A separate NSX Edge Cluster or not?

During this week's SDDC workshop in Austin, one of the attendees asked this question to my friend.

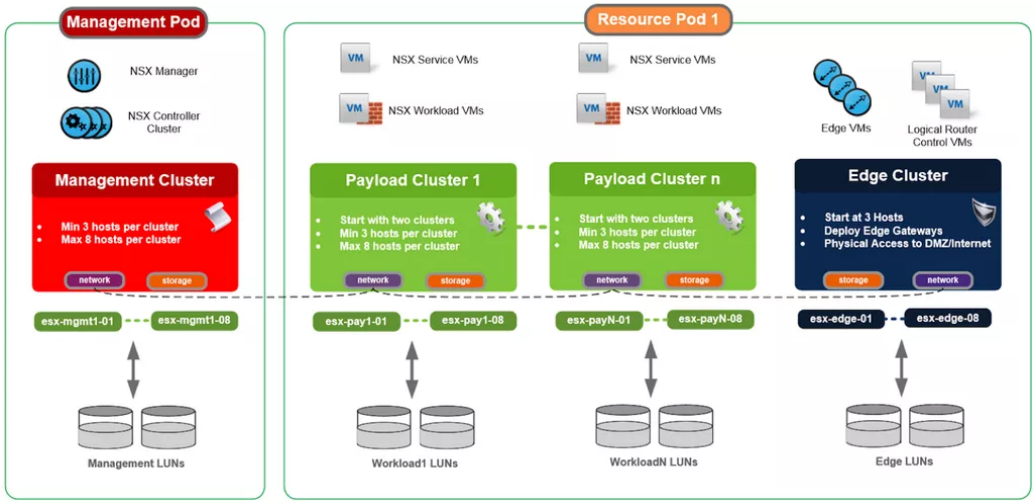
> **What considerations are there for using a separate NSX Edge cluster? When you would, when you wouldn't want to use a separate cluster.**

I know many of you have the same query and this is a repetitive ask from many customers.

These are the considerations that we take, however, there is nothing to mandate.

- NSX Manager and NSX Controller cluster should reside on a Management Cluster where other management components also sit, such as CMP components, monitoring and syslog components etc.
- This management cluster is typically managed through a separate vCenter Server. So NSX Manager sits on Management Cluster, which is managed by the Management vCenter but it registers to the compute vCenter Server.
- The NSX reference design recommends grouping ESXi hosts used for computing in separate clusters striped across dedicated racks. ***The edge and management clusters can instead be combined in a single rack or dedicated racks depending on the scale of the design*** (no mandate). The compute, management and edge clusters are laid out based on the purpose they serve.

So you see its a recommendation to separate out the clusters based on their purpose they serve, but it's not mandatory to put it across. The different purpose of the clusters has been illustrated in the following figure.



Point to be noted:

- For small environments, there is no need for management and edge clusters.
- For medium environments, management and edge clusters might be combined.
- For large environments, there is absolutely a need to separate out the cluster based on their purpose otherwise managing VM sprawl in a single vCenter will be a nightmare for vSphere/Network Admin.

Now let me show you an actual design that does not count for separate Edge Cluster and we counted that as a constraint.

Constraint:

C101	**Target hosts for the edge cluster are not identified due to resource unavailability. Design to accommodate NSX-Manager, Controllers and Gateways on the management cluster.**

Design Decision:

Table 9. vSphere Cluster Split Decision

ID	Design Decision	Design Justification	Design Implication
	For this design, [redacted] has made the decisions listed in this table.		
DD001	Customer will utilize the management cluster as an edge cluster to separate resources for edge devices, but will not do leaf/spine.	[redacted] currently has resource constraints and moreover a Single Provider edge would be deployed in HA with distributed router model in Compute Cluster to provide network services. Edge Cluster requirements to be catered to in future with the new procurement in progress.	No flexibility in design and Management cluster should account for resources to be placed for Networking Services. Also, Management Cluster to be prepared for NSX and added to Network Transport Zone which implies that in case of any issues identified would cause the management cluster to be rebooted. Along with all the VM if failover resources are unavailable.
DD002	Distributed Resource Scheduler anti-affinity rules will be applied to the NSX for vSphere components.	This will avoid components i.e. controllers potentially ending up on the same ESXi host.	No specific implication involved