

Apache SkyWalking

顶级开源监控生态



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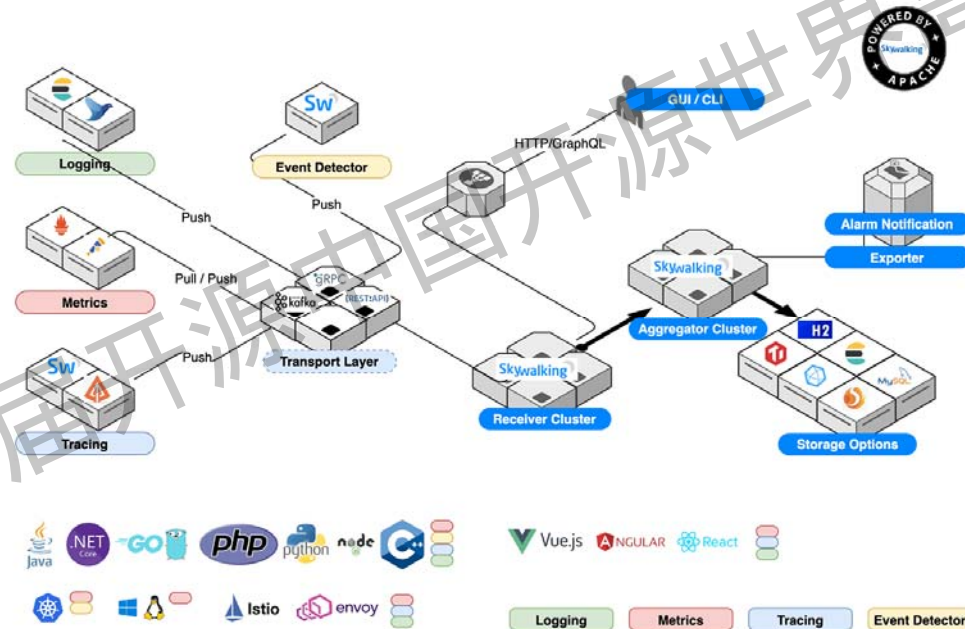
The Top Level Application Performance Management System



