

Cleo™ Host Interface for TCP/IP V9.1

TN3270 and TN5250

CONVERSANT® V8/R9

Quick Start Guide

This Quick Start Guide contains information about installing the 6.0.7.15 version of Cleo TN3270 software Release 9.1 (for Avaya's CONVERSANT V8/R9), the Synchronous Host Interface, and Host DIP(CleoTDIP) on a Unixware7 Operating System. This version of the Cleo software can be configured for TN3270 and/or TN5250 protocols.

Important!

Read this document before installing and using the Cleo software. If you have questions about installing and using this product, contact Cleo Communications Technical Support between the hours of 8:30 A.M. and 5:00 P.M. (EST/EDT) at: 1.866.444.2536 or supportmi@cleo.com.



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TN3270/TN5250 Installation

Installation of a Cleo Enterprise Networking product requires that you obtain a License file(license.conf). The License file is available from Cleo Communications' Sales Department at (866) 444-2536.

Software Prerequisites:

- UnixWare 7.1.1
- CONVERSANT V8/R9
- IVR Designer or Script Builder.

Note: Before installing Cleo TN3270/TN5250 , please enter the following commands:

```
# stop_vs [wait for this step to complete; it will take several minutes]
```

```
# stop_hi
```

Mounting the Cleo TN3270 Software CD

1. Login as *root*.
2. Create a mount-point for the CD if one does not already exist.(/mnt is used as the mount-point in these instructions, but any empty directory can be used).

```
# mkdir /mnt
```

3. Insert the Cleo Host Interface V9.1 for CONVERSANT® V8/R9 CD into the CD ROM drive.
4. Mount the CD by entering the following command:

```
# /sbin/mount -F cdfs -r /dev/cdrom/cdrom1 /mnt
```

```
*****
```

Updating Cleo Software

If you already have Cleo TN3270 software installed, including the **synchost** and either **vstndip**, **Cleotnhdip**, **Cleotndip**, or **Cleotdip** packages, and only want to upgrade to the new **CleoTDIP V 9.1** package, you can follow the **UPGRADE ONLY INSTRUCTIONS**, that follow, to finish the update, without removing the previous version.

If you already have Cleo TN3270 software installed, and want to re-install all of the Cleo TN3270 software, you will need to remove the existing packages by following the **REMOVE PREVIOUS VERSIONS OF CLEO SOFTWARE INSTRUCTIONS**, below, before proceeding on to the **Installing the Cleo TN3270/TN5250 Package section** to re-install the Cleo TN3270/TN5250 software.

In order to determine if you only need to upgrade to the new **CleoTDIP** Version 9.1 package, instead of doing a complete install, run the following command

```
pkginfo | grep cleotn
```

If no output results from the command, you need to do a full installation by proceeding to **Installing the Cleo TN3270/TN5250 Package**.

If the command resulted in information showing that the **cleotn** package is already installed, you may be able to do an upgrade only. However, run the following command

```
pkginfo | grep synchost
```

If no output results from the command, you need to do a full installation by proceeding to the **Installing the Cleo TN3270/TN5250 Package section**.

If the command resulted in information showing that the **synchost** package is already installed, you only need to upgrade to the new **CleoTDIP** by following the **UPDATE ONLY INSTRUCTIONS** below.

UPGRADE ONLY INSTRUCTIONS

```
stop_vs
```

```
stop_hi
```

```
pkgadd -d /mnt/CleoTDIP
```

REBOOT...to determine if reboot is necessary see NOTE:
below...

```
start_hi (if no reboot was performed)
```

```
start_vs (if no reboot was performed)
```

NOTE: A re-boot will be necessary if tuning is done when installing CleoTDIP. If no tuning is performed, then NO re-boot is necessary

REMOVE PREVIOUS VERSIONS OF CLEO SOFTWARE INSTRUCTIONS

stop_vs

stop_hi

pkgrm Cleotdip

pkgrm Cleotndip

pkgrm Ctnhdip

pkgrm vstndip

pkgrm synchost

pkgrm cleotn

The Removal of previous versions of Cleo Software is now complete.
Proceed on the **Installing the Cleo TN3270 Package** section.

