



OpenStack을 넘어 Open Infrastructure로

OpenStack의 다음 10년을 설계하다

오픈스택 한국 커뮤니티 대표 조성수

조성수 (irc: seongsoocho)

NHN Cloud OpenStack IaaS / Object Storage 운영

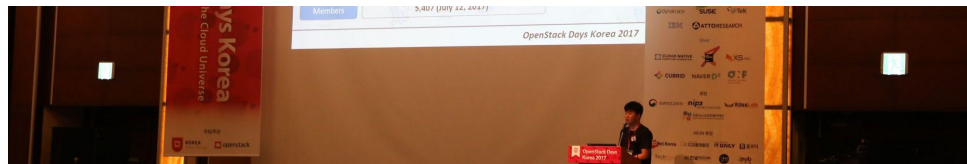
[커뮤니티 활동]

오픈스택 한국 커뮤니티 4기 대표 (2020 ~ 현재)

오픈스택 한국 커뮤니티 3기 부대표 (2017 ~ 2020)

오픈스택 컨트리뷰터 (2016. 2. 2. ~ 현재)

오픈스택 한국 커뮤니티 회원 (2014. 4. 2. ~ 현재)



오늘의 이야기

OpenStack 이란?

OpenStack이 동작하는 핵심 원리 및 아키텍처

OpenStack을 넘어 Open Infrastructure로 가기 위한 준비

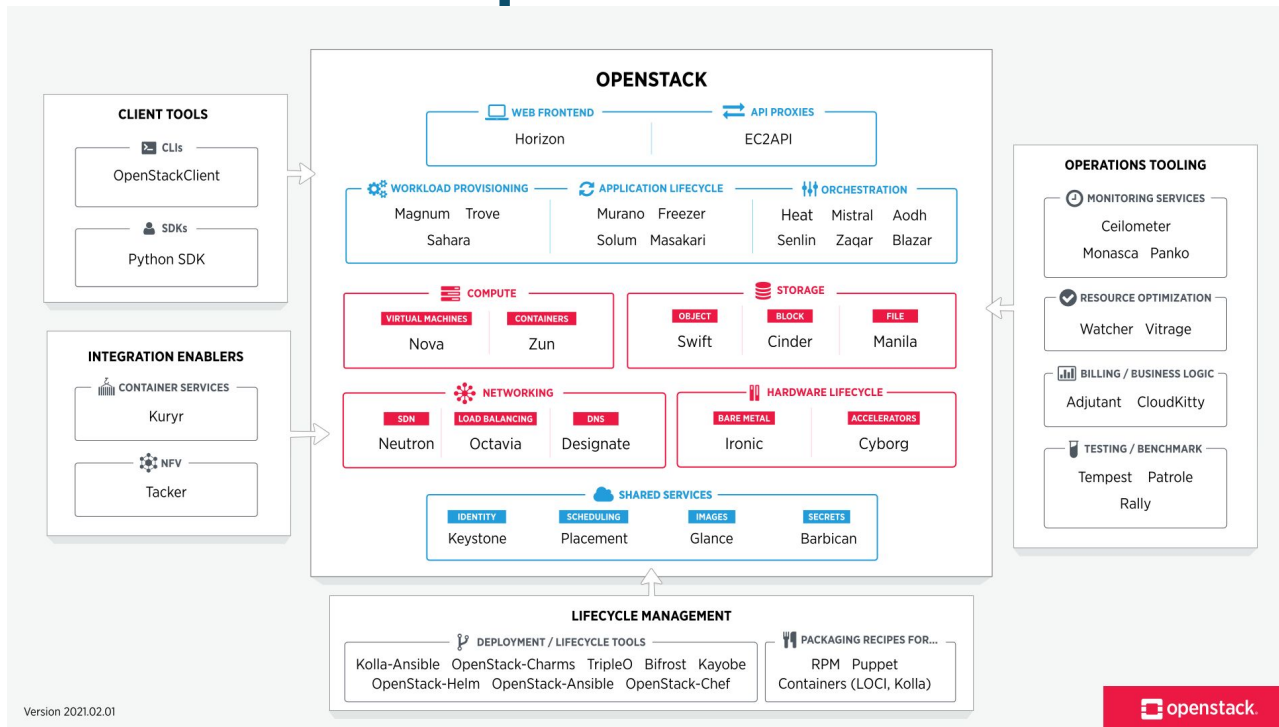
- Open Infrastructure Foundation의 Core Project
- OpenDev 와 4 Opens

