THE EUC GUY

TECHNICAL WHITEPAPER – **JULY 2020**

VMware Horizon® 7

Cloud Pod Architecture Guide

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Introduction

The purpose of this document is to provide you with guidance on configuring VMware Horizon® 7 Cloud Pod Architecture using the Horizon Console.

For this guide, I will be setting up CPA across two data centres in an active/passive mode to demonstrate how a virtual desktop can be made available to a user seamlessly in the event of the primary desktop pool becoming unavailable.

This guide assumes that the required infrastructure and prerequisites are in place.

Please keep checking back on my blog, https://www.theeucguy.com for new guides relating to VMware EUC solutions.

For any feedback or suggestions, you can reach out to me at:

Contact Me 

Disclaimer: *This document provides guidelines only. The contents and views expressed are purely my own opinion and not endorsed by VMware or any other vendor. Always refer to VMware's official documentation and KB articles for the most up-to-date information.*

VMware Horizon Cloud Pod Architecture Configuration

Following VMware's Horizon `*Pod and Block*' design, a single pod can host up to 20,000 sessions; however, a standard best practice is to keep this figure at 10,000 sessions per pod.

When there is a requirement to exceed this session limit of a single pod, multiple pods are created. Using the VMware Horizon Cloud Pod Architecture feature allows for numerous Horizon pods to be logically grouped and will enable users to access virtual desktops from any pod in the federation seamlessly.

Table 1 below shows the total number of sessions available with VMware Horizon 7 version 7.12.

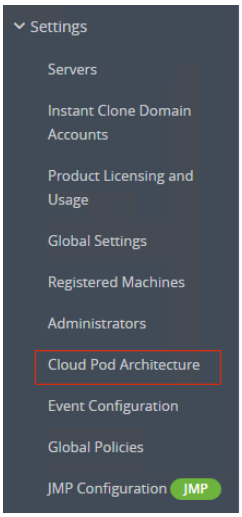
Table 1: Cloud Pod Limits

Object	Limit
Total sessions	250,000
Pods	50
Sessions per pod	12,000
Sites	15
Connection Server instances per pod	7
Total Connection Server instances	350

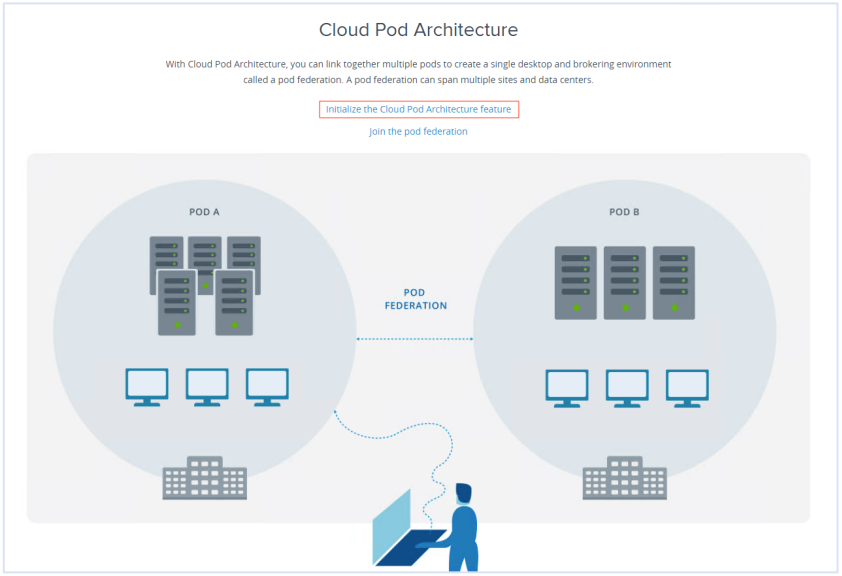
Initialise the First Cloud Pod Architecture

The first step of the process is to initialise the CPA feature. The process starts on the first pod and creates the pod federation (for this guide, this would be the Horizon pod in my primary data centre). It sets up the Global Data Layer on each of the Horizon Connection Servers that share information regarding the topology, user and group entitlements, policies and other configuration data. It also configures the VIPA communication channel that provides information about virtual desktops and shares health status data.

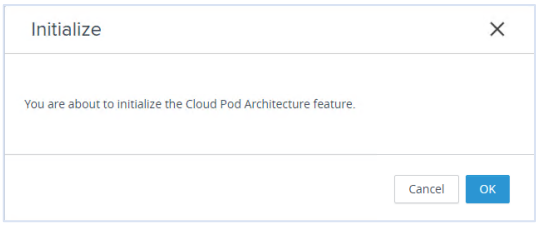
1. Log onto the Horizon Console of any Horizon Connection Server in primary Horizon pod.
2. Under Settings select ***Cloud Pod Architecture***.



