Red Hat Virtualization Analytics - Transitioning to Metrics Store

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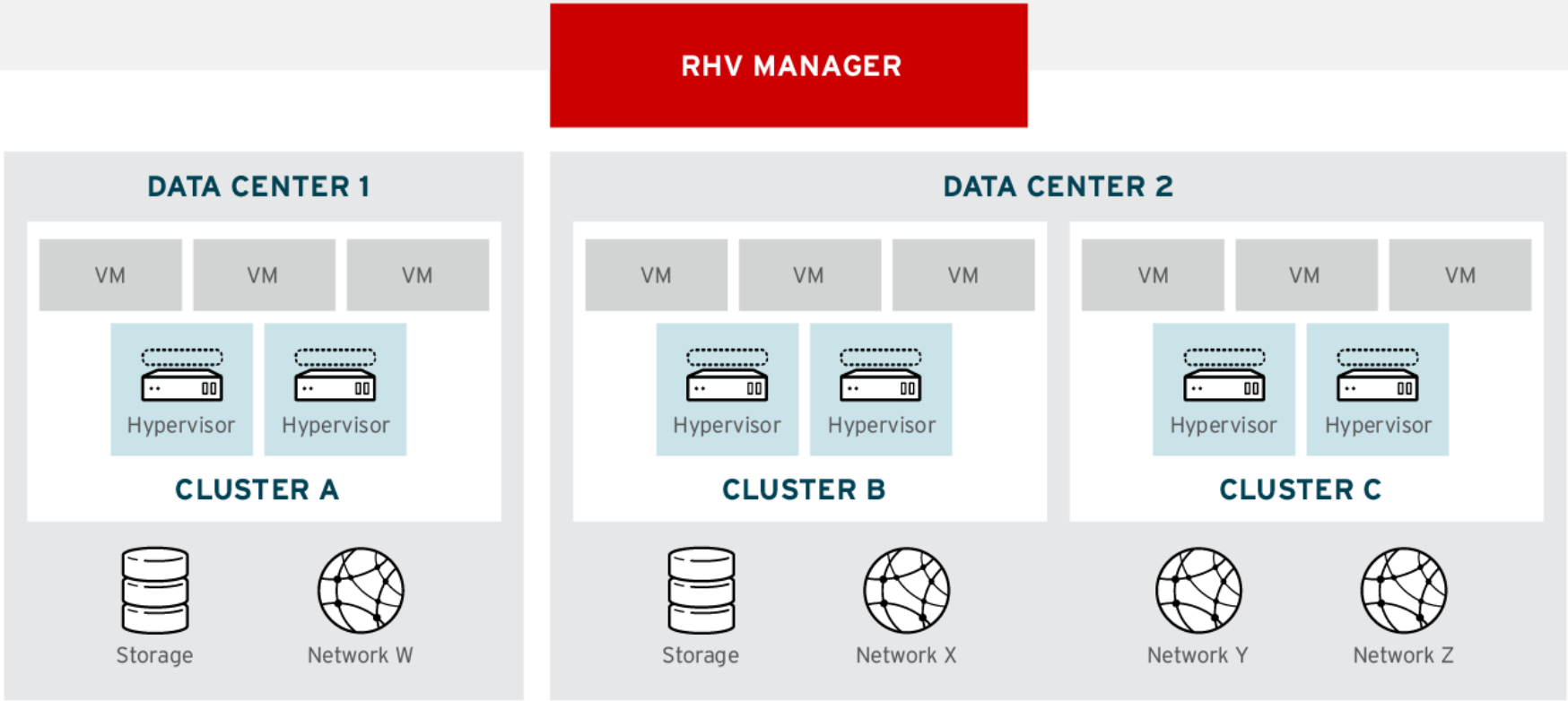
RED HAT VIRTUALIZATION OVERVIEW



