

Transaction Processor Client

Version 4.3.x.x

Quick Start Guide
Revision 1.410

CLE|E|O

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Introduction

Overview

This Quick Start Guide provides first-time installation information for the Transaction Processor Client. It also includes testing, and removal information. It is intended to be a starting point for users of the Transaction Processor Client.

The Transaction Processor Client is made up of the set of connectors or interfaces that can be used to access the Transaction Processor through any application running locally or remotely to the TP.

The provided connectors are:

- Java
- .NET (Windows only)
- VoiceXML
- XML
- Web Service

Depending on what environment the application will be run in, one or more connectors may be required.

The *Transaction Processor Client* is one component of Cleo's *Transaction Development Kit*, a set of tools designed to simplify program access to mainframe and application server data. This kit is composed of:

- *Transaction Designer (TD)* –records screens and creates transactions.
- *Transaction Designer for XML (TD-XML)* –imports or captures XML documents and creates transactions.
- *Transaction Processor (TP)* – processes the transactions in real time.
- *Transaction Processor Client (TP Client)* – provides the basic API functions.
- A set of *Transaction Processor Administration, Configuration, and Connection Manager* tools (TP Admin) – web based utilities used to set configuration parameters, provide session monitoring, display log messages and statistics for the TP Service, and initialize the connection pools for redundant and secure client support.

Other supporting documents include (available at:)

<http://www.cleo.com>

Transaction Designer User's Guide

This guide explains how to record screen clips and create transactions.

Transaction Designer for XML User's Guide

This guide explains how to import or capture XML documents and create transactions.

Transaction Processor Quick Start Guide

This guide lists prerequisites and provides an installation procedure for the Transaction Processor.

Transaction Processor Administration Guide

This document describes the functions provided by the Transaction Processor Configuration, Administration, and Connection Manager Tools.

Transaction Processor Programmer's Guide

This guide provides information about developing applications that utilize the Transaction Processor.

Installation

Software Prerequisites

Solaris / Linux

Java 1.5 (Java VM) must be installed on the system.

Windows

Operating System: Windows 2000 Professional, Windows 2000 Server, Windows 2003, Windows XP Professional, Windows VISTA, Windows 2008, Windows 2008 R2, or Windows 7.

Microsoft's .NET Framework, Version 1.1 if using the .NET connector (install from the TP Installation CD if necessary)

(Note – Java is provided with the TP Client installation for Windows)

Pre-Installation Checklist

Before installing the Transaction Processor Client, locate and have available the following:

- Transaction Processor Client Quick Start Guide (this document)
- Transaction Processor Client Installation CD or
 - Windows – ZIP file containing Install Anywhere “install.exe” file, available via download.
 - Unix – CPIO image available via download containing the TP Client installation files.

Note: ZIP files and CPIO images containing installation files are available for download from the Cleo web site. Please contact technical support at supportEN@cleo.com to request a download link.

To extract the installation files from a ZIP file or CPIO image, perform the following:

WINDOWS

Unzip the ZIP file to extract the Install Anywhere “install.exe” file.

UNIX

- 1) Log in to the target system as *root*
- 2) Create a temporary download directory on the target system

```
cd /tmp
mkdir cleodl
```

- 3) FTP (using binary mode) the platform specific CPIO image provided in the download link to the temporary download directory on the target system.
- 4) Change directory on the target system to the directory from which the installation will be performed:
`cd /tmp`
- 5) Extract the installation files from the platform specific CPIO image:
Linux: `cpio -iduvB </tmp/cleodl/CleoTPCLINUX43010cpio`
Solaris: `cpio -ivBdumc </tmp/cleodl/CleoTPCSOLARIS43010cpio`

The installation files have now been extracted to the /tmp directory from which the installation will subsequently be performed.

Determine what version of Java is installed on your system by typing “**java -version**”.