Installing the Cleo TN3270/TN5250 Package

Start the installation of the TN3270/TN5250 Package

```
# pkgadd -d /mnt/cleotn  
  
# pkgadd -d /mnt/cleotdoc    (optional documentation)
```

Installing the Synchronous Host Interface Package for Cleo TN3270/TN5250

1. Determine if it is necessary to install the Synchronous Host Interface package by running the following command:

```
# pkginfo | grep synchost
```

If the "intuity synchost INTUITY Synchronous Host Interface Package" text displays, it is NOT necessary to install the Synchronous Host package. Proceed to the **Installing the Cleo TDIP (Voice[®] System Host DIP Using TN3270/TN5250) Software section.**

2. Make sure the Cleo Host Interface V9.1 for CONVERSANT[®] V8/R9 CD ROM is inserted in the CD ROM drive and mounted in /mnt.
3. Install the Synchronous Host Interface by entering the following command:

```
# pkgadd -d /mnt/synchost
```

Installing the CleoTDIP (Voice System Host DIP Using TN3270/TN5250) Software from CD

1. If the voice system is currently running, then stop the voice system by entering the following commands:

```
# stop_vs
```

```
# stop_hi
```

2. Make sure the Cleo Host Interface V9.1 for CONVERSANT® V8/R9 CD ROM is inserted in the CD ROM drive and mounted in /mnt.
3. Install CleoTDIP by entering the following command:

```
# pkgadd -d /mnt/CleoTDIP
```

Note: When CleoTDIP is installed, kernel tuning may take place and the kernel will be re-built. Kernel tuning will not be necessary if Version 8.5 of the vstndip package is already installed and you are upgrading to Version 9.1 of CleoTDIP.

Note: DO NOT reboot the UNIX operating system at this time. You must first complete *Instructions for Installing License and Instructions for Displaying/Modifying the Cleo Serial Number*

*If you have already entered the Cleo Serial Number while installing the License, you can move on to the next Section “**Basic Instructions for Configuring the TN3270/TN5250 and CleoTDIP**”*

1. In order to display the current Cleo Serial Number, please enter the following command:

```
# /opt/sna/bin/cleoserial -r
```

```
The Cleo SNA Serial Number has a value of
```

==> 123456 <==

2. In order to modify the current Cleo Serial Number or store it on the system for the first time, please enter the following command:

```
# /opt/sna/bin/cleoserial -w 123456
```

Please confirm that you want to change the Cleo
SNA Serial Number to the value

==> 123456 <==

?[y/n]

y

Basic Instructions for Configuring the TN3270/TN5250 and CleoTDIInstructions for Installing the License

1. Cleo Communications will email you a license file, "license.conf". Place the license file on the CONVERSANT V8/R9 system(eg. /tmp/license.conf). Cleo Communications will also assign a Serial Number for your system. The Serial number will be included with your software CD, or can be obtained by calling Cleo Technical Support. You will be asked to enter your Cleo Serial Number when running the *tnaddlicc* command.
2. Install the license file by entering the following command:

```
# /opt/tn3270/bin/tnaddlic
```

```
Enter the full path name of the license file to install:
```

```
/tmp/license.conf      (use own path if other than /tmp)
```

```
NOTE: You will see the contents of your license  
displayed at this point.
```

```
Do you wish to continue?(y/n): y
```

At this time the TN3270 License Daemon will be started.

3. Enter the following command:

```
# /sbin/umount /mnt
```

4. Remove the CD from the drive. Store the CD and the Software License file in a safe place. They are needed should you ever re-install the software.

Instructions for Displaying/Modifying the Cleo Serial Number

3. If you have already entered the Cleo Serial Number while installing the License, you can move on to the next Section *“Basic Instructions for Configuring the TN3270/TN5250 and CleoTDIP”*
4. In order to display the current Cleo Serial Number, please enter the following command:

```
# /opt/sna/bin/cleoserial -r
```

```
The Cleo SNA Serial Number has a value of
```

```
==> 123456 <==
```

5. In order to modify the current Cleo Serial Number or store it on the system for the first time, please enter the following command:

```
# /opt/sna/bin/cleoserial -w 123456
```

```
Please confirm that you want to change the Cleo  
SNA Serial Number to the value
```

```
==> 123456 <==
```

```
?[y/n]
```

```
y
```

Basic Instructions for Configuring the TN3270/TN5250 and CleoTDIP

1. The TN3270/TN5250 sessions start when the voice system starts. The program **tnconfig** must be executed to make the scripts for starting the TN3270/TN5250 sessions. See Appendix C. for specific options for the **tnconfig** command.

