Forwarder DEP

User Manual

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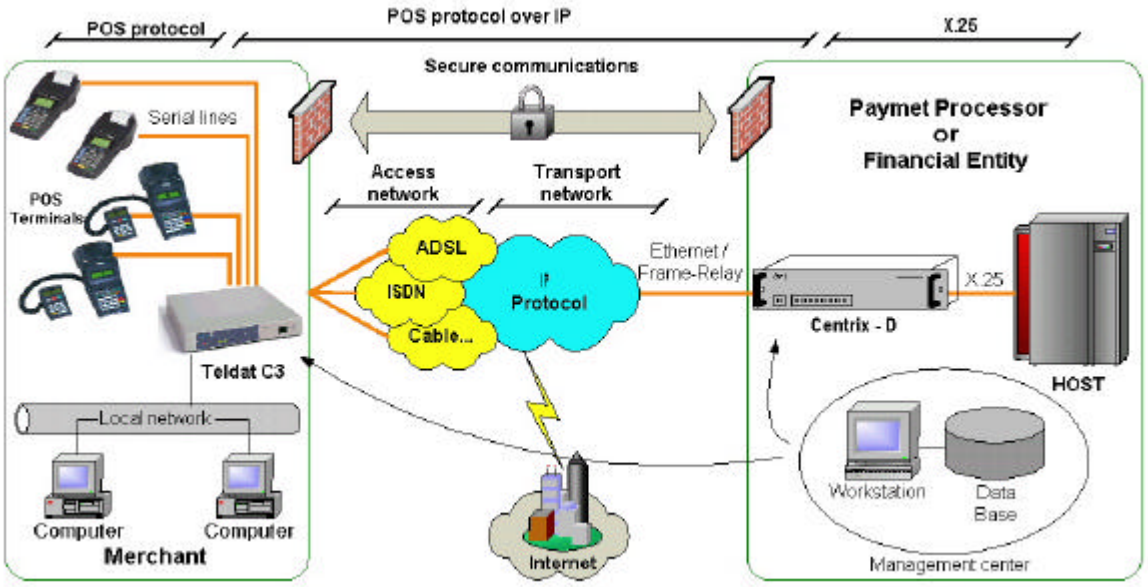
Chapter 1
Introduction

1. Introduction

The user escenario for dataphone over ADSL is as shown in the following figure:



The ***Teldat C3*** and ***Centrix-D*** devices are the devices that carry out encapsulation and decapsulation of the dataphone protocol in IP.

The ***Teldat C3*** is the device installed at the shop and is responsible for packeting the dataphone calls in IP protocol and transmitting them.

The ***Centrix-D*** is the concentrator device located in the central offices, which receive the IP connection petitions from the POSs connected to the ***Teldat C3*** devices and delivers them to the HOST in traditional X.25 format.

The transport protocol between the ***Teldat C3*** and ***Centrix-D*** is TELDAT's own protocol: ***TRMTP*** (***Trivial Message Transport Protocol***) in secure mode. The ***TRMTP*** in secure mode is a protocol based on UDP which ensures that all information messages reach the remote end, detects the reception of duplicated messages for discarding purposes and ensures that the arrival order of the messages is correct.

The following chapters will explain how to configure the ***Centrix-D***, HOST device that receives the IP traffic from the transactions executed with the POSs connected to the ***Teldat C3*** devices and delivers them in X.25 to the Payment Processor Entity HOST.

Chapter 2
Configuring the Forwarder DEP

1. Centrix-D: Forwarder DEP

1.1. Forwarder DEP

The ***Centrix-D*** is the concentrator device located in the central offices, which receive the IP connection petitions from the multiple remote devices, and delivers them to the HOST in traditional X.25 format.

The ***Centrix-D*** has the forwarder DEP (Packet Assembler-Dissembler PAD, from here on referred to as DEP Desensamblador- Ensamblador de Paquetes) implemented, which receives the TRMTP packets where the packets generated by the dataphone are encapsulated and delivered to the HOST in traditional X.25 format.

In order to do this, the ***Centrix-D*** dynamically creates TRMTP "sessions" each time a synchronization packet or TST from a ***Teldat C3*** is received, sessions which close on receiving the EOT packets or when the T4 timer times out.

