

Tutorial: Verifying and Observing a deployed Service Instance

- vFirewall Demo Runtime Behaviour
 - vFirewall Flow
 - SDC Distribution Flow
 - Default Traffic Generator



Warning: Draft Content

This wiki is under construction

<<Add steps to observe closed loop control>>

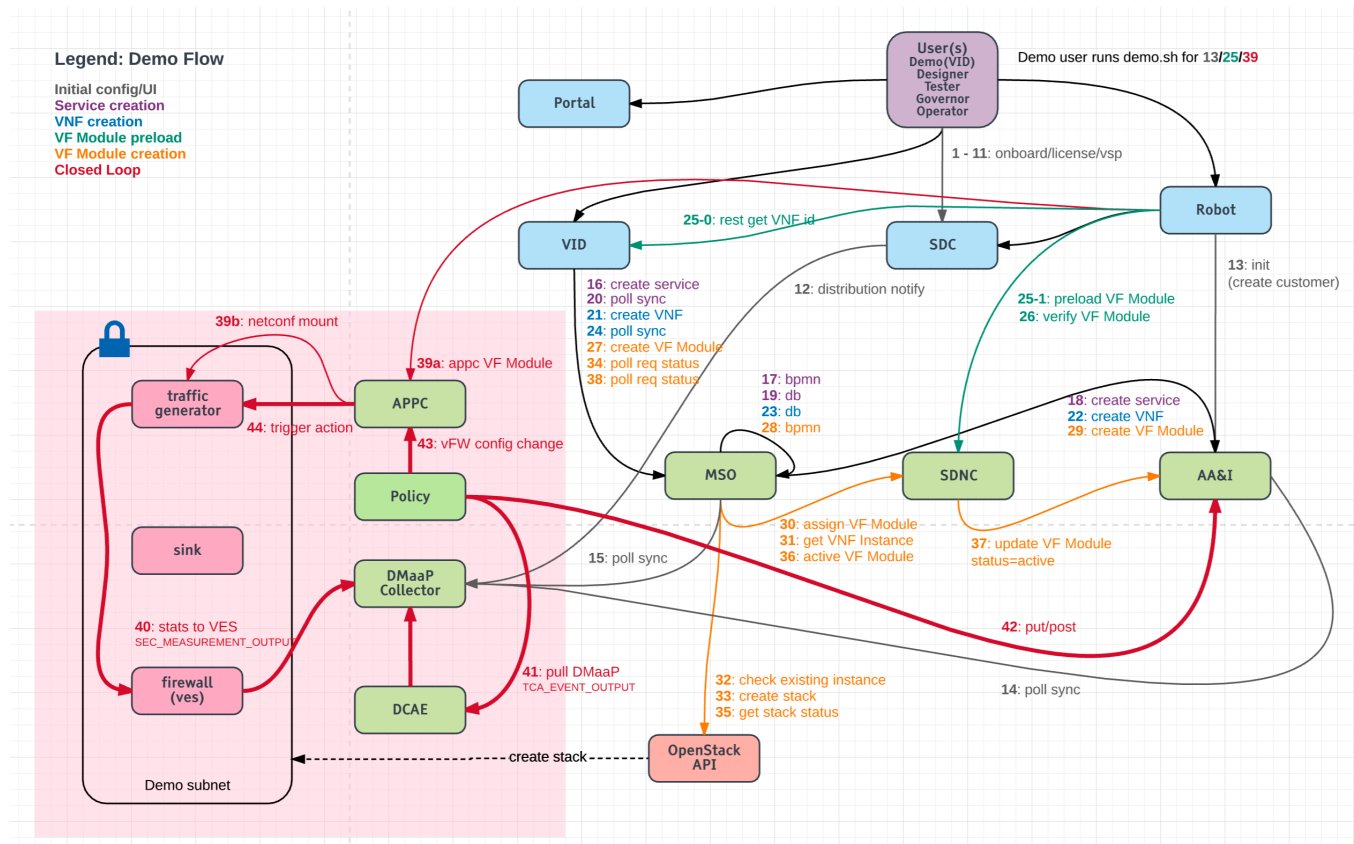
For version 1.0.0 - Start with the section at and below "___Closedloop for vFirewall demo:___" in <https://nexus.onap.org/content/sites/raw/org.openecomp.demo/README.md> For example when packet throughput drops below 300 or rises above 700 packets/sec.

