

OpenShift Experience @ Puzzle

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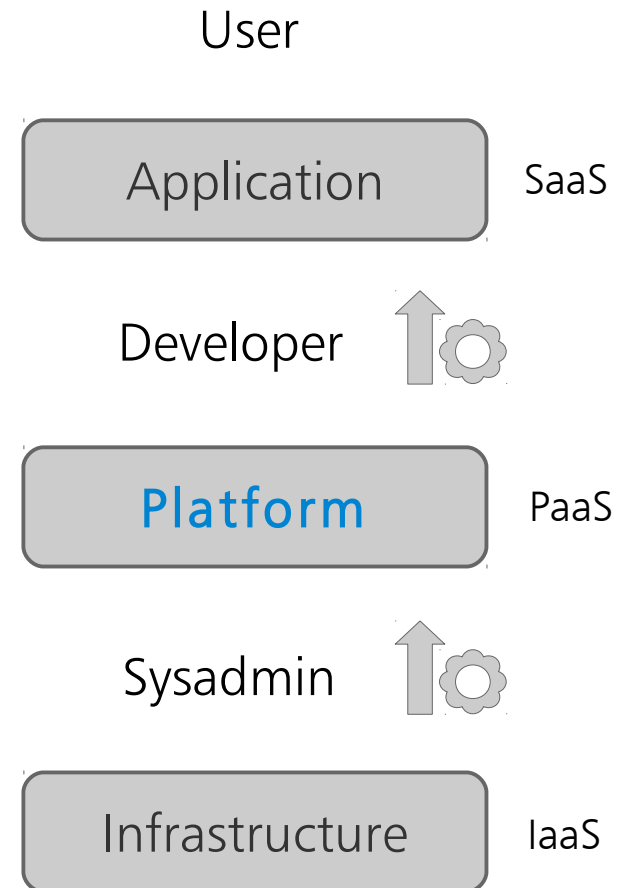
Overview

- OpenShift/PaaS in a Nutshell
- The DevOps
- The Private Cloud
- Mini-HOWTO
- Challenges, Frequent questions
- Benefits, Chances
- Resources
- Questions?



Platform as a Service

- Provide tools and protocols to deploy and run your applications
- Easy to use
- Automation
- Scaling
- Integration with other systems

