

vNetwork Distributed PortGroup (dvPortGroup) configuration

Purpose

This article provides steps for configuring a Network Distributed PortGroup (dvPortGroup)

Resolution

Knowledge Base

dvPortGroup represents a group of dvPorts that share the same configuration template. The configuration is inherited from dvSwitch to dvPortgroup.

Before configuring a dvPortGroup, make sure dvSwitch is present. For more information, see [Configuring vNetwork Distributed Virtual Switch using vCenter \(1010557\)](http://kb.vmware.com/kb/1010557) (<http://kb.vmware.com/kb/1010557>) .

To modify and add dvPortGroups:

1. In vCenter, go to **Home > Inventory > Networking**.
2. Right-click on **dvPortGroup** and click **Edit Settings**.
3. Under dvPortGroup Settings, specify:

- General
- Policies
- Security
- Traffic Shaping
- VLAN
- Teaming and Failover
- Miscellaneous
- Advanced

4. Define the following under the General Settings:

- The name of the portgroup
- A description
- The number of ports available
- The type of Port Binding:
 - **Static Static Binding (Default):** means that the dvPort is assigned to the virtual machine at configuration time. When all the ports are booked by virtual machines, it is not possible to connect to any more virtual machines, regardless of whether the connected virtual machines are powered up or not, and an error message is displayed.
 - **Dynamic Dynamic Binding:** means that the dvPort is assigned at the moment of powering the virtual machine up. This option allows for over committing the number of dvPorts.
 - **None (Ephemeral ports):** (Ephemeral Ports or No Binding) this behavior resembles the behavior in the standard vSwitch. If you select this option, the number of ports are automatically set to 0, and the

Portgroup allocates one port for each connected virtual machine, up to the maximum number of ports available in the Switch.

5. Setting Security:

- **Promiscuous mode:** Allows machines to see the traffic of all the other machines in the vDS.
- **Mac address changes:** Allows virtual machines to receive frames with a Mac Address that is different from the one configured in the VMX.
- **Forged Transmits:** Allows virtual machines to send frames with a Mac Address that is different from the one specified in the VMX.

6. Traffic Shaping policies:

Notes: Allows you to define ingress and egress traffic shaping.

Ingress shaping is a new feature, and available only with dvSwitch (not on vSwitch).

Traffic Shaping concepts:

- **Average Bandwidth:** Target traffic rate cap that the switch tries to enforce. Every time a client uses less than the defined Average Bandwidth, credit builds up.
- **Peak Bandwidth:** Extra bandwidth available, above the Average Bandwidth, for a short burst. The availability of the burst depends on credit accumulated so far.
- **Burst Size:** Amount of traffic that can be transmitted or received at Peak speed (Combining Peak Bandwidth and Burst Size you can calculate the maximum allowed time for the burst).

7. VLAN EST Policies:

Note: Allows you to specify the VLAN behavior of only the dvSwitch.

- **EST** – External Switch Tagging
- **NONE:** Physical equivalent to: No VLAN Tagging
- Standard vSwitch equivalent to: VLAN ID option set to 0

8. VLAN VST Policies:

- **VST** – Virtual Switch Tagging
- **VLAN:** Physical equivalent to: VLAN in Access/Untagged mode
- Standard vSwitch equivalent to: VLAN ID option
- VLAN ID 4095 is not allowed here

9. VGT Policies:

- **VGT** – VLAN Guest Tagging
- **VLAN Trunking:** Physical equivalent to: VLAN in Trunk/Tagged mode
- Standard vSwitch equivalent to: VLAN ID set to 4095
- vDS Only: option to specify the range of VLANs to trunk, to improve security

10. PVLAN Policies:

- **PVLAN** Physical equivalent to: PVLAN
- Standard vSwitch equivalent to: Does not exist
- PVLAN option to specify which Primary and Secondary VLAN to use (Selecting from the list defined in the Switch)

11. Teaming and Failover Policies:

- Load Balancing
- Failover detection
- Notify Switches
- Failback
- Failover order
- Specific Uplink usage

12. Miscellaneous Policies:

- Allows you to block all the dvPorts of the dvPortgroup.

13. The dvPortgroup Advanced subcategory is different from dvSwitch:

- It allows each single dvPort to override the settings of the dvPortgroup.
- Clicking **Edit Override Setting** the VI Admin can also specify which properties to allow/not allow to be override at lower levels.

Additional Information

For more information about configuration options, see the [ESX Configuration Guide](http://www.vmware.com/support/pubs/vs_pubs.html) (http://www.vmware.com/support/pubs/vs_pubs.html).

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