To use TN3270 sessions from a pool of lus on one host, execute **tnconfig** by entering the following command, and then **proceed to step 6**:

```
# tnconfig -h host name[:port id] -n number of lus
```

Note: The default portid is 23 and the default protocol type is TN3270.

A sample execution of tnconfig is as follows:

```
tnconfig -h tnsna -n 32
```

To use TN5250 sessions from a pool of lus on one host, execute **tnconfig** by entering the following command, and then **proceed to step 9**:

```
#tnconfig -h host name[:port id] -n number of lus -p 5
```

Note: The default port is 23 and **-p 5** sets the protocol to TN5250

A sample execution of tnconfig is as follows:

```
tnconfig -h tnsna -n 24 -p 5
```

Note: In these examples, the symbolic host name “**tnsna**” must be listed in the “**/etc/hosts**” file.

NOTE: Step 1 is the most common configuration method, for both TN3270 and TN5250.

2. **ONLY if, it is required,** to use both TN3270 and TN5250 from pools of lus on multiple hosts, execute **tnconfig** by entering the following

command, and then **proceed to step 9**:

```
#tnconfig -h host32701[:port id],host52501[:port
id],host32702[:port id],host52502[:port id]-n #lus for
host32701,#lus for host52501,#lus for host32702,#lus
for host52502 -p 3,5,3,5
```

A sample execution of tnconfig is as follows:

```
tnconfig -h host32701,host52501,host32702,host52502 -n
24,10,10,24 -p 3,5,3,5
```

3. **ONLY, if it is required**, to use TN3270 sessions with specific LU Names on one host, execute **tnconfig** by entering the following command, and then **proceed to step 9**:

```
#tnconfig -h host name[:port id] -n number of lus -
l luname 1,luname 2,...,luname x
```

A sample execution of tnconfig is as follows:

```
tnconfig -h tnsna -n 32 -l lu1,lu2,...,lu32
```

4. **ONLY, if it is required**, to use TN5250 sessions with specific DEVICE NAMES, on one host, execute **tnconfig** by entering the following command, and then **proceed to step 9**:

```
#tnconfig -h host name[:port id] -n number of lus -l
IBM-3180-2,IBM-3477-FC,...,IBM-3477-FG -p 5
```

A sample execution of tnconfig is as follows:

```
tnconfig -h tnsna -n 24 -l IBM3180-2,IBM-3477-
FC,...,IBM-3477-FG -p 5
```

5. **ONLY, if it is required**, to use TN3270 sessions from pools of lus on multiple hosts, execute **tnconfig** by entering the following command, and then **proceed to step 9**:

```
# tnconfig -h host name 1[:port id],host name 2[:port id],...,host name x[:port id] -n number of lus for host name 1,number of lus for host name 2,...,number of lus for host name x
```

A sample execution of tnconfig is as follows:

```
tnconfig -h host1,host2,host3 -n 10,12,10
```

6. **ONLY, if it is required**, to use TN5250 sessions from pools of lus on multiple hosts, execute **tnconfig** by entering the following command, and then **proceed to step 9**:

```
# tnconfig -h host name 1[:port id],host name 2[:port id],...,host name x[:port id] -n number of lus for host name 1,number of lus for host name 2,...,number of lus for host name x -p 5,5,...,5
```

A sample execution of tnconfig is as follows:

```
tnconfig -h host1,host2,host3 -n 10,12,2 -p 5,5,5
```

7. **ONLY, if it is required**, to use TN3270 sessions with specific LU Names on multiple hosts, execute **tnconfig** by entering the following command, and then **proceed to step 9**:

```
# tnconfig -h host name 1[:port id],host name 2[:port id],...,host name x[:port id] -n number of lus for host name 1,number of lus for host name 2,...,number of lus for host name x -l luname 1 for host name 1,...,luname 1 for host name 2,...,luname 1 for host name x,...,luname for last lu for host name x
```

A sample execution of tnconfig is as follows:

```
tnconfig -h host1,host2,host3 -n 2,4,2  
-l lu1h1,lu2h1,lu1h2,lu2h2,lu3h2,lu4h2,lu1h3,lu2h3
```