OpenStack 한국 커뮤니티의 활동 그리고 앞으로의 계획

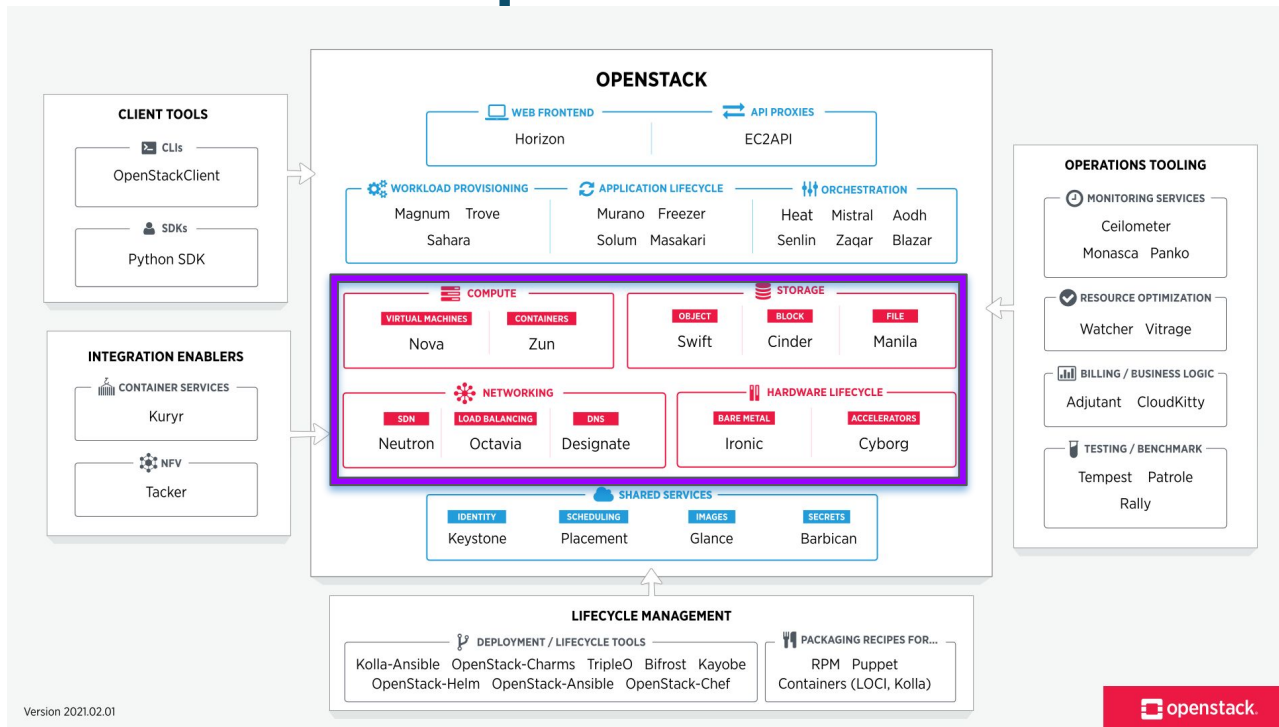
OpenStack

Cloud Infrastructure for Virtual Machines,
Bare Metals and Containers

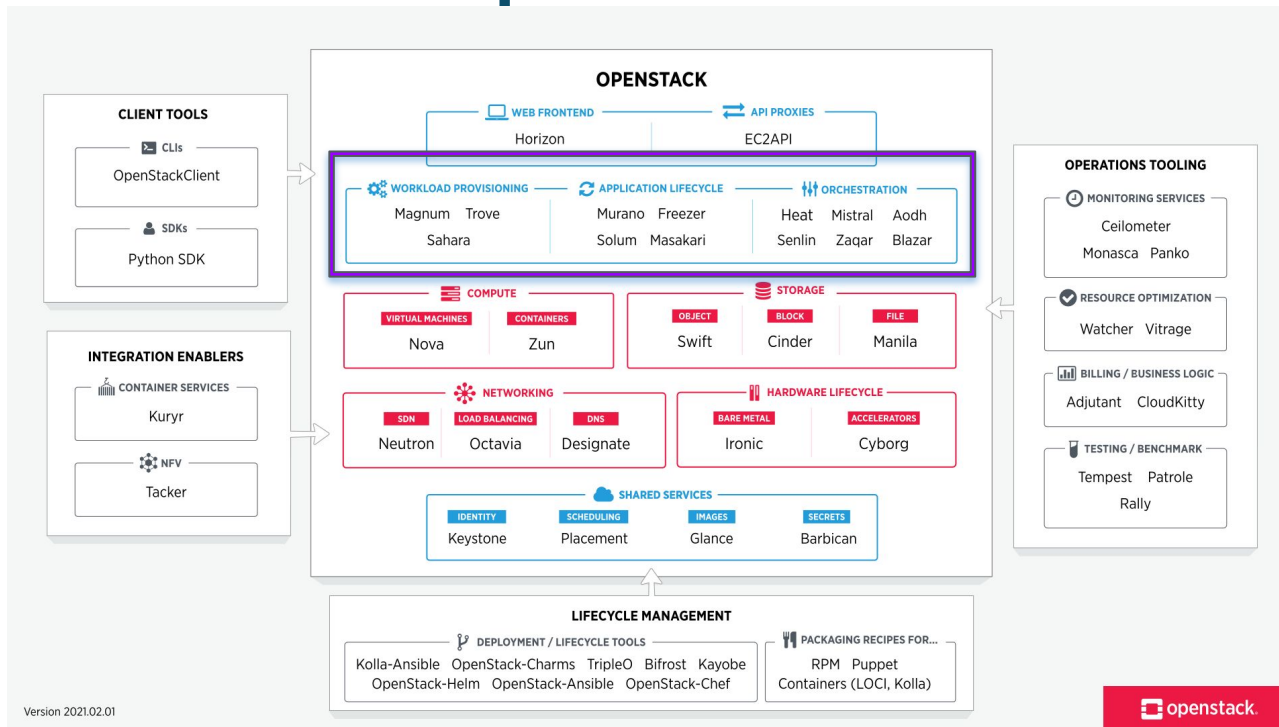
OpenStack Landscape



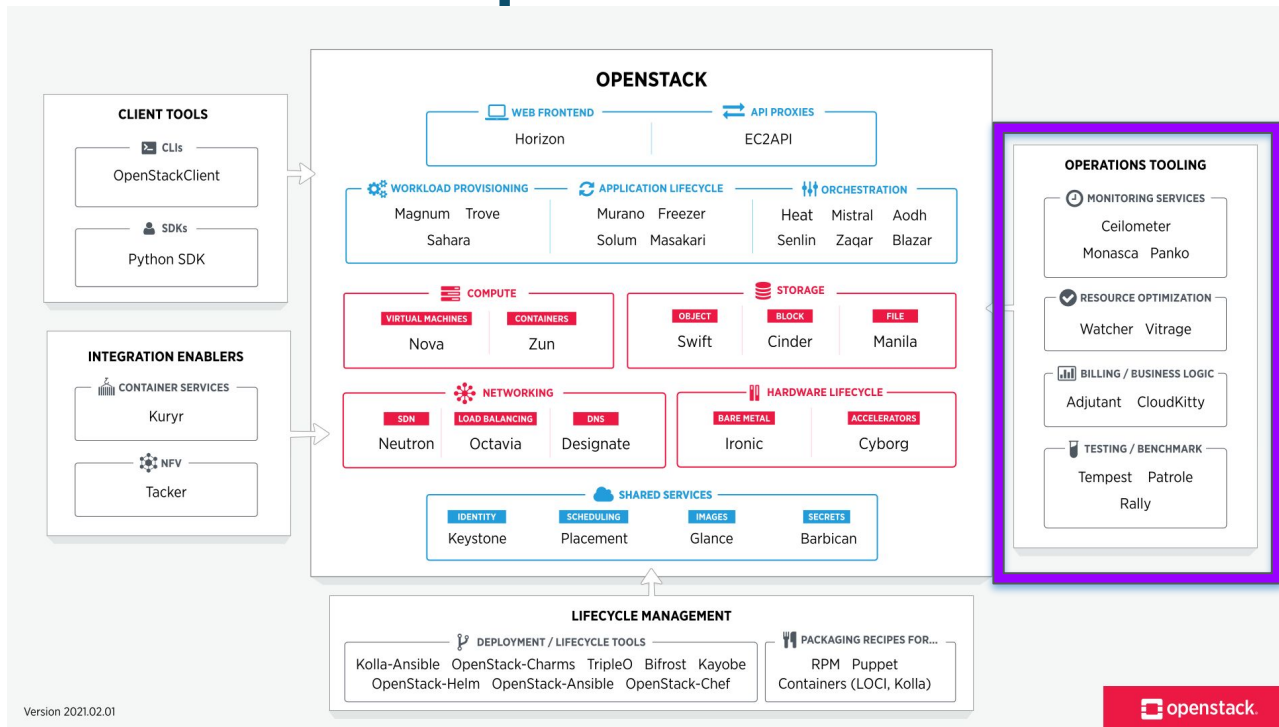
OpenStack Landscape



OpenStack Landscape



OpenStack Landscape



Core Component



nova
(Computing Service)



neutron
(Networking)



glance
(Image Service)



Cinder
(Block Storage)



swift
(Object Storage)



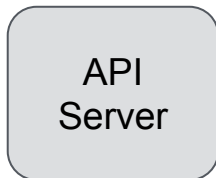
Keystone
(Identity Service)

OpenStack은 어떻게 동작할까?

오픈스택이 클라우드 인프라를 만드는 방법에 대해
알아봅니다

컴포넌트가 동작하는 방식 (동일 컴포넌트 내)

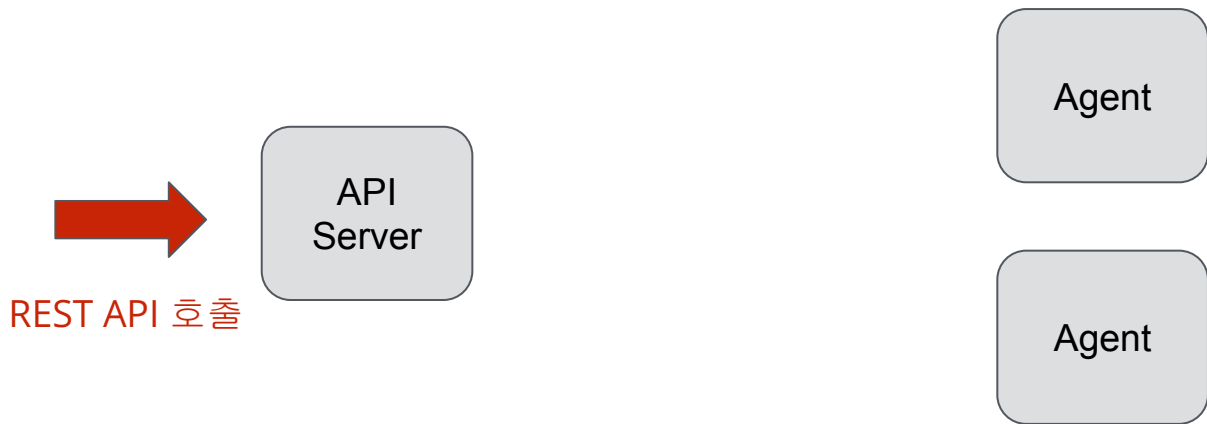
컴포넌트는 API 서버와 Agent 로 구성되어있다



컴포넌트가 동작하는 방식 (동일 컴포넌트 내)

컴포넌트는 API 서버와 Agent 로 구성되어있다

API 서버는 클라이언트의 요청 혹은 다른 컴포넌트의 요청을 받아들인다.

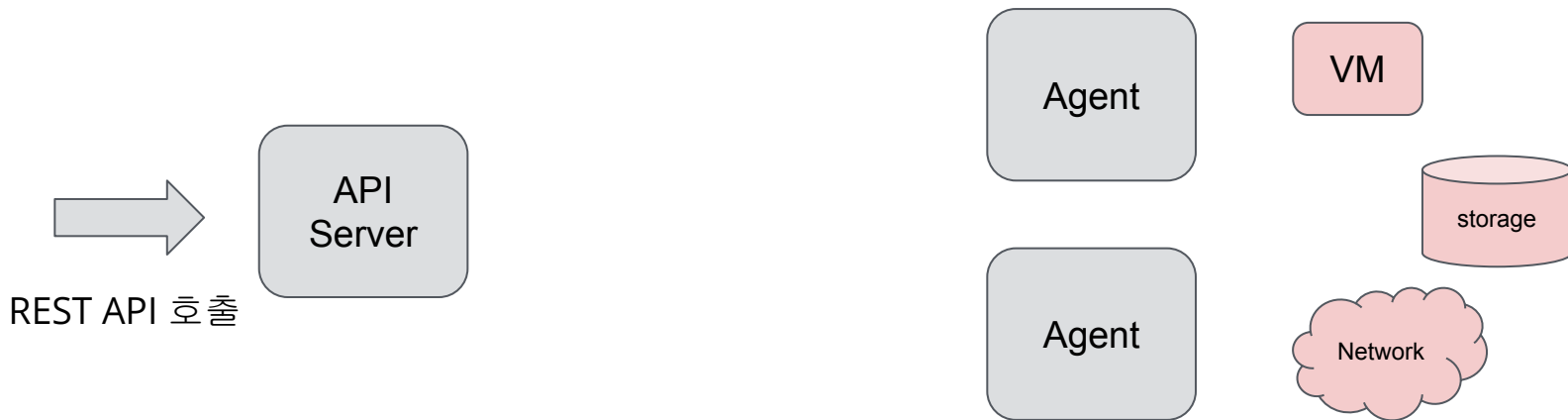


컴포넌트가 동작하는 방식 (동일 컴포넌트 내)

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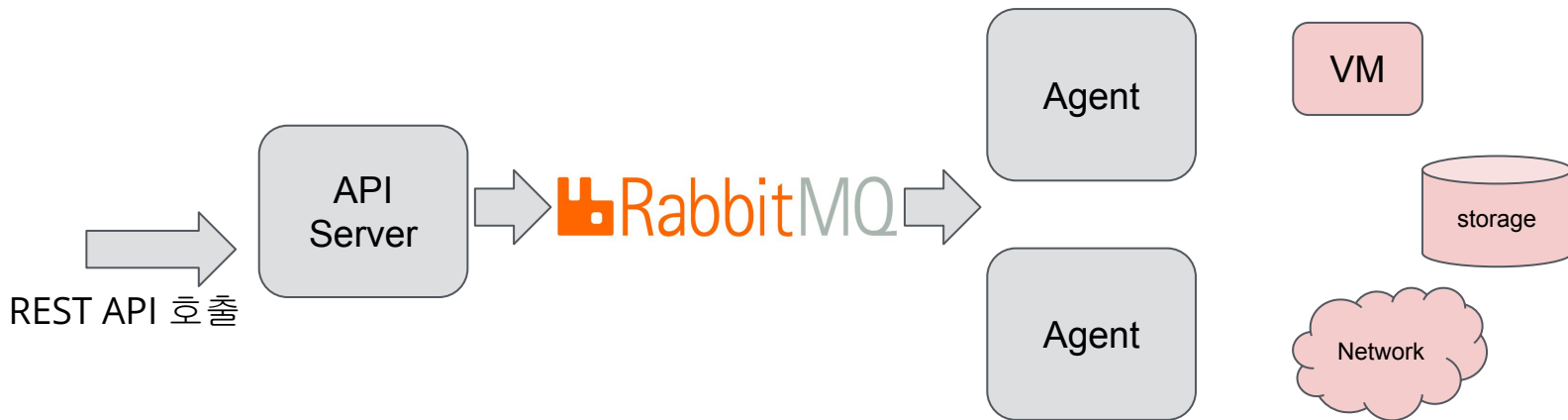
Agent는 **자원을 생성/삭제하는 역할**을 한다 (예: nova-compute agent는 vm을 생성/삭제한다)



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 문제 원인 파악 방법

OpenStack은 수 많은 컴포넌트가 서로 통신을 하며 요청을 처리한다.