3. Click on the ***Initialize the Cloud Pod Architecture feature*** link.

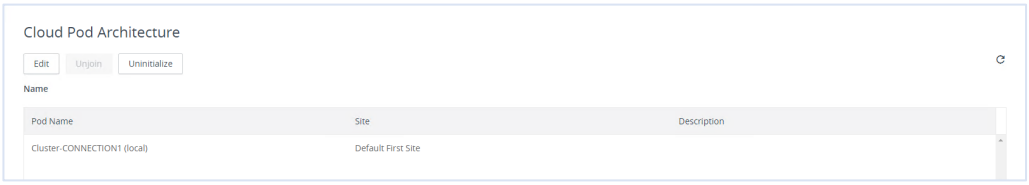


4. A dialogue box will appear confirming that you are about to initialise the CPA feature. Click ***OK***.



5. Each Horizon Connection Server in the pod will start to initialise.

6. Once the pod completes the initialisation, it will display the **Pod Name** along with the **Site** that is created by default (Default First Site).

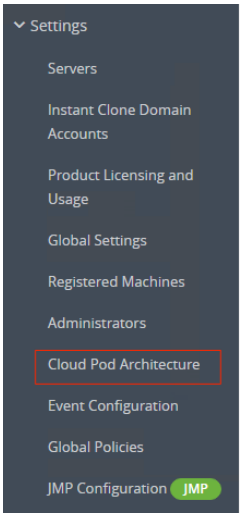


Joining Additional Pods to the Federation

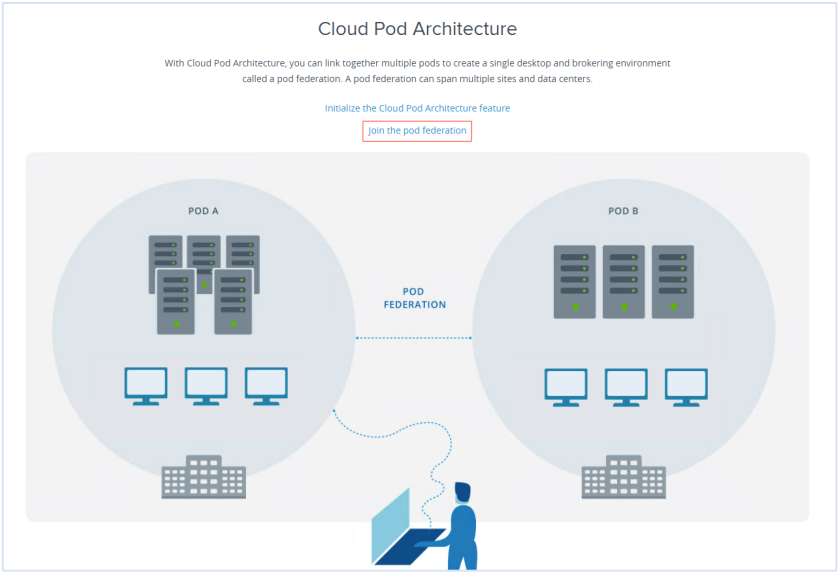
Now that we have successfully created a federation pod that consists of the Horizon pod in the active data centre, the next step is to add the Horizon pod from the passive data centre to this newly created pod federation.

7. Log onto the Horizon Console of any Horizon Connection Server that you want to join the federation, in this case, the secondary data centre Horizon pod.

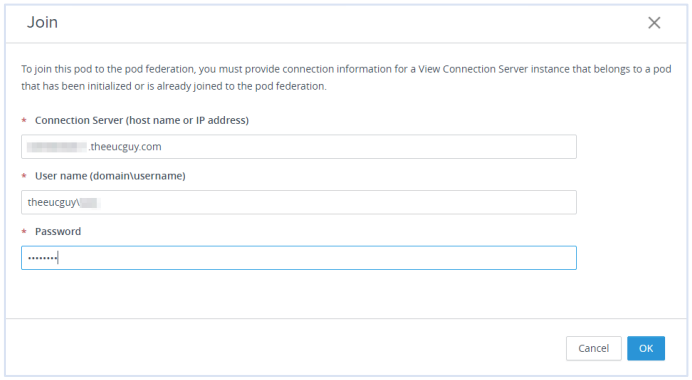
8. Under Settings select *Cloud Pod Architecture*.