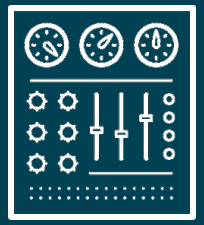
DATA ANALYTICS IS MOVING FORWARD

NEXT-GENERATION ANALYTICS

New ways for real-time metrics and Logs data collection and storage

ADVANCED MONITORING PLATFORM

Modern visualisation and alerting for time series data and logs



SMART MANAGEMENT

Trigger actions according to metrics and logs roles and thresholds

METRICS AND LOGS - COLLECTION FLOW

RHV DATA COLLECTION - ARCHITECTURE

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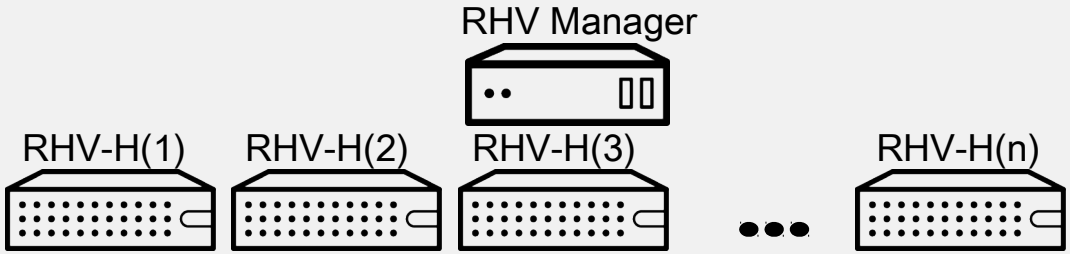

RHV DATA COLLECTION - ARCHITECTURE

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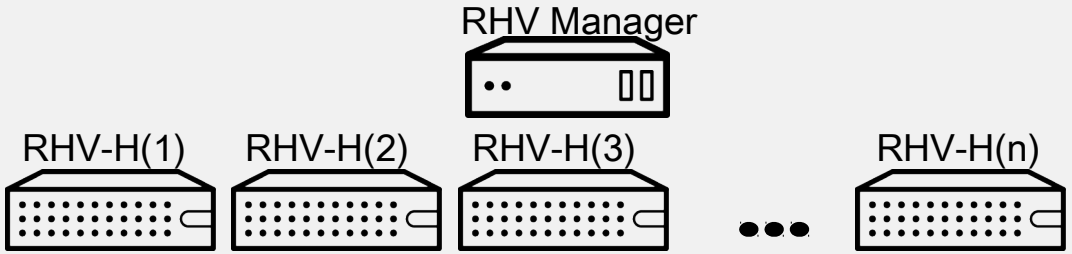

collectd

Simple and powerful daemon that gathers **metrics** from various sources

- **Host Statistics**
- **VM Statistics**
- **PostgreSQL Statistics**

RHV DATA COLLECTION - ARCHITECTURE

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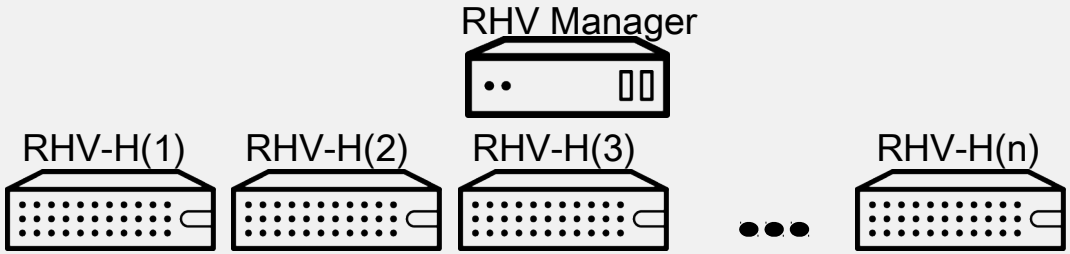

collectd

Simple and powerful daemon that gathers **metrics** from various sources

fluentd

Data collector that unifies the **metrics** and **logs** data

RHV DATA COLLECTION - ARCHITECTURE

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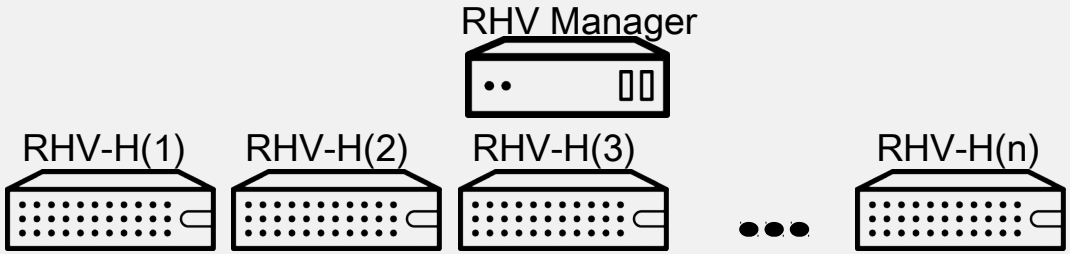

