openstack.

2022.05.20

오픈스택을 알아보자

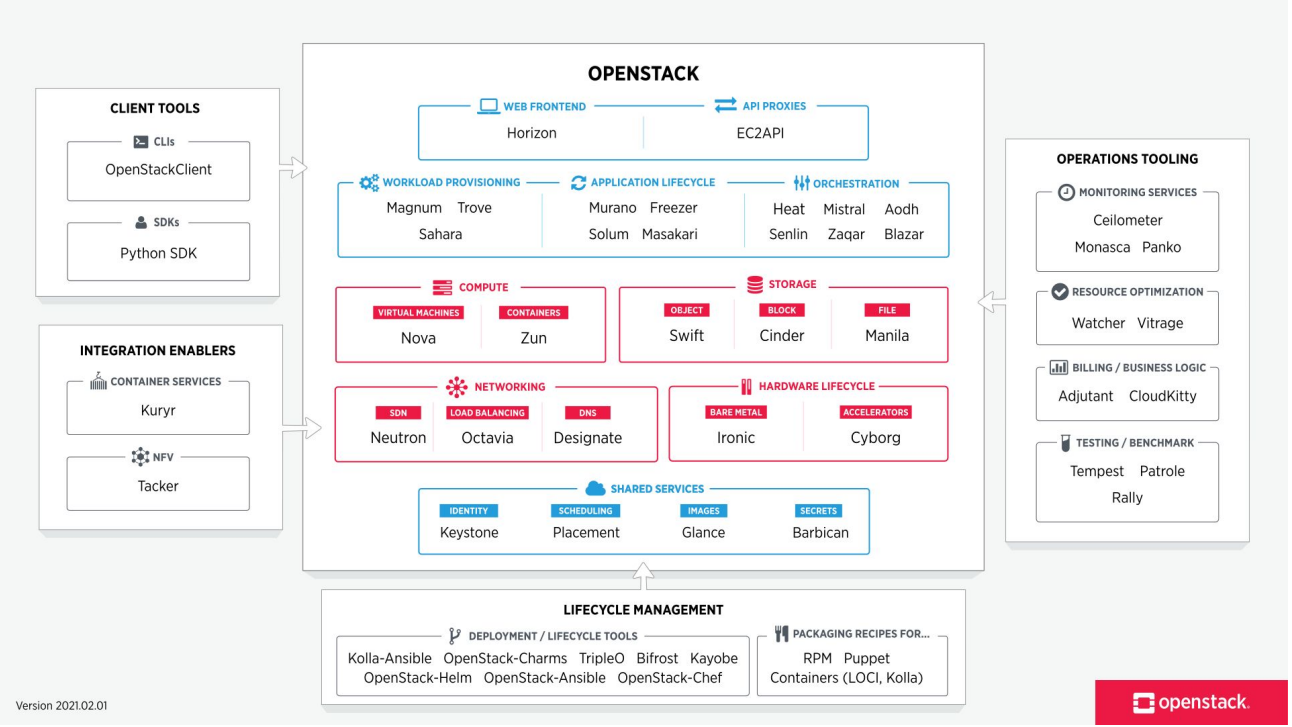
오픈스택을 30분만에 이해하는 것이 가능한지 실험해봅니다

오픈스택 한국 커뮤니티 조성수

OpenStack

Cloud Infrastructure for Virtual Machines,
Bare Metals and Containers

OpenStack Landscape



출처 : https://www.openstack.org/software/

OpenStack

Cloud **Infrastructure** for Virtual Machines,
Bare Metals and Containers

Cloud Infrastructure?

물리적으로 제공되던 IT 인프라 장비들을 가상화하여 API 로 제어할 수 있도록 제공하면, Cloud Infrastructure

네트워크 : SDN(Software Defined Network)로 이루어진 가상화된 네트워크

서버 : 가상화기술을 이용해 생성한 가상머신 (instance)

스토리지 : Block Storage , Object Storage

이미지 : 기존에 CD넣거나, PXE부팅으로 설치하던 OS를 이미지화하여 인스턴스 생성

인증 : 인증받은 요청에 대해서만 자원을 관리할 수 있도록 허용함

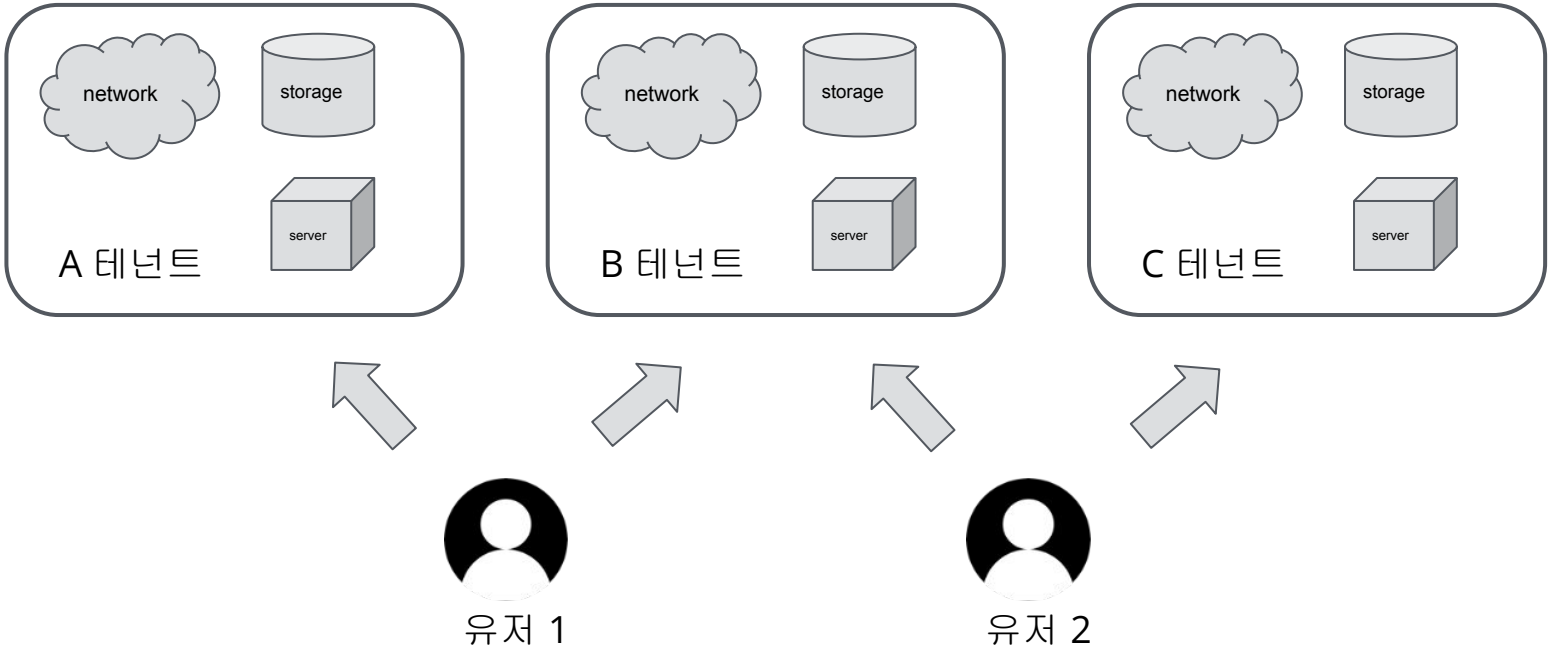
자원을 소유하는 주체 : 테넌트 (Tenant)

Cloud Infrastructure 자원은 누가 소유하는가?

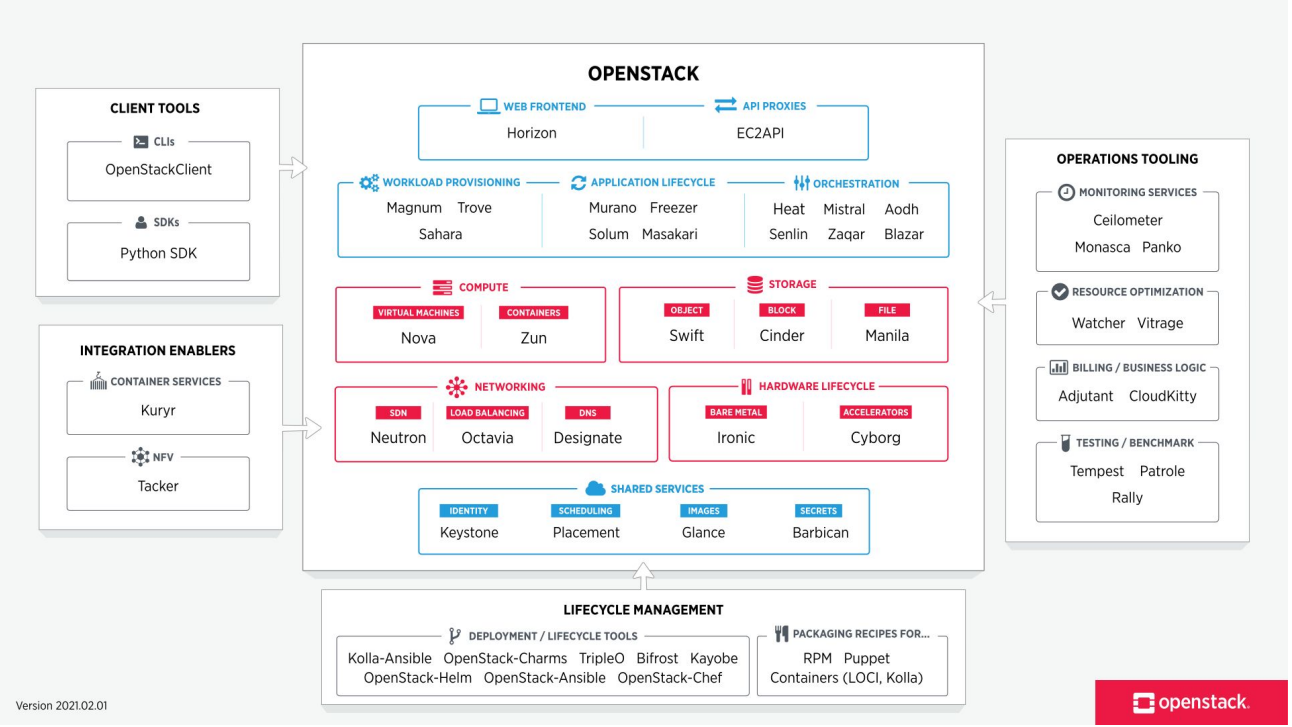
- 자원은 사용자가 소유하는 것이 아니다.
- 자원은 테넌트(Tenant)라는 개념에 속한다.

테넌트를 나타내는 방식은 클라우드마다 다르다.

자원을 소유하는 주체 : 테넌트 (Tenant)

