



 NetApp ❤️ Grafana

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AN OPEN ALTERNATIVE



An alternative to official/supported options,



targeted at power users,



for troubleshooting and planning

WHY ?



Performance monitoring



Capacity planning



Troubleshooting

SOLUTIONS



Harvest

ADVA



Community supported,



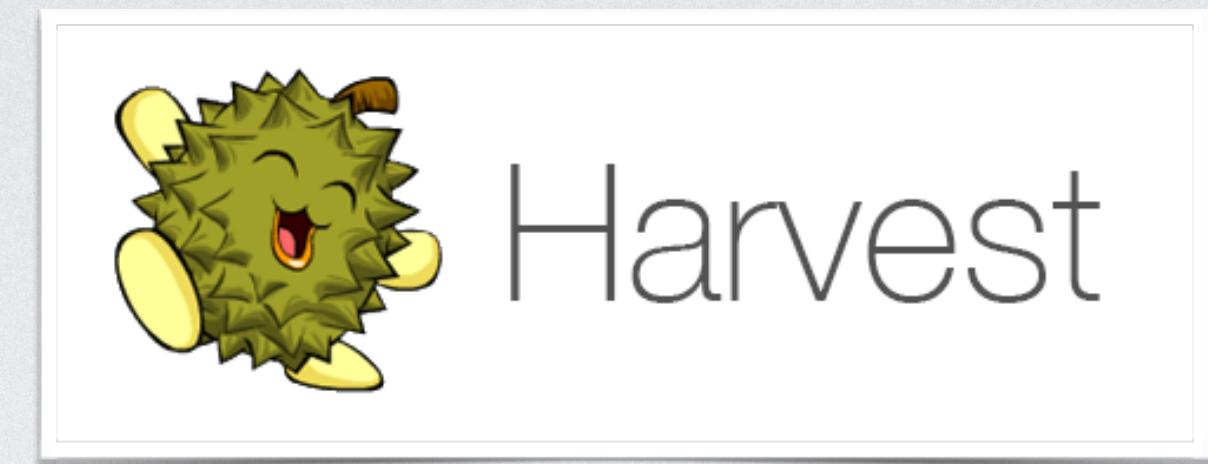
Self Hosted Solution



NetApp supported,



Cloud Hosted Solution



- Collects metrics using NetApp APIs and feed a Graphite database
- Also provides the dashboards sent to Grafana,
- Dashboards are updated when Harvest is updated,
- Customizable templates that can be tweaked to suit specific needs
(change collected metrics, frequency)