The parameters requiring configuration in the DEP are:

- **Operation Mode:** Permits you to select the transport protocol used. This can be TRMTP or TCP. The optimal work mode for ***Centrix-D*** is TRMTP. For this reason we recommend always using this protocol.
- **Type of Terminal:** This permits you to select where you can obtain the X25 called NA from. The NA called can be extracted from the dataphone protocol call request message (*general type*) or that this is configured in the ***Centrix-D*** (*special type*).
- **Maximum number of terminals:** This is the maximum number of X.25 calls that can be simultaneously established towards the HOST.
- **Calling NA**
- **Called NA,** this is only used in the specific type.

Additionally other specific TRMTP parameters are also configured:

- **Local UDP Port:** Number of the UDP port configured for reception in the ***Centrix-D***. The UDP default port used in reception is 20001.
- **N1:** Maximum length of message data field.
- **N2:** Maximum number of message retransmissions.
- **T1:** ACK wait time, before retransmitting.
- **T2:** Wait time in order to exit an error state (Transmitter).
- **T3:** Inactivity time in order to exit the DATA state (Transmitter) and provoke an EOT transmission.
- **T4:** Inactivity timer in order to return to idle state OFF (Receiver).

Additionally, in order to ensure that the Centrix-D adequately routes the X.25 calls towards the HOST, you need to satisfactorily configure the routing paths acording to the NA towards the router's X.25 ports. This is done from the configuration process's **X25 node**, as explained in the X.25 Protocol Configuration Manual Dm507-I.

2. DEP Configuration Commands

In order to enter the configuration process, carry out the steps explained below:

1. At the (*) prompt, enter **PROCESS 4** or just **P 4**. This will take you to the configuration prompt *Config>*.

```
*P 4
Config>
```

2. Subsequently, enter the **PROTOCOL DEP** or **P DEP** command.

```
Config>P DEP

-- DEP Configuration --
DEP config>
```

In this chapter, the forwarder DEP configuration commands are ennumerated and described. All the Forwarder DEP configuration commands must be entered at the DEP prompt (DEP config>). The letters appearing in **bold** are the minimum number of letters that must be entered in order to execute the command.

Command	Functions
? (HELP)	Lists the configuration commands or lists any parameters associated to a command.
LIST	Displays the forwarder DEP configured information.
SET	Configures the forwarder DEP global parameters.
TCP-MENU	Permits you to enter the TCP parameter configuration menu.
TRMTP-MENU	Permits you to enter the TRMTP parameter configuration menu.
EXIT	Returns to the Config> prompt

DEP configuration commands

2.1. ? (HELP)

The **?** (HELP) command serves to list all the available commands included in the normal prompt level. In the same way, you can enter **?** after a specific command name in order to obtain the associated options.

Syntax:

```
DEP config>?
```

Example:

```
DEP config>?
LIST
SET
TCP-MENU
TRMTP-MENU
EXIT
DEP config>
```

2.2. LIST

The **LIST** command is used in the DEP configuration process in order to display the DEP interface configuration information.

Syntax:

```
DEP config>LIST
```

Example:

```
DEP config>LIST
Transport Mode                    : TRMTP
Terminal Type                     : GENERAL
Max number of terminals           : 150
NA Called                         :
NA Calling                        : 072411194048
Reverse Charge                    : ON
User Data                         : X28

DEP config>
```

2.3. SET

Use the **SET** command in the DEP configuration process in order to configure the forwarder DEP parameters.

Syntax:

```
DEP config>SET ?
CALLED-NA
CALLING-NA
MAX-TPV-NUMBERS
MODE
TERMINAL-TYPE
REVERSE-CHARGE
USER-DATA
```

a) SET CALLED-NA

This permits you to configure the X.25 called NA. This parameter only takes effect when the forwarder is configured as SPECIFIC type.

Example:

```
DEP config>SET CALLED-NA
NA called:? 900000009
DEP config>
```

b) SET CALLING-NA

This parameter permits you to configure the X.25 calling NA.

Example:

```
DEP config>SET CALLING-NA
NA calling:? 333333334
DEP config>
```

c) SET MAX-TPV-NUMBERS

This parameter permits you to configure the maximum number of X.25 calls that you can have established towards the HOST.

Example:

```
DEP config>SET MAX-TPV-NUMBERS
Maximum number of terminals [200]?
DEP config>
```

d) SET MODE

Configures the IP transport mode that is going to be used to encapsulate the datafone protocol packets. The available transport protocols are TRMTP and TCP.