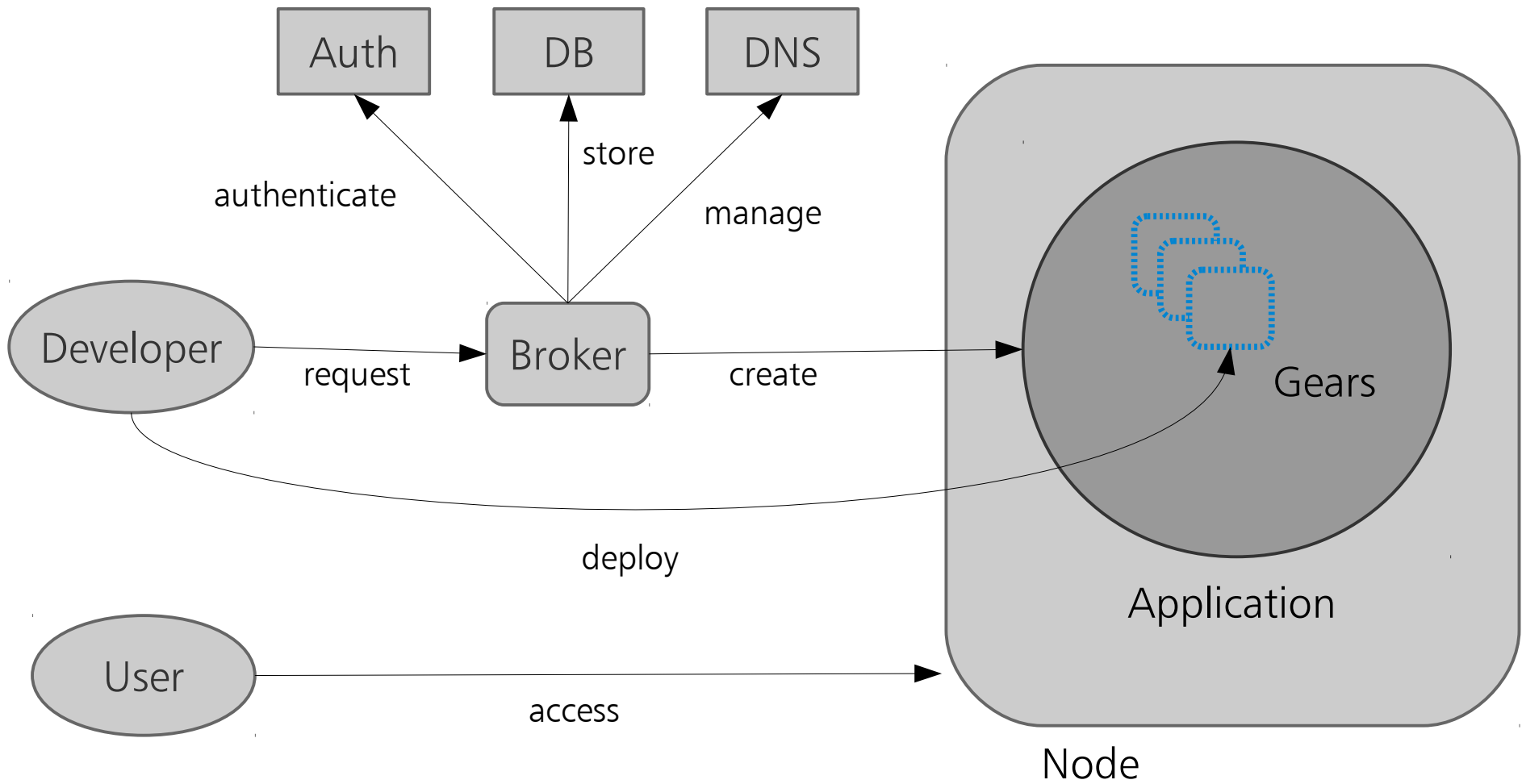


Openshift PaaS

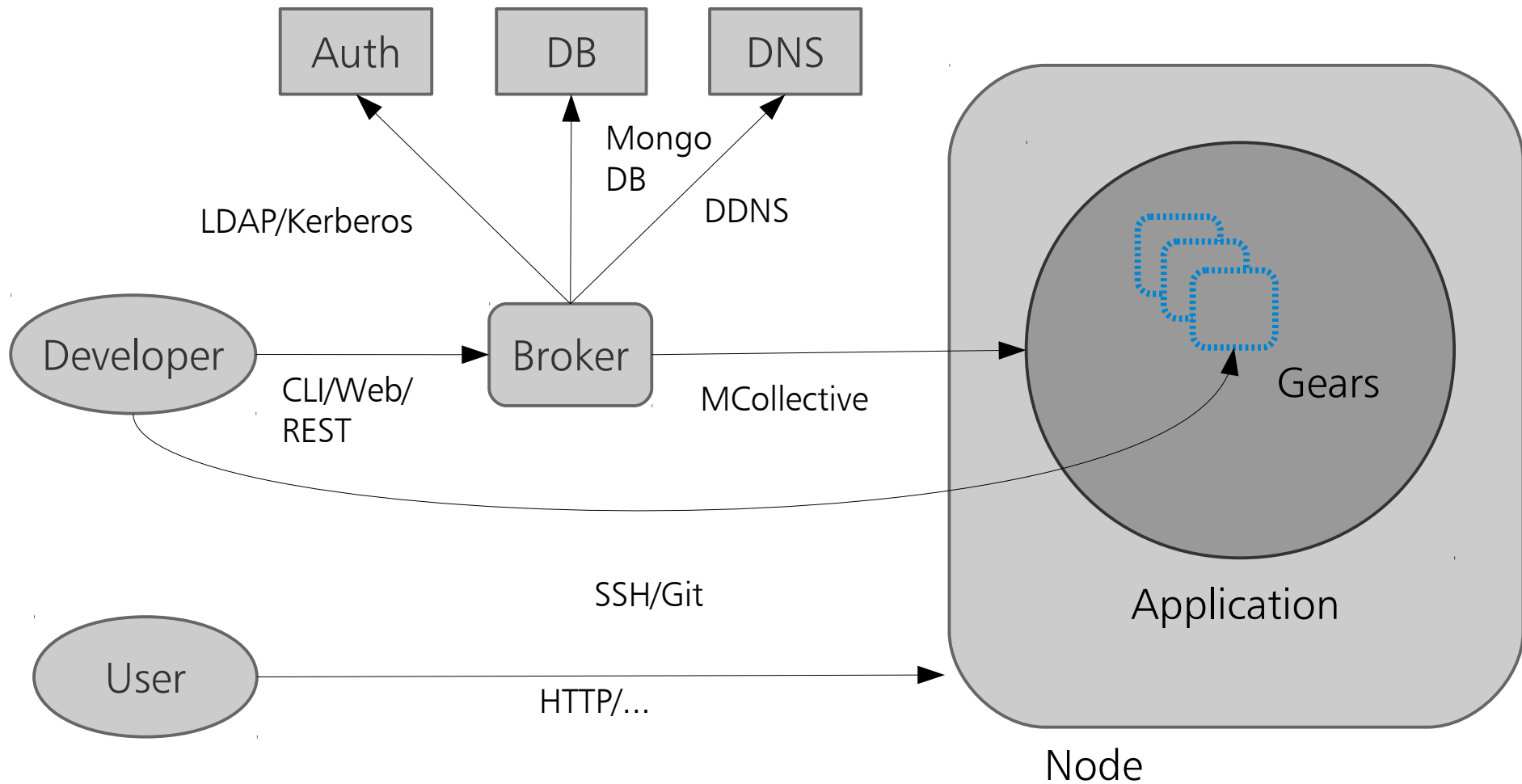
- Based on Red Hat Enterprise Linux
- Based on popular technologies
- Runs multiple software stacks
- Open platform, vibrant community



