2024-03-13 Meeting notes

Agenda:

Risk :

No common lab found to test the components (FOCOM, NFO (ETSi and K8s), DMS, OAI and Nephio).

Taiwan Lab-

One O-Cloud server is being helped from Taiwan lab - Bimo would to provide the details.

OAI lab -

Procurement of the servers is in progress. Sagar - would be updating us on this.

West and East coast Labs

Challenging to get the labs at the moment - James

Powder servers would be a temp soln, weather it would be applicable to this integration - Need to investigate this further - Sagar

India Lab

Capgemini - Vishal would get back on this.

Japan Lab

OTIC - Toshi would check this part and update.

Cosmos Lab

The lab is still not available - Martin

Contingency plan:

We would use the Taiwan Lab for the testing using the VM for SMO as a starting point.

This would be temp soln and would need to be mitigated asap.
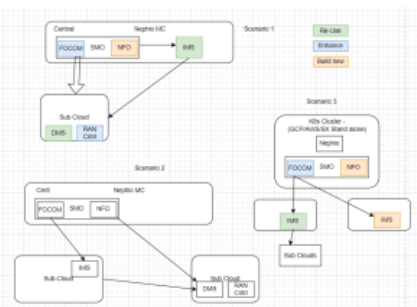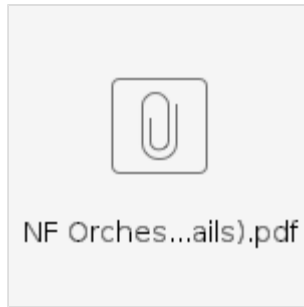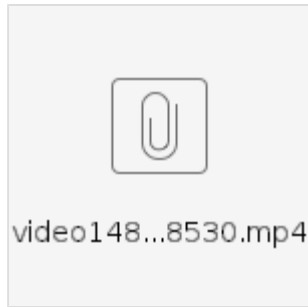
Mitigation Plan:

To have a dedicated lab to test the E2E scenario, to help OAI with the needful approvals to accelerate the lab setup.

J release:

Updates from Nephio, OAI integration work.

Create the Epics and stories for the

- ETSi DMS (through Tacker) - Toshi
  - OAI oDU to be instantiation through the ETSi Profile (Tacker)
  - **Stretch :** FM Data from the OAI oDU (**TB Checked on API and workload**) if can be generated and captured by the Tacker (This is in-line to the Plugfest NA (Dec -2023) usecase).
    - Action 1 : Seshu to check with OAI team on the possibilities. ODU PTL (Ankit) to be checked for the example implemented in the OSC.
      - 2 : Toshi To discuss the E2E scope of this functionality. (Involve OAM)
  - PM Data would be a **future scope** item.
    - 3GPP File based are already supported by RIC- John
    - Stream based is open - John.
- FOCOM - Seshu
- NFO K8s Profile - Seshu

- **Recording:**

2024-01-31:

J Release targets:

ETSI DMS profile enhancement.

https://wiki.o-ran-sc.org/download/attachments/35881444/Tacker%20J-Release_for%20SMO_Jan_rev1.pptx?api=v2

K8s profile Integration to the SMO code - Draft.

2024-01-10:

I release status.

OAI integration

J release proposal.

- discuss

2023-12-20:

ORAN NA Plugfest update

- https://oranalliance.atlassian.net/wiki/spaces/PLUG/pages/2907668584/O-RAN+Internal+presentations+-+PF+Fall+2023

I release management:

- I want to merge the following patches
- https://gerrit.o-ran-sc.org/r/c/smo/o2/+/12180
- https://gerrit.o-ran-sc.org/r/c/smo/o2/+/12169
- https://gerrit.o-ran-sc.org/r/c/smo/o2/+/11738
- https://gerrit.o-ran-sc.org/r/c/smo/o2/+/11886
- https://gerrit.o-ran-sc.org/r/c/smo/o2/+/11280
- Then, I want to update release note based on the above.
- https://gerrit.o-ran-sc.org/r/c/smo/o2/+/12400

2023-11-22:

ORAN NA Plugfest details

Pre-requisite:

- Setup the Lab
- **O-Cloud with the edge is already brought up. –(showcased in 2022)**
- **Tacker is deployed on the O-Cloud- Showcased in H release.**

2023 is focus is on the ETSi profile

- **Deploy tacker on the top of the O-Cloud – 2023.**
- **Get the new resource (sub-cloud / edge) details. - queries the info from the O2 IMS deployment Mgr. – 2023 - Shashi - Done**

- **Gather all the DMS instances on the subclouds that are created from the IMS - Get query -2023 – Shashi - Done**
- **FOCOM to the OCloud Deploy Mgr -** Shahsi

FM data of APP and connectivity to Tacker notification? - Toshi san to update us by Monday 27th Nov 2023.

