

携程容器云ChatOps实践

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携程容器云-简介

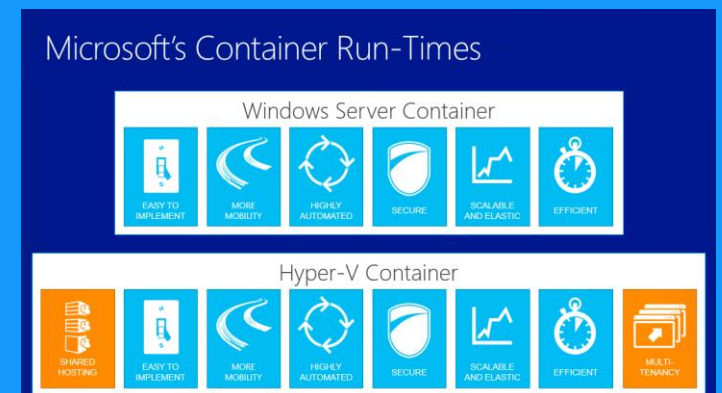
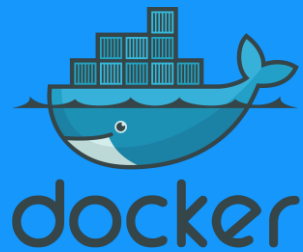
IAAS → PAAS

稳定基础平台 → 应用秒级发布

运维管理自动化 → 一定程度的智能化

提升资源利用率 → 弹性扩容缩容

携程容器云-技术栈



ChatOps 简介

ChatOps: 在聊天室完成Ops工作

Born with DevOps movement (@github)

契合DevOps Culture: CAMS

“效率”至上，崇尚“协作”

Why ChatOps

ChatOps

容器云

提升Ops工作效率

效率

提升应用交付效率

降低沟通成本

成本

弹性计算, 秒级扩容

日常工作方式

创新

开发/测试/运维流程

ChatOps 技术栈

ChatService

Slack

RocketChat

IRC

...

Bot Scripts

Hubot

Errbot

Lita

...

Ops Infra

ELK

Monitor

Release

Cloud

...

Stack
Storm

ChatOps技术选型

ChatService: Rocket.Chat

BotScript: Hubot

Ops Automation Engine: StackStorm

ChatOps vs 传统Ops



工程师接收Mail/短信

web登录Zabbix/Kibana/...



告警事件发生

登录服务器



转发邮件，IM拉讨论组

工程师执行预案

ChatOps工作场景

DevOps工程师日常任务

CI

CD

TroubleShoot

资源协调

容器云系统组件

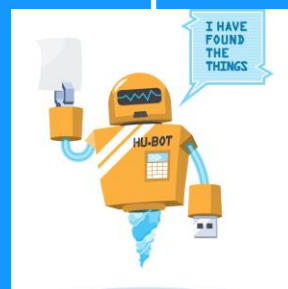
GitLab

Release

Monitor
System

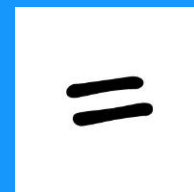
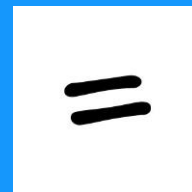
MESOS