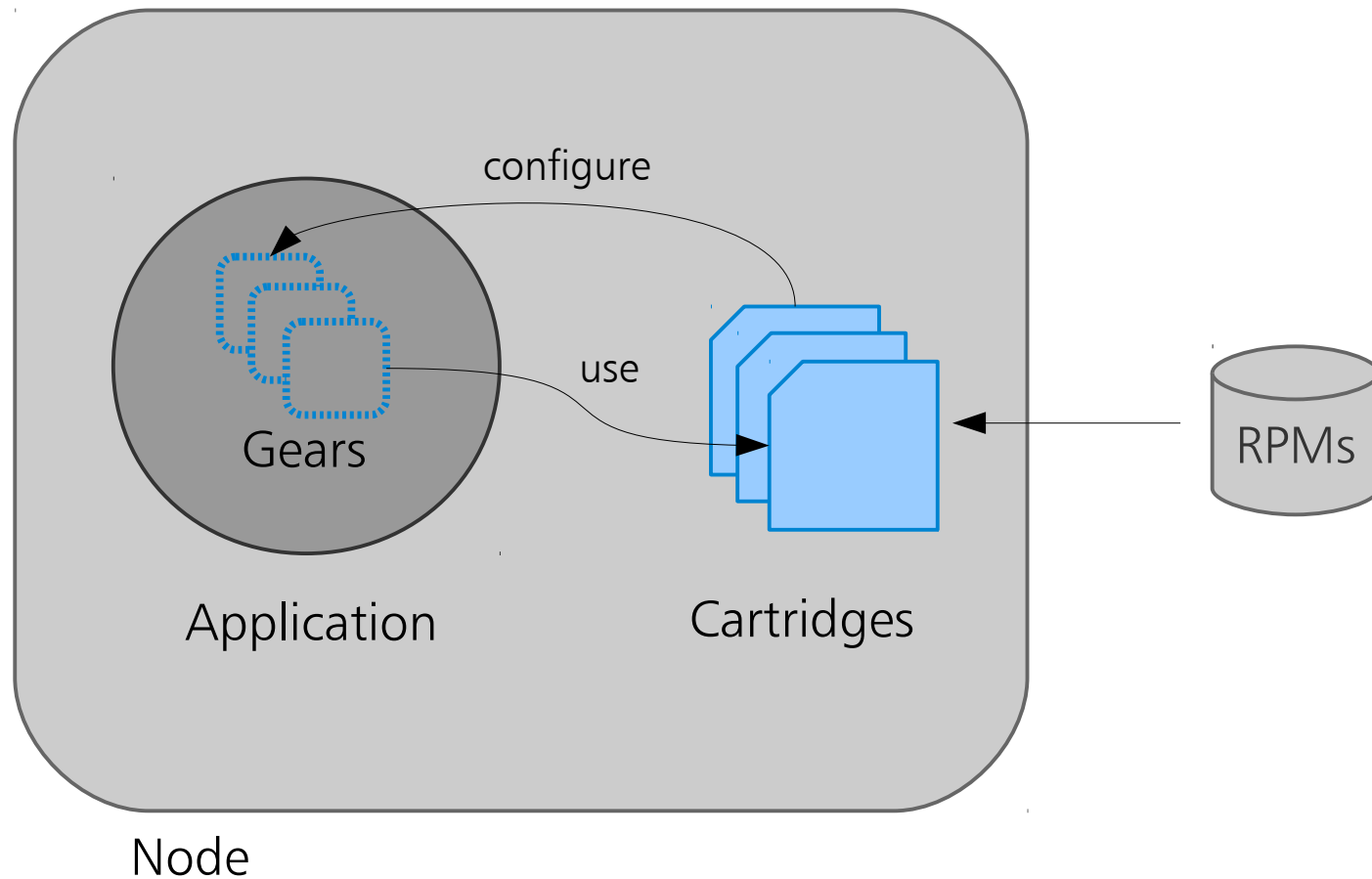
Openshift Architecture



Openshift Technologies



Cartridges

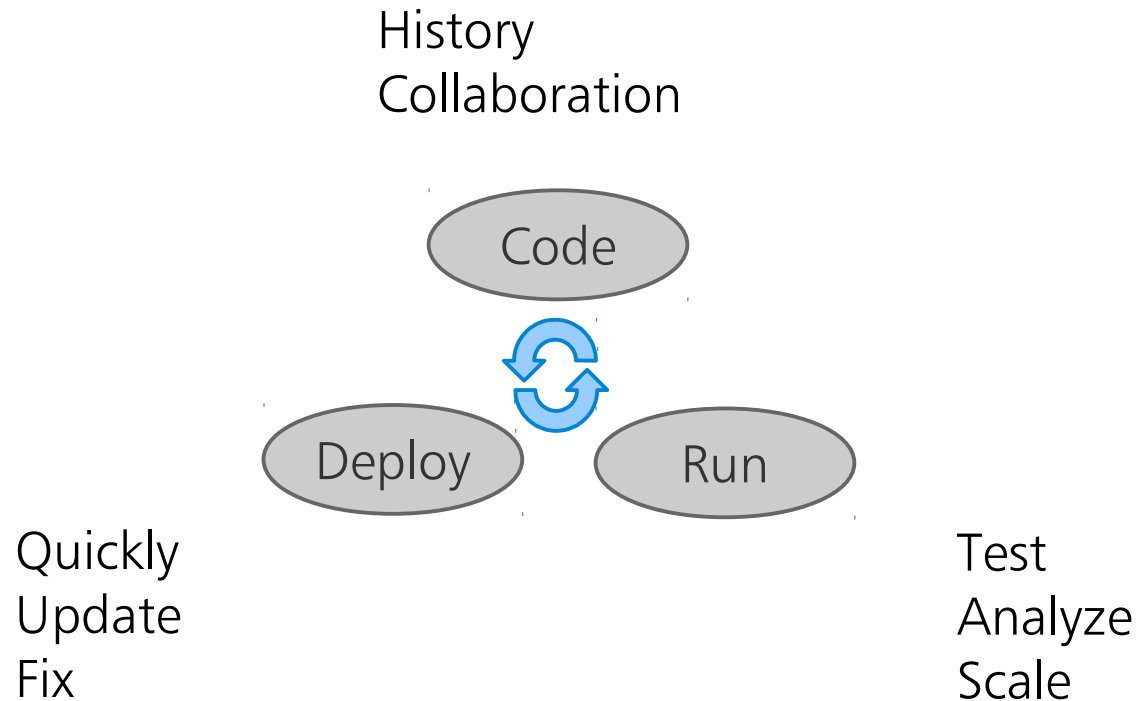


Application = ...