Syntax:

```
DEP config>SET MODE ?
TCP
TRMTP
```

Example:

```
DEP config>SET MODE TRMTP
DEP config>
```

e) SET TERMINAL-TYPE

Through this parameter, you configure where the called NA is taken from in the X.25 connections established towards the HOST. There are two possible types: *general*: this copies the NA from the call establishment packet coming from the dataphone protocol and *special*, which copies the called NA from the forwarder DEP configuration.

Syntax:

```
DEP config>SET TERMINAL-TYPE ?
GENERAL
SPECIAL
```

Example:

```
DEP config>SET TERMINAL-TYPE GENERAL
```

f) REVERSE CHARGE

Not used.

g) USER-DATA

Not used.

2.4. TCP-MENU

Use the **TCP-MENU** command in the DEP configuration process in order to enter the configuration menu for the TCP specific parameters. This protocol is less efficient than the TRMTP, permitting a lower number of simultaneous connections.

Syntax:

```
DEP config>TCP-MENU
```

Example:

```
DEP config>TCP-MENU
DEP TCP Cfg>
```

2.5. TRMTP-MENU

Use the **TRMTP-MENU** command in the DEP configuration process in order to enter the configuration menu for the TRMTP specific parameters, as explained in the following section. This protocol is more efficient than the TCP, allowing a higher number of simultaneous connections.

Syntax:

```
DEP config>TRMTP-MENU
```

Example:

```
DEP config>TRMTP-MENU
DEP TRMTP Cfg>
```

2.6. EXIT

Use the **EXIT** command to return to the previous prompt level.

Syntax:

```
DEP config>EXIT
```

Example:

```
DEP config>EXIT
Config>
```

3. Configuring the TRMTP parameters

This section will explain the configuration of the TRMTP transport mode paramters in the forwarder DEP.

We recommend using the TRMTP as the transport mode against TCP. TRMTP is more efficient for communications of this type, permtting a higher number of simultaneous connections.

In order to access the TRMTP configuration parameters menu you need to execute the **TRMTP-MENU** command from the forwarder DEP configuration process.

Syntax:

```
DEP config>TRMTP-MENU
DEP TRMTP Cfg>
```

The available configuration commands are as follows:

Command	Functions
? (HELP)	Lists the configuration commands or lists any parameters associated to a command.
LIST	Displays the configured information from the TRMTP protocol.
SET	Configures the interface's general parameters.
EXIT	Returns to the previous prompt.

TRMTP parameter configuration commands

3.1. ? (HELP)

The **?** (HELP) command serves to list all the available commands included in the available prompt.

Syntax:

```
DEP TRMTP Cfg>?
```

Example:

```
DEP TRMTP Cfg>?
LIST
SET
EXIT
DEP TRMTP Cfg>
```

3.2. LIST

Use the **LIST** command in order to view the TRMTP protocol parameters.

Syntax:

```
DEP TRMTP Cfg>LIST
```

Example:

```
DEP TRMTP Cfg>LIST
Local UDP Port                      : 20001
Max. length of messages        (N1) :  1400 (bytes)
Max. num of retransmissions    (N2) :     3
Answer timer                   (T1) :     5 (secs)
Tx error recuperation timer    (T2) :    50 (secs)
Tx inactivity timer            (T3) :    45 (secs)
Rx inactivity timer            (T4) :   100 (secs)

DEP TRMTP Cfg>
```

3.3. SET

Use the **SET** command in order to configure the TRMTP protocol parameters in the forwarder DEP.

Syntax:

```
DEP TRMTP Cfg>SET ?
LOCAL-PORT
N1
N2
T1
T2
T3
T4
```

a) SET LOCAL-PORT

This parameter permits you to configure the local UDP port where the TRMTP messages will be received from the remote CBRA-ADSL devices. The range of valid values is from 0 to 65535. By default port 20001 is used.

Example:

```
DEP TRMTP Cfg>SET LOCAL-PORT
Enter local UDP port value (0 - 65535) [20001]?
DEP TRMTP Cfg>
```

b) SET N1

Configures the N1 parameter or the maximum size of the message data field that can be transmitted and received by TRMTP. The permitted values are from 1 – 1400 octets. The default value is 1400.

