

**Tivoli Netcool Supports
Guide to
the Alcatel 5620 SAM v10 probe
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Document release: 2.0**



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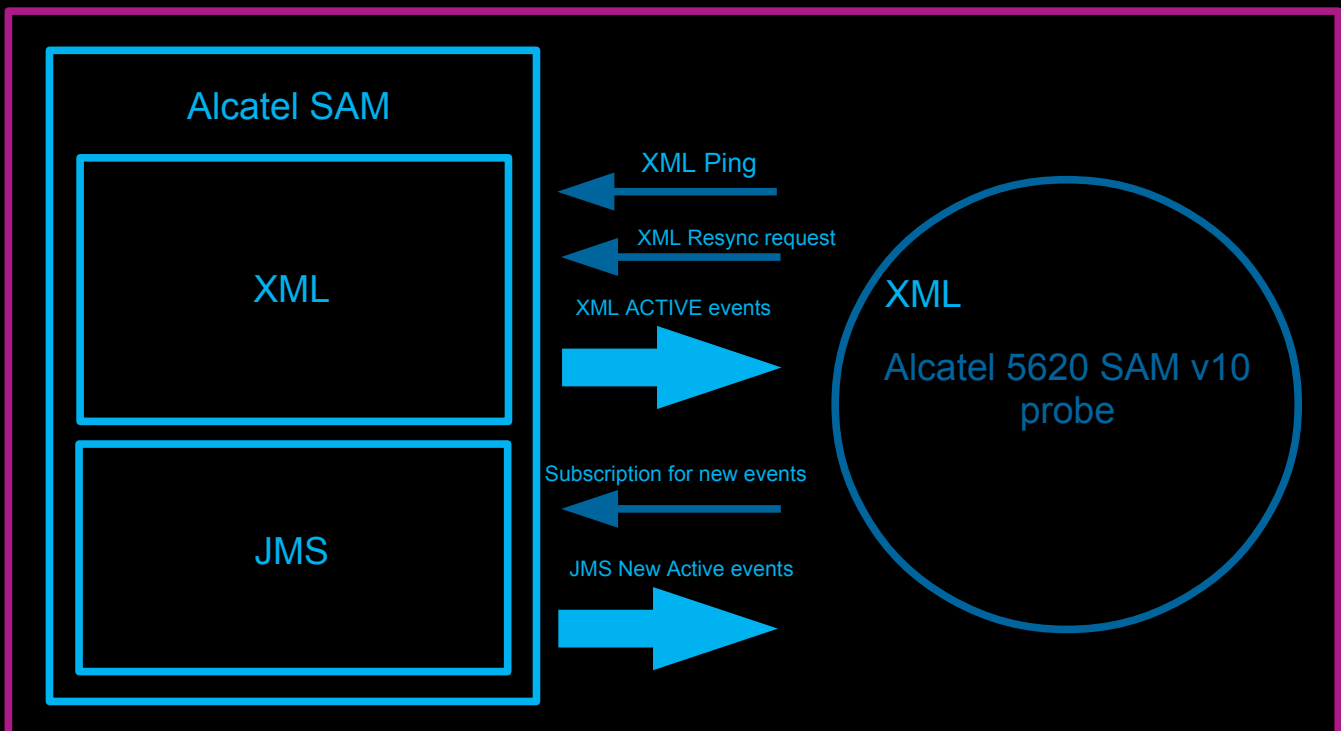
1 Introduction

1.1 Overview

The Alcatel 5620 SAM probe connects to the Alcatel 5620 SAM using both the XML and JMS interfaces. The XML connection is used to bulk load events to synchronised the alarm data to the object server, after this synchronisation process all active events are updated via the JMS interface.

- XML (default port 8080 / Probe property HTTPPort)
- JMS (default port 1099 / Probe property EJBPort)

The SAMJARHOME environment variable is set to the directory that holds the samOss.jar from the target Alcatel SAM server. This is set within the probe users environment.