Group: nl

Cluster: sdt-cdot1

TopResources: 5

Related Dashboards

HIGHLIGHTS

Read Latency

Metric Avg

sdt-cdot1-02	3.1 ms
sdt-cdot1-01	3.0 ms

Write Latency

Metric Avg

sdt-cdot1-01	0.1 ms
sdt-cdot1-02	0.1 ms

Throughput

Metric Avg

sdt-cdot1-02	140 MBs
sdt-cdot1-01	78 MBs

IOPs

Metric Avg

sdt-cdot1-02	7705
sdt-cdot1-01	5411

CPU Utilization

Metric Avg

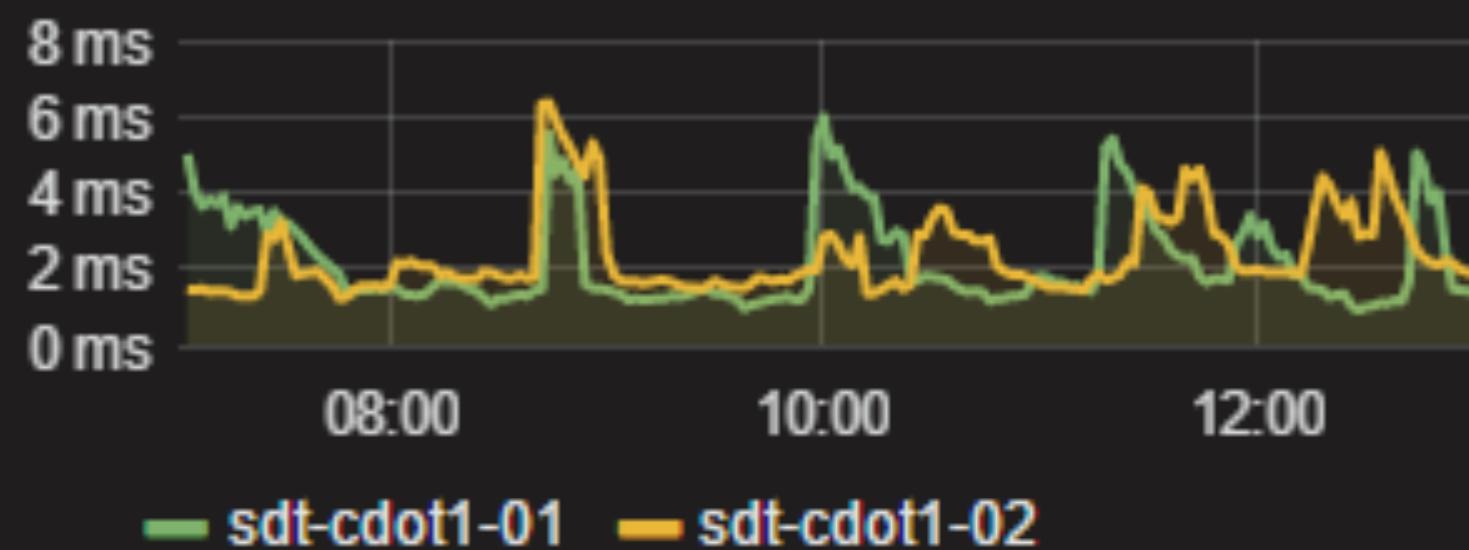
sdt-cdot1-02	31%
sdt-cdot1-01	20%

Disk Utilization

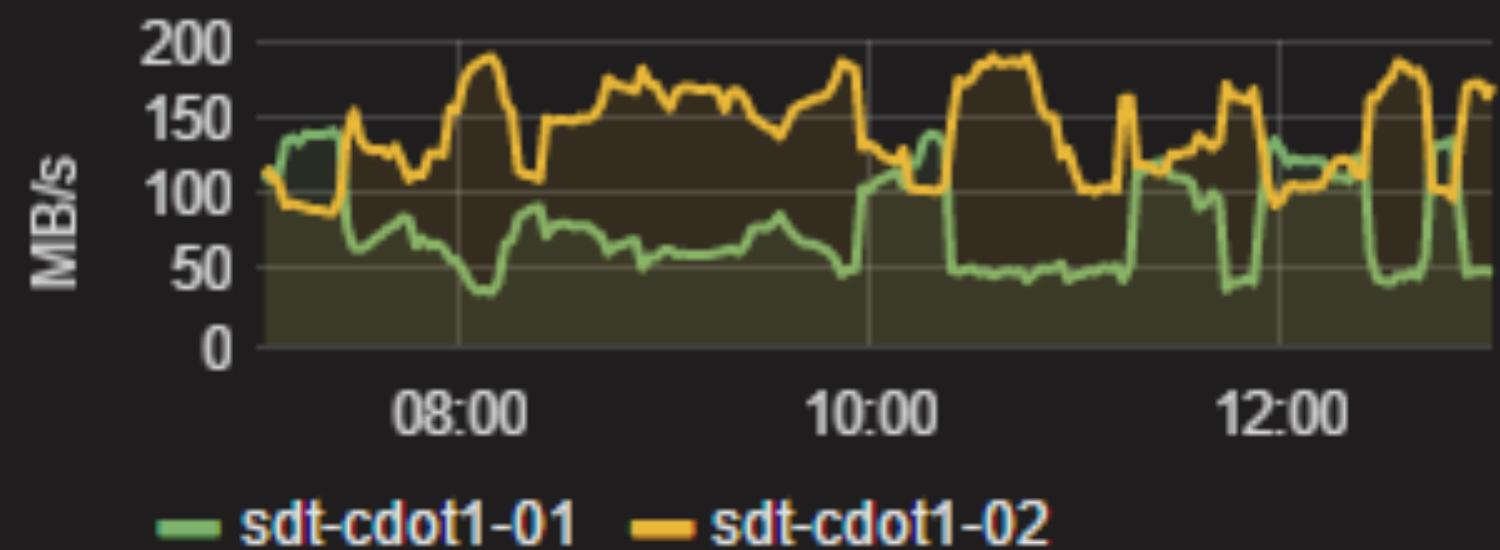
Metric Avg

sdt-cdot1-02	91%
sdt-cdot1-01	49%

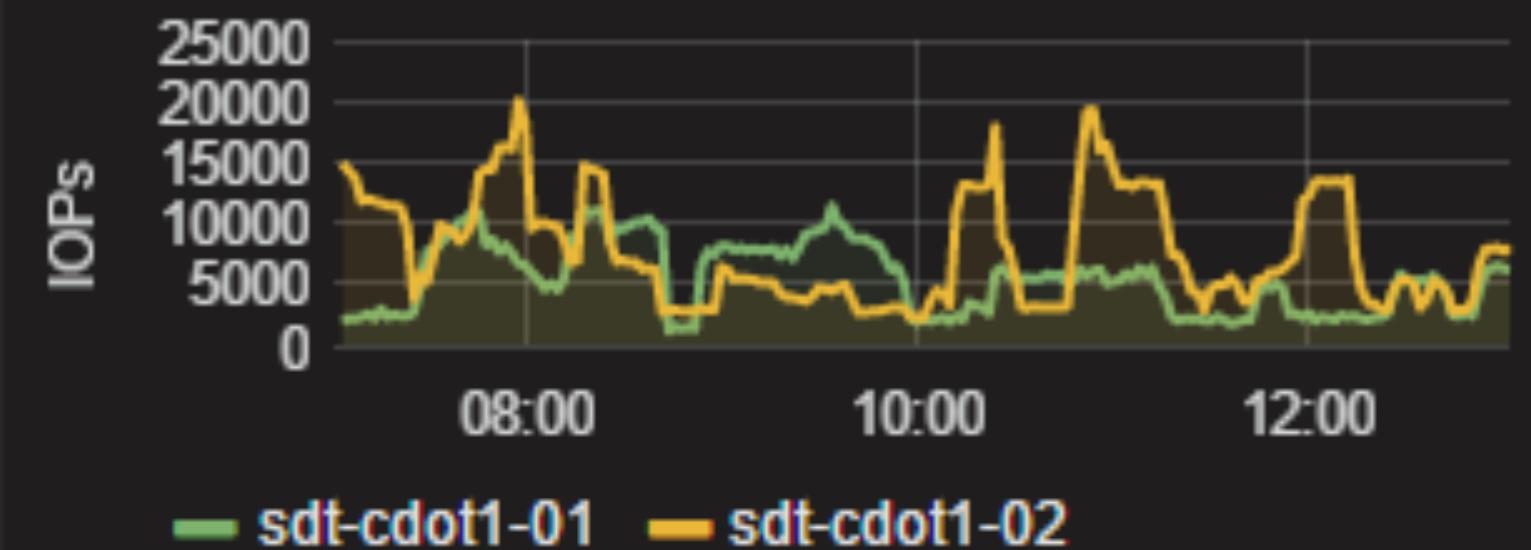
Latency



Throughput



IOPS





Group: nl

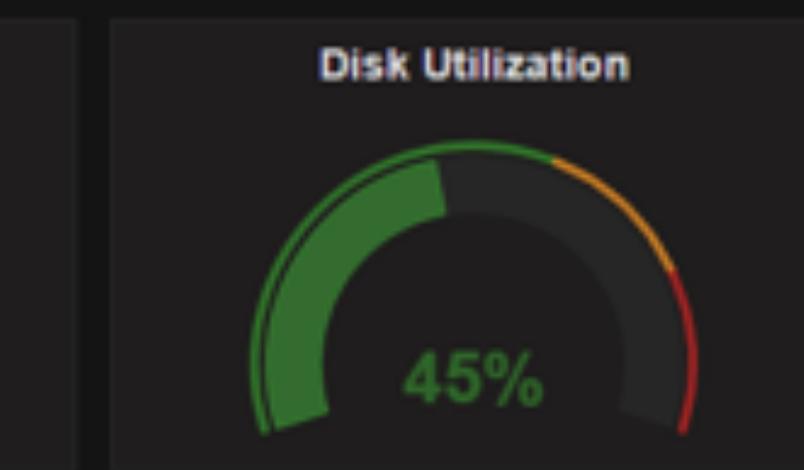
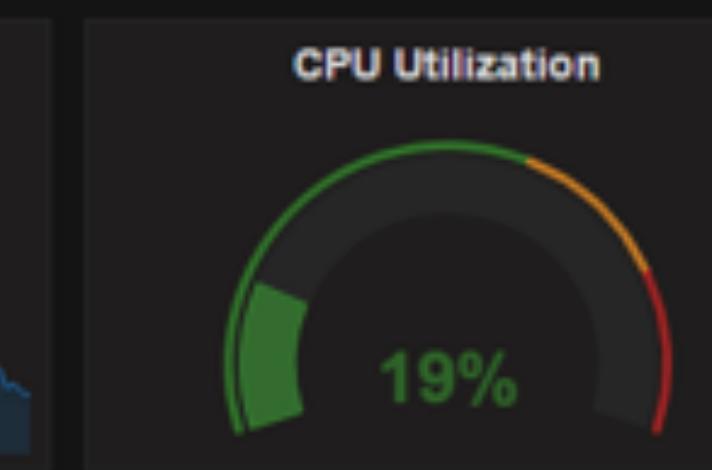
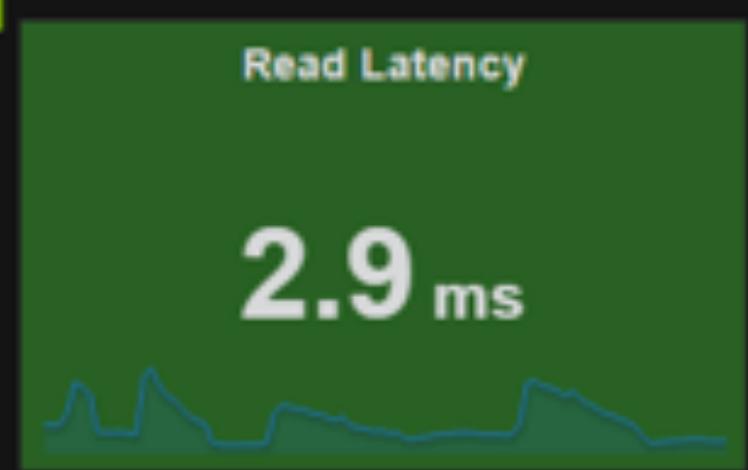
Cluster: sdt-cdot1

