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| Use Case Description | Create a zone to host a K8s cluster within a composable DC fabric |
| Actors | Fabric Manager, Resource manager, Composer, Administrator, |
| Description | Use Redfish ‘zone’ object to define a virtual, private network within the larger fabric |
| Normal Flow | * Initial state * Diverse free pools of compute, memory, GPU, HSN, and storage resources are in power savings mode (offline) * Diverse pools of compute, memory, GPU, HSN, and storage resources are available in existing clusters currently in service (online) * Ethernet and online high speed Networks are running * Other virtual clusters (K8s and others) running on the ‘online’ machines * List of cluster members defined. Resources reserved by Composing Manager * Resource data locality-determined * Parses members to make sure that we have free non-associate members * Create a Redfish fabric zone   + Post to the Redfish server handing it a potential new zone—list of endpoints and address pool   + Tracking MAC addresses, IP addresses, LIDs, etc.   + Zone type—zone of zones or zone of endpoints     - Tying IO zones with compute zones for example   + Address pools with overlay and underlay addressing   + Restrict the zones to a specific set of addresses---apply to an address pool |
| Normal Flow | Composing Manager:   * Parse the list of cluster members * Query cluster member endpoints for membership in existing ‘zones’   + Validate isolation   + What about multi-zone membership? * Create a Redfish fabric zone object based on Redfish schema   + Do we need an OFMF utility to do this?   + Fill in the endpoints (resources) to be contained in the zone   + How do we indicate address pool restrictions?   + Do we indicate an optional ‘make symmetric connections’ task at the same call? <not needed if endpoint groups> * Post the Redfish zone object to the OFMF’s resource tree   + Create the address pool first and then tie the zone to it   OFMF:   * OFMF: parse the HTTP request and post a new zone * OFMF: calculate the new route table entries and patch appropriate switch or router table entries, if enabled   + policy may not enable routes until connections are enabled * OFMF: update (patch) appropriate endpoint objects * OFMF: update hardware as appropriate * OFMF: respond to client with success * If you do a post of an address zone, we need to be able to check to make sure address pools are not duplicated.   + Redfish will provide the checks as the provider   + Isolate the fabric types? * Verify the zone contains the endpoints * The hardware must match the Redfish model. * Inform the DHCP server that an event occurred.   Scenario:  Event broadcast to subscribing fabric members  GCID   * Routing id per endpoint and switch * Requestor/responder,   Gen-Z requires   * Zone status * Links to endpoints and links to involved switches * Links to resource blocks---contain composable resource point to a Redfish structure * Resource identifier * External accessibility---defines internal and external permissions, additionally * Default routing * Zone type---zone of endpoints or a zone of zones * Default type * Link to address pools that sets up constraints * Contained by zones * Contains zones pointer * Actions----adding and removing endpoints---just added and they trigger event notifications |
| Alternate Flow 1 |  |