2 Configuration

2.1 AlcatelSAM jar files

The Alcatel SAM v10 probe uses the samOss.jar file from the target Alcatel SAM to connect to the JMS interface. This file needs to be manually copied to the probe before using the probe.

e.g.

```
mkdir $OMNIHOME/probes/java/nco_p_alcatel_5620_sam_v12
cd $OMNIHOME/probes/java/nco_p_alcatel_5620_sam_v12
ftp ems-host
username: ems-user
password: *****
ftp> bin
ftp> cd /opt/5620sam/server/nms/integration/SAM_O
ftp> get samOss.jar
ftp> quit
```

2.2 Setting SAMJARHOME

The SAMJARHOME can be set in the probes environment file as shown:

```
cd $OMNIHOME/probes/java
vi nco_p_alcatel_5620_sam_v10.env
# Set SAMJARHOME
SAMJARHOME=$OMNIHOME/probes/java/nco_p_alcatel_5620_sam_v12
COMMANDPORT_JAR=${OMNIHOME}/probes/java/CommandPort.jar

# add SAM 5620 specified jar file - required to obtain from SAM server
# user to define where is their samOss.jar class path
if [ -n "${SAMJARHOME}" ]
then
    CLASSPATH_SETTING=${SAMJARHOME}/samOss.jar:${COMMANDPORT_JAR};
else
    CLASSPATH_SETTING=${OMNIHOME}/probes/java/samOss.jar:${COMMANDPORT_JAR};
fi

if [ -n "${CLASSPATH}" ]
then
    CLASSPATH=${CLASSPATH_SETTING}:${CLASSPATH}
else
    CLASSPATH=${CLASSPATH_SETTING}
fi
# Echo out variables
echo "SAMJARHOME=$SAMJARHOME"
echo "CLASSPATH=$CLASSPATH"
#EOF
```

3 Property Settings

3.1 Resync property

The Resync property allows the probe to start just the JMS connection rather than attempting an XML resynchronisation. This is useful when there is a problem with the JMS connection that needs to be debugged. Starting the probe with Resync set to 'false' ensures that any log messages relate to the JMS side of event retrieval.

3.2 ResyncBatchSize property

The ResyncBatchSize property can be used to increase the amount of XML data read at time, which is useful, when there are large amounts of events to be read from the Alcatel 5620 SAM during a resynchronisation.

To estimate a valid size, determine the performance of the resynchronisation as a whole, and then divide the amount of data synchronised by a suitable factor.

e.g.

100,000 @ default ResyncBatchSize [100] took 300 seconds

$100000/100 = 1000$ batches

From this you would expect a larger ResyncBatchSize setting to improve performance, physical memory permitting.

i.e. ResyncBatchSize : 500 or 1000

Set the ResyncBatchSize property as required and monitor the probes memory usage, and the time taken to perform the XML data resynchronisation to confirm that the new setting was an improvement.

3.3 The PersistentJmsId property

The PersistentJmsId is the JMS subscription identifier and **must be unique** within the Alcatel 5620 SAM ems. The JMS server recommends that the unique identifier is created from the username, client instance and client server IP Address. With the '@' symbol being used as a separator.

e.g.

For a probe host IP Address of 192.168.20.20;

```
PersistentJmsId : 'netcool@1@192.168.20.20'
JmsFilter: "ALA_clientId in ('netcool@1@192.168.20.20','') and ALA_category not in ('STATISTICS','ACCOUNTING')"
```

It is possible to run the probe without a PersistentJmsId;

```
PersistentJmsId : ""
JMSFilter : "ALA_clientId in ('','')"
```

Note : Always use double-quotes for the properties and single quotes without spaces between commas.

3.4 Inactivity

The Inactivity property is used to determine if the JMS subscription has fallen silent. The default setting is 0, indefinite. The object server can be configured to monitor the LastOccurrence of the Alcatel SAM events for each system, and report staleness of events as required. Setting the JMS connection to timeout will impact the system, as the probe attempts to recover alarm data through the XML resynchronisation. Therefore, the Inactivity property should be set to a high value of at least an hour [3600 seconds] if it is to be set.

3.5 Retry, RetryMaxTime and RetryConstantWait

The Retry RetryMaxTime and RetryConstantWait properties provide a method to manage the resynchronisation process, outside of process automation, as process automation will force the probe continually attempt to reconnect to the Alcatel 5620 SAM. The RetryMaxTime can be set to 0, which allows the probe to attempt to connect to the Alcatel 5620 SAM indefinitely. The default setting of 9000 seconds [2.5 hours]. The RetryConstantWait property is set to 0 by default, which implements an exponential retry wait time. Setting the RetryConstantWait value forces the probe to pause by the specified time, given in seconds.

