How to add a new cloud region and some thoughts

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Agenda

• Status quo: tricky approach to onboard a Cloud Region

• Discrepancy: the assumptions and the constraint

• Workaround in short term

• Solution in long term
Status quo: Tricky approach to onboard a Cloud Region

- To add a new Cloud Region for ONAP orchestration
  - Add a Cloud Region Object into AAI
  - Add a cloud-site in SO
  - Launch another Robot VM
    - Provision with new VIM/Cloud information via heat env file
    - It will dedicatedly manage the new cloud region
    - Not sure if it really works since it seems the cloud owner/region id are hard-coded in Robot when it talks to A&AI

- wiki for detail instructions
  https://wiki.onap.org/pages/viewpage.action?pageId=25431491
Discrepancy: the assumptions and the constraint

- **Robot/VID/SDNC assume**
  - assume that “cloud-owner” is hard-coded as “CloudOwner”
  - “cloud-region-id” is used to identify a VIM/Cloud instance so it is expected to be unique globally

- **Robot assumes**
  - “cloud-region-id” being the “region id” of underlying OpenStack
  - Robot use this cloud-region-id to make request to underlying VIM/Cloud instance.

- **Constraint resulted by assumptions above:**
  - No more than 1 VIM/Cloud instance with same “region id” is not allowed to be represented in ONAP
  - Cloud Owner cannot be value other than “CloudOwner”.
Workaround in short term: compose and pass “vim-id”

- **Context:**
  - The API between SO and SDNC does not pass cloud-owner, it only specifies cloud-region-id.

- **The practice of MultiCloud (hence its consumers):**
  - concatenate cloud-owner and cloud-region-id to be one string named “vim-id”
  - the format is: `{vim-id} = {cloud-owner}_{cloud-region-id}`
  - Decode the `{vim-id}` into “cloud-owner” and “cloud-region-id” by looking for the first “_” in the `{vim-id}`
  - Constraint: `{cloud-owner}` can be arbitrary string except “_”

- **Proposed workaround in short term:**
  - VID LCP list:
    - populate the list with list of `{vim-id}` instead of `{cloud-region-id}`
    - Pass the `{vim-id}` to SO instead of `{cloud-region-id}`
  - SO and SDNC:
    - Accept the `{vim-id}` as input and decode it into `{cloud-owner}` and `{cloud-region-id}`
    - Fetch cloud region information from AAI
    - Keep the API between SO and SDNC intact, but pass `{vim-id}` instead of `{cloud-region-id}` to specify the cloud region
  - Robot:
    - Do not use hard-code cloud owner and cloud region id
    - Ask users to specify the cloud region via `{cloud-owner}` and `{cloud-region-id}`
    - Fetch the cloud region information from A&AI.

- **This workaround**
  - guarantees the centralized representation of VIM/Cloud instance in ONAP
  - Simplifies the registration of new VIM/Cloud instance into ONAP
  - Minimize the changes to ONAP components
Solution in long term: specify cloud region by composed key

• Purpose:
  - Get rid of the constraint imposed by th workaround in short term
  - format of {vim-id}: {cloud-owner} can be arbitrary string except “_”

• Principle:
  - Centralized representation of VIM/Cloud instance in A&AI
  - Mandate exposed APIs of all components: Specify the cloud region by composed key: {cloud-owner}, {cloud-region-id}

• Transition approach
  - Keep the API with {vim-id} intact
  - Add new API to support composed key of {cloud-owner}, {cloud-region-id}
  - Depreciate the usage of APIs with {vim-id} in future
Suggested action plan

• **ARC subcommittee**
  - In B Release, finalize the format of \{vim-id\}, candidates:
    • \{vim-id\} = \{cloud-owner\}\_\{cloud-region-id\}, depreciated since cloud-owner can use "_"
    • \{vim-id\} = \{cloud-owner\}.\{cloud-region-id\}
    • \{vim-id\} = \{cloud-owner\}#\{cloud-region-id\}

• **VID**
  - In B Release, uses \{vim-id\} instead of \{cloud-region-id\}

• **SO/SDNC**
  - In B Release, use \{vim-id\} instead of \{cloud-region-id\}
  - In C Release, leverage A&AI for representation of VIM/Cloud instance

• **Robot**
  - In B Release, allow users to specify \{vim-id\} whenever executing scripts
  - In B Release, leverages A&AI for representation of VIM/Cloud instance

• **MultiCloud/VFC**
  - In B Release, renew the \{vim-id\} according to the format finalized by ARC subcommittee
Suggestions?
谢谢