 **ROCKET.CHAT**



StackStorm简介

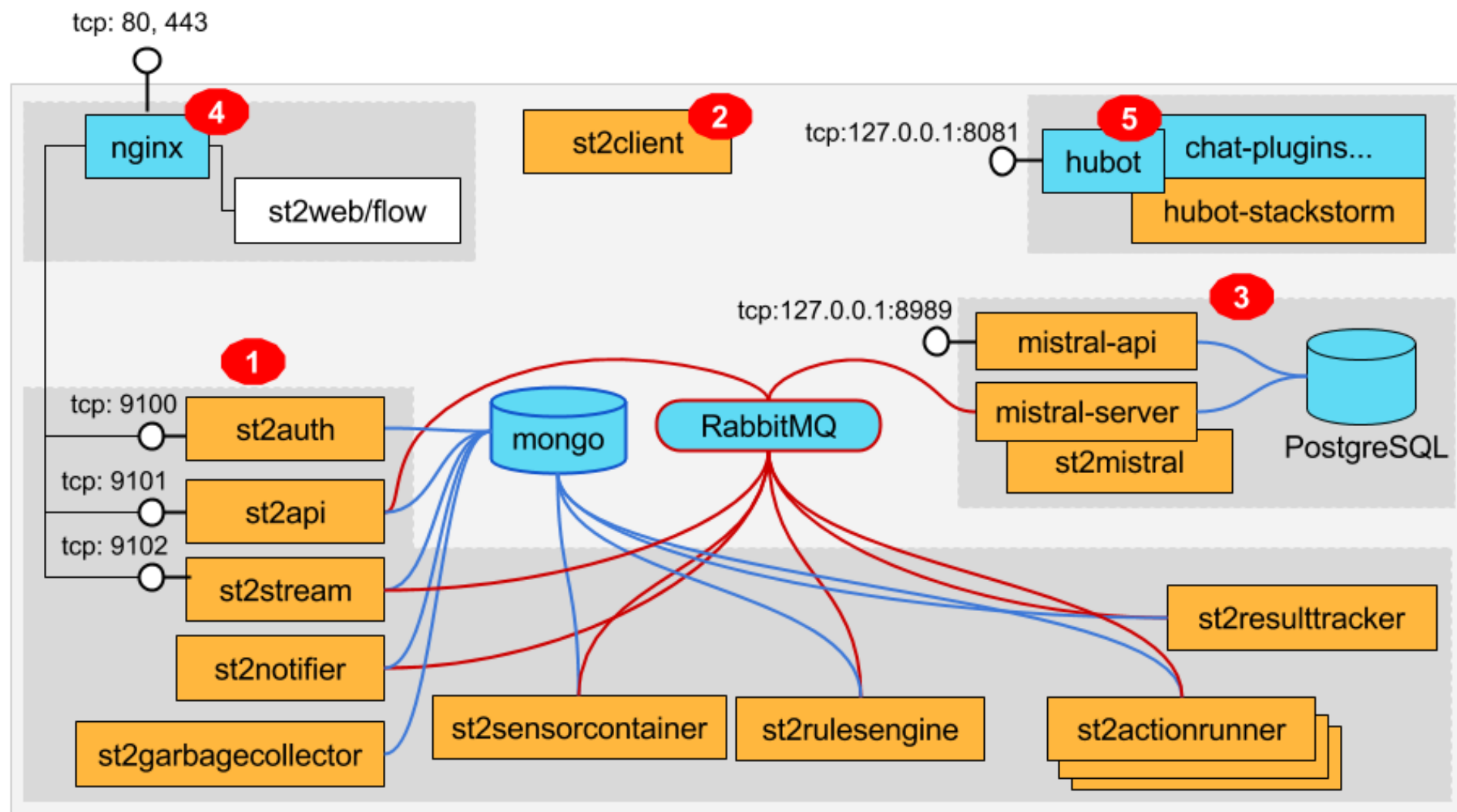
“Wiring your legos together”



“Our Environment”