9. Click on the *Join the pod federation* link.

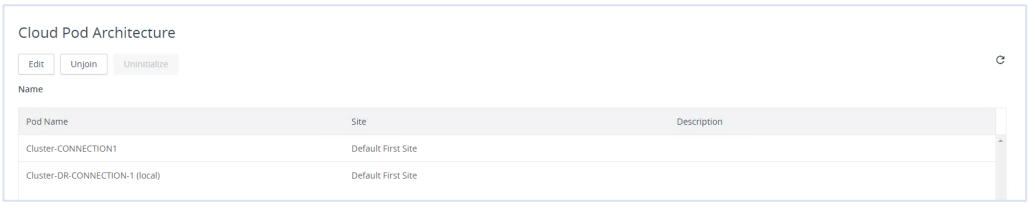


10. A dialogue box will appear requesting information of the Horizon Connection Server belonging to the first pod that has initialised for CPA.
    - Enter the *hostname* or *IP address* of a Horizon Connection Server
    - Specify the *username* and *password* for the Horizon administrator of that pod and click **OK**.



11. Each Horizon Connection Server in the pod will start to join the federation.

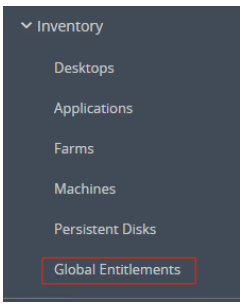
12. When the pod has successfully joined the federation, it will display both the **Pod Name** along with the **Site** for the local pod as well as that of the federated pod.



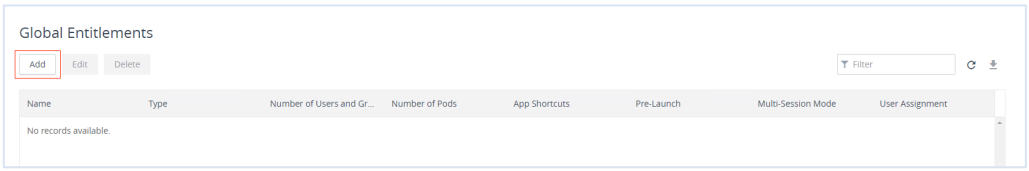
Creating and Configuring the CPA Global Entitlement

At this stage, we have created the pod federation and joined the second pod to it. Next, we need to create and configure global entitlements.

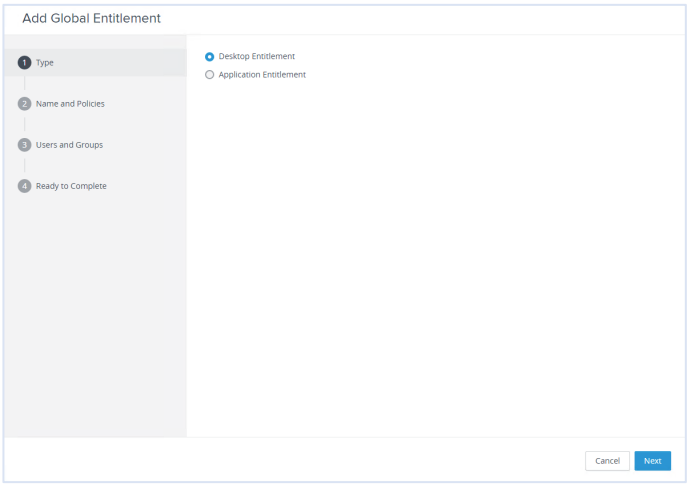
13. Log onto the Horizon Console of any Horizon Connection Server in the federation.
14. Under Inventory select ***Global Entitlements***.



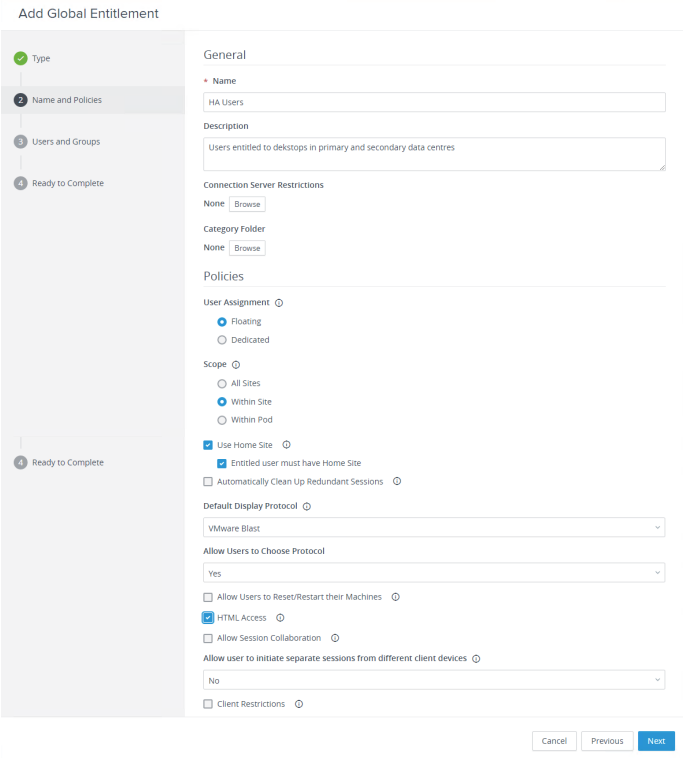
15. Click on the ***Add*** tab.



