



SNMP

BIMdance SNMP SmartConnector

Datasheet

Version 2.0.10

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BIMdance SNMP SmartConnector

SNMP Manager

BIMdance SNMP SmartConnector is middleware that can be plugged into the Schneider Electric SmartConnector Framework as an extension. BIMdance SNMP SmartConnector allows communication between SNMP agents and EWS servers corresponding to user-provided configuration. The EWS server generates EBO alarms when TRAP messages are received. This extension supports the following versions of the SNMP protocol: v1, v2, and v3.

SNMP Manager Configurator

The BIMdance SNMP SmartConnector includes the SNMP Manager Configurator module, which allows the creation of some configuration of SNMP Manager to receive required OIDs and TRAP messages. The main functionalities of the SNMP Manager Configurator are:

- Discovering SNMP agents in the LAN or manually adding them to the created configuration;
- SNMP v3 security settings provided;
- Allowing SNMP v3 engine configuration;
- Allow users to choose required MIB entities for sending it to the EWS server (objects, tables, TRAPS, etc.)
- Vendors MIBs parsing;
- SNMP communication logging;
- Allow users configure EBO alarms generated on trap receiving

What's new

- Enhanced EBO Alarm Configuration: More robust configuration options for creating custom EBO alarms triggered by SNMP traps. This includes improved handling of various data types in alarm messages and the ability to specify multiple values or ranges for variables triggering alarms.
- Improved MIB Handling: Enhanced support for parsing and handling vendor-specific MIB files, improving compatibility with a wider range of SNMP devices. Improved error handling during MIB loading and parsing.
- The ability to manually specify the OIDs and IIDs of objects that are not included in the MIB file.

SNMP

- **Simplified Alarm Message Formatting:** Improved the formatting of alarm messages sent to the EBO, making them more concise and informative. More flexible handling of ifIndex in alarm messages.
- **Support for configuring SNMP trap varbind masks** has been added to filter unwanted variables and improve trap processing and filtering.

The main window of SNMP Manager Configurator

The main window of the SNMP Manager Configurator shows the list of discovered or added SNMP agents in the current configuration. Also, it shows the statuses of SNMP agents and communication logs.

