

# HA testing in Yardstick

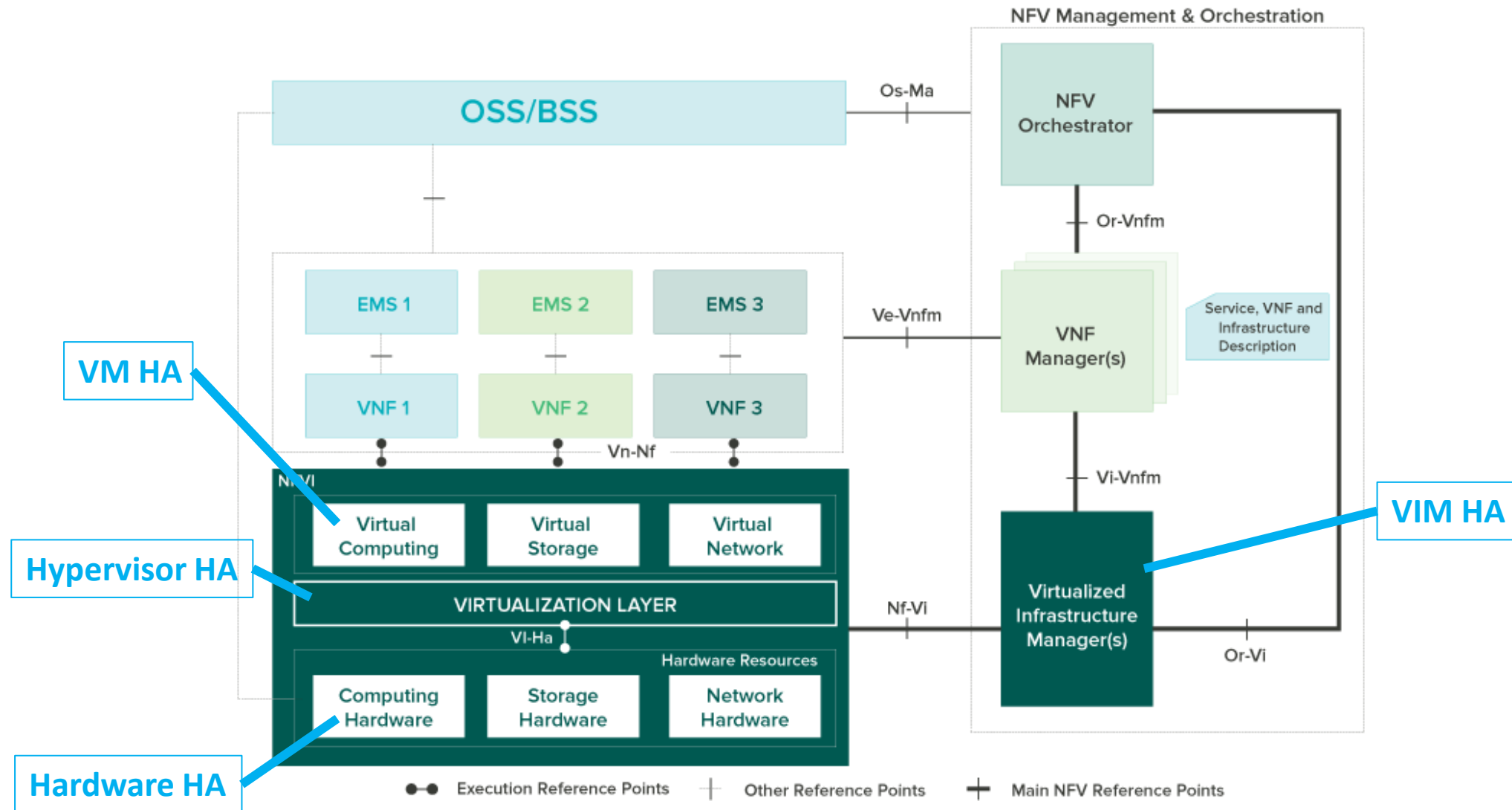
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# Outline