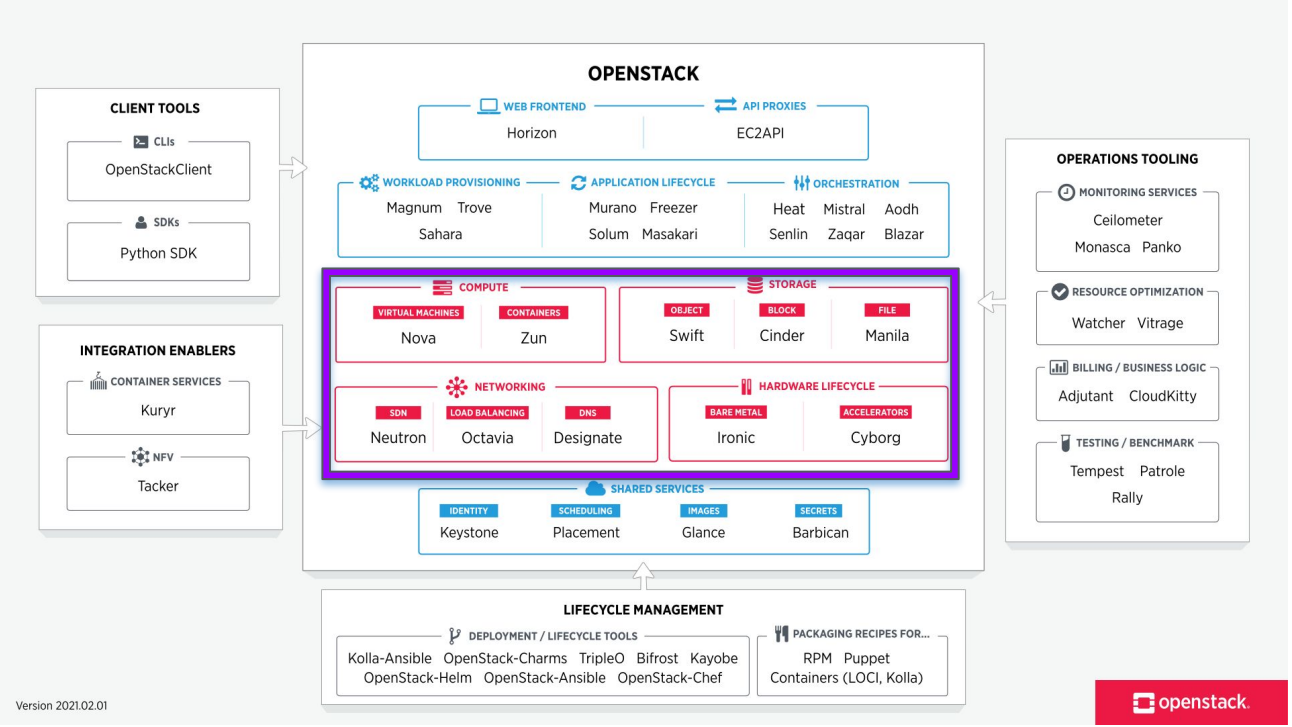


OpenStack Landscape



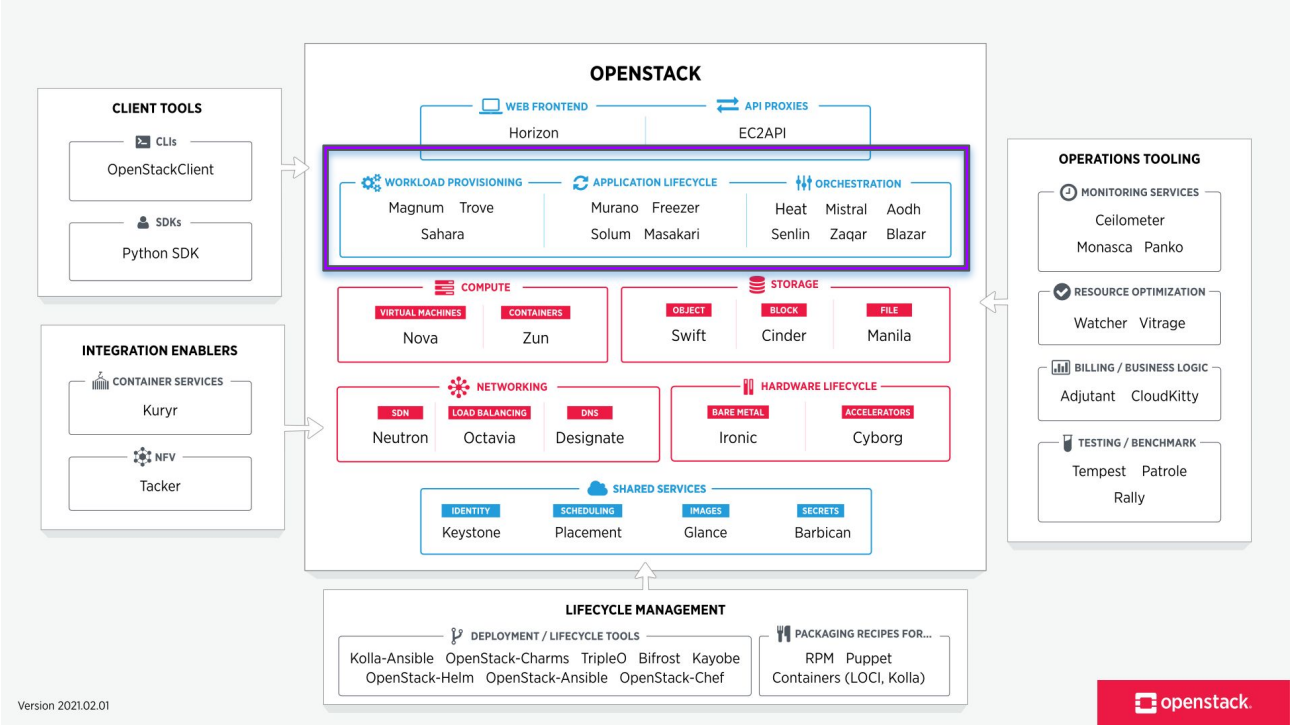
출처 : https://www.openstack.org/software/

OpenStack Landscape



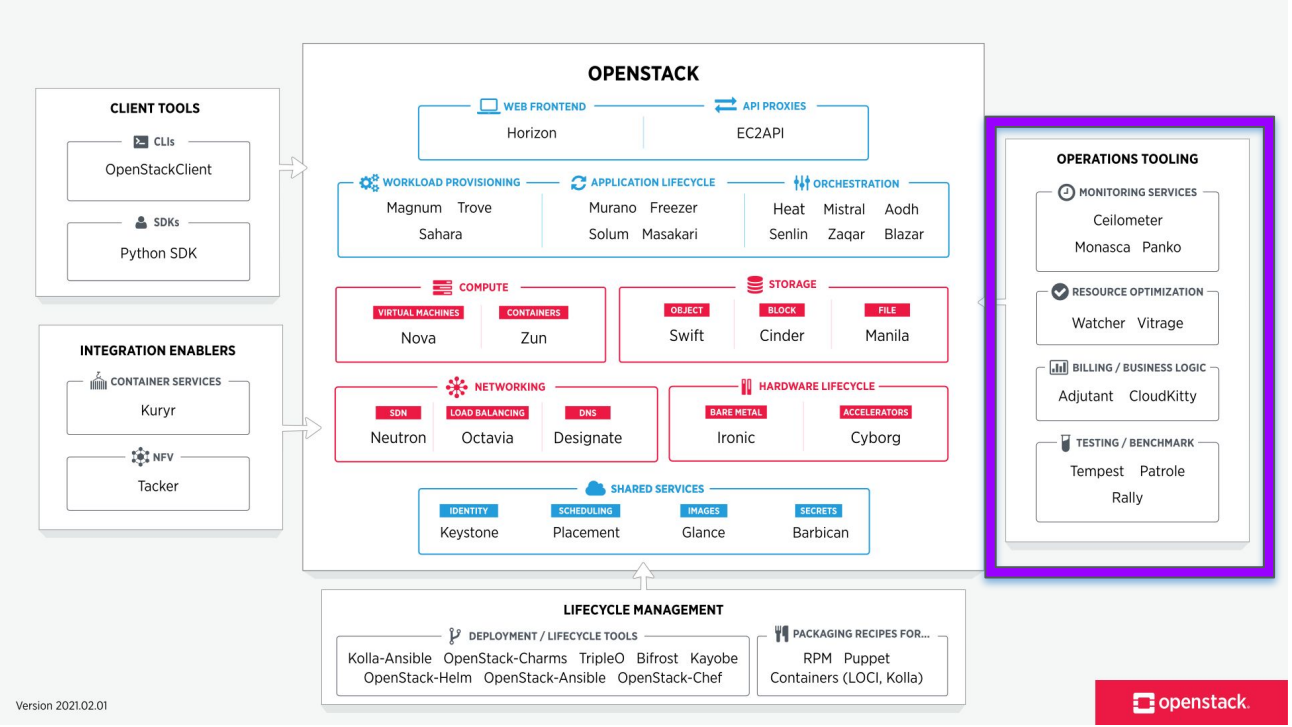
출처 : https://www.openstack.org/software/

OpenStack Landscape



출처 : https://www.openstack.org/software/

OpenStack Landscape



출처 : https://www.openstack.org/software/

Core Component

nova
(Computing Service)

neutron
(Networking)

glance
(Image Service)

Cinder
(Block Storage)

swift
(Object Storage)

Keystone
(Identity Service)

OpenStack은 어떻게 동작할까?

오픈스택이 클라우드 인프라를 만드는 방법에 대해 알아봅니다

컴포넌트가 동작하는 방식 (동일 컴포넌트 내)

컴포넌트는 API 서버와 Agent 로 구성되어있다

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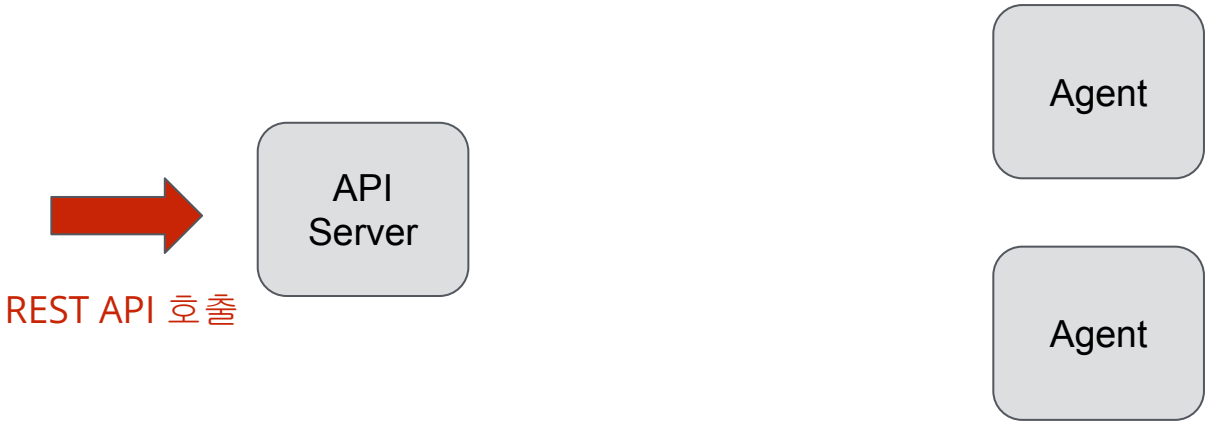
API 서버는 클라이언트의 요청 혹은 다른 컴포넌트의 요청을 받아들인다.



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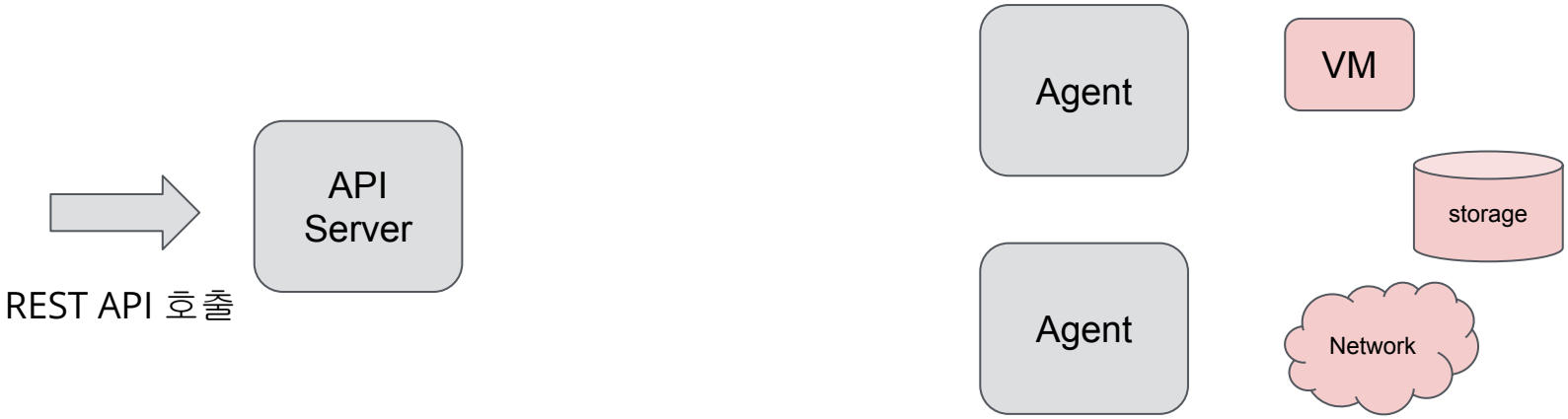
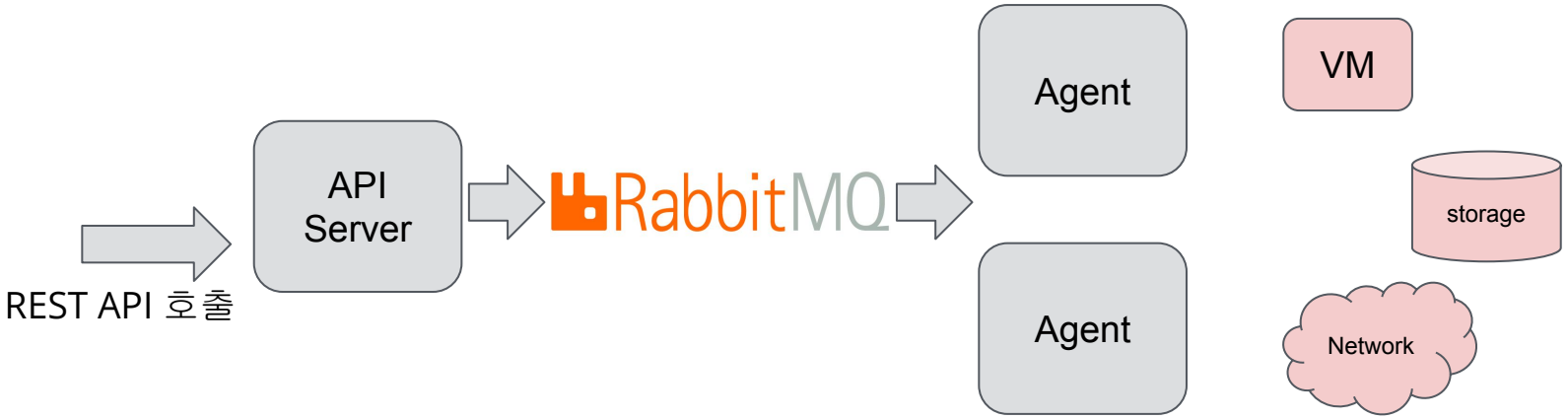
Agent는 **자원을 생성/삭제하는 역할**을 한다 (예: nova-compute agent는 vm을 생성/삭제한다)



컴포넌트가 동작하는 방식 (동일 컴포넌트 내)

API가 받은 요청을 Agent가 처리할 수 있도록 명령한다. 이를 **rpc call**라고 부른다
(nova-api가 인스턴스 생성 요청을 받으면, nova-compute(agent)가 vm을 만든다)

API와 Agent간 통신은 AMQP를 지원하는 MQ를 이용한다. (대표적으로 RabbitMQ)



컴포넌트가 동작하는 방식 (다른 컴포넌트를 호출)

Agent가 요청 처리에 필요한 또 다른 자원을 다른 컴포넌트에게 요청하기도 한다.
(예: nova-compute가 vm을 생성하다가, vm에 연결할 block storage 생성을 cinder에 요청)

서로 다른 컴포넌트끼리는 REST API 를 통해 요청한다.