<https://skywalking.apache.org/>

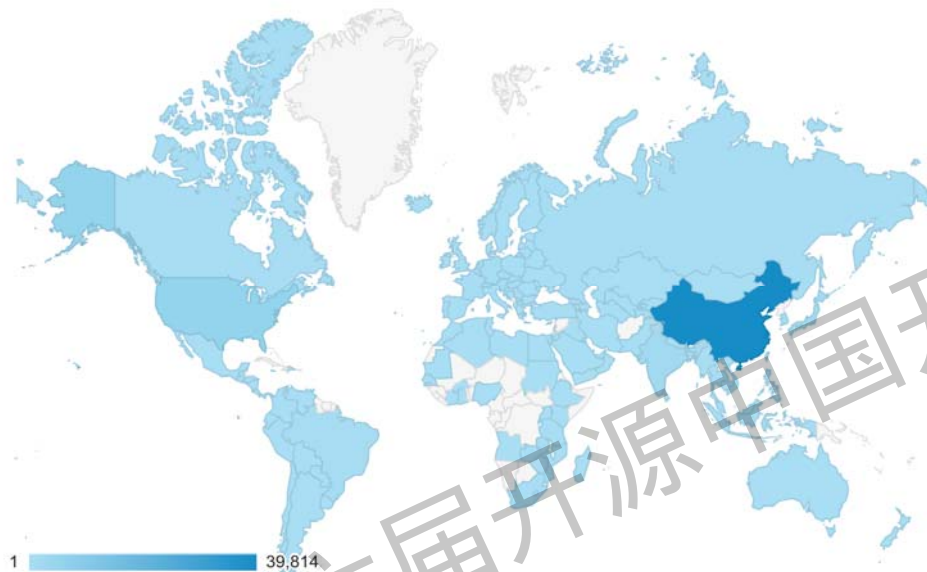
Observability Landscape

Keep the promise we made 6 years ago through 100% open source





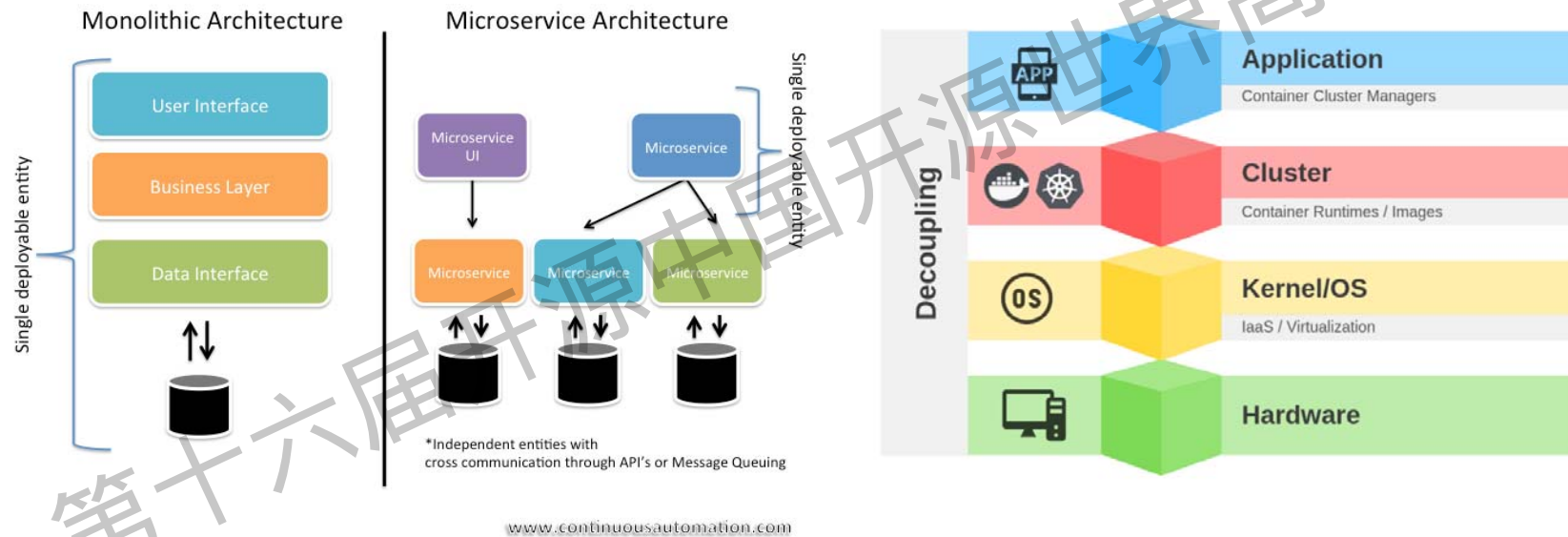
~500+ Code Contributors



15k users per month
400 downloads/day



Modern Distributed System





Factors of Observability

- Metrics
- Tracing
- Logs
- Event
- Alarm



Typical Detecting Points

- Application Level
 - Language Agent (In OS Process / Runtime)
 - Log Integration
 - Metrics exporter
- Container Level
 - K8s
 - Service Mesh
- OS Level
 - Linux
 - Windows Server