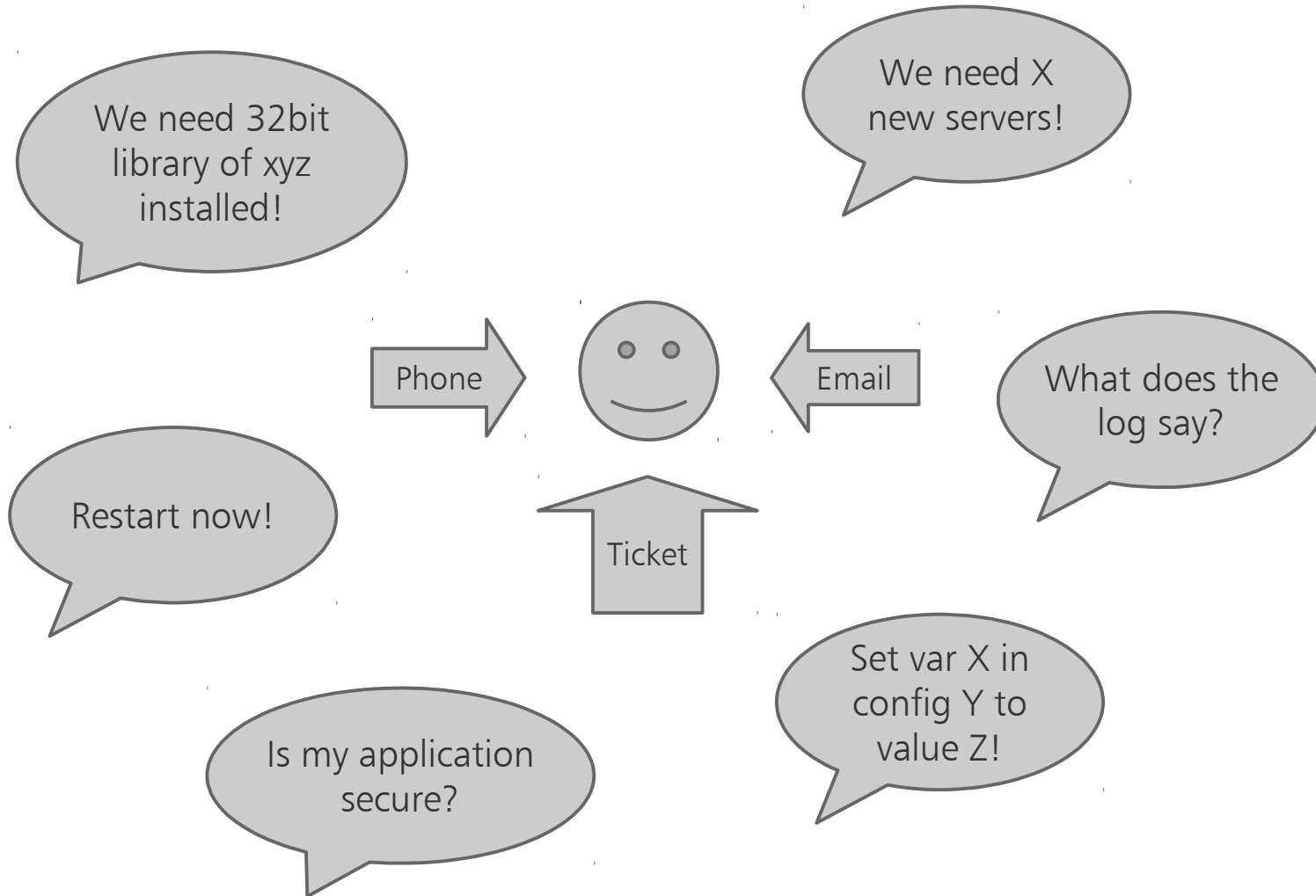
Domain + Name + Dependencies + Git Repository