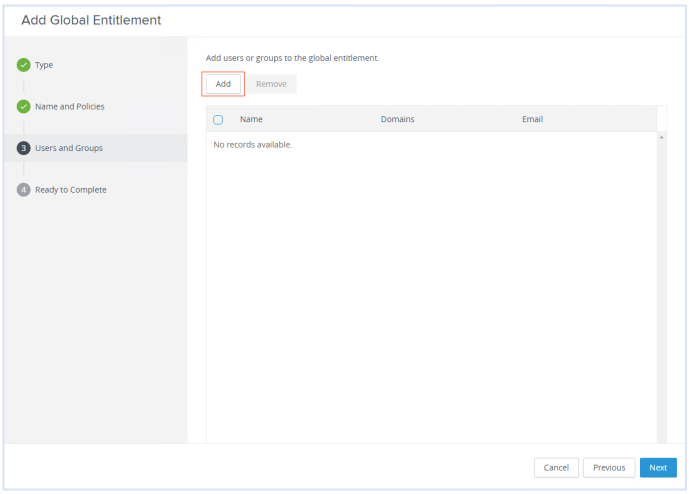
16. Select which type of entitlement you are providing and click ***Next***.



17. Make the selections based on your requirements and click ***Next***.



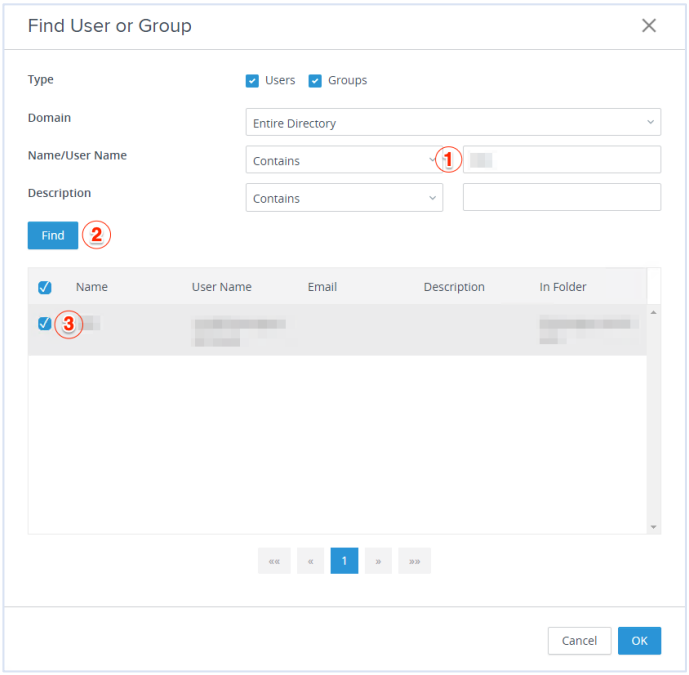
18. To add users or groups to the global entitlement, click the ***Add*** tab.



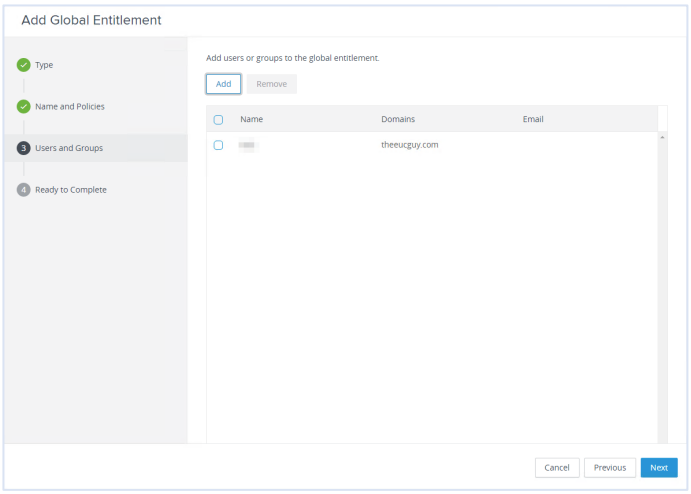
19. 1) Enter the name of the object you wish to search for

