Open-Falcon

A Distributed and High-Performance Monitoring System

Yao-Wei Ou & Lai Wei

2017/05/22

Let us begin with a little story…

Grafana PR#3787

[feature] Add Open-Falcon datasource

"I'm sorry but we will not merge any new datasources unless they are very popular."

\- Grafana

grafana / grafana

Code | Issues 469 | Pull requests 25 | Wiki | Pulse | Graphs

[feature] Add Open-Falcon datasource #3787

Edit

Closed hitripod wants to merge 4 commits into grafana:master from hitripod:feature-openfalcon

Conversation 61 | Commits 4 | Files changed 38

+5,720 −0 � ▮▮▮▮

hitripod commented 7 days ago

Open-Facon is a monitoring system initiated by Xiaomi.

hitripod added some commits 11 days ago

add openfalcon in plugins/datasource/	7d48dbd
add openfalcon in dataproxy.go	c516a6a
copy datasource/graphite/ to datasource/openfalcon/	d845481
fix type: parseTargetRecursive -> parseTargetRecurive	✗ dcb4485

CLAassistant commented 7 days ago

CIA not signed yet

You should sign our Contributor License Agreement in order to get your pull request merged.

bergquis commented 7 days ago Collaborator

I'm sorry but ve will not merge any new datasources unless they are very popular. I suggest you create an plug-in instead. Please take a look at https://github.com/grafana/datasource-plugin-kairosdb as an example.

I would suggest you open an issue next time before doing all this work so we could have told you earlier :'

○ bergquist closed this 7 days ago

Labels

None yet

Milestone

No milestone

Assignee

No one assigned

Notifications

◀ Unsubscribe

You're receiving notifications because you were mentioned.

61 participants

and others

chuanxd commented 5 days ago

Open-falcon is very popular monitoring system.
Please reconsider this pul-request.

bergqula commented 5 days ago   Collaborator

@hitripod you can create plugins under your own name. But I suggest you wait a few weeks since ve are currently working a bit on the plugin system and things might change. After that you can expect some documentation about how to do it.

Catchwt commented 5 days ago

+1+1

thuhak commented 5 days ago

+1

Write | Preview   🅱 Styling with Markdown is supported

Leave a comment

Attach files by dragging & dropping, selecting them, or pasting from the clipboard.

Comment

💡 **ProTip!** Add .patch or diff to the end of URLs for Git's plaintext views.

Open-Falcon,now is one of the most popular monitoring systems in China.

About us

Laiwei

- Technical director of DiDi, China.
- Founder of Open-Falcon software.
- Core maintainer of Open-Falcon community.
- Focus on service reliability, DevOps, Cloud computing, etc.

Yaowei

- Director of WiFire oversea R&D center.
- Core maintainer of Open-Falcon organization.
- Leads the development of CDN monitoring system in Fastweb.
- Focus on CDN and Blockchain.

Outline

▸ Motivation

▸ Features

▸ Architecture

▸ Comparison

▸ Community

Motivation(1/3)

There are already so many outstanding open source monitoring systems. Why do we reinvent a wheel? And how does it become the most popular monitoring system in China?

Motivation(2/3)

‣ Zabbix

- difficult to scale out (~2000)
  - Database can grow very large, very quickly if not tuned properly.
  - not very resource friendly: a lot of connections will be made.
  - we have to build several zabbix cluster to deal with the rapid business grow.
- a bit of a learning curve
  - Tuning and tweaking can be a lot of work
  - more complex to setup
  - hard to extend
  - manually configuration

‣ 2015 open sourced by Xiaomi SRE, China, under Apache License Version 2.0

- to replace Zabbix

Motivation(3/3)

‣ key factors of an enterprise class monitoring system.

Scalability Performance High Availability Flexibility User-Oriented

Features

Scalability

▸ Scalable monitoring system is necessary to support rapid business growth. Each module of Open-Falcon is super easy to scale horizontally.

▸ Supports up to hundreds of million transactions per minute (query/judge/store/search).

▸ Can easily support over 100,000 hosts.

Performance

▸ With RRA(Round Robin Archive) mechanism, the one-year history data of 100+ metrics could be returned in just few seconds.

▸ stores 10+ years historical metrics.

High Availability

- ‣ No critical single point of failure

- ‣ Easy to operate and deploy

Flexibility

▸ Falcon-agent has already 400+ built-in server metrics. Users can collect their customized metrics by writing plugins or just simply run a script/program to relay metrics to falcon-agent.

▸ Extensive architecture.

