PC-EFTPOS TCP/IP Interface

Functional Specification

Release 1.34

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1. Introduction

The TCP/IP interface allows a point of sale (POS) to connect to the PC-EFTPOS system via a TCP/IP interface socket. The TCP/IP interface is provided by a software application that must be run on the POS. This application converts the TCP/IP interface messages into the native COM messages that are supported by the Windows PC-EFTPOS system.

This specification should be read in conjunction with the PC-EFTPOS ActiveX control specification which describes the properties used in the message formats in detail.

The TCP/IP interface is also the native interface for the JAVA based EFT-Client which can run on a Linux based system. (contact support@pceftpos.com.au for further details on this product)

2. Quick Start Guide

2.1 Initial Setup

Using a standalone TCP Client

- Ensure the TCP/IP application and EFT-Client are installed on the POS

Using the EFT-client as the TCP/IP Client

- The EFT-client can act as a TCP interface for the POS.
- This is available in any EFT-client from version v1.23 onward
- The EFT-client will ignore multiple requests from the IP interface whilst a command is outstanding.

Enable Listen Socket in Client

- Set the registry setting below with the port to listen on to activate the IP interface

HKEY_LOCAL_MACHINE\SOFTWARE\CullenSoftwareDesign\EFTCLIENT\CLIENT\
IP_INTERFACE_PORT

Reject Multiple Client Connections

- The EFT-client will drop the current IP session and use the latest one if multiple connections are requested. This can be modified to ignore new requests and keep the current session by setting the following to 1

HKEY_LOCAL_MACHINE\SOFTWARE\CullenSoftwareDesign\EFTCLIENT\CLIENT\
IP_INTERFACE_SOCKET_REJECT

IP Address Allowed List

- The following setting will allow a customer to setup a list of IP addresses that the Client will allow connections from. The format of the registry string is “
    - IP address;Ipaddress;Ipaddress;
    - Eg 10.2.2.2;10.2.2.3;10.2.2.4;
- Every IP address must end in a ‘;’
- No registry key or a key with nothing in it will allow any IP address.

HKEY_LOCAL_MACHINE\SOFTWARE\CullenSoftwareDesign\EFTCLIENT\CLIENT\
IP_INTERFACE_ACCESS_LIST

Listening on an SSL port

- PC-EFTPOS Version 3 and above clients have the option of being able to listen on an SSL port for client POS systems.
- The files libeay32.dll and ssleay32.dll must be present in the install directory for SSL to be an option.
- The registry setting below must also be setup correctly for SSL to operate.

SSL Listen Type

- To set the client up to listen for SSL or non-SSL or both, create the following registry as a DWORD:

HKEY_LOCAL_MACHINE\SOFTWARE\CullenSoftwareDesign\EFTCLIENT\CLIENT\
IP_INTERFACE_LISTEN_TYPE
Where:
- 0 = SSL or Non-SSL; 1 = Non-SSL only; 2 = SSL only

PEM Management

- The PEM is the SSL security certificate.
- To setup the way in which the client uses the PEM for SSL, set the following registry value as a DWORD:
  HKEY_LOCAL_MACHINE\SOFTWARE\CullenSoftwareDesign\EFTCLIENT\CLIENT\ PEM_STORAGE_MODE
  - 0 = New PEM at restart. The PEM is generated by the client automatically on every restart
  - 1 = PEM from registry. The client will use the PEM in the registry or generate a PEM and store it in the registry for us from no onward.
- To setup a user defined PEM, place it in the following registry as a String:
  HKEY_LOCAL_MACHINE\SOFTWARE\CullenSoftwareDesign\EFTCLIENT\CLIENT\ PEM

REST API Setup

- To set the client into REST API mode, set the following registry address as a DWORD and set to 1
  HKEY_LOCAL_MACHINE\SOFTWARE\CullenSoftwareDesign\EFTCLIENT\CLIENT\ IP_INTERFACE_REST_MODE
- See REST API section for a description of how it works

Common Setup Procedures from the POS

- Open a TCP/IP connection to the TCP/IP application on the POS.
- Construct a Dialog request and send it to the TCP/IP application. This is optional, but allows the POS to define properties of the EFT-Client dialog box.

