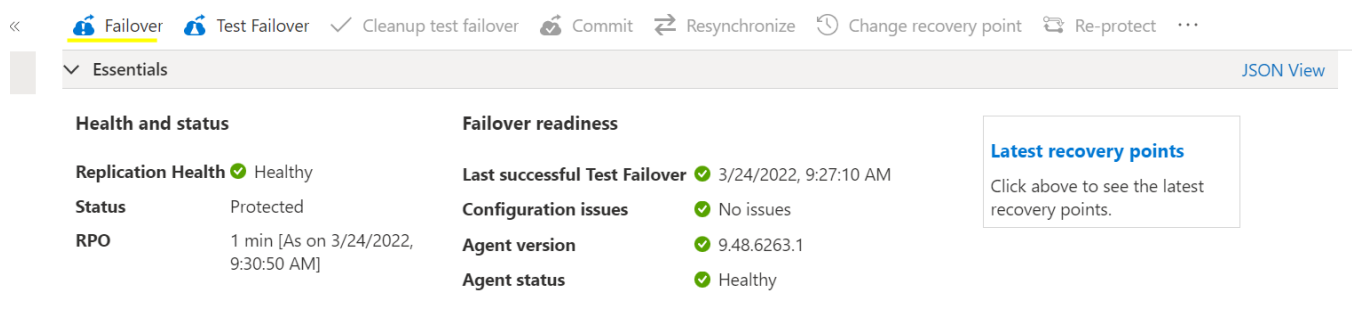
☰ List view

<input type="checkbox"/> Name ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	Operating system ↑↓	Size ↑↓	Pu
<input type="checkbox"/> MAUE10ETPOD009	it-npe-toolingdev	Australia-East-rg3-pri...	Australia East	Running	Windows	Standard_DS1_v2	-
<input type="checkbox"/> MAUE10ETPOD009-test	it-npe-toolingdev	Australia-Seast-rg4-se...	Australia Southeast	Running	Windows	Standard_DS1_v2	-

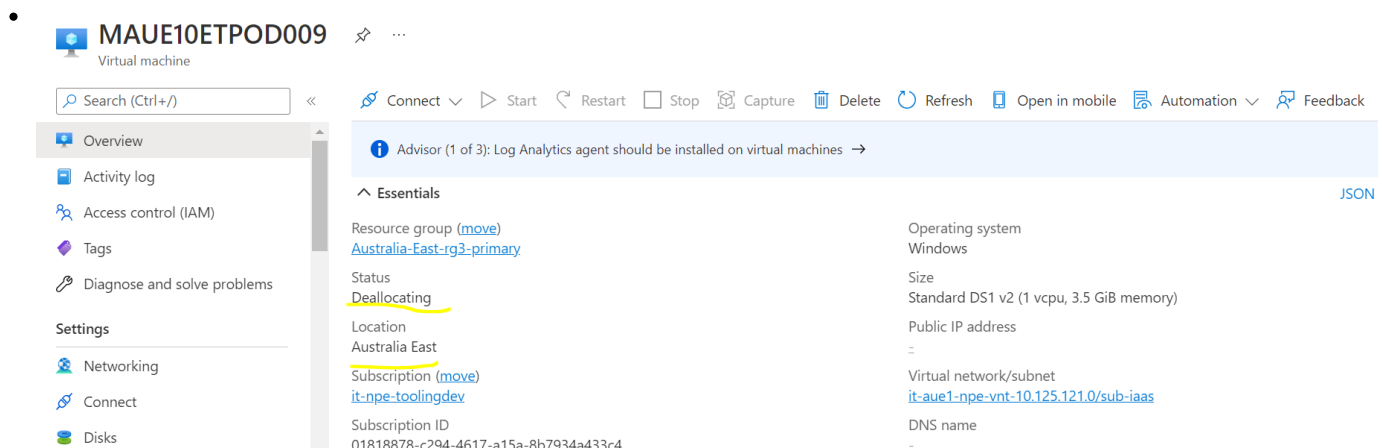
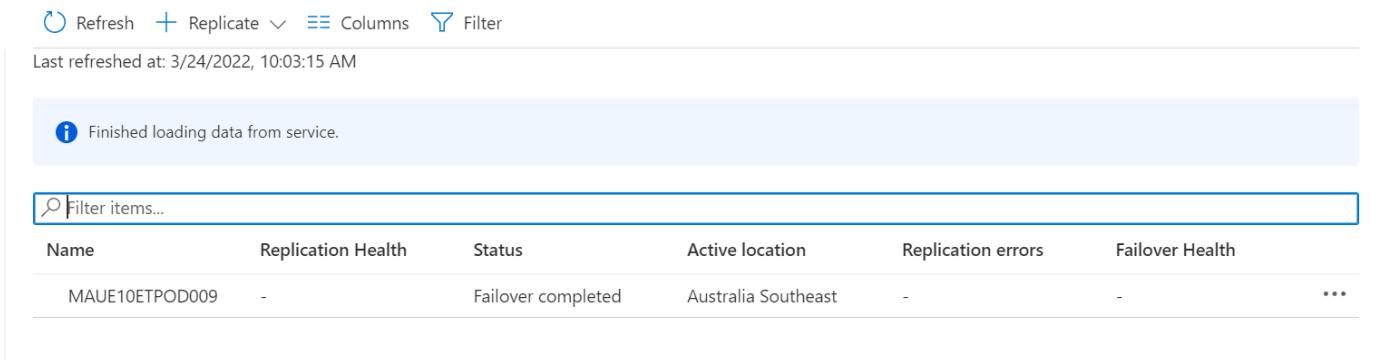
- Try RDP login, Check the Drives and files as expected
- In Secondary region, we could see the the data and files replicated
- Once the test failover is validated, click on clean up test failover
-