▸ Customizable metrics.

▸ Abundant APIs.

Efficiency

▸ For easier management of alerting rules, Open-Falcon supports strategy, expression, template inheritance, and multiple alerting method, and callback for recovery.

▸ Auto discovery of endpoints and counters.

▸ API support.

User-Oriented

- Supports Grafana Datasource.

- Open-Falcon could present multi-dimension graph, including user-defined dashboard/screen.

Grafana with Open-Falcon Screenshot (1/3)

Grafana with Open-Falcon Screenshot (2/3)

Grafana with Open-Falcon Screenshot (3/3)
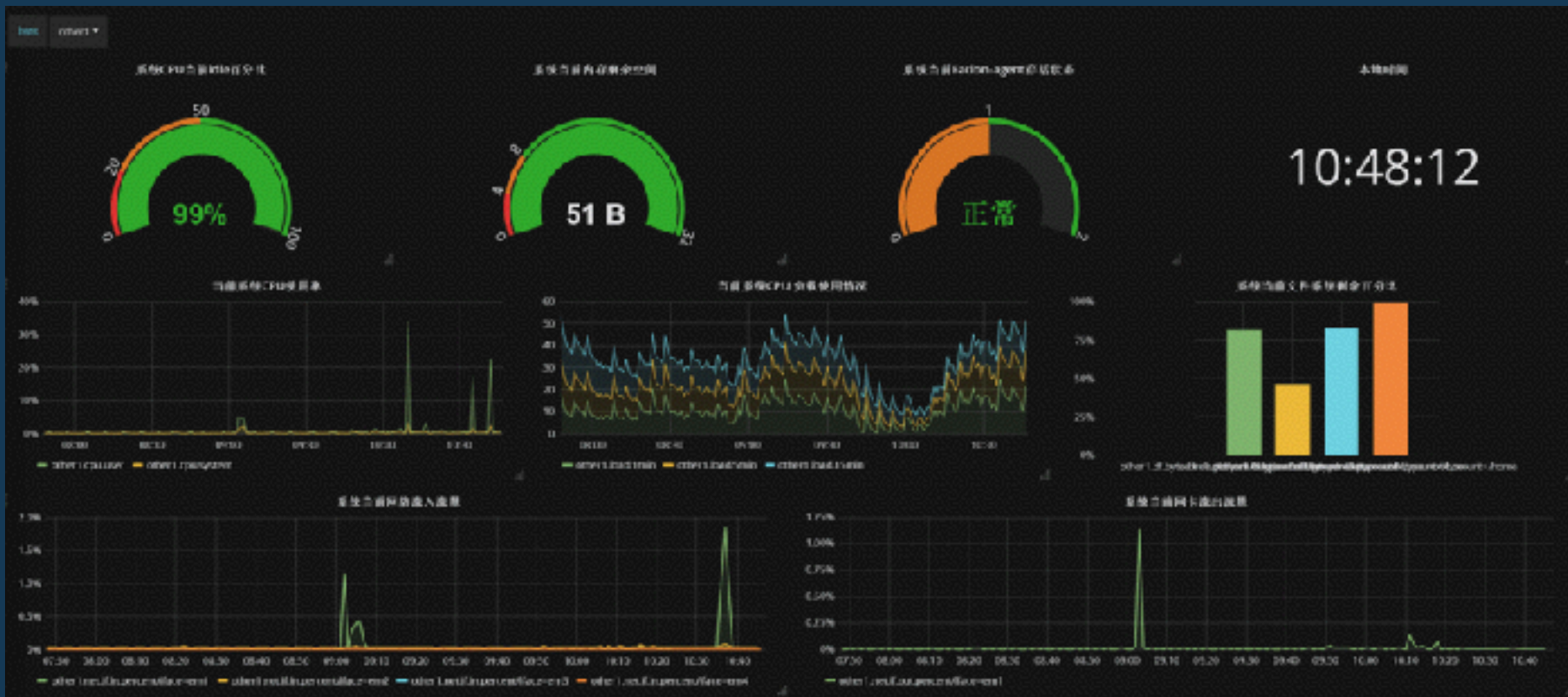
Architecture

