

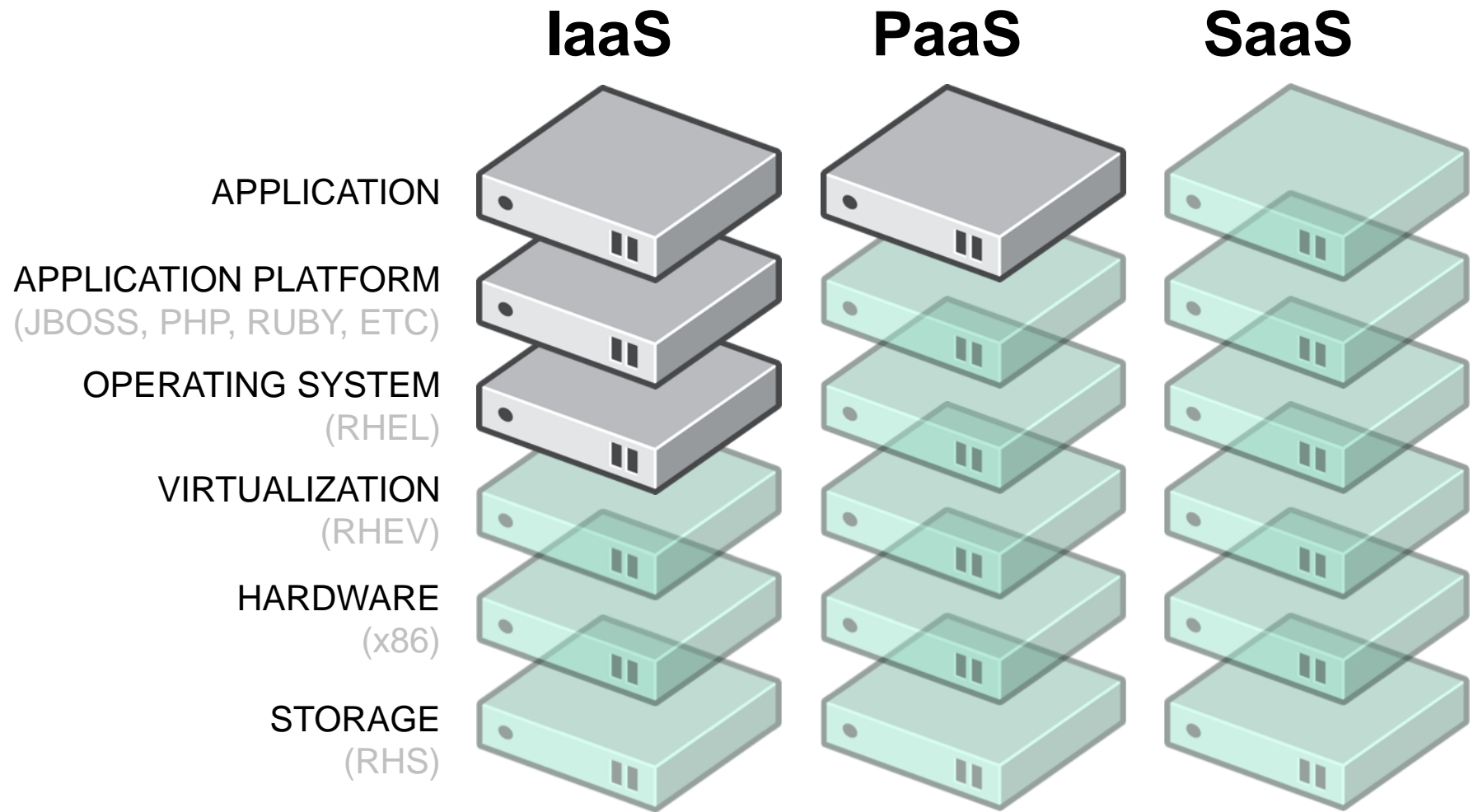


OpenShift on OpenStack

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Cloud Service Models



Managed and Controlled by Customer (IT, Dev, or User)



Automated and Managed by the Public or Private Cloud Offering

Increased Control

Increased Automation



Consolidated B-24 Liberator

Incredibly sophisticated. ~500k parts, assembled by unskilled labor.

