

TechZone Asset: simulated Veeam backup to IBM Cloud shared VMware environment and Disaster Recovery

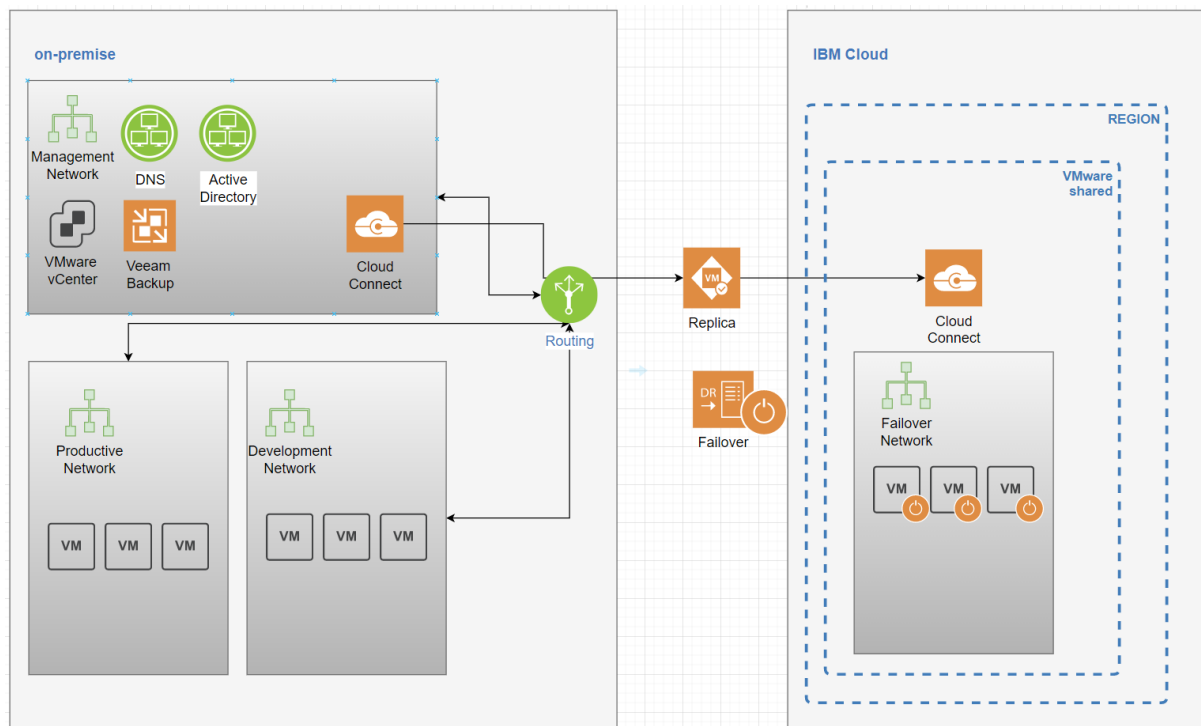
Scenario description:

An on-site VMware environment should be synchronized to the [IBM Cloud VMware shared](#) environment, to provide a Disaster Recovery possibility.

In this scenario, we only will cover the Veeam synchronization and failover process.

Precondition: A [site2site VPN](#) between on-premise and the [IBM Cloud](#) is already established, to get access to the IBM Cloud VMware shared environment. Also there is a configured environment with [networks](#) that are required for the migrated on-premise virtual machines.

Your initial environment could look like this.



Based on Veeam Cloud Connect, we will show how a virtual machine, from the on-site VMware datacenter, will be available on the Veeam Cloud Connect Portal in the IBM Cloud VMware shared environment.

Preparation

To create a Veeam Failover Plan, a Replication Task needs to be created. Only VM's that are successfully replicated to the destination can be used for a Failover Plan.

As destination we have two locations

IBM Cloud data center location	DNS name	Port
Dallas	dalvccgw.vmware-solutions.cloud.ibm.com	6180
Frankfurt	fravccgw.vmware-solutions.cloud.ibm.com	6180

For the connection authentication you need to use the IBM Cloud VMware shared management portal credentials. This information you can find in the [IBM Cloud Portal](#).