Developer View



Sysadmin View



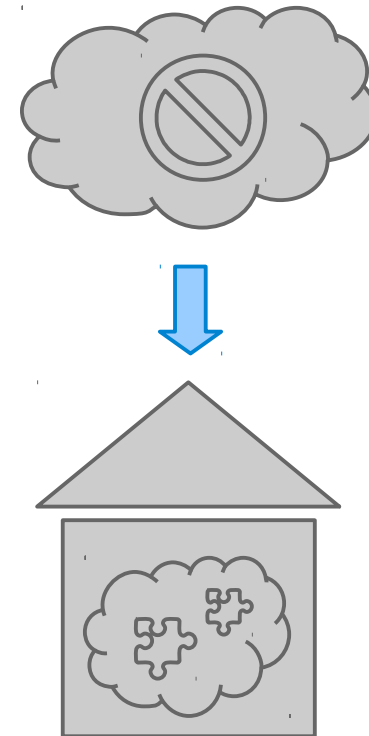
DevOps

- Better interface between Developer and Operator
- Developer gains access
- Access is controlled and limited
- Less communication overhead
- Continuous integration/deployment/delivery



The Private Cloud

- Many public PaaS
- All closed and run in public
- Build your own, customize
- Know how your cloud works
- Own the data
- Provide PaaS/SaaS
- No provider lock-in



Setting up OpenShift Enterprise

- Up and running within half a day
- 2 nodes with Red Hat Enterprise Linux
- Add software channels
- Download install script from Github
- Configure: Hostnames, IPs, Passwords, etc.
- Run on broker host, run on node host
- Integrate with DNS
- Integrate with Authentication
- Add SSH keys



Config Example

```
CONF_DOMAIN="example.com"  
CONF_INSTALL_COMPONENTS="broker,named,activemq,datastore"  
CONF_INSTALL_METHOD="none"  
CONF_BROKER_HOSTNAME="broker.example.com"  
CONF_NAMED_HOSTNAME="ns1.example.com"  
CONF_ACTIVEMQ_HOSTNAME="activemq.example.com"  
CONF_DATASTORE_HOSTNAME="mongodb.example.com"  
CONF_NAMED_IP_ADDR=192.168.1.1  
CONF_BROKER_IP_ADDR=192.168.1.1  
CONF_ACTIVEMQ_ADMIN_PASSWORD="ChangeMe"
```