Components

COLLECT

STORE

PRESENT

JUDGE

NOTIFY

Components
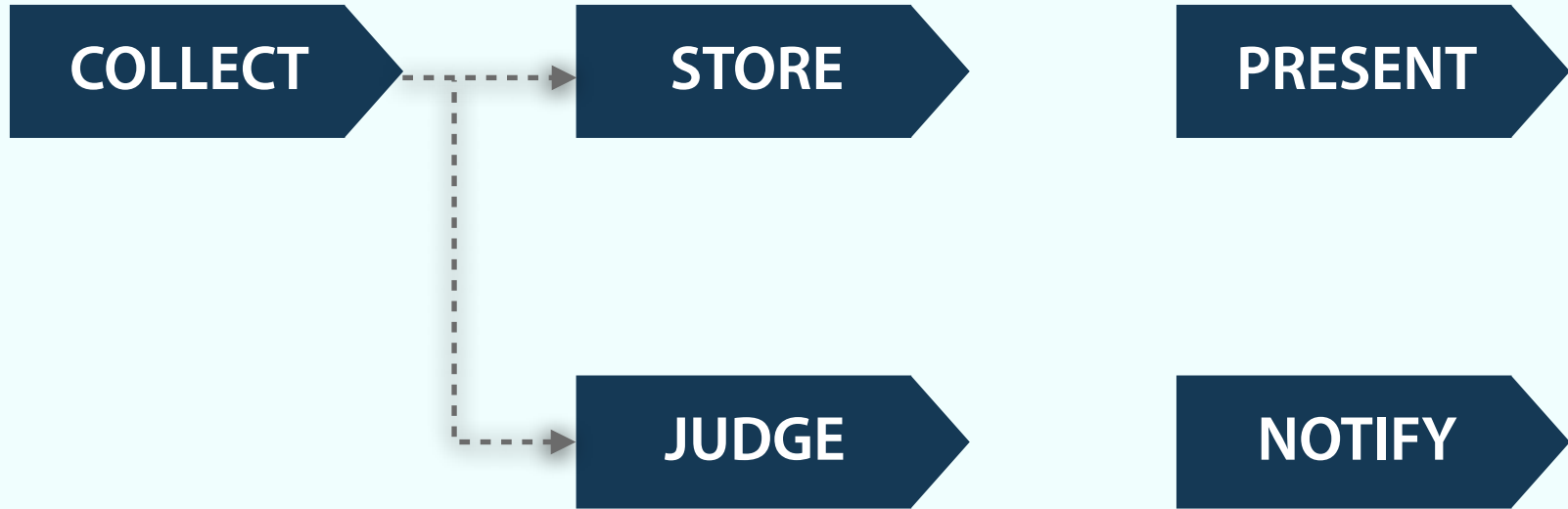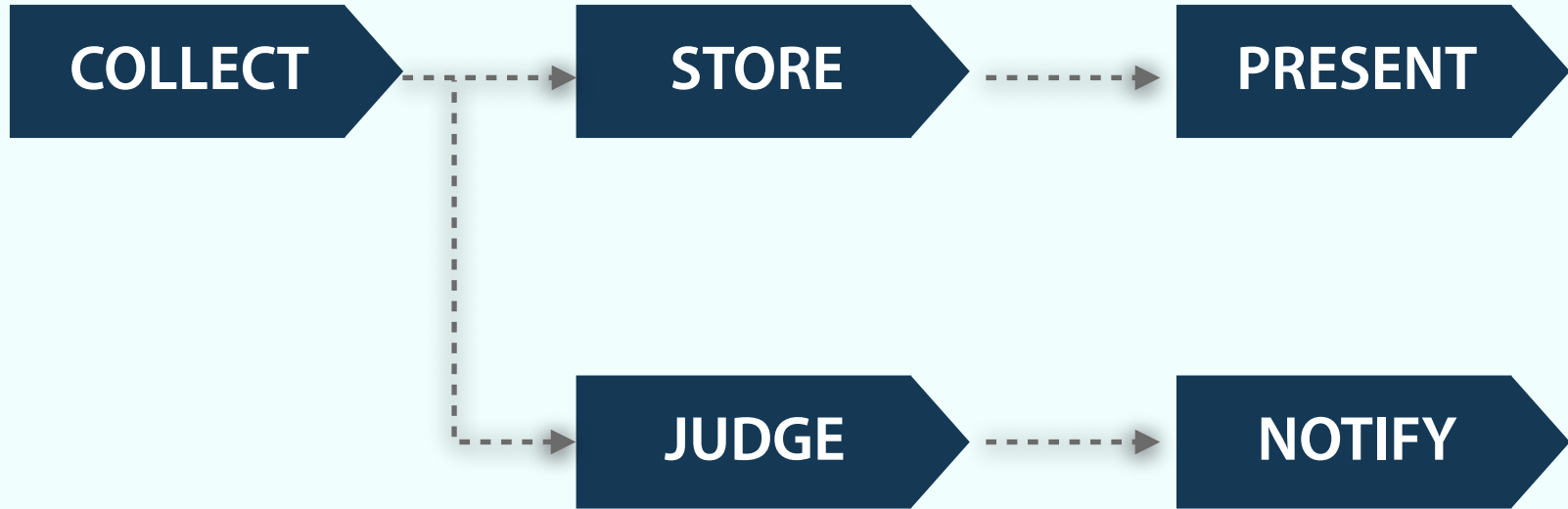
COLLECT