The screenshot shows the IBM Cloud console for a VMware-DC1 instance. The instance is in the 'Ready to use' state. The 'Properties' section lists the following details:

- Name:** VMware-DC1
- Type:** On-demand
- Deployment topology:** Single-zone
- Region:** Frankfurt
- Location:** fra02

A yellow highlight is placed over the 'Reset organization admin password' link in the Region section.

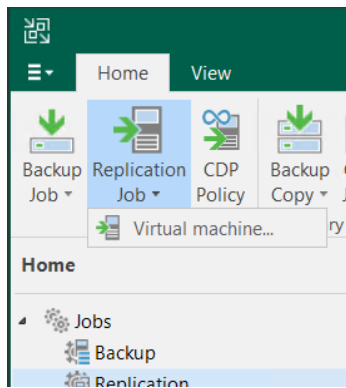
Also you need the prefix and the connection information, which are shown in the “Veeam Cloud Connect Replication” section.

The screenshot shows the 'Veeam Cloud Connect Replication' section. It includes instructions on using management portal credentials. A blue circle highlights the instruction: 'Username should be prefixed with `ibmcloud-vmware-@` when logging in.' Below this, a 'Connection details' section provides the following information:

- Service provider URL:** `fravccgw.vmware-solutions.cloud.ibm.com`
- Service provider port:** `6180`

On-premise configuration

In your on-premise Veeam installation, click on “Replication Job” -> “Virtual machine”



Type in a name and choose options that may apply for your environment.

A screenshot of the 'New Replication Job' dialog box, 'Name' tab. The 'Name' field contains 'IBM Cloud replication'. The 'Description' field contains 'Created by AS02\Administrator at 10/28/2021 12:20 PM.' The 'Show advanced controls' section has three unchecked checkboxes: 'Replica seeding (for low bandwidth DR sites)', 'Network remapping (for DR sites with different virtual networks)', and 'Replica re-IP (for DR sites with different IP addressing scheme)'. The 'High priority' checkbox is also unchecked. The 'Next >' button is highlighted.

Name
Specify the name and description for this job, and provide information on your DR site.

Name
Name: IBM Cloud replication
Description: Created by AS02\Administrator at 10/28/2021 12:20 PM.

Show advanced controls:
☐ Replica seeding (for low bandwidth DR sites)
☐ Network remapping (for DR sites with different virtual networks)
☐ Replica re-IP (for DR sites with different IP addressing scheme)

☐ High priority
Backup infrastructure resources are offered to high priority jobs first. Use this option for jobs sensitive to the start time, or jobs with strict RPO requirements.

< Previous Next > Finish Cancel

Click “add” to add the virtual machines, which need to be replicated to the DR site.

A screenshot of the 'New Replication Job' dialog box, 'Virtual Machines' tab. The 'Virtual machines to replicate' table shows one entry: 'demo01' (Virtual Machine, 710 MB). The 'Add...' button is highlighted with a yellow circle. The 'Total size' is 710 MB. The 'Next >' button is highlighted.

Virtual Machines
Select one or more VMs to replicate. Use exclusion settings to exclude specific VMs and virtual disks from replication.

Virtual machines to replicate:

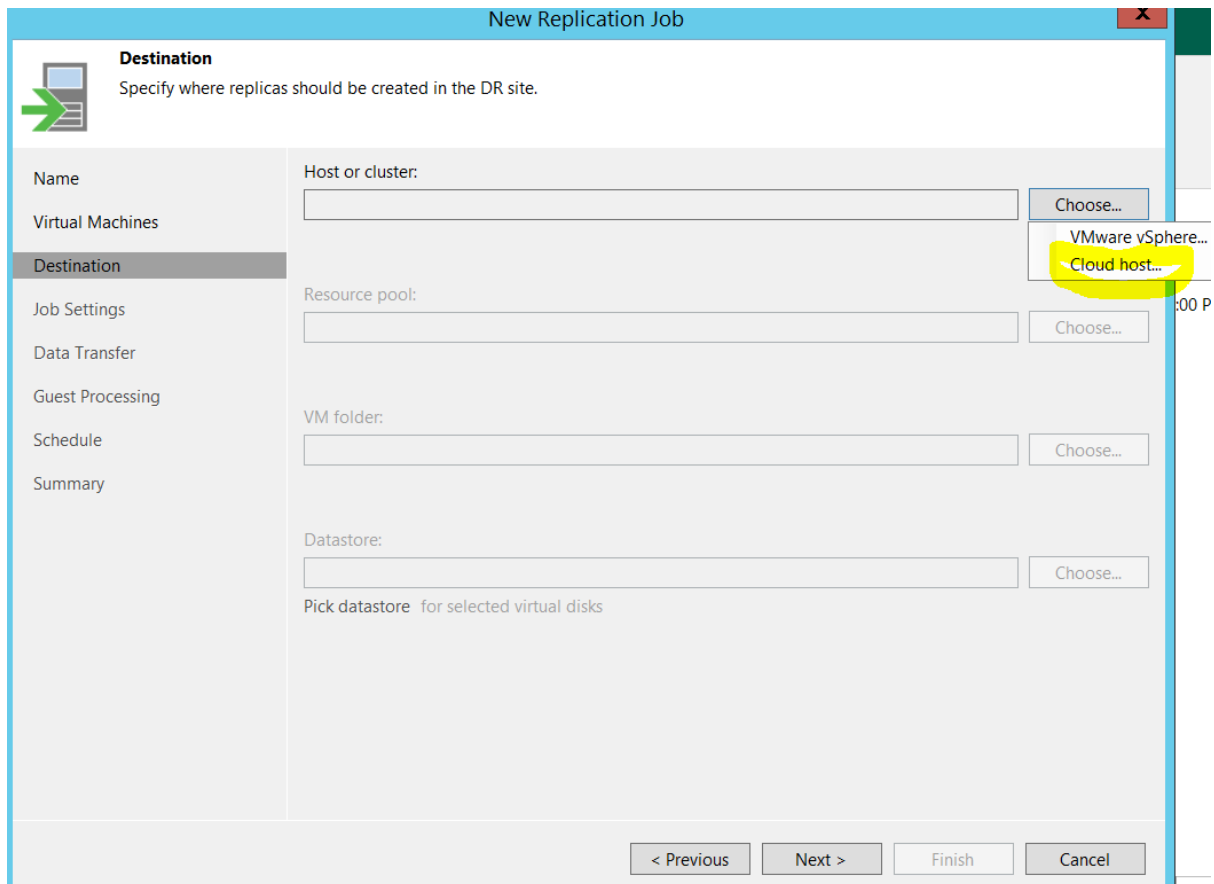
Name	Type	Size
demo01	Virtual Machine	710 MB

Buttons: Add... (highlighted), Remove, Exclusions..., Source..., Up, Down, Recalculate

Total size: 710 MB

< Previous Next > Finish Cancel

Now you need add information about the destination. Therefore choose “Cloud host”



The screenshot shows the 'New Replication Job' window with the 'Destination' tab selected. The left sidebar lists the steps: Name, Virtual Machines, Destination (highlighted), Job Settings, Data Transfer, Guest Processing, Schedule, and Summary. The main area contains fields for 'Host or cluster:', 'Resource pool:', 'VM folder:', and 'Datastore:', each with a 'Choose...' button. The 'Host or cluster:' dropdown menu is open, showing 'VMware vSphere...' and 'Cloud host...' options. 'Cloud host...' is highlighted with a yellow circle. At the bottom, there are buttons for '< Previous', 'Next >', 'Finish', and 'Cancel'.

New Replication Job

Destination
Specify where replicas should be created in the DR site.

Name

Virtual Machines

Destination

Job Settings

Data Transfer

Guest Processing

Schedule

Summary

Host or cluster:

Choose...

VMware vSphere...

Cloud host...

Resource pool:

Choose...