Example:

```
DEP TRMTP Cfg>SET N1
Enter max. length of messages (1 - 1400) [1400]?
DEP TRMTP Cfg>
```

c) SET N2

Configures the N2 parameter or the maximum number of permitted retransmissions in order to be able to send a message via TRMTP. The permitted values are from 0 – 65535. Values 0 and 1 indicate that retransmissions are not carried out. The default value is 3.

Example:

```
DEP TRMTP Cfg>SET N2
Enter max. number of retransmissions (0 - 65535) [3]?
DEP TRMTP Cfg>
```

d) SET T1

Configures the T1 parameter or the acknowledge wait timer for an TRMTP message. Once this has timed out, the message is retransmitted again. The permitted values are from 1 – 65535 seconds. The default value is 5 seconds.

Example:

```
DEP TRMTP Cfg>SET T1
Enter T1 value (Ack Wait) (1 - 65535)(secs) [10]?
DEP TRMTP Cfg>
```

e) SET T2

Configures the T2 parameter or the error recovery timer in TRMTP. When there is a transmission error, the TRMTP system for this interface becomes inactive. Once the T2 has timed out, the TRMTP system reactivates and from this point tries to sychronize with the receiver as soon as the system sends a confirmation message. The permitted values are from 1 – 65535 seconds and this should be greater than T1. The default value is 50 seconds.

Example:

```
DEP TRMTP Cfg>SET T2
Enter T2 value (Tx Error) (1 - 65535)(secs) [40]?
DEP TRMTP Cfg>
```

f) SET T3

Configures the T3 parameter or the inactivity timer between transmitted TRMTP confirmation messages. This timer sets the inactivity time between transmitted messages. It restarts each time an TRMTP confirmation message is sent. When this times out, the TRMTP transmitter sends an EOT command to the remote end, indicating that the TRMTP "session" is closing and the next confirmation

message will be preceded by a synchronization phase. The permitted values are from 0 – 65535 seconds and should be less than T2. The default value is 45 seconds.

Example:

```
DEP TRMTP Cfg>SET T3
Enter T3 value (Tx inac.) (1 - 65535)(secs) [30]?
DEP TRMTP Cfg>
```

g) SET T4

Configures the T4 parameter or the inactivity timer between received TRMTP confirmation messages. This timer sets the inactivity time between received messages. It restarts each time an TRMTP confirmation message is received. When this times out, the TRMTP receiver passes to an idle state and the subsequent confirmation message received must be preceeded by a synchronization phase. The permitted values are from 1 – 65535 seconds. We recommend, although this is not essential, that the value should be approximately the same as T3. The default value is 100 seconds.

Example:

```
DEP TRMTP Cfg>SET T4
Enter T4 value (Rx inac.) (1 - 65535)(secs) [100]?
DEP TRMTP Cfg>
```

NOTE: We strongly recommend that the timer values are not modified and the default values are used.

The following must be fulfilled: T2>T1 and T2>T3.

3.4. EXIT

Use the **EXIT** command to return to the previous prompt.

Syntax:

```
DEP TRMTP Cfg>EXIT
```

Example:

```
DEP TRMTP Cfg>EXIT
DEP config>
```

4. Configuring the TCP parameters

This chapter will explain the configuration of the TCP transport mode paramters in the forwarrder DEP.

We recommend using the TRMTP as the transport mode against TCP. TRMTP is more efficient for communications of this type, permtting a higher number of simultaneous connections.

In order to access the TCP configuration parameters menu you need to execute the **TCP-MENU** command from the forwarder DEP configuration process.

Syntax:

```
DEP config>TCP-MENU
DEP TCP Cfg>
```

The available configuration commands are as follows:

Comando	Funciones
? (HELP)	Lists the configuration commands or lists any parameters associated to a command.
LIST	Displays the configured information from the TCP protocol.
SET	Configures the interface's general parameters.
EXIT	Returns to the previous prompt.

TCP parameter configuration commands

4.1. ? (HELP)

The **?** (HELP) command serves to list all the available commands included in the available prompt.

Syntax:

```
DEP TCP Cfg>?
```

Example:

```
DEP TCP Cfg>?
LIST
SET
EXIT
DEP TCP Cfg>
```

4.2. LIST

Use the **LIST** command in order to view the TCP protocol parameters.