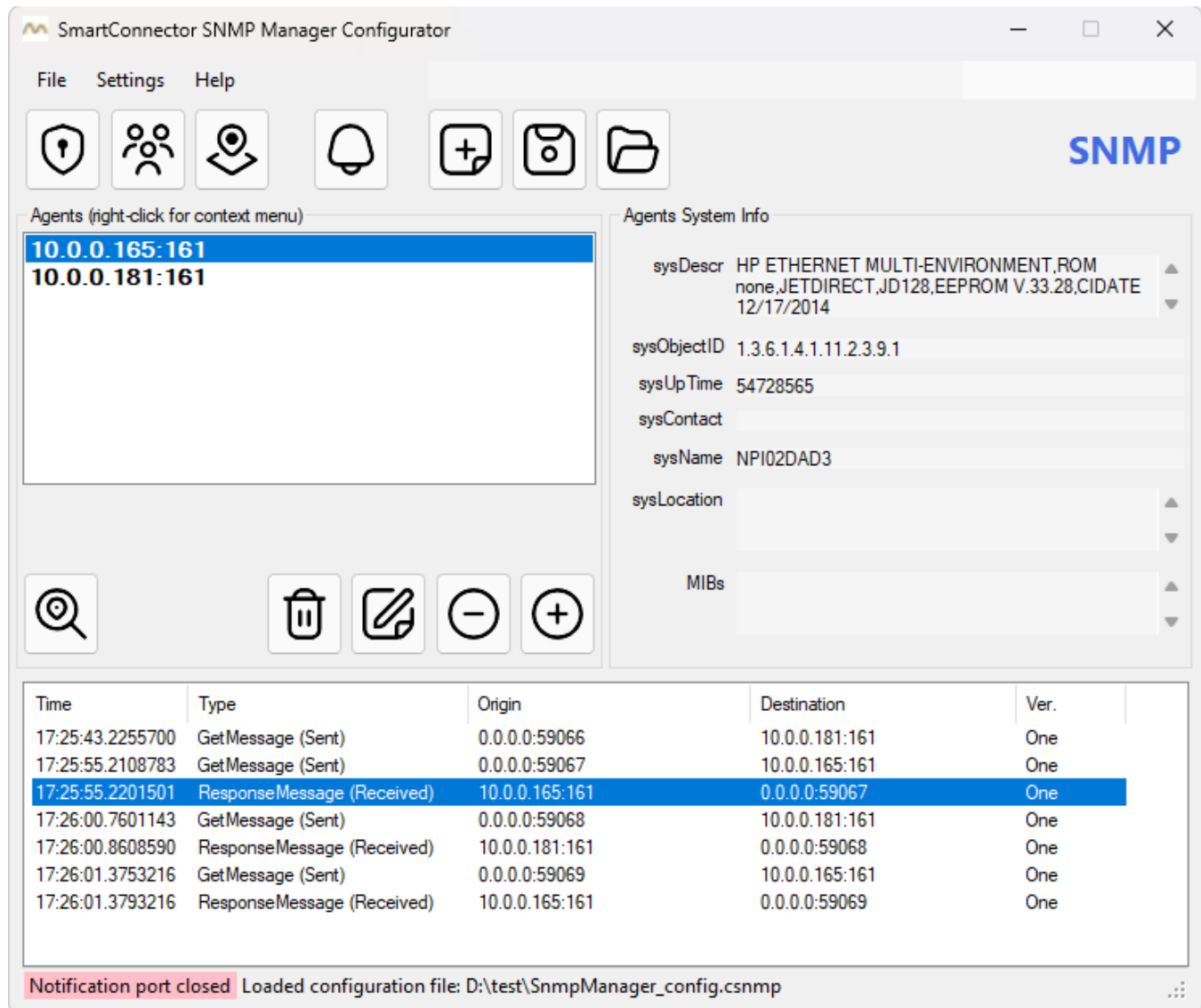


Fig. 1. Main window of SNMP Manager Configurator

SNMP communication logging

SNMP Manager Configurator allows troubleshooting of SNMP communication issues using an integrated logger with a detailed problem description and notable indication.