For example if you require the probe to exit and restart under process control within one hour of disconnection, you can set RetryMaxTime to 3600. If the retry period needs to be every 5 minutes, you can set RetryConstantWait to 300 seconds.

For these properties to be used the Retry property must be set to true.

e.g.

```
Retry : 'true'
RetryMaxTime : 3600
RetryConstantWait : 300
```

4 Alcatel 5620 SAM probe Troubleshooting

4.1 Alcatel 5620 SAM probe resynchronization

The Alcatel 5620 SAM probe sends a request to the Alcatel SAM using 'findFaults' with a filter based on the RecoveryFile's data. This is done to reduce the load generated by the probe.

To force a resynchronization from EPOCH, i.e. a full synchronisation, remove the file defined using the probe property RecoveryFile;

- Stop the probe
- `rm /opt/netcool/omnibus/var/AlcatelSamRecovery`
- Start the probe.

If the RecoveryFile file does not exist, the probe will send a full resynchronisation request to the Alcatel 5620 SAM.

If events are not being seen in the event list, check the filtering being applied at the probe level by the filter given in the probe property JmsFilter, and the Alcatel 5620 SAM's logs.

Example log file:

RecoveryFile->/opt/netcool/omnibus/var/AlcatelSamRecovery

Last Recovery data retrieved from /opt/netcool/omnibus/var/AlcatelSamRecovery

Last Time Recovered 1197986201257

Using recovery timestamp 1197986201257

Posting this XML : `<?xml version="1.0" encoding="UTF-8"?><SOAP:Envelope xmlns:SOAP="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"><SOAP:Header><header xmlns="xamlapi_1.0"><security><user>netcool</user><password>70716626a8795abb4de70bea1a5f7cdd</password></security><requestID>client1:0</requestID></header></SOAP:Header><SOAP:Body><fm.FaultManager.findFaults xmlns="xamlapi_1.0"><faultFilter><and class="fm.AlarmObject"><greater name="lastTimeDetected" value="1197986201257"/></and></faultFilter></fm.FaultManager.findFaults></SOAP:Body></SOAP:Envelope>`

5 Firewall ports

The Alcatel 5620 SAM probe requires three main ports to be opened:

- HTTP port [HTTPPort : 8080]
- JMS port [EJBPort : 1099]
- The JMS server port as defined in the Alcatel SAM server (portjmsServerPort)

List of default ports used by the Alcatel SAM

The following ports are provided as an example of what ports the Alcatel SAM uses.

The Alcatel SAM Administrator needs to check and confirm what ports are used by the server and which ports need to be opened for the probe to connect successfully.

Host Type	Default port	Type	Used	Name
5620 SAM Server	1098	tcp		org.jboss.naming.NamingService
	1099	tcp	Yes	org.jboss.naming.NamingService
	4444	tcp		org.jboss.invocation.jrmp.server.JRMPInvoker
	4445	tcp		org.jboss.invocation.pooled.server.PooledInvoker
	8080	tcp	Yes	HTTP Server
	8443	tcp		HTTPS Server
	8093	tcp	Yes	JMS Server
	162	udp		SNMP traps
5620 SAM database	1521	tcp		JDBC listener
To manage nodes	161	udp		SNMP
	20 21	tcp		FTP SFTP
	22	tcp		SSH
	23	tcp		Telnet

Note : The probe server and Alcatel SAM server must be known to each other using the same IP Address and name.

6 Multiple probes Integration

The `nco_p_alcatel_5620_sam` wrapper script allows multiple probes to be run by setting the `SAMJARHOME` variable before running the Alcatel 5620 SAM v10 probe.

Each Alcatel SAM probe can use a version specific directory to hold the required jar files:

e.g.

```
$NCHOME/omnibus/probes/java/<JARS_DIRECTORY>
```

Where the `<JARS_DIRECTORY>` is the directory where `samOss.jar` was copied to, from the target Alcatel SAM.