- For failover, click on Failover and verify the primary and secondary region settings and recovery point and vnet



- After failover, Secondary region vm will be running and primary vm will be in shutdown state.



**MAUE10ETPOD009-replication**

Virtual machine

Connect

Start

Restart

Stop

Capture

Delete

Refresh

Open in mobile

Automation

Feedback

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Networking

Connect

Windows Admin Center

Running

Location

Australia Southeast

Subscription (move)

it-npe-toolingdev

Subscription ID

01818878-c294-4617-a15a-8b7934a433c4

Tags (edit)

BusinessUnit : Fully Managed PODA

More (15)

Standard DS1 v2 (1 vcpu, 3.5 GiB memory)

Public IP address

Virtual network/subnet

it-ause-npe-vnt-10.125.201.0/sub-iaas

DNS name

Properties

Monitoring

Capabilities (8)

Recommendations

Tutorials

- Try RDP login, Check the Drives and files as expected

drivepoda

Share View

This PC > Windows (C:) > Cdrivepoda

Search Cdrivepoda

Name	Date modified	Type	Size
New folder	17/02/2022 2:42 PM	File folder	
testfile1.txt	17/02/2022 2:44 PM	Text Document	1 KB

Host Name:

MAUE10ETPOD009

Computer Description:

tooling dev test Virtual machine

Boot Time:

24/03/2022 3:13 PM

CPU:

2.60 GHz Intel Xeon(R) Platinum

DNS Server:

(none)

Free Space:

C:\ 104.15 GB NTFS

D:\ 63.84 GB NTFS

E:\ 6.95 GB NTFS

IP Address:

(none)

(none)

10.125.201.4

Logon Server:

MASTTPADC001

Memory:

3584 MB

OS Version:

Windows Server 2019

Service Pack:

No service pack

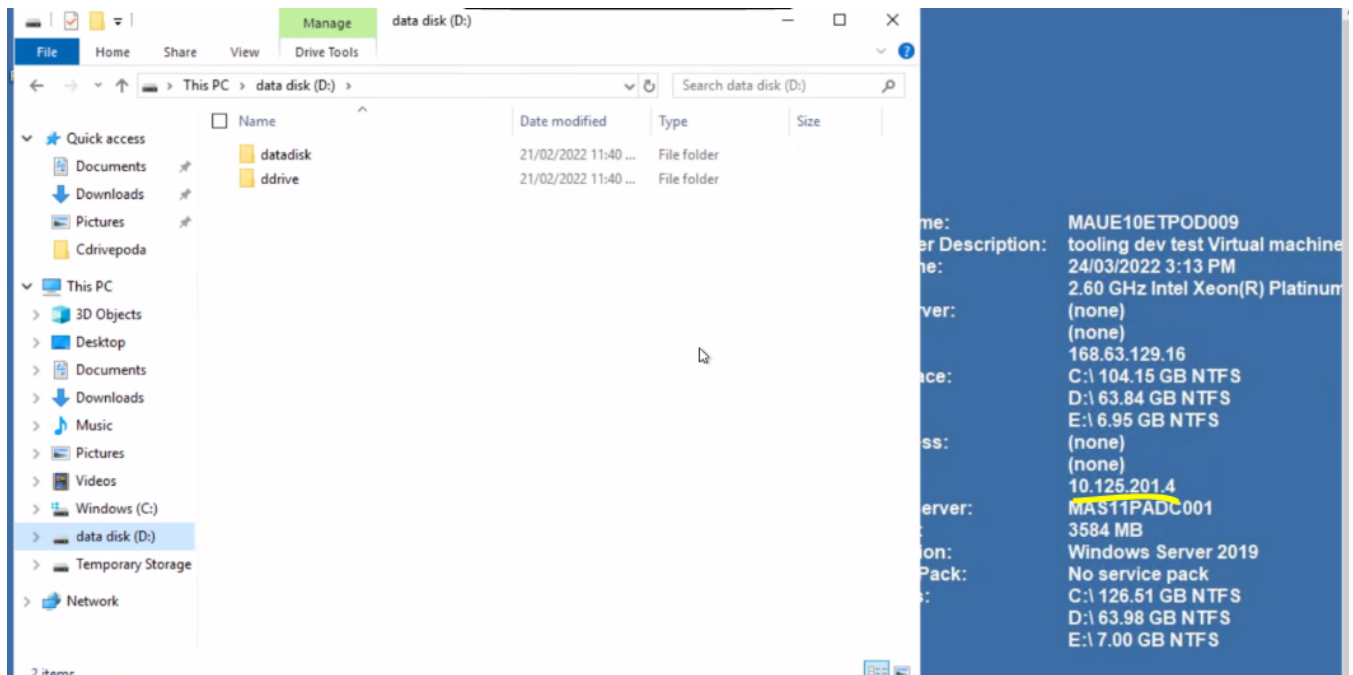
Volumes:

C:\ 126.51 GB NTFS

D:\ 63.98 GB NTFS

E:\ 7.00 GB NTFS





- When satisfied with the failed over VM, select **Commit** on the overview page, to finish the failover.
- Commit deletes all the available recovery points for the VM in Site Recovery, and you won't be able to change the recovery point.

Failover Test Failover Cleanup test failover **Commit** Resynchronize Change recovery point Re-protect ...

Essentials [JSON View](#)

Health and status		Failover readiness	
Replication Health -		Last successful Test Failover -	
Status	Failover completed	Configuration issues	✓ No issues
RPO	-	Agent version	✓ 9.48.6263.1
		Agent status	✓ Healthy

**Latest recovery points**

Click above to see the latest recovery points.

- now click on re-protect the VM in the secondary region, so that it replicates back to the primary region.
- On the VM **Overview** page, select **Re-Protect**.
- In **Re-protect**, verify the replication direction (secondary to primary region), and review the target settings for the primary region. Resources marked as new are created by Site Recovery as part of the re-protect operation.
- Select **OK** to start the re-protect process. The process sends initial data to the target location, and then replicates delta information for the VMs to the target.

Failover Test Failover Cleanup test failover Commit Resynchronize Change recovery point **Re-protect** ...

Essentials [JSON View](#)

Health and status		Failover readiness	
Replication Health -		Last successful Test Failover -	
Status	Failover committed	Configuration issues	✓ No issues
RPO	-	Agent version	✓ 9.48.6263.1
		Agent status	✓ Healthy

**Latest recovery points**

Click above to see the latest recovery points.

Resource group, Network, Storage and Availability [Customize](#)  
By default, Site Recovery will pick the original source resource group, virtual network, storage accounts and availability sets as below. Click 'Customize' above to change the configuration. The re appended with "asr" suffix.

<b>Target resource group</b> ⓘ Australia-East-rg3-primary	<b>Target virtual network</b> ⓘ it-aue1-npe-vnt-10.125.121.0
<b>Cache storage accounts</b> ⓘ i7nqyhitau2npasrcache	<b>Replica managed disks</b> ⓘ (new) 0 premium disks(s), 2 standard disk(s)
<b>Target availability sets</b> ⓘ Not Applicable	
<b>Target proximity placement group</b> ⓘ Not Applicable	

[Refresh](#) [+ Replicate](#) [Columns](#) [Filter](#)

Last refreshed at: 3/24/2022, 11:43:10 AM

*i* Finished loading data from service.

<input type="text" value="Filter items..."/>				
Name	Replication Health	Status	Active location	Replication errors
MAUE10ETPOD009-r...	✔ Healthy	Protected	Australia Southeast	-



- After VM DR site recovery we have to lock the Terraform workspace to avoid the changes to the resources. (Since resources are moved to secondary region otherwise terraform try to provision the resources)

**a\_azr\_toolingdev\_npe\_fmupdatestesting\_01818878-c294-4617-a15a-8b7934a433c4**  
ID: ws-euMgMiffZ7aDUrWs [🔗](#)

Resources32

Terraform version1.1.2

Updateda few seconds ago

No workspace description available.

OverviewRunsStatesVariablesSettings

UnlockedActions

Start new plan

Lock workspace

Latest RunView all runs

Queued from GitLab CI/CD Pipeline✖ Errored

Metrics (last 30 runs)

**a\_azr\_toolingdev\_npe\_fmupdatesting\_01818878-c294-4617-a15a-8b7934a433c4**  
ID: ws-euMgMiffZ7aDURWs [🔗](#)

No workspace description available.

Overview

Runs

States

Variables

Settings ▾

Resources

32

Terraform version

1.1.2

Updated

a few seconds ago

🔒 Locked by

pa\_potls5

Actions ▾

⚡ Execution mode: Remote

⚙️ Auto apply: Off

Latest Run

[View all runs](#)

### To Failback From Secondary to Primary region

1. As like failover steps we need to follow the same steps for failback
2. Do the Failover, Commit and Re-Protect
3. After failback we can unlock the workspace and make changes to TF code if any changes required.

### Related articles

- [AWS VPC Endpoints configuration change](#)
- [Renewal / Upload SSL certificate for existing Application](#)
- [Monitoring GitLab Access Audit Report](#)
- [Azure Storage Account Blueprint SOP - BPAZR022](#)
- [Azure App Service FTP Credential Sharing and Reset Procedure](#)