

AdventNet Agent Toolkit C Edition - SNMP Agent Datasheet



Rapid prototyping and development tool for building SNMP agents, TL1 agents, and CLI agents in ANSI C

Overview

AdventNet Agent Toolkit C Edition is a rapid application development platform to generate standalone SNMP agents. It offers end-to-end development solutions to compile, test, and develop SNMP v1, SNMP v2c, SNMP v3 with VACM authorization, and SNMP v3 with USM authorization. SNMP agent developers can increase productivity with easy-to-use GUIs for configurations, such as master agent - subagent and SNMP proxy configuration. AdventNet Agent Toolkit C Edition offers complete development experience in building SNMP v1, SNMP v2c, and SNMP v3 agents.

AdventNet Agent Toolkit C Edition's generated source files are ported and tested in leading operating systems, such as Windows 95, 98, 2000, XP, and NT, Solaris, Linux, Unix, Free BSD, Net BSD, HP-Unix, and OS-2. The developed SNMP agents are fully supported in embedded operating systems, such as VxWorks, QNX Nutrino, Windows CE, and OSE. Agent source files can also be easily ported to other new operating systems.

Key Features

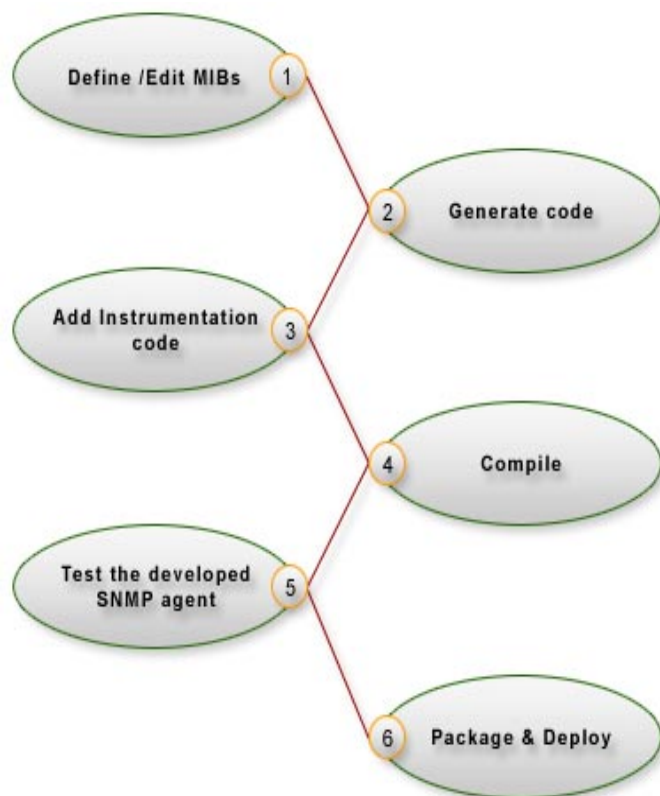
- Complete SNMPv1, SNMPv2c, and SNMPv3 support.
- Highly scalable master agent - subagent architecture to handle distributed management environment.
- Support for traps, notifications, and informs.
- Authentication support for data security in networks and systems.
- USM, VACM, co-existence, and notification filtering mechanism support in SNMPv3.
- Atomicity or rollback support while processing multi-varbind SNMP SET requests.
- Transport provider framework.
- Heart Beat mechanism between master and subagent with subagent LinkUp/ LinkDown trap support.
- Trap forwarding and trap filtering in master agent.
- SNMPv3 Admin tool for manipulating USM and VACM tables at runtime.
- IPv6 addressing support in addition to IPv4

Developer Benefits

- End-to-End tools enable complete agent development
- Intuitive visual MIB Editor to create and edit SNMP MIBs.
- MIB Compiler (Agent Compiler) to generate and compile the code to build an agent.
- Incremental agent development support through the concept of project workspace.
- Complete testing of developed SNMP agent using MIB Browser.
- Value added services, such as persistence, logging, and database storage.

SNMP Agent Developer Experience

AdventNet Agent Toolkit C Edition offers a productive six-step agent development experience for standalone SNMP v1, SNMP v2c, and SNMP v3 agents.