The `<HOSTSJAR_FILE>` read by the `nco_p_alcatel_5620_sam` wrapper script contains a list of Host's, as given the probes property file, along with the `<JARS_DIRECTORY>`, separated by a colon [:].

e.g.

```
alcatelems1.domain.com:SAM1
alcatelems2.domain.com:SAM2
alcatelems3.domain.com:SAM3
alcatelems4.domain.com:SAM4
```

For example SAM4's property file [**SAM4.props**] uses the `alcatelems4.domain.com` hostname.

e.g.

```
Host: "alcatelems4.domain.com"
```

The entry for the Alcatel 5620 SAM probe in `nco_pa.conf` must include the `-propsfile` definition for the wrapper script to work.

e.g.

```
nco_process 'SAM4'
{
    Command '$OMNIHOME/probes/nco_p_alcatel_5620_sam -propsfile
$OMNIHOME/probes/etc/SAM4.props' run as 'netcool'
    Host = 'probehost.domain.com'
    Managed = True
    RestartMsg = '${NAME} running as ${EUID} has been restored on $
{HOST}.'
    AlertMsg = '${NAME} running as ${EUID} has died on ${HOST}.'
    RetryCount = 0
    ProcessType = PaNOT_PA_AWARE
}
```

6.1 nco_p_alcatel_5620_sam wrapper script

```

#!/bin/sh
#####
# This script was written as a wrapper for the probe
# nco_p_alcatel_5620_sam_v10 which replaces the version
# specific probe and support v9, v10, v11, v12 ...
#
# It works by using the Host property setting to set the
# SAMJARHOME as given in a lookup file:
# $NCHOME/omnibus/etc/alcatel_5620_sam.jars
#
# Whose format is:
# host.domain.com:JARS_DIRECTORY
# Where:
# $NCHOME/omnibus/probes/java/$JARS_DIRECTORY
# is the directory where samOss.jar from the target
# Alcatel SAM is copied to along with any other JARS
#
#####
# Define JARS lookup file
export SAMJARHOME
export HOSTJARS_FILE VERSIONPROPSFILE GET_PROPS HOST_PROP
#
HOSTJARS_FILE=$NCHOME/omnibus/etc/alcatel_5620_sam.jars
#
if [ ! -f $HOSTJARS_FILE ]
then
echo " Alcatel HOST:JARDIR file does not exist : $HOSTJARS_FILE"
echo " File format is HOST : JARS_DIRNAME"
echo
echo " * Directory Location is : $NCHOME/omnibus/probes/java"
echo " * Minimum JARS are samOss.jar from target Alcatel SAM"
echo " * Ensure RecoveryFile is unique for each probe instance"
exit
fi
#
# Get the property files Host details
#
GET_PROPS=0
for arg in ${*}
do
if [ $GET_PROPS -eq 1 ]
then
PROPSFILE=${arg}
if [ -f $PROPSFILE ]
then
HOST_PROP=`grep -v '^#' $PROPSFILE | grep Host | grep -v PeerHost | awk -F: '{ print $2}' | tr -d \" | tr -d \" | tail -1`
JARSDIR=`grep $HOST_PROP $HOSTJARS_FILE | awk -F: '{ print $2 }' | tr -d ' '`
fi
fi
case ${arg} in
-propsfile)
GET_PROPS=1
;;
esac
done
#
# Must have -propsfile defined
#
if [ $GET_PROPS -ne 1 ]
then
echo " -propsfile must be defined on the command line"
exit
fi
#
# Set SAMJARHOME
#
SAMJARHOME=$NCHOME/omnibus/probes/java/$JARSDIR
if [ ! -d $SAMJARHOME ]
then
echo " Cannot find SAMJARHOME : $SAMJARHOME"
exit
else

```

```
if [ -f $SAMJARHOME/samOss.jar ]
then
    echo " Found samOss.jar"
else
    echo "*** Did not find samOss.jar"
fi
fi
echo " Host property is set to $HOST_PROP"
echo " Alcatel SAM JARS Directory was set to [SAMJARHOME] : "
echo $SAMJARHOME
if [ -f $NCHOME/omnibus/probes/nco_p_alcatel_5620_sam_v10 ]
then
    echo " Attempting to run probe ..."
# Uncomment exec line after testing
exec $NCHOME/omnibus/probes/nco_p_alcatel_5620_sam_v10 $*
else
    echo " File not found : nco_p_alcatel_5620_sam_v10"
exit
fi
#EOF
```