Simple Network Monitoring Part Two - Prometheus

Victor Zakharyev
Workday

- Time Series
- Events
- State <<< !!!

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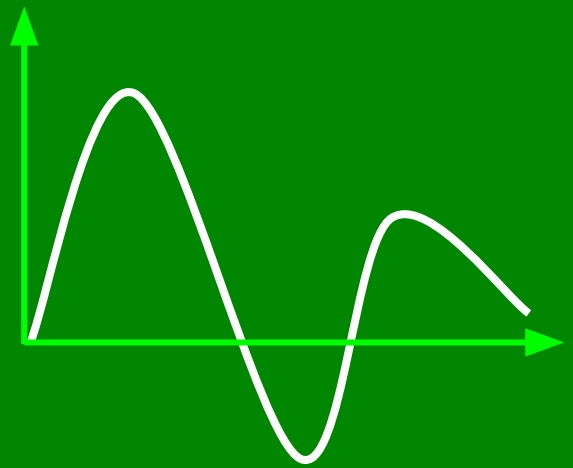
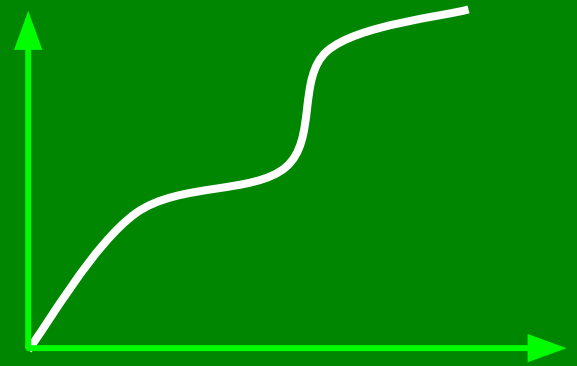
- State