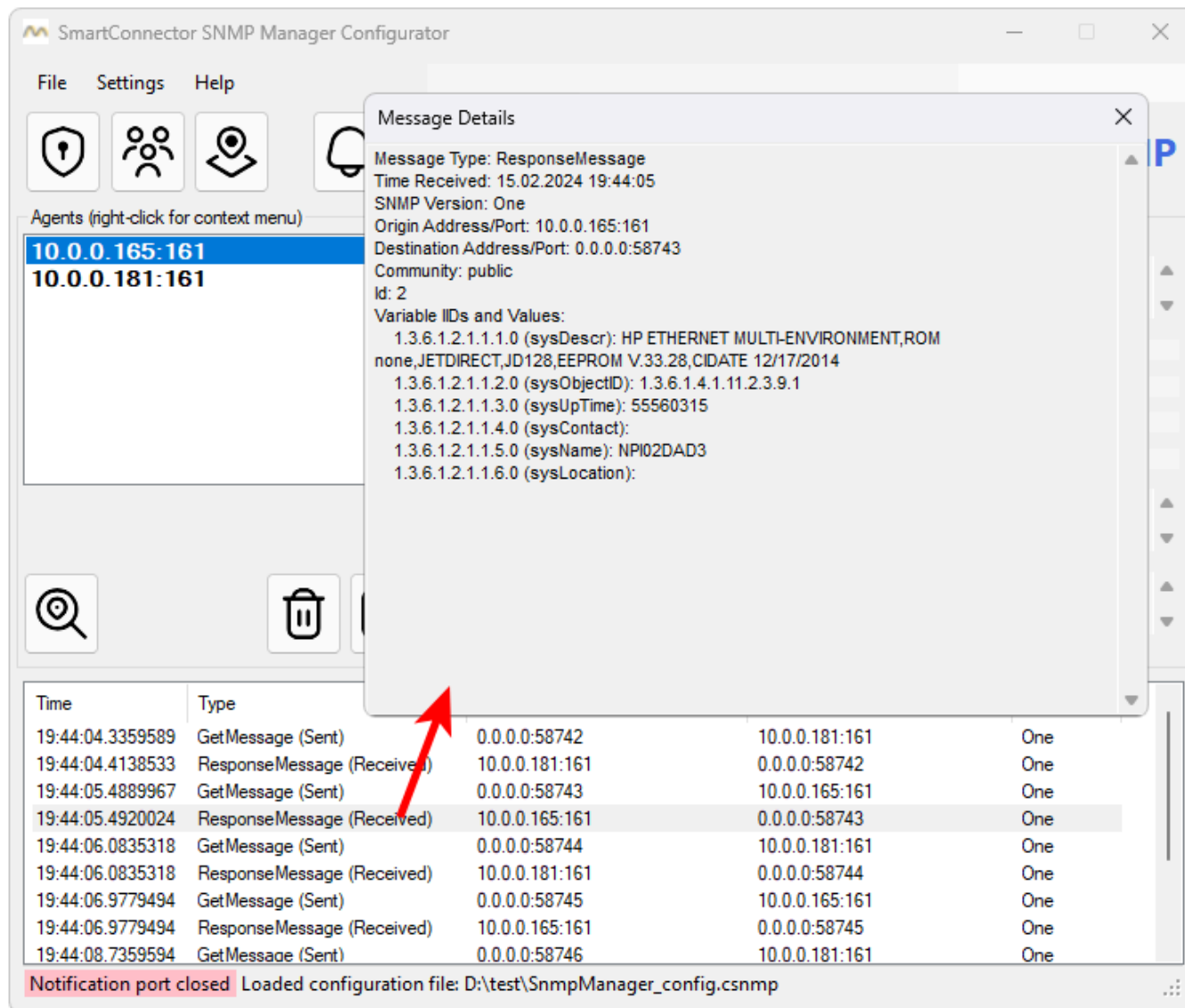


Fig. 2. Response details in logger.

SNMP agent configuration

SNMP Manager Configurator lets you choose required objects from vendor or standard MIB files. Values from selected objects will be sent to the EWS server. Users can load vendor MIB files.

