



cockpit
IT Service Manager

Monitoring - SNMP MIB management

FAQ document

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Introduction

I. Document objectives

- To present the functioning of the MIB management menu (loading MIB files into Cockpit IT Service Manager, searching and updating manufacturers, etc.)
- Loading MIB files in Cockpit IT Service Manager is very useful in the configuration of "SNMP - Requests" monitoring checks

II. Definitions

MIB file: The Management Information Base (MIB) file is a text-based file containing hierarchical information in the form of a tree on a device. The goal is to retrieve this information remotely via the SNMP protocol. Any manufacturer can create an MIB file for a device.

IANA: The Internet Assigned Numbers Authority assigns a number to each manufacturer and ensures that the MIB files issued by the different manufacturers are consistent.

OID: Means Object Identifier. This is a sequence of integers used to identify an object (disk size, CPU load, version of a system, etc.).

The sequence of integers composing the OID is a hierarchical organization, for example using the OID 1.3.6.1.4.1.2021.10.1.3.1:

1 (iso)
 3 (org)
 6 (dod)
 1 (internet)
 4 (private)
 1 (enterprises)
 2021 (ucdavis)
 10 (laTable)
 1 (laEntry)
 3 (laLoad)
 1 (load during one minute)

Manufacturers

Menu: Monitoring > Configuration > Manufacturers

Principle: Each MIB file imported into Cockpit IT Service Manager is linked to a manufacturer, so the manufacturers must be set up before loading the MIB files.

Operation:

To update the list of manufacturers:

- Clicking on the "Update from IANA" button means Cockpit IT Service Manager connects to the IANA site (<http://www.iana.org/assignments/enterprise-numbers>) and automatically updates the manufacturers' list, this is the recommended method.
- Clicking on the "Import" button adds manufacturers from a file (".txt" or ".mib" format).

A manufacturer can be found with the search field by entering the name or part of the name.

Editing the manufacturers allows information to be added in the "Comments" field.

MIB files

I. Menu

A. Search and delete

Menu: Monitoring > Configuration > MIB Files

To search for MIB files:

- Select a manufacturer (mandatory)

Note 1: For the standard MIBs select the manufacturer "RFC/Standard"

Note 2: In the drop-down list, only manufacturers for which MIB files were imported into Cockpit IT Service Manager appear

- Select all or part of the MIB file name (optional)

In the list of MIB files, click on "View" to see the details of the OIDs contained in an MIB file.

Note: In the list of MIB files, the "Date" field corresponds to the date the file was imported into Cockpit IT Service Manager and is not related to the date the MIB file was issued by the manufacturer.

Click on "Delete" to delete a MIB file. The "Delete" button is visible only when the MIB file is empty.

Note: A MIB file is empty when another MIB file containing the same OID has been imported subsequently (see next part).

B. Importing MIB files into Cockpit IT Service Manager

Menu: Monitoring > Configuration > MIB Files

Important: Due to the tree structure, the MIB files are interdependent. Therefore, before loading the MIB files for your equipment, it is necessary to load the standard MIB files.

To load new MIB files click on "Import" and then select the file:

- It is possible to select a single MIB file (type ".txt" or ".mib") or a compressed folder (".zip") containing several MIB files, in which case ensure that the folder actually contains only MIB files (remove readme files, etc.).
- Cockpit IT Service Manager analyzes the syntax of the contents of each imported MIB file, if the syntax is not correct an error is sent and the file is not integrated.
- If an existing MIB file is imported, the current file is updated by the contents of the new file.
- The OIDs are organized in tree structure, so an OID cannot be imported in double and not appears in two different files for example.

During the import, when an OID already exists in a MIB file stocked in Cockpit IT Service Manager, a message asks a confirmation of the import:

- "Yes": The file is imported, its content replace the content of the existing file. If these 2 files have the same name, the new file replace the old. If the 2 files have different name, the old file still exists but its content is empty. The new imported file has the OID.
- "No": The import operation is stopped.

II. Error messages

Error messages contain the following elements:

FILE_MIB.txt:X:Y – MESSAGE

- *"FILE_MIB": Name of imported MIB file*
- *"X": Error line*
- *"Y": Error column*
- *"MESSAGE": Root cause of the error*

A. Syntax problem

Example:

ACCOUNTING-CONTROL-MIB.txt:31:42 - unexpected character '!'

This message indicates a syntax error, it is not a problem on the side of the Cockpit IT Service Manager but comes from the MIB file, for which it will be necessary to contact the manufacturer creating the MIB file.

The loading of the MIB file stops at the first error encountered in the file, if the file contains several errors they will be detected and reported one by one.

In this example the character “:” should not be present.

B. Dependence problem

Example:

<File_MIB_B>:XX:XX – couldn't find referenced MIB <File_MIB_A>

This message indicates that the MIB "File_MIB_B" calls the MIB "File_MIB_A", so it is necessary to first load the MIB "File_MIB_A" then the MIB "File_MIB_B" into Cockpit IT Service Manager.

C. Redundancy problem

Example:

<File_MIB>:XX:XX - a symbol 'domainName' already present in the MIB

This message indicates that the “File_MIB” MIB contains an OIL already present in the MIB database, i.e. it was loaded when importing another MIB. The OIDs being hierarchically organized there can be no duplication. One possibility is to remove from the MIB file to load the part dealing with this OID.

Document end