collectd

Simple and powerful daemon that gathers **metrics** from various sources

fluentd

Data collector that unifies the **metrics** and **logs** data

Metrics Store

Visualize trends in real time, slice and dice your data on the fly

RHV DATA COLLECTION - ARCHITECTURE

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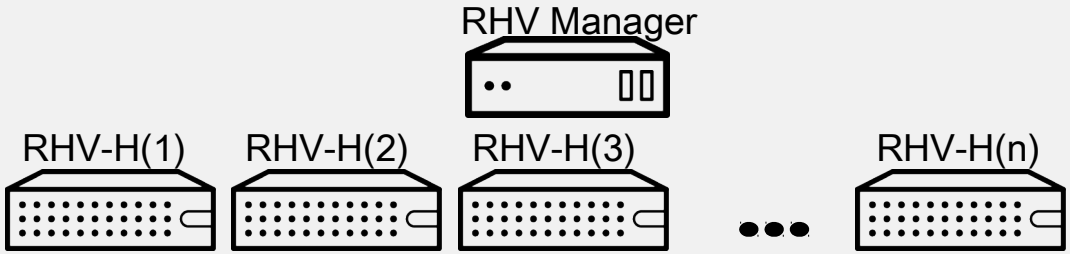

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RHV DATA COLLECTION - ARCHITECTURE

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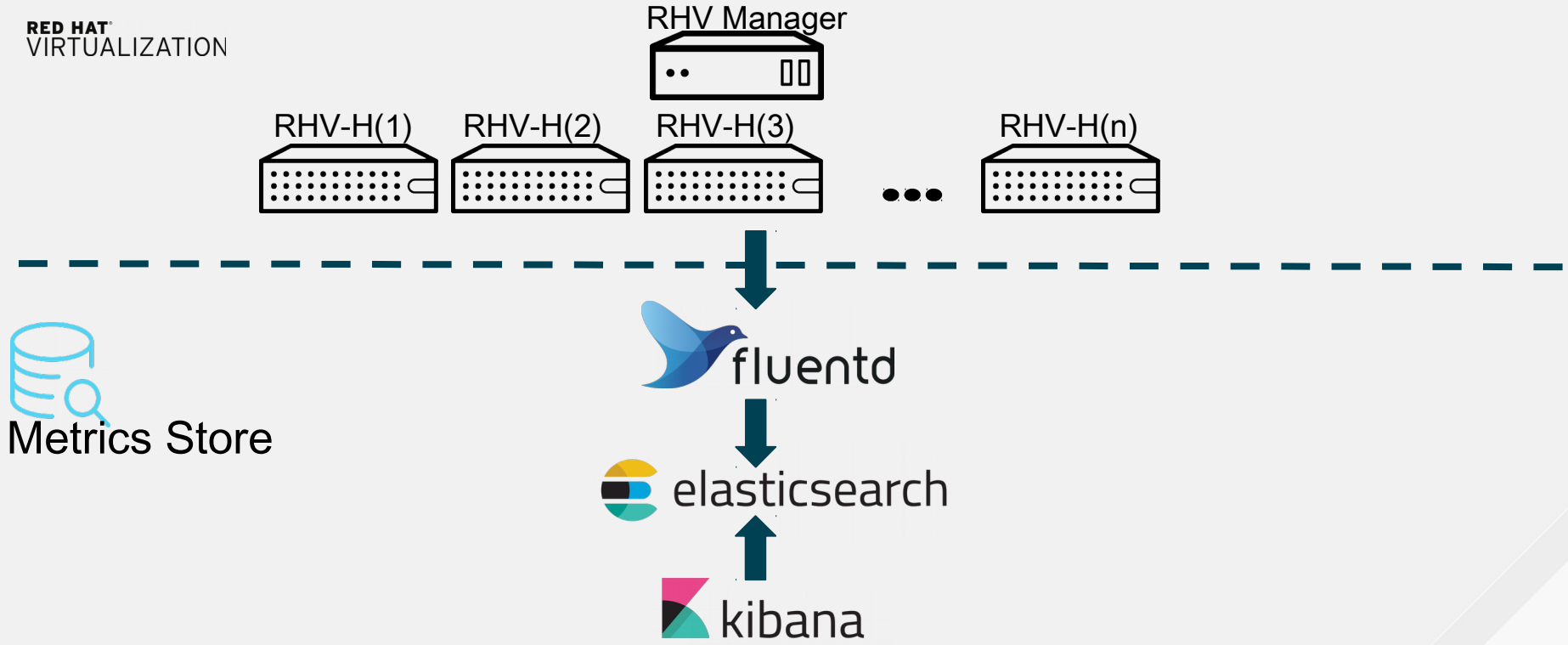

