IBM<sup>®</sup> Tivoli<sup>®</sup> Netcool/OMNIbus Probe for Alcatel-Lucent Wavestar SNMS (CORBA) 7.0

Reference Guide March 02, 2012



#### Notice

Before using this information and the product it supports, read the information in <u>Appendix A</u>, "Notices and Trademarks," on page 15.

#### **Edition notice**

This edition (SC23-7800-01) applies to version 7.0 of IBM Tivoli Netcool/OMNIbus Probe for Alcatel-Lucent Wavestar SNMS (CORBA) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces SC23-7800-00.

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# About this guide

The following sections contain important information about using this guide.

# **Document control page**

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

The IBM Tivoli Netcool/OMNIbus Probe for Alcatel-Lucent Wavestar SNMS (CORBA) documentation is provided in softcopy format only. To obtain the most recent version, visit the IBM<sup>®</sup> Tivoli<sup>®</sup> Information Center:

https://www.ibm.com/support/knowledgecenter/SSSHTQ/omnibus/probes/common/Probes.html

Table 1. Document modification history			
Document version	Publication date	Comments	
SC23-7800-00	October 29, 2010	First IBM publication.	
SC23-7800-01	March 02, 2012	Information about operating system conventions was added in "Conventions used in this guide" on page v.	
		Requirements were updated in <u>"Summary" on page 1</u> .	
		Installation information was updated in <u>"Installing probes" on page</u> $2$ .	
		The following properties were added or updated in <u>"Properties and command line options" on page 5</u> :	
		• Interface	
		• ORBCharEncoding	
		• ORBLocalPort	
		• ORBWCharDefault	
		ProbeWatch messages were updated in <u>"ProbeWatch messages" on page 12</u> .	
		Information about running the probe was added in <u>"Running the</u> probe" on page 13.	

## **Conventions used in this guide**

All probe guides use standard conventions for operating system-dependent environment variables and directory paths.

#### **Operating system-dependent variables and paths**

All probe guides use standard conventions for specifying environment variables and describing directory paths, depending on what operating systems the probe is supported on.

For probes supported on UNIX and Linux operating systems, probe guides use the standard UNIX conventions such as *\$variable* for environment variables and forward slashes (*J*) in directory paths. For example:

#### \$OMNIHOME/probes

For probes supported only on Windows operating systems, probe guides use the standard Windows conventions such as *%variable%* for environment variables and backward slashes (\) in directory paths. For example:

#### %OMNIHOME%\probes

For probes supported on UNIX, Linux, and Windows operating systems, probe guides use the standard UNIX conventions for specifying environment variables and describing directory paths. When using the Windows command line with these probes, replace the UNIX conventions used in the guide with Windows conventions. If you are using the bash shell on a Windows system, you can use the UNIX conventions.

**Note :** The names of environment variables are not always the same in Windows and UNIX environments. For example, %TEMP% in Windows environments is equivalent to \$TMPDIR in UNIX and Linux environments. Where such variables are described in the guide, both the UNIX and Windows conventions will be used.

#### **Operating system-specific directory names**

Where Tivoli Netcool/OMNIbus files are identified as located within an *arch* directory under NCHOME or OMNIHOME, *arch* is a variable that represents your operating system directory. For example:

#### \$OMNIHOME/probes/arch

The following table lists the directory names used for each operating system.

Note : This probe may not support all of the operating systems specified in the table.

Table 2. Directory names for the arch variable		
Operating system Directory name represented by <i>arch</i>		
AIX <sup>®</sup> systems	aix5	
Red Hat Linux <sup>®</sup> and SUSE systems	linux2x86	
Linux for System z	linux2s390	
Solaris systems	solaris2	
Windows systems	win32	

#### **OMNIHOME** location

Probes and older versions of Tivoli Netcool/OMNIbus use the OMNIHOME environment variable in many configuration files. Set the value of OMNIHOME as follows:

- On UNIX and Linux, set \$OMNIHOME to \$NCHOME/omnibus.
- On Windows, set %OMNIHOME% to %NCHOME%\omnibus.

