Fast Lane OpenStack Overview

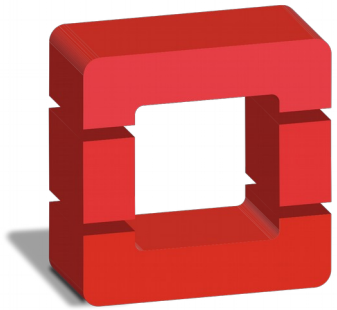
Red Hat Enterprise Linux OpenStack Platform

Agenda

1. What is OpenStack?
2. What do I use OpenStack for?
3. Why Red Hat OpenStack?
4. Demo?

What is OpenStack?

THE framework for cloud computing



openstack®

CLOUD SOFTWARE

10,000 feet view - What is OpenStack?

- Infrastructure-as-a-Service platform
- implementation-agnostic, framework written in python relying on drivers
- highly scalable
- highly automatable, API-driven at the core
- hides increasing complexity of heterogeneous environments through orchestration
- completely open source

Why should you care?

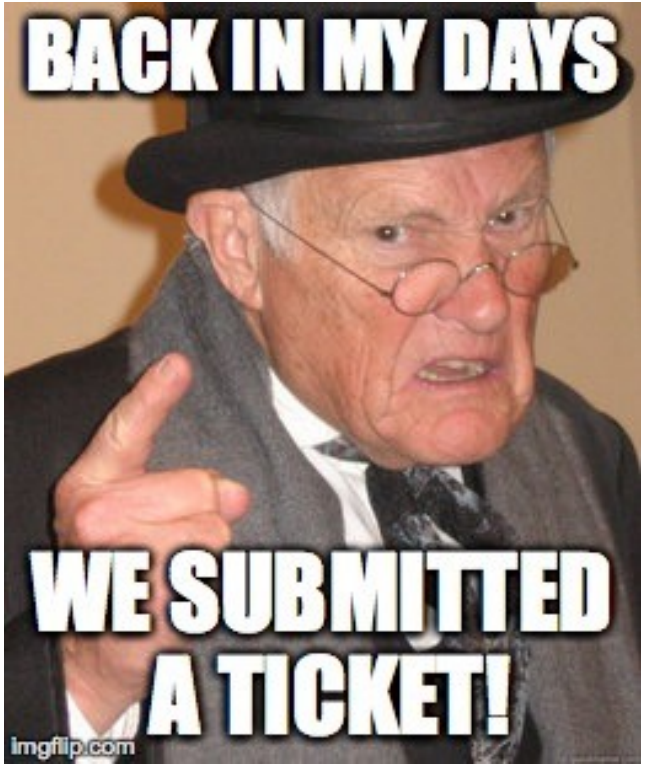
- ➔ cloud is seen as the go-forward model for IT delivery, today IT is circumvented by internal customers using AWS, Dropbox,...
- ➔ OpenStack becomes a de-facto standard: 75% of our customers* are planning to use / are using it
- ➔ OpenStack endorses software-defined networking, storage and virtualization in a scale-out architecture based on commodity infrastructure
- ➔ the new generation of systems of engagement is built upon and assumes a scale-out Linux-based infrastructure

** data collected by TechValidate (http://www.techvalidate.com/product-research/red-hat-enterprise-linux/facts)*

For what do I use OpenStack?

“What is the difference to my current virtualization solution?”

9,500 feet view - OpenStack implementing agile IT



Enterprise IT from a consumer perspective, so far…

1. Plan your project
2. Estimate infrastructure resource (servers, storage, network,...)
3. Add some headroom
4. Submit a ticket to IT
5. Wait…
6. Wait some more…
7. Maybe get what you need

Slightly improved version

- roll your own sandbox (hypervisor, storage)