vFirewall Demo Runtime Behaviour

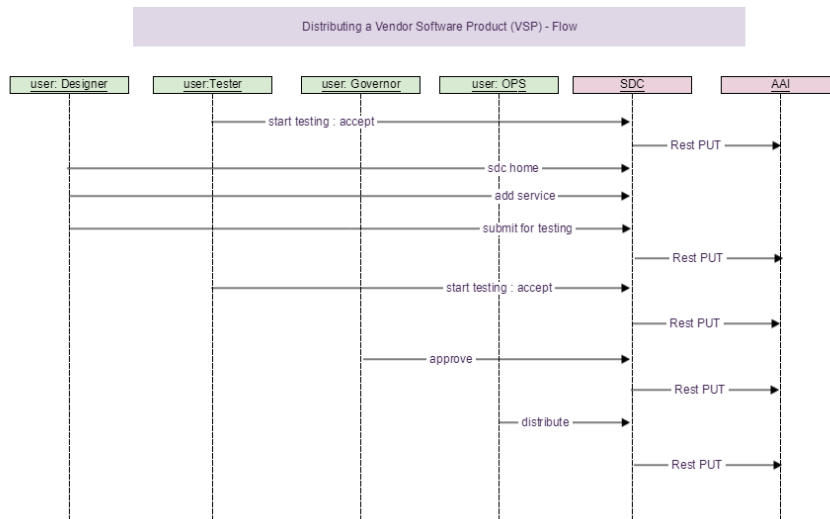
vFirewall Flow

see also [Log Streaming Compliance and API#DeploymentDependencyTree-Containerlevel](#)

TODO: part 12 SDC distribution is missing AAI calls and needs a reverify - while robot 13+ are ok, we are not accounting for manual SDC based distribution



SDC Distribution Flow



TODO: expand on 43: policy to appc, also reverify 41 pull TCA

Default Traffic Generator

The following default traffic should be observed out of the box on the PGN vm of the vFW demo after `./demo.sh appc DemoModule` was run.

Verify network traffic by getting your eth interface name and running tcpdump on it

```

ifconfig
sudo tcpdump -i <ifname>
  
```

How many of the 10 TG streams is running is TBD?