# Chapter 1. Probe for Alcatel-Lucent Wavestar SNMS (CORBA)

Alcatel-Lucent Wavestar SNMS is an element management system (EMS) for the WaveStar product family. It provides Element Management Layer (EML) functions, including configuration, fault, performance, and security management, for these products.

The Probe for Alcatel-Lucent Wavestar SNMS (CORBA) acquires data from Alcatel-Lucent Wavestar SNMS using the G7 Common Object Request Broker Architecture (CORBA) interface.

This guide contains the following sections:

- "Summary" on page 1
- "Installing probes" on page 2
- "Firewall considerations" on page 3
- "Data acquisition" on page 3
- "Properties and command line options" on page 5
- "Elements" on page 7
- "Error messages" on page 9
- "ProbeWatch messages" on page 12
- "Running the probe" on page 13

#### **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 Probe for Alcatel-Lucent Wavestar SNMS (CORBA).

Table 3. Summary		
Probe target	Alcatel-Lucent Wavestar SNMS version 10	
Probe executable name	nco_p_lucent_snms	
Probe installation package	omnibus- <i>arch</i> -probe-nco-p-lucent-snms- <i>version</i>	
Package version	7.0	
Probe supported on	For details of supported operating systems, see the following Release Notice on the IBM Software Support website: <u>https://www-304.ibm.com/support/docview.wss?</u> uid=swg21579736	
Properties file	<pre>\$0MNIHOME/probes/arch/lucent_snms.props</pre>	
Rules file	<pre>\$0MNIHOME/probes/arch/lucent_snms.rules</pre>	

Table 3. Summary (continued)		
Requirements	A currently supported version of IBM Tivoli Netcool/OMNIbus.	
	Nonnative Probe Server: probe-nonnative-base-14	
	IBM Object Request Broker (IBM ORB, supplied with Netcool/ OMNIbus)	
	Java Runtime Environment (JRE) 1.5	
Connection method	CORBA	
Remote connectivity	The probe can connect to a remote device using a CORBA interface.	
Multicultural support	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/ <u>140-1/1401val2004.htm</u> . For details about configuring Netcool/ OMNIbus for FIPS 140-2 mode, see the <i>IBM Tivoli Netcool/</i> <i>OMNIbus Installation and Deployment Guide</i> .	

# **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*.

# **Firewall considerations**

When using CORBA probes in conjunction with a firewall, the firewall must be configured so that the probe can connect to the target system.

Most CORBA probes can act as both a server (listening for connections from the target system) and a client (connecting to the port on the target system to which the system writes events). If you are using the probe in conjunction with a firewall, you must add the appropriate firewall rules to enable this dual behavior.

There are three possible firewall protection scenarios, for which you must determine port numbers before adding firewall rules:

- 1. If the host on which the probe is running is behind a firewall, you must determine what remote host and port number the probe will connect to.
- 2. If the host on which the target system is running is behind a firewall, you must determine the incoming port on which the probe will listen and to which the target system will connect.
- 3. If each host is secured with its own firewall, you must determine the following four ports:
  - a. The outgoing port (or port range) for the probe.
  - b. The hostname and port of the target system.
  - c. The outgoing port on which the target system sends events if the probe is running as a client.
  - d. The incoming port on which the probe listens for incoming events.

**Note :** Most, but not all, CORBA probes listen on the port specified by the **ORBLocalPort** property. The default value for this property is 0, which means that an available port is selected at random. If the probe is behind a firewall, the value of the **ORBLocalPort** property must be specified as a fixed port number.

CORBA probes that use EventManager or NotificationManager objects may use different hosts and ports from those that use NamingService and EntryPoint objects. If the probe is configured to get object references from a NamingService or EntryPoint object, you must obtain the host and port information from the system administrator of the target system. When you have this information, you can add the appropriate firewall rules.

# **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 Probe for Alcatel-Lucent Wavestar SNMS (CORBA) gathers events from Alcatel-Lucent Wavestar SNMS using the G7 CORBA interface.

Data acquisition is described in the following topics:

- "Connecting to the CORBA interface" on page 3
- <u>"Resynchronization" on page 4</u>
- "Timeout" on page 4
- "Peer-to-peer failover functionality" on page 4

#### **Connecting to the CORBA interface**

The probe acquires data using either a Naming Service or Interoperable Object Reference (IOR) files.

