Onboarding tutorial with an open source network function Kamailio
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Onboarding tutorial with an open source networking function Kamailio
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Introduction to Kamailio

- Robust and Performant SIP (RFC3261) Server
- SIP Routing Capabilities
- Transport Layers
- Asynchronous Processing
- Secure Communication
- IP and DNS
- Accounting
- IMS
Introduction to Kamailio
Kamailio Network Service

• Containerized Network Function
• 2 workloads
  • Kamailio: SIP Server
  • Sipp: SIP Client
Source code

- VNFd and NSd:
  https://osm.etsi.org/gitlab/vnf-onboarding/osm-packages/-/tree/master/charm-packages/kamailio

- Kamailio operator:
  https://github.com/davigar15/kamailio-operator

- Sipp operator:
  https://github.com/davigar15/sipp-operator
Onboarding steps

Add VIM account

$ osm vim-create --name hackfest --account_type dummy

Add K8s cluster

$ osm k8scluster-add --creds kubeconfig.yaml --version v1 --vim hackfest --k8s-nets '{"net1": osm-ext}' --description "K8s cluster" hackfest-k8s

Upload VNFd and NSd

$ git clone https://osm.etsi.org/gitlab/vnf-onboarding/osm-packages.git && cd osm-packages/charm-packages/kamailio
$ osm nfpkg-create kamailio_knf/
$ osm nspkg-create kamailio_ns/

Deploy NS instance

$ osm ns-create --ns_name kamailio-k8s --nsd_name kamailio_ns --vim_account hackfest

IMPORTANT! HACKFEST PARTICIPANTS: These steps were already made for you.
Checks

Check the state of the Network Service

$ osm ns-list

<table>
<thead>
<tr>
<th>ns instance name</th>
<th>id</th>
<th>date</th>
<th>ns state</th>
<th>current operation</th>
<th>error details</th>
</tr>
</thead>
<tbody>
<tr>
<td>kamailio-k8s</td>
<td>a555d879-26ac-436f-9504-3242ca0f1520</td>
<td>2022-01-21T13:13:04</td>
<td>READY</td>
<td>IDLE (None)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

To get the history of all operations over a NS, run "osm ns-op-list NS_ID"

For more details on the current operation, run "osm ns-op-show OPERATION_ID"

Check the deployed list of Network Functions

$ osm vnf-list

<table>
<thead>
<tr>
<th>vnf id</th>
<th>name</th>
<th>ns id</th>
<th>vnf member index</th>
<th>vnfd name</th>
<th>vim account id</th>
<th>ip address</th>
</tr>
</thead>
<tbody>
<tr>
<td>e1c6306f-...</td>
<td>-</td>
<td>a555d879-...</td>
<td>kamailio</td>
<td>kamailio_cnf</td>
<td>f47c57f5-9870-43fc-9bbe-61fca571a56</td>
<td>None</td>
</tr>
</tbody>
</table>
Execute day-2 operations

Stop the Kamailio service

$ osm ns-action --action_name stop \  
    --vnf_name kamailio \  
    --kdu_name kamailio-kdu \  
    kamailio-k8s

Start the Kamailio service

$ osm ns-action --action_name start \  
    --vnf_name kamailio \  
    --kdu_name kamailio-kdu \  
    kamailio-k8s
Clean up

Remove the network service
$ osm ns-delete kamailio-k8s --wait

Remove the descriptors
$ osm nsd-delete kamailio_ns
$ osm vnfd-delete kamailio_cnf
What’s next?

“What are day-2 operations?”

• Define day-2 operations
• Explain how to add day-2 operations to NF
• Focus on K8s