



Configuring WWN Pools

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WWN Pools

A World Wide Name (WWN) pool is a collection of WWNs for use by the Fibre Channel vHBAs in a Cisco UCS domain. You create separate pools for the following:

- WW node names assigned to the vHBA
- WW port names assigned to the vHBA
- Both WW node names and WW port names



Important

A WWN pool can include only WWNNs or WWPNS in the ranges from 20:00:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF:FF:FF. All other WWN ranges are reserved. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNS in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool:
20:00:00:25:B5:XX:XX:XX

If you use WWN pools in service profiles, you do not have to manually configure the WWNs that will be used by the server associated with the service profile. In a system that implements multi-tenancy, you can use a WWN pool to control the WWNs used by each organization.

You assign WWNs to pools in blocks.

WWNN Pools

A WWNN pool is a WWN pool that contains only WW node names. If you include a pool of WWNNs in a service profile, the associated server is assigned a WWNN from that pool.

WWPN Pools

A WWPN pool is a WWN pool that contains only WW port names. If you include a pool of WWPNs in a service profile, the port on each vHBA of the associated server is assigned a WWPN from that pool.

WWxN Pools

A WWxN pool is a WWN pool that contains both WW node names and WW port names. You can specify how many ports per node are created with WWxN pools. The pool size must be a multiple of *ports-per-node* + 1. For example, if you specify 7 ports per node, the pool size must be a multiple of 8. If you specify 63 ports per node, the pool size must be a multiple of 64.

You can use a WWxN pool whenever you select a WWNN or WWPN pool. The WWxN pool must be created before it can be assigned.

- For WWNN pools, the WWxN pool is displayed as an option in the **WWNN Assignment** drop-down list.
- For WWPN pools, choose **Derived** in the **WWPN Assignment** drop-down list.

Creating a WWN Pool



Important

A WWN pool can include only WWNNs or WWPNs in the ranges from 20:00:00:00:00:00:00 to 20:FF:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00 to 5F:FF:FF:FF:FF:FF:FF. All other WWN ranges are reserved. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNs in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool:
20:00:00:25:B5:XX:XX:XX

A WWNN pool with the last four digits ending in 00:01 causes the vHBA to not initialize, no output from the lunlist command, and displays the Waiting for Flogi error. This error occurs if the WWPN is in the same block as the WWNN ending in 00:01. To ensure that the WWNN and WWPN addresses do not overlap, we recommend using a unique WWN address.

Procedure

	Command or Action	Purpose
Step 1	UCS-A# scope org <i>org-name</i>	Enters the organization mode for the specified organization. To enter the root organization mode, enter / as the <i>org-name</i> .
Step 2	UCS-A /org # create wwn-pool <i>wwn-pool-name</i> { node-and-port-wwn-assignment node-wwn-assignment port-wwn-assignment }	Creates a WWN pool with the specified name and purpose, and enters organization WWN pool mode. This can be one of the following: <ul style="list-style-type: none"> • node-and-port-wwn-assignment—Creates a WWxN pool that includes both world wide node names (WWNNs) and world wide port names (WWPNs). • node-wwn-assignment—Creates a WWNN pool that includes only WWNNs.