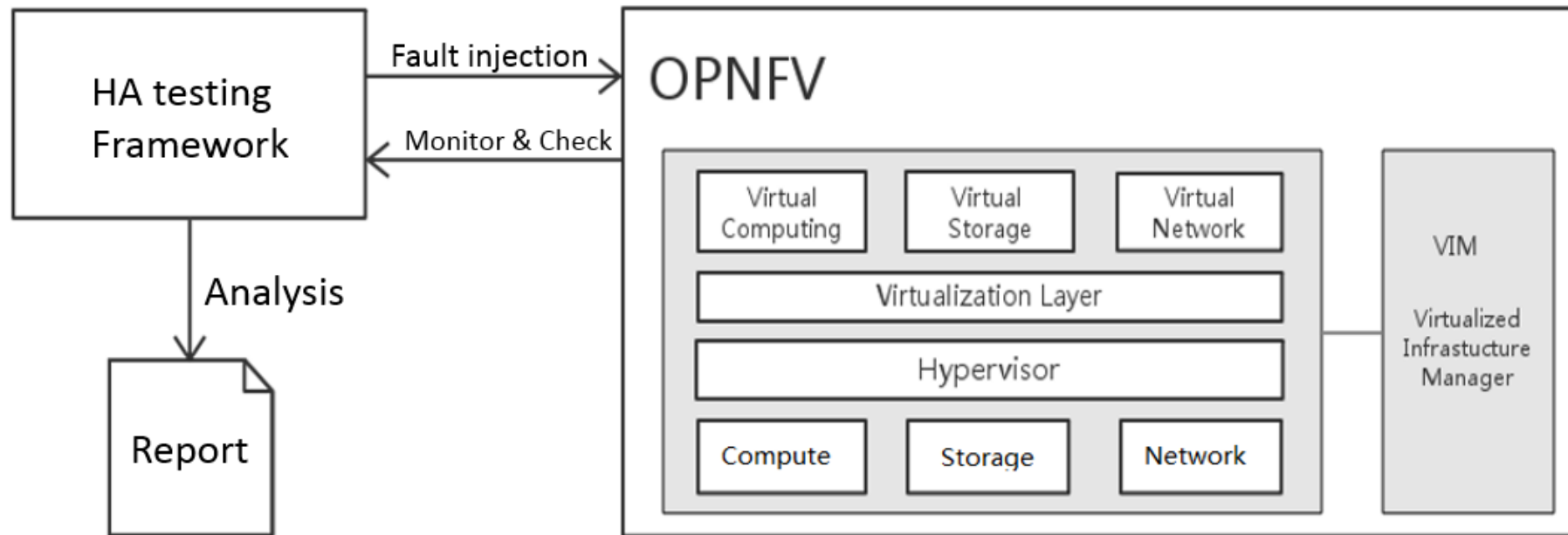
- HA in OPNFV
- Ha testing method
- Yardstick HA testing Framework
  - Orchestrating scenarios
- HA Test cases in yardstick Euphrates
  - TC025 – example of bare metal down
  - TC045 – example of killing neutron-server
  - TC056 – example of Message Queue failure