STORE

JUDGE

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NOTIFY

Components

COLLECT → STORE → PRESENT

COLLECT → JUDGE → NOTIFY

Components

COLLECT

Falcon-Agent
Proxy-Gateway
aggregator
nodata

STORE

graph
redis
MySQL
hbs

PRESENT

Falcon-Dashboard
Grafana
Falcon-API

JUDGE

judge

NOTIFY

alarm

Center Status

After

After

Alarm

FE

Dashboard

Portal

UIC

After

Alarm

FE

Dashboard

Dashboard

Portal

UIC

Alarm

API Gateway

HBS
(Control)

Judge

Graph

Transfer (Queue)

After

Alarm

FE

Dashboard

Dashboard

Portal

UIC

Alarm

API Gateway

HBS
(Control)

Judge

Graph

Falcon-Plus

Central
Status
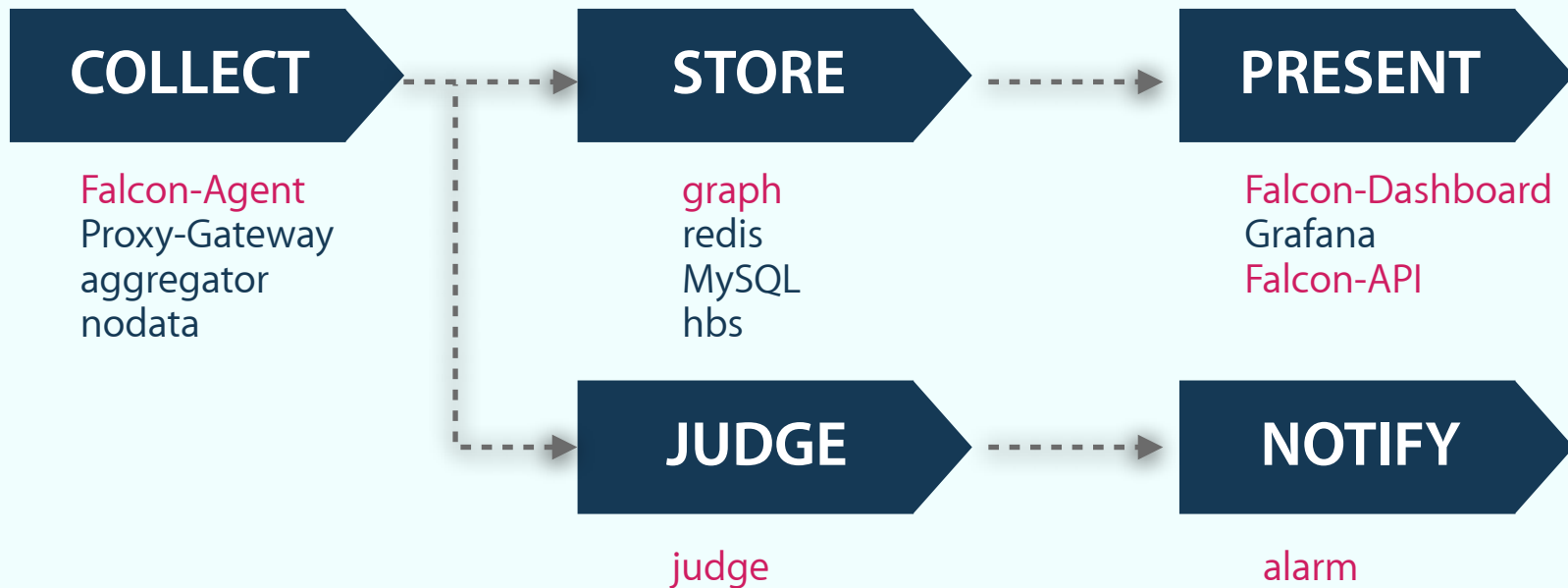