VM folder:

Choose...

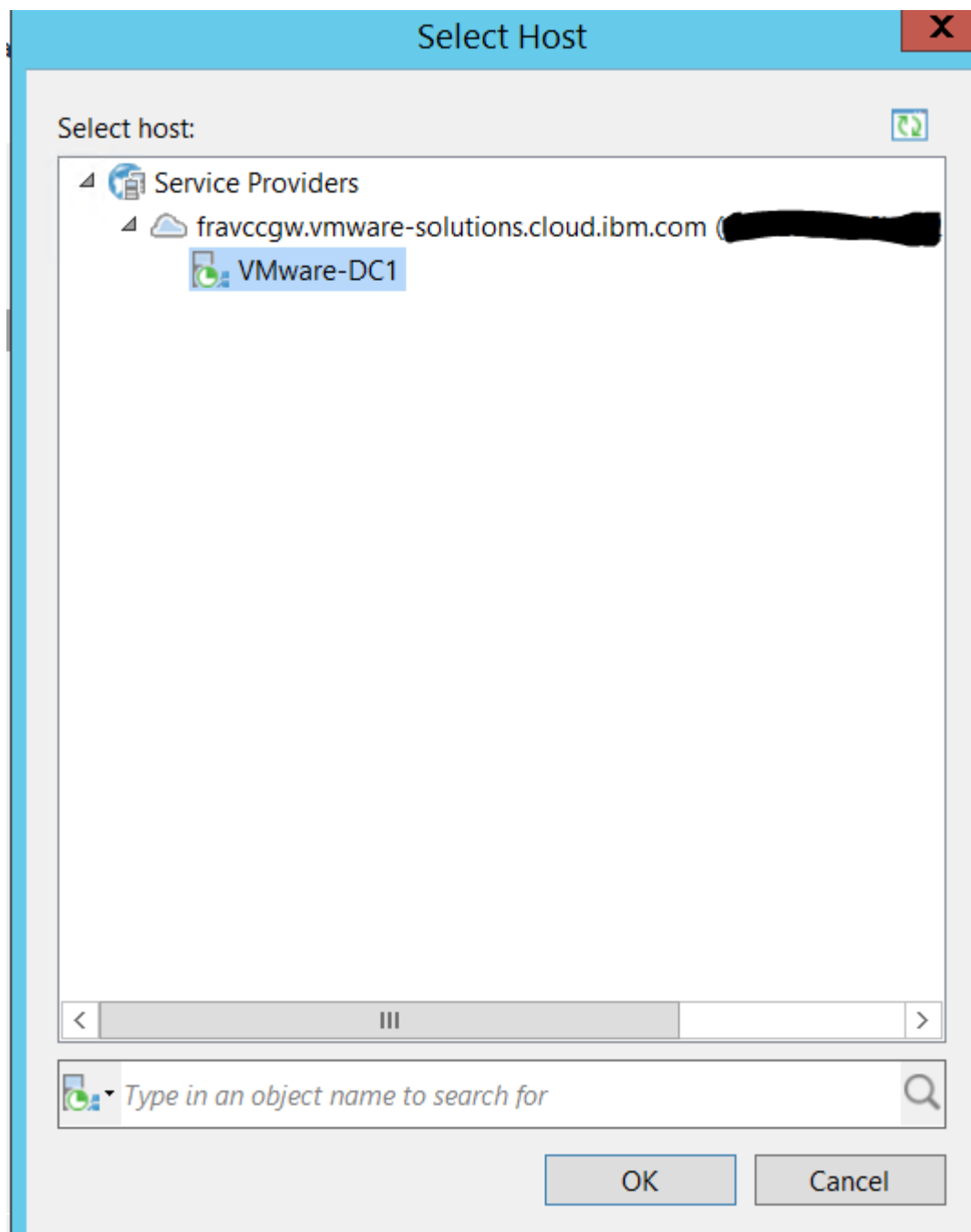
Datastore:

Choose...