Node: sdt-cdot1-01

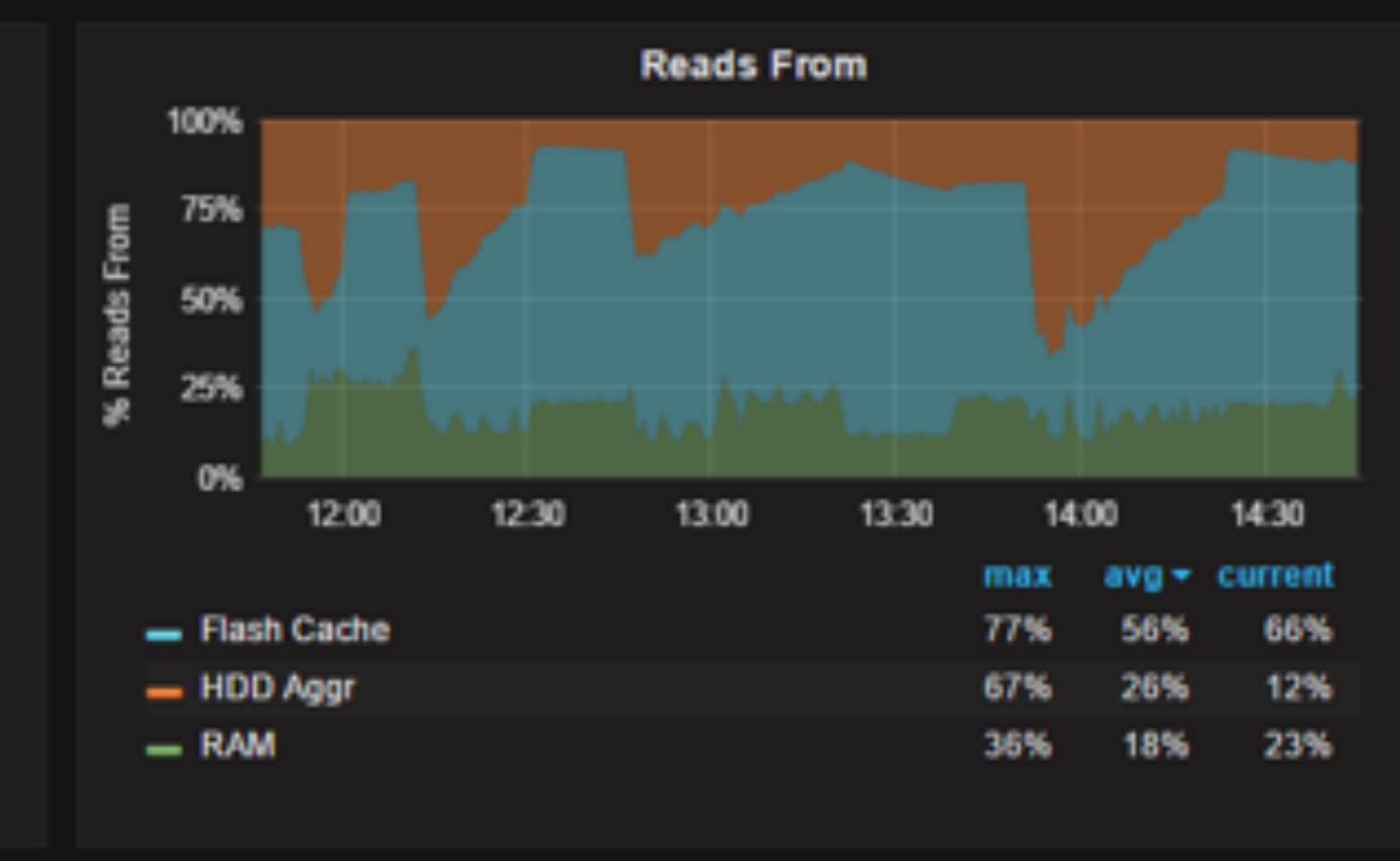
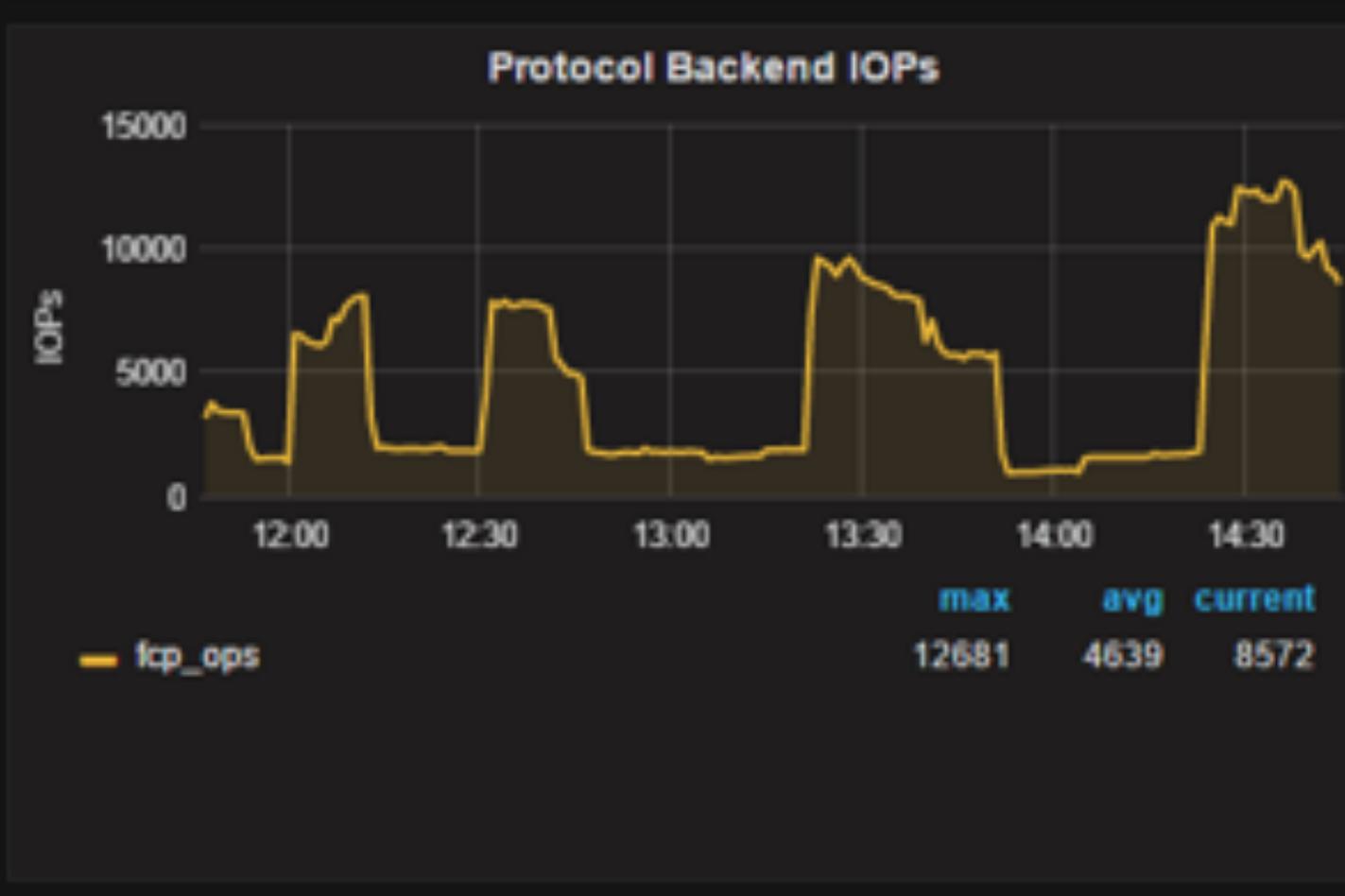