8. **ONLY, if it is required**, to use TN5250 sessions with specific DEVICE NAMES on multiple hosts, execute **tnconfig** by entering the following

command, and then **proceed to step 9**:

```
# tnconfig -h host name 1[:port id],host name 2[:port
id],...,host name x[:port id] -n number of lus for host
name 1,number of lus for host name 2,...,number of lus
for host name x -l luname 1 for host name 1,...,luname 1
for host name 2,...,luname 1 for host name x,...,luname
for last lu for host name x -p 5,5,...5
```

A sample execution of tnconfig is as follows:

```
tnconfig -h host52501,host52502,host52503 -n 2,3,2
-l dev1h1,dev2h1,dev1h2,dev2h2,dev3h2,dev1h3,dev2h3
-p 5,5,5
```

9. **If there are specific requirements, not met in steps 1-4**, then configure the TN3270 software by changing the **com.txt** file to the specific requirements and converting the **config** file with the following commands (see the *TN3270 Administration Guide* for assistance on configuration):

```
# cd /opt/tn3270

# cp samples/tnsample.txt com.txt

# vi com.txt

# /opt/tn3270/bin/tncfgtcp com.txt
```

10. Perform an orderly shutdown(eg. **/etc/shutdown -y -g 0 -I 6**) and reboot the UNIX operating system. Rebooting will start the voice system.
11. Assign a Script Builder or IVR Designer application to each Conversant Session ID by entering the following command:

```
# hassign host_application to session_number[s]
```

Sample command:

```
# hassign vmtest to 0-32
```

12. Run the **hstatus** command to check status. The output will display the following:

<i>SESSION</i>	<i>SNA SERVER</i>	<i>Luname</i>	<i>SERVICE</i>	<i>STATE</i>
0	tn_server	-	Vmtest	Loggedin
(voice Channel)	(name or IP address)	(N/A)	(script builder script)	(current state)

TN3270/TN5250 Removal

1. Login in as *root*.
2. Remove the CleoTDIP package by entering the following command:

```
# pkgrm CleoTDIP
```

Note: When CleoTDIP is removed, kernel tuning may take place and the kernel will be re-built. Kernel tuning will not be necessary if Version 8.5 of the *vstndip* package, or *Ctnhdip*, *Cleotndip*, *Cleotdip* was previously installed.

3. Terminate any running instances of the TN3270/TN5250 product by entering the following command:

```
# /opt/tn3270/bin/tnstop3270
```

4. Remove the Cleo TN3270/TN5250 by entering the following command:

```
# pkgrm cleotn
```

5. Perform an orderly shutdown(eg. ***/etc/shutdown -y -g 0 -I 6***) and reboot the system.

Switching Between SNA & TN Host Connections

In order to switch between SNA & TN Host Connections, the assumption is made that both a SNA Host Connection package and a TN Host Connection package are installed, and that the SNA Host Connection package was installed first!

Switch From TN Back To SNA

1. Stop the voice system by entering the following command:

```
# stop_vs
```

2. Terminate any running instances of the TN3270 product by entering the following command:

```
# stop_hi
```

3. Restore the SNA host connection components by entering the following command:

```
# tntosna
```

4. Start the voice system by entering the following commands:

```
# start_hi
```

```
# start_vs
```

Switch From SNA Back To TN

1. Stop the voice system by entering the following command:

```
# stop_vs
```

2. Terminate any running instances of the SNA product by entering the following command:

```
# stop_hi
```

3. Restore the TN host connection components by entering the following command:

```
# snatotn
```

4. Start the voice system by entering the following commands:

```
# start_hi
```

```
# start_vs
```

APPENDIX A.

NEW “H” COMMANDS “hispy” and “cleoispy”

The “hispy” command allows a developer to interactively “spy” and “interact” with an assigned Host Session. As well as “capture” new Host Screens.

The “cleoispy” command is identical to “hispy”, except that FUNCTION KEYS are not needed to execute the PF1-PF24, and PA1-PA3, 3270 commands. This should help developers dialing into the Avaya IR R1 system using emulators that do not support Function Keys.

The “hispy” or “cleoispy” command can be executed from the Solaris Sparc 8 command line as follows:

hispy n

cleoispy n

(Where: “n” is a single Host Session ID or Host Session ID range (eg. 0-10))

The “**hispy**” and “**cleoispy**” command will do the following for each Host Session ID specified:

1. Display the following message and then launch “sb_te” with the appropriate arguments to allow the user to **CAPTURE** any screen displayed by simply entering an “**ESC B**” key sequence.
2. The **CAPTURED** screen is **APPENDED** to the Screen Capture file of the [Voice@Work](#) or Script Builder application’s screen capture file(s)

/vs/data/host/appl.sc & appl.nam for V@W

/att/trans/sb/appl/appl.sc for Script Builder

of the Application currently assigned to the specified Host

Session ID.