If the java command cannot be found, or the version is less than 1.5:

- Issue the following command, logged in as root:
“**find / -name java -print**”
- If no 1.5 or 1.6 versions of java are found, install the java package delivered on the CD.
- Set the PATH environment variable to include the version 1.5 or 1.6 java command.

For example, on Solaris or Linux:

```
# export PATH=/usr/jre1.5.0_22/bin:$PATH
```

Additional documentation is available on the Installation CD or can be downloaded from the Cleo website at

<http://www.cleo.com>

- QuickStart-Client.pdf - instructions for installation, and initial setup of the Transaction Processor Client
- README.txt - release notes

Install the Transaction Processor Client

Windows

1. Turn on the PC
2. Logon to Windows as an administrator.
3. Insert the Transaction Processor Client CD into the CD drive or unzip the downloaded ZIP file.
4. Browse to the CD drive (<drive>:\) in **Windows File Explorer** or **My Computer** or **Browse to the location of the extracted file “install.exe”**.
5. Launch the installer by double clicking on the install icon in the client directory (or ./client/install.exe).

Or

If downloading the Cleo TP Client from the Cleo Website, you will download the File “install.exe”. So double click on the “install.exe” file.

6. The first screen introduces you to the *InstallAnywhere* program, which guides you through the installation. All instructions from *InstallAnywhere* are meant to be self-explanatory. Read and then follow the instructions as described on each screen. Below are some more details about the *InstallAnywhere* program.

InstallAnywhere walks you through a set of installation steps. These steps are displayed on the left side of the screen, and will be checked upon step completion:

1. Read the Introduction Screen and then click **Next**.
2. Choose your install folder. The program defaults to C:\Program Files\CleoTP. Click **Choose** to search for (and then select) another folder location, or click **Next** to accept the default.
3. Review the Pre-Installation Summary and then click **Install**.
4. Upon completion of the install, click **Done**.

Solaris / Linux

The Cleo Transaction Processor Client can only be installed, if a Unix User ID

`cleo`

and a Unix Group

`cleo`

are present on the Linux or Solaris system. And the “cleo” User ID must belong to the “cleo” Group.

If a “cleo” User ID does not already exist, please create a “cleo” User ID using the Unix command:

```
useradd
```

If a “cleo” Group does not already exist, please create a “cleo” Group using the Unix command:

```
groupadd
```

If the “cleo” User ID does not belong to the “cleo” Group, please add the “cleo” User ID to the “cleo” Group, using the Unix command:

```
usermod -G cleo cleo
```

The Cleo Transaction Processor Client should **ONLY** be activated and managed from the command line, by the “cleo” user, using the commands:

```
tpadmin start
```

```
tpadmin stop
```

NOTE ABOUT INTERACTIVE USERS ON SOLARIS:

On Solaris if you start the Cleo TP Admin from an interactive “cleo” user login, then when you exit the Solaris System, the Cleo TP Admin will STOP running.

To avoid this problem, on Solaris Systems ONLY, the “tpadmin” command starts the Cleo TP Admin by issuing a “batch” command. That way, when the interactive “cleo” user exits the Solaris system, the Cleo TP Admin will continue to run.

If you do not wish to have the “tpadmin” command on Solaris start the Cleo TP Admin using a batch command, then please use the following command instead:

```
tpadminnobatch
```

The “tpadminnobatch” command acts identically to the “tpadmin” command, except that it does not start the Cleo TP Admin by using a “batch” command. As a result when you exit the Solaris System, after having used “tpadminnobatch start” to start the Cleo TP Admin, the Cleo TP Admin will stop running.

On Solaris, in order for batch jobs to be run by a user, there are certain conditions that must be met. In order to use the “tpadmin” command on Solaris, these conditions must be true for the “cleo” user:

- There is no `/usr/lib/cron/at.allow` file and there is either an empty `/usr/lib/cron/at.deny` file, or the `/usr/lib/cron/at.deny` file does NOT contain the “cleo” user as an entry.
- If there is a `/usr/lib/cron/at.allow` file, it MUST contain the “cleo” user as an entry.