2.2 Transaction Request

- Open TCP/IP socket (if not already open)
- Construct a Transaction Request Message (Message formats in this document)
- Send the transaction request to the TCP/IP application.
- Listen on the TCP/IP socket for the following:
    - Display Events. These messages will signal to the POS that the EFTPOS system is attempting to display some data on the screen. If the POS is using the standard EFT system, then the display will be shown on the POS. This event can be used to provide a display on an alternative customer display.
    - Print Events: These messages indicate that the EFTPOS system requires a receipt to be printed on the POS printer. The POS must respond to this event to ensure that the receipt is printed.
    - Transaction Response Event: This event signals that the transaction is complete. The POS can finalise the sale, and proceed to the next.

2.3 REST API

- The REST API is only available in EFT-clients greater than 3.0.1.29
- When the client is in REST API mode, the client will queue messages and return them when the POS application requests them with a POLL request.
- The following requests from the POS are supported:
    - Issue Command
        - This is a HTTP formed request form the POS that contains a correctly formatted PC-EFTPOS TCP/IP command (e.g. Transaction, Logon, keypress etc)
        - The POS will form a HTTP header and place the following in the content of the request:
            - pceftpos_rest_api=COMM followed by the TCP/IP command as defined in this specification
        - The EFT-client will reply with a standard HTTP reply indicating that it has the request and it will be processed, or it will reply with a ‘401-BAD REQUEST’
    - Poll EFT-Client
        - Once a command is issued to the EFT-Client, the POS is expected to ‘poll’ the EFT-client to get any responses that may be waiting in the client.
        - The POS should continue to request a POLL until it receives the original commands final message (eg Transaction Event, Logon Event etc)
        - The POS will form a HTTP header and place the following in the content of the request:
            - pceftpos_rest_api=POLL

2.3.1 REST Example

- [HTTP Header] pceftpos_rest_api=COMMG 000000
  - EFT-Client replies with 200 OK
- [HTTP Header] pceftpos_rest_api=POLL
  - EFT-Client replies with 200 OK and the content may contain the TCP/IP response from the client.
- The POS continues requesting the POLL until it receives the Logon Event in the POLL response.

2.3.2 HTTP Header from POS

- The incoming HTTP header from the POS should be a standard HTTP header using either a POST or a GET

2.3.3 HTTP Header Response from EFT-client

- Each header is stored in the EFT-client and can optionally be loaded from the registry.
- This allows a POS that requires certain attributes in the HTTP response to override the default header that PC-EFTPOS returns.
- All of the headers can be altered by creating the following registry keys as 'Strings' and entering the new header. The registry location and default header is described below

1. Accepted Header
   a. This header is used when the EFT-client has no data to return
   b. \EFTCLIENT\CLIENT\REST_ACCEPTED_RESPONSE (String)

```
HTTP/1.1 200 OK
Content-Type: application/text; charset=utf-8
Access-Control-Allow-Origin: *
Content-Length: 2

OK
```

2. Failed Header
   a. This header is used when the incoming request is not recognized by the EFT-client
   - \EFTCLIENT\CLIENT\REST_FAIL_RESPONSE (String)

```
HTTP/1.1 400 Bad Request
Content-Type: application/text; charset=utf-8
Content-Length: 4

FAIL
```

3. Response with Data
   a. This header is used when the EFT-client has data to send back to the POS.
   b. The 'Content-Length:' field in the HTTP header contains the length of the response that is in the 'Content' part of the HTTP response.
   c. \EFTCLIENT\CLIENT\REST_DATA_RESPONSE (String)

```
HTTP/1.1 200 OK
Content-Type: application/text; charset=utf-8
Access-Control-Allow-Origin: *
Content-Length:
```