인스턴스 생성 실패의 경우 nova/neutron/cinder 때에 따라 glance까지 로그를 종합적으로 확인해야한다.

OpenStack은 요청별로 request id를 생성하여 다른 컴포넌트에 요청을 보낼 때 'X-OpenStack-Request-Id' 헤더에 id를 담아 보낸다.

로그에 request id가 남아있어, 이 정보를 토대로 로그에서 분석한다.

< 로그 예시 인스턴스 생성 - nova-compute >

```
2021-07-07 09:56:40.181 37523 INFO nova.compute.claims [req-3b6dd152-a94e-4ede-8315-fe97d4551c05 fdf5158b94894671aa35c60d557af186
8534d8e055964709951905a43d44ccc3 - default default] [instance: b545cca6-ceb6-480a-99c5-52a99ab4c64c] Claim successful on node test-node
```

```
2021-07-07 09:56:41.041 37523 DEBUG keystoneauth.session [req-3b6dd152-a94e-4ede-8315-fe97d4551c05 fdf5158b94894671aa35c60d557af186
8534d8e055964709951905a43d44ccc3 - default default] REQ: curl -g -i -X GET
http://neutron:9696/v2.0/subnets/2d9e2c34-c767-49b1-9046-108b71c582fb -H "X-Service-Token: {SHA1}---" -H "User-Agent: python-neutronclient" -H
"X-OpenStack-Request-Id: req-3b6dd152-a94e-4ede-8315-fe97d4551c05" -H "Accept: application/json" -H "X-Auth-Token: {SHA1}---"
```

OpenStack의 자원 관리 방법

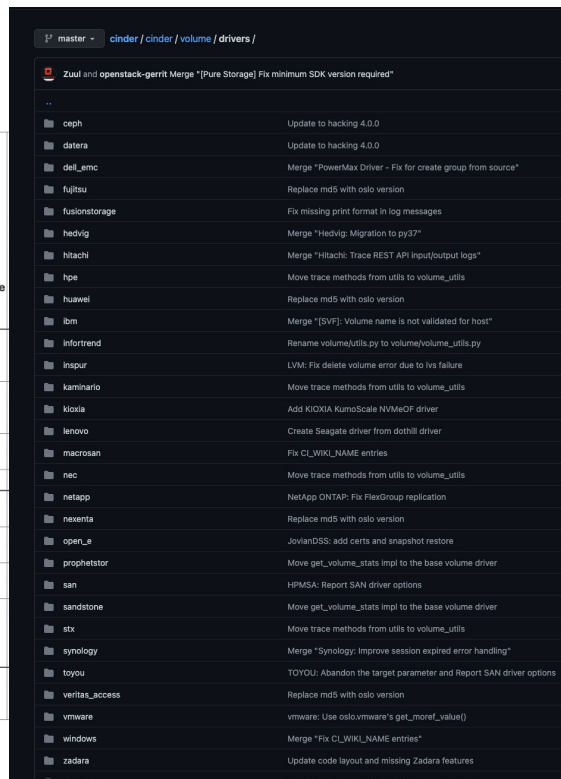
OpenStack이 storage / network / vm 자체를 직접 만들지 않는다.

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 (FC, iSCSI)	Dell EMC Unity Storage Driver (FC, iSCSI)	Dell EMC VMAX3 (100K, 200K, 400K) Storage Driver (FC, iSCSI)	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-bigs switch	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	Imacín Sconetta	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:

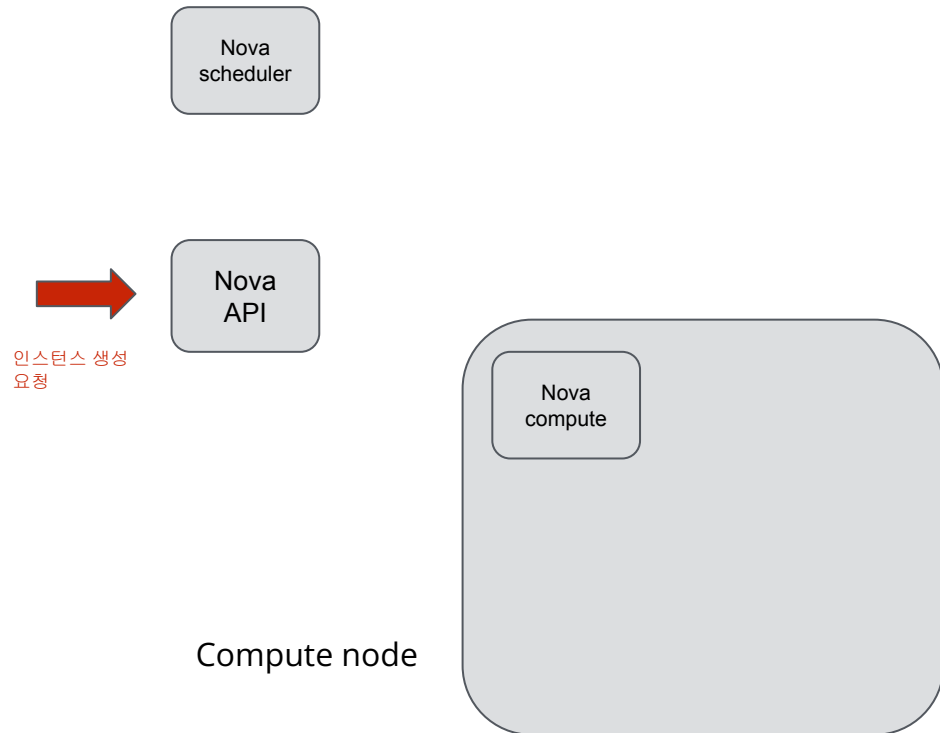
- [IroniC](#)
- [KVM](#)
- [LXC](#)
- [QEMU](#)
- [VMware ESX/ESXi](#)
- [Xen \(using libvirt\)](#)
- [XenServer](#)
- [Hyper-V](#)
- [PowerVM](#)
- [UML](#)
- [Virtuozzo](#)
- [zVM](#)