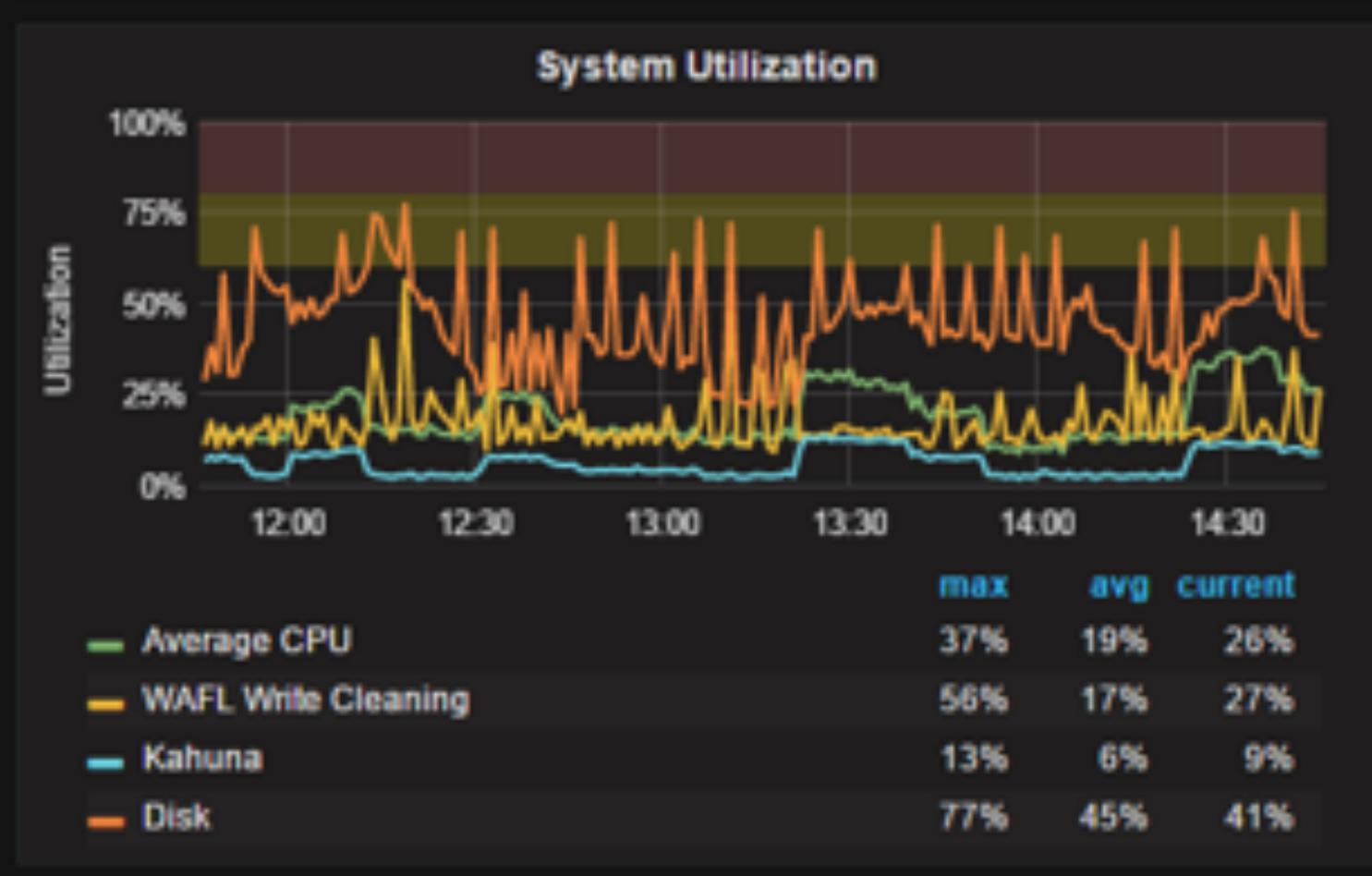
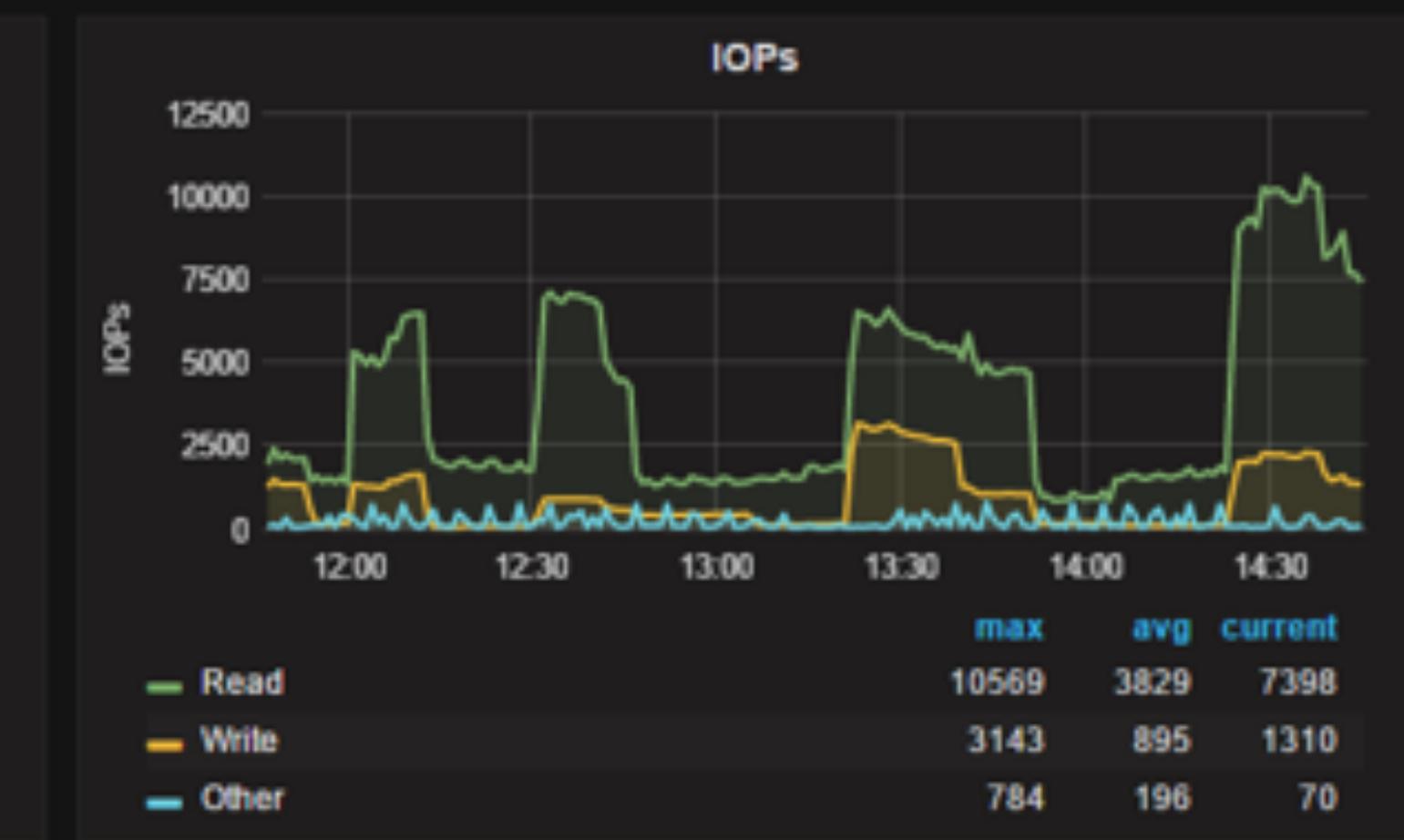