Pick datastore for selected virtual disks

< Previous Next > Finish Cancel

And select your environment on the IBM Cloud



It should look like this

Organization vDC:

VMware-DC1 Choose...

vApp:

Cloud Connect 1 (Default) Choose...

Storage policy:

Standard (Default) [Unlimited] Choose...

Then you choose your Backup Repository for the Metadata

Name	Repository for replica metadata:
Virtual Machines	Default Backup Repository (Created by Veeam Backup)
Destination	15.9 GB free of 49.6 GB
Job Settings	<p>Replica settings</p> <p>Replica name suffix: <input type="text" value="_dr"/></p> <p>Restore points to keep: <input type="text" value="7"/></p>
Data Transfer	
Seeding	
Guest Processing	
Schedule	
Summary	

Advanced job settings include traffic compression, block size, notification settings, automated post-job activity and other options. Advanced

< Previous Next > Finish Cancel

The points in Data Transfer you can leave unchanged.

And also the Guest Processing. Later you can do changes for applications or logins.

Please add a scheduler to get the virtual machine replicated as often as you need it for the recovery time objective.

At this point, you can define the frequency of the schedule.

The maximum frequency you can choose is a continuous synchronization. Which does **not** imply, that the Recovery Point Objective (RPO) will be zero. It means that, the replication starts again, after the last synchronization is finished. Depending on the amount of changed data to be replicated, the time difference between two synchronizations can be very low.

Schedule
Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

Name

Virtual Machines

Destination

Job Settings

Data Transfer

Guest Processing

Schedule

Summary

☒ Run the job automatically

☒ Daily at this time: 10:00 PM Everyday Days...

☐ Monthly at this time: 10:00 PM Fourth Saturday Months...

☐ Periodically every: 1 Hours Schedule...

☐ After this job: Appliances (Created by NAMP\Administrator at 4/15/2017 1:27 PM.)

Automatic retry

☒ Retry failed items processing: 3 times

Wait before each retry attempt for: 10 minutes

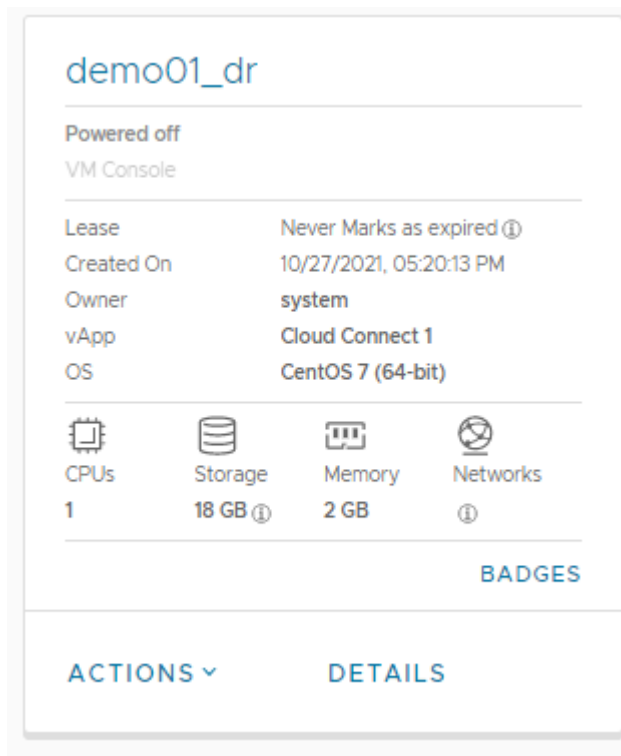
Backup window

☐ Terminate job if it exceeds allowed backup window Window...

If the job does not complete within allocated backup window, it will be terminated to prevent snapshot commit during production hours.

