



# CHAPTER 8

## Troubleshooting Guide

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This section describes the use of various tools on the client side for determining the state of operations on the Simple Object Access Protocol (SOAP)/Extensible Markup Language (XML) interface of the Cisco BTS 10200 Softswitch. This includes the use of the BTSXSDK software development kit (SDK) package tools.

Full coverage of the SDK is provided in the *Cisco BTS 10200 Softswitch SOAP Adapter Interface Specification Programmer's Guide, Release 6.0.3*.

## Tcpmon Tool

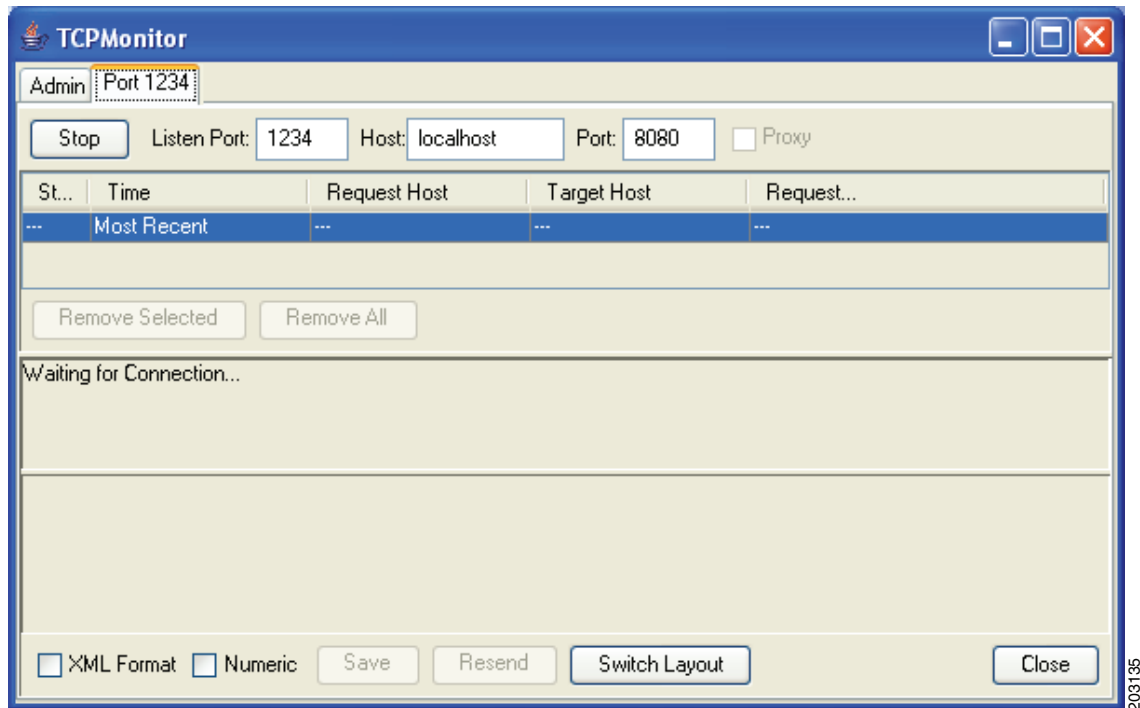
The tcpmon utility is found in the org.apache.axis.utils package and is used to test SOAP requests and responses. The tcpmon tool is invoked from the command line. (See [Figure 8-1](#).)

**Figure 8-1**      *Launch of Tcpmon Tool*



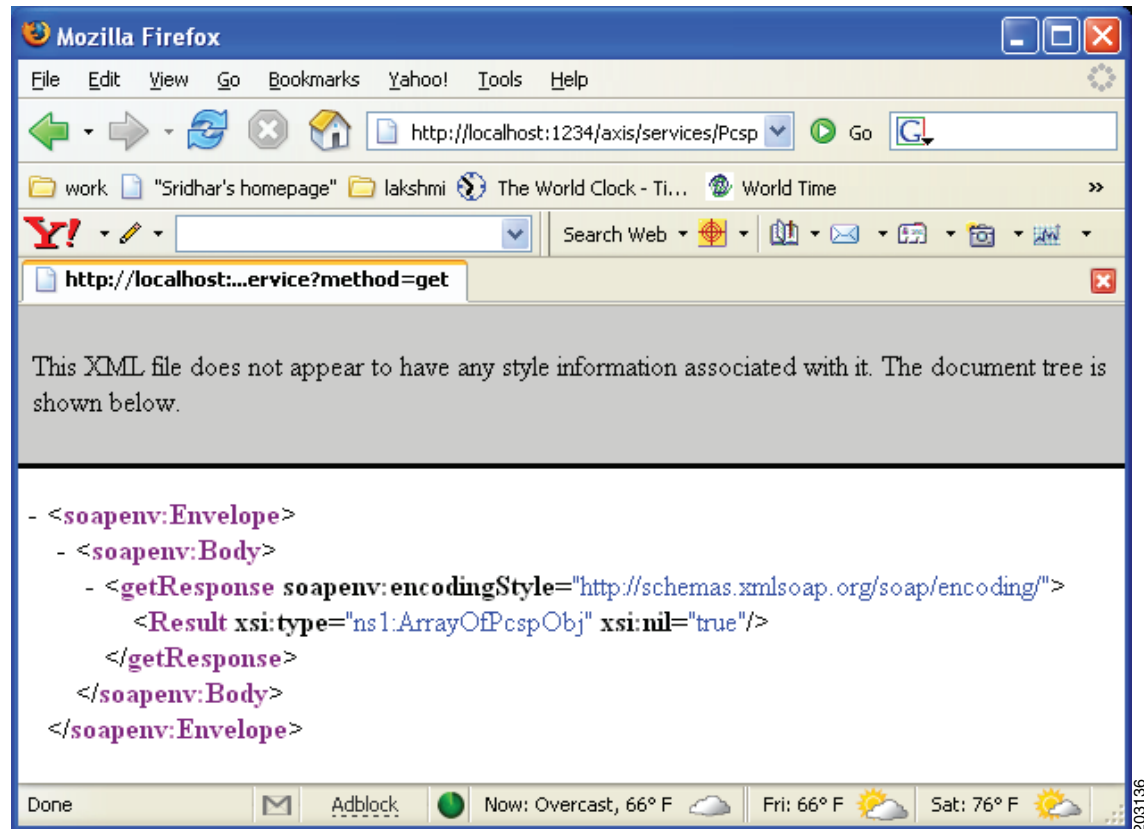
The graphical user interface (GUI) shown in [Figure 8-2](#) is displayed.