# HA in OPNFV



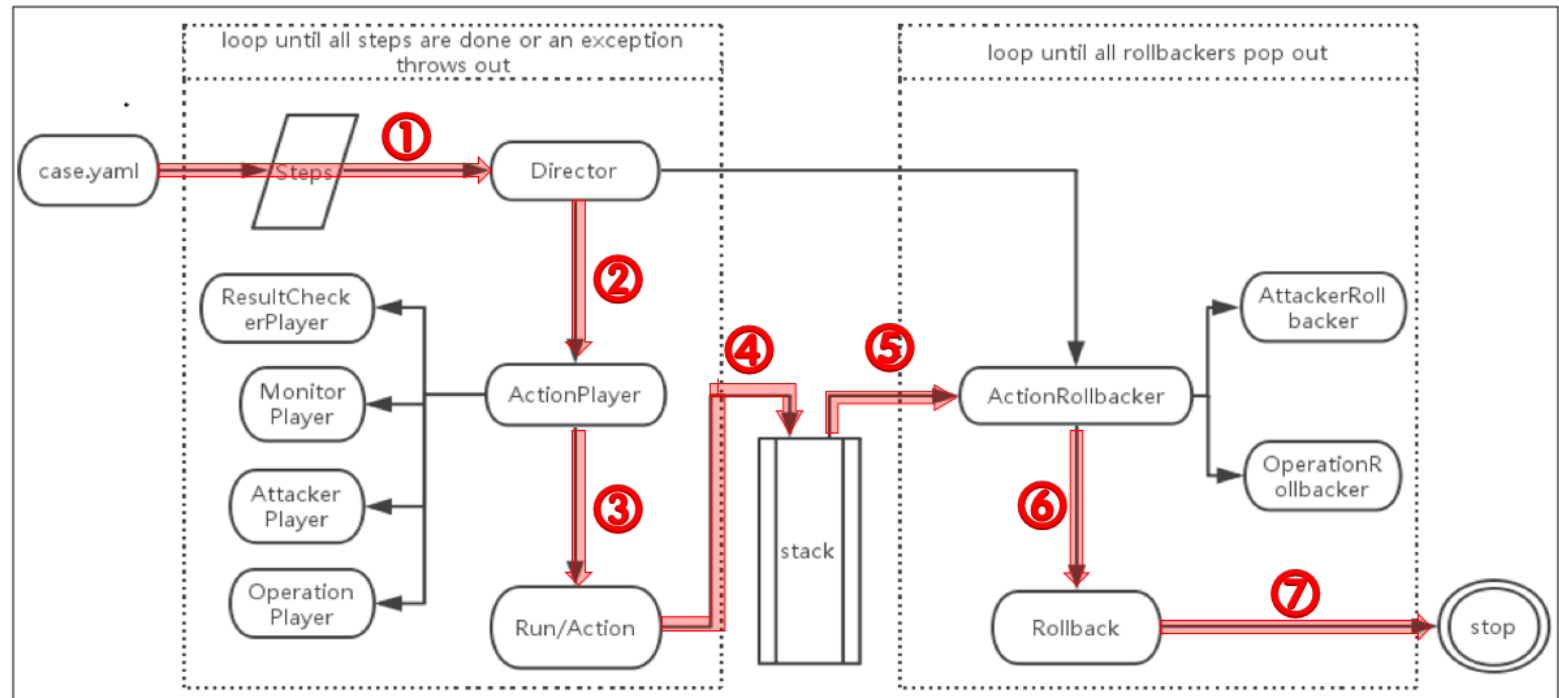
# HA testing method

- HA testing in yardstick uses attackers like process killer to inject fault into the SUT, monitor the specified KPI and check the status, finally get a report about the result of the High Availability.



# Yardstick HA testing framework

- Scenarios can be orchestrated
- automatically restore the SUT
- Attackers and monitors can be reused



# Orchestrating scenarios

```
# Test case for TC052 :OpenStack Controller Node Disk I/O Blk
# This test case is written by new scenario-based HA testing

schema: "yardstick:task:0.1"
scenarios:
-
  type: "GeneralHA"
  options:
    attackers: ...
    monitors: ...
    operations: ...
    resultCheckers: ...
    steps: ...

  nodes:
    node1: node1.LF
  runner:
    type: Duration
    duration: 1
  sla:
    outage_time: 5
    action: monitor

context:
  type: Node
  name: LF
  file: etc/yardstick/nodes/fuel_virtual/pod.yaml
```

**fault injection**

**monitor and check**

**define operators**

**organize steps**

```
attackers:
-
  fault_type: "general-attacker"
  host: node1
  key: "block-io"
  attack_key: "block-io"

monitors:
-
  monitor_type: "openstack-cmd"
  key: "nova-flavor-list"
  command_name: "nova flavor-list"
  monitor_time: 10
  sla:
    max_outage_time: 5

operations:
-
  operation_type: "general-operation"
  key: "create-flavor"
  operation_key: "nova-create-flavor"
  host: node1
  action_parameter:
    flavorconfig: "test-001 test-001 100 1 1"
  rollback_parameter:
    flavorid: "test-001"

resultCheckers:
-
  checker_type: "general-result-checker"
  key: "check-flavor"
  host: node1
  checker_key: "nova-flavor-checker"
  expectedValue: "test-001"
  condition: "in"
```

