



APPENDIX **B**

XML Test Drivers

This appendix details the XML test drivers.

CLI to SOAP/CORBA XML Transaction

The following example test driver executes a normal CLI command, but processes it as a SOAP or CORBA XML transaction.

```
package com.sswitch.oam.drv;

import java.lang.*;
import java.io.*;
import java.util.*;
import java.text.*;
// XML Stuff
import org.apache.ecs.xml.*;
import org.apache.ecs.*;
import org.w3c.dom.*;
import org.xml.sax.*;
import org.apache.xml.serialize.*;
// BTS Utility Code objects...
import com.sswitch.oam.cad.*;
import com.sswitch.oam.xml.*;
import com.sswitch.oam.util.*;
import com.sswitch.oam.ccc.*;

/**
 * XmlCli.java
 * Copyright (c) 2002-2003, 2006 by Cisco Systems, Inc.
 * --Test driver for the XML/CORBA interface...
 * This test driver executes a normal CLI command and processes the request
 * as a CORBA XML transaction. The reply is then displayed. I am no as
 * concerned with complex data show(s) as with the ability to issue
 * provisioning commands. Note that this exmaple can be built with the
 * provided tool "oo-cc" this simple script creates the correct CLASSPATH
 * and invokes the compiler with the correct options. Also, the "oo-idl"
 * tool can be used to generate the correct IDL output.
 *
 * @author A. J. Blanchard
 * @version 3.1
 * @since 900-04.01.00
 * @since 900-03.05.02
 */
```

```

public class XmlCli {

    /*
     * Class private data
     */
    private String []                objArgs;
    private XMLAdapter              objBts;
    private String                  objLoginName;
    protected String                objPassword;
    protected String                objSwitch;
    protected String                adapterType;

    /**
     * Generic Constructor for the test driver.
     */
    protected          XmlCli(String[] args)
    {
        // Initialize the BTS ORB interface object.
        try {Log log = Log.getInstance("XmlCli");} catch(Exception e){}
        objArgs = args;
        objLoginName="optiuser";          // Name to login the BTS
        objPassword="optiuser";          // Password to login the BTS
        objSwitch="BTS";                // Default switch name
        parseArgs(objArgs);
        try{
            objBts = XMLAdapterFactory.getInstance().createAdapter(adapterType, args)
;
        }catch(XMLAdapterException e){
            System.out.println("Create Adapter Failure = " + e.err_code + "\n"
                + e.err_desc);
            System.exit(1);
        }
        return;
    }

    /**
     * This is the main method for the application.
     */
    public static void main(String[] args)
    {
        XmlCli me = new XmlCli(args);
        System.out.println("start me.go()...");
        me.go();
        System.out.println("me.go() done.");
        return;
    }

    /**
     * This is the primary execution method for the object. It performs the
     * actual request and calls for the print of the reply.
     */
    protected void          go()
    {
        //
        // Log into the target machine with generic optiuser
        //
        try {
            System.out.println("Attempt to connect with:"+objLoginName+"/"+objPasswo
rd);
            objBts.connect(objLoginName, objPassword);
            System.out.println("BTS10200 Login successful...\n");
        }
    }
}

```

```

        System.out.println("Type 'bye' or 'exit' to terminate the program.\n");
    }
    catch (XMLAdapterException e) {
        System.out.println("XMLAdapterException in login = " + e.err_code + "\n"
            + e.err_desc);

        System.exit(1);
    }
    catch (Exception e) {
        System.out.println("Exception at login = " + e.toString());
        System.exit(2);
    }
    //
    // Read in the file and send request...
    //
    while(true)
    {
        try {
            openCLI(); // Put out the prompt...
            CommandParser parser = new CommandParser();
            String cmd = readCLI().trim(); // Fetch the request file...
            String reply = "";
            if((cmd.equals(""))
                continue;
            if((cmd.equals("exit")) || (cmd.equals("bye")) || (cmd.equals("quit")))
                break;
            else
            {
                // Issue request to BTS 10200
                reply = objBts.request(parser.toXML(cmd));
                System.out.println("RETURN VALUE: ");
                //parser.prettyPrint(reply);
                System.out.println(printResult(reply));
            }
        }
        catch (XMLAdapterException ce) {
            System.out.println("CIS Command Exception: CODE="+ce.err_code +
                "\n"+ce.err_desc);
        }
        catch (Exception e) {
            Log.fatal("General Command Exception:"+
                Util.stackTraceToString(e));
            System.out.println("General Command Exception:");
            e.printStackTrace();
            break;
        }
    } // end while(1)
    closeCLI();
    // Clean up and logout
    try {objBts.disconnect();} catch (XMLAdapterException cad) {}

    return;
} // end go()

/**
 * Open the input file for reading. This allows the read method to suck
 * a line at a time of the CLI style input.
 */
protected void openCLI()
{
    System.out.print(objLoginName+"@"+objSwitch+"> ");
    return;
}