자원을 다루는 API는 비동기로 처리

Vm, network, storage와 같은 자원을 다루는 API는 모두 비동기로 처리된다.

자원 생성의 경우, API서버는 요청을 받고 **자원의 UUID와 함께 202 Accepted**를 반환한다.

자원을 요청한 쪽에서는 **주기적으로 UUID값으로 상태를 조회**하며 생성여부를 확인한다.
(timeout 시간 만큼 시도하다가, 확인되지 않으면 전체 요청을 실패처리한다)

OpenStack의 자원 관리 방법

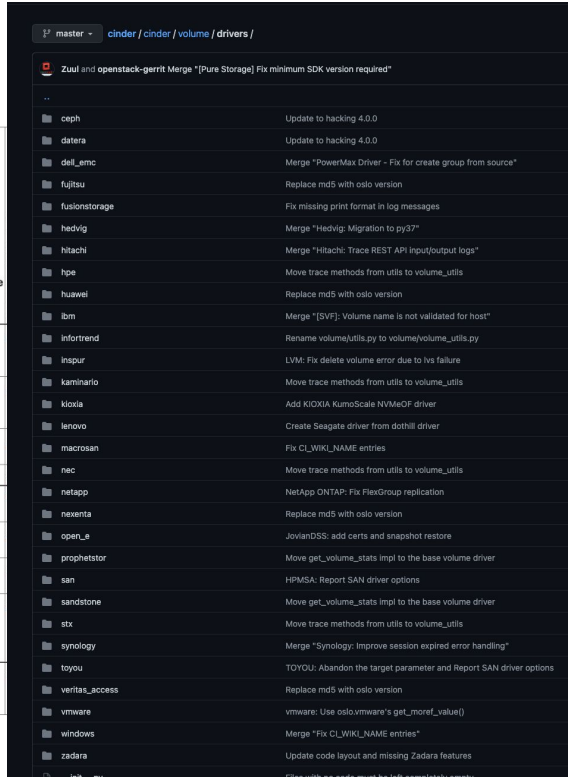
OpenStack이 storage / network / vm 자체를 직접 만들지 않는다.

OpenStack은 자원의 상태만 관리하고 자원의 실체는 다른 서비스를 사용한다.

OpenStack은 실질적인 자원을 다루는 서비스와 연동하기 위해 다양한 Driver를 지원한다.

Cinder에서 지원하는 backend 예시

Feature	Status	CoprHD Storage Driver (FC, iSCSI, ScaleIO)	DataCore Storage Driver (FC, iSCSI)	Datera Storage Driver (iSCSI)	Dell EMC PowerMax (2000, 8000) Storage Driver (iSCSI, FC)	Dell EMC PS Series Storage Driver (iSCSI)	Dell EMC SC Series Storage Driver (iSCSI, FC)	Dell EMC Unity Storage Driver (FC, iSCSI)	Dell EMC VMAX3 (100K, 200K, 400K) Storage Driver (iSCSI, FC)	Dell EMC VMAX Af (250F, 450F, 850F, 950F) Storage Driver (FC, iSCSI)	Dell EMC VMAX V2 (10K, 20K, 40K) Storage Driver (iSCSI, FC)	Dell EMC VNX Storage Driver (FC, iSCSI)	Dell EMC VxFlex OS (ScaleIO) Storage Driver (ScaleIO)	Dell EMC XtremIO Storage Driver (FC, iSCSI)	Fujitsu ETERNUS Driver (FC, iSCSI)	HGST Flash Storage Suite Driver (vgc)	HPE 3PAR Storage Driver (FC, iSCSI)	HPE Lefthand Driver (iSCSI)	HPE MMSA Driver (iSCSI, FC)	Huawei 18000 Series Driver (iSCSI, FC)	Huawei Dorado V3 Series Driver (iSCSI, FC)	Huawei FusionStorage Driver (dsware)
Supported Vendor Driver	optional	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓
Extend an Attached Volume	optional	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Snapshot Attachment	optional	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✗	✗	✗	✗	✗	✗	✗	✓	✓	✓
QoS	optional	✗	✗	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✗
Volume Replication	optional	✗	✗	✗	✓	✗	✓	✗	✓	✓	✗	✓	✗	✗	✗	✗	✓	✓	✗	✓	✓	✓	✗
Consistency Groups	optional	✓	✗	✗	✓	✗	✓	✗	✓	✓	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✗
Thin Provisioning	optional	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✗
Volume Migration (Storage Assisted)	optional	✗	✗	✗	✓	✗	✗	✗	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✓	✓	✓	✗
Multi-Attach Support	optional	✗	✗	✗	✓	✗	✗	✓	✓	✓	✗	✗	✓	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗



https://docs.openstack.org/cinder/rocky/reference/support-matrix.html
https://github.com/openstack/cinder/tree/master/cinder/volume/drivers

neutron에서 지원하는 driver 예시

Vendor	Plugin/Driver Name	Contact Name	Status	Recheck command	Notes
Neutron Team	ML2 - OVS/LB	Infra Team	Y		Covered by Infra (Jenkins)
A10 Networks	LBaaS Driver	Doug Wiegley	Y	redo-a10	None
Arista Networks	ML2 Driver	Sukhdev Kapur	Y	recheck/reverify no bug/bug #	None
Avaya	ML2 Driver	Ravi Palaparthi	Y		None
Big Switch	Plugin	Kevin Benton	Y	recheck-bigswitch	None
Big Switch	ML2 Driver	Kevin Benton	Y		None
BNC	DCFabric-ML2-Driver	Yanwei Xu	Y	recheck-DCFabric	None
Brocade	Vyatta Plugin	Karthik Natarajan	Y		None
Brocade	ML2 Driver	Shiv Haris	Y		None
Cisco	Plugin - NXOS	Dane Leblanc	N		It is deprecated and It will be removed in Juno
Cisco	Plugin - N1Kv	Dane Leblanc	Y	recheck cisco-n1kv	None
Cisco	ML2 - APIC	Dane Leblanc	Y	recheck cisco-apic	None
Cisco	ML2 - DFA	Dane Leblanc	Y		None
Cisco	ML2 - NXOS	Dane Leblanc	Y	recheck cisco-ml2	None
Cisco	CSR1kv - router service plugin	Nikolay Fedotov, Richard Winters	Y	recheck cisco-csr1kv	None
Cisco	VPNaaS - Driver	Dane Leblanc	Y	recheck cisco-vpnaas	None
Cloudbase Solutions	Plugin - Hyper-V	Alessandro Pilotti	Y		None
Embrane	Plugin	Ignacio Scopetta	N	embrane-recheck	CI fails for their own plugin commits:

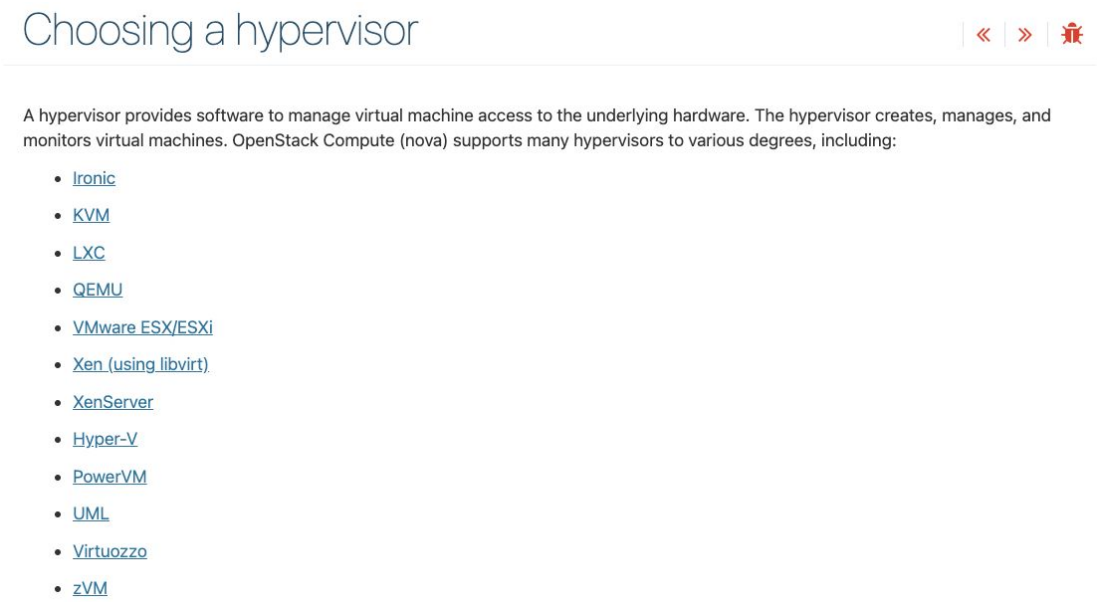
ML2 driver support matrix

Mechanism drivers and L2 agents

type driver / mech driver	Flat	VLAN	VXLAN	GRE	Geneve
Open vSwitch	yes	yes	yes	yes	yes
Linux bridge	yes	yes	yes	no	no
OVN	yes	yes	yes (requires OVN 20.09+)	no	yes
SRIOV	yes	yes	no	no	no
MacVTap	yes	yes	no	no	no
L2 population	no	no	yes	yes	yes

https://wiki.openstack.org/wiki/Neutron_Plugins_and_Drivers
https://docs.openstack.org/neutron/latest/admin/config-ml2.html

nova에서 지원하는 하이퍼바이저



Choosing a hypervisor

A hypervisor provides software to manage virtual machine access to the underlying hardware. The hypervisor creates, manages, and monitors virtual machines. OpenStack Compute (nova) supports many hypervisors to various degrees, including:

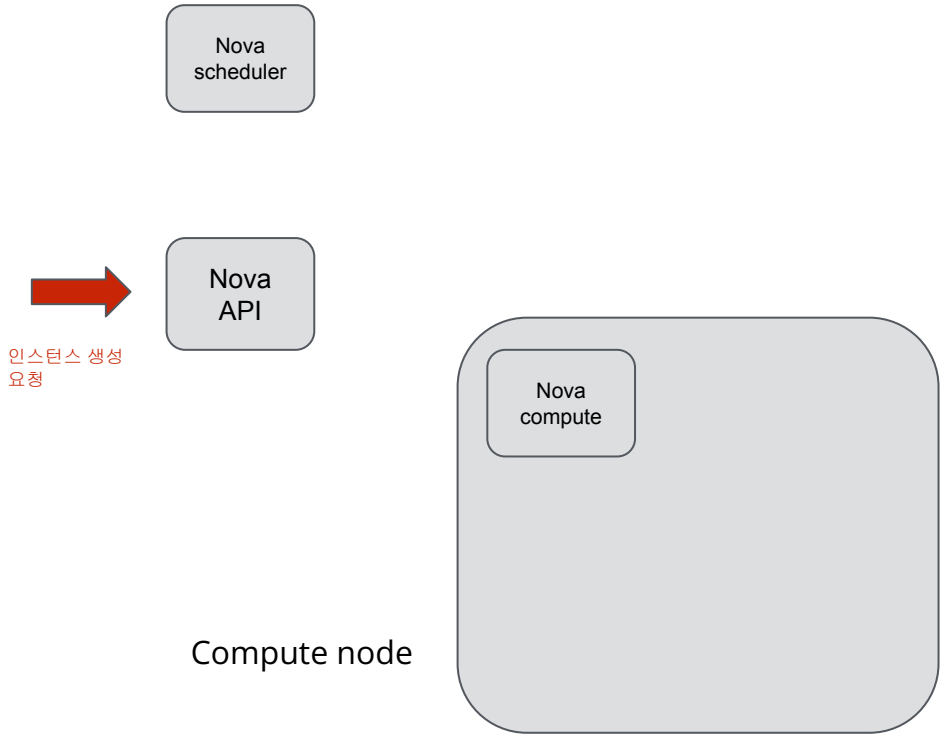
- Ironic
- KVM
- LXC
- QEMU
- VMware ESX/ESXi
- Xen (using libvirt)
- XenServer
- Hyper-V
- PowerVM
- UML
- Virtuozzo
- zVM

https://docs.openstack.org/arch-design/design-compute/design-compute-hypervisor.html