Skywalking

OpenTelemetry

Prometheus

fluentd

beats

ZABBIX



kubernetes



Istio



envoy



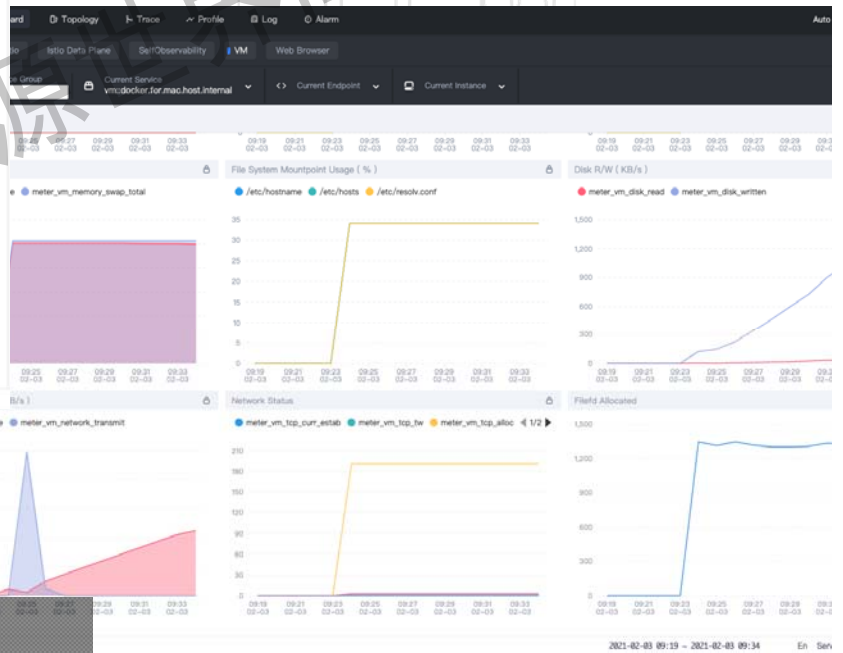
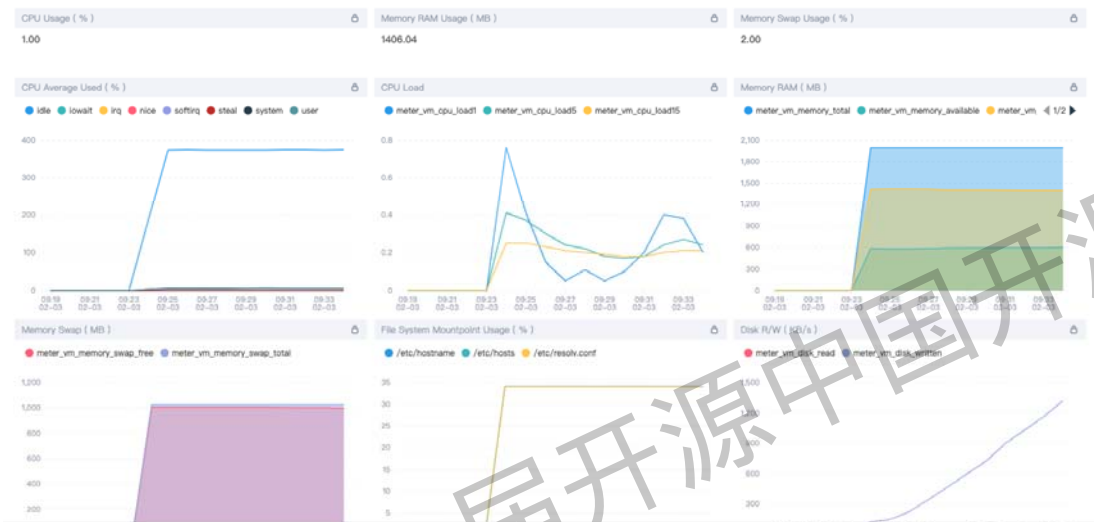
Linux



Skywalking Dashboard | Topology | Trace | Profile | Log | Alarm

APM Database Istio Istio Data Plane SelfObservability VM Web Browser

Service Group: vm | Current Service: vm:docker.for.mac.host.internal | Current Endpoint: | Current Instance: |