No manufacturing process. Parts were cast in rubber molds, so every part was slightly different.

Assembled in the heat of San Diego, which warped the metal and required whole assemblies to be adjusted.

Ford Motor Co. brought a manufacturing process ...

- **unit production went from 250 planes a year to 650 planes a month.**

THIS IS OUR CHALLENGE TODAY

Craftwork

Physical

How to Build an App:

1. Have Idea
2. Get Budget
3. Submit hardware acquisition request
4. Wait
5. Get Hardware
6. Rack and Stack Hardware
7. Install Operating System
8. Install Operating System Patches/Fix-Packs
9. Create user Accounts
10. Deploy framework/appserver
11. Deploy testing tools
12. Test testing tools
13. Code
14. Configure Prod servers (and buy them if needed)
15. Push to Prod
16. Launch
17. Order more servers to meet demand
18. Wait...
19. Deploy new servers
20. Etc.

Virtualized

How to Build an App:

1. Have Idea
2. Get Budget
3. Submit VM Request request
4. Wait
5. Deploy framework/appserver
6. Deploy testing tools
7. Test testing tools
8. Code
9. Configure Prod VMs
10. Push to Prod
11. Launch
12. Request More Prod VMs to meet demand
13. Wait
14. Deploy app to new VMs
15. Etc.

Assembly Line

With PaaS

How to Build an App:

1. **Have Idea**
2. **Get Budget**
3. **Code**
4. **Test**
5. **Launch**
6. **Automatically Scale**



*“The use of Platform-as-a-Service technologies will enable IT organizations to become more agile and more responsive to the business needs.” –Gartner**

OpenShift Origin

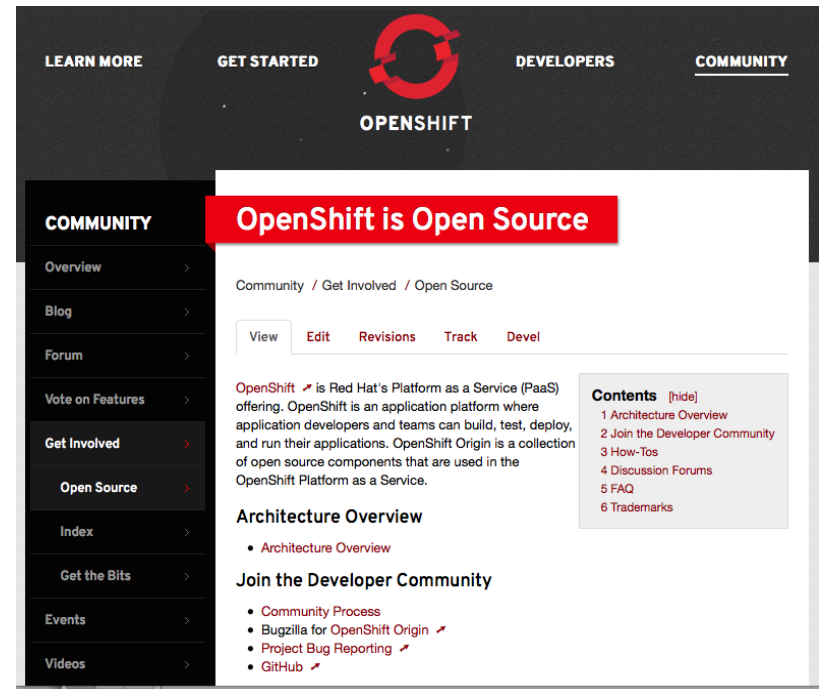
<http://openshift.github.io>

<https://openshift.redhat.com/community/open-source>

<https://github.com/openshift>

The upstream project for the OpenShift PaaS platform

- Apache 2.0 License
- Available as:
 - Source, RPMs
 - .ISO, LiveCD (run your own)
- IRC, email, forums