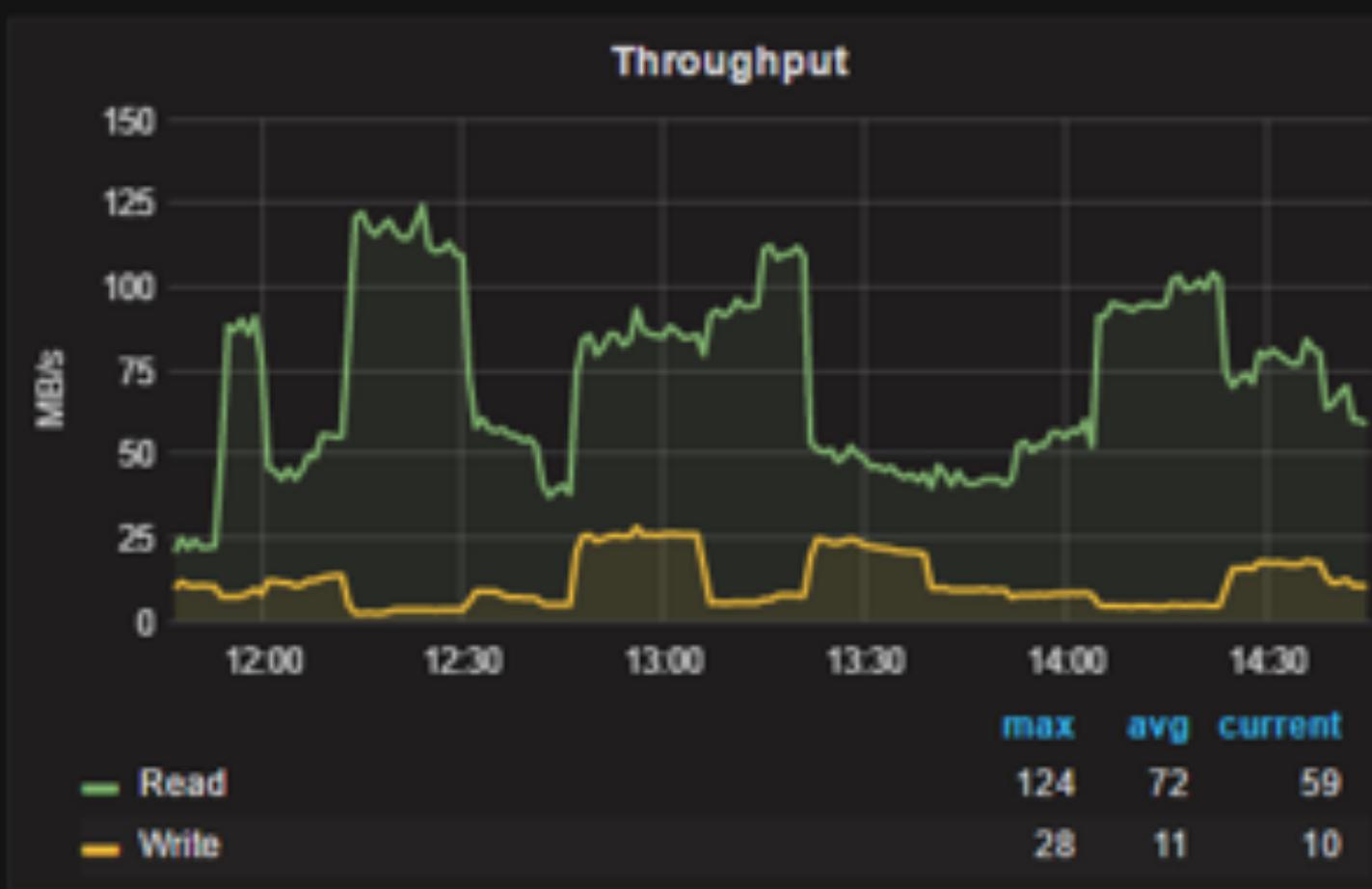
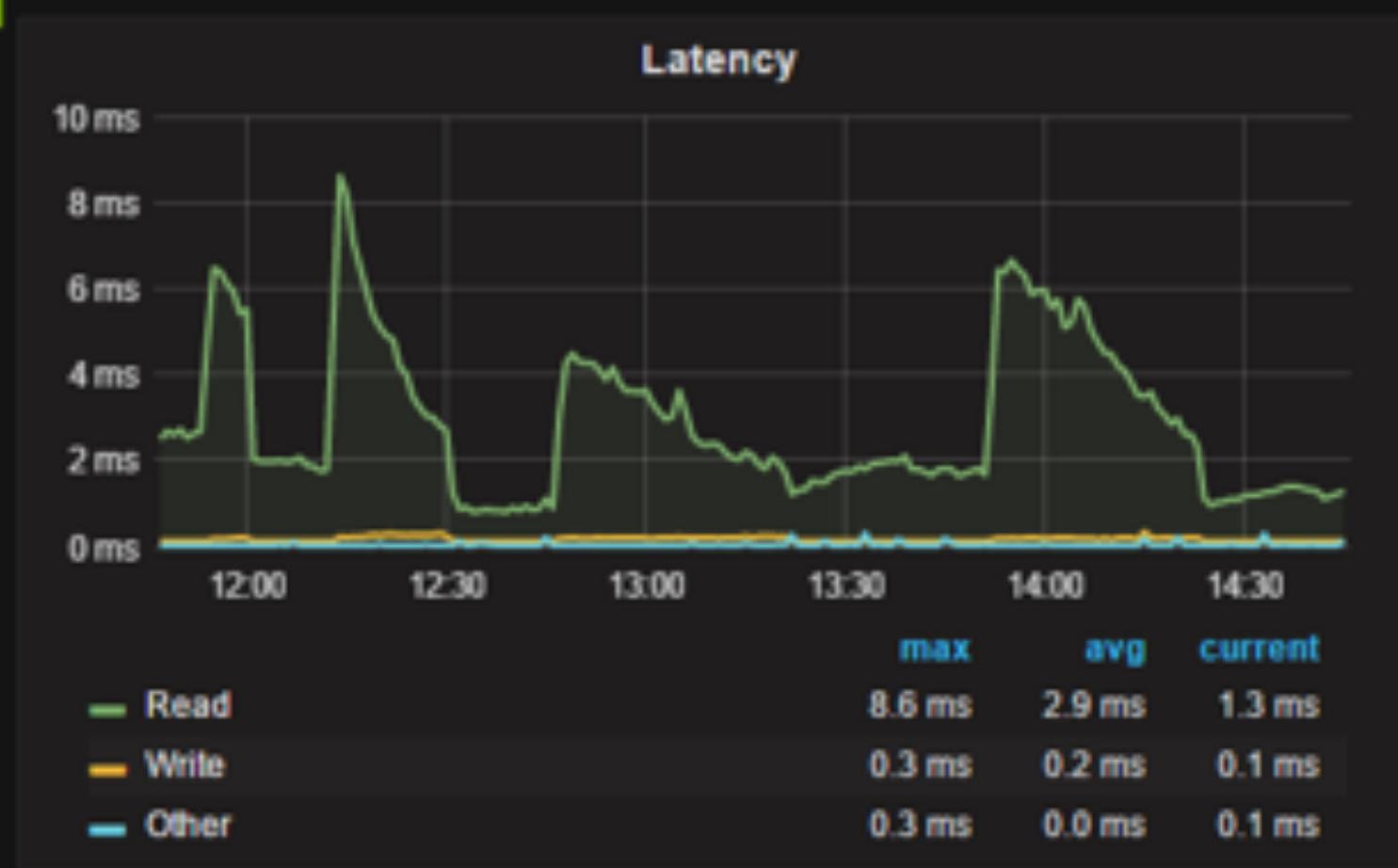
TopResources: 5