    2) Click on ***Find***

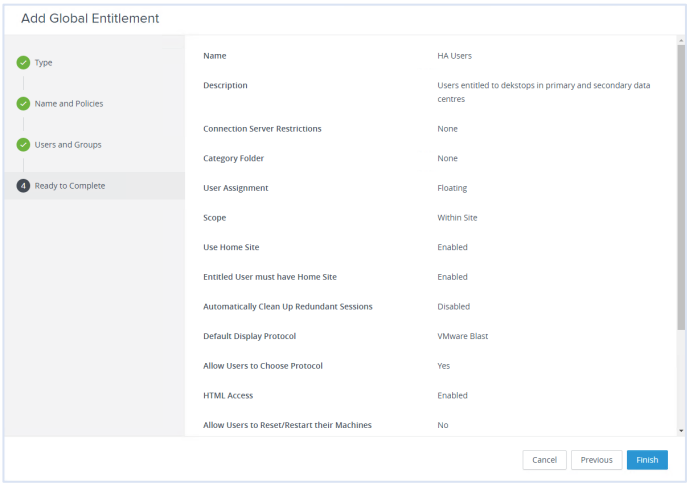
    3) Once the account detail shows, select it and then click ***OK***.



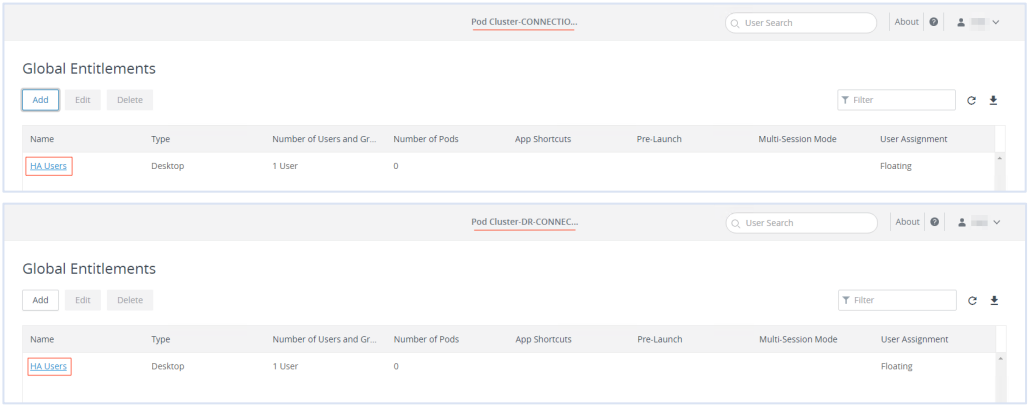
20. Confirm that the user or group is displayed and click ***Next***.



21. Finally, review the settings and click ***Finish***.



22. You can confirm that the global entitlement appears within both Horizon pods in the federation.

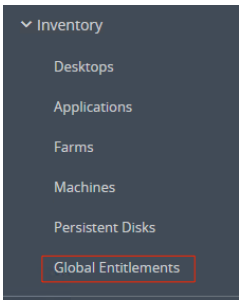


Adding Local Desktop Pools to the Global Entitlement

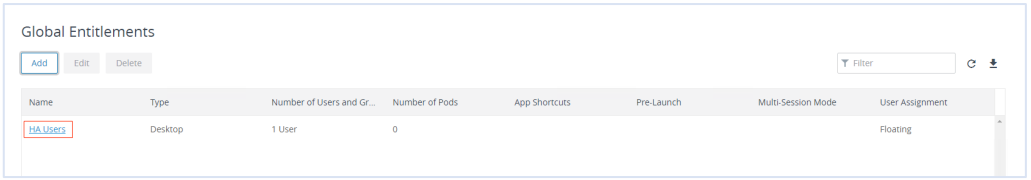
In this step, we add the local desktop pool to the global entitlement that the user can access. Repeat the steps on each Horizon pod that is a member of the federation.

23. Log onto the Horizon Console of any Horizon Connection Server in the active data centre.

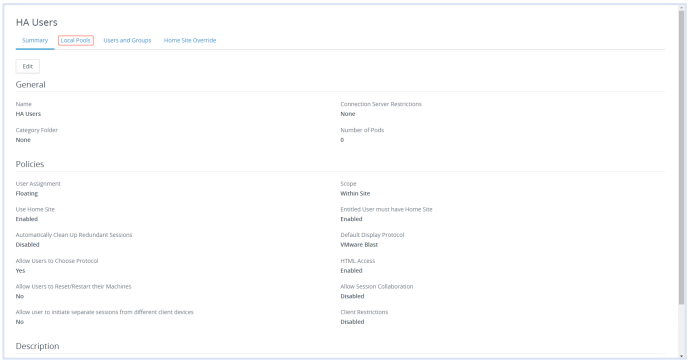
24. Under Inventory select ***Global Entitlements***.