NOTE: If **NO** screen capture file(s) exist, for the Application, any Screen Captures will be placed in new screen file(s)

/vs/trans/appl.sc

/vs/trans/appl.nam (for [Voice@Work](#) only)

3. The **CAPTURED** screen can then be used later, by the Application Developer, to define Screen Identifiers and Fields of the screen and call flow **recovery, login, logout, or transaction** processing.
4. When the user is placed into the **sb_te** program by the **hispy/cleispy** program, all the features of **“sb_te”** are available to **NAVIGATE** through the Host Application screens, **AND CAPTURE SCREENS** along the way.
5. When finished **INTERACTING/CAPTURING** screens in **sb_te**, use the **CTRL-X** key sequence to exit from the currently specified Host Session ID.
6. The **hispy/cleispy** command will exit after the Last/Only Host Session ID is exited with the **CTRL-X** key sequence.
7. The **hispy/cleispy** command can be entered **NO MATTER WHAT STATE** an **ASSIGNED** Host Session ID is in.
8. When the **hispy/cleispy** command is processing an **ASSIGNED** Host Session ID, the **HOST DIP(/vs/bin/vrs/agdip3270)** is not able to access that Host Session ID.
9. The **hispy/cleispy** command is mainly intended to help Application Developers debug problems with the Host Interface portion of Voice

Applications.

Therefore, **hispy/cleispy** will allow the Developer full freedom to manipulate a Host Session ID. If such manipulation results in placing a Host Session ID in an “awkward/broken/confused” state, please feel free to use the **hfree/hassign** commands to **FIX** such problems.

10. The **hspsy** command is still available to simply display the current screen of an assigned Host Session ID.
11. Typical uses of “**hispy/cleispy**” are :
 - Capture an **UNRECOGNIZED** error screen that was never encountered before.
 - Capture screen(s) that were never encountered before until a non-common call flow was taken by the caller.
 - Navigate through Host Application Screens, capturing screens along the way, to define a “**recovery**” sequence to add to the current Application.
 - Test/develop Host call flows during development.

APPENDIX B.

Host DIP PARAMATERS Configuration File

/vs/etc/default/agdip3270

The Host DIP Parameters Configuration File, contains parameters that can change how the Host DIP operates.

The /vs/etc/default/agdip3270 configuration file is read each time the Host DIP is started/re-started.

The Host DIP is started/restarted whenever:

- The system is rebooted

- “start_vs” is run

- “start_hi” is run

- The agdip3270 process is killed while Voice System is active

Some of the Host DIP Parameters are either turned on or off by specifying “YES” or “NO” as a value for the parameter and with some “0” is used to turn off the option and “1” to turn on the option.

The default version of the Host DIP Parameters Configuration File is shown below:

/vs/etc/default/agdip3270

```
#
# Default values for the "agdip3270" daemon
process.

# SESSIONS_TO_START determines how many sessions
will be sending or
# getting screens at any one time per host3270
board.
# The default is to have the maximum of 32 sessions
concurrently
# interacting with the host.
SESSIONS_TO_START=32

# LOGOFF_TIMEOUT specifies the maximum amount of
time stop_vs will
# wait for any active sessions to be logged out
when the voice system
# is being stopped.
LOGOFF_TIMEOUT=60

# MAX_NUMBER_OF_LUS specifies the maximum number of
LUS that
# can be configured for a system.
MAX_NUMBER_OF_LUS=32

#it allows the host dip to send reset key when the
lu is input inhibited; and
#the host dip to send system request key when the
screen is SSCP or UNOWNED.
# DEFAULT IS NO
AUTORESET_LUS=NO

# The amount of time to pause after getting a
response from the host.
# This parameter is only in effect during the
login, logout, or
# recover sequences.
# No pausing is done while the LU is handling a
```

```
call.
# Setting this parameter to zero, will turn off
pausing completely.
PAUSE_BETWEEN_SCREEN=5

# The number of RECOVERY RETRIES to do before Doing
A POWER OFFON.
# Will do the POWER OFFON every multiple of this
many RECOVERY RETRIES.
RETCOUNT_TODO_POWEROFF=5

# The amount of STAGGER time between RECOVERING LUS
to be RESSTARTED.
#STAGGER_BETWEEN_RETRIES=5

# Whether or NOT to do a POWER OFFON sequence
instead of a SYS REQ AID KEY.
# Default is NO Set to YES To use POWEROFF.
#SYSREQ_IS_POWEROFF=NO

# Do Special UNFORMATTED SCREEN HANDLING. Some
UNFORMATTED screens do not
# allow a CLEAR KEY. To work around this problem
define a SCREEN with a
# FIELD NAME that has as part of the name the
string "unformat_f".
# When a SCREEN with a FIELD NAME CONTAINING
"unformat_f" is encountered,
# the DIP does a ERASE TO END OF FIELD command and
then positions the
# cursor at 1,1.
# Default is NO
#DO_UNFORMAT_SCR_SPECIAL=YES

# Do EOF(Erase to End of Field) from Beginning of
current field. To do
# this must name a field with the string
"EOF_begin" imbedded in the name.
# Default is NO
#DO_EOF_BEGIN_FIELD=YES
```

```
# Do EOF from where cursor is in current field. To
do this must name a
# field with the string "EOF_current" inbedded in
the name.
# Default is NO
#DO_EOF_CURRENT_FIELD=YES

# Do HARDFAIL recovery logic. Default is YES.
#HARD_FAIL_RECOVERY=NO

# HARDFAIL Retry Timer. Default is 300 seconds.

#HARDFAIL_RETRY_TIME=600

# WRONG SCREEN ACTION. If encounter a WRONG
SCREEN, If
# ACTION = 0 Handle as always
# ACTION = 1 Send Screen even if on wrong
screen
# ACTION = 2 Force LU into recovery
#WRONG_SCREEN_ACTION=1

# IF Need to do RESERVE of LU across Applications
while processing 1
# transaction, then set
# DO_VXML_MULTIPLE_TRANS=1
# This means exiting an application during a call
won't leave transaction state.
# DEFAULT is DO_VXML_MULTIPLE_TRANS=0
#DO_VXML_MULTIPLE_TRANS=1

#
# IF doing 5250 and need to use AID KEY PAGE UP,
USE SELPEN AID KEY instead
# and set PGUP_IS_SELPEN=1. Default is
PGUP_IS_SELPEN=0
#PGUP_IS_SELPEN=1

# IF doing 5250 and need to use AID KEY PAGE DOWN,
USE ATTENTION AID KEY instead
# and set PGDWN_IS_ATTEN=1 Default is
```

```
PGDWN_IS_ATTEN=0
#PGDWN_IS_ATTEN=1

# If doing 5250 and need to use TABs. For example
to TAB out of a field
# in order to do a Function Key. Then Turn on PA1
to be N TABs,
# PA2 to be N TABs, and PA3 to be N TABS. The
default for all 3 options
# is OFF, a value of zero(0).
#PA1_IS_TAB = 1
#PA2_IS_TAB = 2
#PA3_IS_TAB = 3

# If doing 5250 and need to filter out all
attributes, but unprotected fields,
# set FILTER_ATTR=1. Default is FILTER_ATTR=0
#FILTER_ATTR=1

# NOTE NOTE NOTE NOTE: IF DOING ANY OF THE
UNCOMMENTED NEW FEATURES,
# MUST INCLUDE THEM IN THE
ORDER SHOWN!!!!
```

APPENDIX C.

TNCONFIG

The *tnconfig* command has the following options:

[-T TERMTYPE]

Optional parameter to specify a TN3270 Terminal Type to Use or a TN5250 Device Name to use. This sets the Environment Variable `OVERRIDE_TN3270_TERM` to the value of **TERMTYPE**.

[-NE]

Optional parameter to override the default of using TN3270 Extentions Mode or TN5250 Environment Mode. If **-NE** is specified, then negotiations with TN SERVERS will not use TN3270 Extentions or TN5250 Environment Mode.

-h hostname1,hostname2,...,hostnamen

Mandatory parameter.

Each comma separated argument is an /etc/hosts entry or DNS name entry that points to a TNSERVER.

There must be a corresponding **-n** argument for each **-h** Argument.

If TN5250 is to be used for any of the **-h** arguments, then there must be a corresponding **-p** argument, also.

-n number lus for hostname1,number lus for hostname2,...,number of lus for hostnamen

Mandatory parameter.