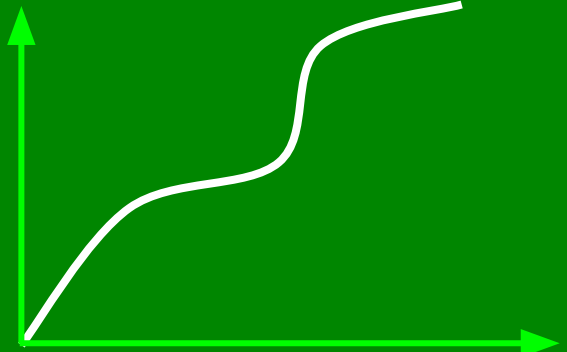
Gauge

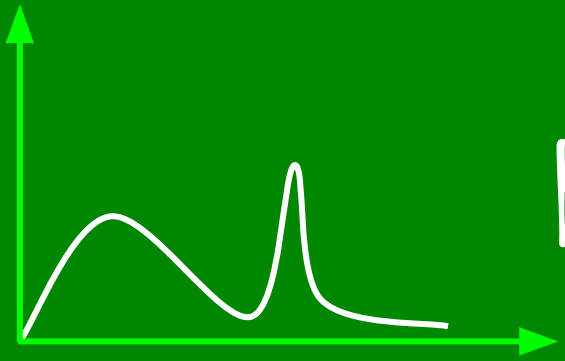


Counter

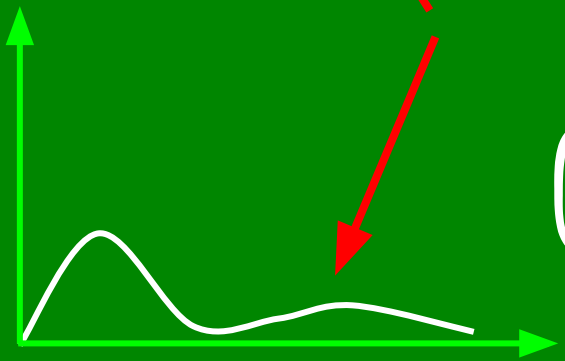


Counter



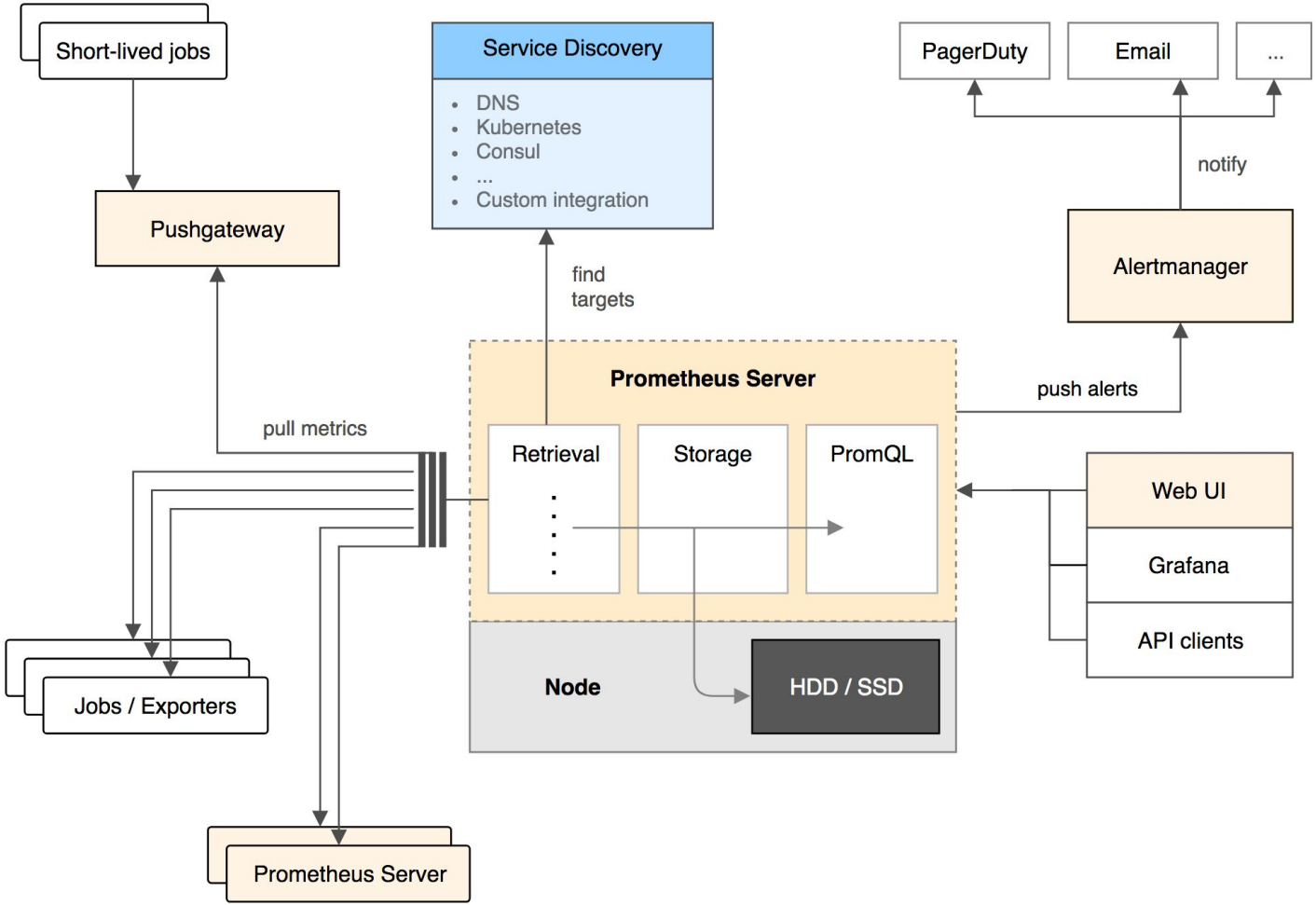


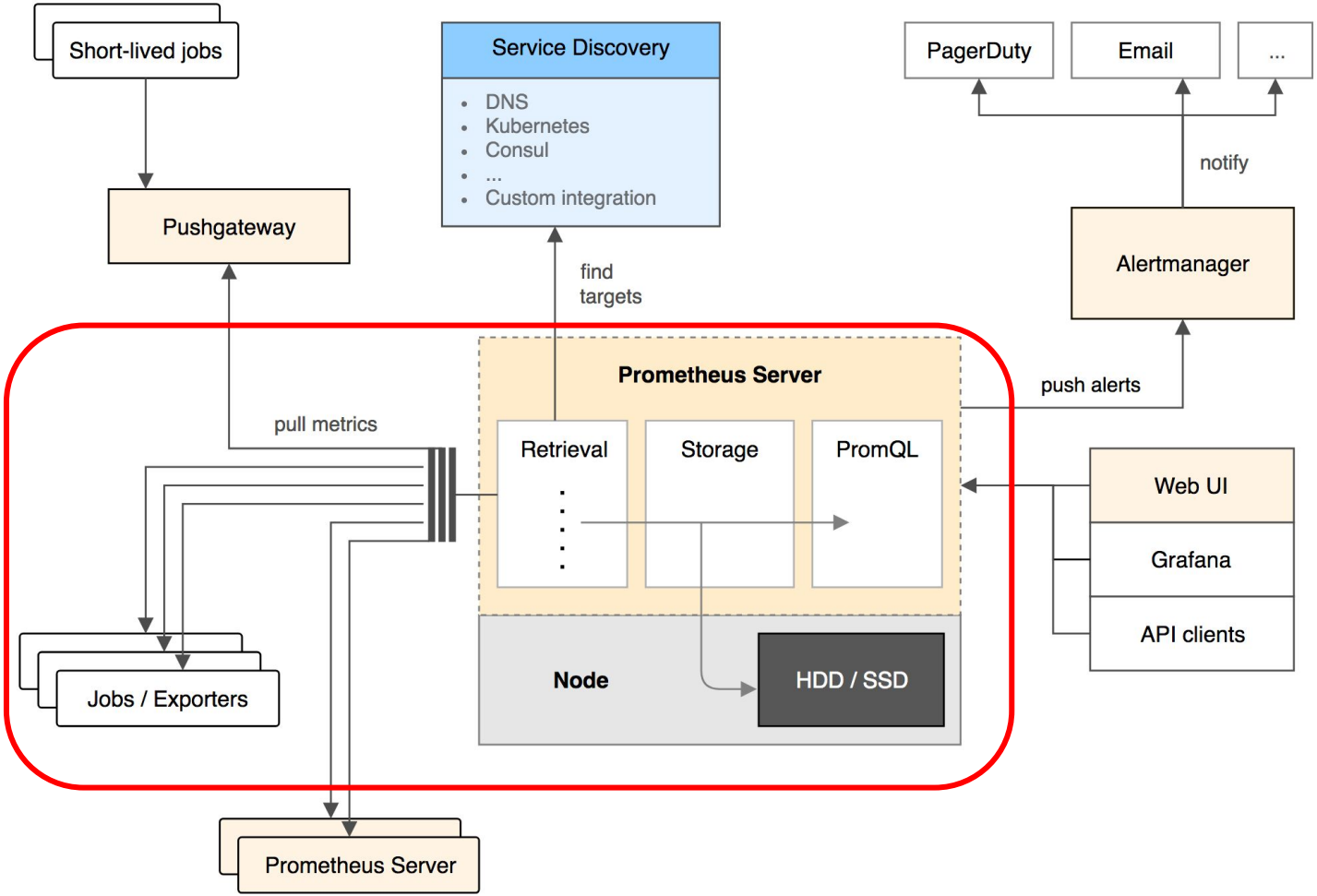
rate(Counter)



Gauge

Prometheus is ...


Short-lived jobs
Service Discovery
DNS
Kubernetes
Consul
...
Custom integration
PagerDuty
Email
...
notify
Pushgateway
find
targets
Alertmanager
Prometheus Server
push alerts
pull metrics
Retrieval
Storage
PromQL
Web UI
Grafana
API clients
Jobs / Exporters
Node
HDD / SSD
Prometheus Server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Prom query language

```
Http_requests_total
```

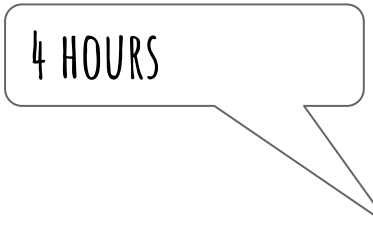
```
http_requests_total{job="prometheus"}[5m]
```

```
irate(http_requests_total{job="prometheus"}[5m])
```