If either of the conditions above is NOT true, then the “tpadmin” command will fail to be able to start the Cleo TP Admin. Please see the Solaris “man batch” command for a more thorough explanation of the conditions necessary for the “cleo” user to be able to use “batch” commands.

The Cleo Transaction Processor Client must be installed from the console:

1. Turn on the Solaris/Linux system.
2. Logon as **root** from a console.
3. Execute the TP Client installation script based on the media(CD or CPIO image) available for the installation:

To run the TP Client installation script from CD:

- a. Insert the Cleo TP Client Installation CD into the CD drive.
- b. Based on the platform, change directory (cd) to:
 - /cdrom/cdrom0** if on Solaris
 - /mnt/cdrom** if on Red Hat Linux version 3
 - /media/cdrom** if on Red Hat Linux version 4 or 5
- c. Launch the installer by typing “./cleoinstall.tpc”.

To run the TP Client installation script contained within a CPIO image:

- a. Extract the installation related files from the downloaded CPIO installer image if they have not yet been extracted as part of the pre-installation activities. (Details can be found in the Pre-Installation Checklist section of this document.)
- b. Change directory (cd) to:
 - /tmp**
 - Linux: `cpio -iduvB < /tmp/cleodl/CleoTPCLINUX43010cpio`
 - Solaris: `cpio -ivBdumc < /tmp/cleodl/CleoTPCSOLARIS43010cpio`
- c. Launch the installer by typing “./cleoinstall.tpc”

4. You will see the Cleo End User License Agreement(EULA) displayed as several messages you will need to respond to with Y, if you agree or N, if you do not agree. Responding with N aborts the install process.
5. You will be asked to specify the Full Path to Java, as follows:
 - Please input the Full Path to the HOME DIRECTORY of your java version 1.5/1.6
 - FOR EXAMPLE: `/usr/jre1.5.0_15`

The install will verify that the Full Path to Java is input correctly and will allow for modification to the Full Path, if the correct Java version is not found.
6. When the installation completes you should see the message:

LINUX:

CLEO INSTALL of LINUX CLEO TP CLIENT COMPLETED

SOLARIS:

CLEO INSTALL of SOLARIS CLEO TP CLIENT COMPLETED

7. An installation log is kept in the file:
/tmp/CLEOTPCinstall.log

NOTE:

Installation of the Cleo TP results in the following file being installed
/etc/init.d/CleoTPCstart

The “CleoTPCstart” file will be run when the Linux or Solaris system is rebooted. The “CleoTPCstart” file runs the following command, by su’ing to the “cleo” user when the Linux or Solaris system is rebooted.

```
/usr/bin/su cleo -c “/usr/bin/tpadmin start”
```

If you do not want the Cleo TP Admin started automatically when the Linux or Solaris system is rebooted, please remove the /etc/init.d/CleoTPCstart file.

The /etc/init.d/CleoTPCstart file also has a commented out line which can be used to automatically invoke the Fail Over Monitor Service when the Solaris or Linux system is rebooted

```
#/usr/bin/su cleo -c “/usr/bin/fomonitor start”
```

If you want to automatically have the Cleo Fail Over Monitor Service started when the Unix system reboots, please remove the “#” character at the start of the line.

You would only want to use the Cleo Fail Over Monitor if you were going to define Host Session POOLS using the TP Connection Manager.

Testing the Install

Connection Manager

The Transaction Processor Connection Manager provides support for failover (i.e. redundancy) and secure (SSL) connections for the TP Client. If neither a secure nor redundant connection is required, then the Connection Manager does not need to be used.

The Connection Manager is a web based application that runs in any web browser such as Internet Explorer, Netscape, or Mozilla that can access the system where the TP Service is running.