Syntax:

```
DEP TCP Cfg>LIST
```

Example:

```
DEP TCP Cfg>LIST
Local TCP Port                    : 20002
Length of Rx buffer               :  1024 (bytes)
Length of Tx buffer               :  1024 (bytes)
DEP TCP Cfg>
```

4.3. SET

Use the **SET** command in order to configure the TCP protocol parameters in the forwarder DEP.

Syntax:

```
DEP TCP Cfg>SET ?
LOCAL-PORT
RX-BUFFER
TX-BUFFER
```

a) SET LOCAL-PORT

This parameter permits you to configure the local TCP port where the data coming from the Teldat C3 devices will be received. The range of valid values is from 0 to 65535. By default port 20001 is used.

Example:

```
DEP TCP Cfg>SET LOCAL-PORT
Enter local TCP port value (0 - 65535) [20002]?
DEP TCP Cfg>
```

b) SET RX-BUFFER

Configures the maximum size of the message data field that can be received by TCP. The permitted values are from 100 – 1400 octets. The default value is 1024.

Example:

```
DEP TCP Cfg>SET RX-BUFFER
Enter max. length of Rx buffer (100 - 1400) [1024]? 300
DEP TCP Cfg>
```

c) SET TX-BUFFER

Configures the maximum size of the message data field that can be transmitted by TCP. The permitted values are from 100 – 1400 octets. The default value is 1024.

Example:

```
DEP TCP Cfg>SET TX-BUFFER
Enter max. length of Tx buffer (100 - 1400) [1024]? 300
DEP TCP Cfg>
```

4.4. EXIT

Use the **EXIT** command to return to the previous prompt.

Syntax:

```
DEP TCP Cfg>EXIT
```

Example:

```
DEP TCP Cfg>EXIT
DEP config>
```

Chapter 3
Monitoring the Forwarder DEP

1. Monitoring

In order to enter the forwarder DEP monitoring process, follow the steps given below:

1. At the (*) prompt, enter **PROCESS 3** or just **P 3**. This will take you to the monitoring prompt +.

```
*P 3
+
```

2. At the (+) prompt, enter the command **PROTOCOL DEP.**

```
+PROTOCOL DEP
DEP Protocol monitor
DEP>
```

Below the DEP monitoring commands are ennumerated and described. All the DEP monitoring commands must be entered at the DEP prompt (DEP>). The letters appearing in **bold** are the minimum number of letters that must be entered in order to execute the command.

Command	Functions
? (HELP)	Lists the available commands or their options.
CLEAR	Deletes all the forwarder statistics counters.
LIST	Displays the information on the forwarder statistics.
EXIT	Permits you to exit the DEP monitoring environment.

DEP Monitoring Commands

1.1. ? (HELP)

The **?** (HELP) command serves to list all the available commands included at the normal prompt level. You can also enter ? after a specific command name in order to obtain the options.

Syntax:

```
DEP>?
```

Example:

```
DEP>?
CLEAR
LIST
EXIT
DEP>
```

1.2. CLEAR

Command to initiate the DEP statistics.

Syntax:

```
DEP>CLEAR ?
ALL
STATISTICS
TRANSACTIONS
```

a) CLEAR ALL

Deletes all the interface statistics: transactions and traffic.

Example:

```
DEP>CLEAR ALL
DEP>
```

b) CLEAR STATISTICS

Deletes all the interface traffic statistics.

Example:

```
DEP>CLEAR STATISTICS
DEP>
```

c) CLEAR TRANSACTIONS

Deletes all the transaction statistics.

Syntax:

```
DEP>CLEAR TRANSACTIONS ?
OK
WRONG
```

Examples:

```
DEP>CLEAR TRANSACTIONS OK
DEP>
```

```
DEP>CLEAR TRANSACTIONS WRONG
DEP>
```

1.3. LIST

Permits you to view different statistics for traffic, transactions carried out, transactions in progress etc., in the forwarder DEP.

Syntax:

```
DEP>LIST ?
SESSIONS
STATISTICS
TRANSACTIONS
```

a) LIST SESSIONS

Lists all the transactions that are currently in progress i.e. the sessions that are currently open at this moment and the state they are in. The total number of active sessions is displayed at the end.