Screenshot 2017-06-08 15.37.43

Search

.245.148:667

Apps

Amdocs

ONAP w

AWS

Azure

GCE

obrienlabs

Rackspace

LucidCha

darkstat 3.0.715

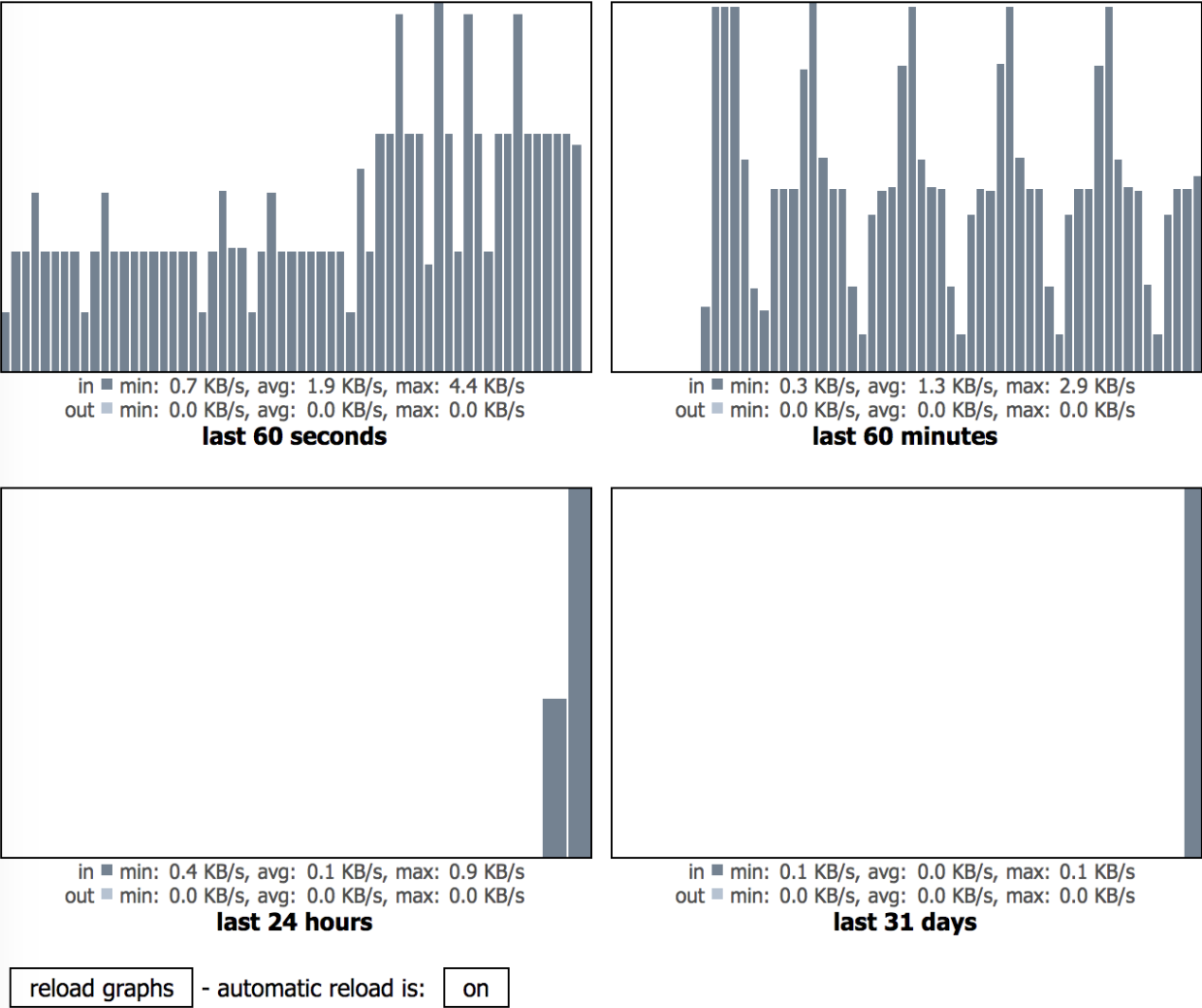
graphs

hosts

homepage

Graphs

Running for 49 mins, 53 secs, since 2017-06-08 18:47:49 UTC+0000.
 Total 4,689,793 bytes, in 161,717 packets. (161,758 captured, 0 dropped)



TBD: the exact nature of what enabling 5 of the 10 TGs is?

```

obrienbiometrics:onap michaelobrien$ curl -X PUT -H "Authorization: Basic YWRtaW46YWRtaW4=" -H "Content-Type: application/json" -H "Cache-Control: no-cache" -d '{"pg-streams":{"pg-stream":{"id":"fw_udp1", "is-enabled":"true"}, {"id":"fw_udp2", "is-enabled":"true"}, {"id":"fw_udp3", "is-enabled":"true"}, {"id":"fw_udp4", "is-enabled":"true"}, {"id":"fw_udp5", "is-enabled":"true"}}}' "http://10.0.8183/restconf/config/sample-plugin:sample-p
login/pg-streams
obrienbiometrics:onap michaelobrien$

```

TBD: what exactly is the correlation between the SEC_MEASUREMENT_OUTPUT and TCA_EVENT_OUTPUT (Threshold crossing action) - like a PK to relate them?

Runner Import

Builder Team Library

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Filter

History Collections

All Me Team

Open ECOMP
116 requests

A&AI

CDAP analytics

GET TCA get CPU average

GET TCA get VNF list

GET TCA get CPU values

GET TCA get workflow schedule

GET TCA get workflow next run t...

POST TCA start workflow

GET TCA workflow STATUS

POST TCA suspend workflow sche...

POST TCA resume workflow sched...