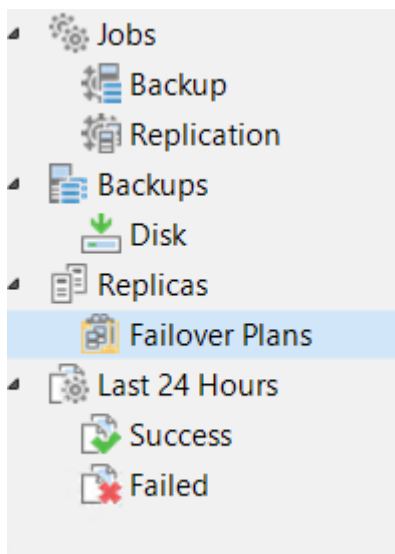
On the summary, please check all your settings again and then click on “finish”. You may want to check the box for “Run the job when I click Finish”.

After a successful replication, you should see the VM in your vCloud Director instance of your VMware shared environment.

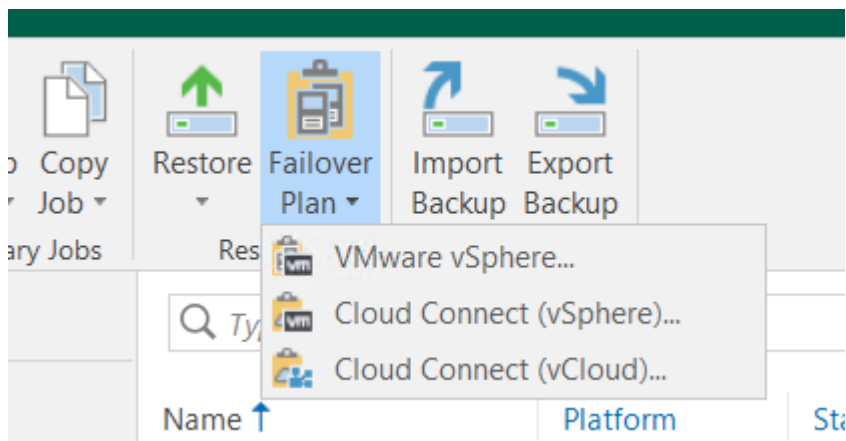


Now we need to create a Failover Plan.

Therefore choose, in your Veeam environment Replicas->Failover Plans



From the top menu, choose Failover Plan -> "Cloud Connect /vCloud)



Giving a name and click Next

A screenshot of a 'Cloud Failover Plan' configuration window. The window has a title bar 'Cloud Failover Plan' with a close button. Inside, there's a section titled 'Failover Plan' with a subtitle 'Type in a name and description for this failover plan.' Below this, there's a sidebar with 'Failover Plan', 'Virtual Machines', and 'Summary'. The main area has a 'Name:' field with the text 'Cloud Failover Plan' and a 'Description:' field. At the bottom, there are buttons for '< Previous', 'Next >', 'Finish', and 'Cancel'.

Then add the VM you want to have included in the failover plan. It is important, that this VM has been already synced at least once.

Virtual Machines
Add virtual machines to be failed over as a part of this plan. Use VM order and delays to ensure all application dependencies are met.

Failover Plan

Virtual Machines

Summary

Virtual machines:

Name	Delay	Replica state
demo01	60 sec	less than a day ago (9:03 P...

Add VM

Remove

Set Delay...

Then check the summary and click on “Finish”

Now you go back into your IBM Cloud Portal and switch to your VMware shared environment.

You can find that within “VMware Solutions/Resources”

Scroll down and choose “Veeam Cloud Connect”, in the newly opened window, you login with the credentials you got on the first page of the documentation.

After logging in, you can see the dashboard with the available failover plans

FAILOVER PLANS	Start Undo	Type in a failover plan name
SESSIONS HISTORY	NAME ↑	VMS
	Cloud Failover Plan	1
		VMware-DC1
		Ready

If you highlight the plan, you are able to click on “Start”. This would initiate the failover.