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

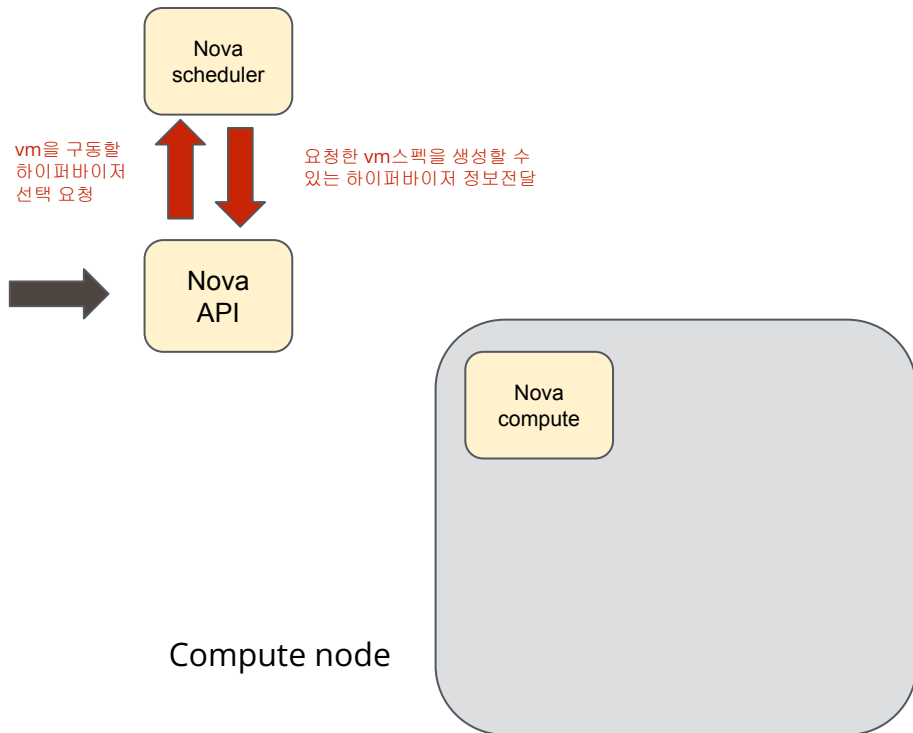
이제 오픈스택이 어떻게 동작하는지 한 눈에 볼 시간

인스턴스 생성을 예로, 컴포넌트가 어떻게 동작하는지 알아보니다

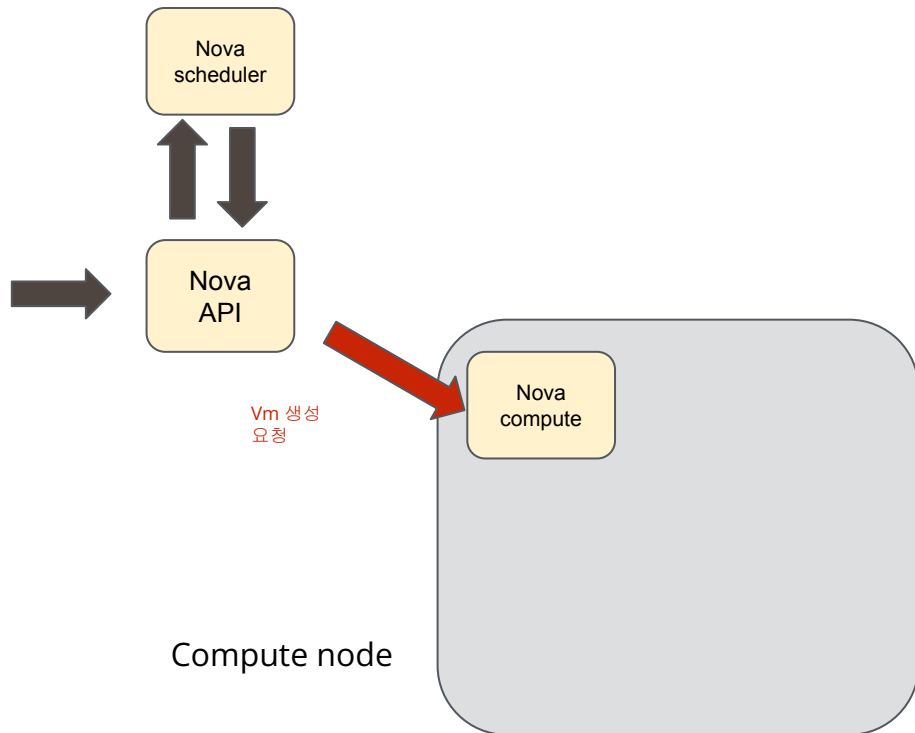
인스턴스 생성



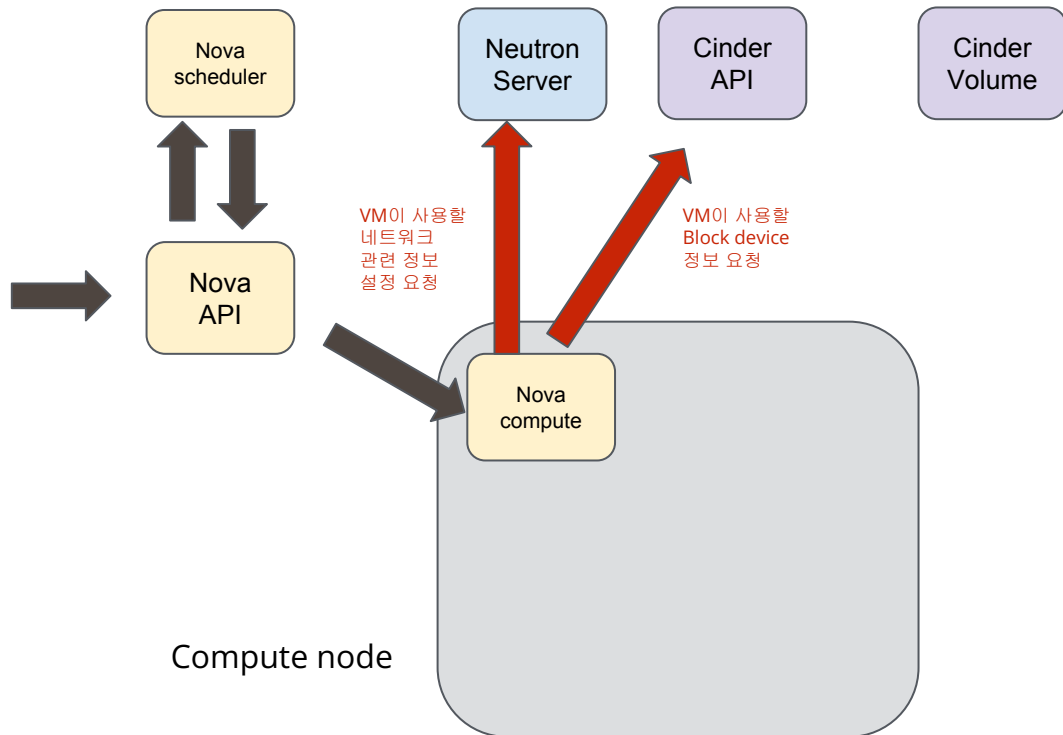
인스턴스 생성



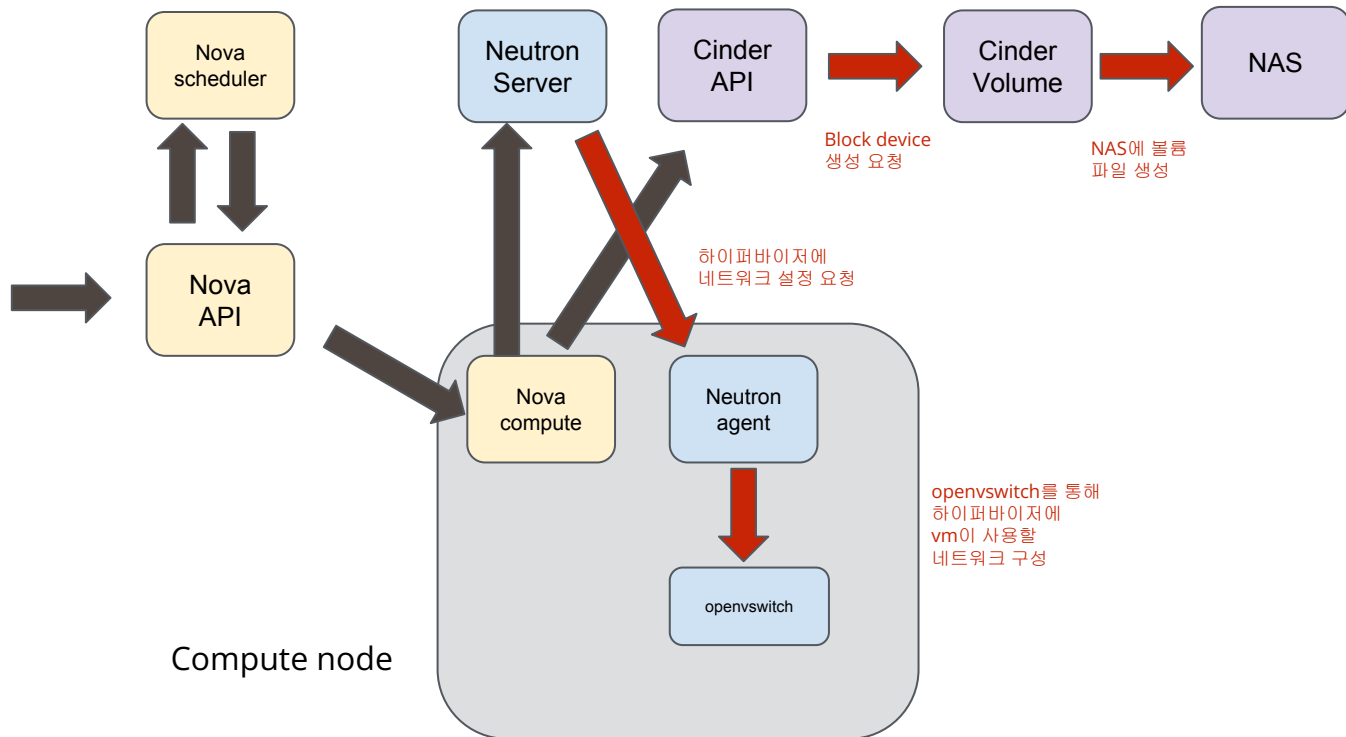
인스턴스 생성



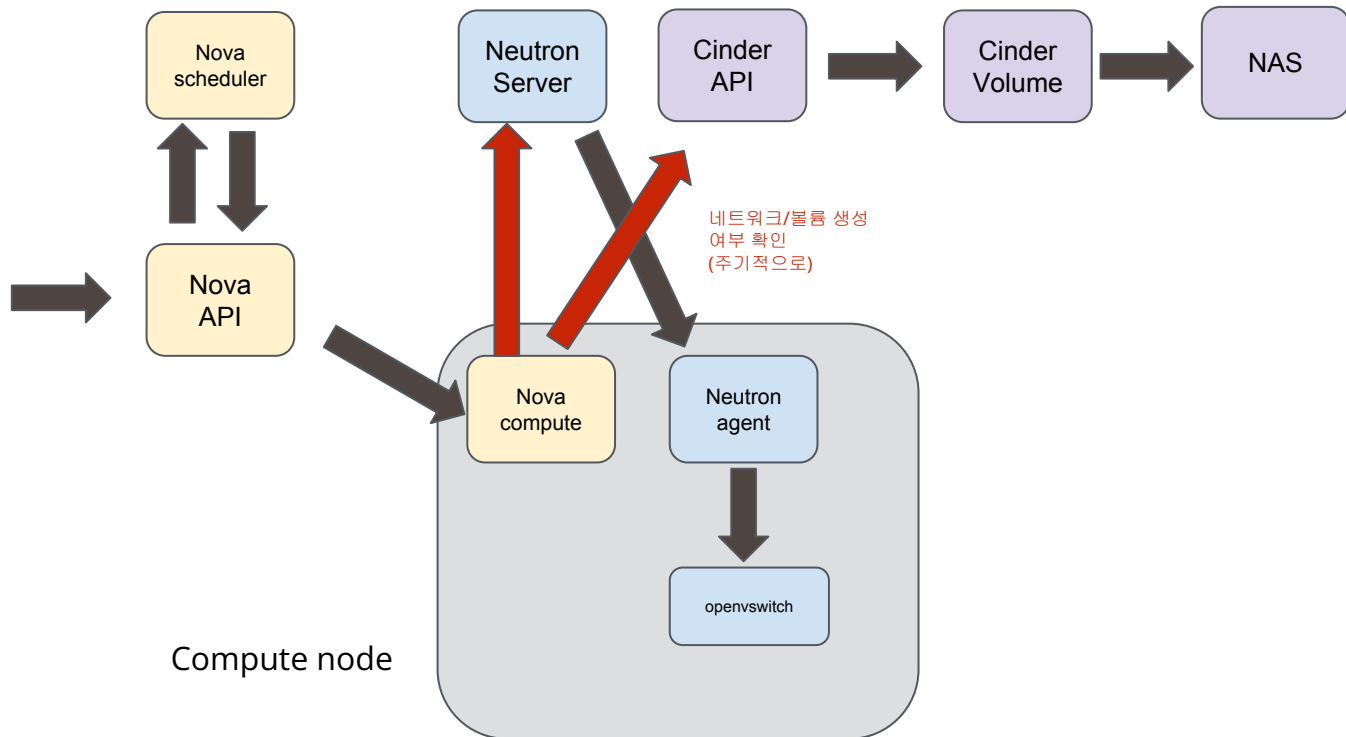
인스턴스 생성



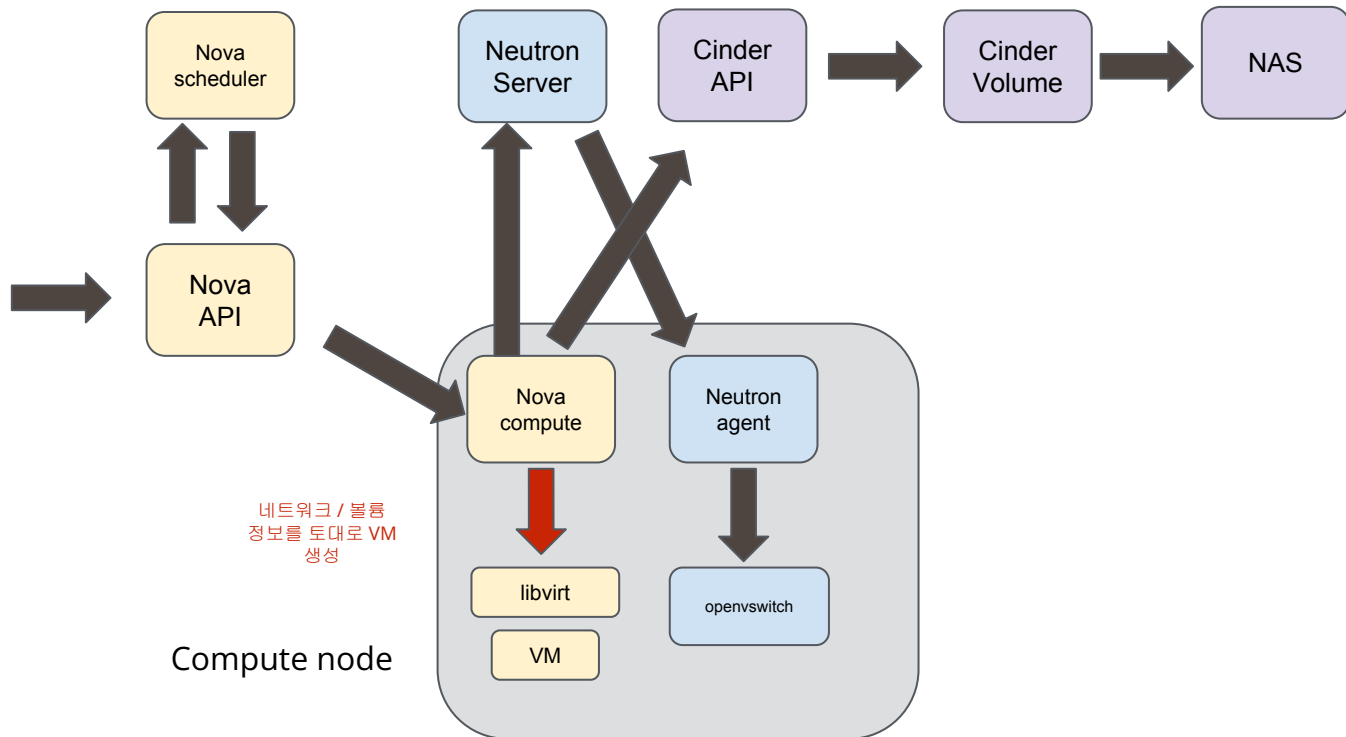
인스턴스 생성



인스턴스 생성



인스턴스 생성



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
```

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

코드 머지는 Core Contributor의 +2 점수를 받으면 머지가 가능하다.

CHANGES

DOCUMENTATION

BROWSE

Active

761794

ring: Allow 32-bit (or even 8-bit) device IDs

Updated

Jun 30

Owner

Tim Burke

Author

Tim Burke

Committer

Tim Burke

Assignee

Pete Zaltov

Reviewers

Matthew Oliver Zul

CC

Repo | Branch

Parent

Topic

Strategy

Hashtags

Verified

+1 Zul

Code Review

No votes.

Workflow

No votes.

Links

github

Files

Zuul Summary

Findings

Base

→ Patchset 4

92473b

NO PATCHSET DESCRIPTION

File

Commit message

M swift/ck/ringbuilder.py

M swift/common/ring/builder.py

M swift/common/ring/composite_builder.py

M swift/common/ring/ring.py

M swift/common/ring/utlis.py

M test/unit/cli/test_ringbuilder.py

M test/unit/common/ring/test_builder.py

Merge conflicts

ring: Keep track of last primary nodes from last rebalance

WIP: rethink: Allow increasing test power by more than one

WIP: Allow ring lookups via a service

Remove aix

Stop to use the _future_ module

allows for swift.common.builder.write_builder to continue if one of device

Remove limit of 64k devices

Always reset epoch when resetting last_part_moves

Fix the errors in swift/common/ringbuilder.py and swift/ck/ringbuilder

Pretend "some" parts min, max, hours, passed

test/unit/cli/test_ringbuilder should consistently use run_srb

Add composite_metadata as an attribute of RingData

Initial placement gets one go

Generalize command test class

add check of min, max, hours

ZUUL

[Status](#)
[Projects](#)
[Jobs](#)
[Labels](#)
[Nodes](#)
[Builds](#)
[Buildsets](#)

Queue lengths: 0 events, 0 management events, 0 results.

☒ check
 ☐ test

Newly uploaded patchsets enter this pipeline to receive an initial +/-1 Verified vote.
 Events: 0 trigger events, 0 management events, 0 results.
 Queue: airship/treasuremap

☒ airship/treasuremap

797132,8

unknown 14 hr

Queue: airship/airshipctl

☒ airship/airshipctl

795319,28

unknown 8 hr 35 min

Queue: airship/treasuremap

☒ airship/treasuremap

797154,7

unknown 5 hr 58 min

Queue: airship/treasuremap

☐ airship/treasuremap

797138,9

☒ airship/treasuremap

796939,10

unknown 3 hr 47 min

Queue: openstack/tripleo-quickstart-ex

☐ openstack/tripleo-quickstart-ex

797138,9

gate

Changes that have been approved by core reviewers are enqueued and will be merged. For documentation on how gating works see <https://docs.zuul.io/user/gating.html>

Events: 0 trigger events, 0 management events, 0 results.

Queue: tripleo

☒ openstack/puppet-tripleo

799097,5

49 min 7 hr 13 min

☒ openstack/puppet-tripleo

798174,9

49 min 7 hr 13 min

☒ openstack/tripleo-heat-template

787400,8

49 min 6 hr 58 min

☒ openstack/tripleo-ansible

799760,1

49 min 4 hr 18 min