Central Dmaap

GET POLICY-CL-MGT

GET APPC-CL

GET PDPD-CONFIGURATION

DCAE Collector Dmaap

GET TCA_EVENT_OUTPUT

GET SEC_MEASUREMENT_OUTPUT

MSO

GET encrypt password

POST Create service Instance

DEL Delete service Instance

SEC_MEASUREMENT_OUTPUT

GET http://{{collector_ip}}:3904/events/unauthenticated.SEC_MEASUREMENT_OUTPUT/group3/sub1?timeout=3000

Params Send Save

Authorization Headers (2) Body Pre-request Script Tests

Type No Auth

Body Cookies Headers (7) Tests

Status: 200 OK Time: 951 ms

Pretty Raw Preview JSON

```
1- [
2-   {
3-     "event": {
4-       "measurementsForVfScalingFields": {
5-         "measurementInterval": 10,
6-         "measurementsForVfScalingVersion": 1.1,
7-         "vnicUsageArray": [
8-           {
9-             "multicastPacketsIn": 0,
10-            "bytesIn": 16819,
11-            "unicastPacketsIn": 0,
12-            "multicastPacketsOut": 0,
13-            "broadcastPacketsOut": 0,
14-            "packetsOut": 5,
15-            "bytesOut": 322,
16-            "broadcastPacketsIn": 0,
17-            "packetsIn": 580,
18-            "unicastPacketsOut": 0,
19-            "vnicIdentifier": "eth1"
20-          }
21-        ],
22-        "commonEventHeader": {
23-          "reportingEntityName": "demofw101fwl",
24-          "startEpochMicrosec": 149694765342901,
25-          "lastEpochMicrosec": 1496947645342901,
26-          "eventId": 1,
27-          "sourceName": "Dummy VM name - No Metadata available",
28-          "sequence": 1,
29-          "priority": "Normal",
30-          "functionalRole": "Firewall",
31-          "domain": "measurementsForVfScaling",
32-          "reportingEntityId": "No UUID available",
33-          "sourceId": "Dummy VM UUID - No Metadata available",
34-          "version": 1.2
35-        }
36-      }
37-    },
38-    {
39-      "event": {
40-        "measurementsForVfScalingFields": {
41-          "measurementInterval": 10,
42-          "measurementsForVfScalingVersion": 1.1,
43-          "vnicUsageArray": [
44-            {
45-              "multicastPacketsIn": 0,
46-              "bytesIn": 29058,
47-              "unicastPacketsIn": 0,
48-              "multicastPacketsOut": 0,
49-              "broadcastPacketsOut": 0,
50-              "packetsOut": 0,
51-              "bytesOut": 0,
52-              "broadcastPacketsIn": 0,
53-              "packetsIn": 1004,
54-              "unicastPacketsOut": 0,
55-              "vnicIdentifier": "eth1"
56-            }
57-          ],
58-          "commonEventHeader": {
59-            "reportingEntityName": "demofw101fwl",
60-            "startEpochMicrosec": 149694765342901,
61-            "lastEpochMicrosec": 1496947655373969,
62-            "eventId": 2,
63-            "sourceName": "Dummy VM name - No Metadata available",
64-            "sequence": 2,
65-            "priority": "Normal",
66-            "functionalRole": "Firewall",
67-            "domain": "measurementsForVfScaling",
68-            "reportingEntityId": "No UUID available",
69-            "sourceId": "Dummy VM UUID - No Metadata available",
70-            "version": 1.2
71-          }
72-        }
73-      }
74-    },
75-    {
76-      "event": {
77-        "measurementsForVfScalingFields": {
78-          "measurementInterval": 10,
79-          "measurementsForVfScalingVersion": 1.1,
80-          "vnicUsageArray": [
81-            {
82-              "multicastPacketsIn": 0,
83-              "bytesIn": 29232,
84-              "unicastPacketsIn": 0,
85-              "multicastPacketsOut": 0,
86-              "broadcastPacketsOut": 0,
87-              "packetsOut": 0,
88-              "bytesOut": 0,