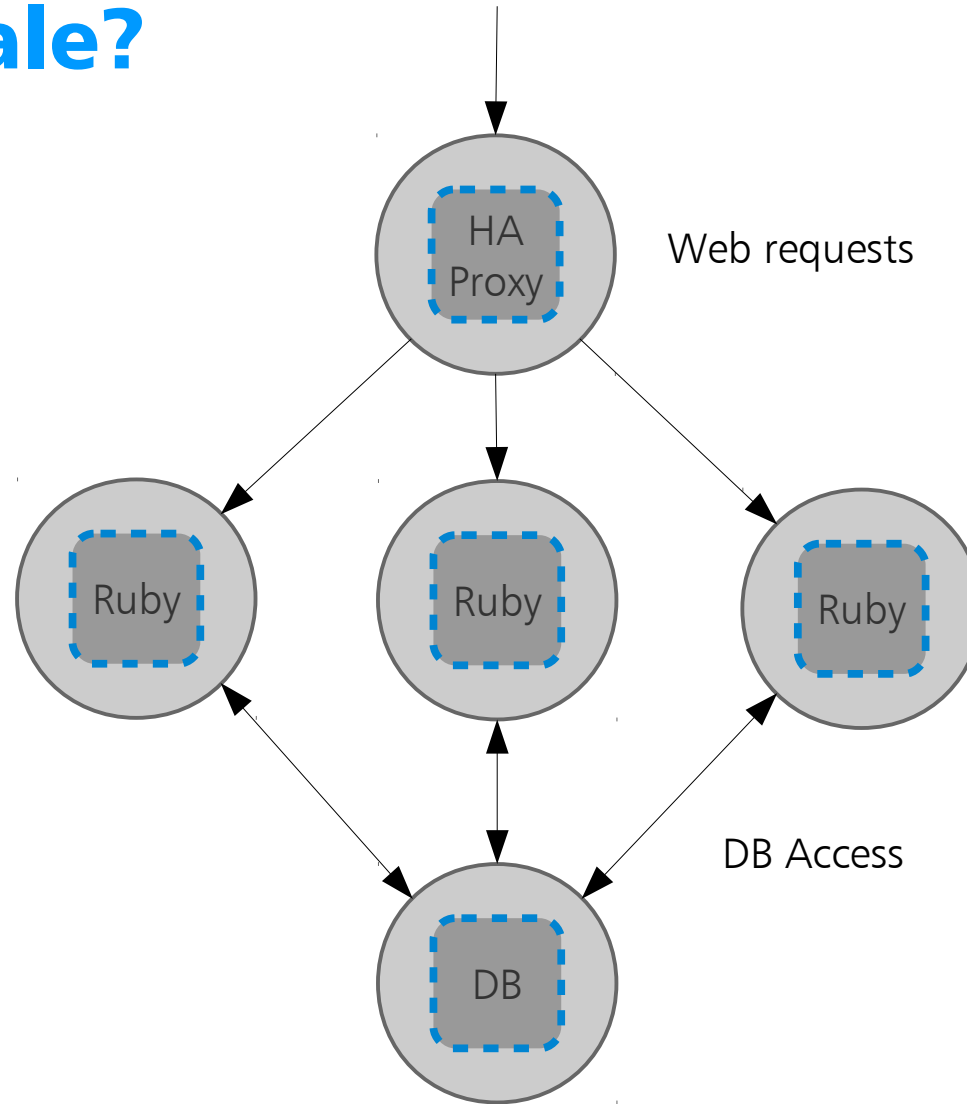


How to run your applications

- Create application with client tools
- Add cartridges
- Import code into Git repository
- Push
- Scale, start/stop, analyze ...



Does it scale?