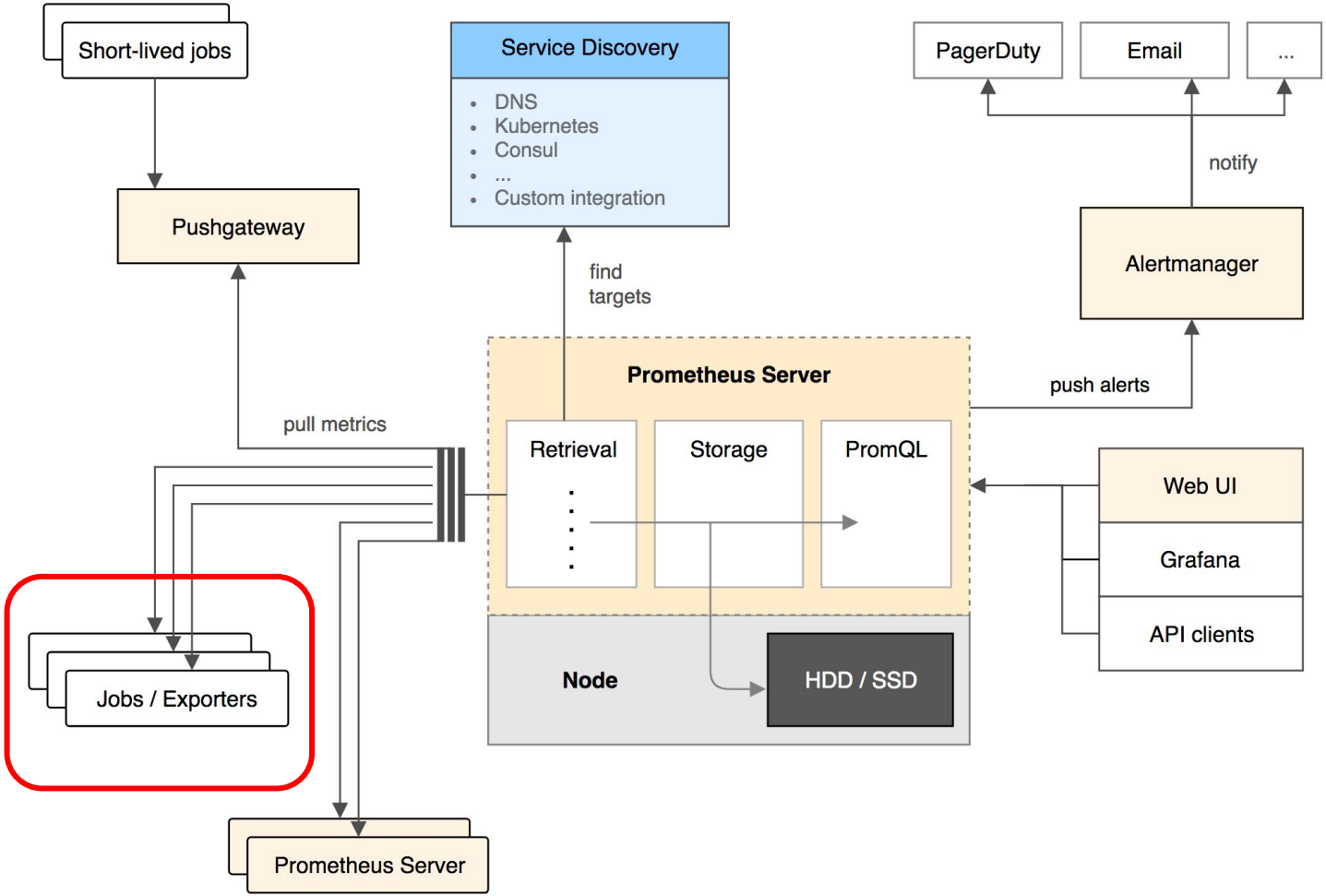
Alerting rules syntax

```
ALERT <alert name>
  IF <expression>
  [ FOR <duration> ]
  [ LABELS <label set> ]
  [ ANNOTATIONS <label set> ]
```