3. Message Specification

3.1 Display Control Panel

This command will instruct the EFTCLIENT to display the EFTPOS control Panel which will allow the user to initiate EFTPOS operations and perform EFTPOS configurations (a password is required). While the control panel is active all further calls will fail. The operator can dismiss the control panel that will cause the EFTCLIENT to fire a response back to the POS.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'5' = DoControlPanel
4.	Sub Code	1	See Note 1
5.	ReceiptAutoPrint Flag	1	Flag to allow EFTCLNT to autoprint
6.	Cut Receipt Flag	1	Flag to allow EFTCLNT to cut the receipt.
7.	Return Type	1	'0' = return response immediately (default) '1' = return response when control panel is closed. '2' = return response immediately and when the control panel is closed. V3 and CE client onward only

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'5' = DoControlPanel
4.	Sub Code	1	' '
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS
6.	Response Code	2	Response code for the call.
7.	Response Text	20	Response text

Note 1
'0' = Display Full Control Panel
'1' = Display Settlement Control Panel only
'2' = Display Journal Viewer Control Panel only
'3' = Display Pinpad Setup Control Panel only
'4' = Display Status Control Panel only

3.2 Set Dialog

This command will instruct the EFTCLIENT to use the parameters sent as the dialog positions for all screen displays. This will be remembered until the TCP/IP Interface restarts.

The Response will return immediately.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'2'
4.	Sub Code	1	' ' '5' – See Note 1
5.	Type	1	'0' = Standard, '1'= Touch screen, '2'=Hidden
6.	Dialog X	4	
7.	Dialog Y	4	
8.	Dialog Position	12	'Centre', 'Topleft', 'TopRight' etc
9.	TopMost	1	
10	Title	32	

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'2'
4.	Sub Code	1	' '
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS

Note 1:

If the subcode is set to '5', the POS will not receive any display events from the client. This can be re-enabled by re-sending the SetDialog with subcode as a space.

The registry setting:

CLIENT\IP_INTERFACE_NO_POS_DISPLAY_MSG (DWORD default to 0)

- 0 = Let POS decide whether to get displayevents via SetDialog.
- 100 = Never send dialogs to POS.

3.3 Settlement

Forces a settlement with the acquirer (bank) and retrieves the totals since the last acquirer settlement. The Merchant and TxnType properties must be set before calling DoSettlement. With certain settlement types (s'H'ift Totals) the ResetTotals property should also be set to indicate if the stored totals should be cleared (reset to zeros).
The event SettlementEvent is fired when this operation ends.

Note: Not all acquirers support all TxnTypes for this function.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message inc start and length fields
3.	Command Code	1	'P' = Settlement
4.	Sub Code	1	See Note 1
5.	Merchant	2	"00"
6.	Receipt Auto Print flag	1	
7.	Cut Receipt flag	1	
8.	Reset Totals	1	
9.	App	2	'00'=EFTPOS See Appendix 'C' for other options
10	Purchase Analysis Data	3	Length of the following Purchase Analysis Data field. If the field is blank set this to "0000"
11	Purchase Analysis Data	XXXX	Purchase Analysis Data property. Leave as blank by default. Please see Appendix B for the format of this field.

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message inc start and length fields
3.	Command Code	1	'P'
4.	Sub Code	1	' '
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS
6.	Response Code	2	Response code for the call.
7.	Response Text	20	
8.	Settlement Card Count	9	
9.	Settlement Card Data Count	3	Length of the following Settlement Card Data field
10	Settlement Card Data	*	
11	Totals Data	3	Length of the following Totals Data field
12	Totals Data	*	
13	Purchase Analysis Data	3	Length of the following Purchase Analysis Data field. This field is optional and may not be present. If the field is blank set this to "000"
14	Purchase Analysis Data	XXXX	Purchase Analysis Data property. Leave as blank by default. Please see Appendix B for the format of this field.

Note 1
‘S’ = Settlement
‘P’ = Pre-settlement
‘L’ = Last Settlement
‘U’ = Summary Totals
‘H’ = Sub Totals or Shift Totals
‘I’ = Transaction Listing

3.4 Logon

This command will instruct the EFTCLIENT to logon the EFT device that is attached.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'G'
4.	Sub Code	1	Space = standard logon '4' = "RSA_LOGON" '5' = "TMS_FULL" '6' = "TMS_PARAMS" '7' = "TMS_SW" '8' = Logoff
5.	Merchant	2	"00"
6.	Print Receipt flag	1	
7.	Cut Receipt flag	1	
8.	App	2	'00'=EFTPOS See Appendix 'C' for other options
9.	Purchase Analysis Data	3	Length of the following Purchase Analysis Data field. If the field is blank set this to "000"
10.	Purchase Analysis Data	XXXX	Purchase Analysis Data property. Leave as blank by default. Please see Appendix B for the format of this field.