Event-Driven Automation Engine powered by Python

StackStorm架构



Redis or Zookeeper

LDAP

StackStorm场景

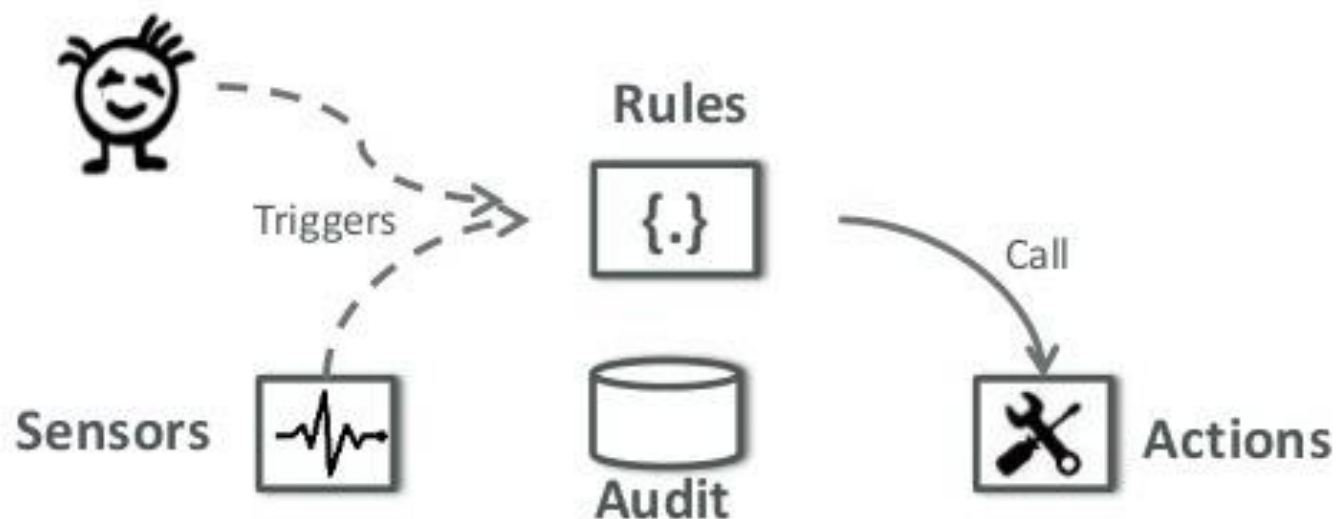
提升排障效率

定制化Workflow

CI/CD

ChatOps

StackStorm



Infrastructure – Cloud – Applications – Tools – Processes



StackStorm关键词

- Sensor
- Action
- Rule
- Trigger
- Workflow
- Audit

StackStorm Action

The screenshot shows the StackStorm web interface in a browser. The address bar indicates the URL `172.168.90.50:8080/#/actions/cicd-docker.docker_image_build_and_push/general`. The interface has a dark theme with a top navigation bar containing 'ACTIONS', 'HISTORY', and 'RULES'. The user 'testu@stackstorm' is logged in.

ACTIONS

Filter

CICD-DOCKER		
ACTION	RUNNER	DESCRIPTION
cicd-docker.build_i...	local-shell-script	Build docker image action. Equivalent to docker build.
cicd-docker.dock...	action-chain	Workflow to build docker image from repo and pu...
cicd-docker.git_ch...	run-remote-script	Clone a git repo
cicd-docker.git_si...	remote-shell-script	Clone a git repo
cicd-docker.pull_i...	local-shell-script	Pull docker image action. Equivalent to docker pull.
cicd-docker.push_i...	local-shell-script	Push docker image action. Equivalent to docker push.

CORE		
ACTION	RUNNER	DESCRIPTION
core.http	http-request	Action that performs an http request.
core.local	local-shell-cmd	Action that executes an arbitrary Linux command o...
core.local.sudo	local-shell-cmd	Action that executes an arbitrary Linux command o...

cicd-docker.docker_image_build_and_push
Workflow to build docker image from repo and push it to registry

repo to use for docker image (registry repo).

project *

mongo-docker

Name of the project to be built.

branch

master

Branch of the Project to build.