# HA Test cases in yardstick Euphrates

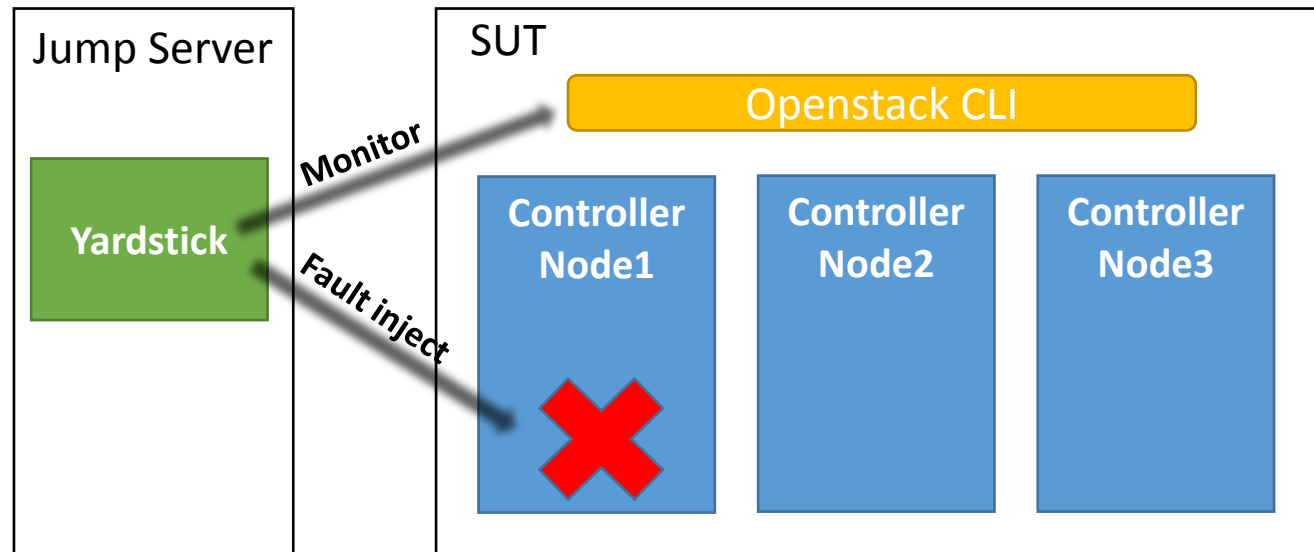
## 15 Test Cases in Yardstick Euphrates

- VIM Component HA
  - TC019(Nova) TC045(Neutron) TC046(Keystone) TC047(Glance) TC048(Cinder)  
TC049(Swift) TC053(HAProxy)
- Different Types of Component Failure
  - TC025(Baremetal Down) TC050(Network)  
TC051(CPU Overload) TC052(I/O Block)
- VIM Resources
  - TC054(Virtual IP Master Node)
  - TC056(Messaging Queue Service)
  - TC057(Cluster Management)
  - TC058(Virtual Router)

# TC025 – Controller node HA

Requires Openstack controller HA deployed, use IPMI to shutdown any controller node

- Attacker
  - IPMI power off
- Monitor
  - Openstack command
- Checker
  - CLI outage time

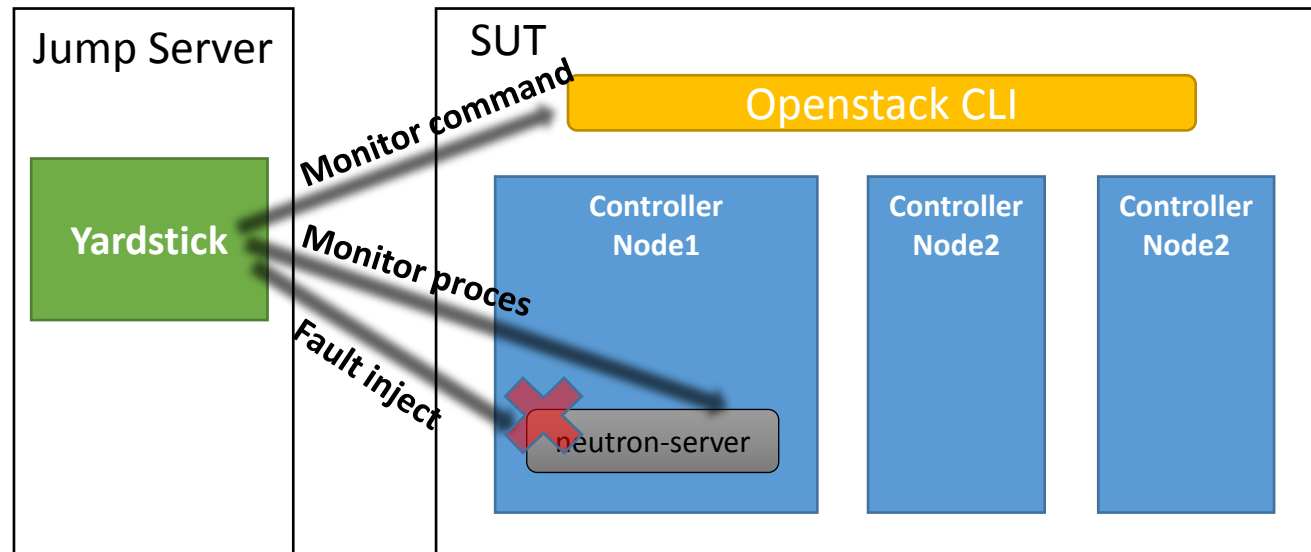




# TC045 – Neutron server ha

Requires Openstack controller HA deployed, use IPMI to shutdown any controller node

- Attacker
  - kill process on 1 node
- Monitor
  - Openstack command
  - process recovery
- Checker
  - CLI outage time
  - process recovery time



# TC056 - OpenStack Controller Messaging Queue Service High Availability

- Checker:

- The outage time of RabbitMQ related services.
- The recovery time of the attacked process

