



cockpit
IT Service Manager

Infrastructure - Equipment management

FAQ document

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Introduction

I. Principles

The equipment of the infrastructure module forms the common components (servers, network equipment, disk array, etc.). The individual components (workstation, telephone, etc.) are managed at the office module level.

These two modules list all the software and hardware components of the information system (CMDB) and cover the "Configuration Management" ITIL process.

Equipment management is a central part of the Cockpit IT Service Manager configuration. The equipment is a component to which many other elements are linked (tickets, monitoring checks, passwords, etc.).

II. Objectives

- To identify all the components (physical or virtual) of the information system (CMDB) and their configuration.
- To configure the connections to the components necessary for certain functionalities (monitoring, inventory).
- To manage the hierarchical relationships between components.

III. Definitions

Equipment: The equipment of the infrastructure module is a physical or virtual hardware component (servers, network equipment, disk array, etc.).

Environment: The environment is an equipment group.

Equipment management

I. Environments

Menu: Infrastructure > Configuration > Environments

Objective: To manage the environments of the organizations

Operation:

- The environment must be created before the equipment
- A piece of equipment belongs to a single environment

II. Types

Menu: Infrastructure > Configuration > Types

Objective: Manage the types of equipments

Operation:

- An equipment has only one type.
- Some types are present by default and cannot be deleted or modified (Network component, Server). Other types are present by default but can be modified or deleted (Printer, Disk array, etc.).
- In the menu, the sequence in which the types are displayed corresponds to the sequence in which the types will appear in the drop-down lists. Click on the “Up” and “Down” buttons to change this sequence.

Details:

Field	Description
Description	Corresponds to the name of the type, it is unique. In the configuration menu the types appear under this description. The description appears in the lists when a type has no translation.
Translation	Only one translation can be associated with each language. The translation used depends on the user's language.

III. Statuses

Menu: Infrastructure > Configuration > Statuses

Objective: Manage the equipments statuses

Operation:

- An equipment has only one status.
- Some statuses are present by default (Live, In maintenance, In stock), they can be modified or deleted

- In the menu, the sequence in which the statuses are displayed corresponds to the sequence in which the statuses will appear in the drop-down lists. Click on the “Up” and “Down” buttons to change this sequence.

Details:

Field	Description
Description	Corresponds to the name of the status, it is unique. In the description menu the statuses appear under this description. The description appears in the lists when a status has no translation.
Translation	Only one translation can be associated with each language. The translation used depends on the user’s language.

IV. Equipment lists

Menu: The list of equipment can be accessed from the following menus:

- Infrastructure > Equipment > Management
- Infrastructure > Overview > By organization

Objectives: To display equipment based on search criteria, to view or modify equipment.

V. Equipment configuration

Menu: Infrastructure > Equipment > Management

Objectives: To enter the properties of a piece of equipment and configure access to set up automatic monitoring and inventory.

Principles:

The menu is divided into several tabs, the details of the 4 tabs are as below:

- Properties
- Components
- Associated items
- Parameters

A. Properties

Main fields	
Field	Information
UID	Unique identifier that cannot be modified, composed of the terms “INF-H-” (Infrastructure Hardware) and then a unique ID
Organization (mandatory)	Organization selection When editing the "Organization" field it cannot be modified if monitoring checks are deployed on the equipment
Sharing	Pooling of equipment (checked / unchecked) By default, a piece of equipment is linked to an organization, by activating sharing on it, it will be accessible to other organizations from certain menus (monitoring, hierarchy between equipment).

	This applies to equipment used for several structures (disk array, network equipment, etc.).
Environment (mandatory)	The equipment belongs to an environment
Name (mandatory)	Name of the equipment used in the lists
Description (mandatory)	Description of the equipment
Virtualization	Specifies whether the device is physical or virtual.
Status (mandatory)	Indicates the state of the equipment (in production, to be replaced, etc.). This status has no impact on automatic monitoring and inventory.
Type (mandatory)	<p>2 types of equipment have specific characteristics (Server and Network component):</p> <ul style="list-style-type: none"> - The connection modes are different (Monitoring tab) - Metrics can be collected and stored - The types of checks proposed are different (Monitoring module) <p>Other types of equipment have no specific characteristics. The equipment type cannot be changed if monitoring checks are deployed on this equipment.</p>
Operating system	<p>This field is available (and mandatory) only for servers. The operating system conditions the types of monitoring checks offered (Monitoring module). The operating system cannot be modified if there are monitoring checks deployed on the server.</p>
Information - Server	<p>These fields are populated automatically by the inventories, they contain information related to the operating system. If manually entered data is present, it will be replaced during the inventories.</p>
Renewal	<p>Equipment renewal date. In order to receive notification when the renewal date has expired, you must enable notifications in the user's preferences.</p>
Renewal notification	<p>Allows receipt of notification X days prior to renewal date. You must enable notifications in the user's preferences.</p>
Localization	<p>Indicates where the equipment is located. It is possible to manually describe the location or position of the equipment in a rack.</p>