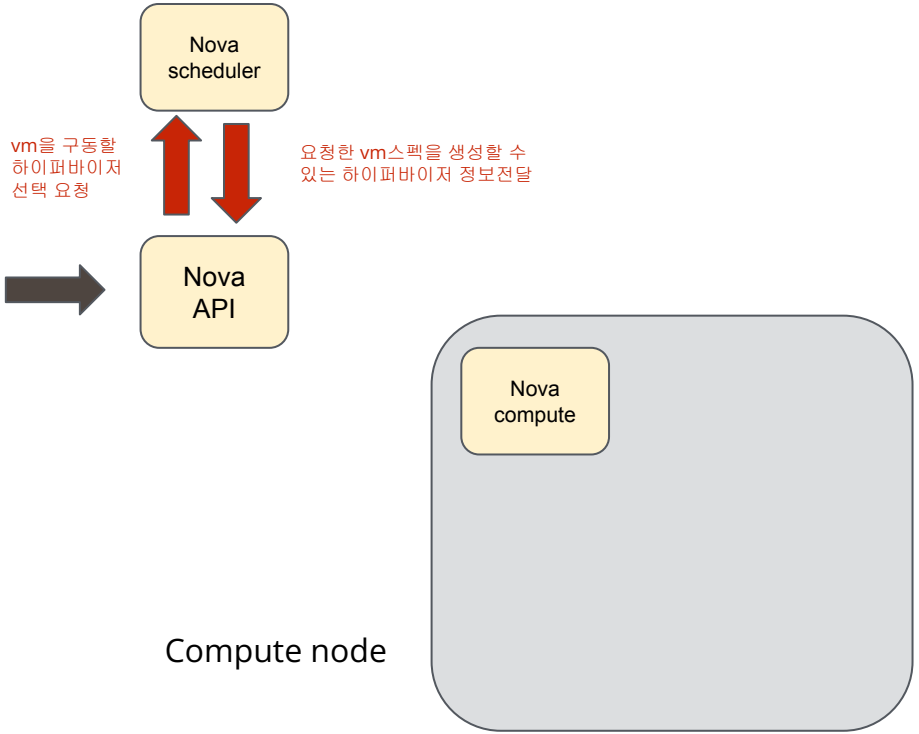
이제 오픈스택이 어떻게 동작하는지 한 눈에 볼 시간

인스턴스 생성을 예로, 컴포넌트가 어떻게 동작하는지 알아봅니다

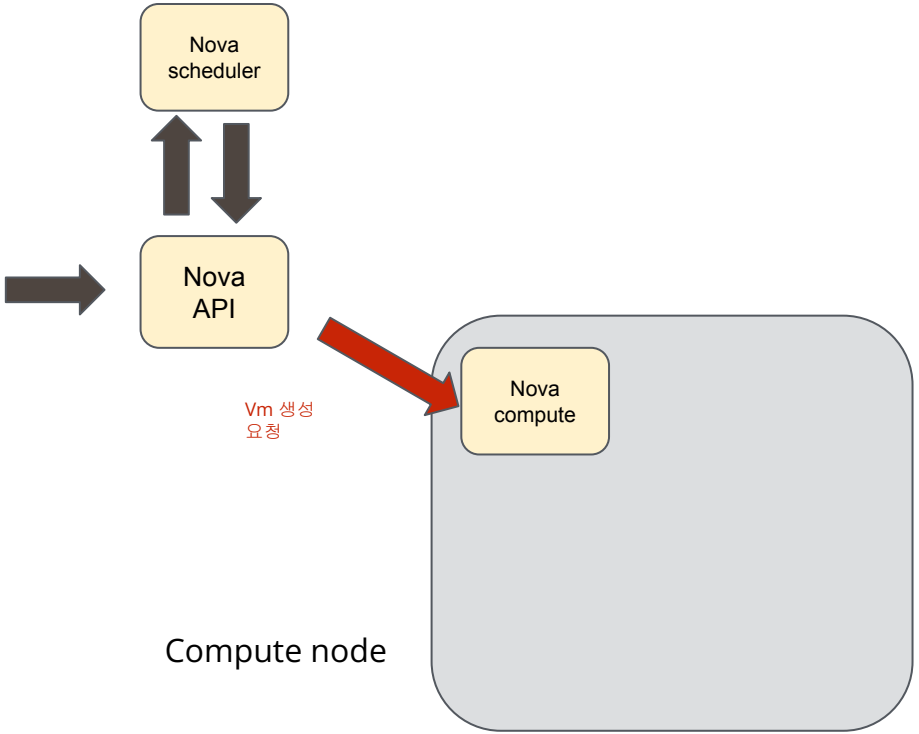
인스턴스 생성


Nova
scheduler
Nova
API
인스턴스 생성
요청
Nova
compute
Compute node

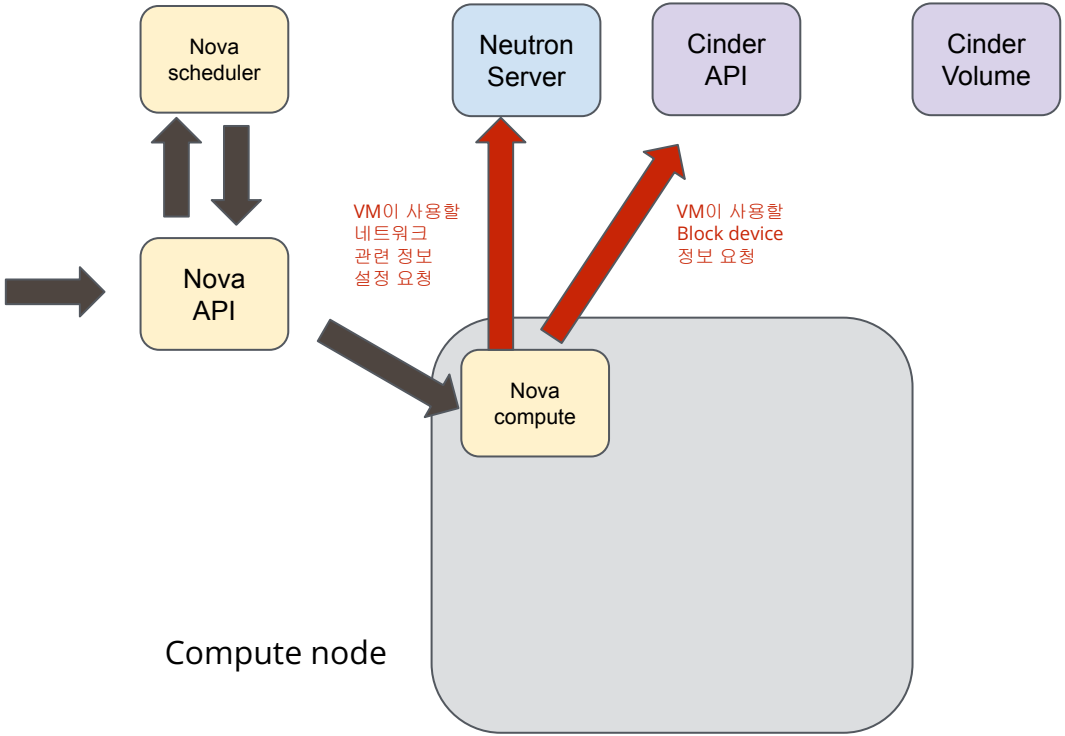
인스턴스 생성


Nova
scheduler
vm을 구동할
하이퍼바이저
선택 요청
요청한 vm스펙을 생성할 수
있는 하이퍼바이저 정보전달
Nova
API
Nova
compute
Compute node