RHV DATA COLLECTION - ARCHITECTURE

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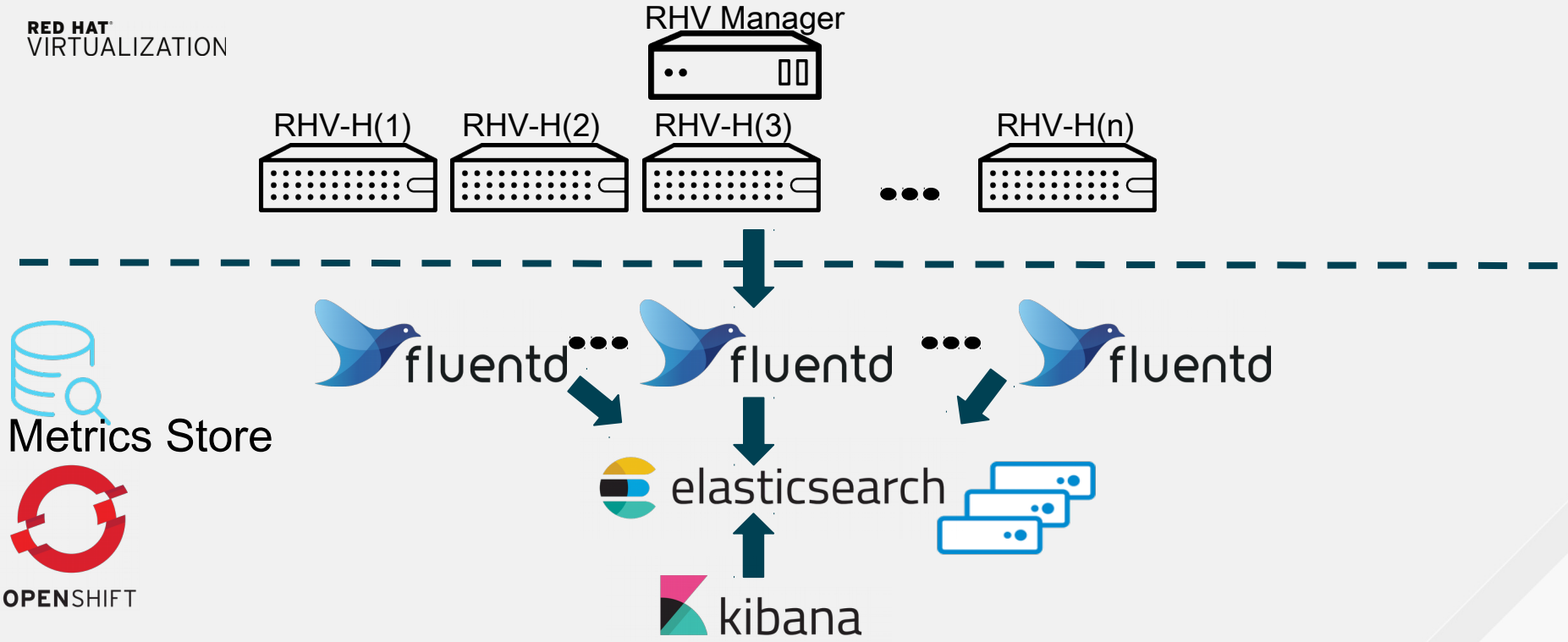

