FUJITSU Software
Cloud Monitoring Manager V2.0

Introduction

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Monitoring Service of OpenStack

Cloud Monitoring Manager, CMM, provides deep insight into OpenStack Clouds
- gathering data from metrics and logs
- allowing users to visualise and analyse the status of their Cloud
- notifying tenants in case of an issue

CMM provides maximum visibility in every layer of OpenStack Clouds

CMM follows the growth of your Cloud through scalability and high availability
Metric Management

CMM collects metrics of
• OpenStack services
• Physical infrastructure
• Virtual Machines
• Workloads

CMM displays health status in dashboards

CMM sends notifications based on real time

CMM stores historical data for analysis

Metrics Dashboard (Grafana)
Log Management

CMM converges all logs from OpenStack services, applications, middleware and underlying operating systems in one central point

CMM presents log information in dashboards

Tenants can define alarms combining logs and metrics

Tenants can access their system logs to verify security attacks
CMM in OpenStack

CMM is the Monitoring-as-a-Service of OpenStack

CMM is fully integrated in OpenStack and tenants can access CMM using OpenStack Horizon UI

CMM is preconfigured to monitor all the VMs provisioned by OpenStack
CMM in Enterprise

CMM offers several possibilities to communicate with other components:

- Agents on host machine
- RestAPI with Applications
- SysLog
- Libvirt for KVM
- Custom Plugin
CMM is part of the OpenStack constellation. It integrates with other projects to extend its capabilities:

- Heat, autoscaling
- Watcher, resource optimization
- Ceilometer, telemetry
- CloudKitty, rating and pricing
- MonascaAnalytics, artificial intelligence
- Stack4Things, smart city
Benefit

OpenStack Integration

Maximum Cloud Operational Efficiency

High Availability and Scalability

Minimize time-to-fix: from root cause to solution

Open Source: no vendor lock-in

Cost reduction by simplifying and automating
System Configuration

OpenStack Environment

OpenStack System

- Nova
- Swift
- Keystone
- Horizon

CMM GUI Plugin

Instances

- Compute nodes
- VM
- VM
- VM

Cloud Monitoring Manager Server

Agent

Collect metrics and logs

Authorize/ authenticate

API

Search
Alarm
Notification

Collect metrics

Metrics, Alarms Logs etc.

Monitor OpenStack System

OpenStack's Administrator

Monitor system

Operate system

Project User

Authorize/ authenticate

Operate OpenStack System

Collect metrics and logs

Collect metrics

Operate system
Technical Data 1/2

OpenStack platforms:
- Red Hat Enterprise Linux OpenStack Platform 10 (other platforms available on request)

Operating System:
- Red Hat Enterprise Linux 7.4 (for Intel64) (other operating systems available on request)

Recommended Hardware
- FUJITSU Server PRIMERGY RX, BX and TX
- CPU: Intel® Xeon® E5-2630 v4, 2.20 GHz or higher
- Memory: min. 32 GB, recommended 64 GB or more
- Installation directory: 2 GB
Preset metrics for OpenStack

- System metrics, for example, CPU usage, disk space, or network traffic.
- OpenStack services. The agent can perform specific checks on each process that is part of an OpenStack service.
- Service checks. The agent can check middleware services, for example, MySQL, Kafka, or RabbitMQ.
- HTTP endpoint checks. The agent can perform up/down checks on HTTP endpoints by sending an HTTP request.
- Host alive checks. The agent can perform active checks on a host to determine whether it is alive using ping (ICMP) or SSH.
- Process checks. The agent can check and monitor a process, for example, the number of instances, memory size, or number of threads.
Monasca

CMM is based on OpenStack Monasca

- Monasca was accepted as an official “big tent” OpenStack project in November 2015

Active open source contributions by Fujitsu

- Integration of log management functionality
- Fujitsu is leading the community with the Project Technical Lead
- Fujitsu is official “core reviewer”

Main contributors together with Fujitsu:
HP, SUSE, Time Warner Cable, Cisco, Rackspace, Cray, etc.