To access the Connection Manager:

1. Check that the Transaction Processor Admin service is running as follows:
Windows: use Services under Administrative Tools. If the Transaction Processor Admin service is not running, then start it.
Linux/Solaris: Type “tpadmin start” to start the Transaction Processor Admin service.
2. Enter the following URL into the address line of your browser.
“http://<ipaddress>:38080/CManager/CManager.jsp” where <ipaddress> is the host name or IP address of the system where the Transaction Processor client is installed. The following page should be displayed.



Figure 1: Connection Manager

Refer to the section, “Using the Connection Manager”, in the Transaction Processor Administration Guide for details on configuring Connections.

Client Log Files

Log messages generated when running client applications are stored in files named `clientlog.log` and numbered files name `clientlog.log.1`, `clientlog.log.2`, ..., `clientlog.log.n` created in the directory(WINDOWS: %TP_HOME%\tomcat\logs UNIX/Linux /opt/cleotp/tomcat/logs) by default.

The log files can reach a maximum size of 5000 KB by default. The size and location of the log files can be configured by modifying the TP client logging configuration log file. The file is named

`log4j.properties`
and resides in the tomcat” directory’s “bin” directory.

Windows: %TP_HOME%\tomcat\bin
UNIX/Linux: /opt/cleotp/tomcat/bin

The TP client logging file itself is named

`clientlog.log`
and resides, by default, in the “tomcat” directory’s “logs” directory. The location of the TP client logging file can be specified in the TP client logging configuration log file. Note that forward slashes are used to specify the location.

The size and number of “clientlog.log” files to use are configurable.

See the section “Location of Log Files” in the Programmer’s Guide which discusses TP Client Logging for details.

Testing the Java Connector Installation

Verify that the Transaction Processor Service is running on a remote system and is accessible. (See the TP Quick Start Guide.) In addition, the **sample** transaction set must be assigned (and parked) to at least one session for use by the Transaction Processor on the remote system.

1. From a command prompt on Windows or a console on Solaris/Linux, change directory (`cd`) to the directory where the client tester was installed (%TP_HOME%\bin on Windows and /opt/cleotp/bin on Solaris/Linux).
2. Run *testinstall.bat* on Windows or *./testinstall.sh* on Solaris/Linux.
3. Enter “no” at the prompt.
Connect using redundancy and/or a secure connection? (default = no): no
4. Enter the IP Address of the remote system (running the Transaction Processor) at the prompt.
Example: *Enter the IP Address (default=localhost): 255.255.10.1*
5. Enter the port of the Transaction Processor running on the remote system at the prompt.