Figure 8-2 Basic Tcpmon Screen



Now each time a SOAP connection is made to the local port. The user sees the request in the Request panel and the server response in the Response panel (see Figure 8-3).

Figure 8-3 Request and Response



## SDK Tool

The SDK provides a Solaris- or Linux-based Java command line implementation. This package contains sample code as working examples for utilizing the SOAP/XML interface. For Solaris, this package is automatically installed on each Element Management System (EMS) and can also be installed on a separate Solaris box by use of the package add (**pkgadd**) command. Only a few basic items are required to get this tool up and running.

To enable the SDK environment, use the following commands examples.

```

# pkgadd -d . BTSxsdk <ENTER>
# cd /opt/BTSxsdk
# export PROJECTDIR=`pwd`
# export JAVA_HOME=/usr/java
# ./bin/make all
# cd bin
# ./bts-secure-cli 192.168.2.120 -t SOAP -n btsadmin -p btsadmin

```

# Common Security Certificates

Each Cisco BTS 10200 should utilize a common Apache secure sockets layer (SSL) key file and certificate. These are included in the SMCapache package installation for Cisco BTS 10200 5.0 MR2 and above. However, on loads prior to this, the key and certificate must be applied by use of the BTS\_SOAP\_Common\_Certificate Method of Procedure (MOP). This MOP is not covered in detail here.

Verification for the presence of the common certificate can be done with the following steps. Without the common certificates, the client side can receive application authentication failures for SSL.

- Apache Configuration:

```
# grep -i SSLCert /opt/SMCapache/conf/httpd.conf
- SSLCertificateFile /opt/SMCapache/conf/ssl.crt/bts10200.crt
- SSLCertificateKeyFile /opt/SMCapache/conf/ssl.crt/bts10200.key
```

- Key File store Location:

```
# ls /opt/SMCapache/conf/ssl.crt/bts10200.key
# ls /opt/SMCapache/conf/ssl.crt/bts10200.crt
```

- Certificate Verification:

```
# /opt/BTSossl/bin/openssl x509 -noout -text -in bts10200.crt
```

Certificate:

Data:

```
Version: 1 (0x0)
Serial Number: 1079728370 (0x405b58f2)
Signature Algorithm: md5WithRSAEncryption
Issuer: C=US, ST=Texas, L=Richardson, O=Cisco Systems Inc., OU=IPCBU,
CN=BTS 10200
Validity
  Not Before: Mar 19 20:32:50 2004 GMT
  Not After : Dec 28 20:32:50 2011 GMT
Subject: C=US, ST=Texas, L=Richardson, O=Cisco Systems Inc., OU=IPCBU,
CN=BTS 10200
Subject Public Key Info:
  Public Key Algorithm: rsaEncryption
  RSA Public Key: (1024 bit)
  Modulus (1024 bit):
    00:c7:61:c1:45:51:03:cc:db:1b:06:9d:7b:cf:c4:
    b1:6a:55:a8:c0:a7:fd:ef:25:aa:c3:02:87:66:fc:
    76:77:b3:c1:3f:74:23:94:8d:5e:ce:60:5c:e6:5b:
    02:51:52:31:9c:c6:da:cc:03:24:ab:92:a8:87:f1:
    f7:b8:7a:c6:90:3f:7d:7f:3e:81:23:a1:32:1d:12:
    bf:36:4f:94:67:34:98:4d:44:55:e7:1f:5f:8d:23:
    9e:dd:9a:d8:5b:29:b4:20:86:36:17:80:22:92:90:
    13:8c:29:c9:c1:9a:dd:1e:8f:10:cb:35:4c:49:c3:
    51:87:47:89:b4:8f:83:41:5b
  Exponent: 65537 (0x10001)
Signature Algorithm: md5WithRSAEncryption
40:ca:3d:68:cc:4d:6c:4e:e9:67:61:84:04:80:43:c9:6b:9d:
51:2e:a7:61:97:0d:4b:75:74:8f:6e:75:cf:30:fd:f2:4d:e0:
cd:94:89:84:6b:f5:f7:b0:de:1b:6d:5f:31:97:af:8f:73:7d:
f4:ca:a5:cf:e8:5f:ee:b6:83:15:0f:45:bc:bc:32:6f:e6:dc:
4b:cf:b4:87:96:aa:6e:c4:ec:dd:1f:be:aa:b1:48:45:44:4f:
30:67:d7:be:ce:cd:d4:8e:7a:1f:17:68:ee:c6:52:ef:b7:e6:
bf:46:ca:bb:20:da:e4:ef:09:a9:d8:90:e1:df:0b:db:90:1e:
ee:85
```