89-              "broadcastPacketsIn": 0,
90-              "packetsIn": 1006,
91-              "unicastPacketsOut": 0,
92-              "vnicIdentifier": "eth1"
93-            }
94-          ],
95-          "commonEventHeader": {
96-            "reportingEntityName": "demofw101fwl",
97-            "startEpochMicrosec": 1496947655405344,
98-            "lastEpochMicrosec": 1496947665405344,
99-            "eventId": 3,
100-            "sourceName": "Dummy VM name - No Metadata available",
101-            "sequence": 3,
102-            "priority": "Normal",
103-            "functionalRole": "Firewall",
104-            "domain": "measurementsForVfScaling",
105-            "reportingEntityId": "No UUID available",
106-            "sourceId": "Dummy VM UUID - No Metadata available",
107-            "version": 1.2
108-          }
109-        }
110-      }
111-    },
112-    {
113-      "event": {
114-        "measurementsForVfScalingFields": {
115-          "measurementInterval": 10,
116-          "measurementsForVfScalingVersion": 1.1,
117-          "vnicUsageArray": [
118-            {
119-              "multicastPacketsIn": 0,
120-              "bytesIn": 29029,
121-              "unicastPacketsIn": 0,
122-              "multicastPacketsOut": 0,
123-              "broadcastPacketsOut": 0,
124-              "packetsOut": 0,
125-              "bytesOut": 0,
126-              "broadcastPacketsIn": 0,
127-              "packetsIn": 1003,
128-              "unicastPacketsOut": 0,
129-              "vnicIdentifier": "eth1"
130-            }
131-          ],
132-          "commonEventHeader": {
133-            "reportingEntityName": "demofw101fwl",
134-            "startEpochMicrosec": 1496947665441611,
135-            "lastEpochMicrosec": 1496947675441611,
136-            "eventId": 4,
137-            "sourceName": "Dummy VM name - No Metadata available",
138-            "sequence": 4,
139-            "priority": "Normal",
140-            "functionalRole": "Firewall",
141-            "domain": "measurementsForVfScaling",
142-            "reportingEntityId": "No UUID available",
143-            "sourceId": "Dummy VM UUID - No Metadata available",
144-            "version": 1.2
145-          }
146-        }
147-      }
148-    },
149-    {
150-      "event": {
151-        "measurementsForVfScalingFields": {
152-          "measurementInterval": 10,
153-          "measurementsForVfScalingVersion": 1.1,
154-          "vnicUsageArray": [
155-            {
156-              "multicastPacketsIn": 0,
157-              "bytesIn": 29261,
158-              "unicastPacketsIn": 0,
159-              "multicastPacketsOut": 0,
160-              "broadcastPacketsOut": 0,
161-              "packetsOut": 0,
162-              "bytesOut": 0,
163-              "broadcastPacketsIn": 0,
164-              "packetsIn": 1005,
165-              "unicastPacketsOut": 0,
166-              "vnicIdentifier": "eth1"
167-            }
168-          ],
169-          "commonEventHeader": {
170-            "reportingEntityName": "demofw101fwl",
171-            "startEpochMicrosec": 1496947675471491,
172-            "lastEpochMicrosec": 1496947685471491,
173-            "eventId": 5,
174-            "sourceName": "Dummy VM name - No Metadata available",
175-            "sequence": 5,
176-            "priority": "Normal",
177-            "functionalRole": "Firewall",
178-            "domain": "measurementsForVfScaling",
179-            "reportingEntityId": "No UUID available",
180-            "sourceId": "Dummy VM UUID - No Metadata available",
181-            "version": 1.2
182-          }
183-        }
184-      }
185-    }
186-  ]
187- ]
```