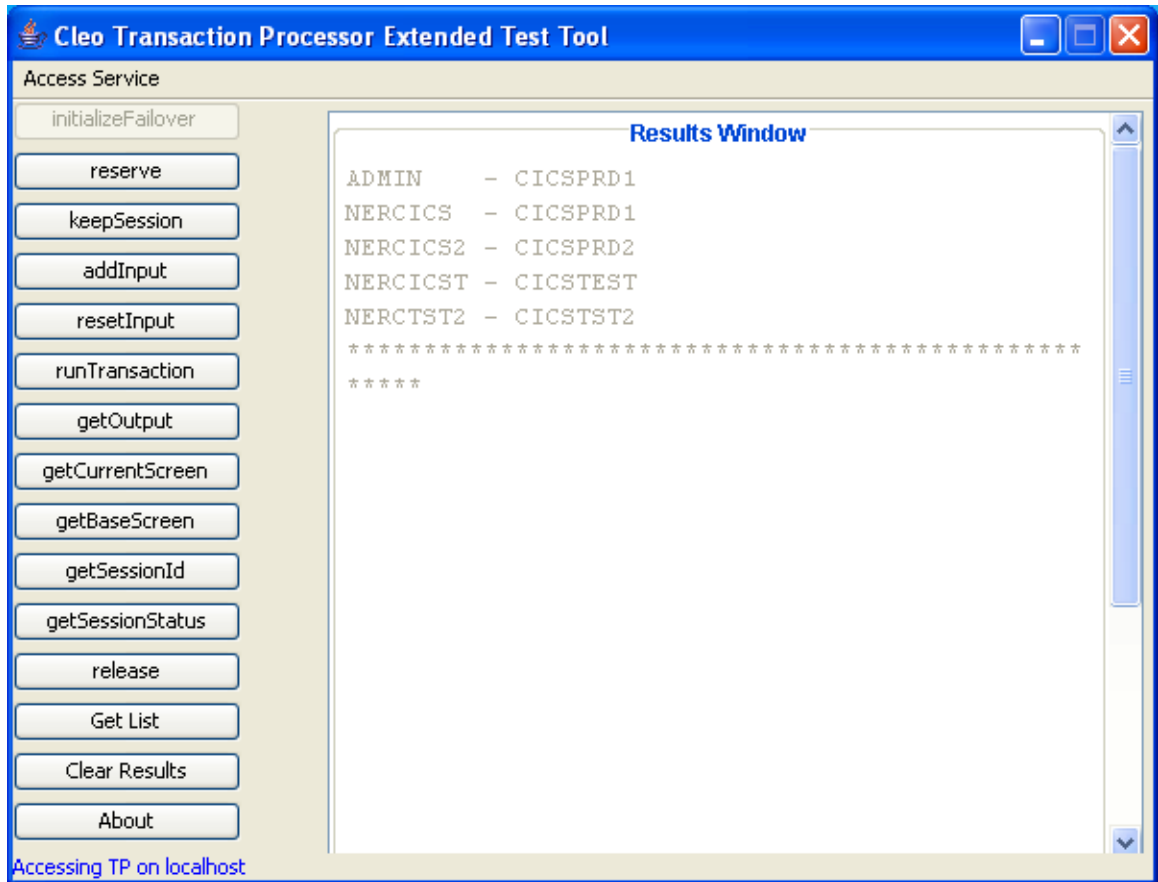
Example: ***Enter the port (default=7561): 7561***

6. If the test was successful, the following message will be displayed:
Installation test completed successfully.
7. If the test was unsuccessful, the following message (along with a stack trace of any exceptions that may have occurred) will be displayed:
Installation test failed. Please check your configurations and verify that the TP is running on the remote system.
8. Press enter to complete the test.

Using the Java Tester

A Java tester is provided with the Transaction Processor Client, serving as an example of an application using the Java connector. The tester tests the basic functions of the Transaction Processor by running a 3270 transaction to a public site providing a library card catalog host. For the scope of this document, the tester will be used to ensure that all components are installed properly.

1. Verify that the Transaction Processor has been started on a remote system, using the web-based administration page, and that the enabled sessions have a **parked** status.
2. On Solaris/Linux, launch the tester by typing “tptester GUI” from the desktop. On Windows, launch the tester by clicking the JavaTester icon or from the Windows Start Menu: **Programs | CleoTP | Java Tester.**
3. Use **Access Service** to configure how to access the TP service. If a pool is to be used, connections must be configured using the Connection Manager.
4. Click the **Get List** button found on the lower left portion of the tester window.
5. Enter a 4-6 character keyword(e.g. cleo). The keyword being sent to the host will result in a list of available Mainframe Systems being sent from the host.
6. Click **OK**.
7. The results for the get list will display in the **Results Window**.
8. Click **Refresh Status** on the Cleo Admin page to see changes as a result of running **Get List**.



The tester is very useful for validating that host transactions created using the Transaction Designer work properly before being put into production.

To see logs generated when running the tester, use an editor to view clientlog.log existing in the default location(Default is C:\Program Files\CleoTP\tomcat\logs on Windows, /opt/cleotp/tomcat/logs on UNIX/Linux).