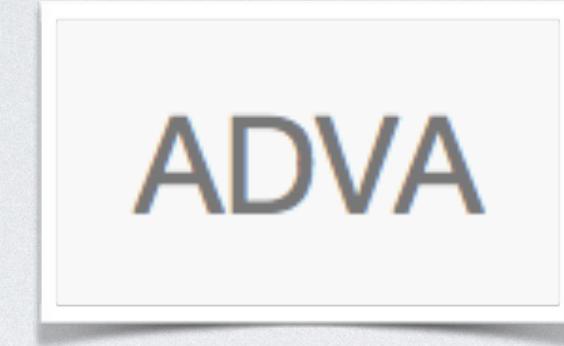
Related Dashboards

HIGHLIGHTS



BACKEND DRILLDOWN





ADVA

- Advanced Dashboard Virtual Appliance
- Virtual Appliance distribution model (.ova)
- Based on Debian 8.5, contains Graphite, Grafana, and configuration UIs (Web and console menu)
- All-in-one packaged solution for easy deployment and monitoring of NetApp infrastructures

ADVA Home Harvest

Network Settings

Time Zone

Admin Password

LDAP / AD

Maintenance

Upgrade

You can upload an upgrade package for the ADVA or a new version of [Harvest](#) or [NMSDK](#).

Currently installed ADVA 2.1.6 (2016-11-21).
NMSDK 5.5.
Harvest 1.3X1.

Upload package no file selected

Password

Upload package

Support Bundle

[Download support bundle.](#)

[Main Menu]

You are using ADVA v2.1.6 (2016-11-21)

[1] Configure Network (Current IP: 172.16.94.204)
[2] Set Host Name
[3] Set Timezone (America/New_York)
[4] Advanced/Maintenance

[5] Configure Harvest

[6] Power off
[7] Reboot

[x] Quit

Choice :

ADVA Home Harvest

Configured Systems

#	Name	Host	Site	Action
1	cluster2	10.78.1.10	Site	
2	cluster1	10.78.1.10	Site	

Add System

Configured OCUM Servers

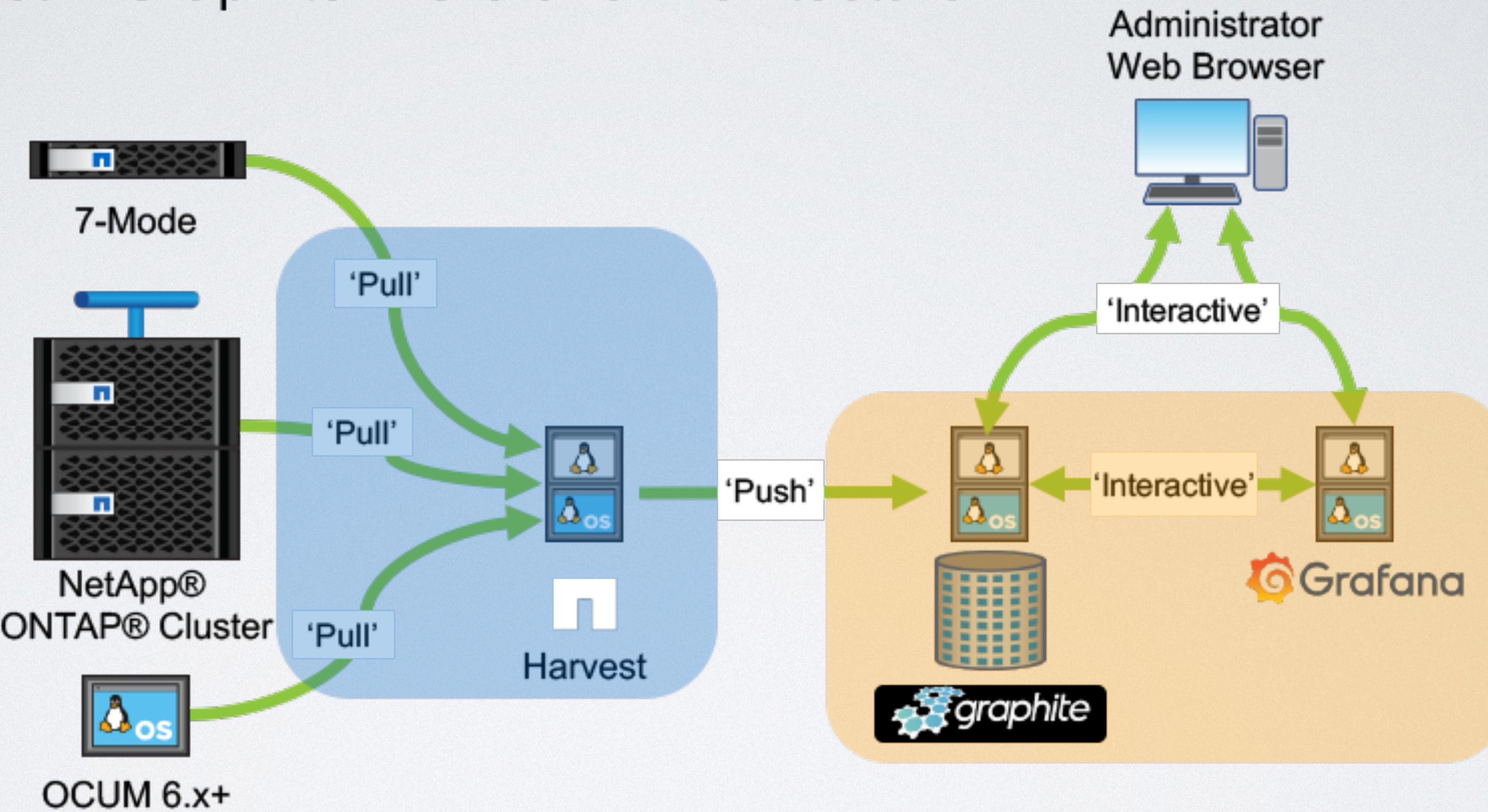
#	Host	Site	Action
1	ocum2	Datacenter_B	
2	ocum1	Datacenter_A	

