

SAEAUT SNMP OPC Server

Monitoring and control using SNMP protocol and
interfacing with other systems via OPC.

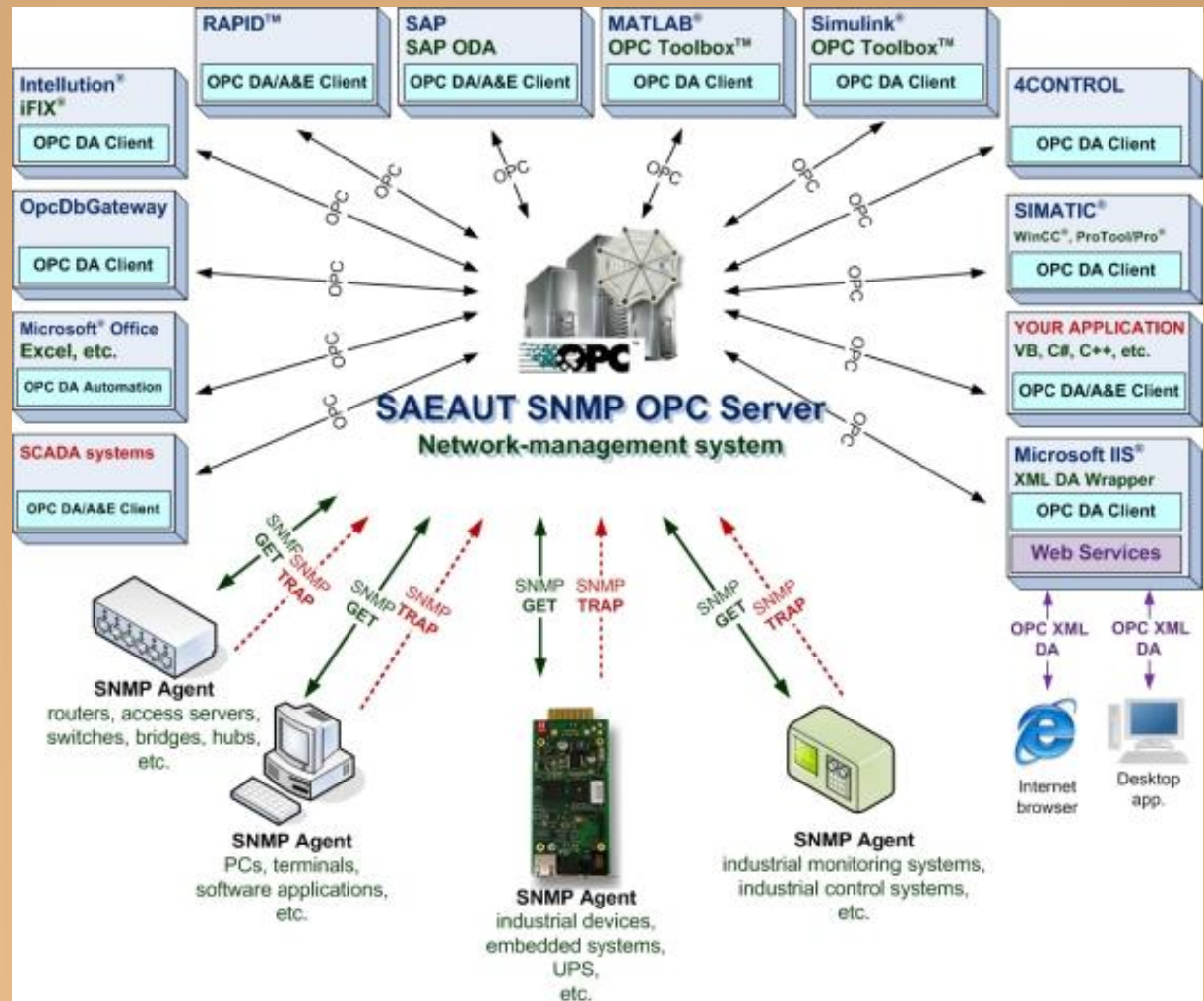


SAE – Automation, s.r.o., Nová Dubnica

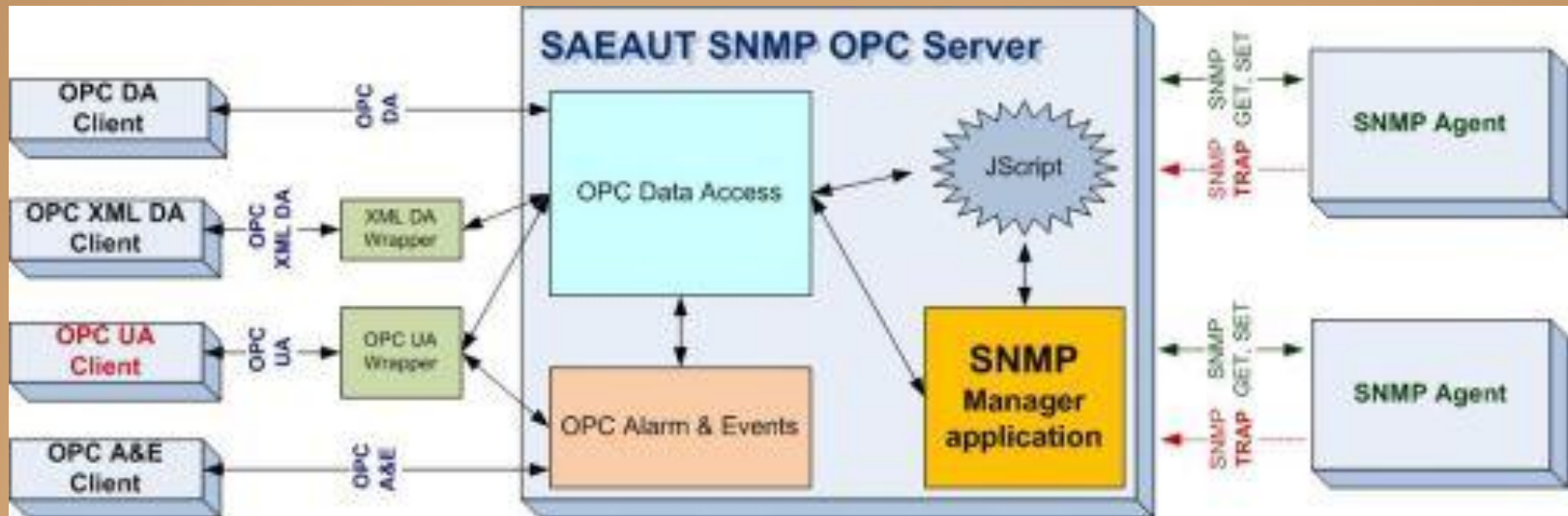
Interoperability for your equipment and software applications