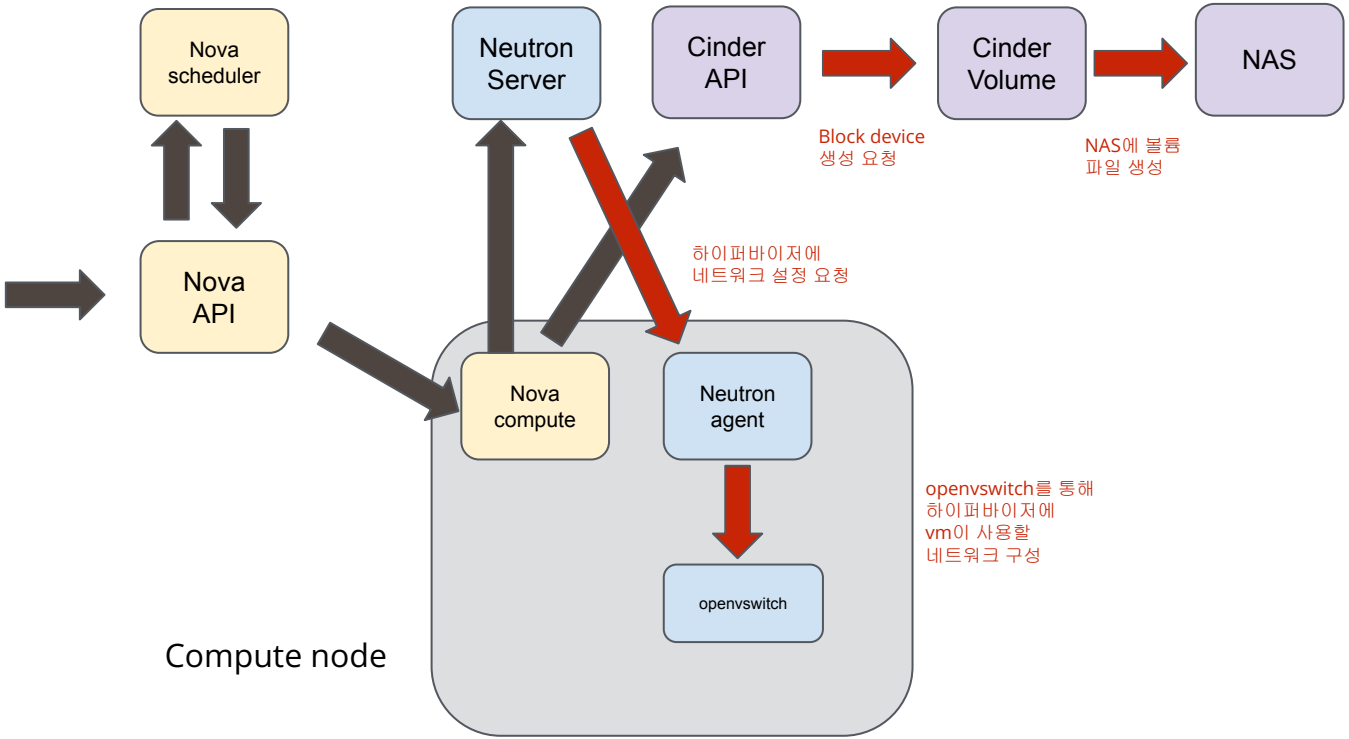
인스턴스 생성



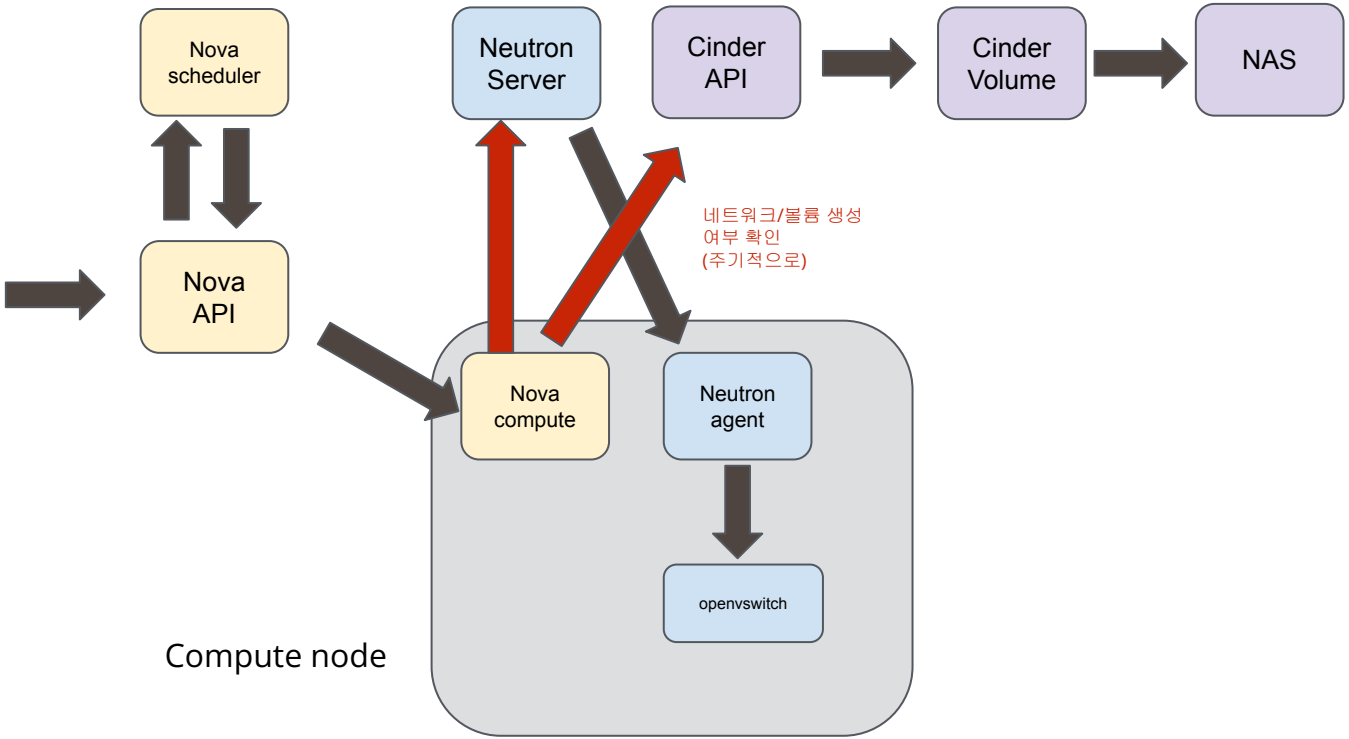
인스턴스 생성


Nova scheduler
Neutron Server
Cinder API
Cinder Volume
VM이 사용할 네트워크 관련 정보 설정 요청
VM이 사용할 Block device 정보 요청
Nova API
Nova compute
Compute node

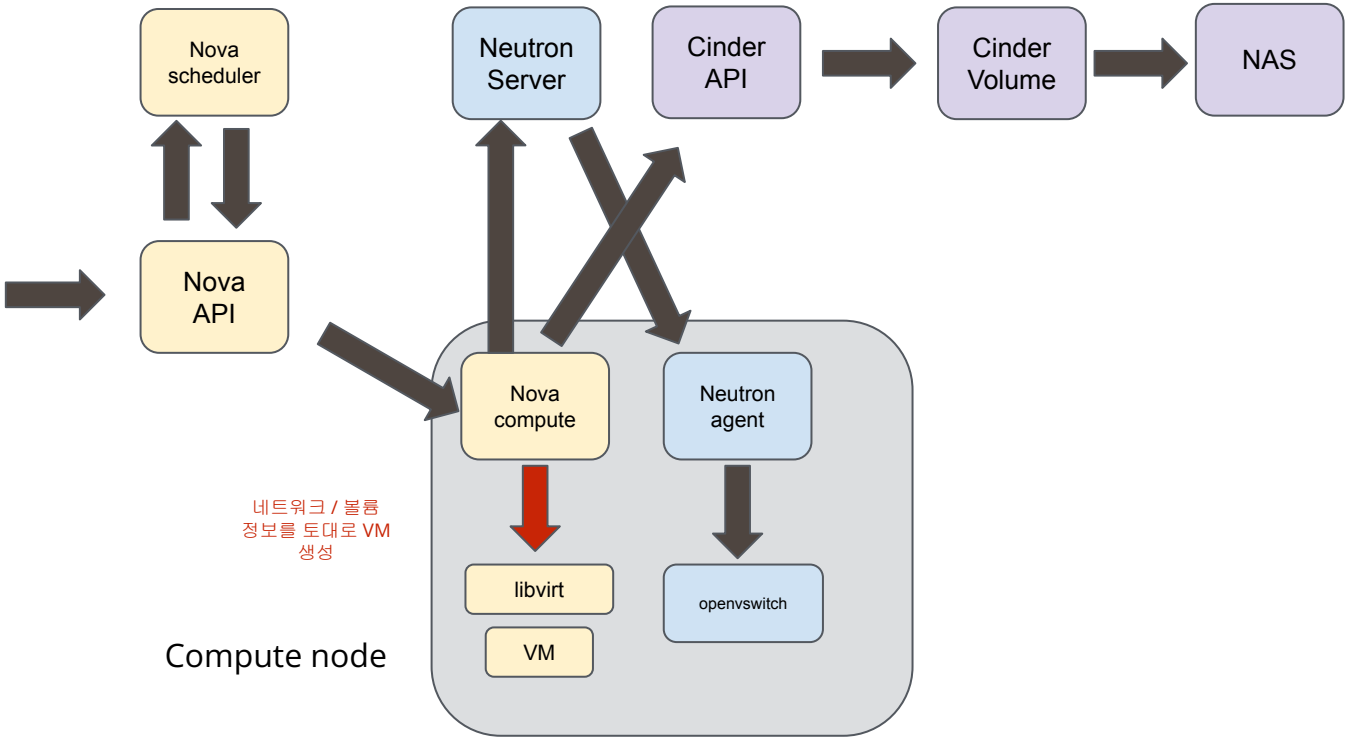
인스턴스 생성


Nova scheduler
Neutron Server
Cinder API
Cinder Volume
NAS
Block device 생성 요청
NAS에 볼륨 파일 생성
Nova API
하이퍼바이저에 네트워크 설정 요청
Nova compute
Neutron agent
openvswitch
openvswitch를 통해 하이퍼바이저에 vm이 사용할 네트워크 구성
Compute node

인스턴스 생성


Nova scheduler
Neutron Server
Cinder API
Cinder Volume
NAS
Nova API
네트워크/볼륨 생성
여부 확인
(주기적으로)
Nova compute
Neutron agent
openvswitch
Compute node

인스턴스 생성


Nova scheduler
Neutron Server
Cinder API
Cinder Volume
NAS
Nova API
Nova compute
Neutron agent
네트워크 / 볼륨 정보를 토대로 VM 생성
libvirt
openvswitch
VM
Compute node

Upstream에서 OpenStack을 개발하는 방법

OpenStack은 순수하게 Community 기반으로 개발됩니다
Global Community에서는 OpenStack을 어떻게 개발할까요?

Devstack

오픈스택 환경을 손 쉽게 구성해주는 도구. 오픈스택 개발자의 개발 환경 / 테스트 환경으로 주로 쓰인다.

Virtualbox vm (4core, 8GB mem) 1개에 오픈스택 코어 컴포넌트 모두를 구동시킬 수 있다.

https://docs.openstack.org/devstack/latest/

$ git clone https://opendev.org/openstack/devstack

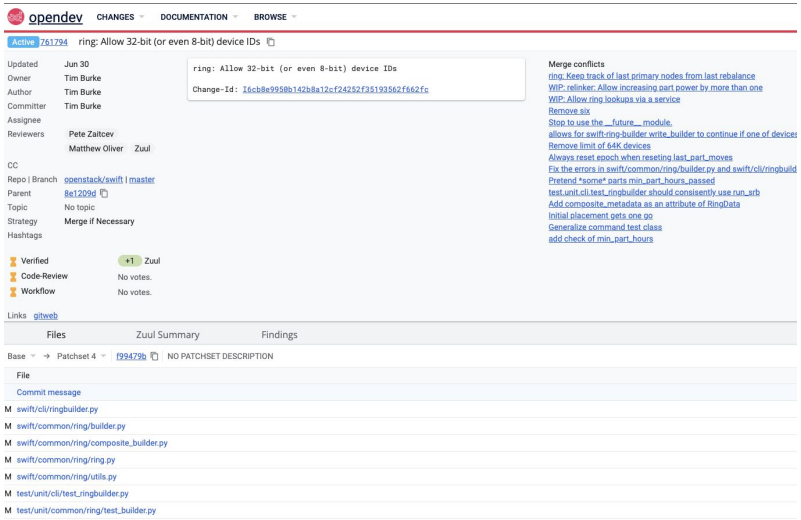
$ cd devstack

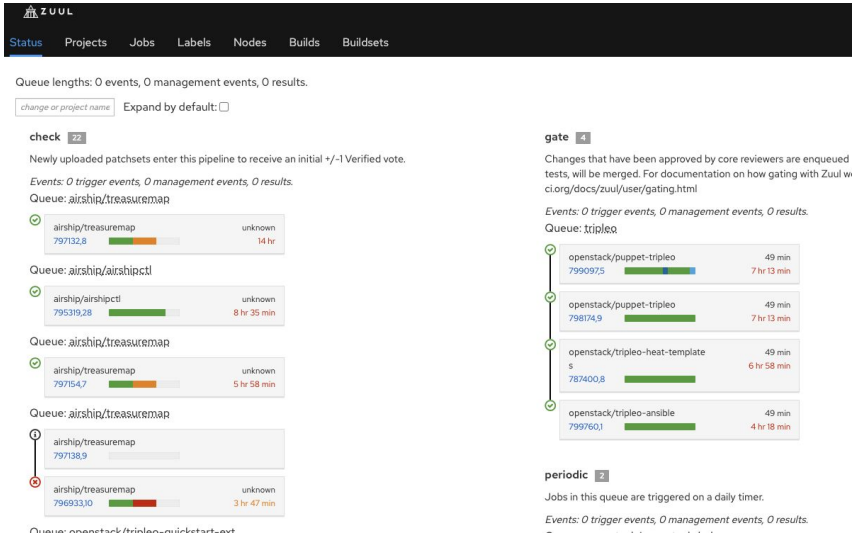
$ ./stack.sh

코드 리뷰 (Gerrit) / CI (ZuuL)

OpenStack은 코드 리뷰로 Gerrit을 사용하고, CI 도구로 ZuuL을 사용
- https://review.opendev.org

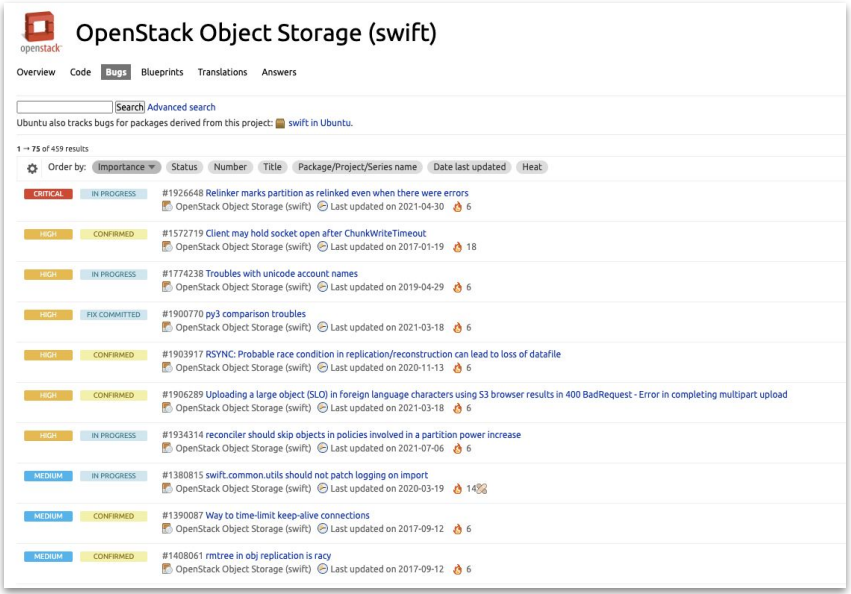
코드 머지는 Core Contributor의 +2 점수를 받으면 머지가 가능하다.