Alerting rules example




```
ALERT DiskWillFillIn4Hours
  IF predict_linear(node_filesystem_free{job='node'}[1h], 4*3600) < 0
  FOR 5m
  LABELS { severity="page" }
```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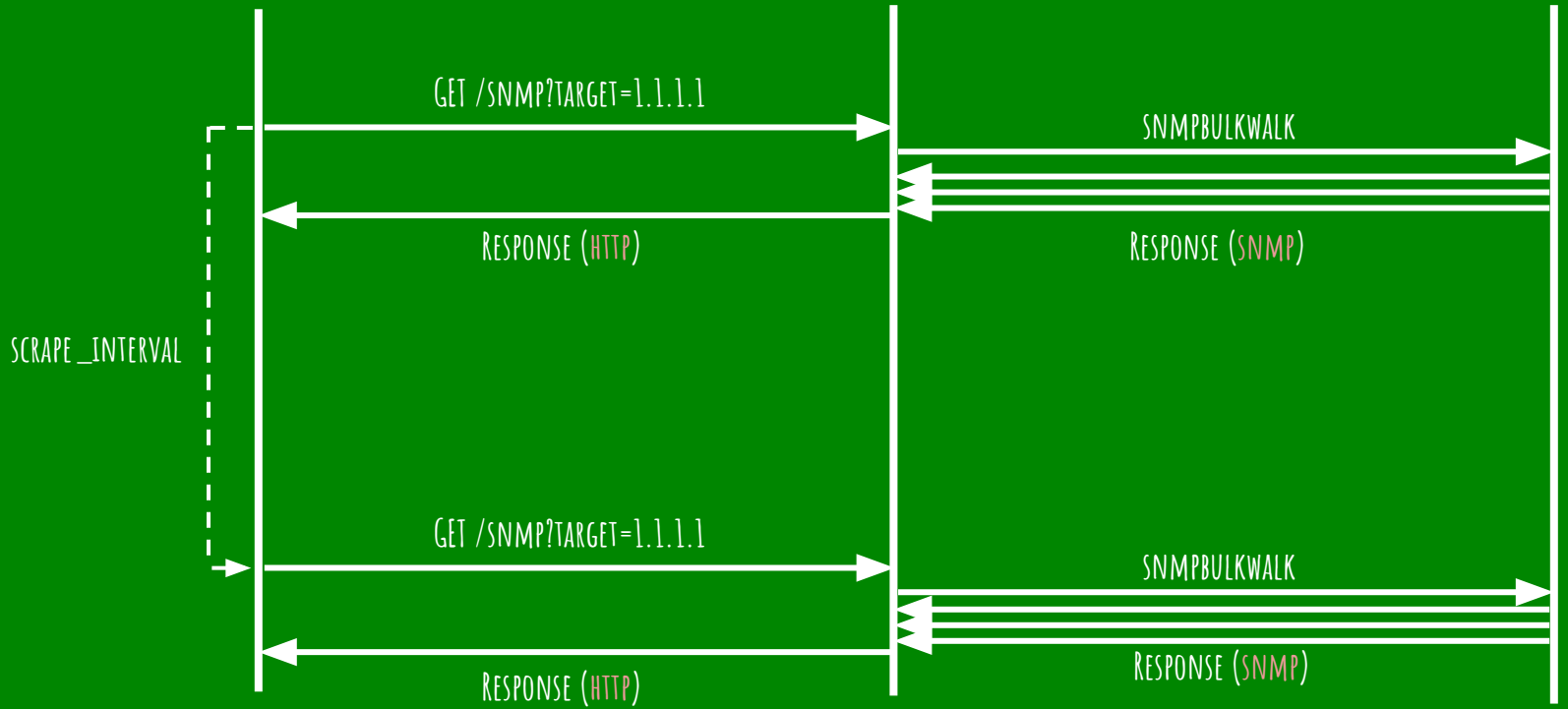
Prometheus
SNMP exporter
Network device
(1.1.1.1)
GET /snmp?target=1.1.1.1
SNMPBULKWALK
Response (HTTP)
Response (SNMP)
scrape_interval
GET /snmp?target=1.1.1.1
SNMPBULKWALK
Response (HTTP)
Response (SNMP)

vendor's MIBs
+Generator.yml
=SNMP.yml

QUICK DEMO

Limits:

Getting right labels can be hard

Single set of SNMP credentials per device type

No auto-inventory

NO TLS "from the box" *

Questions?

See demo's repository on:

github.com/vazic/prometheus_snmp_vagrant