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'G'
4.	Sub Code	1	' '
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS
6.	Response Code	2	Response code for the call.
7.	Response Text	20	
8.	Terminal ID	8	
9.	Merchant ID	15	
10	Bank Date	6	
11	Bank Time	6	
12	STAN	6	
13	Pinpad Version	16	
14	Purchase Analysis Data	3	Length of the following Purchase Analysis Data field. This field is optional and may not be present. If the field is blank set this to "000"
15	Purchase Analysis Data	XXXX	Purchase Analysis Data property. Leave as blank by default. Please see Appendix B for the format of this field.

3.5 Transaction

This command will instruct the EFTCLIENT to perform an EFTPOS transaction.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'M'
4.	Sub Code	1	'0'
5.	Merchant	2	
6.	Txn Type	1	Always uppercase. Training mode is set by the following entry
7.	Training Mode	1	'1' = Training Mode on
8.	Enable Tipping	1	
9.	Amount Cash	9	Left zero filled. Eg $1.00 = 000000100
10	Amount Purchase	9	Left zero filled. Eg $1.00 = 000000100
11	Auth Number	6	
12	Txn Reference Number	16	
13	Receipt Auto Print	1	
14	Cut Receipt	1	
15	Card number source	1	See PanSource property in ActiveX specification
16	Card number	20	PAN if manually entered
17	Expiry Date	4	
18	Track 2 details	40	Track 2 details if card was swiped by POS
19	Account Type	1	Leave as ' ' by default
20	App	2	'00'=EFTPOS See Appendix 'C' for other options
21	RRN	12	
22	Currency Code	3	Option code to indicate requested currency. Leave as spaces unless required.
23	Original Txn Type	1	Type of original transaction. Only used in a voucher transaction
24	Date	6	DDMMYY for voucher or completion only
25	Time	6	HHMMSS for voucher or completion only
26	Reserved	8	Reserved for the future.
27	Purchase Analysis Data	3	Length of the following Purchase Analysis Data field. If the field is blank set this to "000"
28	Purchase Analysis Data	XXXX	Purchase Analysis Data property. Leave as blank by default. Please see Appendix B for the format of this field.

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'M'
4.	Sub Code	1	'0'
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS
6.	Response Code	2	Response code for the call.
7.	Response Text	20	
8.	Merchant	2	
9.	Txn Type	1	
10	Account Type	7	
11	Amount Cash	9	Left zero filled. Eg $1.00 = 000000100
12	Amount Purchase	9	Left zero filled. Eg $1.00 = 000000100
13	Amount Tip	9	Left zero filled. Eg $1.00 = 000000100
14	Auth Code	6	
15	Txn Reference	16	
16	Stan	6	
17	Merchant ID	15	
18	Terminal ID	8	
19	Expiry Date	4	
20	Settlement Date	4	
21	Date	6	
22	Time	6	
23	Card Type	20	
24	PAN	20	
25	Track 2	40	
26	RRN	12	
27	Card Name	2	
28	Txn Flags	8	See note 1.
29	Balance Received from Host	1	'0' = FALSE, '1' = TRUE
30	Available Balance	9	
31	Cleared Funds Balance	9	
32	Purchase Analysis Data	3	Length of the following Purchase Analysis Data field. This field is optional and may not be present. If the field is blank set this to "000"
33	Purchase Analysis Data	XXXX	Purchase Analysis Data property. Leave as blank by default. Please see Appendix B for the format of this field.