Example:

```
DEP>LIST SESSIONS
Remote Address     Remote Port  State        Hash number  Session
1.1.1.2            20001        5            116          e42d40

TOTAL ACTIVE SESSIONS 1
DEP>
```

The meaning of the distinct fields is as follows:

Remote Address	IP address of the **TELDAT C3** carrying out the operation.
Remote Port	**TELDAT C3** UDP port carrying out the operation.
State	State of the transaction.
Hash number	Internal cookie to identify the session.
Session	Internal cookie to identify the session.

The transmission state can take the following values:
1.- TRMTP session open: waiting for the Call Request 'S' message.
2.- Waiting for X.25 connection acceptance.
4.- Waiting for data coming from the Dataphone.
5.- Waiting for data coming from the HOST.
0.-. Disconnection.

b) LIST STATISTICS

Lists all the forwarder DEP traffic statistics.

Example:

```
DEP>LIST STATISTICS

STATISTICS FROM X25
Attempted Calls                    : 23
Accepted Calls                     : 22
Disconnect Request to Host         : 1
Refused Connections from DEP       : 0
Release Calls from Host            : 0
Rejected Calls from Host           : 0
I Frames Sent                      : 0
I Frames Received                  : 0

STATISTICS FROM TERMINALS
Connect Request Received           : 0
Call Accept Transmited             : 0
Disconnect Ind Received            : 0
Disconnect Ind Transmited          : 0
Data Messages Received             : 0
Data Messages Transmited           : 0

--------------TRMTP STATISTICS----------
TST messages received              : 0
EOT messages received              : 0
ACK messages received              : 22
NAK messages received              : 0
T1 Timeouts detected               : 1
T2 Timeouts detected               : 0
T3 Timeouts detected               : 0
T4 Timeouts detected               : 0
N2 overflows detected              : 0
Errors or congestion detected      : 0

DEP>
```

The meaning of the fields is as follows:

STATISTICS FROM X25	STATISTICS FROM X.25 INTERFACE
Attempted Calls	Attempted calls to the HOST
Accepted Calls	Calls accepted by the HOST
Disconnect Request to Host	Disconnection requests to HOST
Refused Connections from DEP	Calls rejected by the DEP
Release Calls from Host	Calls released by the HOST
Rejected Calls from Host	Calls rejected by the HOST
I Frames Sent	INFO packets sent to the HOST
I Frames Received	INFO packets received by the HOST

STATISTICS FROM TERMINALS	STATISTICS RECEIVED FROM THE TERMINALS
Connect Request Received	Connection request 'S' packets received.
Call Accept Transmited	Connection acceptance 'A' packets transmitted.
Disconnect Ind Received	Disconnection requests received.
Disconnect Ind Transmited	Disconnection requests transmitted.
Data Messages Received	Data packets received.
Data Messages Transmited	Data packets transmitted.
TST messages received	Synchronized TST messages received.

EOT messages received	EOT end of transmission messages received.
ACK messages received	ACK messages received.
NAK messages received	NAK messages received.
T1 Timeouts detected	T1 timeouts detected.
T2 Timeouts detected	T2 timeouts detected.
T3 Timeouts detected	T3 timeouts detected.
T4 Timeouts detected	T4 timeouts detected.
N2 overflows detected	Excess of retransmissions detected.
Errors or congestion detected	Transmission failures due to error or congestion detected.

c) LIST TRANSACTIONS

Through this command you can view the latest operations carried out with the Centrix-D, both those sucessfully executed as well as those that haven't been able to be completed.

Syntax:

```
DEP>LIST TRANSACTIONS ?
OK
WRONG
```

· LIST TRANSACTIONS OK

Lists the latest transactions that have been sucessfully completed. Following this command, you can introduce the number of transactions you wish to view:

Example:

```
DEP>LIST TRANSACTIONS OK

T     IP ADDRESS    NRI               T/START  T/END    DATE
T     202.1.1.1     215063204048999   19:05:46 19:05:52 20/09/00
T     201.1.1.2     217023601048999   18:09:29 18:09:34 20/09/00

DEP>
```

The meaning of the distinct fields is as follows:

T	Type of transaction.
IP ADDRESS	IP address of the **TELDAT C3** that carried out the operation.
NRI	X.25 address that the datafone calls.
T/START	Indicates the start time of the operation.
T/END	Indicates the end time of the operation.
DATE	Indicates the date the operation was carried out on.

· LIST TRANSACTIONS WRONG

Lists the latest transactions that have not been sucessfully completed. Following this command, you can introduce the number of transactions you wish to view.