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GET TCA_EVENT_OUTPUT

GET SEC_MEASUREMENT_OUTPUT

MSO

GET encrypt password

POST Create service Instance

DEL Delete service Instance

TCA_EVENT_OUTPUT

GET http://{{collector_ip}}:3904/events/unauthenticated.TCA_EVENT_OUTPUT/group3/sub1?timeout=30000

Params Send Save

Authorization Headers (2) Body Pre-request Script Tests

Type No Auth

Body Cookies Headers (15) Tests

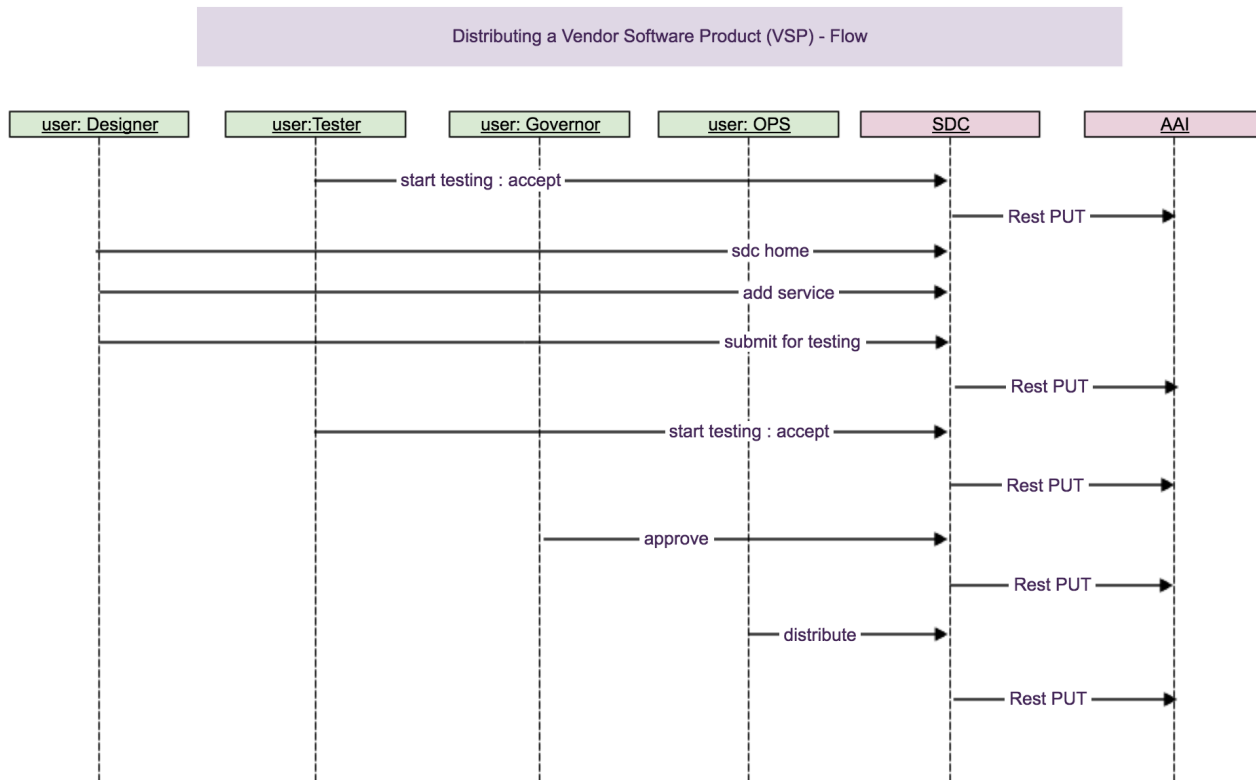
Status: 200 OK Time: 931 ms

Pretty Raw Preview JSON

```
1- [
2-   {
3-     "closedLoopEventClient": {
4-       "DCAE_INSTANCE_ID.dcae-tca",
5-       "policyVersion": "1.0.0.5",
6-       "policyName": "vFirewall",
7-       "policyScope": "resource=SampleResource,service=SampleService,type=SampleType,closedLoopControlName=SampleClosedLoop,target_type=VNF",
8-       "AAI": {
9-         "generic-vnf.vnf-id": "demofw101fwl",
10-        "closedLoopAlarmStart": 1496947665441611,
11-        "closedLoopEventStatus": "ONSET",
12-        "closedLoopControlName": "CL-FRML-Low-Traffic-SIG-d925ed73-8231-4d02-9545-d4e101f88f8",
13-        "version": "1.0.2",
14-        "target": "generic-vnf.vnf-id",
15-        "requestID": "9ec1e17-bd4e-48f6-8e3e-6b19c33cd9d9",
16-        "from": "DCAE"
17-      }
18-    },
19-    {
20-      "closedLoopEventClient": {
21-        "DCAE_INSTANCE_ID.dcae-tca",
22-        "policyVersion": "1.0.0.5",
23-        "policyName": "vFirewall",
24-        "policyScope": "resource=SampleResource,service=SampleService,type=SampleType,closedLoopControlName=SampleClosedLoop,target_type=VNF",
25-        "AAI": {
26-          "generic-vnf.vnf-id": "demofw101fwl",
27-          "closedLoopAlarmStart": 1496947685498955,
28-          "closedLoopEventStatus": "ONSET",
29-          "closedLoopControlName": "CL-FRML-Low-Traffic-SIG-d925ed73-8231-4d02-9545-d4e101f88f8",
30-          "version": "1.0.2",
31-          "target": "generic-vnf.vnf-id",
32-          "requestID": "0911ed37-697e-4410-8938-4d895a3377c3",
33-          "from": "DCAE"
34-        }
35-      },
36-      {
37-        "closedLoopEventClient": {
38-          "DCAE_INSTANCE_ID.dcae-tca",
39-          "policyVersion": "1.0.0.5",
40-          "policyName": "vFirewall",
41-          "policyScope": "resource=SampleResource,service=SampleService,type=SampleType,closedLoopControlName=SampleClosedLoop,target_type=VNF",
42-          "AAI": {