docker_tag

0.4

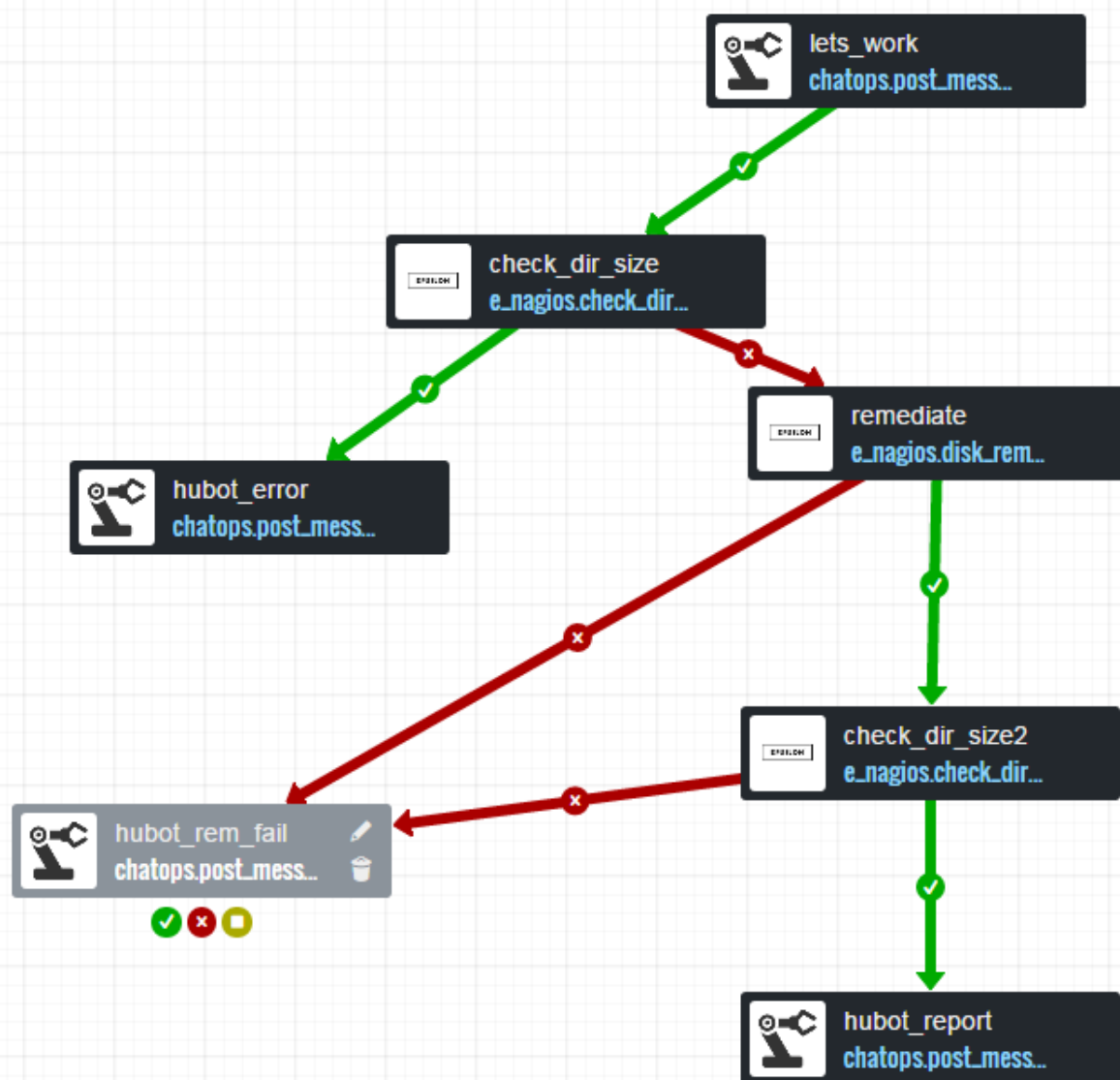
Tag to use for docker image when built.

git_repo *

git@github.com:lakshmi-kannan/mongo-docker.git

Report a bug

StackStorm Workflow



```
version: '2.0'
name: examples.mistral-handle-retry
description: >
  A sample workflow that demonstrates how to handle rollback and retry on error.
  In this example, the workflow will error and then continue to retry until the file
  /tmp/done exists. A parallel task will wait for some time before creating the
  file. When completed, /tmp/done will be deleted.

workflows:

  main:
    type: direct
    tasks:
      init:
        action: core.local cmd="rm -f /tmp/done"
        on-success:
          - create-file
          - test-error-undo-retry
      create-file:
        action: core.local cmd="touch /tmp/done"
        wait-before: 10
      test-error-undo-retry:
        workflow: work
        retry:
          count: 30
          delay: 1
        on-success:
          - delete-file
      delete-file:
        action: core.local cmd="rm -f /tmp/done"

  work:
    type: direct
    tasks:
      do:
        action: core.local
        input:
          cmd: >
```

StackStorm Enhanced ChatOps 实战

Query Data

The screenshot displays the StackStorm ChatOps interface. On the left is a sidebar with a user profile for 'ZH zhouxinyi' and a search bar. Below the search bar is a list of channels: '★ 收藏 (13)', 'Home', '# CDOS', '# CDOS-DevOps-Support' (selected), '# Cloud-Manager-Support', '# CloudShare', '# Docker讨论区[Docker]', '# ES技术支持[EsSupport]' (with a '1' badge), '# HickwallSupport', '# VDesktop', and '# CDOS-Dev' (with a '1' badge). The main chat area shows the '# CDOS-DevOps-Support' channel. It contains three messages: a message from 'YC' asking about logstash logs, a message from 'ZH' asking about logstash version dependencies, and a message from 'CdosBot' providing system resource status. The bot's message includes a code block with resource information.