B. Components

Main fields	
Field	Information
IP address	Allows manual entry of network information that is not loaded by inventories (e.g. ILO cards, etc.)
Security	<p>These fields appears for Windows operating systems, they are automatically filled by the inventories.</p> <ul style="list-style-type: none"> • Name : Equipment name on the system • UUID : Universal Unique Identifier • Product ID • BitLocker - Status : Active if active on all disks. • Antivirus - Status : Antivirus status in the Security Center. Antivirus

	<p>must be supported by the Security Center. If more than one product is installed, the first active product is taken into account.</p> <ul style="list-style-type: none"> • Antivirus - Last scan : Date of the last scan of the system by the anti-virus. • Antivirus - Last update : Date of last antivirus update • Firewalls - Status: Firewall status in the Security Centre • Last update : Date of last successful search for system updates • Last inventory: Date of last inventory by agent
Public IP (network card)	The "Network" section is automatically filled in by the inventories. For each network card inventoried it is possible to manually add values to the fields:
VLAN (network card)	"Public IP" "VLAN" These 2 fields are not modified by the inventories. The "IP Address", "Public IP" and "VLAN" fields are used in the network management menus.
Type (Raid)	The "Storage" section is filled in automatically by the inventories. In the "Raid" sub-section for each disk it is possible to manually add values to the fields:
Associated disks (Raid)	"Type" "Associated disks" These 2 fields are not modified by the inventories.
Other parts (System, etc.)	The other parts are automatically populated by the inventories.

Note 1: The number of disks loaded by inventories is limited to 40.

Note 2: The inventories ignore the following items:

Microsoft XPS Document Writer

Microsoft Office Image Writer

C. Associated items

This tab allows to associate software (in addition to those collected by the inventory in the "Software" tab) and licenses. These elements are filled in Cockpit ITSM from dedicated menus in the Infrastructure module.

D. Parameters

This tab allows entry of the equipment connection parameters.

The menu is divided into several parts.

1. Monitoring and Infrastructure

Main fields	
Field	Information
Status	Monitoring Status (Active / Inactive) The checks and inventories of inactive equipment are not executed

DNS name	Name of the equipment as it is identified on the network and used for connections (monitoring, inventories, etc.) It is possible to enter the IP address of the equipment but this is not always supported by applications (example: SAP), in particular in the case of a nested address.
Cluster	Check this option if the equipment is the logical node of a cluster In this case the connection to the equipment is not retained but always renewed in order to manage the cluster flip-flops
Inventory engine	Engine that performs equipment inventory. The engine proposed by default is the one associated with the organization.
Inventory mode	Select the inventory mode for the equipment. By selecting "Manual" the automatic inventories do not run on the equipment. A specific FAQ document deals with inventories.
Monitoring engine	Engine that performs the monitoring checks deployed on the equipment The engine proposed by default is the one associated with the organization
Metrics	This field is only available for servers and network devices. If the box is checked the data is collected automatically every 5 minutes in order to feed the metrics. A specific FAQ document deals with metrics.
Hierarchy	See the "Mapping" section

2. System access

- Accessible only for "Server" equipment
- Configuration of the connection to the operating system
- Access used by monitoring checks and the inventories

Main fields	
Field	Information
Username	It is possible to specify the domain, e.g. "domain \ user".
Password	Note: For Windows type equipment, if the equipment is not in the same domain as the monitoring engine, it may be necessary to add the name of the equipment as a domain, for example: hostname\username It is possible to use an SSH key.
Connection time	Delay beyond which the connection to the equipment times out. The default value is used (10 seconds) if the field is empty. Increase the delay if the connection to the server is slow (60 seconds maximum).
Connection type	Different connection types are available depending on the operating system selected in the "Properties" tab: <ul style="list-style-type: none"> - "TELNET": not recommended, not all the functionalities will be operational - "SSH": recommended for UNIX / Linux systems, SSH key can be used - "WinRM": recommended for Windows systems, the encrypted version key can be used, officially this protocol replaces WMI - "WMI": not recommended, not all the functionalities will be operational - "AS400" - "ESX / ESXi / vSphere - vCenter"
Port	Enter the connection port Leave the field empty to use the default port: <ul style="list-style-type: none"> - "TELNET": 23