	Command or Action	Purpose
		<ul style="list-style-type: none"> • port-wwn-assignment—Creates a WWPN pool that includes only WWPNs. <p>This name can be between 1 and 32 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and you cannot change this name after the object is saved.</p>
Step 3	UCS-A /org/wwn-pool # set description <i>description</i>	<p>(Optional) Provides a description for the WWN pool.</p> <p>Note If your description includes spaces, special characters, or punctuation, you must begin and end your description with quotation marks. The quotation marks will not appear in the description field of any show command output.</p>
Step 4	UCS-A /org/wwn-pool # set assignmentorder { default sequential }	<p>This can be one of the following:</p> <ul style="list-style-type: none"> • default—Cisco UCS Manager selects a random identity from the pool. • sequential—Cisco UCS Manager selects the lowest available identity from the pool.
Step 5	UCS-A /org/wwn-pool # set max-ports-per-node { 15-ports-per-node 3-ports-per-node 31-ports-per-node 63-ports-per-node 7-ports-per-node }	<p>For WWxN pools, specify the maximum number of ports that can be assigned to each node name in this pool. The default value is 3-ports-per-node.</p> <p>Note The pool size for WWxN pools must be a multiple of <i>ports-per-node</i> + 1. For example, if you specify 7-ports-per-node, the pool size must be a multiple of 8. If you specify 63-ports-per-node, the pool size must be a multiple of 64.</p>
Step 6	UCS-A /org/wwn-pool # create block <i>first-wwn last-wwn</i>	<p>Creates a block (range) of WWNs, and enters organization WWN pool block mode. You must specify the first and last WWN in the block using the form <i>nn:nn:nn:nn:nn:nn:nn:nn</i>, with the WWNs separated by a space.</p> <p>Note A WWN pool can contain more than one WWN block. To create multiple WWN blocks, you must enter multiple create block commands from organization WWN pool mode.</p>
Step 7	UCS-A /org/wwn-pool/block # exit	Exits organization WWN pool block mode.
Step 8	UCS-A /org/wwn-pool # create initiator <i>wwn wwn</i>	Creates a single initiator for a WWNN or WWPN pool, and enters organization WWN pool initiator mode. You must specify the initiator using the form <i>nn:nn:nn:nn:nn:nn:nn:nn</i> .

	Command or Action	Purpose
		Note A WWNN or WWPN pool can contain more than one initiator. To create multiple initiators, you must enter multiple create initiator commands from organization WWN pool mode.
Step 9	UCS-A /org/wwn-pool/initiator # commit-buffer	Commits the transaction to the system configuration.

The following example shows how to create a WWNN pool named sanpool, provide a description for the pool, specify a block of WWNs and an initiator to be used for the pool, and commit the transaction:

```
UCS-A# scope org /
UCS-A /org # create wwn-pool sanpool node-wwn-assignment
UCS-A /org/wwn-pool* # set descr "This is my WWNN pool"
UCS-A /org/wwn-pool* # create block 20:00:00:25:B5:00:00:00 20:00:00:25:B5:00:00:01
UCS-A /org/wwn-pool/block* # exit
UCS-A /org/wwn-pool* # create initiator 23:00:00:05:AD:1E:02:00
UCS-A /org/wwn-pool/initiator* # commit-buffer
UCS-A /org/wwn-pool/initiator #
```

The following example shows how to create a WWxN pool named sanpool, provide a description for the pool, specify seven ports per node, specify a block of eight WWNs to be used for the pool, and commit the transaction:

```
UCS-A# scope org /
UCS-A /org # create wwn-pool sanpool node-and-port-wwn-assignment
UCS-A /org/wwn-pool* # set descr "This is my WWxN pool"
UCS-A /org/wwn-pool* # set max-ports-per-node 7-ports-per-node
UCS-A /org/wwn-pool* # create block 20:00:00:25:B5:00:00:00 20:00:00:25:B5:00:00:08
UCS-A /org/wwn-pool/block* # commit-buffer
UCS-A /org/wwn-pool/block #
```

What to Do Next

- Include the WWPN pool in a vHBA template.
- Include the WWNN pool in a service profile and template.
- Include the WWxN pool in a service profile and template.

Deleting a WWN Pool

If you delete a pool, Cisco UCS Manager does not reallocate any addresses from that pool that were assigned to vNICs or vHBAs. All assigned addresses from a deleted pool remain with the vNIC or vHBA to which they are assigned until one of the following occurs:

- The associated service profiles are deleted.
- The vNIC or vHBA to which the address is assigned is deleted.
- The vNIC or vHBA is assigned to a different pool.

Procedure

	Command or Action	Purpose
Step 1	UCS-A# scope org <i>org-name</i>	Enters the organization mode for the specified organization. To enter the root organization mode, enter / as the <i>org-name</i> .
Step 2	UCS-A /org # delete wwn-pool <i>pool-name</i>	Deletes the specified WWN pool.
Step 3	UCS-A /org # commit-buffer	Commits the transaction to the system configuration.

The following example shows how to delete the WWN pool named pool4 and commit the transaction:

```
UCS-A# scope org /  
UCS-A /org # delete wwn-pool pool4  
UCS-A /org* # commit-buffer  
UCS-A /org #
```