CLOUD FAILOVER PLAN

☒ Start now

☐ Start to most recent replica prior to:

After a successful failover, you should see something in the “Session History” section

NAME	STATUS	CREATED ↓	FINISHED
▼ demo01	✓	11/23/2021 01:34:20 pm	11/23/2021 01:35:03 pm
Validating VM Performing failover for VM demo01 to state as of less than a day ago (9:00 PM Monday 11/22/2021) Reverting VM to the restore point snapshot Powering on VM VM demo01 has been failed over to the state as of less than a day ago (9:00 PM Monday 11/22/2021) successfully			

And also in the vCloud Director, the VM should be powered on

demo01_dr

Powered on

VM Console

Lease

Never Suspends ⓘ

Created On

10/27/2021, 05:20:13 PM

Owner

system

vApp

Cloud Connect 1

OS

CentOS 7 (64-bit)

CPU

1

Storage

18 GB ⓘ

Memory

2 GB

Network

ⓘ

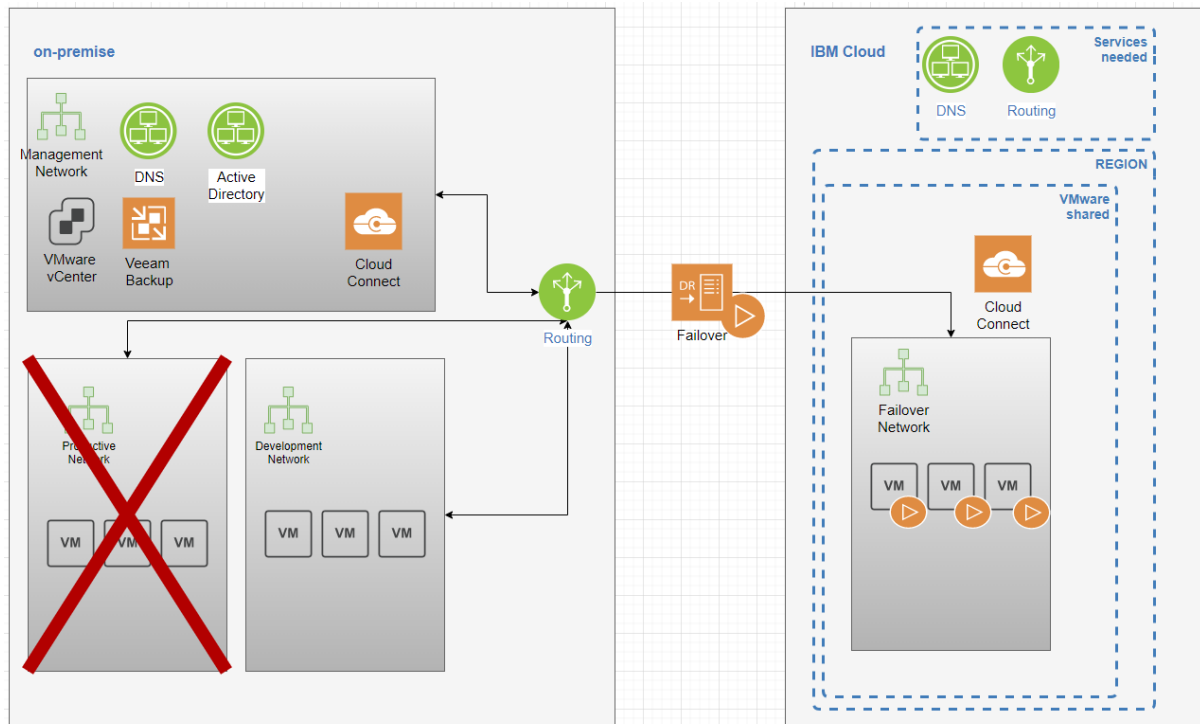
BADGES

ACTIONS ▼

DETAILS

With this, you created a Veeam failover plan including the replication of a VM from your on-premise VMware installation to the IBM Cloud shared VMware environment.

Now your environment could look like this:



Be sure to check if your DNS configuration is adapted to the new environment, IP addresses may have changed depending on the target landing zone.

Also keep in mind, that it is important to check your routing and also firewall setting, so that your new environment is accessible from your on-premise network.

Docs:

https://cloud.ibm.com/docs/vmwaresolutions?topic=vmwaresolutions-shared_veeam

https://cloud.ibm.com/docs/vmwaresolutions?topic=vmwaresolutions-shared_overview