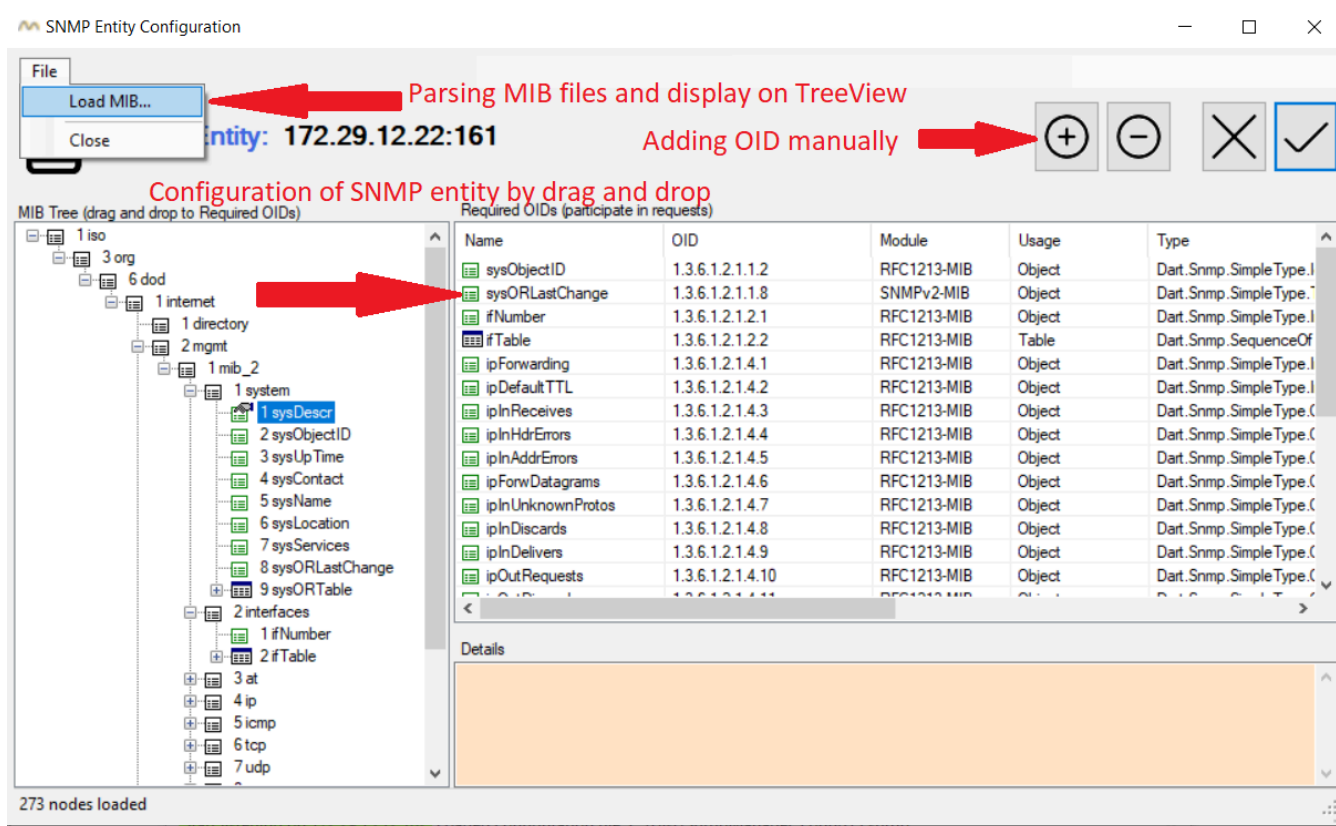
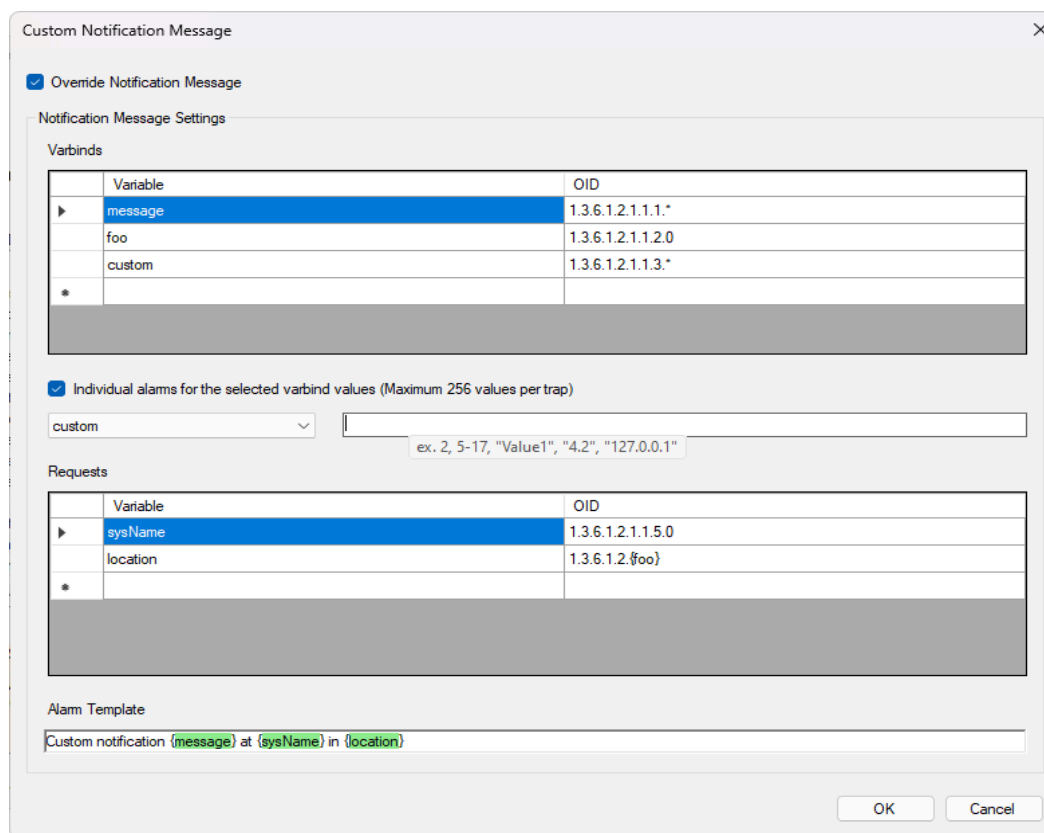


Fig. 3. SNMP device configuration.