Alcatel-Lucent Wavestar SNMS stores event data in the following objects:

- NetworkR1 this object contains details of all active alarms.
- Observable this object contains details of all new alarms as they occur.

#### **Using a Naming Service**

The probe can acquire the details of the Naming Service using either the IBM Object Request Broker (ORB) or the Naming Context IOR file. To use the IBM ORB, specify host and port values for the **ORBInitialHost** and **ORBInitialPort** properties. To use the Naming Context IOR file, specify it's location using the **NamingContextIOR** property.

Whichever method you use to acquire the Naming Service details, you must also use the **NetworkR1NS** and **ObservableNS** properties to specify the locations of the NetworkR1 object and the Observable object in the Naming Service.

#### **Using IOR Files**

To acquire event data using IOR files, you must use the **NetworkR1IOR** and **ObservableIOR** properties to specify the locations of the NetworkR1 and Observable IOR files.

#### Resynchronization

If the **Resynch** property is set to true, the probe requests all active alarms from Alcatel-Lucent Wavestar SNMS before connecting to the Notification Service to get new alarms.

When management of a network element is added to Alcatel-Lucent Wavestar SNMS, alarms received from that network element are not automatically forwarded to the probe. To ensure that the probe receives all such alarms, specify a value of true for the **Resynch** property and a value of 1 or greater for the **ResynchInterval** property.

The **ResynchInterval** property controls the interval (in seconds) at which the probe repeats the resynchronization process. Specifying a value of 0 causes the probe to perform one resynchronization at startup.

#### Timeout

The probe has a timeout facility that allows it to disconnect from the system if there has been no activity for a predefined amount of time.

You can use the **Timeout** property to specify how long the probe waits before disconnecting. The default is 0, which instructs the probe to maintain the connection indefinitely.

### Peer-to-peer failover functionality

The probe supports failover configurations where two probes run simultaneously. One probe acts as the master probe, sending events to the ObjectServer; the other acts as the slave probe on standby. If the master probe fails, the slave probe activates.

While the slave probe receives heartbeats from the master probe, it does not forward events to the ObjectServer. If the master probe shuts down, the slave probe stops receiving heartbeats from the master and any events it receives thereafter are forwarded to the ObjectServer on behalf of the master probe. When the master probe is running again, the slave probe continues to receive events, but no longer sends them to the ObjectServer.

#### Example property file settings for peer-to-peer failover

You set the peer-to-peer failover mode in the properties files of the master and slave probes. The settings differ for a master probe and slave probe.

**Note :** In the examples, make sure to use the full path for the property value. In other words replace \$OMNIHOME with the full path. For example: /opt/IBM/tivoli/netcool.

The following example shows the peer-to-peer settings from the properties file of a master probe:

Server : "NCOMS" RulesFile : "master\_rules\_file"

```
MessageLog : "master_log_file"
PeerHost : "slave_hostname"
PeerPort : 6789 # [communication port between master and slave probe]
Mode : "master"
PidFile : "master_pid_file"
```

The following example shows the peer-to-peer settings from the properties file of the corresponding slave probe:

```
Server : "NCOMS"
RulesFile : "slave_rules_file"
MessageLog : "slave_log_file"
PeerHost : "master_hostname"
PeerPort : 6789 # [communication port between master and slave probe]
Mode : "slave"
PidFile : "slave_pid_file"
```

# **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 more information about generic Netcool/OMNIbus properties and command line options, see the *IBM Tivoli Netcool/OMNIbus Probe and Gateway Guide*.

Table 4. Properties and command line options		
Property name	Command line option	Description
Inactivity integer	-inactivity integer	Use this property to specify the number of seconds that the probe waits to receive events before sending a ProbeWatch inactivity message. The default is 60.
Interface string	-interface string	Use this property to specify the local host used by the server-side ORB to place the server's host name into the IOR of a remote object. The default is 127.0.0.1.
NamingContextIOR string	-nsior string	Use this property to specify the location of the IOR file that contains the root context of the Naming Service. The default is "".
NetworkR1IOR string	-emsior string	Use this property to specify the location of the NetworkR1 IOR file. The probe uses this object to retrieve all resynchronization alarms on start up. The default is "".