43-            "generic-vnf.vnf-id": "demofw101fwl",
44-            "closedLoopAlarmStart": 1496947695530332,
45-            "closedLoopEventStatus": "ONSET",
46-            "closedLoopControlName": "CL-FRML-Low-Traffic-SIG-d925ed73-8231-4d02-9545-d4e101f88f8",
47-            "version": "1.0.2",
48-            "target": "generic-vnf.vnf-id",
49-            "requestID": "b0f5c4e3-c73a-4f9a-ac17-a3393ef9e9d3",
50-            "from": "DCAE"
51-          }
52-        },
53-        {
54-          "closedLoopEventClient": {
55-            "DCAE_INSTANCE_ID.dcae-tca",
56-            "policyVersion": "1.0.0.5",
57-            "policyName": "vFirewall",
58-            "policyScope": "resource=SampleResource,service=SampleService,type=SampleType,closedLoopControlName=SampleClosedLoop,target_type=VNF",
59-            "AAI": {
60-              "generic-vnf.vnf-id": "demofw101fwl",
61-              "closedLoopAlarmStart": 149694770559989,
62-              "closedLoopEventStatus": "ONSET",
63-              "closedLoopControlName": "CL-FRML-Low-Traffic-SIG-d925ed73-8231-4d02-9545-d4e101f88f8",
64-              "version": "1.0.2",
65-              "target": "generic-vnf.vnf-id",
66-              "requestID": "95176ccc-660b-46f7-979e-e8d5aba95b74",
67-              "from": "DCAE"
68-            }
69-          },
70-          {
71-            "closedLoopEventClient": {
72-              "DCAE_INSTANCE_ID.dcae-tca",
73-              "policyVersion": "1.0.0.5",
74-              "policyName": "vFirewall",
75-              "policyScope": "resource=SampleResource,service=SampleService,type=SampleType,closedLoopControlName=SampleClosedLoop,target_type=VNF",
76-              "AAI": {
77-                "generic-vnf.vnf-id": "demofw101fwl",
78-                "closedLoopAlarmStart": 1496947755710115,
79-                "closedLoopEventStatus": "ONSET",
80-                "closedLoopControlName": "CL-FRML-Low-Traffic-SIG-d925ed73-8231-4d02-9545-d4e101f88f8",
81-                "version": "1.0.2",
82-                "target": "generic-vnf.vnf-id",
83-                "requestID": "bb52beb0-0746-4c85-87a6-7b0b1ef7270",
84-                "from": "DCAE"
85-              }
86-            }
87-          }
88-        }
89-      ]
90-    ]
```

Testing, Deploying, and debugging on a PDP-D

Tutorial: Testing the vFW flow in a standalone PDP-D



<http://onap.readthedocs.io/en/latest/submodules/dcaegen2.git/docs/sections/installation.html>