Enterprise IT from a consumer perspective, so far…

1. Plan your project
2. Estimate infrastructure resource (servers, storage, network,...)

→ Accurate prediction needed

3. Add some headroom

→ Resource inefficiency

4. Submit a ticket to IT

→ Not agile / flexible

5. Wait…
6. Wait some more…

→ Slow

7. Maybe get what you need

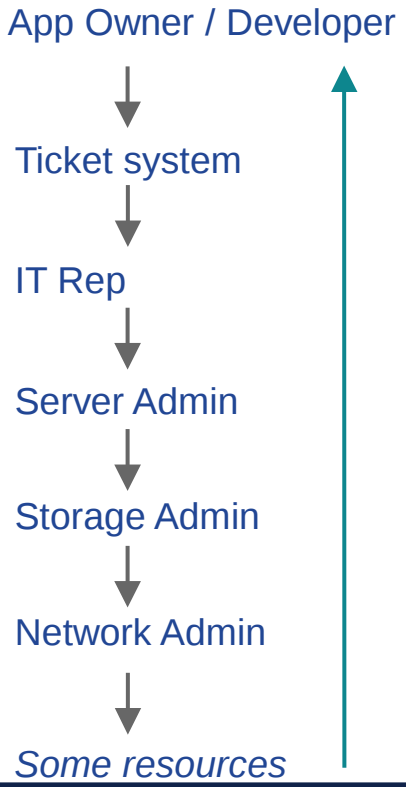
→ low predictability / difficult to reproduce

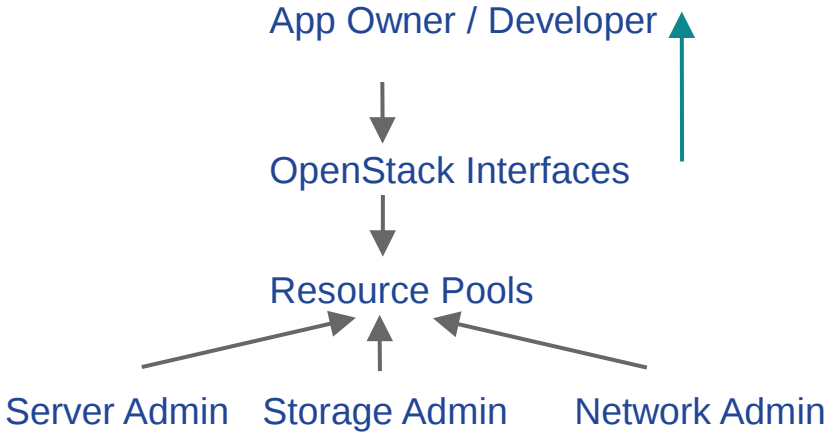
Slightly improved version

- roll your own sandbox (hypervisor, storage)

→ Resource inefficiency

OpenStack impact on operational model

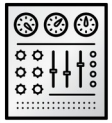




What is OpenStack?