SNMP-initially mainly for IT equipment, now also for I/O devices, UPS...

OPC - the most widely used standard for interoperability in the industry, utilities, building automation.



Usage

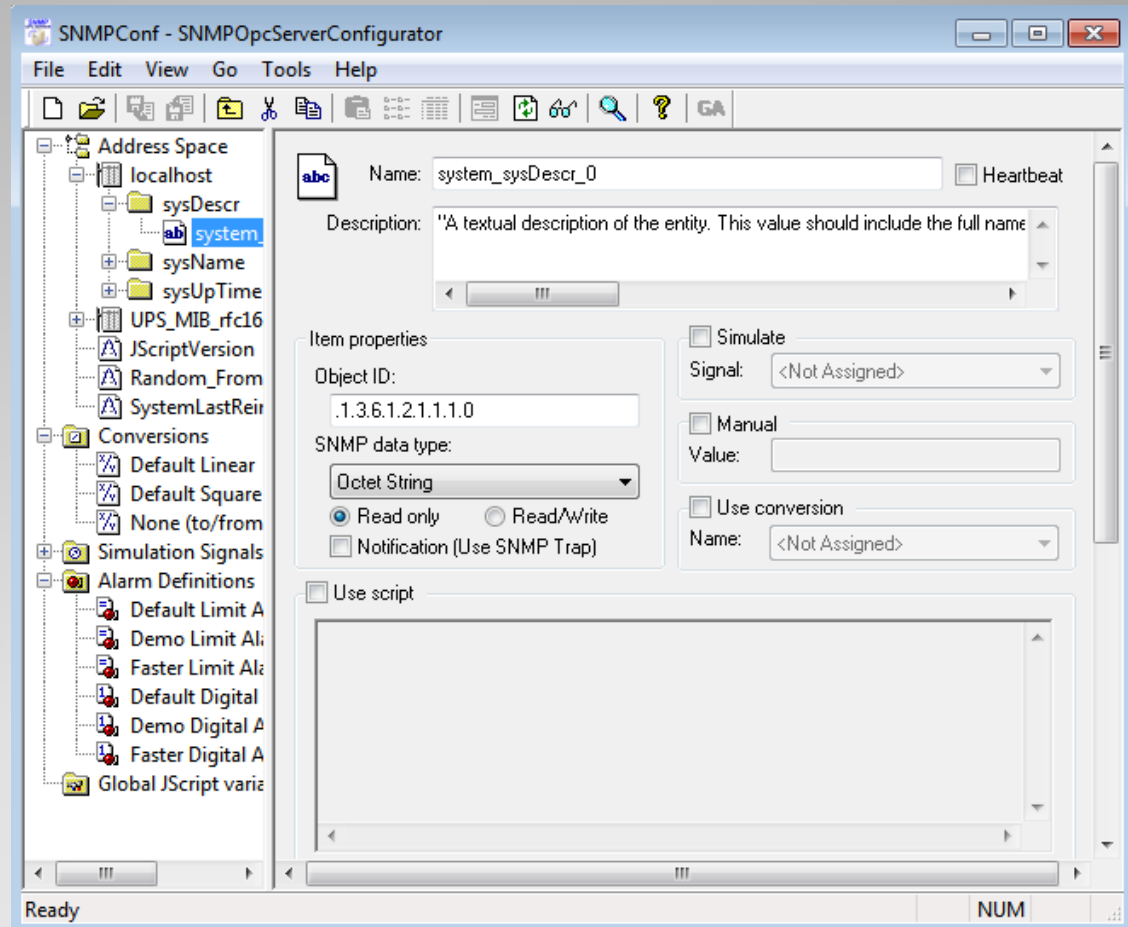


OPC server provides access to data in its address space for one or more OPC client applications

SNMP agents read / write variables on devices whose meaning and structure can be described in MIB files, or send notifications of variables changes.

