Monitoring and Reporting

This chapter contains the following sections:

About Monitoring and Reporting

Cisco UCS Director Express for Big Data can monitor virtual infrastructure and system resources, and provide a wide array of reports.

Cisco UCS Director Express for Big Data monitors a range of cluster events:

- High CPU usage

- Memory usage

- Disk capacity

- Disk IO utilization

Cisco UCS Director Express for Big Data displays statistics from the respective pages for selected Big Data Account and Hosts. You can also generate reports that itemize system details.

Cisco UCS Director Express for Big Data Dashboard

Cisco UCS Director Express for Big Data provides complete system visibility through real-time and historical monitoring. See Reports

Note The **Dashboard** tab shows up in the menu bar only after a summary report is added to the dashboard.

The customizable dashboard displays processing, memory, storage, and network utilization metrics.

- Per-node statistics: CPU, memory, and disk

• Health of Hadoop cluster components: HDFS, MapReduce jobs

• Graphs based on historical data

Note   Drag and Drop summary report icons from the **Customize** drawer to the **Summary** and **Hosts** tabs, where you can expand and close reports.

You can:

1. Add summary reports to the dashboard from the Big Data Account **Summary** tab. You can customize the summary reports to display the statistics for a specific time period, or export these reports from the dashboard.

2. Add summary reports to the dashboard from the Big Data Account **Hosts** tab. You can customize the summary reports to display the statistics for a specifictime period, or export these reports from the dashboard.

Note   Not all summary reports apply to MapR.

3. Add UCSM Accounts summary reports to the dashboard from **Physical** > **Compute**.

4. Add Data Center summary reports to the dashboard from **Physical** > **Compute**.

Viewing a Deployed Cluster Report

You can generate a **Big Data Account Summary Report** with or without credentials, to view the details of the deployed clusters.

Step 1   On the menu bar, choose **Solutions** > **Big Data** > **Containers**.

Step 2   Click the **Deployed Clusters** tab.

Step 3   Choose the deployed cluster, and click **View Report**.

Step 4   In the **View Report** dialog box, choose the report type that you want to generate.

Step 5   Click **Submit**.

Reports

UCSM Account Summary Reports

• Overview

• UCS Chassis Inventory

- UCS Server Inventory

- UCS Fabric Interconnect Inventory

- UCS Servers Associated vs Unassociated

- Rack Server Discovery Policy

- Power Policy

- Global Power Allocation Policy

Big Data Account Summary Reports

- Overview

Cluster-specific Metrics Supported per Hadoop Distribution

Metrics	Cloudera Distribution	Hortonworks Distribution	MapR Distribution	Remarks
Average CPU IO Wait (%)	Yes	Yes	Yes	—
Average CPU idle (%)	Yes	Yes	Yes	—
Average CPU Nice (%)	Yes	Yes	Yes	—
Average CPU System (%)	Yes	Yes	Yes	—
Average CPU User	Yes	Yes	Yes	—
CPU Percentage Across Hosts	Yes	—	—	Metrics for Host CPU usage across hosts
Cluster Disk IO	Yes	—	—	Metrics for Total Disk Write and Read Bytes Across Disks
Cluster Network IO	Yes	—	—	Metrics for Total Bytes Transmitted and Received Across Network Interfaces
HDFS IO	Yes	—	—	Metrics for Total Bytes written and Read Across Data Nodes
Total Space Utilization	—	Yes	—	—
CPU	—	Yes	—	—

Metrics	Cloudera Distribution	Hortonworks Distribution	MapR Distribution	Remarks
Load	—	Yes	—	—
Memory	—	Yes	—	—
Network	—	Yes	—	—
Process	—	Yes	—	—

Host-specific Metrics Supported per Hadoop Distribution

Metrics	Cloudera Distribution	Hortonworks Distribution	MapR Distribution
Average CPU IO Wait (%)	Yes	Yes	Yes
Average CPU Idle (%)	Yes	Yes	Yes
Average CPU Nice (%)	Yes	Yes	Yes
Average CPU System (%)	Yes	Yes	Yes
Average CPU User	Yes	Yes	Yes
Load Average(%)	Yes	—	—
Host CPU Usage	Yes	—	—
Host Memory Usage	Yes	—	—
Host Network Throughput	Yes	—	—
Disk Latency	Yes	—	—
Aggregate Disk Throughput	Yes	—	—
Role-CPU Usage	Yes	—	—
HOST CPU	—	Yes	—
DISK Usage	—	Yes	—
LOAD Usage	—	Yes	—
Memory-CPU Usage	—	Yes	—
Network Usage	—	Yes	—
Process Usage	—	Yes	—