★ # CDOS-DevOps-Support

YC 2017年4月11日 晚上9点04分
一些不会被服务消费的日志 是不是可以开始往新的es放?

2017年4月12日 上午11点02分
对logstash版本的依赖，这部分日志先不动


ZH 周昕毅 2017年4月12日 中午11点50分
@CdosBot capacity mesos


CB CdosBot 2017年4月12日 中午11点50分

```
可用CPU: 70%  
可用MEM: 70%  
可用IP资源: 100%  
可建2C2G机器: 100%  
宿主机总数: 100%
```



StackStorm Enhanced ChatOps 实战

Push Context

 # [redacted] DevOps-Support

 **Ip Man** @CdosBot **BOT** 2017年4月6日 下午12点55分
DockerJob 0.0%($\frac{0}{1}$) runs of '修改首期预付款' succeeded. [\[redacted\]corp.com/dashboard/db/cdos-docker-job?var-app=100006893&var-description=修改首期预付款&var-task=100006893_1162_4759_PROD](#)

time	app	task	receivers	highWatermark	lowWatermark
2017-04-06T04:55:10.719878Z	100006893	100006893_1162_4759_PROD	[redacted]@ctrip.com	0.1	0.9

 **Ip Man** @CdosBot **BOT** 2017年4月6日 下午12点56分
DockerJob 100.0%($\frac{1}{1}$) runs of '修改首期预付款' succeeded. [\[redacted\]corp.com/dashboard/db/cdos-docker-job?var-app=100006893&var-description=修改首期预付款&var-task=100006893_1162_4759_PROD](#)

time	app	task	receivers	highWatermark	lowWatermark
2017-04-06T04:56:04.96123Z	100006893	100006893_1162_4759_PROD	[redacted]@ctrip.com	0.1	0.9

StackStorm Enhanced ChatOps 实战

Admin Tasks

The screenshot shows a Slack chat window for the #general channel. On the left sidebar, the user 'ZH zhouxinyi' is logged in. The channel list includes '# general' and '# hubot'. The main chat area shows a message from 'adminyjy' with the text '!help'. Below it, a message from 'devops_bot' displays a list of StackStorm help commands. At the top right of the chat area, a notification says '8 新消息, 自从 下午1点49分'.

Channel: # general

跳转到第一条未读消息 8 新消息, 自从 下午1点49分

AD adminyjy Admin 下午2点00分
!help

DB devops_bot Admin 下午2点00分
@adminyjy ! help - Displays all of the help commands that Hubot knows about.
! help <query> - Displays all help commands that match <query>.
! pack deploy <repo_name> [branch <branch=master>] - Download StackStorm packs via ChatOps
! pack deploy <repo_name> [packs <packs>] [branch <branch=master>] - Download StackStorm packs via ChatOps
! pack get <pack> - Get information about installed StackStorm pack.
! pack info {{pack}} - Get StackStorm pack information via ChatOps
! pack install <gitUrl>[,<gitUrl>] - Install/upgrade StackStorm packs.
! pack install <pack>[,<pack>] - Install/upgrade StackStorm packs.
! pack search <query> - Search for packs in StackStorm Exchange and other directories.
! pack show <pack> - Show information about the pack from StackStorm Exchange.
! run {{cmd}} on {{hosts}} - Execute a command on a remote host via SSH.
! show git clone {{repo_name}} - Show the Git clone command for a given pack

ChatOps收益

加速知识积累和流程优化

团队协作&高效交付

“routine task太无聊，招聘一个机器人”

“排障更快了，Ops处理步骤更透明了”

“乐高运维新时代”

“幸福的DevOps总是相似的，不幸DevOps则各有各的不幸”

ChatOps

Any Questions?