EBO alarms configuration

SNMP Manager Configurator lets you configure EBO alarms generated on trap receiving.



Custom Notification Message

☒ Override Notification Message

Notification Message Settings

Varbinds

	Variable	OID
▶	message	1.3.6.1.2.1.1.1.*
	foo	1.3.6.1.2.1.1.2.0
	custom	1.3.6.1.2.1.1.3.*
*		

☒ Individual alarms for the selected varbind values (Maximum 256 values per trap)

custom

ex. 2, 5-17, "Value1", "4.2", "127.0.0.1"

Requests

	Variable	OID
▶	sysName	1.3.6.1.2.1.1.5.0
	location	1.3.6.1.2.{foo}
*		

Alarm Template

Custom notification {message} at {sysName} in {location}


OK Cancel















Fig. 4. EBO alarm configuration.

SNMP responses

After choosing the required MIB objects, users can send requests to the agent and view responses.

Object Values Request Results


SNMP Entity: 10.0.0.181:161

Name	OID	Value	Type
 sysDescr	1.3.6.1.2.1.1.1	Brother NC-8100w, Firm...	Dart.Snmp.SimpleType.OctetString
 sysObjectID	1.3.6.1.2.1.1.2	1.3.6.1.4.1.2435.2.3.9.1	Dart.Snmp.SimpleType.Id
 sysUpTime	1.3.6.1.2.1.1.3	18884910	Dart.Snmp.SimpleType.TimeTicks
 sysContact	1.3.6.1.2.1.1.4		Dart.Snmp.SimpleType.OctetString
 sysName	1.3.6.1.2.1.1.5	BRWF4B7E29ECE9B	Dart.Snmp.SimpleType.OctetString
 sysLocation	1.3.6.1.2.1.1.6		Dart.Snmp.SimpleType.OctetString
 sysServices	1.3.6.1.2.1.1.7	72	Dart.Snmp.SimpleType.Integer
 sysORLastChange	1.3.6.1.2.1.1.8	0	Dart.Snmp.SimpleType.TimeTicks
 ifNumber	1.3.6.1.2.1.2.1	3	Dart.Snmp.SimpleType.Integer
 ipForwarding	1.3.6.1.2.1.4.1	2	Dart.Snmp.SimpleType.Integer
 ipDefaultTTL	1.3.6.1.2.1.4.2	64	Dart.Snmp.SimpleType.Integer
 ipInReceives	1.3.6.1.2.1.4.3	250886	Dart.Snmp.SimpleType.Counter
 ipInHdrErrors	1.3.6.1.2.1.4.4	0	Dart.Snmp.SimpleType.Counter
 ipInAddrErrors	1.3.6.1.2.1.4.5	14	Dart.Snmp.SimpleType.Counter

Details

Name: sysDescr
OID: 1.3.6.1.2.1.1.1
Value: Brother NC-8100w, Firmware Ver: 1.02 (13.03.07),MID 84E-401
Module: RFC1213-MIB
Usage: Object
Type: Dart.Snmp.SimpleType.OctetString
Syntax: OctetString (SIZE (0..255))
Display-Hint: 255a
Access: ReadOnly
Status: Mandatory
Description: A textual description of the entity. This value should include the full name and version identification of the system's hardware type, software operating-system, and networking software. It is mandatory that this only contain printable ASCII characters.

Close

Fig. 5. SNMP responses.