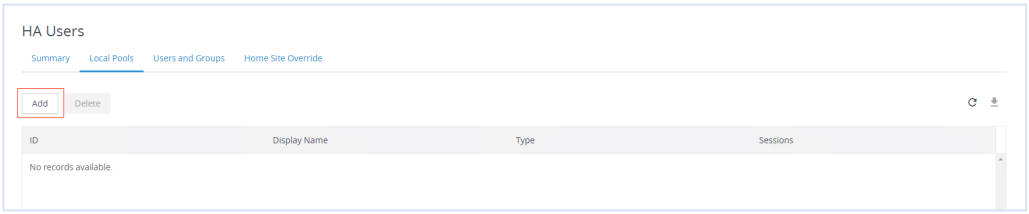
25. Click on the name of the global entitlement that got created earlier.



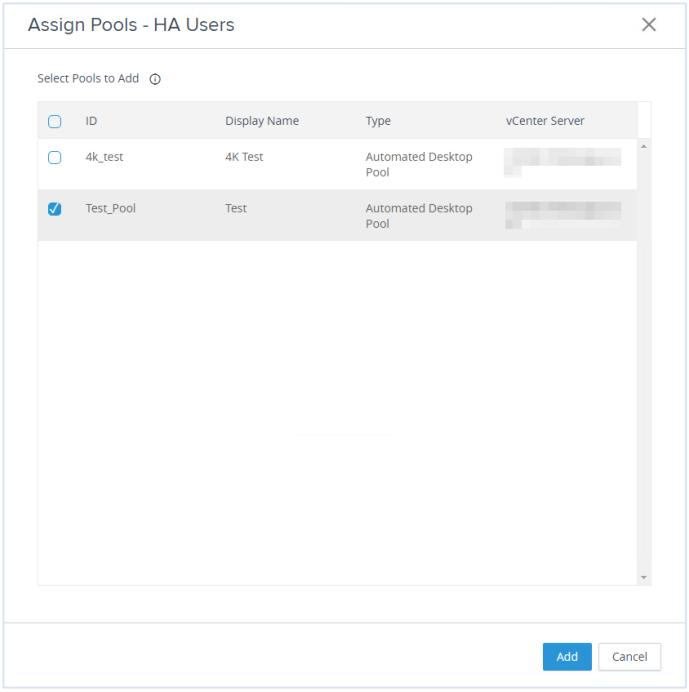
26. Click on the ***Local Pools*** tab.



27. Click ***Add***.



28. Select the desktop pool that will be a member of the global entitlement and click ***Add***.

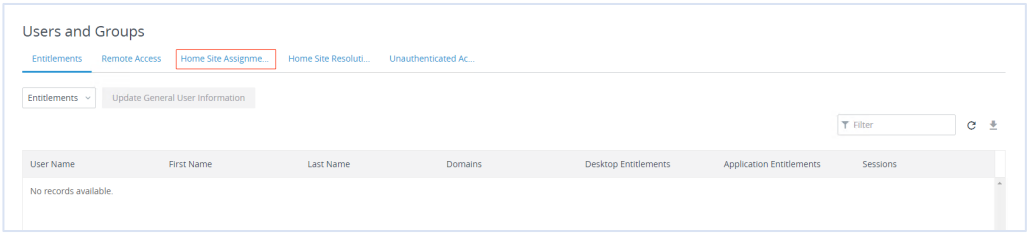


29. Log onto the Horizon Console in the passive data centre and repeat steps **24** to **28** as above, selecting the relevant desktop pool.

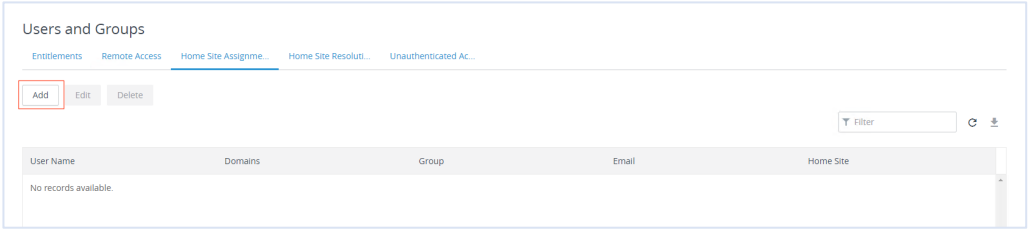
Assigning a Home Site to a User

The scenario for this guide is that all users always connect to the active data centre and only if their virtual desktop is unavailable, would they get a virtual desktop from the passive data centre. Assigning the user to a *home site* means regardless of where the user is connecting from, their virtual desktop comes from the assigned primary Horizon pod.