Integrate the APp data with the Callback function - Shashi

VNF DMS API of WG6 - Provided by Kuno San

https://docs.openstack.org/api-ref/nfv-orchestration/v2/vnffm.html

https://oranalliance.atlassian.net/wiki/download/attachments/2210595103/O-RAN.WG6.O2DMS-INTERFACE-ETSI-NFV-PROFILE-R003-v05.00.02.docx?api=v2

https://www.etsi.org/deliver/etsi_gs/NFV-SOL/001_099/003/04.03.01_60/gs_NFV-SOL003v040301p.pdf

ORAN Plugfest NA.pptm
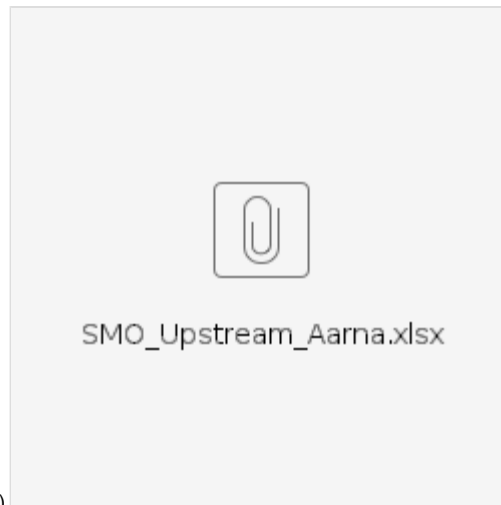
Nephio SIG-1 - WG2 integration with OSC:

Nephio Deck (5,6)

SMO (FOCOM/NFO) functionality:

      a. Would the SMO be able to have the ability to define an O-Cloud and then support the registration of the O-Cloud via the IMS interface?
      b. Would the SMO be able to deploy a packaged O-RAN using the K8s DMS profile?
      c. If so then we can do the use cases (bolded) in slide 5, 6. The others would be incorporated once the SMO supports those features (e.g., inventory, O-Cloud retrieval)
2. O-RAN NF
      a. Can we at least 1 O-RAN NF (say O-CU CP) and deploy that package via the SMO/NFO? (This would mean the package would have to be in the format the SMO could understand)
      b. Can use O1 to change the configuration of an O-RAN NF (e.g., DU) – what, if anything, do we want to show regarding the O1 interface? Sagar said: DU we can configure via O1 and get the heartbeat. Can the SMO support this type of change?

Previous Agenda

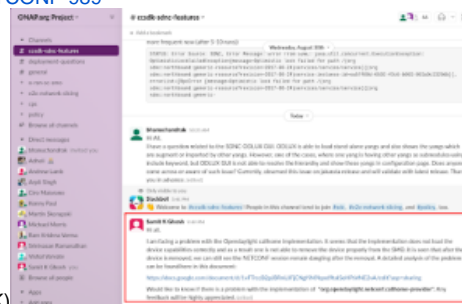**23-11-27**

SMO_Upstream_Aarna.xlsx

1. O-RAN SMO enhancements - Aarna Networks (Bhanu and Sandeep)
2. **Problem Statement:** While trying to remove the device, the callhome device doesn't get removed and the mount point that we're trying to remove is not found.
   Impact: Customer will not be able to remove the call home device from SMO
   Workaround: None. In the worst case scenario, restarting of the call home device or disconnecting the netconf client will work which may not be a viable option for the customer
   RCA: Document Attached
   Community JIRA: https://jira.opendaylight.org/browse/NETCONF-989

   Community Forum: Attached the image (in ONAP CCSDK)
3. Continuation to the previous discussion on ONAP SO vs SMO
   a. Planning to have a discussion on the Nephio R2 F2F meeting - to talk on how these communities can collaborate in the long run
   b. Operator based, ASD, integration points across these communities and see how can we leverage the functionalities.
   c. Timo, Seshu and Byung to participate and present the ideas around the topic.
   d. ONAP E2E orch, Nephio domain and ORAN for the RAN specific workloads as a starting point.
   e. (Byung) Sana discussed on WG1 Nephio on how the NFVO and other components would interact.

Prev Discussion items -

2023-09-13

ONAP SO vs SMO sync - Byung and Seshu

Discuss on the ONAP Service orch pieces that could come handy to the SMO.

ASD, Inventory, IMS and DMS, E2E orch flow...

IMS :

once a a sub cloud is created we need that details to be avaialble to the DMS.

ETSi - profile - Tacker

The Tacker will be through helm deployment will be done on top of the OCloud,

This Tacker will then help the SMO to deploy the workloads of ETSi specific.