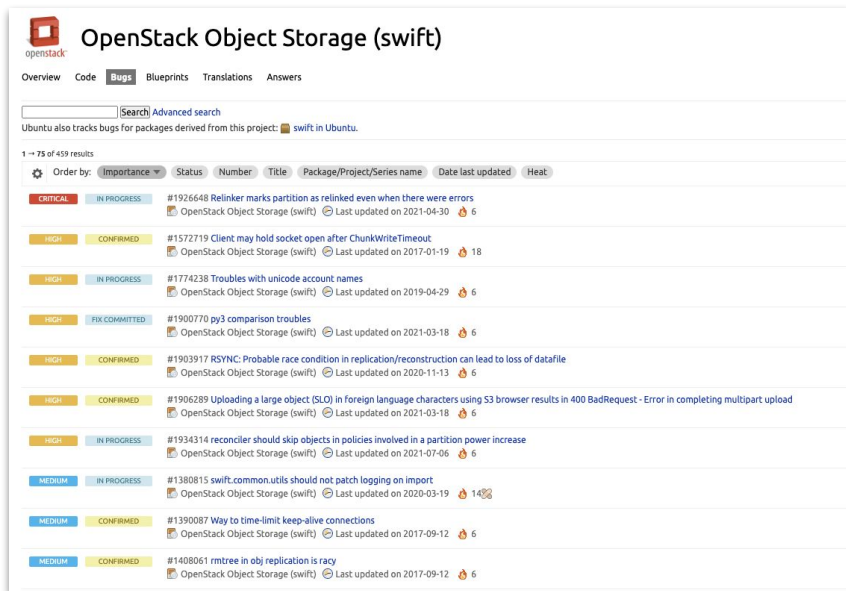
periodic

Jobs in this queue are triggered on a daily timer.

Events: 0 trigger events, 0 management events, 0 results.

이슈 관리 (Storyboard / launchpad)

ubuntu에서 사용하는 launchpad를 이용해 이슈를 관리하다가, 최근에 storyboard로 이전중



OpenStack Object Storage (swift)

Overview Code **Bugs** Blueprints Translations Answers

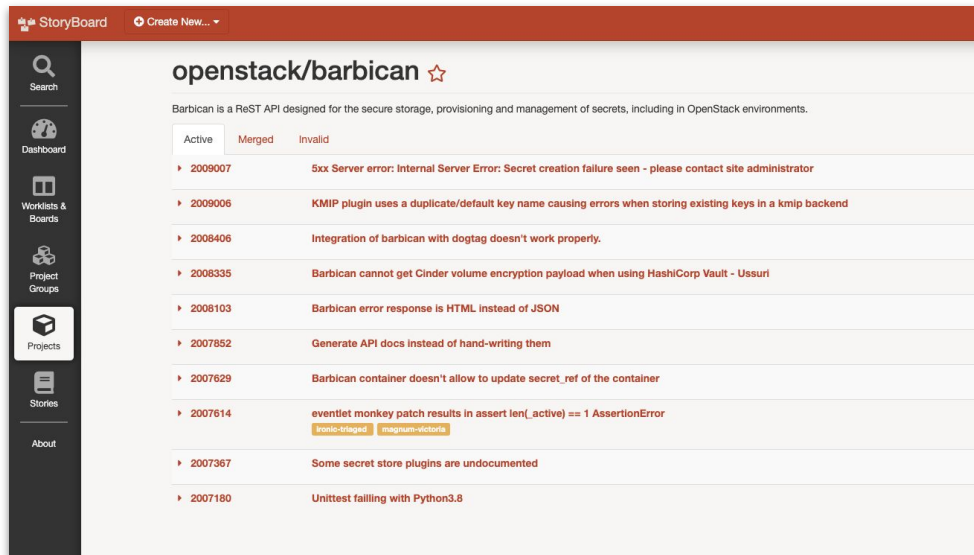
Search Advanced search

Ubuntu also tracks bugs for packages derived from this project: **swift** in Ubuntu.

1 - 75 of 459 results

Order by: Importance Status Number Title Package/Project/Series name Date last updated Heat

Severity	Status	Title	Package/Project/Series name	Date last updated	Heat
CRITICAL	IN PROGRESS	#1926648 Relinker marks partition as relinked even when there were errors	OpenStack Object Storage (swift)	Last updated on 2021-04-30	6
HIGH	CONFIRMED	#1572719 Client may hold socket open after ChunkWriteTimeout	OpenStack Object Storage (swift)	Last updated on 2017-01-19	18
HIGH	IN PROGRESS	#1774238 Troubles with unicode account names	OpenStack Object Storage (swift)	Last updated on 2019-04-29	6
HIGH	FIX COMMITTED	#1900770 py3 comparison troubles	OpenStack Object Storage (swift)	Last updated on 2021-03-18	6
HIGH	CONFIRMED	#1903917 RSYNC: Probable race condition in replication/reconstruction can lead to loss of datafile	OpenStack Object Storage (swift)	Last updated on 2020-11-13	6
HIGH	CONFIRMED	#1906289 Uploading a large object (SLO) in foreign language characters using S3 browser results in 400 BadRequest - Error in completing multipart upload	OpenStack Object Storage (swift)	Last updated on 2021-03-18	6
HIGH	IN PROGRESS	#1934314 reconciler should skip objects in policies involved in a partition power increase	OpenStack Object Storage (swift)	Last updated on 2021-07-06	6
MEDIUM	IN PROGRESS	#1380815 swift.common.utils should not patch logging on import	OpenStack Object Storage (swift)	Last updated on 2020-03-19	14
MEDIUM	CONFIRMED	#1390087 Way to time-limit keep-alive connections	OpenStack Object Storage (swift)	Last updated on 2017-09-12	6
MEDIUM	CONFIRMED	#1408061 mtree in obj replication is racy	OpenStack Object Storage (swift)	Last updated on 2017-09-12	6



Storyboard Create New...

openstack/barbican ☆

Barbican is a ReST API designed for the secure storage, provisioning and management of secrets, including in OpenStack environments.

Active Merged Invalid

ID	Summary
2009007	Sxx Server error: Internal Server Error: Secret creation failure seen - please contact site administrator
2009006	KMIP plugin uses a duplicate/default key name causing errors when storing existing keys in a kmip backend
2008406	Integration of barbican with dogtag doesn't work properly.
2008335	Barbican cannot get Cinder volume encryption payload when using HashiCorp Vault - Ussuri
2008103	Barbican error response is HTML instead of JSON
2007852	Generate API docs instead of hand-writing them
2007629	Barbican container doesn't allow to update secret_ref of the container
2007614	eventlet monkey patch results in assert len(active) == 1 AssertionError
2007367	Some secret store plugins are undocumented
2007180	Unittest failling with Python3.8

회의록 / 의견 공유 (Etherpad)

OpenStack 커뮤니티에서 논의되는 모든 내용은 etherpad에 기록하고 공개합니다