OpenStack = infrastructure controller

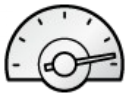
Self-service



Dashboard

Blueprints / Images

Orchestration / Scheduling



Metering

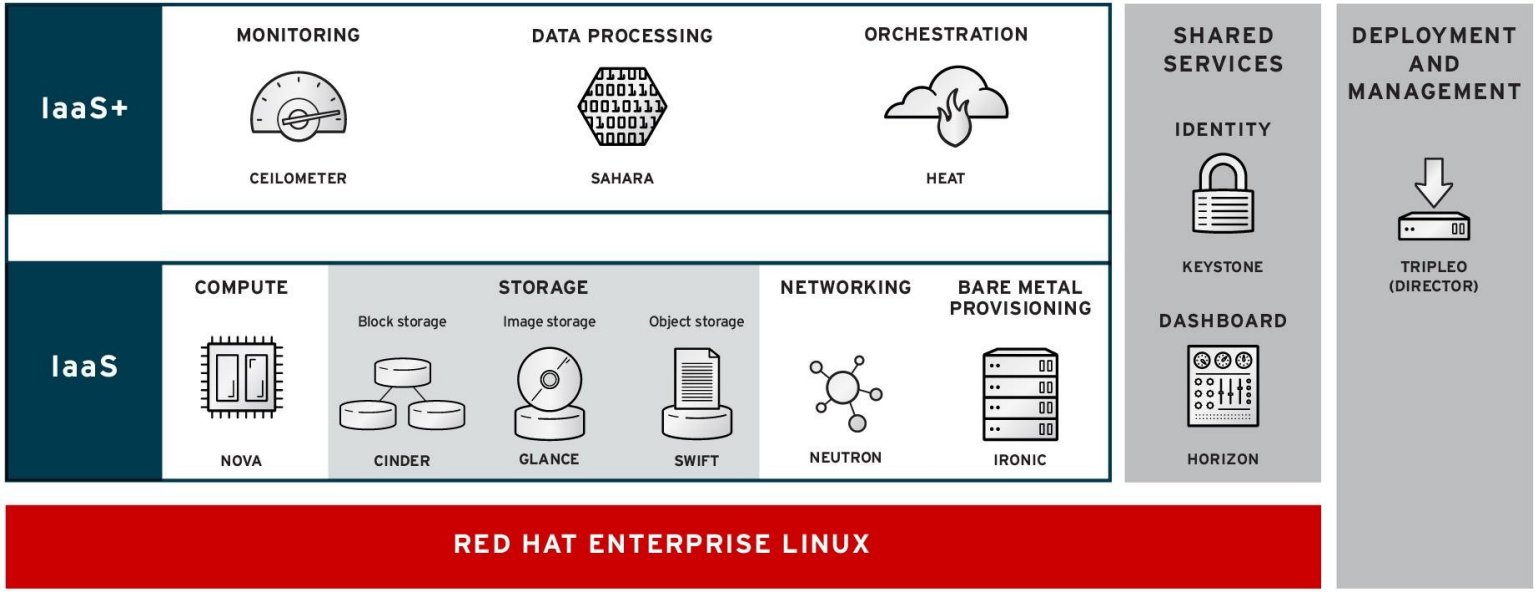
Control Plane

Servers

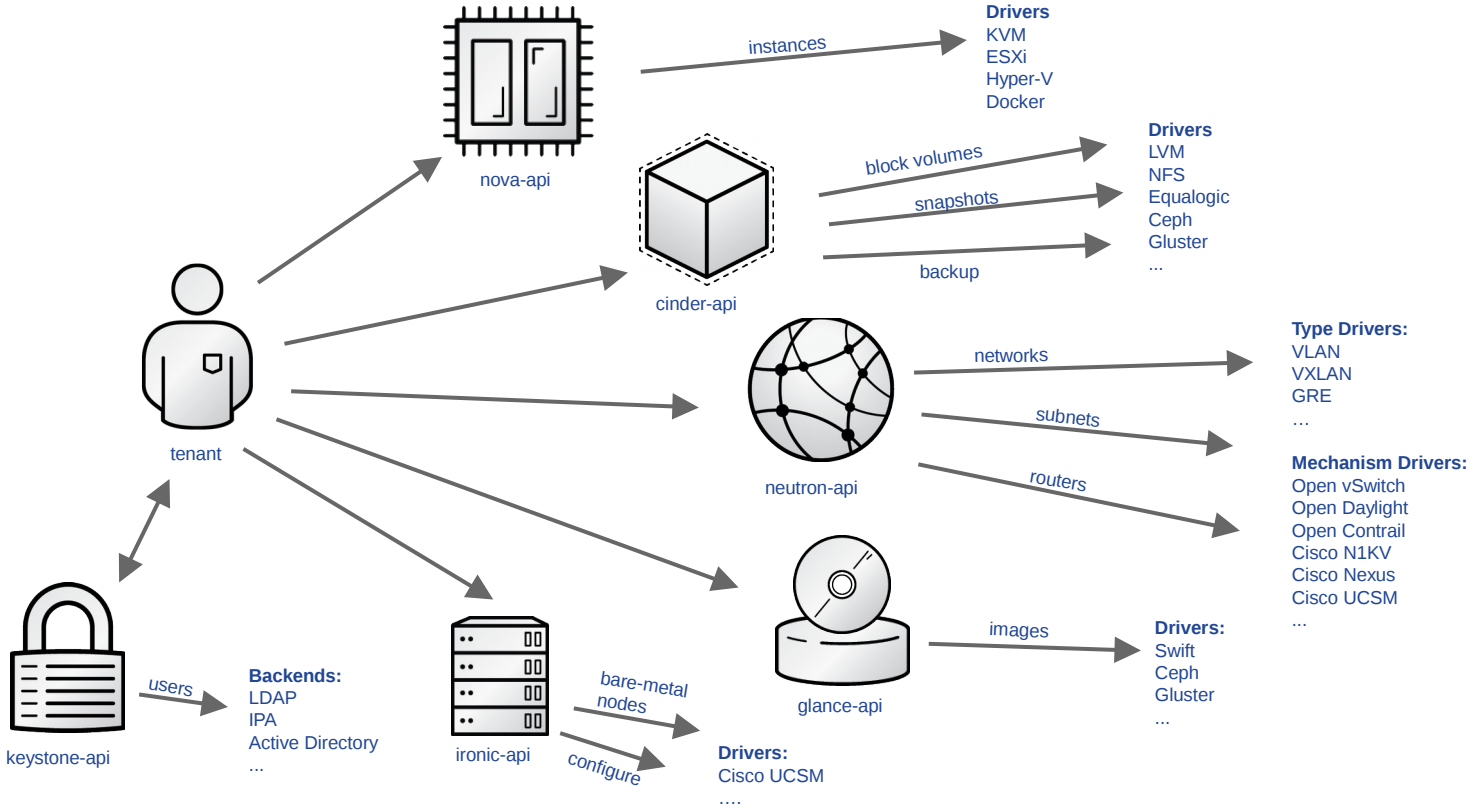
Storage

Networking

5,000 feet view - OpenStack architecture

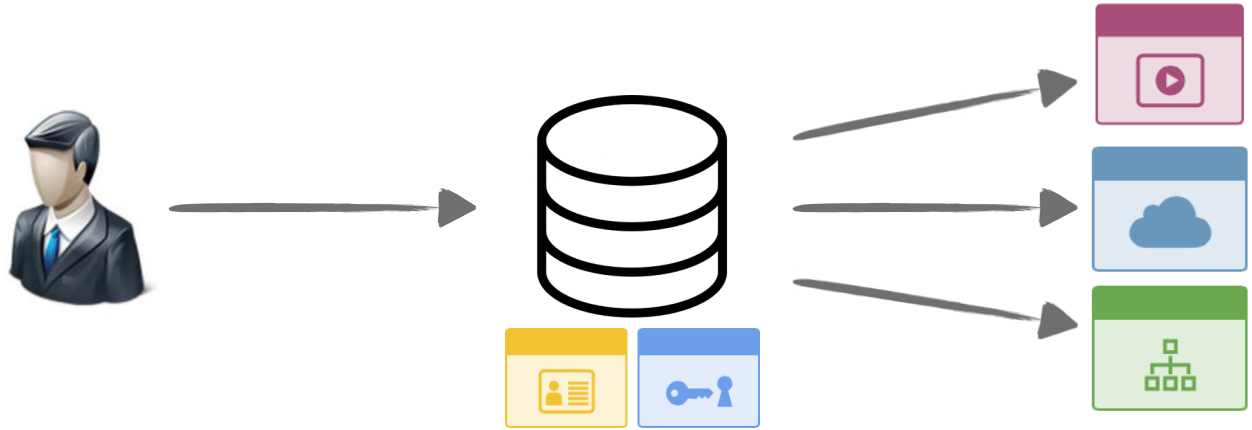


OpenStack abstraction model