Tacker talks to the O-Cloud for the DMS operations - this uses the ETSi specifications and translates it internally uses the K8s APIs for the deployment.

K8s Profile - CNF orch piece of the ONAP SO

Inventory - persist the info of the clouds that are created in the Day 1.

This inventory should be the transition for all the sub-sequent operations in the SMO and further down to the other components of the ORAN(-SC).

Demo of using ONAP SO CNFM for LCM of ASD-based functions (NONRTRIC team in May 2023):

- 2023-05-17 "LCM of ASD-based CNFs using ONAP CNFM function in Standalone mode" Aravindhan Ayyanathan
- At RSAC committee Meeting (17 May 2023)
- Demonstrate ASD-based LCM for CNFs using a cut-down version of the CNFM function originally from the ONAP SO project. The function can be used in standalone mode without the need for the rest of SO, A&AI or SDC.
- See *Video (HD), Video (SD)* and *Slides* for more information
- Will add link to the ASD archives ...

Actions Items:

Stories under the Epic for the ETSi profile DMS to be created - Toshi.

30th Aug 2023

Create Stories under the Epic for the I release and follow up.

This is the current target for the I release

- Tacker would be integrated with Inf project and DMS interfaces would be tested .
- Tacker should continue the H release effort and then take it forward
- Who would start the flow (David)
    - We would start with the interfaces with the inf (Seshu)
    - This is ok, but need to also make sure we would need the other components in the SMO in the long run. need to check when and how long would it take to reach it.
- O2 should have some way in IMS to register that would help us to make the connect to the DMS, DMS would be exposed and consumed but we would need to have the connect to have the E2E registration between the IMS to the DMS flow. (David)
- This would also include the parts of the inventory that would need to be on the FoCOM part that needs to be exposed and consumed by the DMS and deploy the workloads (Seshu and David)
- Missing part is not described in ORAN yet but in ONAP with the interactions with the inventory function (Shankar).
- E2E flow would be to have the FoCOM and NFO to have the interactions and have the handsoff with the change in the inventory record, the nature of the de-coupled SMO would not have the explicit event to DMS.
- A messaging bus with a pub-sub would be ideal to have to this transition notified.

SMO to OAM

- Toshi CRs for the possible flows on the SMO in the WG1 - (need to reexamine and start it to see how would it help us to have the above points addressed).
- Try to influence the WG1 with a sample implementation.
- Restore the older flows of Toshi and put them up for the upcoming meetings. (David).

2nd Aug 2023

Review the ETSi profile DMS slide deck through Tacker flows and prep for RSAC meeting.

Find the integration points,

correct the ETSi sol definitions around the APIs,

Architecture diagram to be reviewed from the E2E flow.

Test cases to be reviewed if and when they are ready.

Energy Saving
Rittwiki

4 capacity cells and coverage cell in center, generate the PM metrics (Like throughput) and use it for AI ML mode testing.

The ask is was to check if we have a simulator that can generate such a data can be used dynamic based on the time of the day.

Once they are generated they can be used by the AI ML project and then the rApp projects to simulate the required data and validate the flows.

Step 1: Detect / predict, through AI ML body.

Step 2 : once detected we should be able to perform action through the rApp. handle the users and switch off the cell.

Alex confirms we don't have a ready to use simulator yet but needs to check if that can be made available.

This can further be checked in ToC meeting this week.

30 Aug 2023:

Data set from Tim would be a starter.

Viavi volunteered to help and test it

Train a model and Bimo (Taiwan) would help

Connect Udi with Ritwik for Energy efficiency Plugfest data. - **Seshu**

Details	Item	Who	Notes
ONAP SO vs SMO sync	I release	Byung	

- The placement of the Tacker code needs to be clarified - Toshiaki.
- Update the flow diagram for the homing, inventory and deployment of the NFs using tacker - Toshiaki
- Test case to be used - co-ordinate with Integration team - CSAR package from the prev package - Toshiaki
    - Step 1 : A simple app that can be considered as a low lying fruit to validate the flow
    - Step 2:
    - Possibilities are VNFM Radisys OCU / OAI-OCU for the E2E flow testing once they are ready
    - NRT RiC that could be deployed on oCloud.
- The FM data on O2 is available in Nov 2022, on O2 IMS.
    - @David Kinsey
    - This need to be validated and on the IMS part and DMS needs to be clarification.
    - ORAN-SC-INF has already validated the FM data part in their release package.
    - PM would be available by March 2024
    - @Yuya Kuno : Currently O-RAN WG6 is pending on FM/PM of O2dms, but O2dms of NFV-Profile started to develop FM/PM based on SOL002/SOL003 by Nov train.

2023-08-23 Meeting notes:

Details	Item	Who	Notes

Recording

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chat.txt