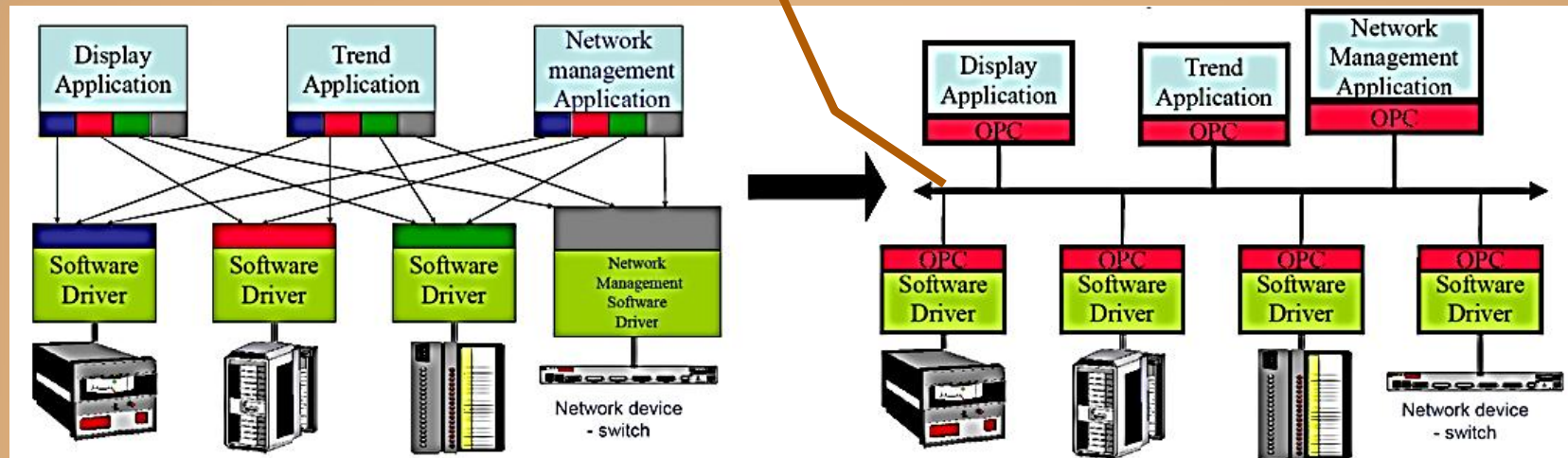
How does this work

Mapping of SNMP MIB variables to the address space of the OPC Server is performed using configuration application



Configurator of SAEAUT SNMP OPC Server

Creating a "software bus" by the **OPC** communication standards - reducing the number of drivers in collaborative communication equipment and software applications



Why OPC

- Trinity applications for Windows (2000 ... 8), Windows Server:
 - **Configuration application** (with user interface) - Setting the address space of the OPC server - ie. variables whose values are to be transferred and the method of processing
 - **Runtime application** (without user interface) - OPC server, which can be started either by an OPC client, or run as a Windows NT Service
 - **SAEAUT OPC WebView** - ASP.NET web application - access to variables in the address space of the OPC server via Internet through remote computer or smart phone
- **Examples** of OPC client applications, sample MIB and CSV files, demo configuration - test for obtaining a first experience, application SAEAUT SNMP OPC Agent usable for testing
- **3 product packages**– Basic, Enhanced, Professional

What is in product

- from the SNMP perspective it is **Network Management System**
- implemented protocols **SNMPv2c** and **SNMPv1**
- implemented specifications: **OPC DA (Data Access) 3.0, 2.05, 1.0** a **OPC AE (Alarm and Events) 1.10**
- **OPC UA 1.01** wrapper - access to data from SAEAUT SNMP OPC server with the latest OPC standard **OPC Unified Architecture (UA)** - TCP IP transmission of binary data - **fast communication**, Web services - **high interoperability**
- **OPC XML-DA 1.01** wrapper - communication with SNMP OPC Server via **Web Services**

**SAEAUT SNMP OPC Server -
Features 1/4**

- **Management and monitoring** of an unlimited number of devices that have embedded **SNMP agent**.
- The configuration can be created with a **user-friendly configuration software**.
- The installation package includes a sample of simple immediately a running DEMO configuration.
- Allows you to define variables using the object identifier (**OID**) of the **MIB file**, for example.:
.1.3.6.1.4.1.2681.1.2.102.
- Supports standard SNMP commands **GET, SET, TRAP**.
- **MIB Browser (On-line)** - reading out the list of available SNMP variables from **connected** SNMP devices
- **MIB Browser (Off-line)** - reading out a list of MIB variables from **MIB file** (to prepare configuration without connected devices)

SAEAUT SNMP OPC Server - Features 2/4

- Preprocessing data via **JScript**
- **IP Scanner** - search for available devices in a computer network
- receive **SNMP TRAP** - notifications from SNMP agents on devices
- event logging
- „**Heart beat**“- function for monitoring devices without SNMP agent - display response times through OPC items

**SAEAUT SNMP OPC Server -
Features 3/4**

- **search** strings in the current configuration and quick transition to the place of occurrence
- **OPC client examples** with source code in **C#, NET, VB. NET, VB6**
- obtaining information about unmanaged network devices via standard ICMP **Ping** command
- import from **CSV files** – reading of OID and other information
- It can run as a **Windows NT service**
- **SAEAUT SNMP Agent** **can be installed** on a few computers to test extensive configurations

SAEAUT SNMP OPC Server - Features 4/4

- **Standard data views** from the address space of the OPC Server via Internet / intranet in the form of:
 - **Tree view** + read / write selected variable
 - **List** of all variables – variables that can not be updated are marked by red color
- **There is no additional configuring required** for these standard views - using the automatic search of the address space of the OPC server
- **Upgradeable to visualization applications** with graphical views of the data