```

1 This etherpad will be used to list & track all the task we need to do to migrate the OpenStack IRC from Freenode to OFTC.
2 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。
3
4 Details about this migration:
5 有关迁移的详细信息:
6 • http://lists.openstack.org/pipermail/openstack-discuss/2021-May/022718.html
7 • https://etherpad.opendev.org/p/openstack-irc
8
9 Tasks:
10 • Draft-email-to-openstack-discuss-to:
11   • http://lists.openstack.org/pipermail/openstack-discuss/2021-May/022718.html
12 • TG-resolution
13   • https://review.opendev.org/c/openstack/governance/+793260
14 • Migrate-bots-to-OTFC
15 • OpenDev-sysadmins are taking care of accessbot, gerritbot, meetbot and statusbot, but any bots managed by other individuals are up to them to reconfigure
16 • Make-sure-that-all-the-needed-channels-are-moved-to-OTFC:
17   • OneOpenStack-channel-registered-but-not-under-control-of-our-bot-account-Refer-to-the-https://etherpad.opendev.org/p/openstack-irc
18     • #openstack-sahara (SergeyLukjanov)
19 • Backporting OFTC reference changes
20   • Agreed to backport the changes as much as possible.
21   • On keeping doc/source/contributor/contributing.rst on stable branches:
22     • We do not need to maintain this on stable as such.
23     • Fungi will add the redirect link to master /latest version in openstack-manual. Project does not need to do this explicitly.
24     • Project can remove doc/source/contributor/contributing.rst from stable branch as per their convenience
25 • Topic-change-on-Freenode-channel
26   • We discussed it in TG meeting and decided to do on June 11th and until then continue redirecting people from old channel to OFTC.
27 • Topic-wording:
28   • 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
29   • 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>)

```

1 2021 OID Asia (OpenInfra Days Asia)
2 [Remember: Don't translate and save on this page]
3
4 Volunteers:
5 • Ian Y. Choi <ianyrchoi@gmail.com> (Korea User Group)
6 • Rico Lin<ricolinn@icloud.com> (China User Group, Taiwan User Group)
7 • Seongsoo Cho <spiyakk2@prntf.kr> (Korea User Group)
8 • Jin Nguyen <dangtrinhnt@gmail.com> (Vietnam User Group)
9 • Hocheol Shin <shingoon7@gmail.com> (Korea User Group)
10 • Akihiro Hasegawa > (Japan User Group)
11 • Saputro Aryulianto <aryuliantos@gmail.com> (Indonesia User Group)
12 • Sa Pham <saphi070@gmail.com> (Vietnam User Group)
13 • Thuy Dang <thuydang.de@gmail.com> (Vietnam User Group)
14 • Tovinn <tovin07@gmail.com> (Vietnam User Group)
15 • hojin kim<hojin@gosul.kr>(Korea User Group)
16 • Dai Dang <daik115@gmail.com> (Vietnam User Group)
17 • Sartika Lestari <sartikalestari1621@gmail.com> (Indonesia User Group)
18 • Horace Li <haoyang@openstack.org> (China User Group)
19
20 Please contact other organizers to join our Slack
21
22 Weekly meeting time: Thursday 1300UTC
23
24 • Settled:
25   • Date: Sept. 11th
26   • Platform: Hopin(Need to sign up with them before 8/11)
27   • CFP: https://docs.google.com/forms/d/1AMZV1-qxS9oAqvZ4akl0nBfAuY4z1FSBa0fo99wk-Lk/
28     • or https://www.surveymonkey.com/r/DTGDZJZ if first link is not accessible from some areas
29     • This will need to ask for following detail to speakers
30       • Speaker photo
31       • Speaker Bio
32       • Session Details (please within 1000 characters)
33       • What can attendees expect to learn from this session (please within 500 characters)
34       • Are you interested to have an interview, give a lightning talk before/after the event *
35
36   • Master plan https://docs.google.com/spreadsheets/d/18bVhEpDpkPh\_S8kxDCcUxMZD5P-bjOD-9o9Kic1s1A/edit#gid=0
37   • Schedule: https://docs.google.com/spreadsheets/d/1bV-18IWuGf-CV86HmcnXPJr18-10xksJvPaNE3k0/edit#gid=0

```

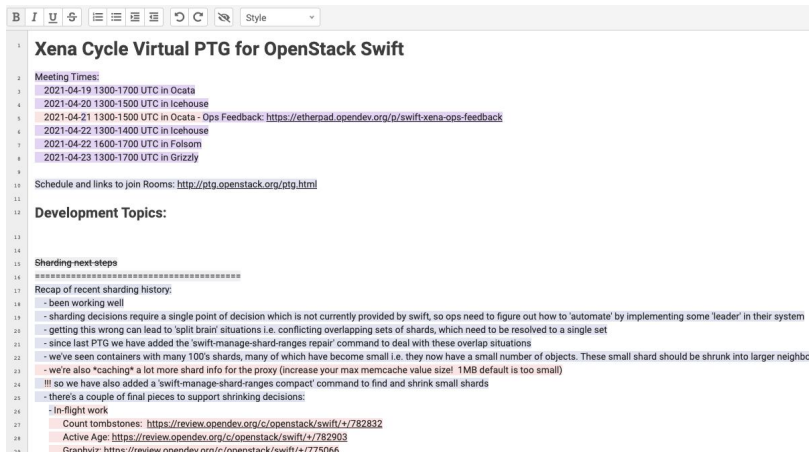
OpenInfra Days Asia 2021 행사 준비

(<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/>



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>)

#openstack-swift OpenStack Swift object storage Logs: http://eavesdrop.openstack.org/irclogs/%23openstack-swift/ Meetings: https://wiki.openstack.org/wiki/Meetings/Swift Priority Reviews: https://wiki... 28		
Thursday, July 8th, 2021		
o opendevreview		
Clay Gerrard proposed openstack/swift master: Do not use epoll in relinker https://review.opendev.org/c/openstack/swift/+799093		00:46:29
Tim Burke proposed openstack/swift master: Extract SwiftHttpProtocol to its own module https://review.opendev.org/c/openstack/swift/+799865		01:37:31
Tim Burke proposed openstack/swift master: Let WSGI apps signal that a client connection should be closed https://review.opendev.org/c/openstack/swift/+799866		01:37:32
→ timburke_joined ← timburke quit		01:54:08
T timburke_		
zaitcev, kota, seongsocho: sorry for the late notice, but I propose we skip the meeting this week. sounds like acoles and mattoliver would likely miss it anyway, and the only thing I'd want to bring up is a 2.28.0 release -- notes are at https://review.opendev.org/c/openstack/swift/+799121 (though they need updating for some recently-landed patches)		02:18:39
Z zaitcev		
timburke_: okay, I was going to beg for reviews for https://review.opendev.org/c/openstack/swift/+743797 but otherwise nothing on my side.		02:19:40
S seongsocho Seongsoo Cho		
timburke_: thanks for the notice!		02:19:51
T timburke_		
seongsocho! 🤖 go to sleep!		02:21:04
← cschwede quit (-cschwede@p54a26024.dip0.t-lpcconnect.de) Quit: Leaving		02:42:03
o opendevreview		
Merged openstack/swift master: Handle ClientDisconnect on s3api object PUT https://review.opendev.org/c/openstack/swift/+799541		03:20:17
Merged openstack/swift master: Do not use epoll in relinker https://review.opendev.org/c/openstack/swift/+799093		03:24:38
Clay Gerrard proposed openstack/swift master: Drain and close more internal client requests https://review.opendev.org/c/openstack/swift/+799908		04:33:13
→ kota joined ← vlks_quit		05:15:55
K kota		
oic, it looks the meeting is skipped at this week. https://wiki.openstack.org/wiki/Meetings/Swift		06:03:00
T timburke_		
yes! sorry, I should have watched for you to come on and pinged again		06:04:45
I've been a bit distracted with personal things today		06:05:08