```

```

/**
 * This is the method that closes and clean up after a file has been
 * processed.
 */
protected void      closeCLI()
{
    System.out.println("\n Bye...");
    return;
}

/**
 * Read in the file provided as the request. Just exit on errors. Don't
 * worry about throwing an error exception.
 */
protected String      readCLI()  throws java.io.IOException
{
    int      temp=0;
    int      idx=0;
    byte []   buf= new byte[256];

    while(true)
    {
        temp = System.in.read();
        if(temp==10)      // <ENTER Key>
            break;
        buf[idx++]=(byte) temp;
    }
    return new String(buf);
}

//=====
// Tools and utilities...
//=====

/**
 * This method reads in the startup arguments for the HUB process
 * The only presently supported argument is the HUB slave or master
 * mode assignment. Master is the default. It does not reach out to find
 * the slave HUBs.
 *
 * @param  args  The list of startup arguments
 */
protected void      parseArgs(String[]  args)
{
    int  lp=0;

    if(args==null)
        return;

    try {
        for(lp=0;lp < args.length;lp++)
        {
            if(args[lp].startsWith("-n"))
                objLoginName=args[(lp+1)];

            if(args[lp].startsWith("-p"))
                objPassword=args[(lp+1)];

            if(args[lp].startsWith("-b"))
                objSwitch=args[(lp+1)];

            if(args[lp].startsWith("-t"))
                adapterType = args[++lp].toUpperCase();
        }
    }
}

```

```

    }
  }
  catch (java.lang.NumberFormatException nfe) {
    Log.fatal("Error in args: "+args [lp]+args [lp+1]+"\n"+
      Util.stackTraceToString(nfe));
    System.exit(1);
  }
  catch (java.lang.ArrayIndexOutOfBoundsException e) {
    return;
  }
  return;
}

/**
 * This is the reply data table parser
 */
public String  printResult(String reply)
{
  String  output="";
  int     size = 0;
  HashMap table = null;

  try {
    XMLReply parseResult = new XMLReply(reply);
    if(parseResult.getStatus().equals("true"))
    {
      output+="SUCCESS:";
      size = parseResult.getSize();
    }
    else
      output+="FAIL:";
    String temp = parseResult.getReason();
    temp+="\n";
    if((table=parseResult.getReplyData())!=null)
      temp += buildText(parseResult.getReplyData(),0);
    temp += "=====\n";
    output+=temp;
    for(int lp=1; lp < size; lp++)
    {
      output += buildText(parseResult.getReplyData(),lp);
      output += "=====\n";
    }
  }
  catch (Exception e) {
    System.out.println("Reply Exception = " +e.toString());
    Log.error("Error parsing reply \n"+reply+"\n"+
      Util.stackTraceToString(e));
  }
  return output;
} // end printResult

/**
 * This is the text builder for row level data in a reply table.
 */
public String  buildText(HashMap table, int rowNum)
{
  String  data="";
  HashMap rowSet=(HashMap) table.get(Integer.toString(rowNum));

  if(rowSet==null)
    return "No Data available at row "+rowNum;
}

```

```
        Iterator list = rowSet.keySet().iterator();
        for(;list.hasNext();)
        {
            String key = (String) list.next();
            String value = (String) rowSet.get( key);
            data+=key+"="+value+"\n";
        }
        return data;
    }
} // end XmlCli
```