Table 4. Properties and command line options

Property name	Command line option	Description
NetworkR1NS string	-emsns string	Use this property to specify the location of the NetworkR1 object in the Naming Service.
		The default is S2\\.1\\.0- Version.Lucent/SNMS_EML- NetworkR1.
		<b>Note :</b> Back slashes (\) are treated as escape characters, so double back slashes (\\) are used to create a readable path.
<b>ObservableIOR</b> string	-observableior string	Use this property to specify the location of the Observable object IOR file. The probe uses this object to retrieve all new alarms as they occur. The default is " " .
<b>ObservableNS</b> string	-observablens string	Use this property to specify the location of the Observable object in the Naming Service.
		The default is S2\\.1\\.0- Version.Lucent/SNMS_EML- Observable.
		<b>Note :</b> Back slashes (\) are treated as escape characters, so double back slashes (\\) are used to create a readable path.
<b>ORBCharEncoding</b> string	-orbcharencoding string	Use this property to specify the native character encoding set used by the Object Request Broker (ORB) for character data.
		The default is UTF8.
<b>ORBInitialHost</b> string	-orbinitialhost string	Use this property to specify the name of the Naming Service host.
		The default is snmshost.
<b>ORBInitialPort</b> integer	-orbinitialport <i>integer</i>	Use this property to specify the port number through which the probe connects to the Naming Service.
		The default is 1570.
ORBLocalPort integer	-orblocalport integer	Use this property to specify the local port to which the ORB listens.
		The default is 0 (which instructs the ORB to select an available port at random).

Table 4. Properties and command line options (continued)			
Property name	Command line option	Description	
<b>ORBWCharDefault</b> string	-orbwchardefault <i>string</i>	Use this property to specify what wide character (wchar) set the IBM ORB uses when communicating with other ORBs that do not publish a wchar set.	
		The default is UTF16.	
<b>Resynch</b> string	-resynch string	Use this property to specify whether the probe requests all active alarms from Alcatel-Lucent Wavestar SNMS before connecting to the Notification Service for new alarms. This property takes the following values:	
		false : the probe does not perform resynchronization.	
		true: the probe performs resynchronization.	
		The default is false.	
ResynchInterval integer	-resynchinterval integer	Use this property to specify the interval (in seconds) at which the probe repeats the resynchronization process.	
		The default is 0 (which instructs the probe to resynchronize once).	
		<b>Note :</b> To instruct the probe to perform repeated resynchronization, you must set the <b>Resynch</b> property to true and set the <b>ResynchInterval</b> property to a value greater than or equal to 1.	
<b>Timeout</b> integer	-timeout <i>integer</i>	Use this property to specify the number of seconds that the probe waits to receive events before disconnecting from the Notification Service and shutting down.	
		The default is 300.	
		<b>Note :</b> If you specify a value of 0 for this property, the probe waits indefinitely.	

# **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.

The following table describes the elements that the probe generates. Not all the elements described are generated for each event. The elements that the probe generates depend on the event type.

Table 5. Elements		
Element name	Element description	
\$additionalInfo	This element displays additional information about the alarm.	
\$additionalText	This element displays a brief description of the problem being reported by the alarm.	
\$CTP	This element displays the Connection Termination Point.	
\$domain_name	This element displays the Domain name from which the event was sent.	
\$edgePoint	This element indicates whether the alarm relates to a PTP that is not the end point of an inner topological link.	
\$emsTime	This element displays the time at which the event was reported by the EMS system.	
\$Equipment	This element displays the layer to which the alarm applies.	
\$EquipmentHolder	This element displays the name of the object reporting the alarm as given in the EMS user interface.	
<pre>\$event_name</pre>	This element displays the probable cause as given in the EMS user interface.	
<pre>\$event_type</pre>	This element displays the time at which the error occurred in the network element.	
\$isClearable	Indicates whether the event is clearable.	
\$layer	This element displays the layer to which this alarm is relevant.	
\$ManageElement	This element indicates the object that managed the system for which the alarm was generated.	
<pre>\$nativeEMSName</pre>	This element displays the name used by the EMS interface for the object reporting an alarm.	
\$neTime	This element displays the time of the alarm provided by the network element.	
<pre>\$NativeProbableCause</pre>	This element displays the probable cause for the alarm as defined by the EMS interface.	
<pre>\$notificationId</pre>	This element displays a unique identifier of the alarm. This is derived from the serial number of the alarm as used by the EMS.	

