IBM® Tivoli® Netcool/OMNIbus Simnet Probe 7.0

Reference Guide
August 22, 2014

SC27-2300-04

Note

Before using this information and the product it supports, read the information in Appendix A, “Notices and Trademarks,” on page 7.

Edition notice

This edition (SC27-2300-04) applies to version 7.0 of IBM Tivoli Netcool/OMNIbus Simnet Probe and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces SC23-2300-03.

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Use this information to track changes between versions of this guide.

The IBM Tivoli Netcool/OMNIbus Simnet Probe documentation is provided in softcopy format only. To obtain the most recent version, visit the IBM® Tivoli® Information Center:

http://publib.boulder.ibm.com/infocenter/tivihelp/v8r1/index.jsp?topic=/com.ibm.tivoli.nam.doc/welcome_ptsm.htm

Table 1. Document modification history

Document version	Publication date	Comments
SC27-2300-00	August 22, 2008	First IBM publication.
SC27-2300-01	December 31, 2008	Summary table updated. IPv6 support information added. FIPS information added. Installation section added.
SC27-2300-02	October 31, 2009	Guide updated to describe running the probe in UTF-8 mode on Windows. "Summary" on page 1 updated. "Unicode Transformation Format (UTF-8) mode on Windows" on page 3 added. "Properties and command line options" on page 4 updated. Description for the **-utf8enabled** command line option added.
SC27-2300-03	March 31, 2011	Installation section replaced by "Installing probes" on page 2.
SC27-2300-04	August 22, 2014	Note added to explain that the Simnet Probe is bundled with Netcool/OMNIbus V7.4.0 and V8.1.

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Chapter 1. Simnet Probe

The Simnet Probe allows for the automatic generation of incidents to simulate network events. The Simnet Probe is used extensively to test new automations and tools, and to generate events for demonstrations and within the training environment. The probe automatically generates events from a provided definition file. The probe runs on all Netcool/OMNIbus supported platforms. The Simnet Probe does not use either a device or an element manager.

Note : If you are running Netcool/OMNIbus V7.4.0 or V8.1, the Simnet Probe is bundled with the Netcool/OMNIbus package. If you are running Netcool/OMNIbus V7.3.0 or V7.3.1, the Simnet Probe must be downloaded from the Passport Advantage website.

This guide contains the following sections:

Summary

Each probe works in a different way to acquire event data from its source, and therefore has specific features, default values, and changeable properties. Use this summary information to learn about this probe.

The following table provides a summary of the Simnet Probe.

Table 2. Summary

Probe target	Network Simulator
Probe executable name	`nco_p_simnet (UNIX)` `nco_p_simnet.exe (Windows)`
Package version	7.0
Probe supported on	For details of supported operating systems, see the following Release Notice on the IBM Software Support Website: https://www-304.ibm.com/support/docview.wss?uid=swg21410574
Properties file	`$OMNIHOME/probes/arch/simnet.props` `%OMNIHOME%\probes\arch\simnet.props`
Rules file	`$OMNIHOME/probes/arch/simnet.rules` `%OMNIHOME%\probes\arch\simnet.rules`
Requirements	An event file to configure the simulator.

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Table 2. Summary (continued)	
Connection method	Random event generator
Remote connectivity	No
Multicultural support	Not Available
Peer-to-peer failover functionality	Available
IP environment	IPv4 and IPv6
Federal Information Processing Standards (FIPS)	IBM Tivoli Netcool/OMNIbus uses the FIPS 140-2 approved cryptographic provider: IBM Crypto for C (ICC) certificate 384 for cryptography. This certificate is listed on the NIST website at http://csrc.nist.gov/groups/STM/cmvp/documents/140-1/1401val2004.htm. For details about configuring Netcool/OMNIbus for FIPS 140-2 mode, see the *IBM Tivoli Netcool/OMNIbus Installation and Deployment Guide*.

Installing probes

All probes are installed in a similar way. The process involves downloading the appropriate installation package for your operating system, installing the appropriate files for the version of Netcool/OMNIbus that you are running, and configuring the probe to suit your environment.

The installation process consists of the following steps:

1. Downloading the installation package for the probe from the Passport Advantage Online website.

   Each probe has a single installation package for each operating system supported. For details about how to locate and download the installation package for your operating system, visit the following page on the IBM Tivoli Knowledge Center:

   http://www-01.ibm.com/support/knowledgecenter/SSSHTQ/omnibus/probes/all_probes/wip/reference/install_download_intro.html
2. Installing the probe using the installation package.

   The installation package contains the appropriate files for all supported versions of Netcool/OMNIbus. For details about how to install the probe to run with your version of Netcool/OMNIbus, visit the following page on the IBM Tivoli Knowledge Center:

   http://www-01.ibm.com/support/knowledgecenter/SSSHTQ/omnibus/probes/all_probes/wip/reference/install_install_intro.html
3. Configuring the probe.

   This guide contains details of the essential configuration required to run this probe. It combines topics that are common to all probes and topics that are peculiar to this probe. For details about additional configuration that is common to all probes, see the *IBM Tivoli Netcool/OMNIbus Probe and Gateway Guide*.

Data acquisition

Each probe uses a different method to acquire data. Which method the probe uses depends on the target system from which it receives data.

The Simnet Probe is a network simulator that creates events to forward into the Netcool/OMNIbus system. It is useful for checking connectivity and testing without reference to real probes and management platforms.

The probe reads an event file that contains a list of names of simulated machines and two integer parameters. These integer parameters control which type of device this name is simulating and the random behavior of the simulated device. The Simnet Probe cycles through the list of devices every second.

