

WebNMS Agent Toolkit C Edition – CLI Agent Datasheet

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

Overview

WebNMS Agent Toolkit C Edition is a rapid application development platform to generate standalone Command Line Interface (CLI) agents. It offers end-to-end development solutions to compile, test, and develop CLI agents in two different modes: String mode and Character mode. CLI agent developers can increase productivity with easy-to-use GUIs for configurations of communication protocol settings, including the port numbers, maximum number of connections (sessions), keep alive timeout, command buffer size, and prompt. WebNMS Agent Toolkit C Edition offers complete development experience in building CLI agents.

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

Key Features

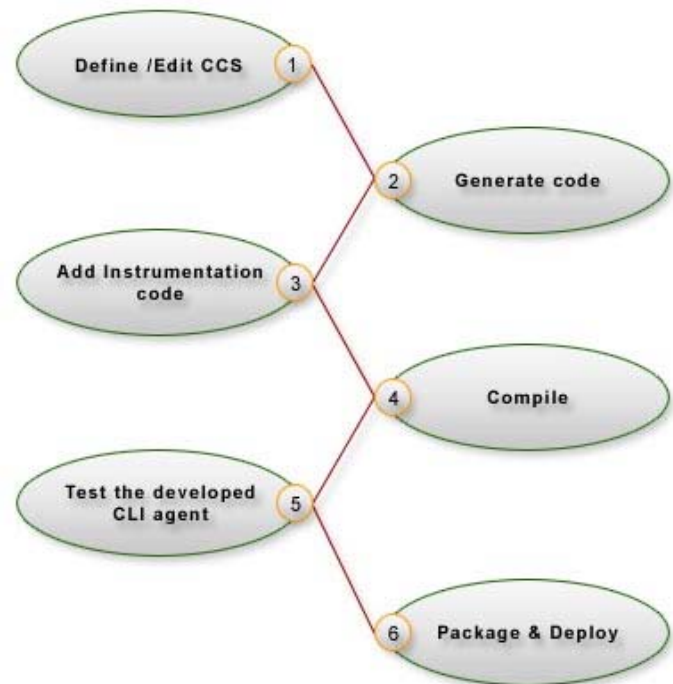
- Standalone String mode and Character mode agents.
- Multi-protocol agent (string mode only).
- Role Based security
- Customize response message.
- Communication through Telnet, TCP, Craft, SSH and Serial Interfaces.
- Session API Framework to plug-in user protocol for communication.
- Self-Monitoring support to monitor the Agent details like the number of requests received and number of responses sent.
- Multiple CLI Command Set (CCS) and selected nodes' code generation.
- Complete help with syntax, options, examples, etc.
- Built-in commands, which help users, configure the CLI agent with much ease.
- Wild card support (Press '?' key for the agent to list the matching commands).
- Agent handles more than one request at a time in multi-threaded platform.
- Logging support for CLI Security module
- IPv6 addressing support in addition to IPv4

Developer Benefits

- End-to-End tools enable complete agent development cycle to reduce time-to-market..
- Intuitive visual CLI Editor to create and edit CCS files.
- CLI 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 CLI agent using CLI Browser.
- Value added services like Command Usage, Command Line Editing, Command History, and Command Completion.

CLI Agent Developer Experience

WebNMS Agent Toolkit C Edition offers a productive six-step agent development experience for standalone CLI agents.

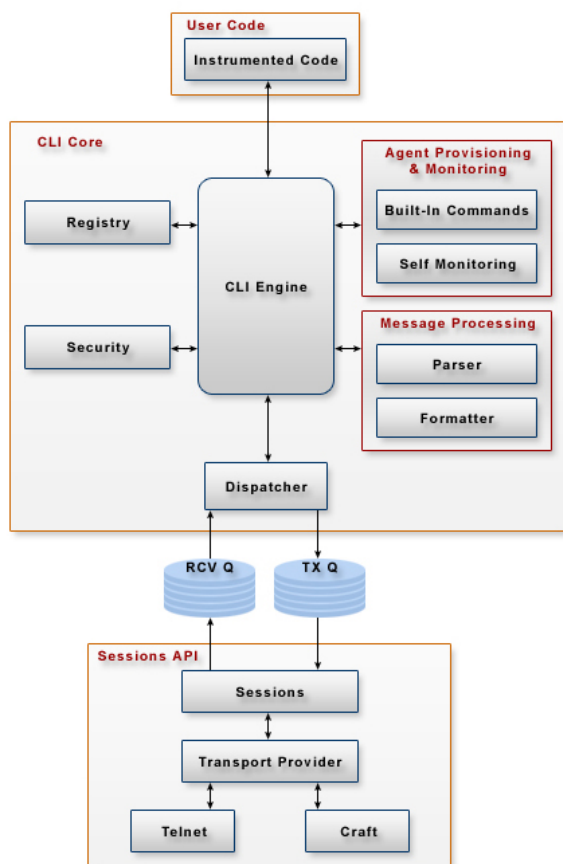


WebNMS Agent Toolkit C Edition : Developer Experience

- 1 Define / Edit CCS:** CLI Editor offers user-friendly GUIs to define and edit CCSs (string mode and character mode), design the command syntax and attributes. The CCS file is stored in XML format.
- 2 Generate Source Code:** The defined CCSs can be loaded into the Agent Compiler to generate code that offers the basic CLI 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 CLI agent framework and specific instrumentation code need to be compiled to generate the CLI agent with desired functionality.
- 5 Test the Developed CLI Agent:** The developed agent needs to be queried and tested using CLI Browser.
- 6 Package and Deploy:** The developed CLI agent is ready to be packaged and deployed in the target environment.

CLI Agent Runtime Architecture

WebNMS CLI 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:



Supported CLI Standards

Standard	Description
RFC 854	Telnet Protocol Specifications
RFC 855	Telnet Optional Specifications

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 Vista/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 Vista, 2000, XP, and NT, Solaris, Linux, Unix, Free BSD, NetBSD, HP-Unix, OS-2, VxWorks, QNX Nutrino, Windows CE, and OSE
Footprint	68 KB. String Mode CLI agent with security disabled, single thread enabled, and TCP/IP, Telnet interface enabled developed in Linux 9.0, without the CCS, debug, and warning information, and other optimization options enabled.

Standalone CLI Agent Components

- **Session:** The Session Module comprises the components, such as session (establishes connection), Transport Provider Interface (communicates between agent and manager), Craft Interface (receives input messages), and Telnet Interface (manages the agent remotely).
- **CLI Core:** This comprises CLI Engine (Core of CLI agent, which receives input messages, parses them and sends output messages), dispatcher (dispatches both input and response messages), Security, Built-in Commands (all commands already implemented in CLI agent), Self-Monitor (monitors the CLI agent), Parser, Formatter, Command Registry (used to register the instrumented code properties in the agent).
- **User Code:** This comprises the Instrumentation Module, which contains the agent instrumentation for a given CCS file.



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