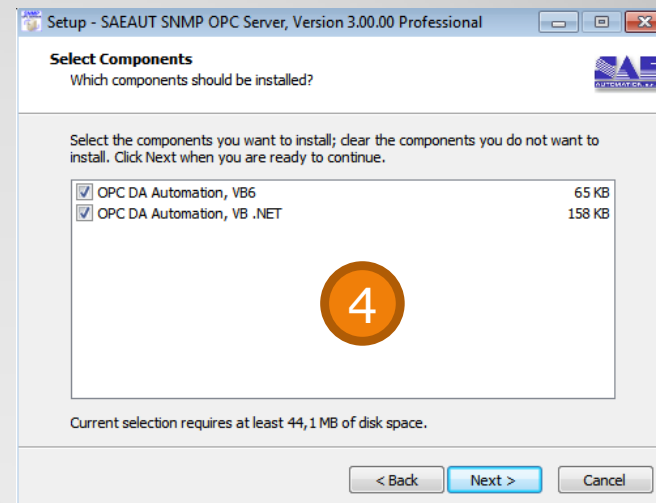
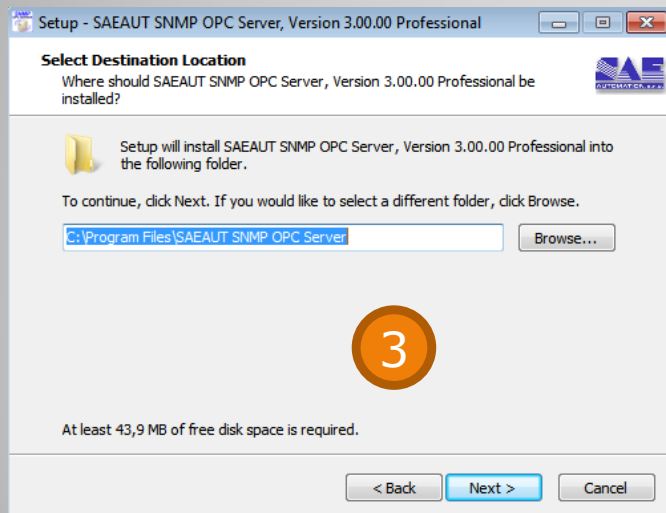
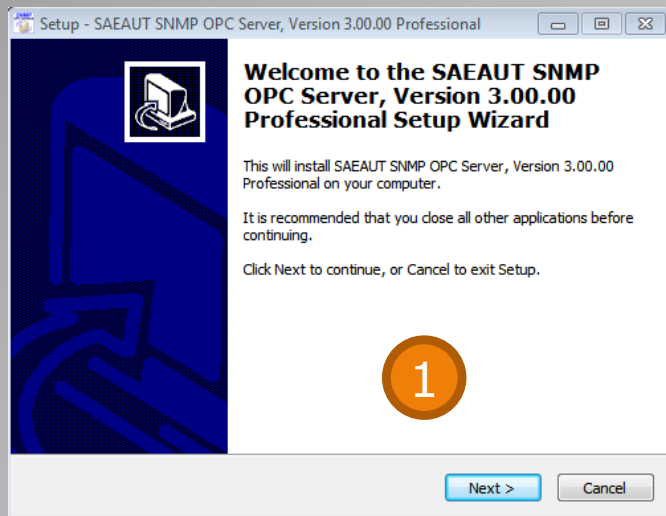
SAEAUT OPC WebView - Features



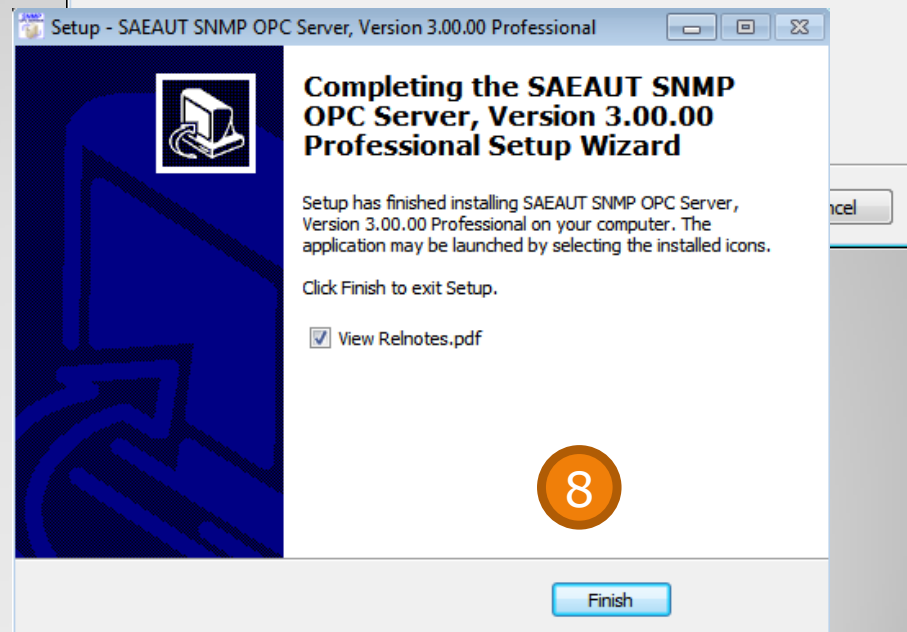
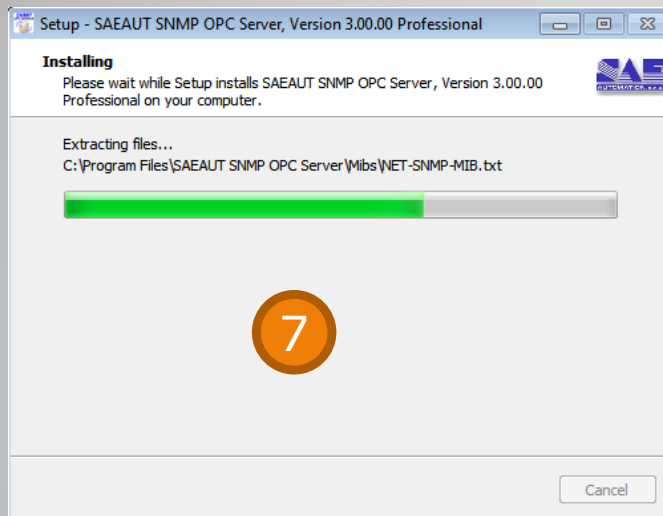
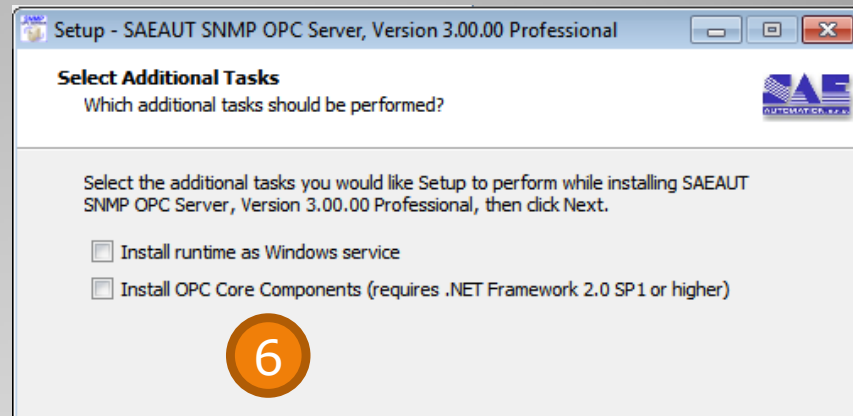
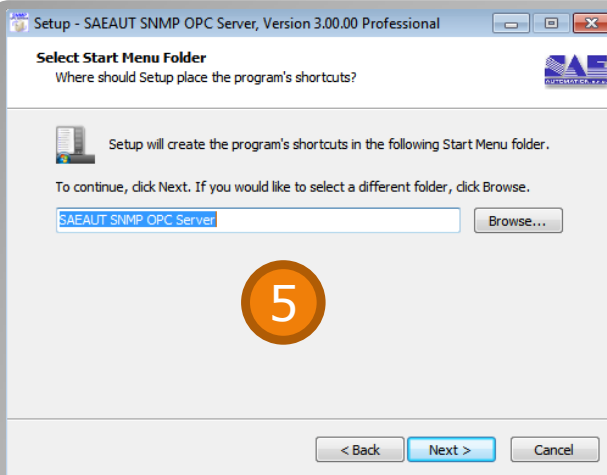
First steps