Each comma separated argument is the number of LUs to use for the corresponding **-h** argument.

[-p 3|5,3|5,...,3|5]

WHERE: **3** is used to denote TN3270 protocol and **5** is used to denote TN5250 protocol.

Optional parameter if using TN3270 protocol for all **-h** arguments.

Mandatory parameter if using TN5250 protocol for any **-h** arguments.

If **-p** is used, there must be an argument supplied for every corresponding **-h** argument.

[-l 3270specificLUname1|5250devicename1,3270specificLUname2|5250devicename2,...,3270specificLUnamen|5250devicenenen]

Optional parameter.

Each comma separated argument is either a specific LU name for TN3270 or a device name for TN5250. There will be an entry for every LU on every host/TNSERVER connection.

[-t seconds]

WHERE: *seconds* is the number of seconds to delay before trying to re-connect an LU, when a host connection fails.

The environment variable

SNA3270_RETRY_TIME

is set to the value of the *seconds* argument.

Optional parameter. **5 seconds** is the default value.

The environment variable**SNA3270_RETRY_TIME**is set to the value of the *seconds* argument.**[-a seconds]****WHERE:** *seconds* is the number of seconds to use for DIP
HLLAPI no-response from emulator failure value**Optional parameter. 1 second is the default value.**

APPENDIX D.

SAVING OLDER VERSION CONFIGURATION INFORMATION

If you were using an older version of the *vsndip* package, you would have run the command

```
tnconfig
```

If you elect to remove the older version of the *vsndip* package, you can obtain the information necessary to re-run the *tnconfig* command after installing this new version of *CleoTDIP*.

NOTE: If you already have vsndip installed, you do not have to remove it before installing, CleoTDIP.

You will need to determine the following parameters, in order to re-run the *tnconfig* command.

- 1. Determine how many Host/TNSERVER connections were being used**

```
# ls -l /etc/opt/tn3270/tn3270-*a.txt
```

If you were using only 1 connection, you would only see the file *tn3270-1a.txt* listed.

If you were using more than 1 connection, you would see multiple files of the form *tn3270-na.txt*. Where *n*'s highest value is the number of connections to use.

- 2. Determine the host name/ip address of each Host/TNSERVER connection that was used.**

```
# grep "domain = " /etc/opt/tn3270-*a.txt
```

The host name/ip addresses of each Host/TNSERVER connection will be listed.

3. Determine the total number of LUs that were configured.

```
# grep "MAX_NUMBER_OF_LUS="
/vs/etc/default/agdip3270
```

The maximum number of LUs will be the number listed.

If you are only using 1 Host/TNSERVER connection(value of *n=1* in step 1 above), use the **MAX_NUMBER OF LUS** value for the value of the *tnconfig* command's parameter "-n number of lus".

4. Determine the number of LUs for multiple Host/TNSERVER connections.

Examine the file */vs/bin/util/tnstart*.

Each Host/TNSERVER connection will have a line like the following:

```
/opt/tn3270/bin/tncfgtcp /etc/opt/tn3270/tn3270-na.txt
```

Following this line will be 1 or more invocations of the tn3270 emulator. For example:

```
/opt/tn3270/bin/tn3270 -s /vs/bin/data/synchost/tn3270-
0.stu -B -a 1 -h0x2,0x3,0x4,0x5,0x6,0x7,0x8,0x9,0xa,0xb
```

Count the total number of LUs following the "*-h*" argument for each tn3270 invocation. That total will be the value of the *tnconfig* command's parameter "-n number of lus" for the particular Host/TNSERVER connection.

5. Determine if the LUs are from a POOL or are SPECIFIC LU NAMES used.

```
# grep "\-1" /vs/bin/util/tnstart
```

If the “**-l**” switch is not used anywhere in the /vs/bin/util/tstart file, then POOLED LUs are being used. No further information is needed to run the **tnconfig** command.

If “**-l**” is used in the /vs/bin/util/tstart file, then the SPECIFIC LU NAMES to use with the **tnconfig** command.

APPENDIX E.

NEW CLEO EXTERNAL FUNCTIONS TO RESERVE and RELEASE LUs

Cleo has developed 2 External Functions that can be used by an IVR Designer Host Application to allow an Application Developer the ability to reserve a Host Session and then determine when to release the Host Session(LU).