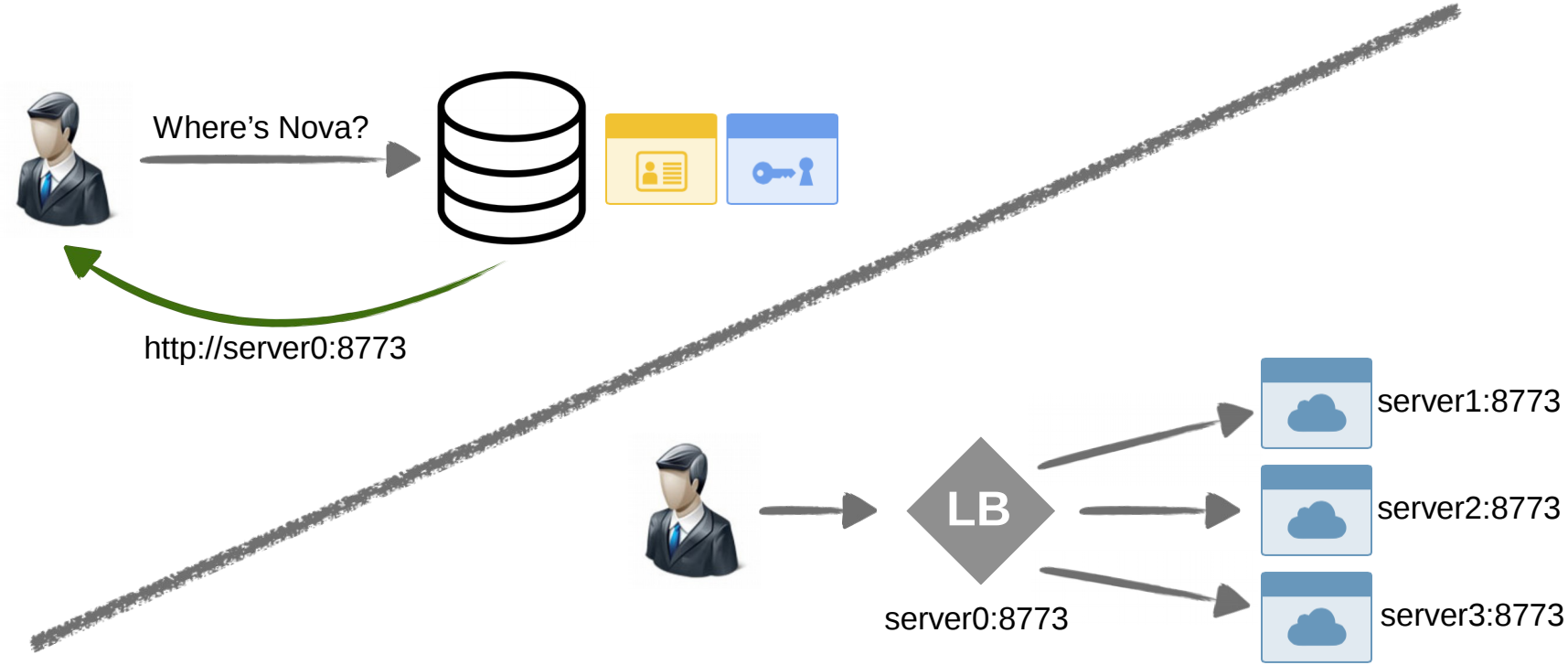


Common OpenStack Architecture

- All OpenStack components expose a **RESTful API** for communication
- A **stateless**, **shared-nothing** API service provides **scalability** and **fault-tolerance**
- **Keystone** manages a list of these **API endpoints** in its **catalog**

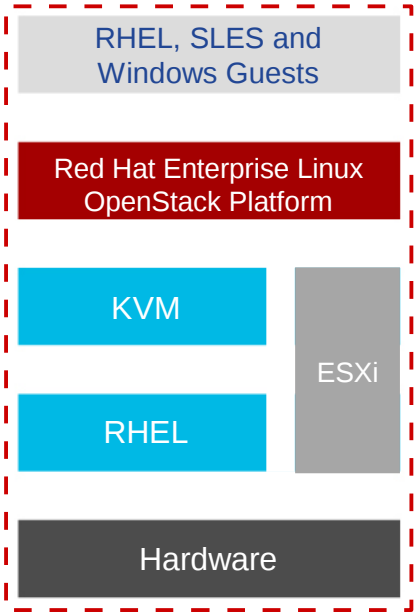


Common OpenStack Architecture



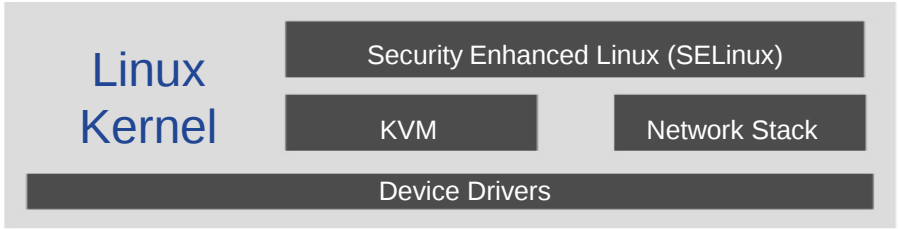
Why Red Hat?

Why do I need an Enterprise distribution?



Red Hat Support Envelope

- typical OpenStack deployment = at least 9 core services + plugins to interact with 3rd party systems
- everything on top of Linux, complex integration of user space processes
- A supported, stable platform requires integration and testing of each of the components



