

# External Plugin Interfaces for OpenStack QA Projects

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[https://github.com/mtreinish/external\\_plugins](https://github.com/mtreinish/external_plugins)

# What is OpenStack QA?

- ▶ Official Mission Statement:  
*Develop, maintain, and initiate tools and plans to ensure the upstream stability and quality of OpenStack, and its release readiness at any point during the release cycle.*

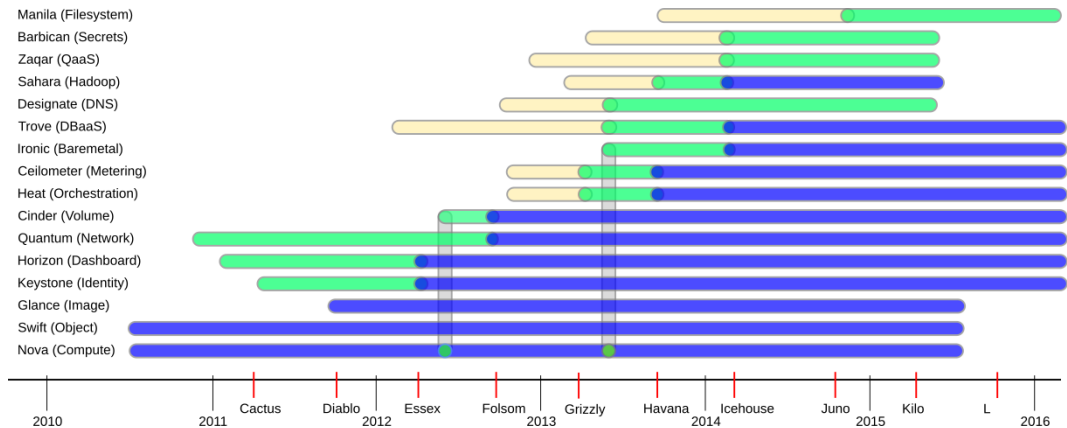
## Current QA Projects

- ▶ bashate
- ▶ devstack
- ▶ devstack-plugin-cookiecutter
- ▶ devstack-vagrant
- ▶ grenade
- ▶ tempest
- ▶ temest-lib
- ▶ tempest-plugin-cookiecutter
- ▶ stackviz
- ▶ hacking
- ▶ eslint-config-openstack
- ▶ os-testr
- ▶ openstack-health dashboard

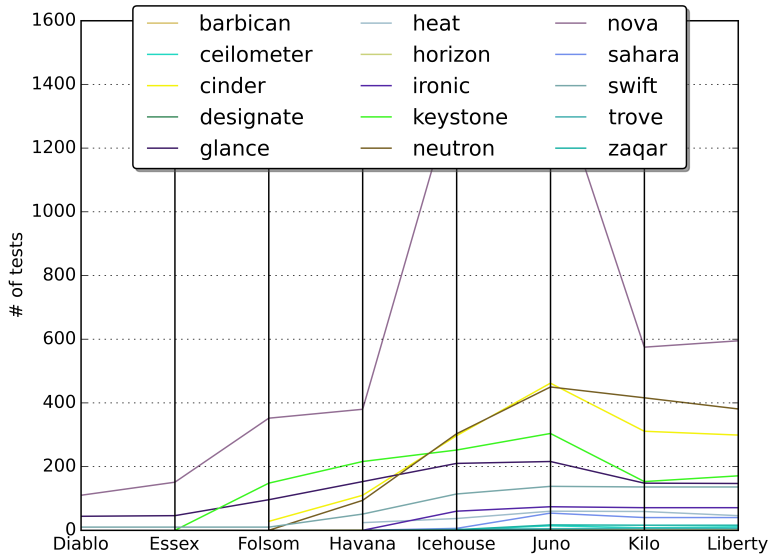
## Scaling Limitations

- ▶ Previously QA projects supported all incubated and integrated OpenStack projects
- ▶ This works with 5 projects
- ▶ At 10 things are stretched very thinly

# OpenStack Project Growth



# Tempest Tests per Project



## The Big Tent...



# QA in the Big Tent

- ▶ QA projects now directly support base
- ▶ Provide stable plugin interfaces to expand functionality
- ▶ Better fits with the growth in projects



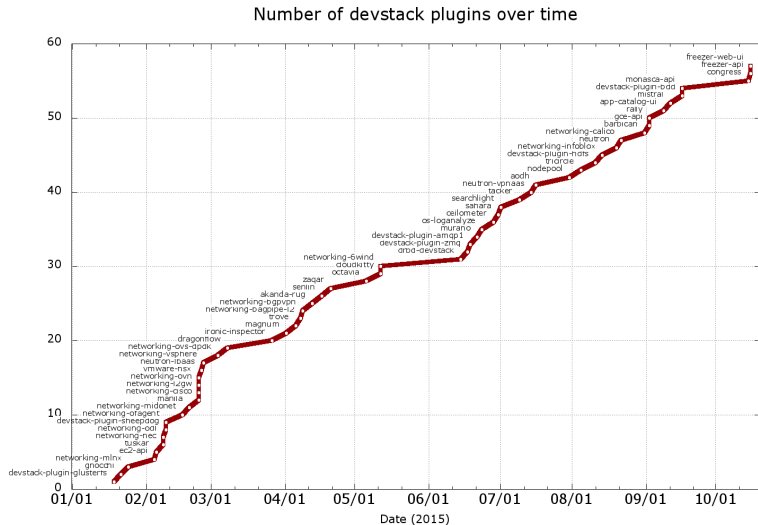
## Current Projects QA directly supports in-tree