	<ul style="list-style-type: none"> - "SSH": 22 - "WinRM": 5985 or 5986 for the encrypted version
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3. SNMP access

- Accessible for all equipment types
- Access used by
 - "SNMP - Request" monitoring checks
 - Monitoring checks and inventories for "Network equipment"

Main fields	
Field	Information
Port	Leave the field empty to use the default port 161
Community string	Enter the "Community string" expected by the equipment The hardware often has "public" by default
Authentication / Encryption	SNMP authentication only applies to SNMP version 3

VI. Viewing equipment

Menu: Infrastructure > Equipment > Management

Objective: To view all information about a piece of equipment.

A. Metrics

Metrics are only available for "Server" and "Network Equipment".

Metrics are grouped by type (Processor, Memory, Network, etc.). Check the desired types to display the corresponding graphs.

Select the time scale (by default the last 24 hours).

If no graphic appears:

- The "Metric" option is not activated ("Monitoring" tab of the equipment sheet)
- The monitoring engine failed to collect data

B. Software

List of software present the system's Program Manager.

C. Updates

Windows updates present in the system's Program Manager.

D. Passwords

List of equipment related passwords accessed by the user.

It is possible to modify the passwords directly from this view (the relevant rights on the passwords module are required).

E. Checks

List of the checks deployed on the equipment and their last status (the relevant rights on the monitoring module are required).

The possible statuses are:

- Success
- Error
- Error (Settings)
- No result yet (the check was never performed or never loaded any value)

F. Tickets

List of the 50 most recent tickets associated with the equipment (the relevant rights on the tickets module are required).

G. Actions on the equipment

Menu: Infrastructure > Equipment > Management

Operation: The following actions are possible from the menu:

- View / Edit / Copy
- Delete: Items related to the equipment are also deleted (monitoring checks, alert messages from checks, databases, SAP instances, passwords, etc.)
Tickets associated with the equipment are not deleted.
- Location in the rack / Location in the datacenter: The equipment must be linked to a rack for these actions to be offered
- Mapping supervision: Displays the mapping of the organization
- Inventory: Performs an inventory on the equipment. Access must be configured for these actions to be offered.
- Test connection: Tests the connection to the equipment. This action is recommended before deploying monitoring checks on the equipment.
- Server equipment: the test prioritizes the operating system and then the SNMP connection if the data to access the operating system is not filled in.

Importing equipment

Menu: Infrastructure > Equipment > Import

Objective: To mass import equipment into Cockpit IT Service Manager.

Operation:

- Enter a file with the information of the equipment to be imported
- Import and evaluate the file in Cockpit IT Service Manager

I. Creating the import file

2 template files can be downloaded from the menu:

- An Excel template: Only CSV format imports are handled. It will therefore be necessary to export the file in CSV format from the spreadsheet
- A template in CSV format

For a piece of equipment to be created the mandatory fields below must be entered in the file:

Mandatory fields	
Fields	Comments
Environment	The environment must exist in the selected organization
Name	The equipment name must not already be used in the selected organization Between 3 and 20 characters
Type	Indicate equipment from those in existence (Server, Network equipment, etc.)
Description	Free text between 3 and 255 characters
Operating system	Mandatory only if the equipment type is "Server"

Note: The organization is not mandatory because it is to be selected at the time of the import.

All other fields in the file are optional:

Optional fields	
Fields	Comments
Virtualization	Y: the option is selected Empty: the option is not selected
OS version	50 characters maximum
Service pack	50 characters maximum
Patch level	50 characters maximum
Asset number	255 characters maximum
Comments	255 characters maximum
Supplier	Supplier of the organization or pooled Must exist in Cockpit IT Service Manager
Make	50 characters maximum

Model	50 characters maximum
Series number	50 characters maximum
Delivery date	DD.MM.YYYY format
Warranty (years)	Between 1 and 10 inclusive
Support contract	Support contract for a supplier belonging to the organization or pooled Must exist in Cockpit IT Service Manager
Technical information	255 characters maximum
Room	For the datacenter to be selected, the "Rack" field must be filled in Must exist in Cockpit IT Service Manager
Rack	For the rack to be selected, the "Room" field must be filled in Must exist in Cockpit IT Service Manager
DNS name	255 characters maximum
Username	2 to 50 characters
Password	255 characters maximum
SSH port	Only for Linux / Unix equipment
Connection time[s]	Between 10 and 60 inclusive
Cluster	Y: the option is selected Empty: the option is not selected
SNMP Port	Between 10 and 65,535 inclusive
SNMP Community	255 characters maximum
SNMP Version	1, 2 or 3

Note 1: Optional fields do not cause blocking for the import.