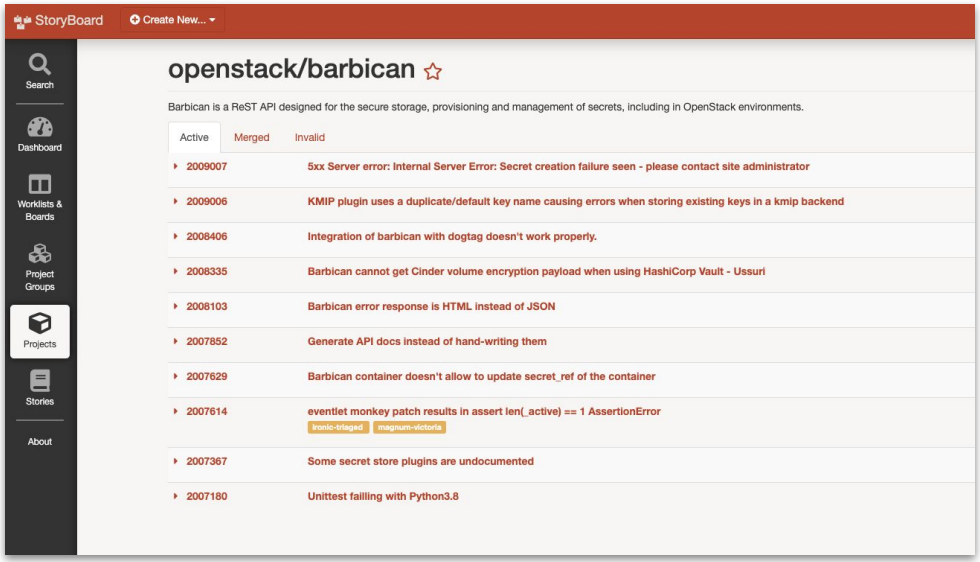




이슈 관리 (Storyboard / launchpad)

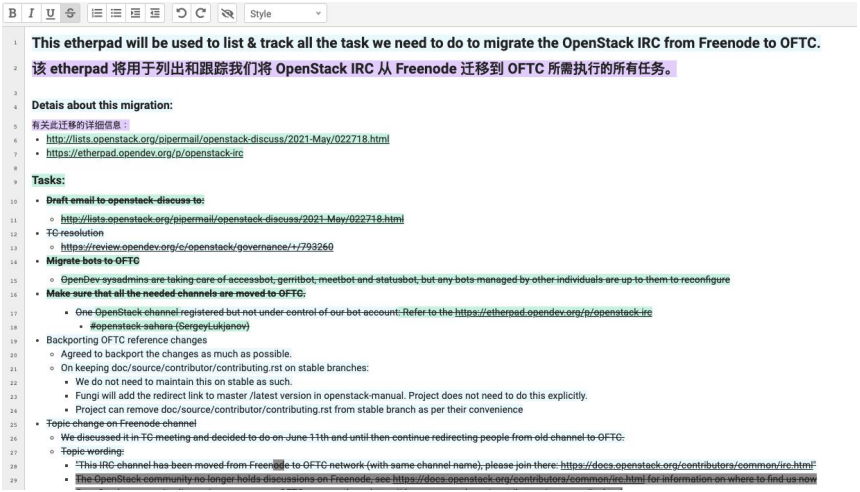
ubuntu에서 사용하는 launchpad를 이용해 이슈를 관리하다가, 최근에 storyboard로 이전중





회의록 / 의견 공유 (Etherpad)

OpenStack 커뮤니티에서 논의되는 모든 내용은 etherpad에 기록하고 공개합니다



This etherpad will be used to list & track all the task we need to do to migrate the OpenStack IRC from Freenode to OFTC.

该 etherpad 将用于列出和跟踪我们将 OpenStack IRC 从 Freenode 迁移到 OFTC 所需执行的所有任务。

Detais about this migration:

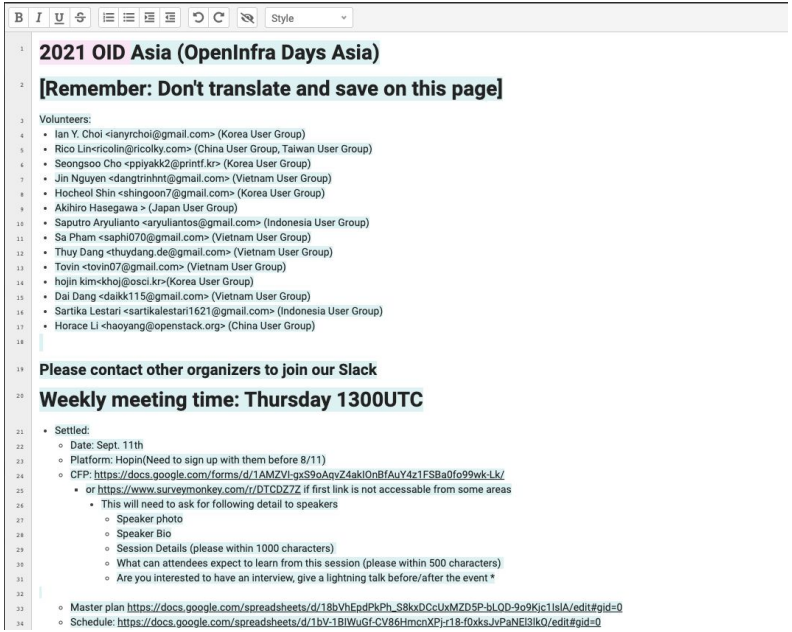
有关此迁移的详细信息：

- http://lists.openstack.org/pipermail/openstack-discuss/2021-May/022718.html
- https://etherpad.opendev.org/p/openstack-irc

Tasks:

- ~~Draft email to openstack-discuss to:~~
  - ~~http://lists.openstack.org/pipermail/openstack-discuss/2021-May/022718.html~~
- ~~TC resolution~~
  - ~~https://review.opendev.org/c/openstack/governance/+/793260~~
- ~~Migrate bots to OFTC~~
  - ~~OpenDev sysadmins are taking care of accessbot, gerritbot, meetbot and statusbot, but any bots managed by other individuals are up to them to reconfigure~~
- ~~Make sure that all the needed channels are moved to OFTC.~~
  - ~~One OpenStack channel registered but not under control of our bot account: Refer to the https://etherpad.opendev.org/p/openstack-irc~~
    - ~~#openstack-sahara (SergeyLukjanov)~~
- Backporting OFTC reference changes
  - Agreed to backport the changes as much as possible.
  - On keeping doc/source/contributor/contributing.rst on stable branches:
    - We do not need to maintain this on stable as such.
    - Fungi will add the redirect link to master /latest version in openstack-manual. Project does not need to do this explicitly.
    - Project can remove doc/source/contributor/contributing.rst from stable branch as per their convenience
- ~~Topic change on Freenode channel~~
  - ~~We discussed it in TC meeting and decided to do on June 11th and until then continue redirecting people from old channel to OFTC.~~
  - ~~Topic wording:~~
    - ~~"This IRC channel has been moved from Freenode to OFTC network (with same channel name), please join there: https://docs.openstack.org/contributors/common/irc.html"~~
    - ~~The OpenStack community no longer holds discussions on Freenode, see https://docs.openstack.org/contributors/common/irc.html for information on where to find us now~~

최근 IRC 채널을 옮기기 위한 논의
(https://etherpad.opendev.org/p/openstack-irc-migration-to-oftc)



2021 OID Asia (OpenInfra Days Asia)

[Remember: Don't translate and save on this page]

Volunteers:

- Ian Y. Choi <ianyrchoi@gmail.com> (Korea User Group)
- Rico Lin<ricolin@ricolky.com> (China User Group, Taiwan User Group)
- Seongsoo Cho <ppiyakk2@printf.kr> (Korea User Group)
- Jin Nguyen <dangtrinhnt@gmail.com> (Vietnam User Group)
- Hocheol Shin <shingoon7@gmail.com> (Korea User Group)
- Akihiro Hasegawa > (Japan User Group)
- Saputro Aryulianto <aryuliantos@gmail.com> (Indonesia User Group)
- Sa Pham <saphi070@gmail.com> (Vietnam User Group)
- Thuy Dang <thuydang.de@gmail.com> (Vietnam User Group)
- Tovin <tovin07@gmail.com> (Vietnam User Group)
- hojin kim<khoj@osci.kr>(Korea User Group)
- Dai Dang <daikk115@gmail.com> (Vietnam User Group)
- Sartika Lestari <sartikalestari1621@gmail.com> (Indonesia User Group)
- Horace Li <haoyang@openstack.org> (China User Group)

Please contact other organizers to join our Slack

Weekly meeting time: Thursday 1300UTC

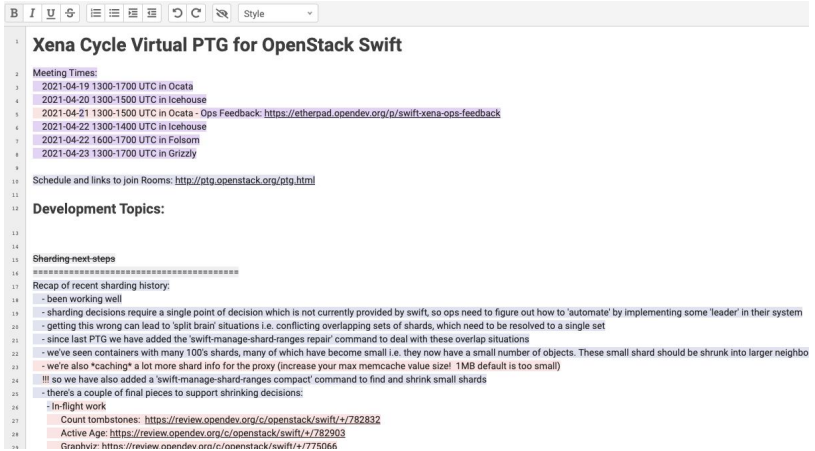
- Settled:
  - Date: Sept. 11th
  - Platform: Hopin(Need to sign up with them before 8/11)
  - CFP: https://docs.google.com/forms/d/1AMZVl-gxS9oAqvZ4akIOnBfAuY4z1FSBa0fo99wk-Lk/
    - or https://www.surveymonkey.com/r/DTCDZ7Z if first link is not accessable from some areas
      - This will need to ask for following detail to speakers
        - Speaker photo
        - Speaker Bio
        - Session Details (please within 1000 characters)
        - What can attendees expect to learn from this session (please within 500 characters)
        - Are you interested to have an interview, give a lightning talk before/after the event *
  - Master plan https://docs.google.com/spreadsheets/d/18bVhEpdPkPh_S8kxDCcUxMZD5P-bLQD-9o9Kjc1IsIA/edit#gid=0
  - Schedule: https://docs.google.com/spreadsheets/d/1bV-1BIWuGf-CV86HmcnXPj-r18-f0xksJvPaNEl3lkQ/edit#gid=0

OpenInfra Days Asia 2021 행사 준비
(https://etherpad.opendev.org/p/2021-asia-virtual-openinfra)

PTG (Project Team Gathering)

6개월 마다 OpenStack 업스트림 개발자들이 팀별로 모여 다음 릴리즈에 포함될 주요 안건을 집중적으로 논의하는 기간

오프라인으로 진행하였으나, 최근에는 온라인으로 진행
http://ptg.openstack.org/



Style

Xena Cycle Virtual PTG for OpenStack Swift

Meeting Times:
- 2021-04-19 1300-1700 UTC in Ocata
- 2021-04-20 1300-1500 UTC in Icehouse
- 2021-04-21 1300-1500 UTC in Ocata - Ops Feedback: https://etherpad.opendev.org/p/swift-xena-ops-feedback
- 2021-04-22 1300-1400 UTC in Icehouse
- 2021-04-22 1600-1700 UTC in Folsom
- 2021-04-23 1300-1700 UTC in Grizzly

Schedule and links to join Rooms: http://ptg.openstack.org/ptg.html

Development Topics:

~~Sharding next steps~~

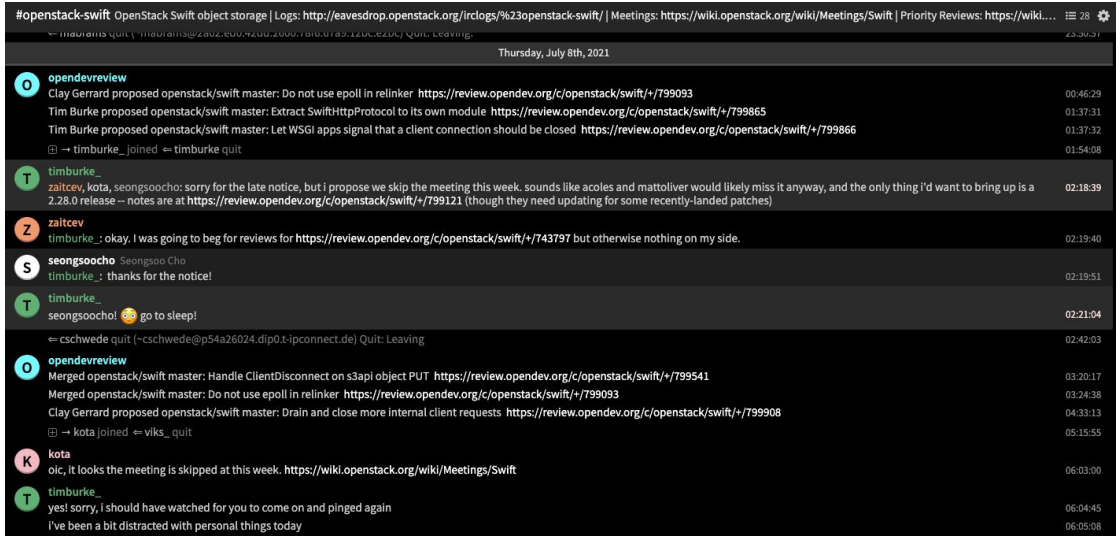
Recap of recent sharding history:
- been working well
- sharding decisions require a single point of decision which is not currently provided by swift, so ops need to figure out how to 'automate' by implementing some 'leader' in their system
- getting this wrong can lead to 'split brain' situations i.e. conflicting overlapping sets of shards, which need to be resolved to a single set
- since last PTG we have added the 'swift-manage-shard-ranges repair' command to deal with these overlap situations
- we've seen containers with many 100's shards, many of which have become small i.e. they now have a small number of objects. These small shard should be shrunk into larger neighbo
- we're also *caching* a lot more shard info for the proxy (increase your max memcache value size! 1MB default is too small)
- !!! so we have also added a 'swift-manage-shard-ranges compact' command to find and shrink small shards
- there's a couple of final pieces to support shrinking decisions:
  - In-flight work
    - Count tombstones: https://review.opendev.org/c/openstack/swift/+/782832
    - Active Age: https://review.opendev.org/c/openstack/swift/+/782903
    - Graphviz: https://review.opendev.org/c/openstack/swift/+/775066

OpenStack Swift 팀의 PTG 모습

IRC / Mailing List

상시 대화 채널로 IRC 를 이용
(https://wiki.openstack.org/wiki/IRC)

Openstack-discuss Mailing List를 통해 오픈스택의 모든 내용을 토론하고 공유한다
(http://lists.openstack.org/cgi-bin/mailman/listinfo/openstack-discuss)



IRC / Mailing List

IRC의 지난 내용도 다 기록하여, 누구나 논의 기록을 되돌아 볼 수 있다. (https://meetings.opendev.org/irclogs/)

팀 별로 다르지만, 주기적으로 IRC로 text 회의를 진행하며 활발하게 논의한다.
(https://meetings.opendev.org/meetings/swift/2021/swift.2021-05-12-21.00.html)

#openstack-meeting: swift

Meeting started by timburke at 21:00:30 UTC (full logs).