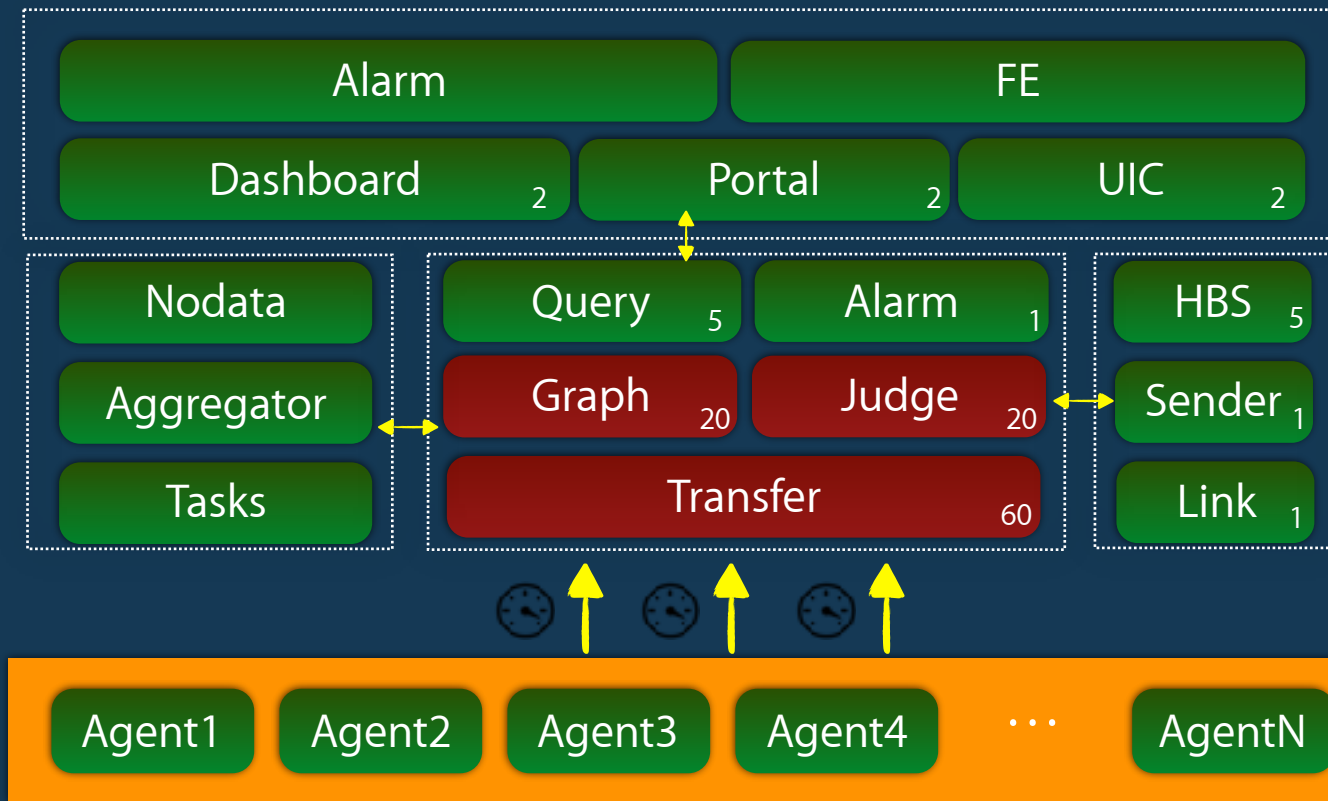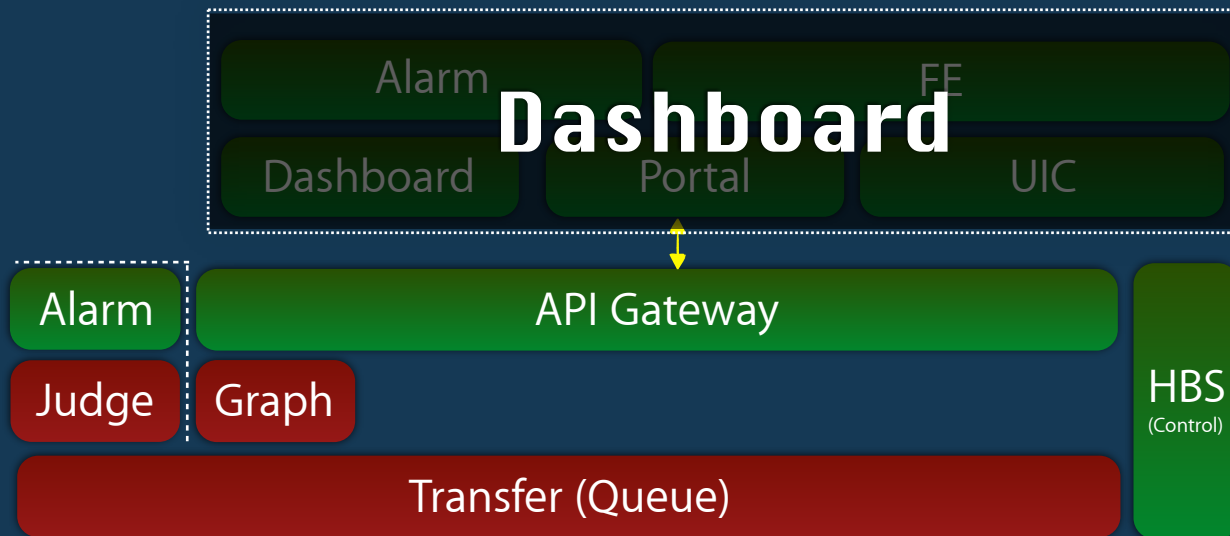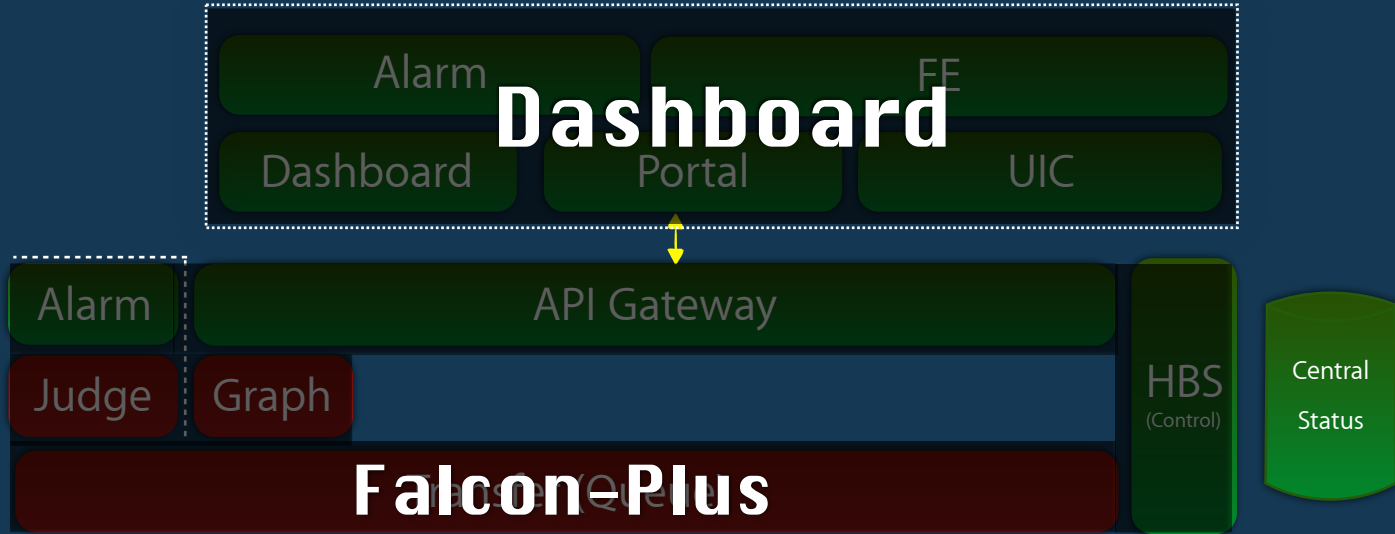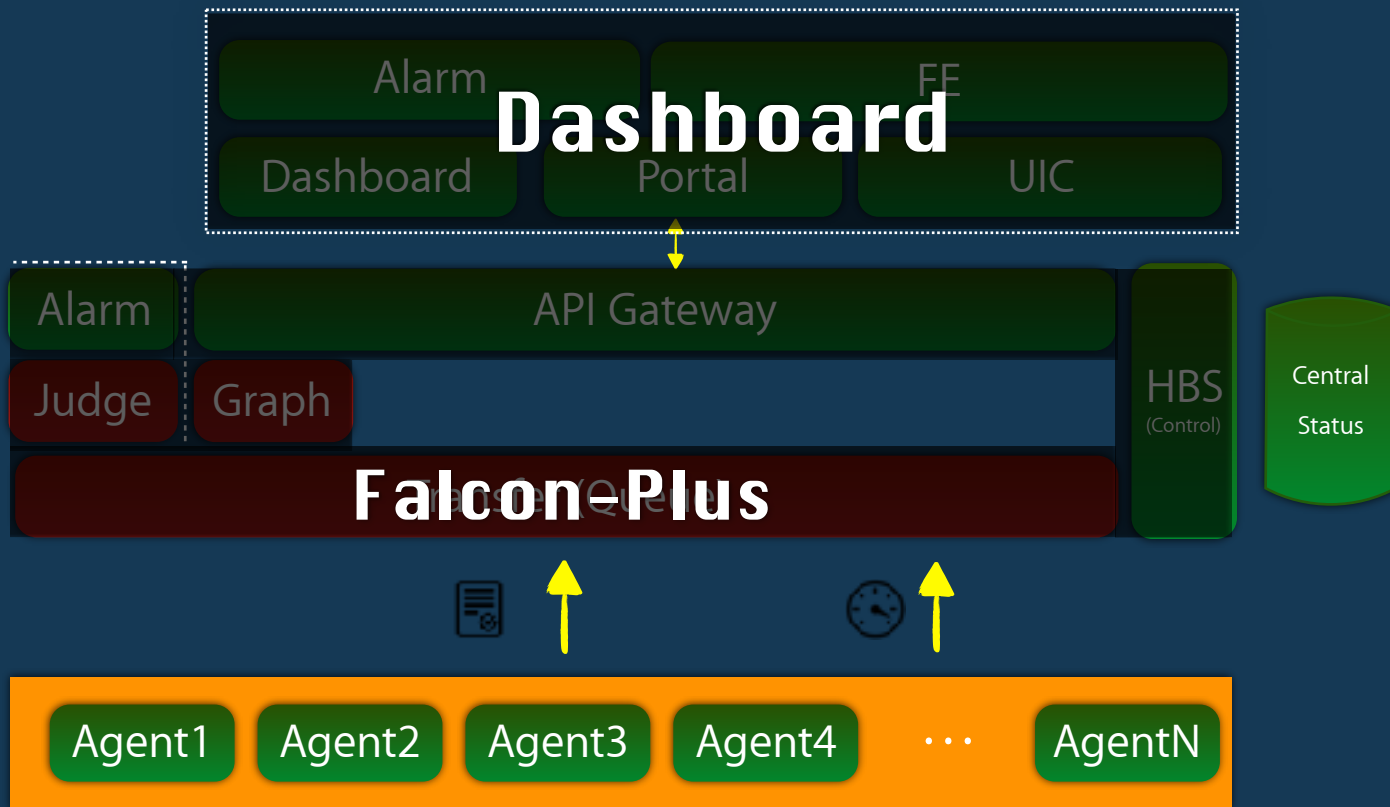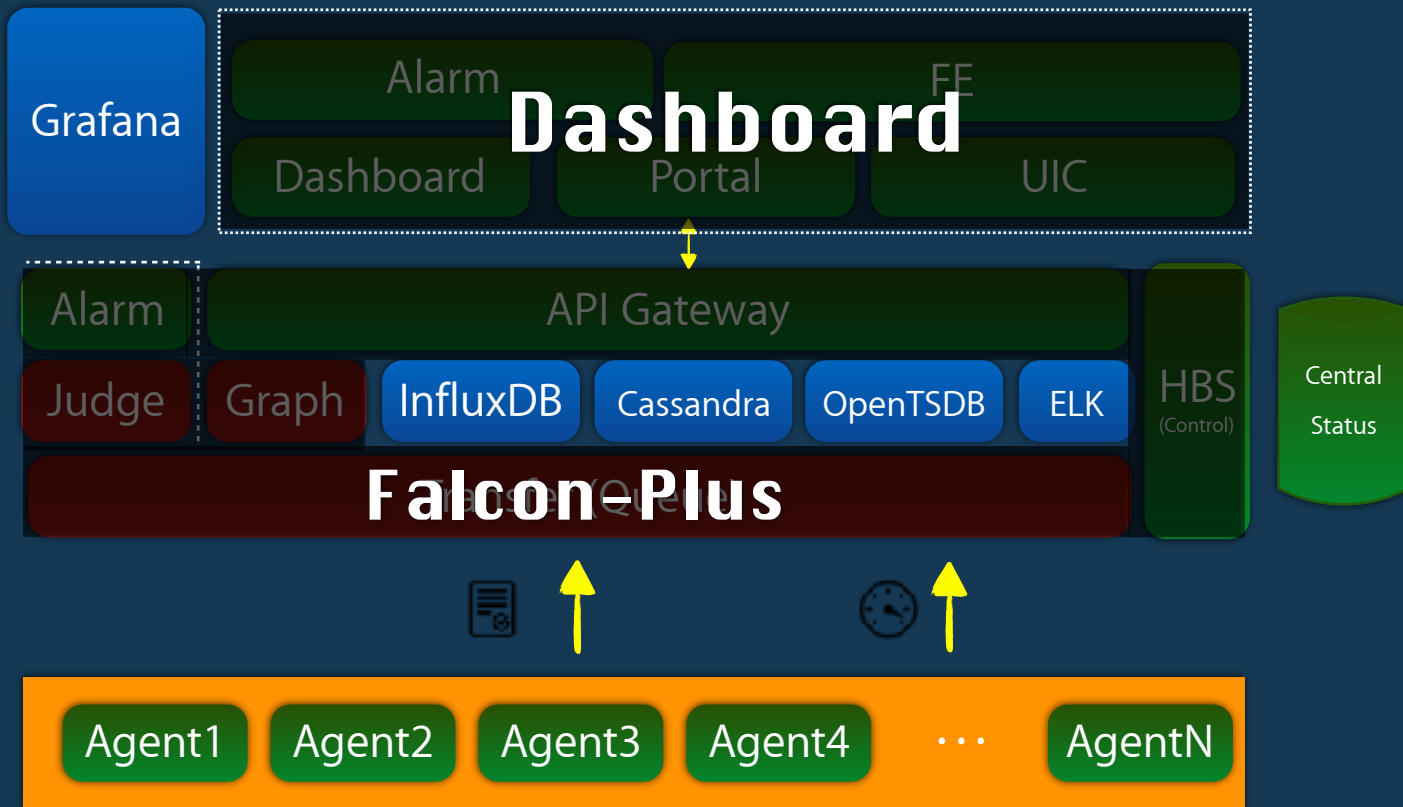
Design Philosophy