30. Log onto the Horizon Console of any Horizon Connection Server in the federation
31. Click Users and Groups.
32. Click on ***Home Site Assignment...***



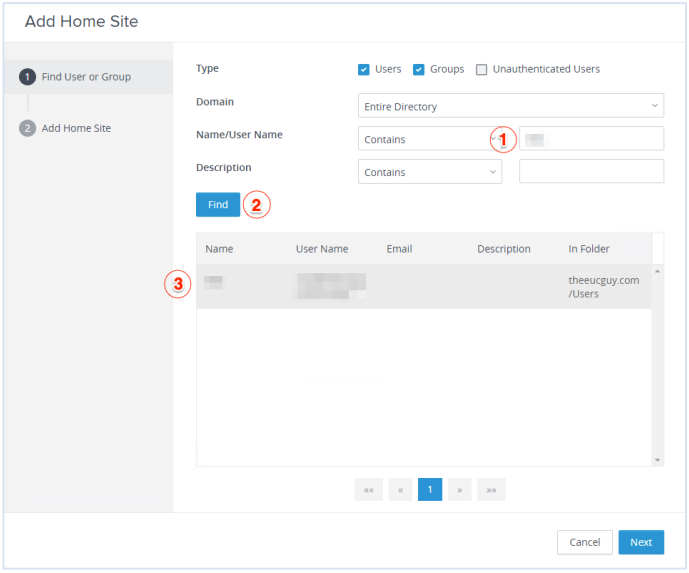
33. Click ***Add***.



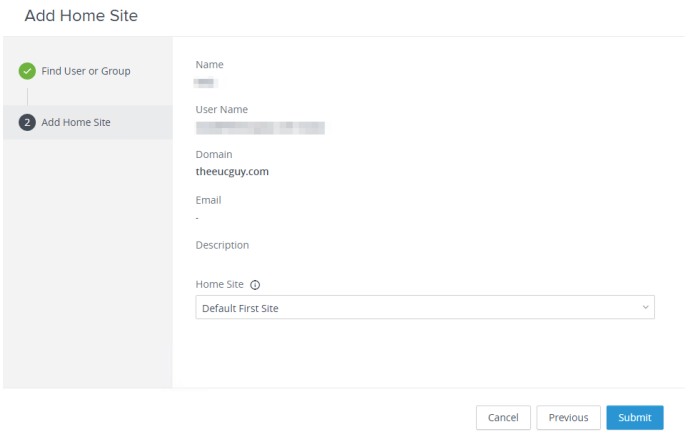
34. 1) Enter the user or group name to search for

    2) Click **Find**

    3) Select the user or group and click ***Next***.



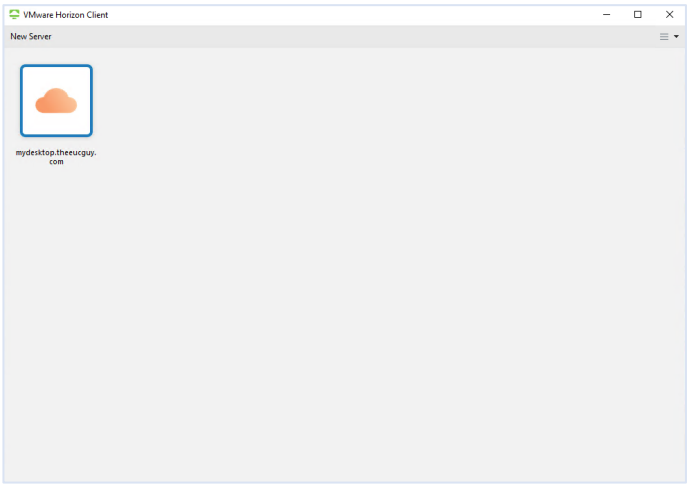
35. If required, change the *Home site* and click ***Submit***.



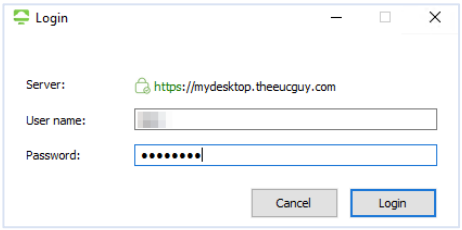
We have concluded the creation of the pod federation, creating a global entitlement, adding local pools to the global entitlement. The next steps would be to test the federation.

Testing the Cloud Pod Architecture

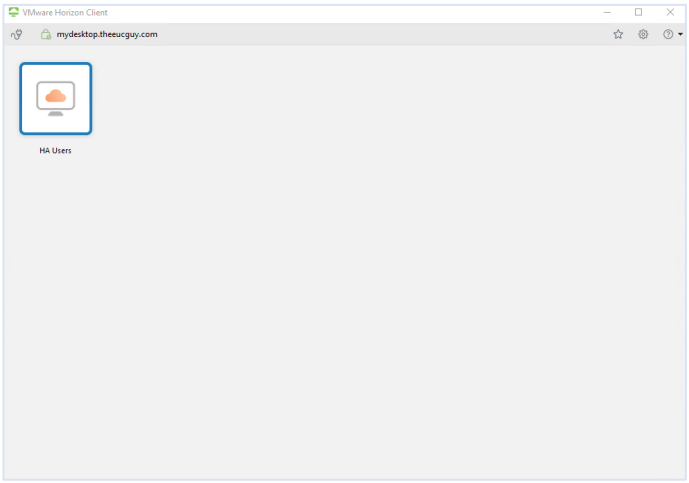
36. Launch the Horizon Client and connect the GSLB URL