- **Preparation and activation of SNMP service** on local computer - it enables to test the functionality of SNMP OPC Server without a connected device
- **Start of configurator** - automatically opens the demo configuration
- **Start of OPC client** in configurator
- **Viewing** MIB variables from a local computer and JScript variables
- **Installation of SAEAUT SNMP OPC WebView** – data access via the Internet / intranet

First steps



Installation 1/2

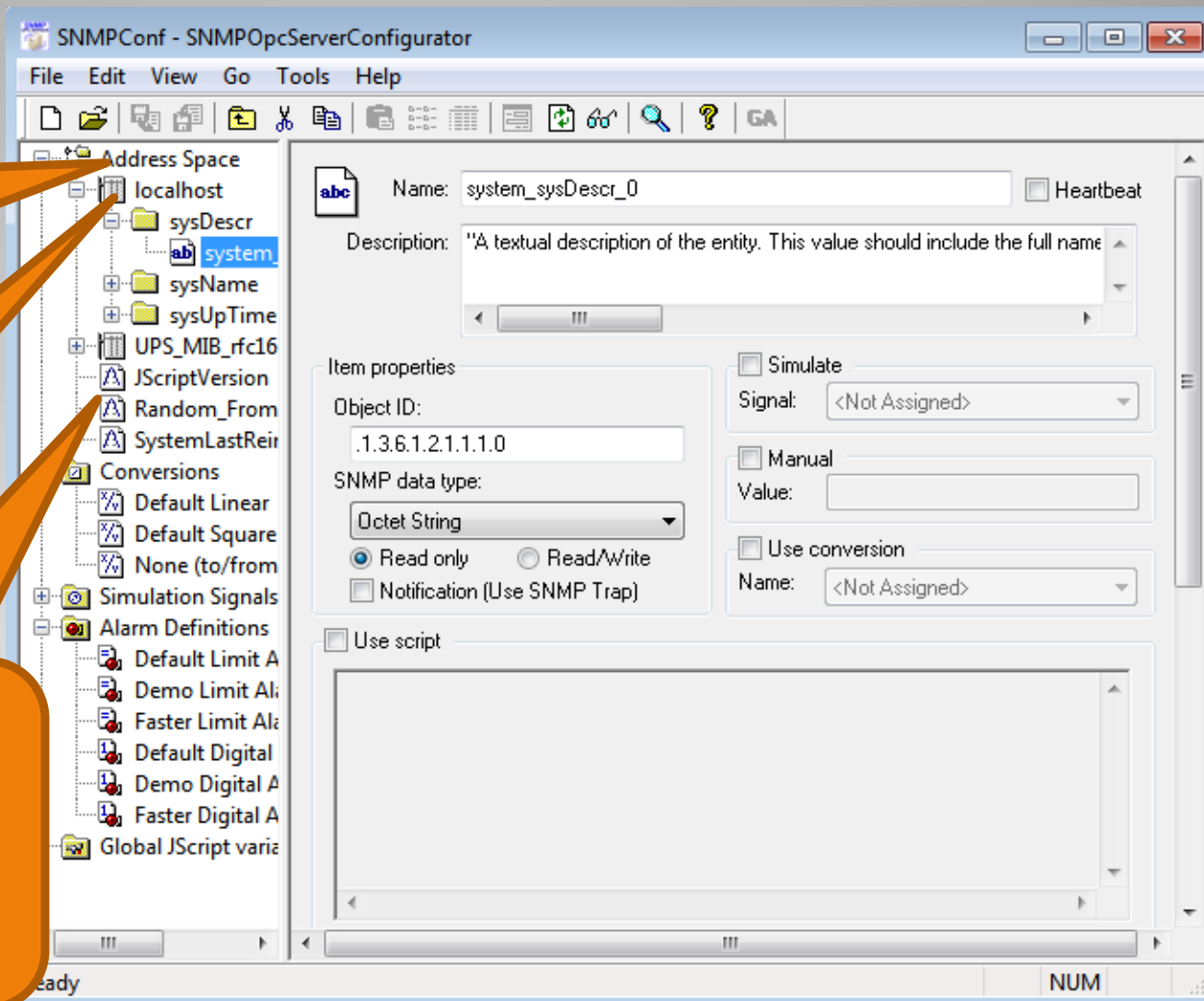


Installation 2/2

The tree structure of the address space

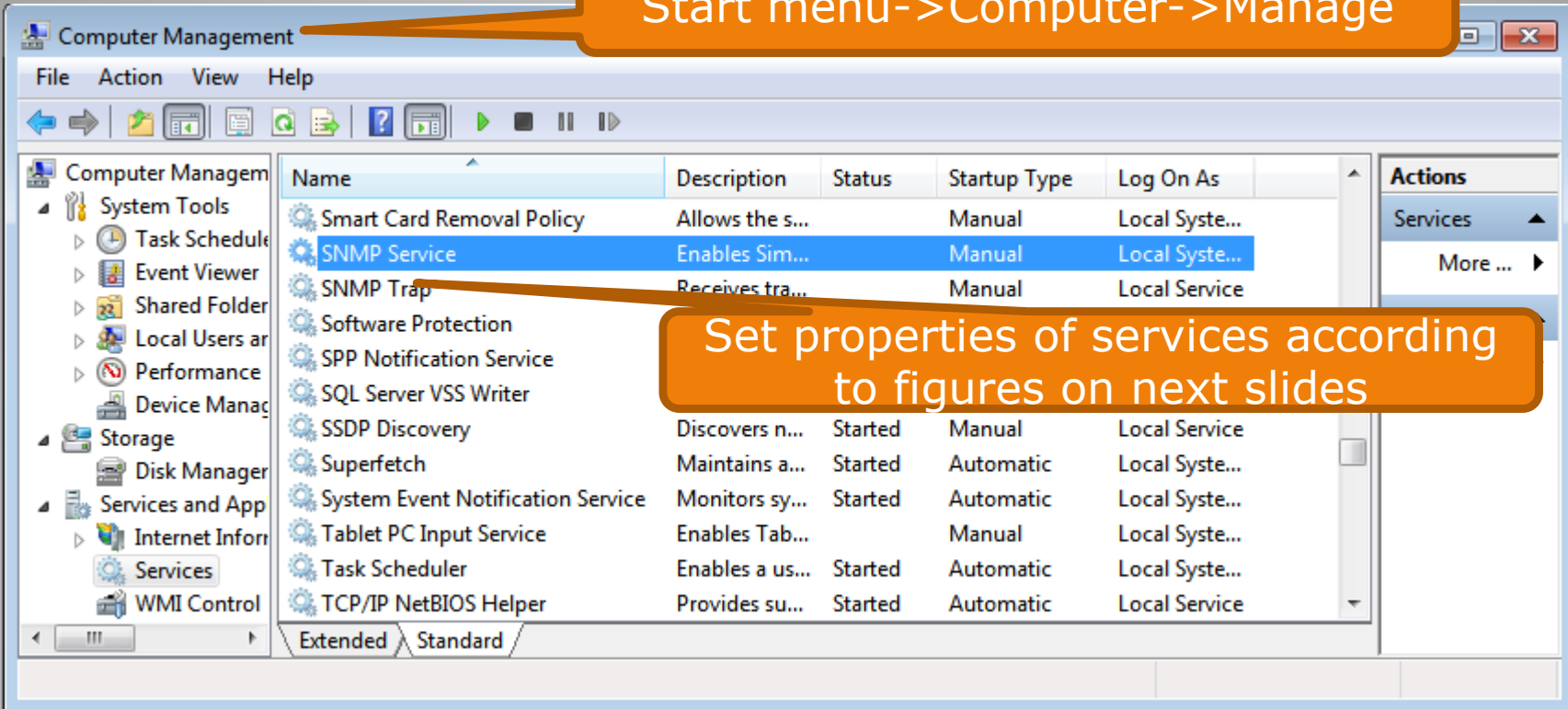
MIB variables on local computer

Variables - the result of the calculation programmed in JScript