July 2021 Archives by thread

- Messages sorted by: [subject] [author] [date]
- [More info on this list...](#)

Starting: Thu Jul 1 01:13:09 UTC 2021

Ending: Thu Jul 8 00:30:26 UTC 2021

Messages: 88

- [nova][placement] Openstack only building one VM per machine in cluster, then runs out of resources *Jeffrey Mazzone*
 - [nova][placement] Openstack only building one VM per machine in cluster, then runs out of resources *Laurent Dumont*
 - [nova][placement] Openstack only building one VM per machine in cluster, then runs out of resources *Balazs Gibizer*
 - [nova][placement] Openstack only building one VM per machine in cluster, then runs out of resources *Balazs Gibizer*
 - [nova][placement] Openstack only building one VM per machine in cluster, then runs out of resources *Balazs Gibizer*
- [Swift] Object replication failures on newly upgraded servers *Mark Kirkwood*
- [all][c] Technical Committee next weekly meeting on July 1st at 1500 UTC *Ghanshyam Mann*
- review.opendev.org server upgrade 18/19th July 2021 *Ian Wienand*
- [openstack] [DC-DC Setup] [Replication] Correct approach to a DC-DC setup for Openstack (victoria) *Swagat Pradhan*
- Extension of disk in cinder *Salman Sheikh*
 - Extension of disk in cinder *Gorka Egulleor*
 - Extension of disk in cinder *Salman Sheikh*
 - Extension of disk in cinder *Gorka Egulleor*
- [TRIPLEO] - ZUN Support in TripleO *Takashi Kajinami*
- [neutron] Drivers meeting agenda for 2.07.2021 *Slawek Kaplonski*
- [Ironi] Vendor-neutral Disk names *Mahnoor Asghar*
 - [Ironi] Vendor-neutral Disk names *Arkady Kanevsky*
 - [Ironi] Vendor-neutral Disk names *Julia Kreger*
 - [Ironi] Vendor-neutral Disk names *Mahnoor Asghar*
 - [Ironi] Vendor-neutral Disk names *Mahnoor Asghar*
- [kayobe][kolla-ansible][victoria] *Tony Pearce*
 - [kayobe][kolla-ansible][victoria] *Mark Goddard*
 - [kayobe][kolla-ansible][victoria] *Tony Pearce*
- [kayobe][victoria] no module named docker - deploy fail after deploy successful *Mark Goddard*
 - [kayobe][victoria] no module named docker - deploy fail after deploy successful *Tony Pearce*

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. seongssocho (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 #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 <seongssocho> 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 wait
(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, tl
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	-	
 #fairshipit/	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	-	
 #diox/	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 \(Sunday\)](#)
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- [2021-07-02 \(Friday\)](#)
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2021-06

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- [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](#)

```
*** pmannidil is now known as pmannidilAFK
*** pmannidilAFK is now known as pmannidilAway
*** pmannidilAway is now known as pmannidilAFK
*** pmannidilAFK is now known as pmannidilAway
*** pmannidilAway is now known as pmannidilAFK
*** pmannidilAFK is now known as pmannidilAway
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*** pmannidilAway is now known as pmannidilAFK
*** pmannidilAFK is now known as pmannidilAway
```

```
iuryholiday good morning janders and Ironiic o/
*** iuryholiday is now known as iurygregory
```

```
janders hey iurygregory o/
```

```
iurygregory o/
```

```
arne_wiebalck Good morning janders iurygregory and Ironiic!
```

```
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 bmc
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 xmllrpcs 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)
```