The location of the clientlog.log file can be changed by modifying the client logging configuration file

Windows:

C:\Program Files\CleoTP\tomcat\bin\log4j.properties

UNIX/Linux

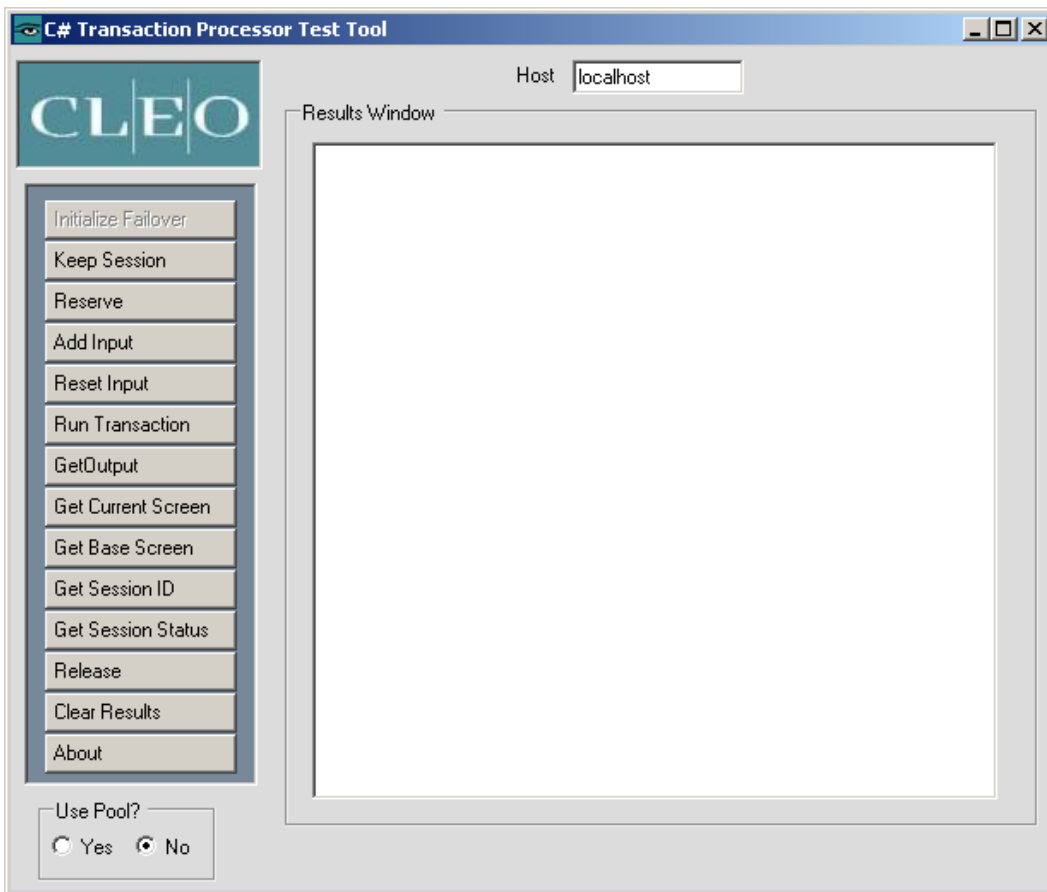
/opt/cleotp/tomcat/bin/log4j.properties

See the Programmer’s Guide for more information on TP client logging and settings in the client logging configuration file.

Testing the .NET Connector Installation (Windows only)

Verify that the Transaction Processor Service is running on a remote system and is accessible. (See the TP Quick Start Guide.) Also, Microsoft's .NET Framework, Version 1.1, must be installed on the system.

1. From a command prompt on Windows, change directory (cd) to the directory where the .NET tester was installed (%TP_HOME%\bin).
2. Run the dotNetTester program. A window similar to the following is displayed, providing buttons which can be clicked to execute the various TP functions.



The tester is very useful for validating that host transactions created using the Transaction Designer work properly before being put into production.