The 2 External Functions were originally developed for use with VXML applications that have a need to use an IVR Designer Host Application, by invoking CallScript to activate the Host Application. The Host Application uses the External Function Ret2vxml.

When the IVR Designer Host Application is called, the VXML application can pass arguments. One of the arguments could indicate to the Voice Application that it needs to Reserve a Host Session(LU) or Release a Host Session(LU).

If a Reserve Host Session(LU) is not done, then each time the Host Application is invoked, a different Host Session(LU) could be used and the Host Application would have to navigate back to the “transaction” based screen each time it is invoked.

To allow an IVR Designer Host Application to use the same Host Session(LU) when it is called multiple times by a VXML Application, the following 2 External Functions were developed.

Cleo External Function Cleoresrvlu

The *Cleoresrvlu* function instructs the Cleo Host DIP(DIP0) to reserve a Host Session(LU) for the input application name and voice channel, until a *Cleorelslu* function is called.

A successful call to this function results in the Host Session(LU) being exclusively associated with the caller’s input voice channel, and the Host Session(LU) is returned to the caller.

The *Cleoresrvlu* function is called with the following arguments:

Hostapp(In/Str) – Name of IVR Designer Host Application.

Channel (In/Number) = Voice Channel

LUnum (Out/Number) = LU number/Host Session reserved.

Cleo External Function Cleorelslu

The *Cleorelslu* function instructs the Cleo Host DIP(DIP0) to release a Host Session(LU) for the input voice channel. A successful call to this function results in the Host Session(LU) being released.

The *Cleorelslu* function if called with the following arguments:

Channel (In/Number) = Voice Channel

Copying External Functions Cleoresrvlu and Cleorelslu to IVR Designer Desktop

The *Cleoresrvlu* and *Cleorelslu* functions reside on the Cleo Host Interface CD and are also located in the /cleo/install directory on the AIR system.

The following files need to be ftp'd to the IVR Designer Desktop, in order to use these external functions with an IVR Designer Host Application. The files on the AIR system are: into the directory

C:\Program Files\Avaya\Avaya IVR Designer\ExtFuncs

/cleo/install/Cleoresrvlu.bmp

/cleo/install/Cleoresrvlu.ef

/cleo/install/Cleorelsu.bmp

/cleo/install/Cleorelsu.ef

These files need to be placed in the following directory on the IVR Designer Work Station PC:

C:\Program Files\Avaya\Avaya IVR Designer\ExtFuncs

APPENDIX F.

TROUBLE SHOOTING TIPS WHEN USING TN5250

The Host Interface functionality of IVR Designer and Script Builder were intended to be used with 3270 Host Applications. As a result, when using TN5250, there are a few things to be aware of:

1. **TN5250 ERROR MESSAGES** will sometimes be written to ROW 24 of the emulation screen. Since the status line occupies ROW 24, the error messages will not be visible. To see the error messages use a **CTRL-W** keystroke. Then after viewing the message use the **CTRL-W** keystroke again, to turn the status line back on.
2. **TN5250 PAGE UP and PAGE DOWN AID KEYS** are available. When using emulation, **ESC-U** can be used for **PAGE UP** and an **ESC-D** can be used for **PAGE DOWN**.
3. **TN5250 PAGE UP and PAGE DOWN** can be specified in an IVR Designer or Script Builder Application by using the **SELECTPEN AID KEY** for **PAGE UP** and **ATTENTION AID KEY** for **PAGE DOWN**. **ALSO**, 2 Host DIP Parameters must be set so that the Host DIP will process these AID KEYS as PAGE UP and PAGE DOWN for 5250 applications. In the file `/vs/etc/default/agdip3270` the following 2 parameters must be set,

PGUP_IS_SELPEN=1

PGDWN_IS_ATTN=1

4. **TN5250 TAB KEY** is needed to TAB out of certain fields before some Function Keys can be used to exit screens. Since TN5250 does not use **PA** (Program Action) AID KEYS, the PA KEYS along with the setting of Specific Host DIP configuration parameters can be used so that an application can TAB out of fields. The **PA1 AID KEY** will do **1 TAB**, the **PA2 AID KEY** **2 TABs**, and the **PA3 AID KEY** **3 TABs**, when they are specified as AID KEYS and the

following parameters are set in the /vs/etc/default/agdip3270 file.

PA1_IS_TAB1=1

PA2_IS_TAB2=1

PA3_IS_TAB3=1