



cockpit
IT Service Manager

Infrastructure - Equipments metrics management

FAQ document

Table of contents

Introduction.....	3
I. Objectives.....	3
II. Prerequisites.....	3
Configuration.....	4
Operation.....	5
I. Principles.....	5
II. Details of the metrics.....	5
A. Windows equipment.....	5
B. Linux / Unix equipment.....	5
C. VMware ESX equipment.....	6
D. AS400 equipment.....	6
E. SNMP equipment.....	6
F. Monitoring checks.....	7
III. Details of the graphs.....	7
IV. Data aggregation.....	7
Use.....	9
I. Equipment view.....	9
II. Integration into the dashboard.....	9
III. Integration into the monthly reports.....	9

Introduction

I. Objectives

- To present the configuration and operation of equipment and monitoring metrics
- To monitor the evolution of equipment (disk space, response time, memory consumption, etc.)
- To share information via reports and dashboards

II. Prerequisites

Access to the equipment must be configured:

- System access for server equipment (Windows, Unix, AS400, etc.)
- SNMP access for network equipment and any other type of equipment that does not have system access (router, array, pdu, etc.)

Configuration

Menu: Infrastructure > Equipment > Management

Principle: The reading of metrics is enabled or disabled, there are no other configuration parameters

Configuration: From the edit equipment menu, go to the "Parameters" tab, check the "Metrics" option and save the equipment. Metrics are now enabled.

Operation

I. Principles

- Cockpit IT Service Manager loads equipment information every 5 minutes, this frequency cannot be modified.
- There is no stoppage period to set, when the information cannot be collected (example: equipment unavailable), this results in "holes" in the graphs.
- The metrics measured differ depending on the type of equipment and cannot be customized.
- The metrics and monitoring checks are independent, except for some supervision checks whose results can be used as metrics (ex: Unix - Process - Memory).

Example: A disk space monitoring check will not impact disk metrics on the equipment.

- Data is collected by the monitoring engines.

II. Details of the metrics

The following tables present the different data collected depending on equipment type.

Note: Depending on the context (OS version, equipment type, etc.), the loaded information may vary.

A. Windows equipment

Metrics – Server Windows		
Metrics	Value type	Comments
Processor usage	Percentage	One graph for all processors
Disk space usage	Gigabytes	One graph per disk up to a limit of 10 disks
Queue size	Number	Number of waiting requests (read / write) of the disk. One graph per disk up to a limit of 10 disks.
Disk I / O	Megabits per second	Read / write disk inputs / outputs
Network traffic	Megabits per second	One element per network interface up to a limit of 10 interfaces
Response time	Milliseconds	
Memory usage	Gigabytes	
Swap usage	Gigabytes	

B. Linux / Unix equipment

Metrics –Linux / Unix Server

Metrics	Value type	Comments
Processor usage	Percentage	One graph for all processors
I/O Wait	Percentage	
Load	Number	System load over the last 5 minutes
Disk space usage	Gigabytes	One graph per logical drive (mount point) up to 10 drives
Disk transfer rate	Transfers per second	One graph per disk up to a limit of 10 disks
Network traffic	Megabits per second	One element per network interface up to a limit of 10 interfaces
Response time	Milliseconds	
Memory usage	Gigabytes	
Swap usage	Gigabytes	

C. VMware ESX equipment

Metrics – VMware ESX		
Metrics	Value type	Comments
Processor usage	Percentage	One graph for all processors
Disk I / O	Megabits per second	One graph for all disks
Response time	Milliseconds	
Memory usage	Gigabytes	

D. AS400 equipment

Metrics – AS400		
Metrics	Value type	Comments
Processor usage	Percentage	
Disk space usage	Gigabytes	% ASP of the system used
Response time	Milliseconds	

E. SNMP equipment

The following metrics are obtained via SNMP request and are used for:

- network equipment
- all types of equipment other than those detailed above and where SNMP access is configured.

Metrics – SNMP		
Metrics	Value type	Comments
Processor usage	Percentage	One graph for all processors
Network traffic	Megabits per second	One graph per network interface to a limit of 10

		interfaces
Response time	Milliseconds	
Memory usage	Gigabytes	

F. Monitoring checks

Some monitoring checks have the option to "Keep results (metrics)". When this option is enabled the results of the checks run are retained to produce graphs.

These graphs can be consulted and used in the same manner as equipment metrics graphs.

Metrics – Monitoring checks		
Metrics	Value type	Comments
SNMP – Request	Numeric	
Web –HTTP Request	Milliseconds	
Windows – Process – Threads	Numeric	
Windows – Process – Memory	Kilobytes	
Windows – Specific command –Standard output	Numeric	
Unix – Specific command – Standard output	Numeric	
DB – SQL – Request – Returns integer	Numeric	

III. Details of the graphs

All the metrics graphs work on the same principles:

- Use of a recent HTML5 and CSS3 web browser.
- The graphs can be printed and exported:
 - As images (PNG, JPEG, SVG)
 - In a document (PDF)
 - As raw data (XLS) that can be reused
- Click on the captions to show / hide the graphs, the system automatically rescales the axes of the ordinates.
- Select a zone to zoom with the mouse, click the "Reset zoom" button to return to the initial state.

IV. Data aggregation

Menu: Administration > Tools > Batch schedules / Batch logs

Objective: To reduce the disk space usage by consolidating and removing data based on age.

Principle:

- Day (last 24 hours): the data is not aggregated, the granularity is 5 minutes
- Week (last 7 days): 30-minute aggregation interval

- Month (last 31 days): 2-hour aggregation interval
- Year (last 365 days): 24-hour aggregation interval

Administration:

In the menu click on "Edit" of the "Aggregation of metrics" job:

- Job status: It is recommended to leave this job active to limit the consumption of disk space
- Time: it is recommended this job is schedule daily during a low period and after 00:00 to process the previous day's data.

| Note: The job aggregates equipment metrics and monitoring checks. |

From the "Batch Logs" menu, view the aggregation job execution history.

| Note: The "Aggregation of metrics" job is part of the "Monitoring" module |

Use

I. Equipment view

Menu: Infrastructure > Equipment > Management

Objective: To view the metrics of a piece of equipment

Operation:

In the menu click on the "Display" button for a piece of equipment and go to the "Metrics" tab.

The metrics are grouped by type (Processor, Memory, Network, etc.), check the types in order to display the corresponding graphs.

Select the time scale (defaults to the last 24 hours).

II. Integration into the dashboard

Menu: Supervision > Reports and graphs > Dashboard

Objective: To integrate the metrics graphics into dashboards that can be shared with end users.

Operation:

From the menu to edit or create a dashboard, select the organization, graphics and sites to share the dashboard.

III. Integration into the monthly reports

Menu: Reports > Automatic reports > Monthly / Daily reports > Single organization

Objective: To integrate the metrics charts or values into the monthly reports to be shared with operators and end users

Operation:

From the menu to edit or create a daily / monthly report:

- In the "Monitoring" tab, select the metrics belonging to the checks for which the results are kept.
- In the "Infrastructure" tab select the equipment metrics.

Document end