Discovery of HPA related information in MultiCloud

Please refer to the design spec for details

https://gerrit.onap.org/r/#/c/29419/2/docs/specs/MultiCloud-HPA-Discovery-design.rst

Proposed alternative solutions to discover HPA information
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While it is up to each MultiCloud Plugin service to determine how to discover HPA information, there are several alternative solutions to accomplish such discovery process.

Solution 1: Hard-coded discovery

The MultiCloud services are designed in the way that there will be specific plugin service to adapting ONAP into specific type or flavor of VIM/Cloud, so the specific MultiCloud plugin service is tightly coupled with the corresponding VIM/Cloud type or flavor. If some kinds of HPA information are statically pertaining to a VIM/Cloud type or flavor and invariant between different instance, it will be possible to hard coding this HPA information into the corresponding MultiCloud Plugin Service. One example is that Titanium Cloud comes along with builtin HPA feature of vswitch with DPDK support, so this HPA information will be hard-coded into MultiCloud plugin service for Wind River Titanium Cloud.

Solution 2: Manually discovery

There are some kinds of HPA information which vary between instances of the same VIM/Cloud type, but will be invariant during the whole life-cycle of that instance. These information can be manually injected into ONAP during the VIM/Cloud instance onboarding process. There is a field named "cloud extra info" from the ESR VIM registration portal, ONAP users could input the extra information into ONAP which will be stored into AAI (refer to property of "cloud-extra-info" of /cloud-infrastructure/cloud-regions /cloud-region/{cloud-owner}/{cloud-region-id}). So when MultiCloud Plugin Service are invoked to discover HPA information, the cloud extra information will be decoded to check if there are HPA information can be extracted and represented into AAI.

Solution 3: Automatically discovery

There are some other kinds of HPA information which changes dynamically during the life-cycle of a VIM/Cloud instance, so we have to discover them leveraging some automation approach. While different VIM/Cloud type of flavor exposes different approach to support the automatical discovery with respect to HPA resources, the approach is quite straight-forward for OpenStack. For those HPA information will be consumed by specifying the extra specs of a flavor, VIM/Cloud administrators could provision these flavor's extra specs with HPA information before onboarding the VIM/Cloud instance into ONAP. After VIM/Cloud onboarding to ONAP, MultiCloud Plugin Service for OpenStack will extract these HPA information from the extra specs of the flavors and represent them into AAI.