

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

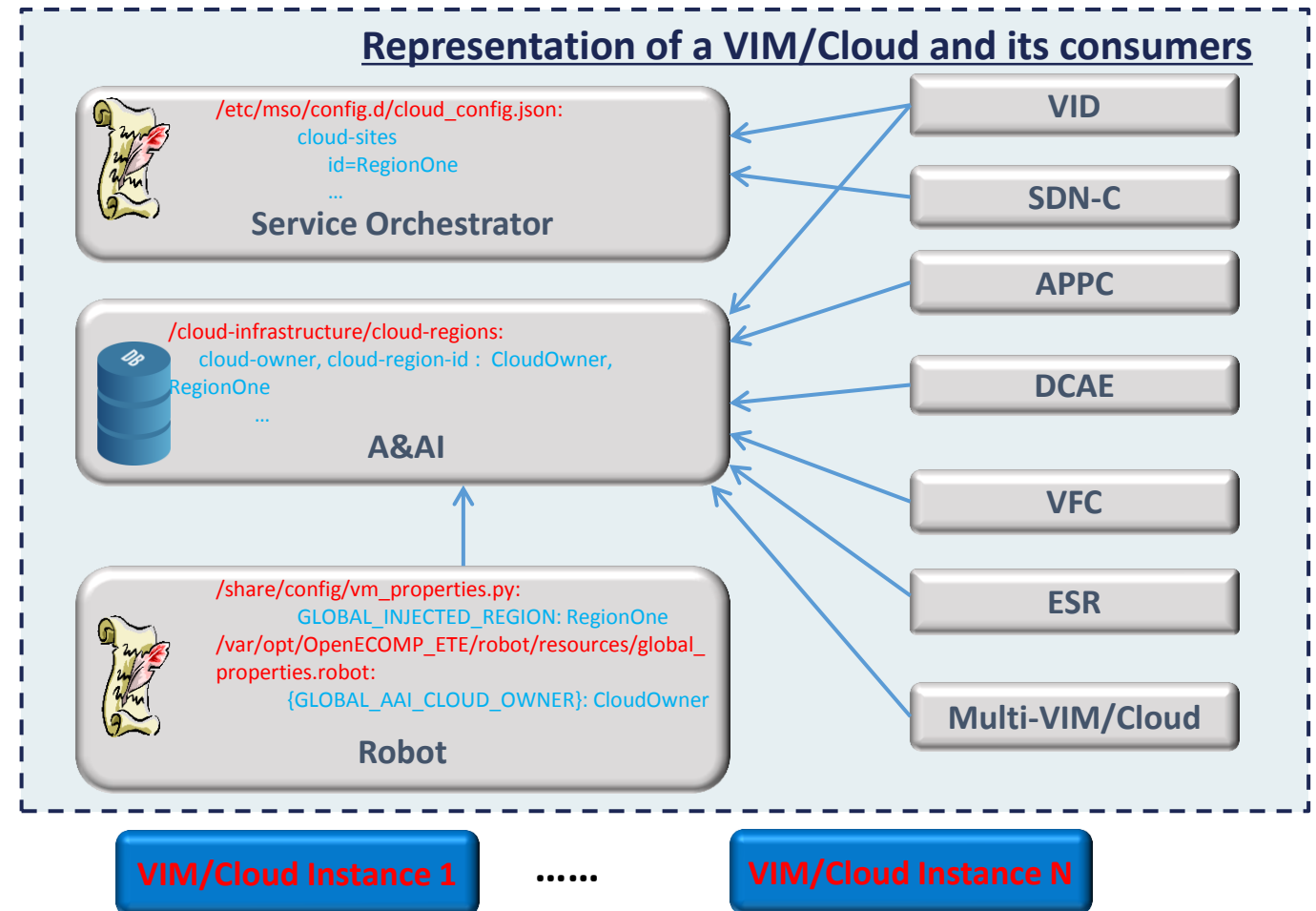
Status quo: Tricky approach to onboard a Cloud Region

- 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}, deprecated 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?



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谢谢