Meeting summary

1. Python 3.10 beta (timburke, 21:03:06)
   a. https://review.opendev.org/c/openstack/pyeclib/+/790537 - Use Py_ssize_t when calling PyArg_Parse (timburke, 21:08:11)
2. sharding (timburke, 21:13:45)
   a. https://review.opendev.org/c/openstack/swift/+/778989 (acoles, 21:21:00)
3. relinker (timburke, 21:23:28)
   a. https://review.opendev.org/c/openstack/swift/+/790305 (timburke, 21:24:20)
   b. https://review.opendev.org/c/openstack/swift/+/791022 (timburke, 21:25:35)
4. stale EC frags (timburke, 21:34:17)
5. dark data watcher (timburke, 21:40:45)
6. open discussion (timburke, 21:47:46)

Meeting ended at 21:58:30 UTC (full logs).

Action items

1. (none)

People present (lines said)

1. timburke (56)
2. mattoliverau (28)
3. acoles (24)
4. zaitcev (23)
5. openstack (3)
6. tosky (1)
7. kota_ (1)
8. seongsoocho (1)

```
21:00:30 <timburke> #startmeeting swift
21:00:31 <openstack> Meeting started Wed May 12 21:00:30 2021 UTC and is due to finish in 60 minutes.  The chair is timburke. Information about M
http://wiki.debian.org/MeetBot.
21:00:32 <openstack> Useful Commands: #action #agreed #help #info #idea #link #topic #startvote.
21:00:34 <openstack> The meeting name has been set to 'swift'
21:00:37 <timburke> who's here for the swift meeting?
21:00:49 <kota_> o/
21:01:11 <mattoliverau> o/
21:01:57 <seongsoocho> o/
21:02:09 <acoles> o/
21:02:16 <timburke> as usual, the agenda's at https://wiki.openstack.org/wiki/Meetings/Swift
21:02:31 <timburke> though i only just updated it ;-)
21:03:06 <timburke> #topic Python 3.10 beta
21:04:01 <timburke> i just wanted to call attention to this -- it seems like there may be some work to get tests running under py310, and i don't
come october
21:05:31 <timburke> i've started playing around with it. eventlet's not working yet, nose is busted (and at this point, unlikely to be fixed)
21:05:42 <mattoliverau> good thinking. might need to see if I can create a venv of it.
21:05:55 <mattoliverau> oh wow
21:05:58 <mattoliverau> awesome
21:06:04 <timburke> python-swiftclient's fine, though -- as long as you've got some other test runner
21:06:50 <timburke> good news is that distros seemed to be pretty quick on the packaging front; i got it fine on fedora and ubuntu (via deadsnake
21:07:33 <timburke> pyeclib needed an update, but it was tame enough that i went ahead and merged it when i confirmed the gate was happy with it
21:08:11 <timburke> https://review.opendev.org/c/openstack/pyeclib/+/790537 - Use Py_ssize_t when calling PyArg_Parse
21:09:00 <mattoliverau> if we wont be able to use nose anymore, whats the alternative.. will be need to migrate to something like pytest.. or wai
{o,s}testr still a supported thing?
21:10:04 <timburke> stestr seems to still be the "preferred" way in openstack, as best i can tell. it *also* doesn't work with py310 right now, t
testtools release should fix it
21:10:33 <timburke> personally, i kinda like pytest -- and it's working *today*
21:10:51 <mattoliverau> kk
21:11:37 <tosky> stestr is definitely alive (ostestr is totally deprecated and not used anymore)
```

IRC / Mailing List

Index of /irclogs

Name	Last modified	Size	Description
Parent Directory		-	
##openvswitch/	2021-07-08 04:00	-	
##rdo/	2021-07-08 04:00	-	
##softwarefactory/	2021-07-08 04:00	-	
#airshipit/	2021-07-08 04:00	-	
#akanda/	2021-07-08 04:00	-	
#ara/	2021-07-08 04:00	-	
#cloudkitty/	2021-07-08 04:00	-	
#congress/	2021-07-08 04:00	-	
#craton/	2021-07-08 04:00	-	
#dox/	2021-07-08 04:00	-	
#edge-computing-group/	2021-07-08 04:00	-	
#heat/	2021-07-08 04:00	-	
#kata-dev/	2021-07-08 04:00	-	
#kata-general/	2021-07-08 04:00	-	
#kolla/	2021-07-08 04:00	-	
#magnetodb/	2021-07-08 04:00	-	
#midonet/	2021-07-08 04:00	-	
#murano/	2021-07-08 04:00	-	
#networking-sfc/	2021-07-08 04:00	-	
#oooq/	2021-07-08 04:00	-	
#opendev-meeting/	2021-07-08 04:00	-	
#opendev-sandbox/	2021-07-08 04:00	-	

IRC logs

- Latest (bookmarkable)

2021-07

- 2021-07-07 (Wednesday)
- 2021-07-06 (Tuesday)
- 2021-07-05 (Monday)
- 2021-07-04 (Sunday)
- 2021-07-03 (Saturday)
- 2021-07-02 (Friday)
- 2021-07-01 (Thursday)

2021-06

- 2021-06-30 (Wednesday)
- 2021-06-29 (Tuesday)
- 2021-06-28 (Monday)
- 2021-06-27 (Sunday)
- 2021-06-25 (Friday)
- 2021-06-24 (Thursday)
- 2021-06-23 (Wednesday)
- 2021-06-22 (Tuesday)
- 2021-06-21 (Monday)
- 2021-06-20 (Sunday)
- 2021-06-18 (Friday)
- 2021-06-17 (Thursday)
- 2021-06-16 (Wednesday)
- 2021-06-15 (Tuesday)
- 2021-06-14 (Monday)
- 2021-06-13 (Sunday)
- 2021-06-12 (Saturday)
- 2021-06-11 (Friday)

Wednesday, 2021-07-07

« Tuesday, 2021-07-06 Index

*** pmannidi is now known as pmannidiAFK
*** pmannidiAFK is now known as pmannidiAway
*** pmannidiAway is now known as pmannidiAFK
*** pmannidiAFK is now known as pmannidiAway
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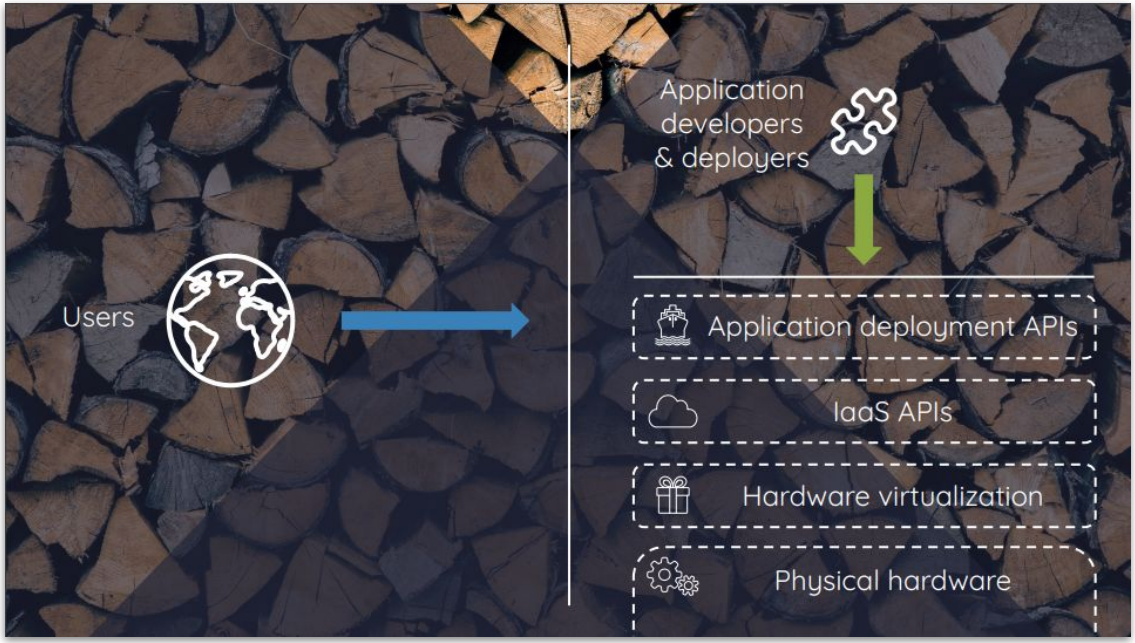
*** pmannidiAFK is now known as pmannidiAway

iurylholiday	good morning janders and Ironic o/
*** iurylholiday is now known as iurygregory	
janders	hey iurygregory o/
iurygregory	o/
arne_wiebalck	Good morning janders iurygregory and Ironic!
iurygregory	morning arne_wiebalck o/
arne_wiebalck	TheJulia: thanks, much clearer! I still left some comments :)
janders	hey arne_wiebalck o/
jssfr	hiho! I'm currently looking hardware inventorization/introspection using the ironic python agent. I note that it exports bm available when queried from ipmitool. Is there any specific reason against implementing that? I might provide a patch.
vmud213	jssfr: I think it's because we don't really use BMC MAC address
vmud213	Most of the times the BMC provides REST API or xmlrpcs or some other mechanism to connect to it. So all that one may properties
jssfr	vmud213, aha. My use case would be matching the introspection data with an existing hardware inventory/IPAM thing to this is some "undercloud" standalone ironic use case)
vmud213	jssfr: Sry i interpreted it wrong way. I got it now. So if you are introspecting, you also expect the BMC MAC and not just
jssfr	Thanks for your feedback!

OpenStack을 넘어 Open Infrastructure 로

Open Infrastructure Summit 2019 Shanghai 발표를 통해 알아보는
Open Infrastructure

왜 Open Infrastructure인가?



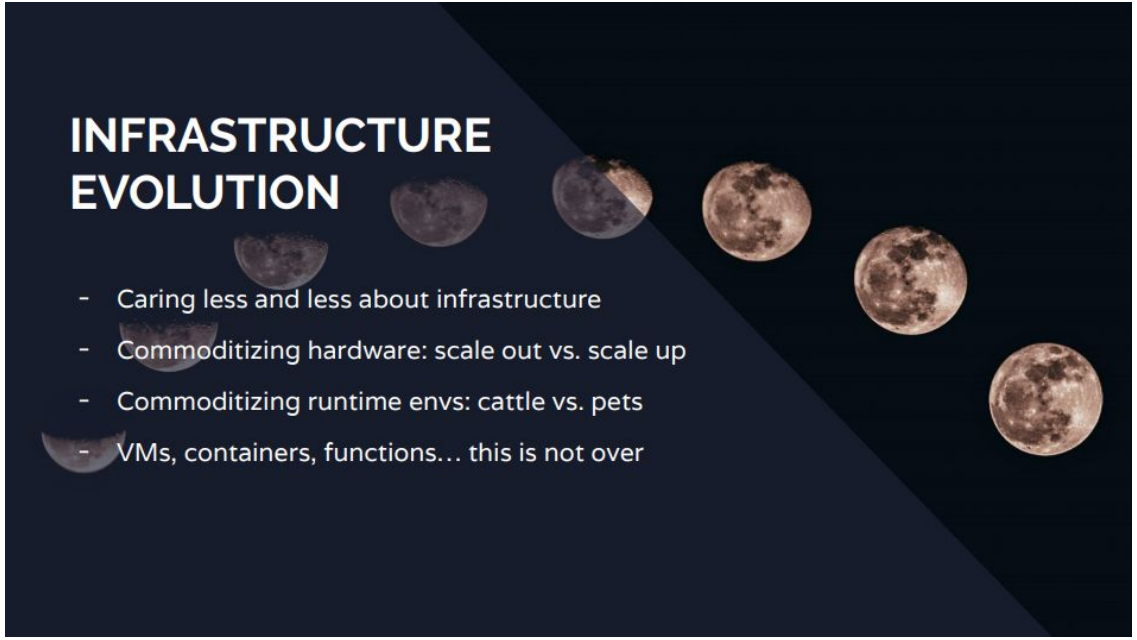
어플리케이션 배포 관점에서 보면

처음에는 물리 장비에, 그 다음은
하드웨어 가상화, IaaS API

그리고 이제는 쿠버네티스와 같이
어플리케이션 배포를 위한 API를
이용해 배포하게 되었다

출처 및 참고자료 : https://www.openstack.org/videos/summits/shanghai-2019/why-you-should-adopt-open-infrastructure-today

왜 Open Infrastructure인가?



