RED HAT VIRTUALIZATION OVERVIEW

DATA CENTER 1

- VM
- Hypervisor
- Storage
- Network W

CLUSTER A

DATA CENTER 2

- VM
- Hypervisor
- Storage
- Network X

CLUSTER B

DATA CENTER 3

- VM
- Hypervisor
- Network Y
- Network Z

CLUSTER C

RHV MANAGER
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**

- **Collectd**: Simple and powerful daemon that gathers metrics from various sources.
- **RHV Manager**
- **RHV-H(1)**
- **RHV-H(2)**
- **RHV-H(3)**
- **RHV-H(n)**

- **Host Statistics**
- **VM Statistics**
- **PostgreSQL Statistics**
Simple and powerful daemon that gathers metrics from various sources

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

**collectd**

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

Data collector that unifies the metrics and logs data

Visualize trends in real time, slice and dice your data on the fly
RHV DATA COLLECTION -  
ARCHITECTURE

RHV Manager

RHV-H(1)  RHV-H(2)  RHV-H(3)  RHV-H(n)

fluentd

elasticsearch

kibana

Metrics Store

#redhat #rhsummit
RHV DATA COLLECTION - ARCHITECTURE

- Metrics Store
- fluentd
- elasticsearch
- kibana

RED HAT VIRTUALIZATION

OPENSHIFT

RHV Manager

RHV-H(1)  RHV-H(2)  RHV-H(3)  ...  RHV-H(n)
DEMO
THANK YOU

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REAL TIME GLIMPSE TO YOUR INFRASTRUCTURE
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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.
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