Example:

```
DEP> LIST TRANSACTIONS WRONG 3


T     IP ADDRESS    NRI              CAUSE  T/START  T/END    DATE
T      201.1.1.2    217023601048999    2    19:57:29 19:58:01 21/09/00
T      201.1.1.2    217023601048999    1    18:26:32 18:26:33 21/09/00
T    202.1.1.130    217023601048999    1    18:24:18 18:24:18 21/09/00

DEP>
```

The meaning of the distinct fields is as follows:

T	Type of transaction.
IP ADDRESS	IP address of the **TELDAT C3** that tried to carry out the transaction.
NRI	X.25 address that the datafone called.
CAUSE	Reason why the connection failed.
T/START	Indicates the start time of the operation.
T/END	Indicates the end time of the operation.
DATE	Indicates the date the operation was carried out on.

The possible values for the cause field are as follows:

1.- X.25 call released by the HOST.
2.- Incomplete transaction.
3.- Error in the IP connection.
4.- HOST sent two consequetive X.25 packets.

Chapter 4
Forwarder DEP Events

1. Monitoring the forwarder DEP events

Permits the real time monitoring of the events that arise in the forwarder DEP, where the POSs IP transactions are received in order to convert them into X.25 transactions.

The way that these are enabled from the configuration menu is as follows:

```
*PROCESS 4
User Configuration
Config>EVENT

-- ELS Config --
ELS Config>ENABLE TRACE SUBSYSTEM DEP ALL
ELS Config>EXIT
Config>SAVE
Save configuration [n]? Y

Saving configuration...OK
Config>
```

Likewise, these can be enabled from the monitoring menu at any time without needing to saved in the configuration in the following way:

```
*PROCESS 3
Console Operator
+EVENT

-- ELS Monitor --
ELS>ENABLE TRACE SUBSYSTEM DEP ALL
ELS>EXIT
+
```

In order to view the events, once enabled, simply enter:

```
*PROCESS 2
02/12/01 17:41:32  UDAFO.001 Rx Data from TPV 1 bytes, nt 2 state 1
02/12/01 17:41:32  UDAFO.003 Rx EOT from TPV, nt 2
02/12/01 17:41:32  UDAFO.001 Rx Data from TPV 14 bytes, nt 2 state 1
02/12/01 17:41:32  UDAFO.001 Rx Data from TPV 5 bytes, nt 2 state 3
02/12/01 17:41:32  UDAFO.011 NRI 217778929099 connecting 202.6.33.1,nt 2
02/12/01 17:41:32  UDAFO.014 Sending message to Host 17 bytes, nt 2
```

The list of available events for the DEP protocol is as follows:

deptrp

DEP.001

Level: Per packet trace, P-TRACE

Short Syntax:

DEP.001 Rx TST from *ip_address* . New SES: *session*, Hash Index: *index*

Long Syntax:

DEP.001 Rx TST packet from *ip_address* address. Create new SES: *session* with Hash Index: *index*

Description:

A TST packet has been received in order to initiate a TRMTP session from the indicated IP address.

DEP.002

Level: Per packet trace, P-TRACE

Short Syntax:

DEP.002 Rx S Msg NRI: *nri* from *ip_address* St *state* ses: *session*

Long Syntax:

DEP.002 Rx S Message with NRI:*nri* from *ip_address* address in state *state*, ses: *session*

Description:

An 'S' message has been received with the indicated NA from IP address: *ip_address.*

DEP.003

Level: Per packet trace, P-TRACE

Short Syntax:

DEP.003 Tx A Message to *ip_address*, state *state* ses: *session*

Long Syntax:

DEP.003 Tx Accept Message to *ip_address* address in state *state*, ses: *session*

Description:

A connection acceptance 'A' message has been transmitted towards the POS with the indicated IP address.

DEP.004

Level: Per packet trace, P-TRACE

Short Syntax:

DEP.004 Rx Data Msg from *ip_address* State *state* ses: *session*

Long Syntax:

DEP.004 Rx Data Message from *ip_address* address in state *state*, ses: *session*

Description:

A data message has been received.

DEP.005

Level: Per packet trace, P-TRACE

Short Syntax:

DEP.005 Tx Data Msg to *ip_address* State *state* ses: *session*

Long Syntax:

DEP.005 Tx Data Message to *ip_address* address in state *state*, ses: *session*

Description:

A data message has been transmitted.