To see logs generated when running the tester, use an editor to view clientTP.log and clientTP.log.bak existing in the path where the .NET tester was installed. (Default is C:\Program Files\CleoTP\bin).

Testing the VoiceXML Connector Installation

Verify that the Transaction Processor Service is running on a remote system and is accessible. (See the TP Quick Start Guide.) In addition, the **sample** transaction set must be assigned (and parked) to at least one session for use by the Transaction Processor on the remote system.

1. Enter the following URL into the address line of your web browser. This will reserve a session assigned to the “sample” transaction set.

<http://<ipaddress>:38080/vxml/VXMLConnector?featureName=reserve&sessionName=cleotest&transSetName=sample>

where <ipaddress> is the IP address or hostname of the system where the TP Service is running.

If using a pool, add “&pool=<poolName>” at the end of the above URL. The Connection Manager must have been used to configure one or more connections in the pool named <poolName>. The <ipaddress> is the IP address of the system where the pool has been configured. An example using a pool named “test” is shown below.

<http://<ipaddress>:38080/vxml/VXMLConnector?featureName=reserve&sessionName=cleotest&transSetName=sample&pool=test>

2. If the reserve is successful, the following results will be displayed. (If you do not see the results displayed, try viewing the page source.)

```
<?xml version="1.0" ?>
- <vxml version="2.0">
  <var name="status" />
- <form>
  - <block>
    <var name="returnCode" expr="0" />
    <assign name="status" expr="REQUEST COMPLETE" />
    <return namelist="status returnCode" />
  </block>
</form>
</vxml>
```

3. Enter the following URL. This will issue a runTransaction of the “getlist” transaction.

<http://<ipaddress>:38080/vxml/VXMLConnector?featureName=runTransaction&sessionName=cleotest&transaction=getlist>

4. If the runTransaction is successful, the following results will be displayed.

```
<?xml version="1.0" ?>
<vxml version="2.0">
  <var name="status"/>
  <form>
    <block>
      <var name="returnCode" expr="0" />
      <var name="list1" expr="ADMIN - CICSPRD1" />
      <assign name="status" export="REQUEST COMPLETE" />
      <return namelist="status returnCode list1" />
    </block>
  </form>
</vxml>
```

5. Enter the following URL. This will release the session.

<http://<ipaddr>:38080/vxml/VXMLConnector?featureName=release&sessionName=cleotest>

6. If the release is successful, the following results will be displayed.

```
<?xml version="1.0" ?>
- <vxml version="2.0">
  <var name="status" />
- <form>
  - <block>
    <var name="returnCode" expr="0" />
    <assign name="status" expr="REQUEST COMPLETE" />
    <return namelist="status returnCode" />
  </block>
  </form>
</vxml>
```

Testing the Web Service Connector Installation

Verify that the Transaction Processor Admin service is running and is accessible. (See the TP Quick Start Guide.)

Enter the following URL into the address line of your web browser to access the Transaction Processor WSDL:

`http://<ipaddress>:38080/ws/services/WSCconnector?wsdl`

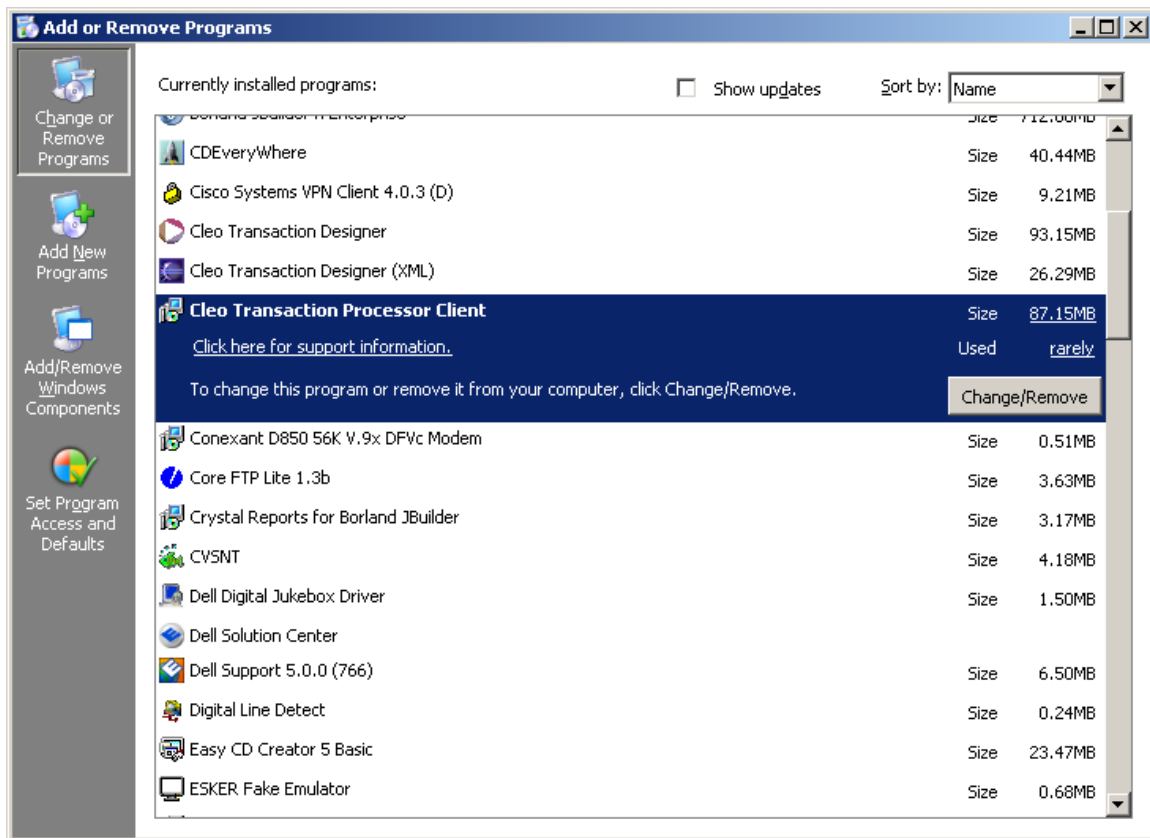
where <ipaddress> is the host name or IP address of the system where the Transaction Processor Admin service is running. Any standard SOAP interface can be used to invoke the necessary TP functions based on the endpoints and parameters defined by the WSDL. Refer to the section “Using the Web Service Connector” in the Programmer’s Guide for more information on utilizing this connector.

Removal

To remove the Transaction Processor Client:

Windows

1. Launch Add/Remove Programs in the Control Panel
2. Click Change/Remove under Cleo Transaction Processor Client



3. Follow the instructions displayed on the screen.

Linux/Solaris

1. Log on using the “cleo” user.
2. Stop the tomcat web server by issuing the following command from the “cleo” user:

```
tpadmin stop
```

3. Either “su” to the “root” user, or log out and then log on using the “root” user.
4. Move to a directory NOT under the Cleo Transaction Processor Directory structure. For example:

```
cd /tmp
```

5. Type the command */opt/cleotp/remove.tpc*.
6. Follow the instructions displayed on the screen.

NOTE:

You will be given the choice of either doing a
PARTIAL REMOVAL

Or a

TOTAL/FULL REMOVAL

PARTIAL REMOVAL

This is the option to use if you have already been using the Cleo TP Client and have a Connection Manager Config file in place.

A PARTIAL REMOVAL will keep your current Connection Manager Config file in place.

A PARTIAL REMOVAL is useful for upgrading to a new Cleo TP Client Version.

TOTAL/FULL REMOVAL

This is the option to use to completely remove any presence of the Cleo TP Client Software and files created by the Cleo TP Client.