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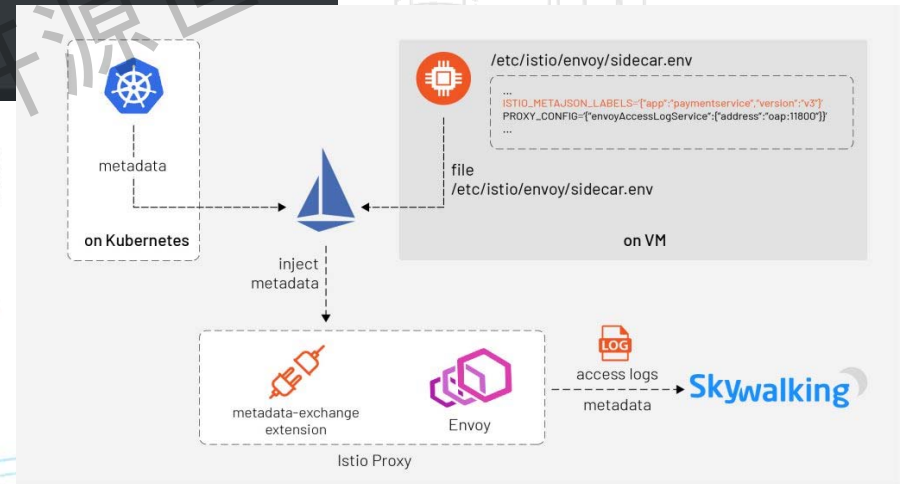
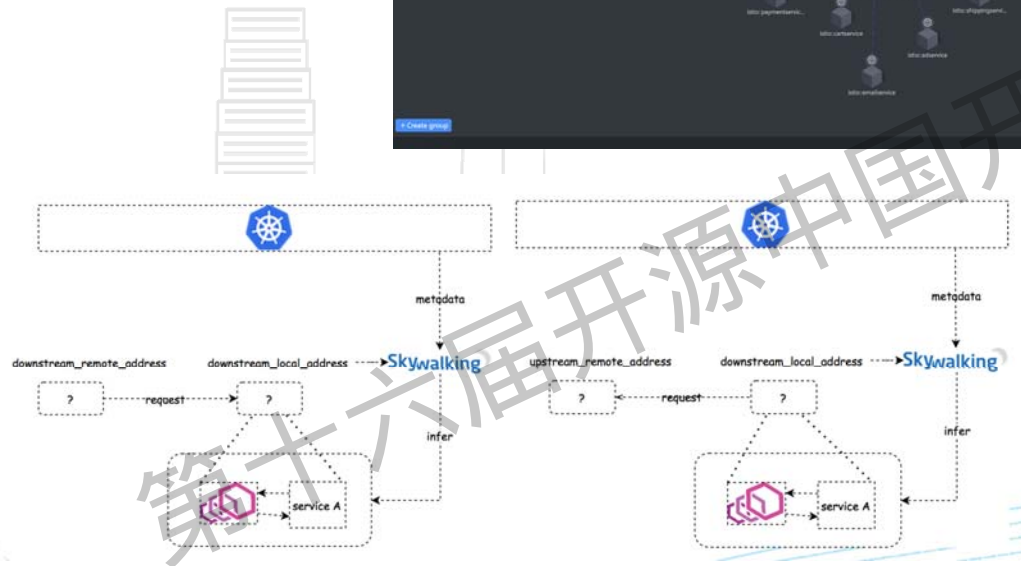
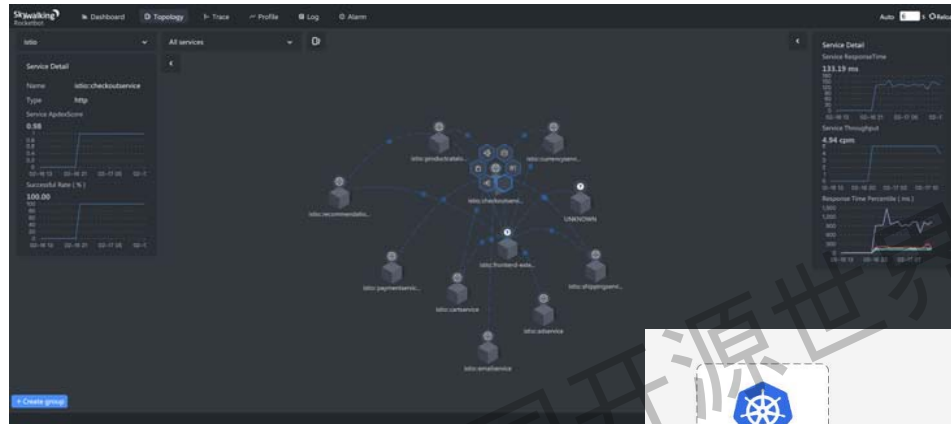
Linux Monitoring

The image displays several screenshots from the Kubernetes dashboard, illustrating various monitoring and management views:

- Service Pod Status:** Shows a list of pods with their current status. For example, two pods for the 'nginx-test-7f6c8c5997-zfzhp' service are in a 'Pending' state.
- Service CPU Resources (m):** A line chart showing CPU usage over time for a specific service.
- Pod Memory Usage (MB):** A line chart showing memory usage for pods across different services.
- Pod Network Receive (KB/s):** A line chart showing network traffic received by pods.
- Restarts Total:** A table showing the total number of restarts for specific pods.
- Node Status:** Shows the status of a node, currently 'Ready'.
- CPU Resources (m):** A line chart showing CPU usage for a node.
- Memory Resources (GB):** A line chart showing memory usage for a node.
- Deployment Status:** Shows the status of various deployments, including 'nginx-test-7f6c8c5997-zfzhp' and 'nginx-test-7f6c8c5997-zxw87'.
- Pod Status Waiting:** Shows the reasons why pods are in a waiting state, such as 'Container-Pod-Waiting Reason'.