EBO Workstation SNMP data presentation

EBO workstation can receive SNMP data from agents through BIMdance SNMP SmartConnector.

























	sysContact	1.3.6.1.2.1.1.4	10.0.0.106_1.3.6.1.2.1.1.4	string	Ilya Likhopavlov YAHOO	Good
	sysDescr	1.3.6.1.2.1.1.1	10.0.0.106_1.3.6.1.2.1.1.1	string	Hardware: Intel64 Family 6 Model 60 Stepping 3 AT/AT COMPAT...	Good
	sysLocation	1.3.6.1.2.1.1.6	10.0.0.106_1.3.6.1.2.1.1.6	string	Home PC	Good
	sysName	1.3.6.1.2.1.1.5	10.0.0.106_1.3.6.1.2.1.1.5	string	DESKTOP-36PSEBF	Good
	sysObjectID	1.3.6.1.2.1.1.2	10.0.0.106_1.3.6.1.2.1.1.2	string	1.3.6.1.4.1.311.1.1.3.1.1	Good
	sysServices	1.3.6.1.2.1.1.7	10.0.0.106_1.3.6.1.2.1.1.7	long	76	Good
	sysUpTime	1.3.6.1.2.1.1.3	10.0.0.106_1.3.6.1.2.1.1.3	long	53 172 139	Good
	tcpActiveOpens	1.3.6.1.2.1.6.5	10.0.0.106_1.3.6.1.2.1.6.5	long	9 358	Good
	tcpAttemptFails	1.3.6.1.2.1.6.7	10.0.0.106_1.3.6.1.2.1.6.7	long	76	Good
	tcpEstabResets	1.3.6.1.2.1.6.8	10.0.0.106_1.3.6.1.2.1.6.8	long	1 826	Good
	tcpInErrs	1.3.6.1.2.1.6.14	10.0.0.106_1.3.6.1.2.1.6.14	long	0	Good
	tcpInSegs	1.3.6.1.2.1.6.10	10.0.0.106_1.3.6.1.2.1.6.10	long	1 652 951	Good
	tcpMaxConn	1.3.6.1.2.1.6.4	10.0.0.106_1.3.6.1.2.1.6.4	long	-1	Good
	tcpOutRsts	1.3.6.1.2.1.6.15	10.0.0.106_1.3.6.1.2.1.6.15	long	6 001	Good
	tcpOutSegs	1.3.6.1.2.1.6.11	10.0.0.106_1.3.6.1.2.1.6.11	long	1 828 911	Good
	tcpPassiveOpens	1.3.6.1.2.1.6.6	10.0.0.106_1.3.6.1.2.1.6.6	long	1 181	Good
	tcpRetransSegs	1.3.6.1.2.1.6.12	10.0.0.106_1.3.6.1.2.1.6.12	long	15 062	Good
	tcpRtoAlgorithm	1.3.6.1.2.1.6.1	10.0.0.106_1.3.6.1.2.1.6.1	long	3	Good
	tcpRtoMax	1.3.6.1.2.1.6.3	10.0.0.106_1.3.6.1.2.1.6.3	long	-1	Good
	tcpRtoMin	1.3.6.1.2.1.6.2	10.0.0.106_1.3.6.1.2.1.6.2	long	10	Good
	udpInDatagrams	1.3.6.1.2.1.7.1	10.0.0.106_1.3.6.1.2.1.7.1	long	5 258 752	Good
	udpInErrors	1.3.6.1.2.1.7.3	10.0.0.106_1.3.6.1.2.1.7.3	long	0	Error
	udpNoPorts	1.3.6.1.2.1.7.2	10.0.0.106_1.3.6.1.2.1.7.2	long	22 869	Good
	udpOutDatagrams	1.3.6.1.2.1.7.4	10.0.0.106_1.3.6.1.2.1.7.4	long	0	Error

Fig. 6. EcoStruxure Building Operation SNMP data receiving.

Software requirements

BIMdance SNMP SmartConnector tested on the following operating systems:

- Windows 7
- Windows 8.1 x64
- Windows 10 x64
- Windows 11 x64
- Windows Server 2008 x64
- Windows Server 2012 x64
- Windows Server 2016 x64
- Windows Server 2019 x64
- Windows Server 2022 x64

This software requires .NET framework 4.8, SmartConnector v2.5.4 or later, and EcoStruxure Building Operation v5.0 or later.

Ordering

Product Name: BIMdance SNMP SmartConnector

Art Number: bimdance-snm-001

Contacts

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