The screenshot shows the OpenShift Origin website's 'OpenShift is Open Source' page. The navigation bar includes 'LEARN MORE', 'GET STARTED', 'DEVELOPERS', and 'COMMUNITY'. The 'COMMUNITY' sidebar lists 'Overview', 'Blog', 'Forum', 'Vote on Features', 'Get Involved', 'Open Source', 'Index', 'Get the Bits', 'Events', and 'Videos'. The main content area features a red banner with the text 'OpenShift is Open Source'. Below the banner, there is a breadcrumb trail 'Community / Get Involved / Open Source' and a navigation menu with 'View', 'Edit', 'Revisions', 'Track', and 'Devel'. The main text describes OpenShift as Red Hat's Platform as a Service (PaaS) offering, stating it is an application platform where developers can build, test, deploy, and run their applications. It also mentions that OpenShift Origin is a collection of open source components used in the OpenShift Platform as a Service. A 'Contents' section lists: 1 Architecture Overview, 2 Join the Developer Community, 3 How-Tos, 4 Discussion Forums, 5 FAQ, and 6 Trademarks. Below this, there is an 'Architecture Overview' section with a link to 'Architecture Overview', and a 'Join the Developer Community' section with links to 'Community Process', 'Bugzilla for OpenShift Origin', 'Project Bug Reporting', and 'GitHub'.

An OpenShift Broker Manages Multiple OpenShift Nodes



SELinux Policies securely subdivide
the Node instances.



AWS / CloudForms / OpenStack (IaaS) / RHEV (Virt) / Bare Metal

```
Activities Terminal Thu 23:51 fr [audio] [bluetooth] [wifi] [battery] [network] Dave Neary
dneary@leitrim:~/src/rssagg/php
File Edit View Search Terminal Help
1 file changed, 3 insertions(+)
create mode 100644 php/hello.html
[dneary@leitrim php]$ git push
warning: push.default is unset; its implicit value is changing in
Git 2.0 from 'matching' to 'simple'. To squelch this message
and maintain the current behavior after the default changes, use:

  git config --global push.default matching

To squelch this message and adopt the new behavior now, use:

  git config --global push.default simple

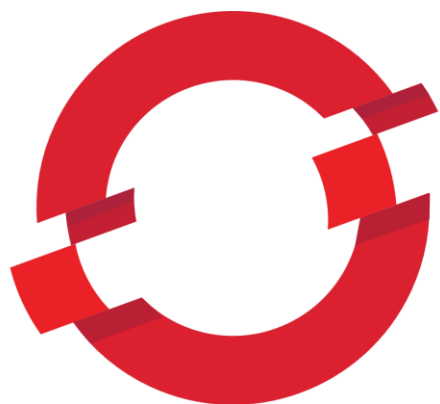
See 'git help config' and search for 'push.default' for further information.
(the 'simple' mode was introduced in Git 1.7.11. Use the similar mode
'current' instead of 'simple' if you sometimes use older versions of Git)

Counting objects: 6, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 362 bytes | 0 bytes/s, done.
Total 4 (delta 2), reused 0 (delta 0)
remote: Not stopping cartridge php because hot deploy is enabled
remote: Not stopping cartridge postgresql because hot deploy is enabled
remote: Building git ref 'master', commit 062da43
remote: Building PHP cartridge
remote: Preparing build for deployment
remote: Deployment id is 70d75412
remote: Activating deployment
remote: Not starting cartridge postgresql because hot deploy is enabled
remote: Not starting cartridge php because hot deploy is enabled
remote: Result: success
remote: Activation status: success
remote: Deployment completed with status: success
To ssh://51b8b03ce0b8cd415a000203@rssagg-dneary.rhcloud.com/~/.git/rssagg.git/
 3502ab5..062da43 master -> master
[dneary@leitrim php]$
```

Git

SSH

Demo!



OPENSIFT

on



openstackTM
CLOUD SOFTWARE

Heat templates

- CloudFormations templates
- Auto-scaling nodes
- Not using Ceilometer (yet)
- Includes diskimage builder elements

<https://github.com/kraman/heat-templates/>



O P E N S H I F T

Thank You.

Questions?

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