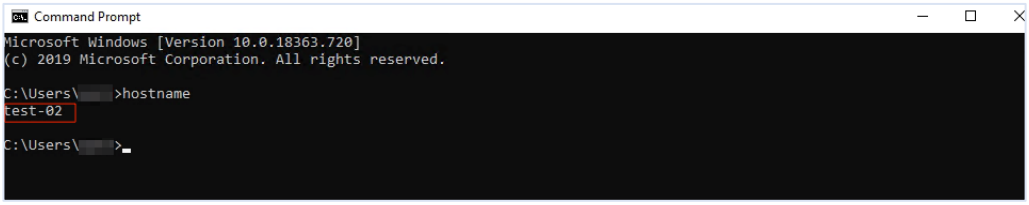
37. When prompted, enter the credentials of the user account entitled to the global pool and click ***Login***.



38. Once successfully authenticated, the user's assigned desktop pool named after the global entitlement that the user is a member of is displayed. ***Double-click*** the pool to launch the virtual desktop.



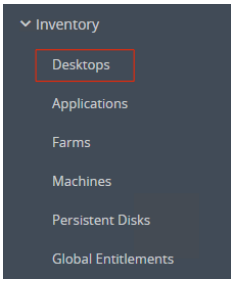
39. The virtual desktop launches from the active data centre Horizon pod's local desktop pool, which is the user's *home site*.



40. Sign out of the virtual desktop.

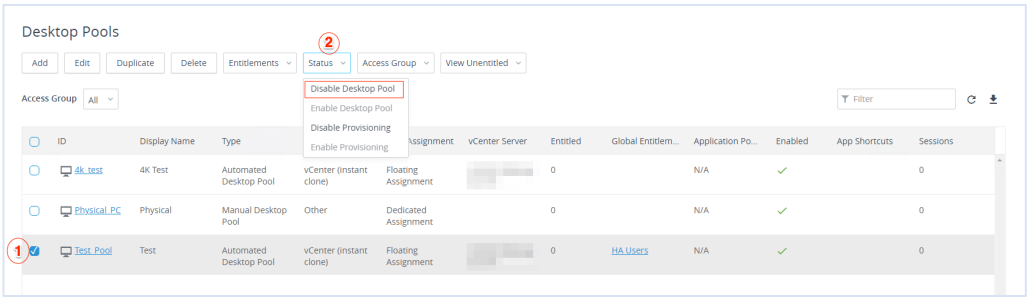
41. Log onto the Horizon Console of any Horizon Connection Server in the active data centre.

42. Under Inventory select ***Desktops***.

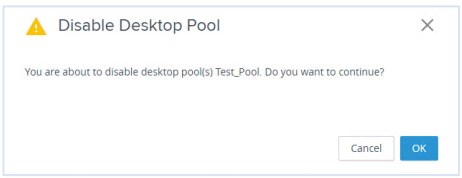


43. 1) Select the local desktop pool that is a member of the global entitlement

    2) Click ***Status*** and then click ***Disable Desktop Pool***.

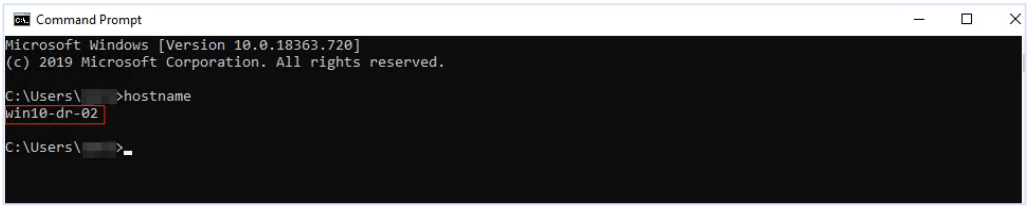


44. A dialogue box will appear warning you that you are about to disable the pool, click ***OK***.



45. Follow steps **36** to **38** as above.

46. Now when you launch the same pool, the virtual desktop is provisioned from the passive data centre as the primary pool is offline to fulfil the requirement. The user is entirely unaware of what is happening in the back-end infrastructure.



47. Bringing the primary pool online again, when the user logs back on to the global pool, their desktop entitlement will be fulfilled by the *home site* pool.

This concludes the configuration of the Horizon Cloud Pod Architecture and brings the end to this guide.