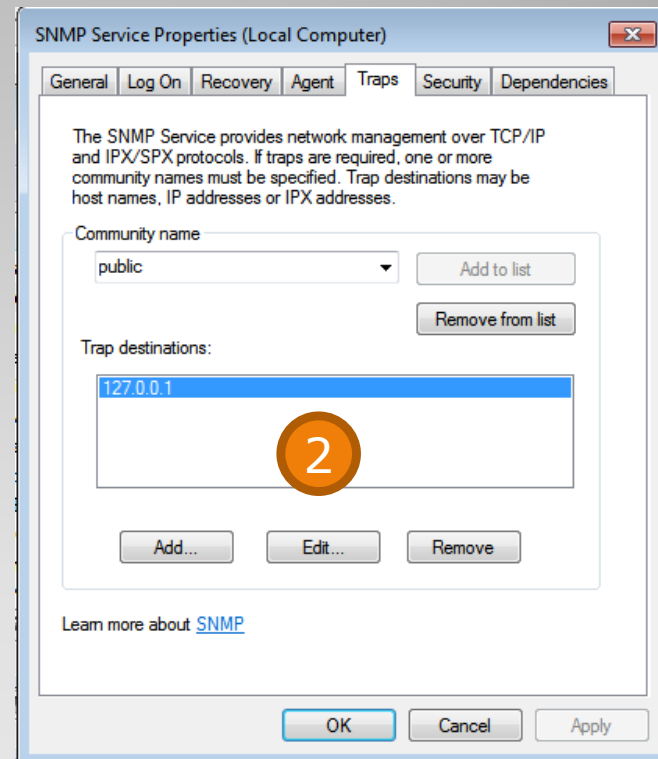
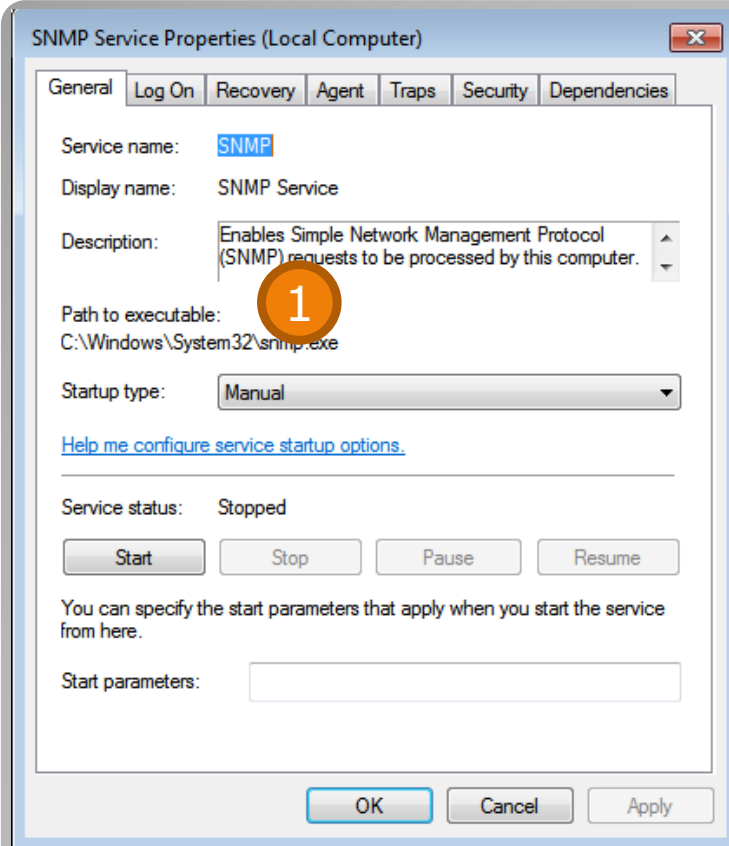
Demo configuration

Start menu->Computer->Manage



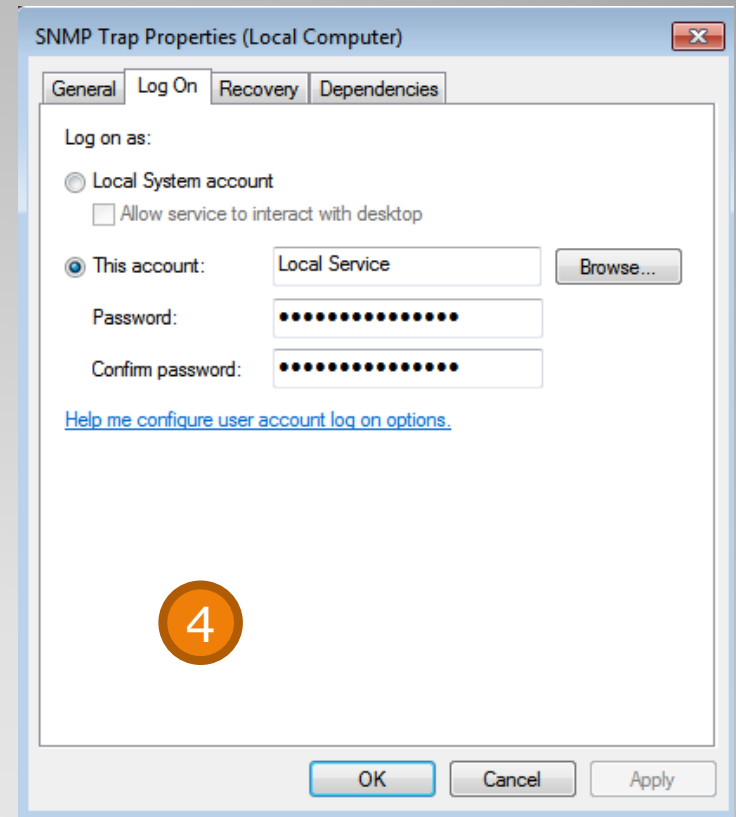
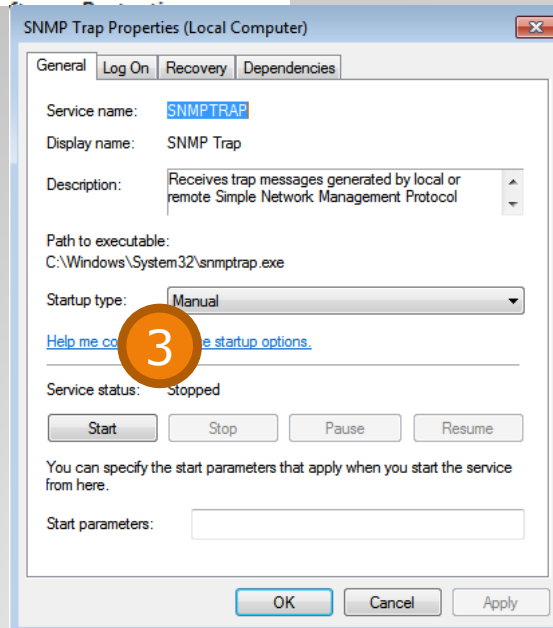
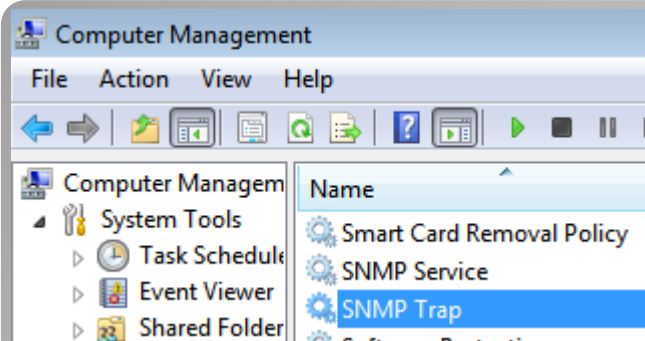
Setting of SNMP service and SNMP Trap service on a local computer