Example: If the delivery date is not in the correct format, the field will be left empty and the equipment will be created.

Note 2: Cockpit IT Service Manager does not create items

Examples:

If a provider (optional field) that does not exist is entered in the file, the field will be left empty.

If a mandatory field that does not exist is entered in the file, the import will return an error.

II. Importing the file

Enter the following fields:

- Character sets: Select the character set or encoding of the file to be imported. The "Auto" option is suitable in the majority of cases.
- Separator:
 - CSV file: comma, semicolon, or tab
 - CSV file imported from Excel: use the semicolon

- Organization: Select the target organization
The selected organization replaces any organizations that may have been entered in the file.
Therefore equipment can only be imported for one organization.

Click the "Upload" button, select the CSV format file.

III. Evaluation of the file

Cockpit IT Service Manager evaluates the file and returns the following information:

- The character set detected
- The number of equipment records containing errors
- If the file appears to be empty

A table summarizes the equipment to be imported; each line corresponds to a piece of equipment:

- The status of the equipment indicates whether it can be imported or not:
 - OK: the item can be imported
 - Error: the item cannot be imported
- Click on the line with an error to display the detail of the equipment underneath with the fields in error indicated. Correct the fields by entering correct values until the status changes to "OK".

Note: Equipment in "OK" status can be changed in the same manner

- Click on "Delete" to remove a piece of equipment from the import

When all the import lines are in the "OK" status, click on "Import"

IV. Errors during import

A. The Excel file is not recognized by the application

Only imports of CSV files are handled, it is necessary to export to CSV format from the spreadsheet.

B. The resulting import is empty

- The selected character set is not recognized
- For CSV files exported from an Excel file select the ";" separator

C. The import does not take into account the structure indicated in the CSV file

The organization of the equipment is the same for the whole import; it is defined before uploading the file.

The field is not mandatory in the file; if another organization is specified, it is not taken into account.

When importing equipment of different organizations; it is necessary to do an import for each organization.

D. The accents in the import display incorrectly

Make sure that the character set selected matches the character set of the uploaded file.

E. How are operators rights handled when importing?

To import equipment into an organization, the operator must have the right to create equipment in the organization.

F. Is it possible to import equipment from a Cockpit IT Service Manager equipment export?

Yes, follow the steps below:

- Export the equipment to a CSV format file
- Make sure that the items to import exist (environments, etc.)
- Import the CSV file (no file modification required)

Mapping

I. Configuration

Menu: Infrastructure > Equipment > Management

Objective: To obtain a graphical view of the equipments of an organization, the dependencies (tree structure) and the status (determined by monitoring).

Principles:

The configuration of the equipment hierarchy has two aspects:

- The hierarchy:
 - Equipment may have one parent piece of equipment and "N" children pieces of equipment
 - The equipment monitoring checks are executed if the parent equipment is available
- The status:
 - Equipment status is defined by its availability check
 - The status conditions the execution of the checks deployed on the equipment as well as those of its child equipment

Important: The configuration of the equipment hierarchy thus has a significant impact on the operation of the monitoring since the status of a piece of equipment and its hierarchical position will condition the execution of the dependent monitoring checks.

A. Hierarchy

Edit equipment by going to the "Monitoring" tab, "Monitoring and Infrastructure" section, and in the "Parent" field, click on "Select":

- Select equipment from the organization
- Important: Parent and child equipment must have the same monitoring engine.**
- The selected equipment will be the parent equipment, the current equipment will be the child equipment
 - Equipment has only one parent but may have multiple children

B. Status

Edit equipment by going to the "Monitoring" tab, "Monitoring and Infrastructure" section, and at the "Check availability" level click on "Select":

- Select an equipment monitoring check that shows the status of the equipment
Example: Equip. - Ping, Equip. - Port, Unix / Windows / BD – Connection test, etc.
- The availability check is run regularly regardless of its execution schedule.
The result determines the status of the equipment.