Add OCUM

THE COMMUNITY



Harvest + Graphite + Grafana Architecture



Positioning of Open Source Monitoring Solution

When to recommend

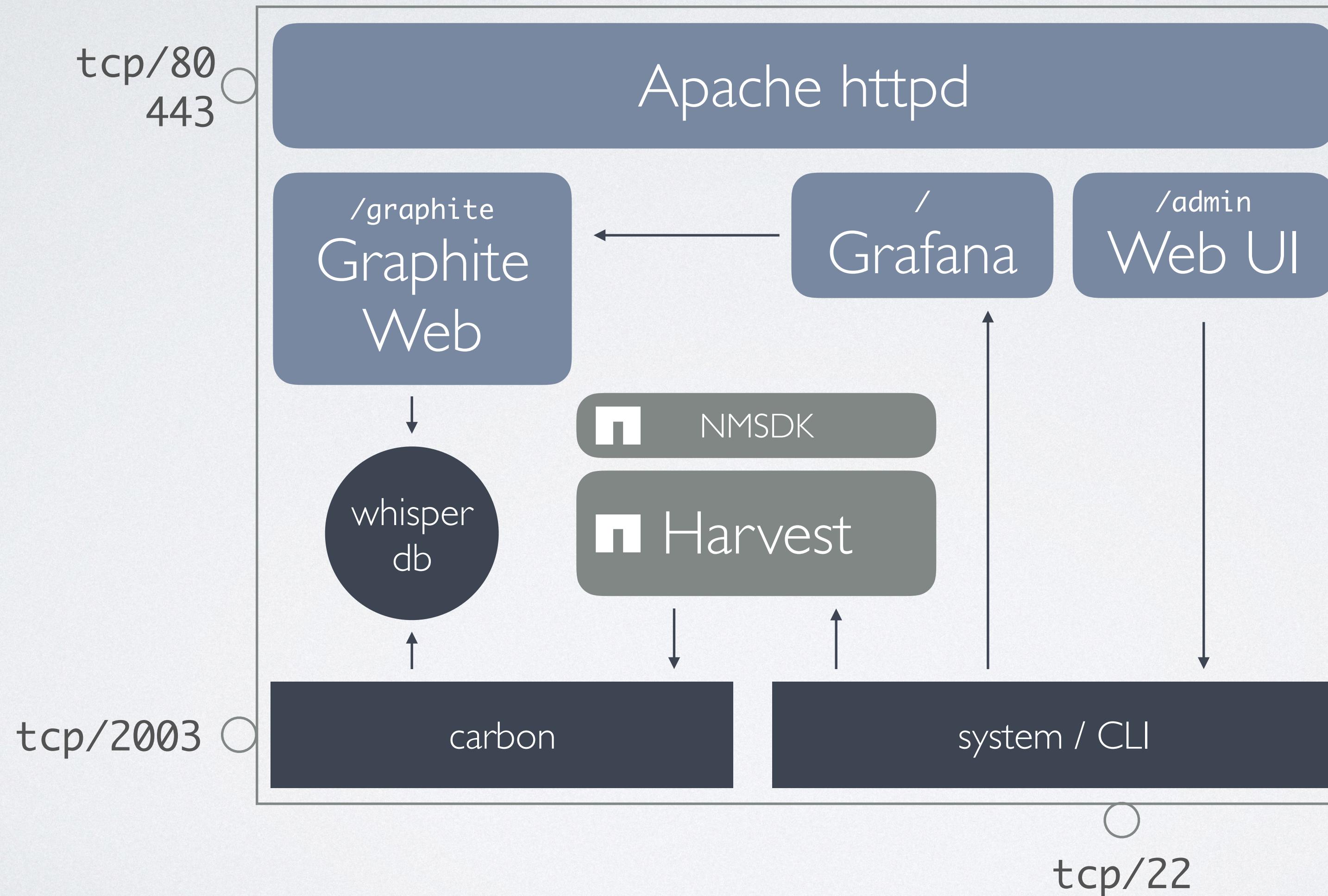
- Customer desires deep, real-time monitoring of their NetApp® storage environment
 - Typically an ‘expert’ user
 - Coverage of 7-mode and cDOT
- Needs the flexibility to:
 - Collect any counter at any frequency
 - Create own dashboards
 - Integrate with other performance reporting solutions
- Already has Graphite and Grafana for other purposes
- Customer is ‘ok’ with open source software and a community based support model

Why Do People Like It?

Open source monitoring

- Prove it's not storage
- It's storage—and I know why
- It's storage—and I don't know why but I have the instrumentation to dig deeper
- Integration with larger dashboard and service views
- Capacity planning and balancing
- **The Grafana GUI; beautiful and responsive**

ADVA ARCHITECTURE



DEMO

NEXT?