1/3



Setting of SNMP service and SNMP Trap service on a local computer

2/3



**Setting of SNMP service and SNMP
Trap service on a local computer**
3/3

The screenshot shows the SNMPConf application window. On the left is a tree view of the MIB hierarchy, with 'sysDescr' selected under 'localhost'. The main pane displays a table of object information. A status bar at the bottom indicates 'Ready' and '1 Object(s)'. Three orange callout boxes provide context: one points to the 'sysDescr' folder, another to the 'Start' button in the toolbar, and a third to the data table.

OPC client accesses variables from activated directory

Start OPC client built-in configurator

View of the variable in the OPC client of the configurator

Object ID	Data Type	Access Rig...	Use trap	Description	
system_sysDescr_0	.1.3.6.1.2.1....	Octet String	Read only	No	"A textual d

Item ID	Name	Timestamp	Quality	Subquality
localhost.sysDescr.system_sysDescr_0	"Hardware: x86 Family...	10/25/12 18:14:17.830	Good	Non-specific

Ready 1 Object(s) NUM

Monitoring local MIB variables using the OPC client in configurator

1

Welcome to the SAEAUT SNMP OPC Server WebView Setup Wizard

The installer will guide you through the steps required to install SAEAUT SNMP OPC Server WebView on your computer.

2

Select Installation Address

The installer will install SAEAUT SNMP OPC Server WebView to the following web location.

To install to this web location, click "Next". To install to a different web location, enter it below.

Site:
Default Web Site

Virtual directory:
WebView

Application Pool:
ASP.NET v4.0

3

Confirm Installation

The installer is ready to install SAEAUT SNMP OPC Server WebView on your computer.

Click "Next" to start the installation.

4

Installation Complete

SAEAUT SNMP OPC Server WebView has been successfully installed.

Click "Close" to exit.

Please use Windows Update to install updates to the .NET Framework.

Start by click on Browse

installed on MS IIS

Installation SAEAUT OPC WebView



<http://localhost/WebView/default.aspx>

SAEAUT OPC WebVIEW

Tree view List view

Item name	Item value
localhost.sysDescr.system_sysDescr_0	Hardware: x86 Family 15 Model 31 Stepping 0 AT COMPATIBLE - Software Windows Version 6.1 (Build 7601 Multiprocessor Free)
localhost.sysName.system_sysName_0	SAE32.SAEAUTOM2
localhost.sysUpTime.system_sysUpTime_0	8459
UPS_MIB_rfc1628.upsMIB.upsConformance.upsCompliances.upsCompliances_upsBasicCompliance	
UPS_MIB_rfc1628.upsMIB.upsConformance.upsCompliances.upsCompliances_upsFullCompliance	
UPS_MIB_rfc1628.upsMIB.upsConformance.upsCompliances.upsCompliances_upsSubsetCompliance	
UPS_MIB_rfc1628.upsMIB.upsConformance.upsGroups.upsBasicGroups.upsBasicGroups_upsBasicAlarmGroup	
UPS_MIB_rfc1628.upsMIB.upsConformance.upsGroups.upsBasicGroups.upsBasicGroups_upsBasicBatteryGroup	
UPS_MIB_rfc1628.upsMIB.upsConformance.upsGroups.upsBasicGroups.upsBasicGroups_upsBasicBypassGroup	
UPS_MIB_rfc1628.upsMIB.upsConformance.upsGroups.upsBasicGroups.upsBasicGroups_upsBasicConfigGroup	
UPS_MIB_rfc1628.upsMIB.upsConformance.upsGroups.upsBasicGroups.upsBasicGroups_upsBasicControlGroup	
UPS_MIB_rfc1628.upsMIB.upsConformance.upsGroups.upsBasicGroups.upsBasicGroups_upsBasicIdentGroup	

http://localhost/WebView/opc_list_view.aspx

SAEAUT SNMP OPC WebVIEW – standard display of data from the address space of the OPC server

- [More information](#)
- SAEAUT [SNMP OPC Server ver. 2.0.12](#) certified in [OPC Foundation Test Labs](#)
- New versions are tested by using software tools from OPC Foundation
- SAE – Automation is [OPC Foundation](#) corporate member
- [White papers](#) and [news](#)
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Information, Certificates