DEMO

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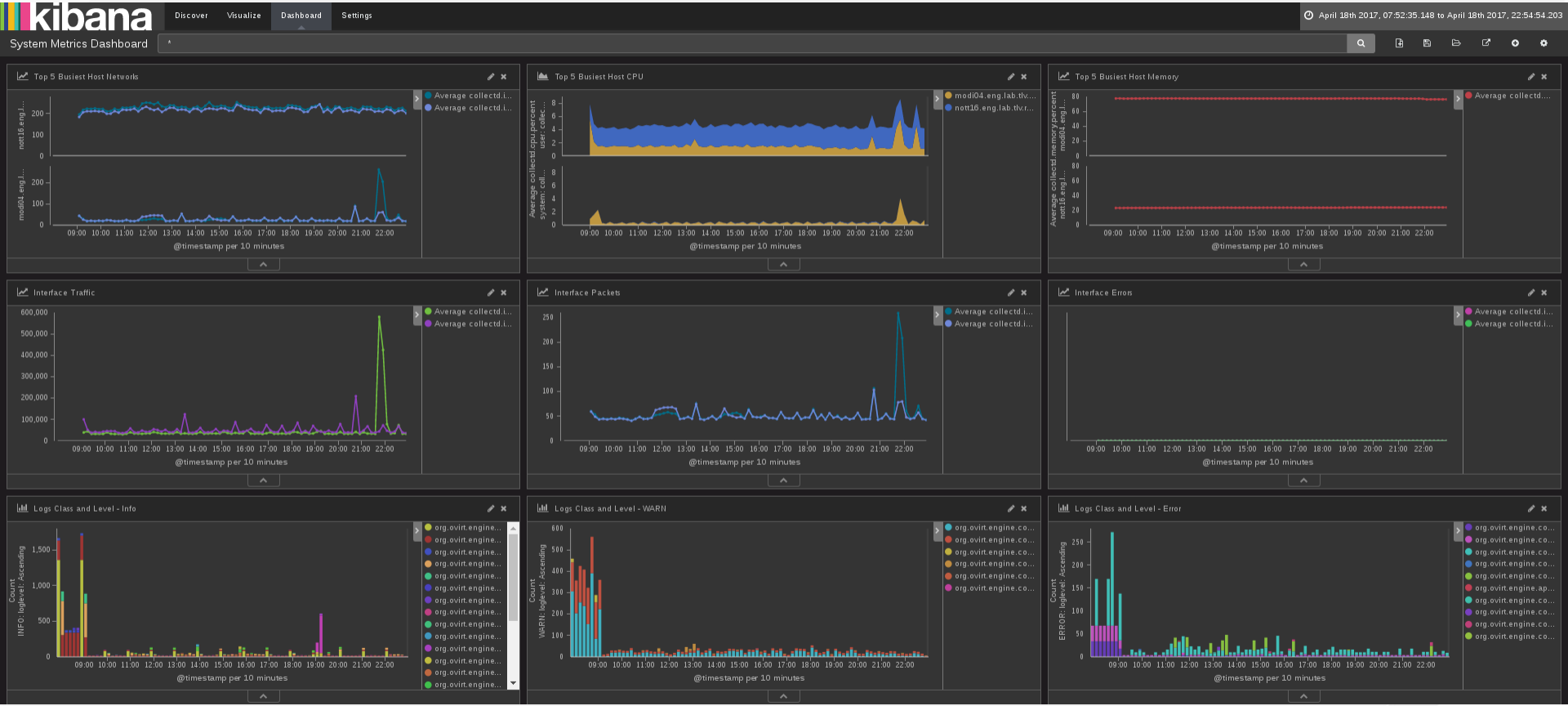
REAL TIME GLIMPSE TO YOUR