Note: If no monitoring check appears when clicking on "Select", this means that no monitoring check is deployed on the equipment.

II. Operation

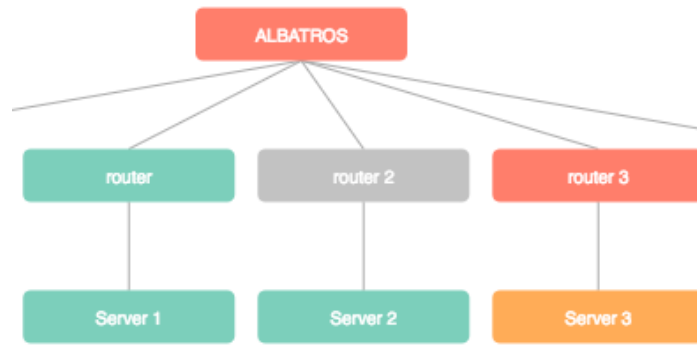
The equipment hierarchy is displayed as a tree structure.

Each box represents a piece of equipment; click on a box to display the equipment sheet.

The equipment boxes are colored in accordance with their status:

Equipment status details			
Status	Information	Color in the tree	Impact on child equipment
Not configured	The equipment does not have an availability check	Gray	None, child equipment may have an availability check and the checks run normally.
Unknown	The equipment parents in the hierarchy are available but the availability check result is older than 10 minutes. The other checks of the equipment are disconnected.	Yellow	The child equipment are considered unreachable, their monitoring checks are disconnected.
Unreachable	At least one parent piece of equipment in the hierarchy is unavailable.	Orange	The child equipment are also considered unreachable, their monitoring checks are disconnected.
Unavailable	The availability check of the equipment is false and its last result is less than 10 minutes old. The other checks of the equipment are disconnected.	Red	The child equipment are considered unreachable, their monitoring checks are disconnected.
Available	The availability control of the equipment is successful and is less than 10 minutes old. The availability checks for the parents in the hierarchy are also successful or not configured.	Green	The monitoring checks and availability of the child equipment are carried out.

Overview:



Note 1: The name of the organization takes the color of the most critical status of the pieces of equipment.

Note 2: The graph displays only the first 2 levels of the tree. Equipment on other levels does not appear in the tree.

Links between equipment

I. Configuration

Menu: Infrastructure > Equipment > Management

Objectives:

- To identify equipment ports
- To identify connections between pieces of equipment

Operation:

To edit a piece of equipment, go to the "Cabling" tab.

The menu is divided into 3 sections:

1. "Ports" section: Enter the number of ports of the equipment by type according to the table below

Details	
Fields	Information
Network – RJ45	Number of RJ45 ports (256 max)
Network – Fiber	Number of fiber ports (256 max)
Supply (input)	Number of input supply ports (32 max)
Supply (output)	Number of output supply ports (32 max)

Note: To add RJ45 or Fiber connections, the "Network - RJ45" and "Network - Fiber" fields must contain at least one port.

2. Configuration of the upstream connections

Main fields	
Fields / Actions	Information
Information	The information button displays the sheet of the target equipment
Delete	Deletes the connection Deleting a connection automatically releases 2 ports: - a port on the current equipment - a port on the target equipment
Description (Source)	Free text, by default increments a number
Connection target	Select target equipment To appear in the list the target equipment must: - Belong to the organization or another pooled organization - And have a port of the selected type available

3. The "Downstream connections" are not modifiable; it displays the upstream connections set from the other equipment targeting the current equipment.

II. Views

A. Connections list

Menu: Infrastructure > Equipment > Wiring > Connections

Objective: To display the connections between pieces of equipment

Operation:

- Each line in the list corresponds to an upstream connection.

Note: The downstream connection is the same cable but from the point of view of the target equipment.

- From a connection it is possible to:
 - Edit or view the equipment
 - Locate the equipment in the rack or room (the racks and rooms must be configured)

B. List of available ports

Menu: Infrastructure > Equipment > Wiring > Ports

Objective: To display the available ports

Operation:

- Each line in the list corresponds to a connection type for a piece of equipment for which ports are available.

Note: If an RJ45 or Fiber connection type is not configured for a piece of equipment, or has no available ports, then it does not appear in the list

- For each connection type the total number of used and available ports is displayed.

Document end