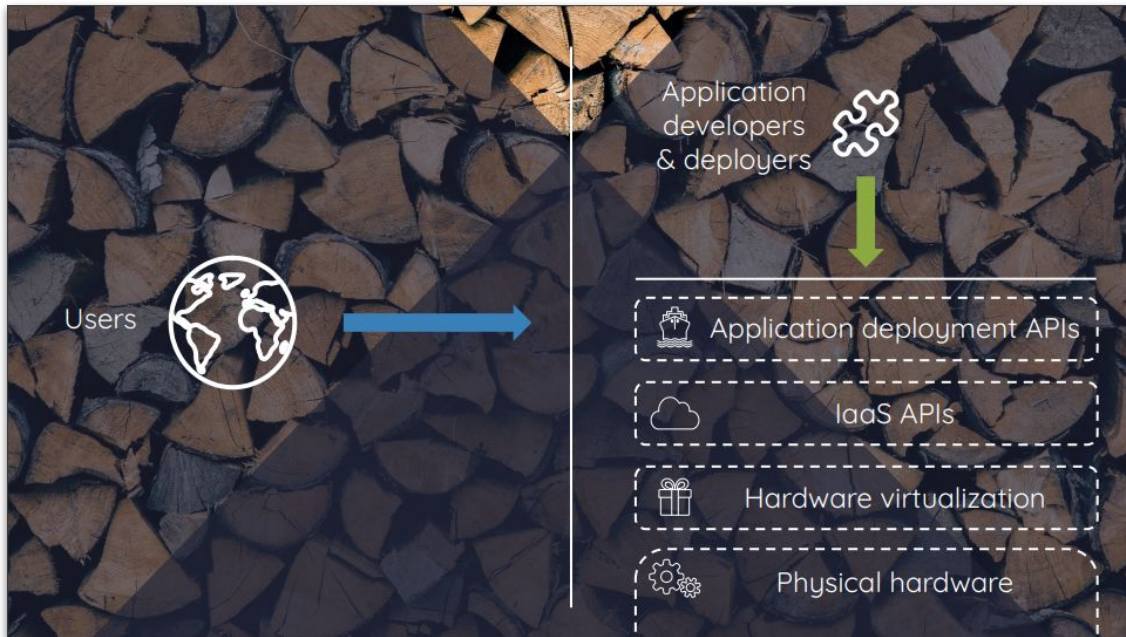
```
vmud213 jssfr: Sry i interpreted it wrong way. I got it now. So if you are introspecting, you also expect the BMC MAC and not just
```

```
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

왜 Open Infrastructure인가?

INFRASTRUCTURE EVOLUTION

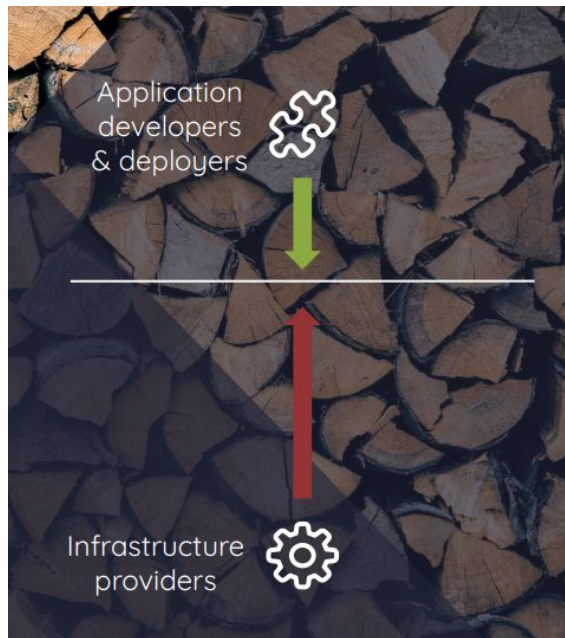
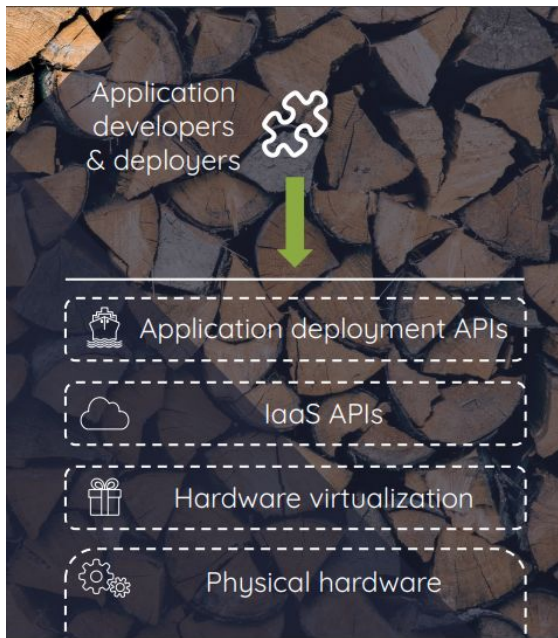
- Caring less and less about infrastructure
- Commoditizing hardware: scale out vs. scale up
- Commoditizing runtime envs: cattle vs. pets
- VMs, containers, functions... this is not over

Infrastructure를 관리하는 노력을 점점 더 줄여가면서,

상업용 서버의 활용도를 높여가고,

Infrastrucutre에서 담당해야하는 역할이 점점 더 추가되어간다

왜 Open Infrastructure인가?



Infrastructure provider가
제공해야하는 인프라의 범위가 점점
커지게 되었다

이 영역이 Open Infrastructure
Solution이 담당해야할 영역이다

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

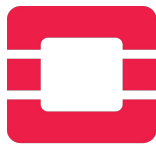
Open Infrastructure Solution을 위해 4개의 프로젝트를 Foundation의 핵심 프로젝트로 정했다

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

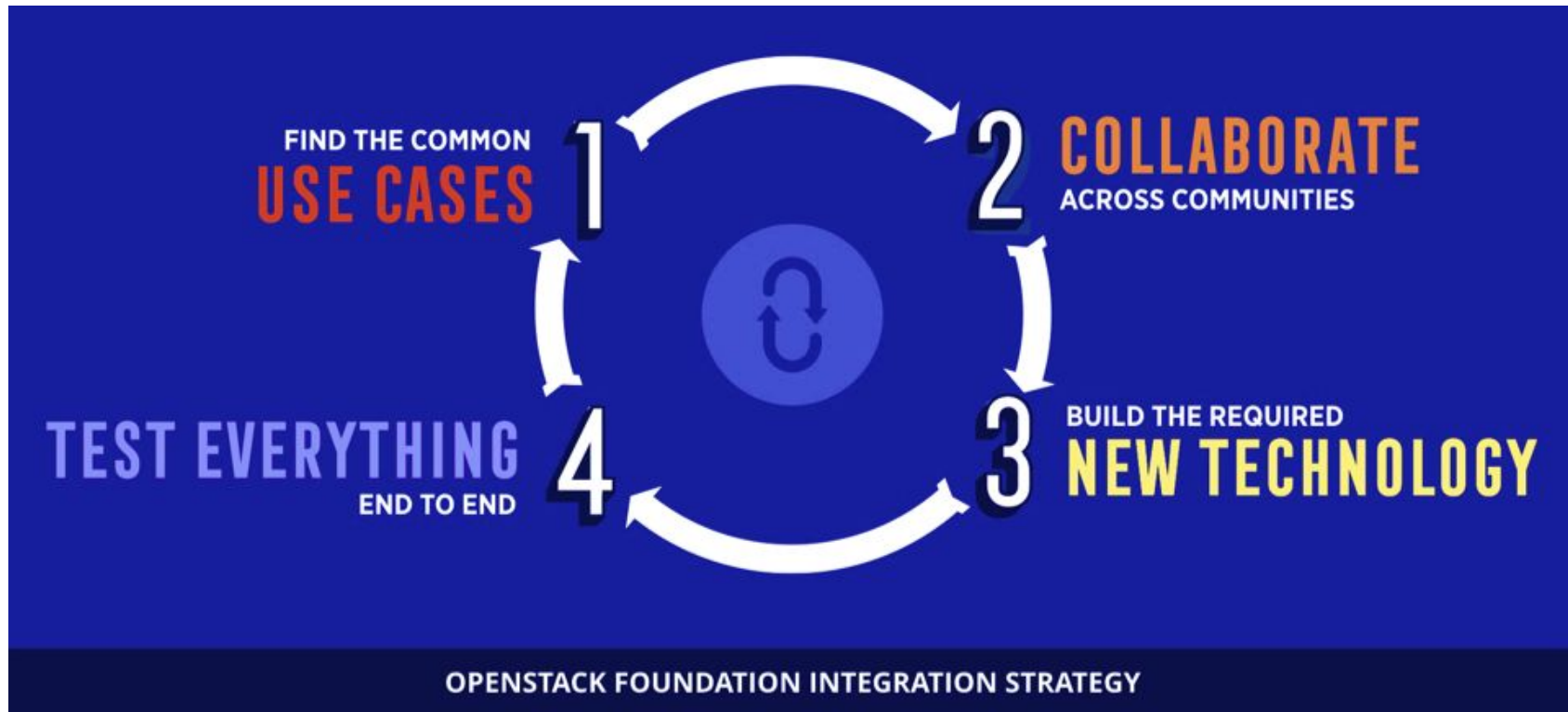
Edge Cloud
Computing
Infrastructure



Zuul

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

Four Opens



Multi arch SIG (Special Interest Group)

<https://www.openstack.org/multi-arch-sig-report>

OpenStack을 다양한 CPU 아키텍처에서 구축하기 위해 안정화하는 Special Interest Group

2019년 11월 상하이 summit에서 시작되었으며, 현재는 ARM64를 지원하는 것이 최우선 목표

SIG Leader : Rico Lin (OpenStack Technical Committee)

openstack의 multi-arch 지원이 중요한 이유

(report 본문 인용)

OpenStack은 리눅스 시스템의 매우 많은 부분을 사용합니다.

- 네트워킹, 가상화, 파일시스템, 디스크 관리, 파이썬, 웹 서버, DB, amqp 등등..

OpenStack이 특정 cpu architecture에서 잘 동작한다면, 다른 대부분의 소프트웨어도 잘 동작할 것이라고 기대할 수 있다.

Multi Arch-sig 에서 하고 있는 일

CI 와 테스트 지원

- Upstream CI 에서 여러 아키텍처를 대상으로 테스트할 수 있어야한다

여러 아키텍처를 위한 패키지와 컨테이너,이미지 지원

- 오픈스택 컴포넌트의 패키지와 컨테이너들은 모든 아키텍처를 지원해야한다.

배포 도구 지원

- 배포 도구는 아키텍처 상관없이 배포할 수 있도록 지원해야한다.
- 현재는 openstack-kolla 를 대상으로 작업하고 있다.

Virt drivers

- OpenStack을 운영한다는 것이 대부분의 경우 nova로 vm을 관리한다는 것을 의미한다.
- 여러 아키텍처의 가상화 드라이버를 지원할 수 있어야한다.

OpenStack 한국 커뮤니티

한국 커뮤니티의 앞으로의 계획 그리고 목표

OpenStack Korea User Group

회원수 : 6,839명 (2021년 7월 기준)

한국의 오픈스택 생태계 활성화와 정보 교류를 위한 사용자 모임

< 주요 활동 >

- 국제화 (i18n) 번역 프로젝트 참석
- 세미나 / 스터디
- OpenInfra Days Korea 개최



Facebook Group: <https://www.facebook.com/groups/openstack.kr>

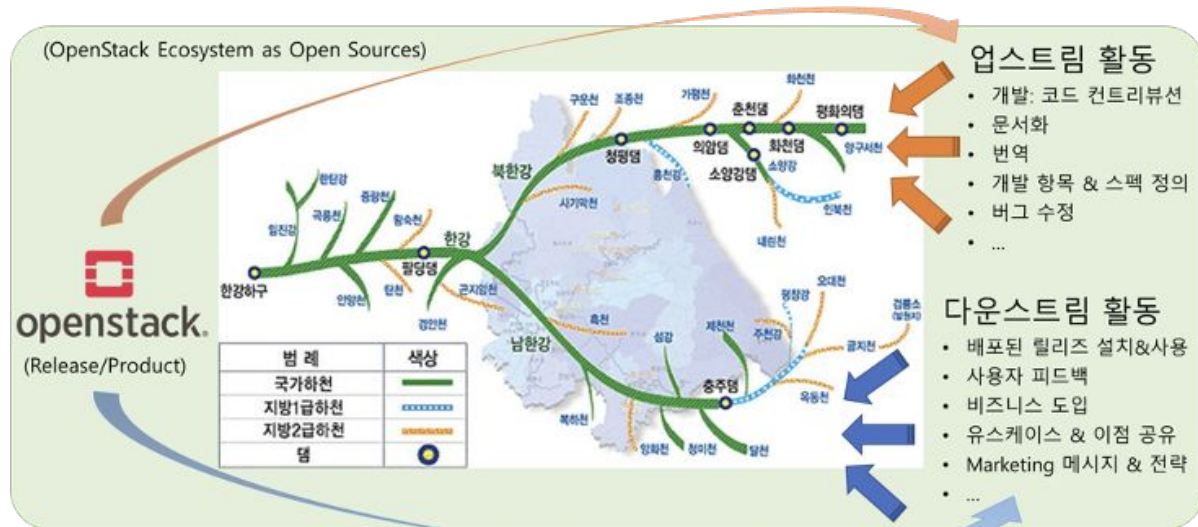
Youtube :<https://www.youtube.com/c/OpenStackKoreaGroup/featured>

OpenStack Korea User Group

상호 교류 및 피드백에 기반한 생태계

업스트림 활동: 새로운 기술 및 개발 (프로포절, 스펙 제안 등 포함)

다운스트림 활동: 운영 노하우 공유, 사례 토론 및 사용자 피드백 공유



OpenStack Korea User Group (2021~ 계획)

- Upstream Contribution
 - 2018년부터 정보통신산업진흥원 주관의 컨트리뷰톤 / 컨트리뷰션 아카데미에 참석
 - 오픈스택 기여에 관심있는 참가자 대상으로 버그 제보 / 코드 패치 / 번역 등 다양한 분야에서 컨트리뷰션 활동
- ARM SIG
 - 오픈스택 한국 커뮤니티만의 ARM SIG
 - ARM 기반 Infrastructure 구축 및 활용 방안 스터디
- StarlingX , Zuul 등 다양한 Open Infrastructure 프로젝트 스터디

Q&A

Email : ppiyakk2@printf.kr

Q) OpenStack 의 효과적인 업그레이드 방안

- 오픈스택은 6개월 주기로 새로운 버전을 배포한다.
- 업그레이드는 upstream에서도 운영자들의 큰 고민 주제
 - https://www.youtube.com/watch?v=yf5iFiCg_Tw
- 오픈스택 cluster의 형태에 따라 업그레이드 방안이 다르다
 - Private / public
 - 중지 / 무중지
- API 서비스는 중지 / VM 서비스는 무중지
- 모든 서비스가 내려가더라도, 하이퍼바이저의 openvswitch 만 제대로 동작한다면 인스턴스는 정상적으로 구동할 수 있다.
- 하이퍼바이저 점검은 vm을 순차적으로 마이그레이션

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.

Q) OpenStack이 VMware보다 우위에 있다고 볼 수 있는 기술적 특징점

OpenStack과 VMWare이 서로 제공하는 기능에서는 큰 차이는 없다고 생각합니다.

필요한 기능들을 추가 기능들을 추가 솔루션을 구입해서 해결하느냐 아니냐의 차이

예) openstack (기본 제공) / vmware (nsx / vRealize와 같은 추가 구성 필요)

- 멀티 테넌트 간 network 분리 구성
- 가상머신에 동적/고정 IP 할당 및 NAT
- Security Group 기능
- 테넌트 별 Image 관리