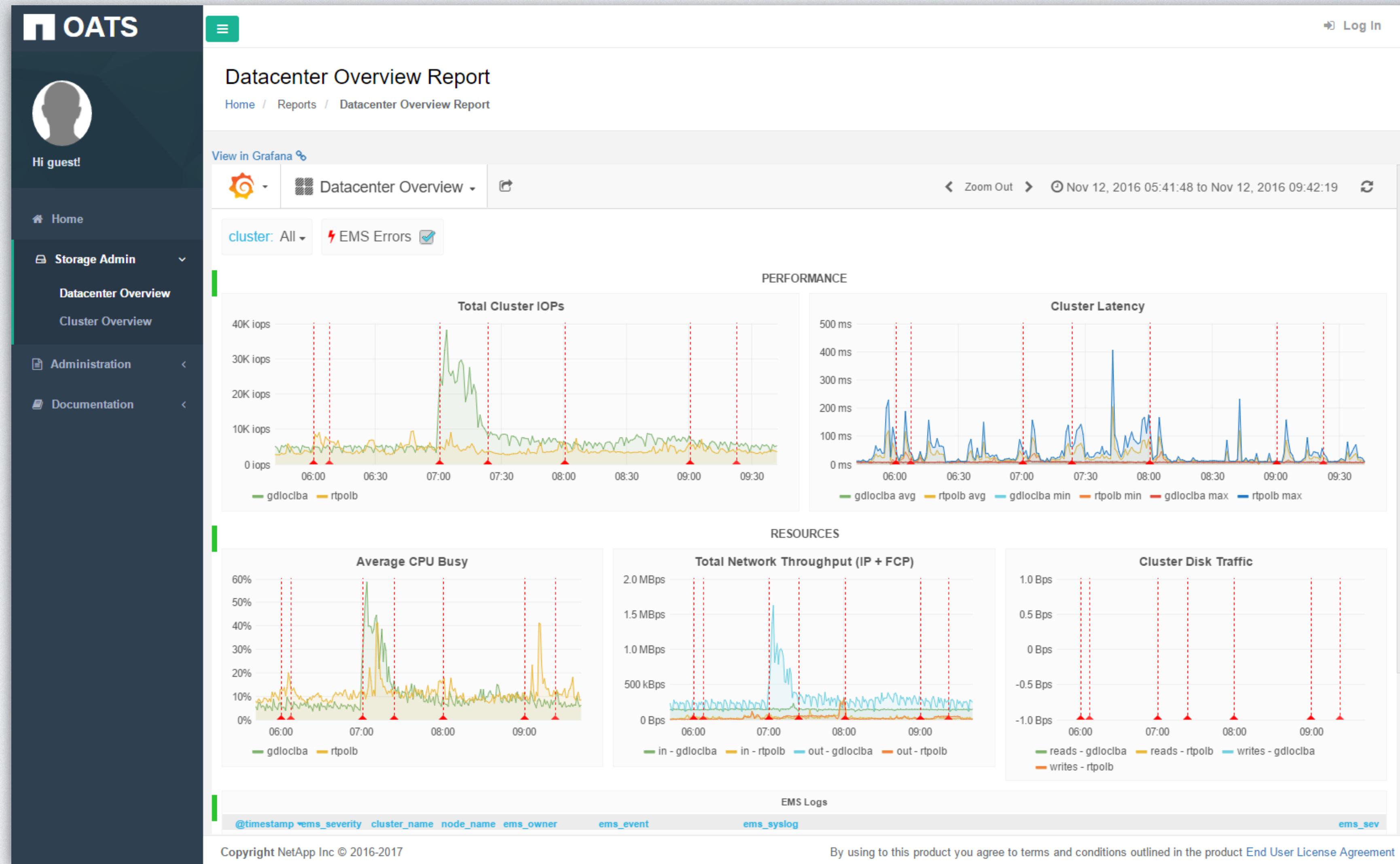
Grafana 4

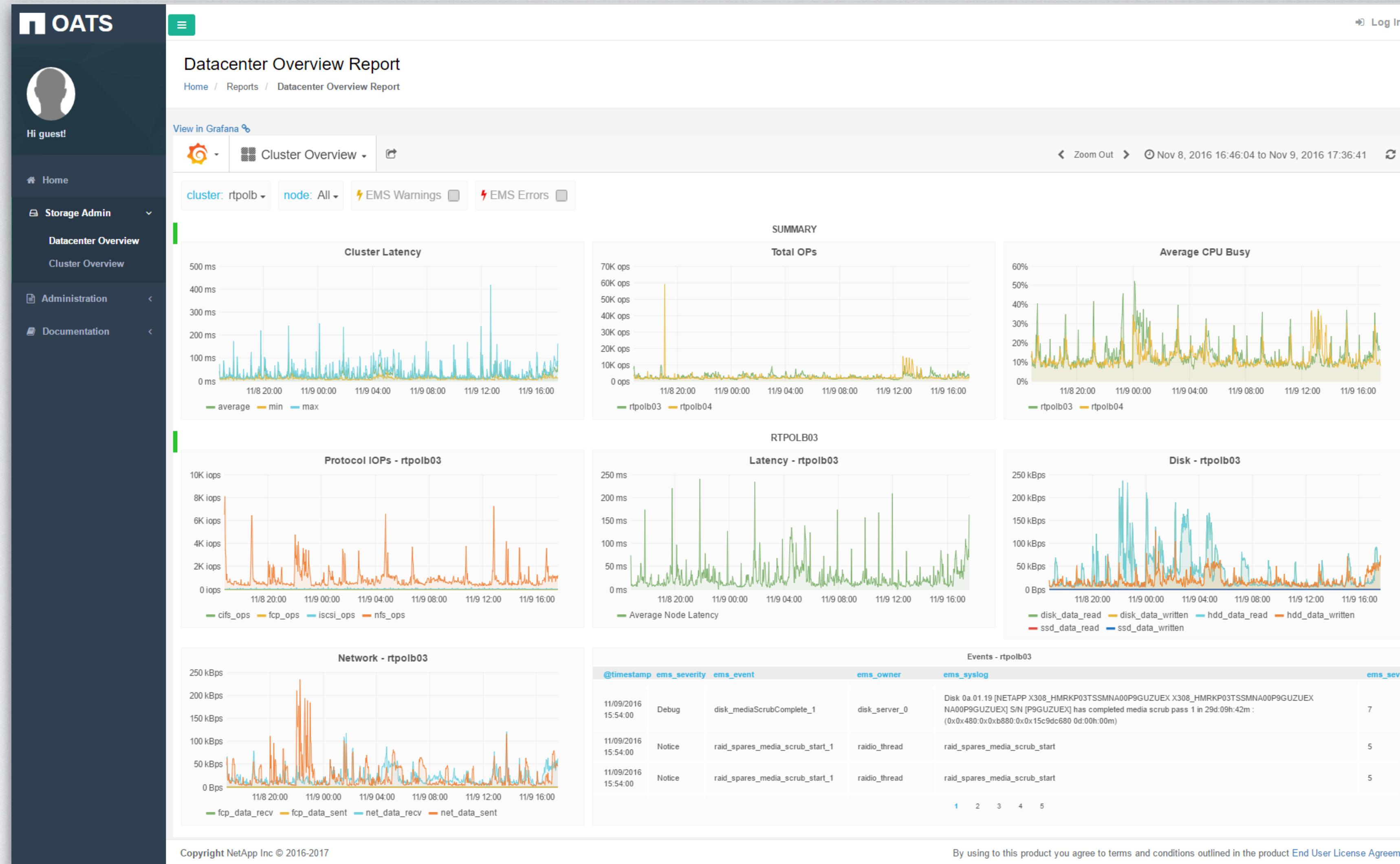
Alerting

Annotations

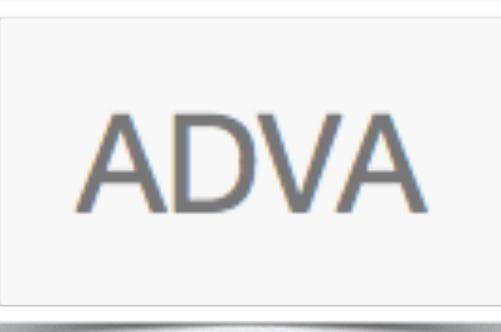


- ONTAP Analytics and Telemetry Services Console
- Incubating NetApp supported solution
- Cloud hosting model
- Lightweight agent on-prem pushes data to AWS
- Uses annotation to mark storage events





CONTACT



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Harvest

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