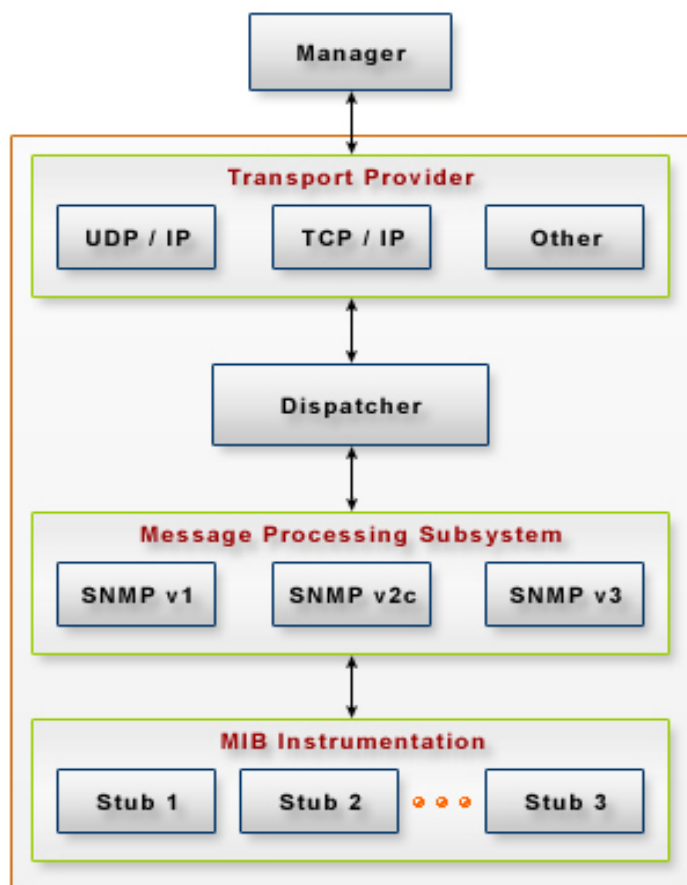


AdventNet Agent Toolkit C Edition : Developer Experience

- 1 Define / Edit MIBs:** MIB Editor offers user-friendly GUIs to define and edit MIBs, design the data layout, and data types conforming to ASN.1 syntax.
- 2 Generate Source Code:** The defined MIBs can be loaded into the Agent Compiler to generate code that offers the basic SNMP agent framework.
- 3 Add Desired Instrumentation:** Once the basic framework is ready, developers can add their necessary instrumentation to meet their specific requirements.
- 4 Compiling the Generated Source:** The generated SNMP agent framework and specific instrumentation code needs to be compiled to generate the SNMP agent with desired functionality.
- 5 Test the Developed SNMP Agent:** The developed agent needs to be queried and tested using MIB Browser.
- 6 Package and Deploy:** The developed SNMP agent is ready to be packaged and deployed in the target environment.

SNMP Agent Runtime Architecture

AdventNet SNMP agent runtime architecture is standards based and open architecture offering you advantage of standard communication for integration. The architecture components and functions are explained below:



Standalone SNMP Agent Components

- **Transport Provider:** It facilitates the communication between the manager and the agent. SNMP messages require transport protocol for their transmission. AdventNet SNMP agent supports UDP/IP and TCP/IP as the transport protocol.
- **Security:** This module ensures the authenticity of the received request before dispatching it for further processing. Unauthenticated requests are dropped.
- **Message Processing Unit:** It undertakes the responsibility of extracting data from received messages and processing them. It determines the appropriate agent stub capable of handling the query. Finally, the output received from the agent stub is packaged as a response message and sent back.
- **Agent Stubs:** It contains the management information exposed by the agent about the application or device. Instrumentation of the agent stub enables communication between the agent and the application/device being managed. The information retrieved from the application/device is forwarded to the message processing unit.

Supported SNMP Standards

SNMP Version	RFC Number	Description
SNMP Version 1	RFC 1155	Structure and Identification of Management for TCP/IP-based Internets.
	RFC 1157	Simple Network Management Protocol.
	RFC 1213	MIB II Implementation for Linux and VxWorks.
	RFC 1215	Convention for defining traps for use with the SNMP
SNMP Version 2	RFC 1901	Introduction to Community-based SNMPv2.
	RFC 1907	MIB for SNMPv2.
SNMP Version 3	RFC 3411	SNMP Framework MIB
	RFC 3412	SNMP Message Processing and Dispatching (MPD)
	RFC 3413	SNMP Target MIB and SNMP Notification MIB
	RFC 3414	SNMP User-Based Security Model (VACM) MIB.
	RFC 3415	SNMP View-Based Access Control Model (VACM) MIB.
	RFC 3584	SNMP Co-existence between Version 1, Version 2 and Version 3 MIB.

System Requirements	
Hardware Requirements	
Processor Speed	256 MHz or higher
Memory	128 MB RAM or higher
Hard Drive Space	100 MB
Software Requirements	
Supported Platforms	Windows 95/98/NT/2000/XP, Linux, Solaris or any OS that provides JVM support.
Java Version	1.4.0 & above.
C / C++ Compiler	Microsoft Visual C++ 4.0 onwards or Borland C++ 4.0 onwards for Windows. GNU C / C++ compiler (any version) for UNIX platform.

Runtime Agent Specifications	
Ported OS/RTOS	Windows 95, 98, 2000, XP, and NT, Solaris, Linux, Unix, Free BSD, NetBSD, HP-Unix, OS-2, VxWorks, QNX Nutrino, Windows CE, and OSE
Footprint	61 KB. SNMP agent with v1/v2 enabled, v3 security disabled, single thread enabled, developed in Linux 9.0, without the MIBs, debug, and warning information, and other optimization options enabled.



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