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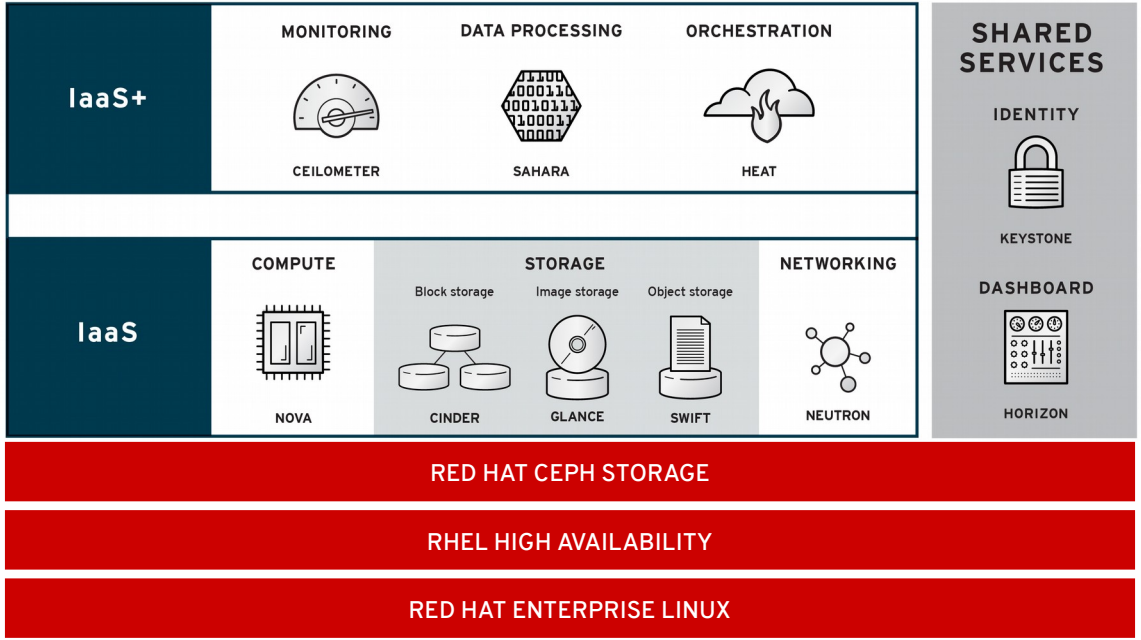


Optimized and Co-Engineered with Red Hat Enterprise Linux

Red Hat Value-Add - Management-friendliness

RHEL OpenStack Platform Director

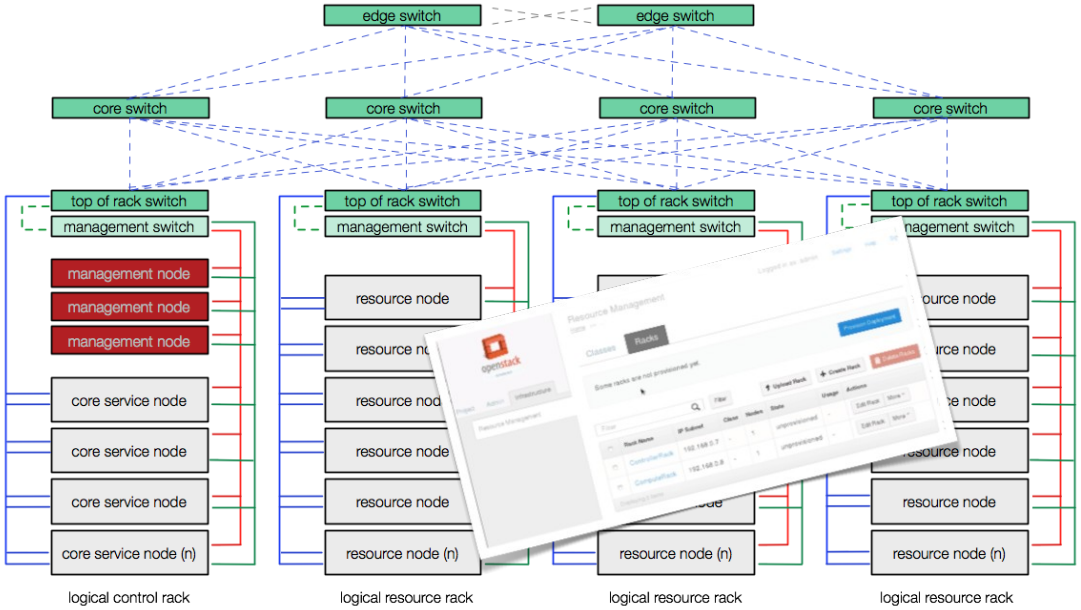
installation, orchestration, and management tool covering:

- Deployments
- Upgrades
- Updates
- Lifecycle management
- Monitoring

Maintains an accelerated release cycle

Released every 2 months with new features

Decoupled from the OSP core components cycle



Productizing OpenStack

RDO

RED HAT ENTERPRISE LINUX OPENSTACK PLATFORM

Bleeding edge upstream OpenStack source code	Bleeding edge upstream OpenStack packaged as RPMs	Enterprise hardened Red Hat OpenStack technology optimized for and integrated with Red Hat Enterprise Linux Red Hat Support Red Hat ecosystem certifications 3 year lifecycle
Unstable community Linux	Enterprise Linux distros (CentOS, RHEL, Fedora)	
No certifications Community support Six month lifecycle	No certifications Community support Six month lifecycle	

Questions?

Thank you.