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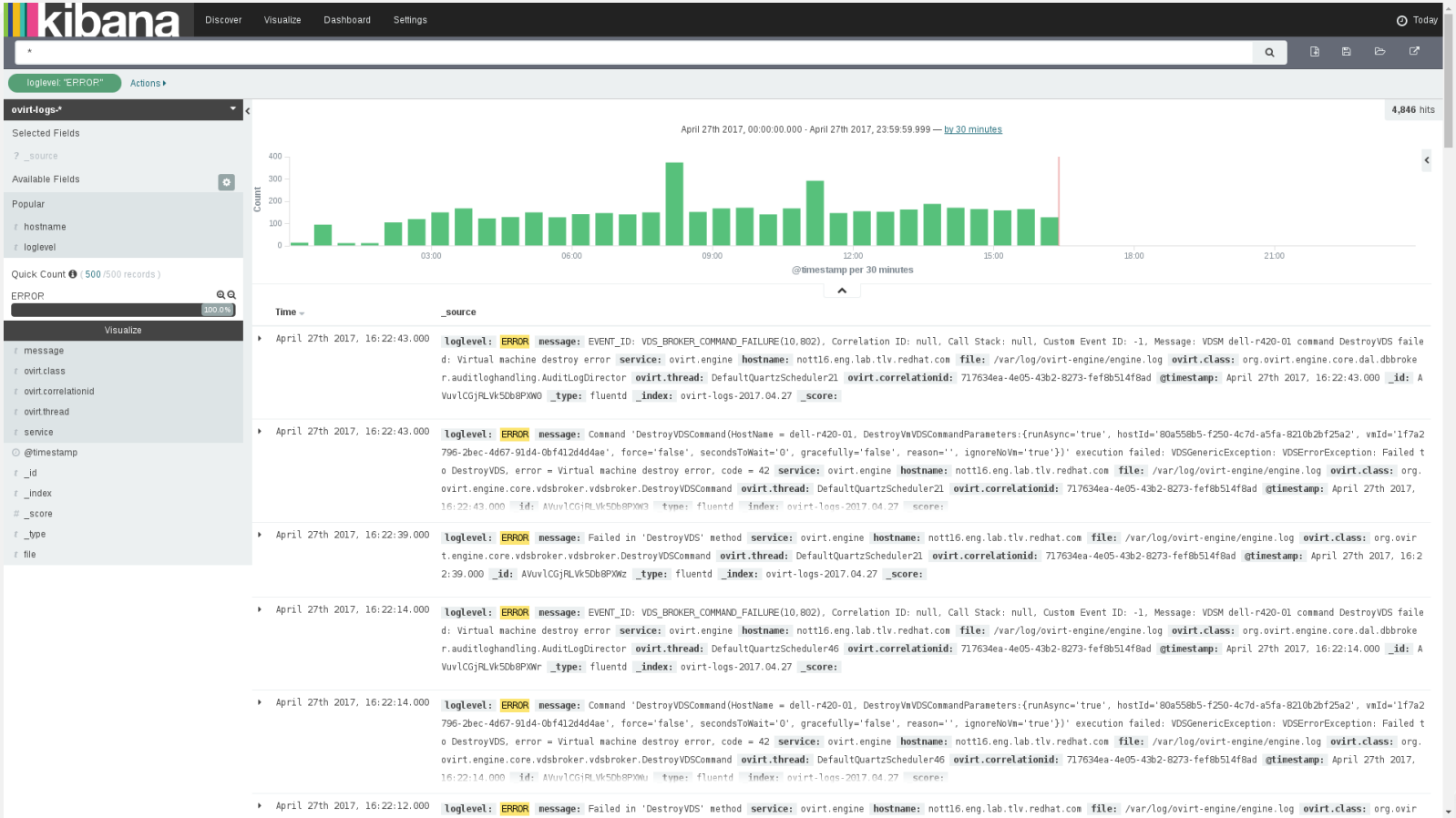
REAL TIME GLIMPSE TO YOUR



PERFORMANCE AND LOGS ANALYSIS

If you can’t measure it, you can’t manage it.—Peter Drucker

Examples:

Collectd performance metrics:

- My host cpu/memory usage is above the threshold -> The Admin will get an alerts
- Low disk space

Logs aggregation and analysis:

- I see that I have more errors -> Let's check what is causing them...
- How many times did a user log into the VM?
- I want to locate the bottlenecks in creating and deleting many VMs -> Let’s Look at the logs for tasks duration and search metrics that might affect the infrastructure performance.

SMART ENGINE MANAGEMENT

Examples:

- A VM with 90% CPU and the management gets an alert -> RHV Manager autoscales the VM to have more CPU cores.
- A VM with 90% memory and the management gets an alert -> RHV Manager autoscales the VM to have more memory.
- A host that is reporting many network card faults and I get an alert -> RHV Manager evacuates all VMs using the network card to other hosts.
- A host that is reporting many nfs errors and I get an alert -> RHV Manager evacuates all VMs using that NFS to other hosts.

COLLECTD CONFIGURATION

Current loaded Collectd plugins

- CPU
- Disk
- Memory
- Load
- Virt
- NFS
- Entropy
- Swap
- DF
- Interface
- Processes
- Postgresql
- Apache
- Statsd - Used to get VDSM statistics

FLUENTD CONFIGURATION

- **Logs** - Collect system and application logs
- **Metrics** - Collect Collectd metrics by http
- **Enrich** the data with additional metadata
- **Transform** the data to a common data model
- **Forward** the metrics and logs to a Central Fluentd