- ▶ Keystone
- ▶ Nova
- ▶ Glance
- ▶ Cinder
- ▶ Neutron
- ▶ Swift

# Devstack Plugins

- ▶ Bits of bash code that live outside of devstack tree
- ▶ Called via a strong contract
- ▶ Maintained by the project owners
- ▶ Tested via OpenStack CI
  
- ▶ Project plugins
  - ▶ Installs new OpenStack service as part of devstack
- ▶ Driver / configuration plugins
  - ▶ Configures existing OpenStack service to use a different driver / backend
- ▶ Registry of plugins maintained by the community:  
<http://docs.openstack.org/developer/devstack/plugin-registry.html>

# Projects using Devstack Plugins



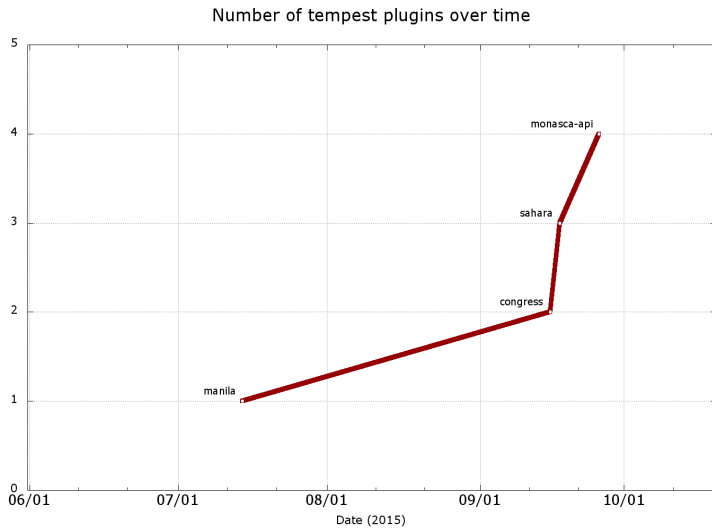
Source: `git log --diff-filter=A --format=%cd --date=short -1 -- devstack/plugin.sh`

# Howto write a Devstack Plugin

# Tempest Plugins

- ▶ Integrates any external tests into a tempest run
- ▶ Unifies configuration between plugin(s) and in-tree
- ▶
- ▶ Based on stevedore plugin model
- ▶ Automatically discovered when installed
- ▶ Test code built on top of tempest-lib

# Projects using tempest plugins



Source: `git blame setup.cfg — egrep ') tempest'`

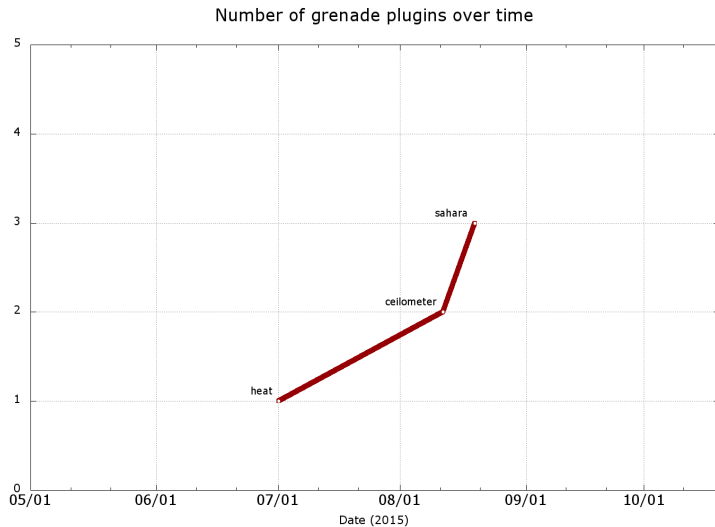
# Howto Write a Tempest Plugin

- ▶ Code can be hosted in existing or dedicated git project
- ▶ Extend `plugins.TempestPlugin` from `tempest` (or `tempest-lib`)
- ▶ Implement all abstract methods
  - ▶ Test discovery:
  - ▶ Configuration options:
- ▶ Check if everything you need is tempest lib
- ▶ Setup CI to test with your plugin, and keep it tested

# Grenade Plugins



# Projects using Grenade Plugins



Source: `git log --diff-filter=A --format=%cd --date=short -1 -- devstack/upgrade/upgrade.sh`

# Howto Write a Grenade Plugin

## Where to get more information

- ▶ Tempest Plugin Docs: <http://docs.openstack.org/developer/tempest/plugin.html>
- ▶ Devstack Plugin Docs:  
<http://docs.openstack.org/developer/devstack/plugins.html>
- ▶ Grenade Plugin Docs: <http://docs.openstack.org/developer/grenade/plugins.html>
- ▶ openstack-dev ML: [openstack-dev@lists.openstack.org](mailto:openstack-dev@lists.openstack.org)
- ▶ #openstack-qa on Freenode

Questions?