OpenStack Extreme Testing

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User Story

In user story, I addressed the missing but important test in OpenStack.

Some of them are,

(1) Component interface testing

(2) Operational acceptance testing

(3) Destructive testing   -> on progress with QA team

(4) Concurrent testing

(5) Performance testing

Currently, only (3) and (4) are addressed in details.

Need more details to define other test scenarios.

User story: https://specs.openstack.org/openstack/openstack-user-stories/user-stories/proposed/openstack-extreme-testing.html

Destructive testing

Test High Availability of OpenStack services and check how OpenStack services will work in case of any destructive scenarios.
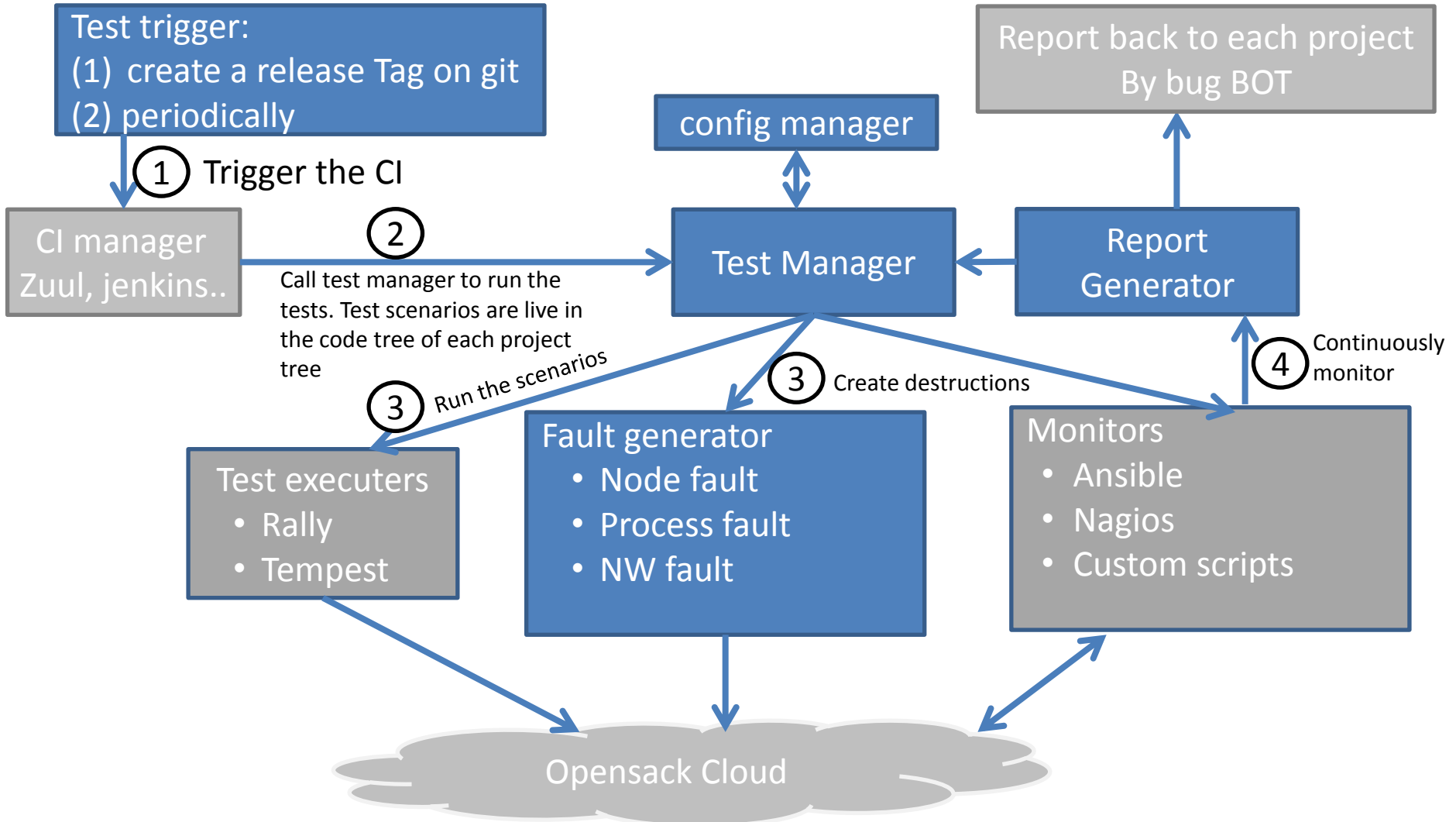
Destructive scenarios
- Shutdown a control node where API services are running and verify that API requests are processed as expected
- Restart of network switches and verify that services can recover automatically
- Restart some OpenStack services and verify that service can recover in expected downtime.
- Generate DB/RabbitMQ downtime and verify that there are no request loss or non-recoverable errors in the system.
- Shut off a hardware blade

Need more test cases…..

QA-Spec: https://review.openstack.org/#/c/443504

Destructive Test Framework

Test trigger:
(1) create a release Tag on git
(2) periodically

(1) Trigger the CI

config manager

Report back to each project By bug BOT

CI manager Zuul, jenkins..

(2)

Call test manager to run the tests. Test scenarios are live in the code tree of each project tree

Test Manager

Report Generator

(3) Run the scenarios

(3) Create destructions

(4) Continuously monitor

Test executers
• Rally
• Tempest

Fault generator
• Node fault
• Process fault
• NW fault

Monitors
• Ansible
• Nagios
• Custom scripts

Opensack Cloud

All the Blue boxes are need create from scratch => QA-spec

Current Status of Destructive testing

- User Story
  - Merged
    - (though, need to define other test scenarios)
- Gap Analysis
  - On going (will be extract from qa-spec)
- Implementation
  - Spec is under review (https://review.openstack.org/#/c/443504/)
  - 3rd party CI PoC is under development (https://review.openstack.org/#/q/topic:add-stepler-tests-alt)

Need Help

Destructive Test Framework

- Need more test cases…..

  – Please review https://review.openstack.org/#/c/443504/

- Serious coding

OpenStack Extreme Testing

- Define the other test case in the User Story

  – Submit sub-user story for each test scenario

- Do the gap analysis and then implementations