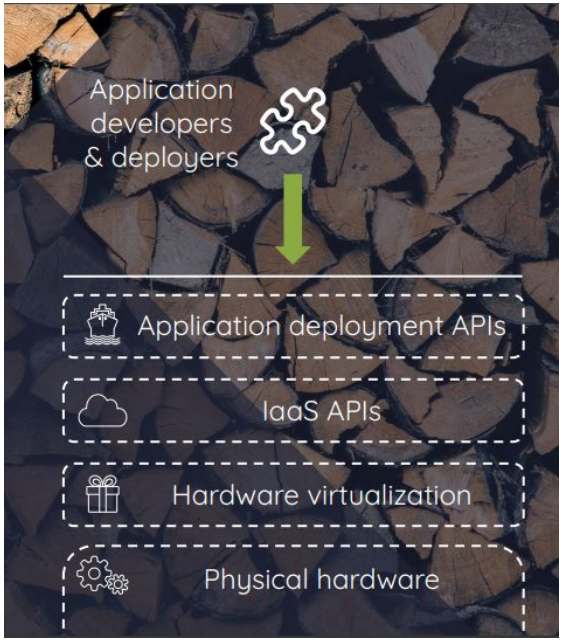
Infrastructure를 관리하는 노력을 점점 더 줄여가면서,

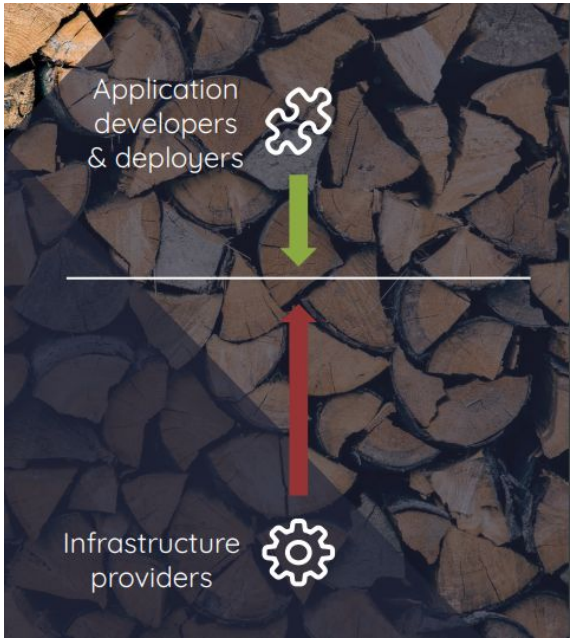
상업용 서버의 활용도를 높여가고,

Infrasturcutre에서 담당해야하는 역할이 점점 더 추가되어간다

출처 및 참고자료 : https://www.openstack.org/videos/summits/shanghai-2019/why-you-should-adopt-open-infrastructure-today

왜 Open Infrastructure인가?





Infrastructure provider가 제공해야하는 인프라의 범위가 점점 커지게 되었다

이 영역이 Open Infrastructure Solution이 담당해야할 영역이다

출처 및 참고자료 : https://www.openstack.org/videos/summits/shanghai-2019/why-you-should-adopt-open-infrastructure-today

Open Infrastructure Foundation

클라우드는 데이터센터 안팎으로 가상머신, 베어메탈 그리고 컨테이너와 융합되어 원활하게 동작하도록 변화하였다.

OpenStack이 클라우드 인프라의 de facto 오픈소스 플랫폼이 되면서, 다양한 use case를 만나게 되었다.

AI/Machine Learning, CI/CD, Container Infrastructure, Edge Computing, Public, Private and Hybrid Clouds 을 위한 오픈소스 Cloud Infrastructure를 위해

2020년에 OpenStack Foundation에서 Open Infrastructure Foundation으로 변화하였다

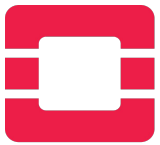
Open Infrastructure Project

Open Infrastructure Solution을 위해 4개의 프로젝트를 Foundation의 핵심 프로젝트로 정했다

각 프로젝트는 4 Open (Open Source / Design / Development / Community) 을 강조하며, 각자의 비전과 역할을 가지고 개발되고 있다

Airship

Lifecycle Management



OpenStack

Programmable Infrastructure for VMs, containers and bare metal

Kata Containers

Secure, lightweight CRI compatible virtualized containers

StarlingX

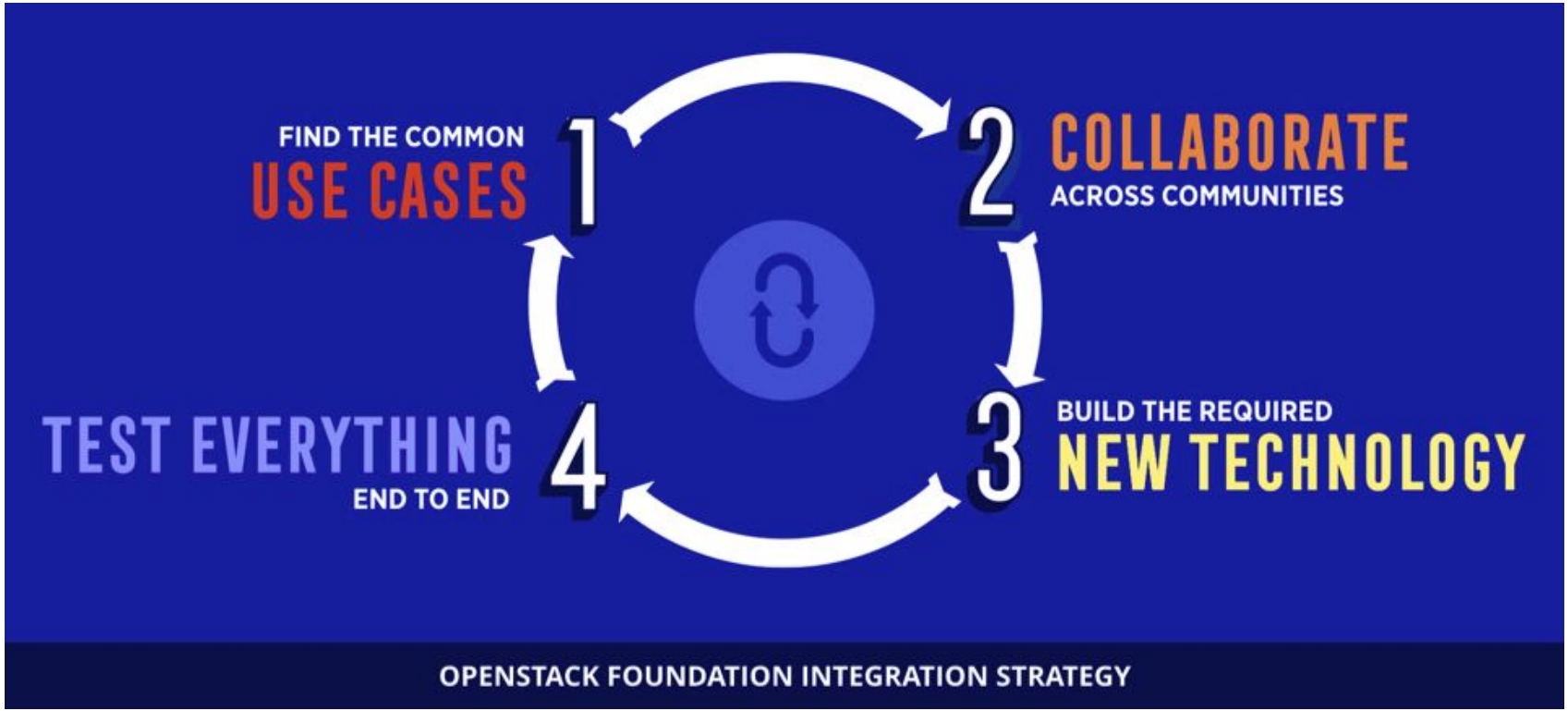
Edge Cloud Computing Instrastructure

Zuul

CI/CD platform for gating changes across multiple systems/repos

참고 자료 :
https://superuser.openstack.org/articles/inside-open-infrastructure-the-latest-from-the-openstack-foundation-4/

Four Opens


FIND THE COMMON
USE CASES
1
2
COLLABORATE
ACROSS COMMUNITIES
TEST EVERYTHING
END TO END
4
3
BUILD THE REQUIRED
NEW TECHNOLOGY
OPENSTACK FOUNDATION INTEGRATION STRATEGY

Q) OpenStack과 kubernetes의 향후 발전 전망

OpenStack과 kubernetes는 서로 바라보는 방향이 다르다.

- OpenStack : 인프라를 서비스로 제공하는데 초점
- Kubernetes : 어플리케이션을 배포를 위한 오케스트레이션 환경을 지원하는데 초점

서로 경쟁관계가 아니라, 공존하며 협력하는 관계로 발전할 것이다.

openstack.

이제 오픈스택이 무엇인지 아시려나요?

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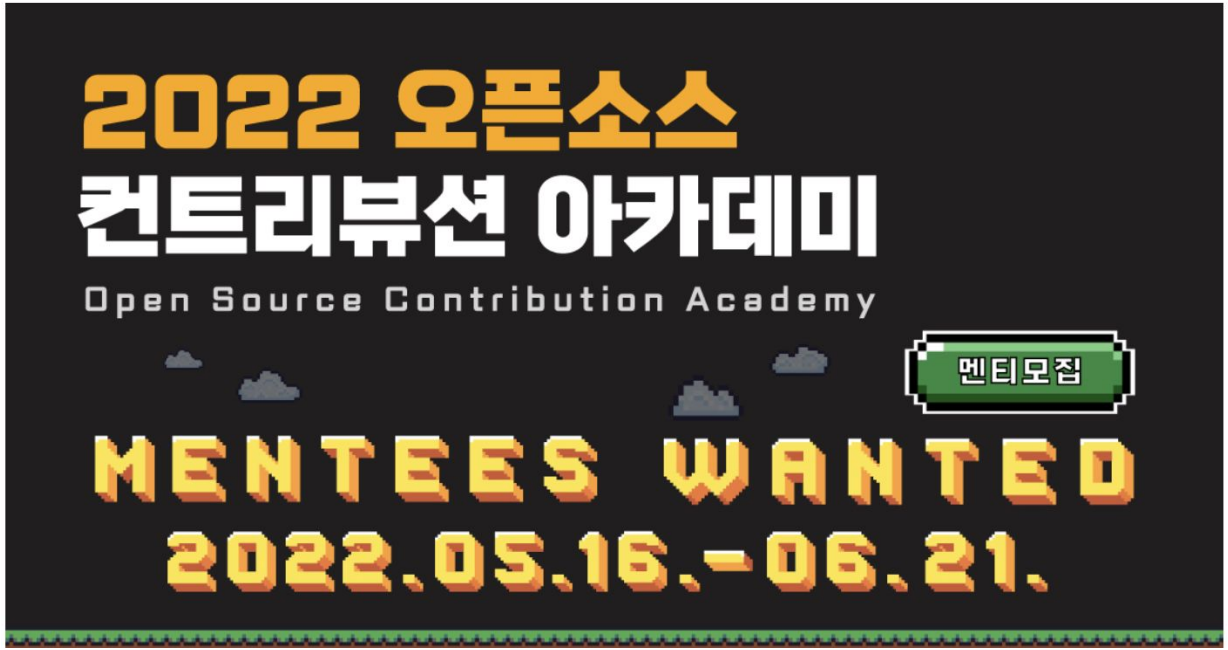
이런 오픈스택을 좀 더 자세히 알고 싶으시죠?


2022 오픈소스
컨트리뷰션 아카데미
Open Source Contribution Academy
멘티모집
MENTEES WANTED
2022.05.16.-06.21.

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Thanks