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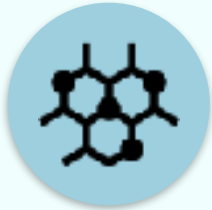
MICROSERVICES
10 major modules
individual deployed

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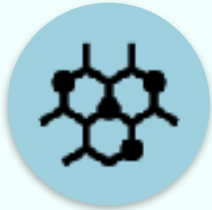
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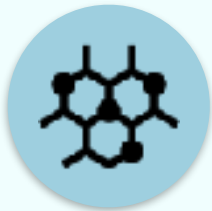
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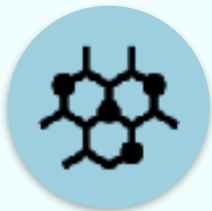
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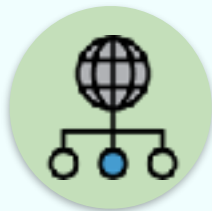
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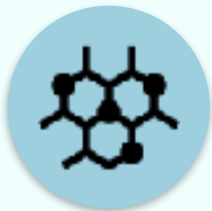
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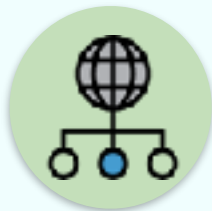
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GRAFANA
open-falcon datasource

Comparison

Compared to Prometheus

OPEN-FALCON	PROMETHEUS
Abundant APIs	Metrics API
Push Model: Auto Discovery	Pull Model: Manual configuration
Easy to scale out	Harder to scale out
simple alert management of own dashboard	Alertmanager offers **grouping, deduplication and silencing** functionality
Faster query performance of RRA	Slower, Recording rules
Simple shellscript as plugin	A bit learning curve to write exporter and collector
Limited expression	**PromQL**

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Community

- Banking
- IaaS, SaaS
- CDN
- O2O
- Social
- Entertainment
- …

Ecosystem (2/2)

OS

UI

Plugins

Switch	Hadoop	HBase	Docker	Redis
MongoDB	GPU	RabbitMQ	HAProxy	Nginx
JMX	LVS	Tomcat	WebSphere	IIS

Join us

🔗	**Github**	https://github.com/open-falcon
🏠	**Homepage**	http://open-falcon.org
✉	**Contact us**	openfalcon-users@googlegroups.com
💬	**Wechat**	

Summary

100+

companies

400+

built-in metrics

5,000+ users

3 seconds

Q&A

https://github.com/open-falcon/open-falcon