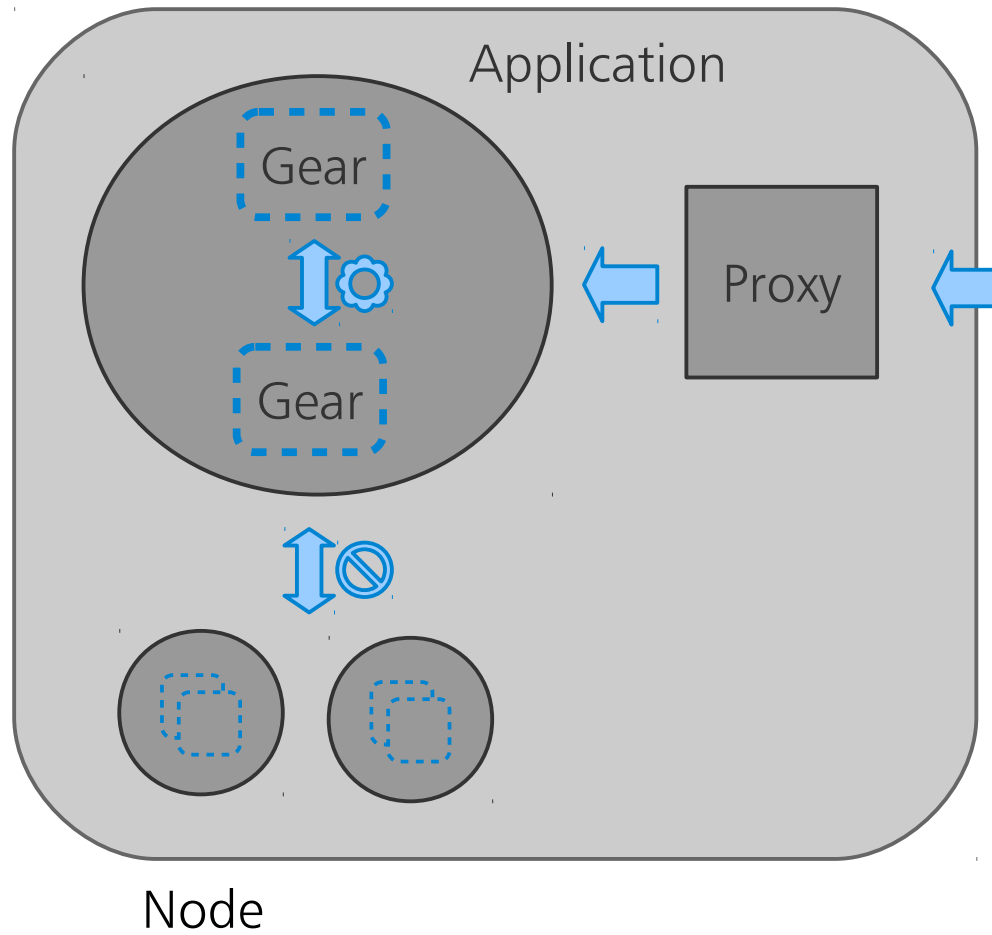


Can I make it high available?

- Platform vs. Applications
- Nodes/Broker independent
- Need redundant load balancer in front
- DNS, LDAP/Kerberos
- Mitigate node failure with virtualization
- *There is no magic that will make any app HA!*



Is it secure?



Benefits

- Connect Developer and Operator worlds
- Customization
- Automation
- Continuous deployment
- Freedom of what/where/how to run
- Connect with community
- Read the source
- Get Enterprise Support



Compared to other PaaS

- No source code changes
- Run many software stacks
- Customization
- Private Cloud



Resources

- <https://www.openshift.com/>
Docs, Mail, Forum, Blog, Twitter, G+, IRC, ...
- <https://github.com/openshift>
Server, Client tools, Cartridges, Examples, Puppet modules, Kickstarts, Scripts, ...



Private/Community IaaS und PaaS out of the Box

IaaS

Red Hat OpenStack
Red Hat Enterprise Linux
Dienstleistungen von Puzzle

PaaS

Red Hat OpenShift Enterprise
Red Hat Enterprise Linux
Dienstleistungen von Puzzle

Virtualisierungsumgebung, existierend oder neu



Potenzielle Dienstleistungen von Puzzle

- Installation auf Kundeninfrastruktur
- Integration mit LDAP/AD, Datenbankservern, Backup, Monitoring, ...
- Einführung von Mitarbeitern



Thank you!



Origin / Online / Enterprise

- OpenShift *Origin*: The Open Source Project
- OpenShift *Online*: Run in Public Cloud
- OpenShift *Enterprise*: Run your Private Cloud

- Try out everything on *Origin*
- Start quickly *Online*
- Get *Enterprise* Support



rhc CLI

```
$ sudo gem install rhc

$ rhc setup
(Couple of questions: Server, Username, Password)

$ rhc app create myapp php-5.3
Password: (Enter your account password)

$ cd myapp
$ vim php/index.php
(Make a change... :x)
$ git commit -a -m "My first change"
$ git push

(Access myapp-mynamespace.example.com)
```



OpenShift Console

The screenshot shows the 'CREATE AN APPLICATION' page in the OpenShift console. At the top, there is a navigation bar with 'My Applications', 'Create Application' (active), 'Help', 'Settings', and 'My Account'. Below the navigation bar, the page is divided into three steps: 1. Choose a type of application (highlighted in red), 2. Configure and deploy the application, and 3. Next steps. The first step contains instructions: 'Choose a web programming cartridge or kick the tires with a quickstart. After you create the application you can add cartridges to enable additional capabilities like databases, metrics, and continuous build support with Jenkins.' Below this is a search bar with the text 'Search by keyword or tag' and a 'Browse by tag...' dropdown menu. To the right, there are two options: 'Cartridge' (described as a managed runtime that receives security updates and upgrades automatically) and 'QuickStart' (described as a quick way to try out a new technology with code and libraries preconfigured). Below these options is a 'Featured' section with two featured items: 'JBoss Enterprise Application Platform 6.0' (marked with a green '\$' icon) and 'Zend Server 5.6'. Each item includes a brief description, a URL, and the text 'OpenShift maintained'. At the bottom of the featured items, there are links for 'Instant App' and 'Java' with '(see all)' links.



O p e n Shift

- All source code is available
- Everything on Github
- Add your own functionality with cartridges
- Collaborate with others
- Run across multiple clouds
- Already seeing recipes for famous applications → SaaS