Table 5. Elements (continued)		
Element name Element description		
<pre>\$objectType</pre>	This element displays the type of object reporting the alarm.	
<pre>\$perceivedSeverity</pre>	This element displays the perceived severity of the alarm.	
<pre>\$probableCause</pre>	This element displays the probable cause of the alarm.	
<pre>\$probableCauseQualifier</pre>	This element displays the qualifier used to classify the alarm type.	
<pre>\$ProtectionGroup</pre>	This element indicates whether the alarm has affected the service.	
\$PTP	This element displays the Physical Termination Point.	
\$RoutingLink	This element indicates the routing link of the equipment.	
<pre>\$serviceAffecting</pre>	This element indicates whether the alarm has affected the notification service.	
\$Subnetwork	This element displays the subnetwork where the equipment is located.	
\$Subnetworkconnection	This element displays the connection point of the equipment on the subnetwork.	
\$TopologicalLink	This element indicates whether the alarm relates to a connection between PTPs.	
\$TPPool	This element displays a list of TPs affected by an equipment failure.	
<pre>\$TrafficDescriptor</pre>	This element displays a Descriptor of the network traffic.	

# **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 Netcool/OMNIbus error messages, see the *IBM Tivoli Netcool/OMNIbus Probe and Gateway Guide*.

Table 6. Error messages		
Error	Description	Action
ResynchInterval will not take -ve values		Make the value of the <b>ResynchInterval</b> property greater than or equal to 0.

Table 6. Error messages (continued)			
Error	Description	Action	
CorbaUtils: Cannot get object reference, IOR and NS values were empty	The probe cannot get the required object references. No values have been specified for the IOR file or the Naming Service.	Depending on whether you are using an IOR file or a Naming Service to acquire event data, you must specify values for the required properties as described in <u>"Connecting to the CORBA</u> interface" on page 3.	
CorbaUtils: Failed to find file, please check file exists	The probe could not find an IOR file.	Depending on whether you are using an IOR file or a Naming Service to acquire event data, you must specify values for the required properties as described in <u>"Connecting to the CORBA</u> interface" on page 3.	
CorbaUtils: CORBA.BAD_PARAM Exception. The IOR is not the expected Object. Please check IOR files are valid and up to date	The IOR files are not pointing to the correct CORBA objects.	Verify that you have specified the correct values for the <b>NetworkR1IOR</b> and <b>ObservableIOR</b> properties, and that the IOR files are valid and up- to-date.	
CorbaUtils: CORBA.OBJECT_NOT_EXIST Exception. The CORBA service is not running on the expected Host/ Port/IOR	The CORBA service is not running on the expected host, port, or IOR.	Verify that you have specified the correct values for the <b>NetworkR1NS</b> , <b>ObservableNS</b> properties.	
CorbaUtils: Exception raised when locating server	The probe cannot find a Naming Service object.	Verify that you have specified the correct values for the <b>NetworkR1IOR</b> and <b>ObservableIOR</b> properties, and that the IOR files are valid and up- to-date.	
CorbaUtils: Check Naming Service and CORBA interface is running	There is a problem with the Naming Service or the CORBA interface.	Verify that the Naming Service and the CORBA interface are running.	
CorbaUtils: Unexpected Exception occurred	An unexpected problem occurred with the CORBA interface.	Contact IBM Software Support.	

