

InvalidDomain: This allows specifying that a particular Fault Domain is invalid for a specific workload. This is useful in ensuring that a particular service never runs in a particular area, for example for geopolitical or corporate policy reasons

PreferPrimaryDomain: Preferred Primary domain control allows the selection of the fault domain in which the primary should exist if it is possible to do so. When everything is healthy the primary will end up in this domain. Should the domain or the primary replica fail or be shut down for some reason the Primary will be migrated to some other location and when possible, it will move back to the preferred domain

RequireDomainDistribution: Require domain distribution is another option which can be used to prevent some situations. Notice that in the above example it is possible that temporarily multiple replicas are packed into the same datacenter. In this case, the RequireDomainDistribution flag ensures that the replicas are always in separate domains. This means that temporarily the cluster is running at below the target number of replicas until nodes in a viable domain come back. For small numbers of replicas this could result in quorum loss. Since most clusters run with more than 3 replicas, the default is to not require domain distribution and let balancing and failover handle cases normally even if that means that temporarily a domain has multiple replicas packed into it.