Kubernetes Node/Pod/Service

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Service Mesh

Log Category: Service | Service: business-zone:projectA | Current Instance: All | Current Endpoint: All

TraceID: [input] | Time Range: 2021-06-16 15:14:14 - 2021-06-16 15:29:14 | Keys Of Content: [input] | Exclude Keys Of Content: [input]

Tags: [Please add a tag] | Configuration Vocabulary page

Current Service	Current Instance	Time	Content Type	Tags	Content	TraceID
business-zone:projectA	90f3c748b4394d4aaabfe453ba...	2021-06-16 15:28:45	TEXT	level=DEBUG,logger=test.skywalking.springcloud...	calling /projectA/(name) service	5b40b7d-21be-431
business-zone:projectA	ebcfcae9f84c00a1888680cfc...	2021-06-16 15:28:17	TEXT	level=DEBUG,logger=test.skywalking.springcloud...	calling /projectA/(name) service	b1dfac35-687d-459
business-zone:projectA	90f3c748b4394d4aaabfe453ba...	2021-06-16 15:27:29	TEXT	level=DEBUG,logger=test.skywalking.springcloud...	calling /projectA/(name) service	d06ab3c9-ce83-49c
business-zone:projectA	ebcfcae9f84c00a1888680cfc...	2021-06-16 15:26:59	TEXT	level=DEBUG,logger=test.skywalking.springcloud...	calling /projectA/(name) service	86d6dab8-2851-41
business-zone:projectA	90f3c748b4394d4aaabfe453ba...	2021-06-16 15:26:10	TEXT	level=DEBUG,logger=test.skywalking.springcloud...	calling /projectA/(name) service	2217bf70-418a-47e
business-zone:projectA	ebcfcae9f84c00a1888680cfc...	2021-06-16 15:25:40	TEXT	level=DEBUG,logger=test.skywalking.springcloud...	calling /projectA/(name) service	c33d1ba8-24b9-40a
business-zone:projectA	90f3c748b4394d4aaabfe453ba...	2021-06-16 15:24:51	TEXT	level=DEBUG,logger=test.skywalking.springcloud...	calling /projectA/(name) service	e935e35c-d927-42f
		15:21	TEXT	level=DEBUG,logger=test.skywalking.springcloud...	calling /projectA/(name) service	1a99404b-1020-46c
		15:33	TEXT	level=DEBUG,logger=test.skywalking.springcloud...	calling /projectA/(name) service	7e12296e-1a90-45f
		15:03	TEXT	level=DEBUG,logger=test.skywalking.springcloud...	calling /projectA/(name) service	bc0054d-8e2a-4cf

Log Detail

Current Service: business-zone:projectA
 Current Instance: ebcfcae9f84c00a1888680cfc8d16a@10.170.0.12
 Time: 2021-06-16 15:28:17
 Content Type: TEXT
 TraceID: b1dfac35-687d-4595-b249-0124470e0797
 Tags: level = DEBUG
 logger = test.skywalking.springcloud.test.projecta.service.ServiceController
 thread = http-mio-8764-exec-1
 Content: calling /projectA/(name) service

/projectA/test

d06ab3c9-ce83-4904-90bb-6494378dc7a9

Start 2021-06-16 15:27:29 | Duration 3231 ms | Spans 16

Method	Start Time	Exec(ms)	Exec(%)	Self(ms)	API	Service
~/projectA/test	2021-06-16 15:27:29	3231	100%	0	Nginx	system:load balancer1
~/projectA/test	2021-06-16 15:27:29	3231	100%	1	Nginx	system:load balancer1
~/projectA/test	2021-06-16 15:27:29	3230	100%	0	Nginx	system:load balancer2
~/projectA/test	2021-06-16 15:27:29	3230	100%	1	Nginx	system:load balancer2
~/projectA/(name)	2021-06-16 15:27:29	3229	100%	0	SpringMVC	business-zone:projectA
~/projectB/test	2021-06-16 15:27:29	1217	100%	0	SpringRestTempl...	business-zone:projectA
~/projectB/(value)	2021-06-16 15:27:29	1217	100%	0	SpringMVC	business-zone:projectB
test.skywalking.springcloud.test...	2021-06-16 15:27:29	542	100%	1	Unknown	business-zone:projectB
H2/JDBI/PreparedStatement/exe...	2021-06-16 15:27:29	541	100%	541	h2-jdbc-driver	business-zone:projectB

Log Integration