The Simnet Probe generates `Link Up`, `Link Down`, `Disk Space`, `Machine Reset`, and other simple events.

Data acquisition is described in the following topics:

- "Unicode Transformation Format (UTF-8) mode on Windows" on page 3

Unicode Transformation Format (UTF-8) mode on Windows

Unicode Transformation Format (UTF-8) encoding is a variable length character encoding for Unicode. It can represent any character in the Unicode standard.

If you are running the probe on a Windows machine and want to use UTF-8 mode, you must set the **-utf8enabled** command line option. This controls how the inputs to the probe (for example, the properties file, rules file, and event stream) are encoded and how the probe encodes its output (for example, log files and events). When **-utf8enabled** is set to TRUE, these inputs are UTF8 encoded.

Note : This command line option is only used by the Windows version of this probe.

Event file format

Event file format instructs the probe on the type of event that the probe simulates and the percentage of simulation.

The event file format is as follows:

```
vmachine vtype vbias
```

Where `vmachine` is the name of the simulated machine, and `vtype` and `vbias` take values as described in the following table.

Table 3. Event file format

vtype	Type of event	How vbias is used
0	The probe simulates a device sending a Link Down followed by (after some time interval) a Link Up.	The `vbias` specifies the percentage probability of the device changing state from up to down, or down to up.
1	The probe simulates a system which goes online or offline with a short reboot time.	The `vbias` specifies the percentage probability of the machine going offline.
2	The probe simulates a system whose disks are filling and emptying. Events are generated when this value goes over 75% and higher severity events are generated when this value goes over 95%.	The `vbias` specifies the percentage by which the simulated disk space changes during each cycle; for example, if you specify 5, the simulated disk space will be randomly consumed or freed by 5 percent during each cycle.
3	The probe simulates a device with resetting ports. An event is generated with the port number of the port that was reset.	The `vbias` specifies the percentage probability of any one of 8 ports on the device resetting.
4 and above	The probe simulates an unknown event; will currently generate an event every second.	Not used; specify 0 in the EventFile.

Properties and command line options

You use properties to specify how the probe interacts with the device. You can override the default values by using the properties file or the command line options.

The following table describes the properties and command line options specific to this probe. For information about default properties and command line options, see the *IBM Tivoli Netcool/OMNIbus Probe and Gateway Guide,* (SC23-6373).

Table 4. Properties and command line options

Property name	Command line option	Description
LogFile *string*	`-logfile` *string*	Use this property to specify the path to the file that contains the configuration information for the Simnet Probe. The default is `$OMNIHOME/probes/arch/simnet.def` on UNIX platforms and `%OMNIHOME%\probes\arch\simnet.def` on Windows platforms.
TimeBetweenEvents *string*	`-timebetweenevents` *string*	Use this property to specify the time (in milliseconds) that the simulator waits between generating consecutive events. The default is `1000`.
N/A	`-utf8enabled` *string*	Use this command line option to control the encoding of data that is passed into, or generated by, the Windows version of the probe . Set this command line option to TRUE to run the probe in UTF-8 mode. The default is FALSE (which instructs the probe to use the default system code page).

Elements

The probe breaks event data down into tokens and parses them into elements. Elements are used to assign values to ObjectServer fields; the field values contain the event details in a form that the ObjectServer understands.

Static and dynamic elements are described in the following topics:

- "Static elements" on page 4
- "Dynamic elements" on page 5

Static elements

The probe generates the same set of static elements for each event it receives.

The following table describes the elements that the Simnet Probe generates. Not all the elements described are generated for each event; the static elements that the probe generates depends upon the event type.

Table 5. Static elements	
Element name	**Element description**
$Agent	This element shows the name of the simulated agent.
$DateString	This element contains the date at which the simulated event was generated.
$Group	This element displays the group name of the simulated node.
$Node	This element shows the name of the simulated node.
$ServiceLevel	This element contains the service level of the simulated event.
$Severity	This element indicates the severity of the simulated problem.
$Summary	This element contains the summary of the simulated problem.

Dynamic elements

The dynamic elements that the probe generates are entirely dependent on the devices monitored.

The following table describes the elements that the Simnet Probe generates. Not all the elements described are generated for each event; the dynamic elements that the probe generates depends upon the event type.

Table 6. Dynamic elements	
Element name	**Element description**
$PercentFull	This element shows the percentage of disk space used on the simulated device. This is generated when a disk space event is generated.
$PortNumber	This element indicates the port on the simulated device that has failed. This is generated when a port failure event is generated.

Error messages

Error messages provide information about problems that occur while running the probe. You can use the information that they contain to resolve such problems.

The following table describes the error messages specific to this probe. For information about generic error messages, see the *IBM Tivoli Netcool/OMNIbus Probe and Gateway Guide,* (SC23-6373).

Table 7. Error messages		
Error	**Description**	**Action**
Couldn't parse line	There is an error in the event file.	Check that the lines in the event file are formatted correctly.

Table 7. Error messages (continued)

Error	Description	Action
`Couldn't open event file`	The event file is not present.	Check that you have specified the correct path for the event file using the **LogFile** property.
`Line too long`	A line that appears in the event file is too long to be processed.	Check the format of the events in the event file.
`Insufficient memory`	There is not enough memory available to run the probe.	Make more memory available.
`No events defined`	There is a problem with the format of the event file.	Check that the events in the event file are of the correct type.
`Unexpected event type`	There is a problem with the format of the event file.	Check that the events in the event file are of the correct type.

Appendix A. Notices and Trademarks

This appendix contains the following sections:

- Notices
- Trademarks

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