The tradeoff between Single Enclosure VC Domain and Multi Enclosure VC Domain

The practical and supported VC Domain is Single Enclosure Domain. This is a single enclosure with a pair of VC modules located adjacent. For example VC FlexFabric modules in Bay1 and Bay2.

In this config you need to ensure that X7 and/or X8 on both VC modules are not populated with SFP+ modules.

If you need maximum 1Gb uplinks (that is X5,6,7,8 with 1Gb SFP modules) You can substitute the X7/8 internal connection with a physical external connection.

If you have this config then the VC Domain will be correctly form an internal “Stacking” topology.

From an Infrastructure Operations perspective we prefer Single Enclosure VC Domains.

Tradeoff Factors
****

1. More uplinks and larger volumes of east/west traffic traversing the core (keeping in mind Garter’s figure of East/West traffic increase) .
2. Scaling out the multiple independent single enclosure domain.
3. The risk of customer downtime against business critical workloads.

If a customer has a real business critical workloads these must be located on clusters (Host or Hypervisor) that span at least 2 VC Domains.

That way if the customer needs to undertake some Infrastructure maintenance that will be disruptive they can migrate their business critical workloads completely out of one VC domain, undertake the infrastructure maintenance without impact and network resources serviced by the unpopulated VC domain, recommission it, verify sample business workloads on the newly maintained infrastructure, migrate and redistribute business critical workloads back.

The only place that we see multi enclosure VC domains implemented is when the business can really sustain a loss of that infrastructure.