DEP.006

Level: Per packet trace, P-TRACE

Short Syntax:

DEP.006 Rx L Message from *ip_address* State *state* ses: *session*

Long Syntax:

DEP.006 Rx Release from *ip_address* address in state *state*, ses: *session*

Description:

A disconnection message has been received.

DEP.007

Level: Per packet trace, P-TRACE

Short Syntax:

DEP.007 Tx L Message to *ip_address*. State *state* ses: *session*

Long Syntax:

DEP.007 Tx Release to *ip_address* address in state *state*, ses: *session*

Description:

A disconnection message has been transmitted towards the TeldatC3.

DEP.008

Level: Per packet trace, P-TRACE

Short Syntax:

DEP.008 Rx EOT from *ip_address*. State *state* ses: *session*

Long Syntax:

DEP.008 Rx EOT from *ip_address* address in state *state*, ses: *session*. Session closed

Description:

An EOT message from the TRMTP has been received from the indicated IP address.

DEP.009

Level: Per packet trace, P-TRACE

Short Syntax:

DEP.009 Rx T4 Ind. State *state*, ses: *session*

Long Syntax:

DEP.009 Rx T4 Ind in state *state*, ses: *session*. Session closed abnormally

Description:

A disconnection indication from the TRMTP has been received due to time out without data.

DEP.010

Level: Unusual external error, UE-ERROR

Short Syntax:

DEP.010 Error: Handler couldn't be created

Long Syntax:

DEP.010 Error: Handler couldn't be created

Description:

Error in the device: a new TRMTP handler could not be created.

DEP.011

Level: Per packet trace, P-TRACE

Short Syntax:

DEP.011 TCP Opened from *ip_address*. Ses: *session* Hash Index *index*

Long Syntax:

DEP.011 HOST *ip_address* has opened the *session* TCP session with Hash Index: *index*

Description:

A TCP session has been opened with IP address: *ip_address.*

DEP.012

Level: Per packet trace, P-TRACE

Short Syntax:

DEP.012 TCP Session Closed. State *state,* ses *session*

Long Syntax:

DEP.012 The TCP session has been closed. State *state,* ses *session*

Description:

The indicated TCP session has been closed.

DEP.013

Level: Per packet trace, P-TRACE

Short Syntax:

DEP.013 TCP Session Remote Closed. State *state,* ses *session*

Long Syntax:

DEP.013 The TCP session has been closed by the remote HOST. State *state,* ses *session*

Description:

The TCP session has been remotely closed by the HOST.

DEP.014

Level: Unusual external error, UE-ERROR

Short Syntax:

DEP.014 WARNING: Max number of TCP sessions

Long Syntax:

DEP.014 WARNING: The max number of TCP sessions has been reached

Description:

The maximum number of simultaneous TCP sessions has been reached. No further sessions are permitted until one of the currently established sessions has ended.

2. Events example for correct transaction

An example of the events that you can view in the CTX-D after a correct transaction via TRMTP is:

```
*P 2
01/29/01 12:17:07  DEP.001 Rx TST from 172.4.2.44. New SES: 151fbf4, Hash Index: 29
01/29/01 12:17:07  DEP.002 Rx S Msg NRI:213234230999 from 172.4.2.44 St 1 ses:
151fbf4
01/29/01 12:17:07  DEP.003 Tx A Message to 172.4.2.44, state 2 ses: 151fbf4
01/29/01 12:17:11  DEP.004 Rx Data Msg from 172.4.2.44 State 4 ses: 151fbf4
01/29/01 12:17:14  DEP.005 Tx Data Msg to 172.4.2.44 State 5 ses: 151fbf4
01/29/01 12:17:18  DEP.006 Rx L Message from 172.4.2.44 State 4 ses: 151fbf4
01/29/01 12:17:18  DEP.008 Rx EOT from 172.4.2.44. State 0 ses: 151fbf4
```

This will then appear as a correct transaction in the monitoring menu:

```
*P 3
Console Operator
+P DEP
DEP Protocol monitor
DEP>LIST TRANSACTIONS OK

T     IP ADDRESS    NRI               T/START  T/END    DATE
T     172.4.2.44    213234230999       12:17:07 12:17:18 29/01/01

DEP>
```