Table 6. Error messages (continued)				
Error	Description	Action		
CorbaUtils: Failed to get the object reference	The probe cannot get the required object references.	Depending on whether you are using an IOR file or a Naming Service to acquire event data, check the values that you specified for the required properties described in "Connecting to the CORBA interface" on page 3.		
Observer: Failed to get object reference for Observable object	The probe cannot get the object reference for the Observable CORBA object.	Depending on whether you are using an IOR file or a Naming Service to acquire event data, check the values that you specified for the required properties described in <u>"Connecting to the CORBA</u> interface" on page 3.		
Observer: Failed to narrow Observable reference	The Observable CORBA object could not be narrowed to the correct type.	Contact IBM Software Support.		
Observer: Check that IOR files are correct and up to date	The IOR files are not pointing to the correct Observable CORBA object.	Verify that you have specified the correct value for the <b>ObservableIOR</b> property, and that the IOR file is valid and up-to- date.		
Servant appears to already be active when activating consumer	A consumer object is already registered on the ORB.	Contact IBM Software Support.		
Observer: Failed to connect to the CORBA interface due to exception	The gateway failed to connect to the CORBA interface due to an exception.	Check the probe message log file lucent_snms.log for more information. The log file is located in the following directory: \$OMNIHOME/log If you cannot identify the problem, contact IBM Software Support.		
Observer: Please check that the interface is running and the probe is using up to date IOR files	There is a problem with the CORBA interface or the IOR file for the Observable CORBA object.	Verify that the CORBA interface is running. Verify that you have specified the correct value for the <b>ObservableIOR</b> property, and that the IOR file is valid and up-to- date.		
Parser: Cannot parse type value_type: name	The probe cannot parse the event value described in the error message.	Contact IBM Software Support.		

Table 6. Error messages (continued)				
Error	Description	Action		
Parser: Error parsing name	The probe cannot parse the event value described in the error message.	Contact IBM Software Support.		
Resynch: Failed to narrow networkR1 reference	The NetworkR1 CORBA object could not be narrowed to the correct type.	Contact IBM Software Support.		
Resynch: Failed to connect to the CORBA Interface due to exception	Resynchronization failed due to a CORBA interface exception.	Verify that the CORBA interface is running correctly.		
Resynch: Please check that the interface is running and the probe is using up to date IOR files	Resynchronization failed due to a problem with the CORBA interface or the IOR files.	Verify that the CORBA interface is running correctly. Depending on whether you are using an IOR file or a Naming Service to acquire event data, check the values that you specified for the required properties described in <u>"Connecting to the CORBA interface" on page 3.</u>		
Resynch: Failed to get interface version/name information	Resynchronization failed because the probe could not get the required interface information.	Verify that the CORBA interface is running correctly.		
Resynch: Check that the CORBA service is running	Resynchronization failed due to a problem with the CORBA interface.	Verify that the CORBA interface is running correctly.		

# **ProbeWatch messages**

During normal operations, the probe generates ProbeWatch messages and sends them to the ObjectServer. These messages tell the ObjectServer how the probe is running.

The following table describes the ProbeWatch messages that the probe generates. For information about generic Netcool/OMNIbus ProbeWatch messages, see the *IBM Tivoli Netcool/OMNIbus Probe and Gateway Guide*.

**Note :** The content of some ProbeWatch messages generated by the probe has changed in this release. This might require you to make changes to custom tools or automations that depend on ProbeWatch messages.

Table 7. ProbeWatch messages				
ProbeWatch message	Description	Triggers/causes		
No alarms received for inactivity period ( <i>inactivity_period</i> seconds)	The probe received no alarms for the period of time indicated by the <i>inactivity_period</i> .	The probe has received no alarms for the period of time specified by the <b>Inactivity</b> property.		
No alarms received for timeout period ( <i>timeout_period</i> seconds)	The probe received no alarms for the period of time indicated by the <i>timeout_period</i> .	The probe has received no alarms for the period of time specified by the <b>Timeout</b> property.		
Observer client started	The probe is connecting to the server.	This message is sent when the probe initially connects to the server.		
Observer client finished	The probe is disconnecting from the server.	This message is sent when the probe is disconnecting from the server, usually on shut down.		
Resynch client started	The probe started a resynchronization.	The probe started a resynchronization.		
Resynch complete	The probe completed a resynchronization.	The probe completed a resynchronization.		

# **Running the probe**

You run the probe from the command line.

To start the probe, use the following command:

\$OMNIHOME/probes/nco\_p\_lucent\_snms

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# **Appendix A. Notices and Trademarks**

This appendix contains the following sections:

- Notices
- Trademarks

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