Note 1: Txn Flags

Index	Contents
0	Offline Transaction. '1'=true, '0'=false
1	Receipt Printed. '1'=true, '0'=false
2	Manual Card Entry. '0'=unknown, 'S'=swiped, 'K'=Keyed, 'E' for contact chip card or 'C' for contactless chip card
3	Communication method. '0' = unknown, '1'=P66, '2'=Argent, '3'=X25
4	Currency. '0'=AUD, '1'=Currency Converted
5	Paypass. '0'=non-PayPass, '1'=PayPass
6	Undefined
7	Undefined

3.6 Query Card

This command will allow the POS to use the EFT device to read track 1 and 2 of a magnetic card.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'J'
4.	Sub Code	1	Defines if the user selects their account as part of the query card process. 0=Don't select account 1=Select account plus Read card Added in v1.06 5 = Get Account only '7' = WW Pre-swipe '8' = Special WW pre-swipe '9' WW specific
5.	App	2	'00'=EFTPOS See Appendix 'C' for other options
6.	Merchant	2	"00"
7.	Purchase Analysis Data	3	Length of the following Purchase Analysis Data field. If the field is blank set this to "0000"
8.	Purchase Analysis Data	XXXX	Purchase Analysis Data property

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'J'
4.	Sub Code	1	'If "Sub Code" was set to 0 in the request this will be blank, otherwise it will contain the account selected. Added in v1.06
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS
6.	Response Code	2	Response code for the call.
7.	Response Text	20	
8.	Track 2	40	
9.	Track 1 or 3	80	
10	Tracks Read	1	'1' = track 1 only '2' = track 2 only '4' = track 3 only. Byte combinations to indicate others. Eg '3' = tracks 1 and 2
11	Bin Number of card	2	Bin number of the card that was just read (00 = unknown)
12	Purchase Analysis Data	3	Length of the following Purchase Analysis Data field. This field is optional and may not be present. If the field is blank set this to "000"
13	Purchase Analysis Data	XXXX	Purchase Analysis Data property. Leave as blank by default. Please see Appendix B for the format of this field.

3.7 Configure Merchant

This command configures the EFTPOS pinpad merchant parameters. Only merchant 0 is available in the current release.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'1'
4.	Sub Code	1	' '
5.	Merchant	2	"00"
6.	AIIC	11	
7.	NII	3	
8.	Merchant ID	15	
9.	Terminal ID	8	
10	Timeout	3	
11	App	2	'00'=EFTPOS See Appendix 'C' for other options

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'1'
4.	Sub Code	1	' '
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS
6.	Response Code	2	Response code for the call.
7.	Response Text	20	

3.8 Reprint Receipt

This command requests the EFTCLIENT to reprint the last financial receipt. The receipt will be a "duplicate copy" which will be identical to the original with the addition of text indicating that it is a duplicate.
This command will invoke a Receipt Print request from the EFTCLIENT. When this event has been answered, the response will be sent back.

When the subcode is set to '2', the receipt data will be sent back in the response.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'C'
4.	Sub Code	1	'1' = Reprint Receipt; '2' = Get Last Receipt
5.	Merchant	2	
6.	Cut Receipt flag	1	
7.	Auto Receipt flag	1	
8.	App	2	'00'=EFTPOS See Appendix 'C' for other options

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'C'
4.	Sub Code	1	' '
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS
6.	Response Code	2	Response code for the call.
7.	Response Text	20	
8.	Receipt Data		The actual receipt. Length = len(msg) - 30

3.9 Get Last Transaction

This command requests the details of the last transaction processed by the pinpad.

This method could be called by a POS to determine whether a transaction was successful or not following a power failure whilst an EFTPOS transaction was in progress.

Note that the Success property refers to the outcome of the call to Get Last Transaction, not to the result of the transaction retrieved by the call. If a transaction was recovered, the Success property will be set to True and all other properties will be set to the values they had when the last transaction completed.

Note that the Receipt property is not retrieved by Get Last Transaction - use the method DoGetLastReceipt to retrieve receipt data for a specified merchant.
The event GetLastTransactionEvent is fired when this operation completes.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'N'
4.	Sub Code	1	'0'
5.	App	2	'00'=EFTPOS See Appendix 'C' for other options
6.	Merchant	2	'00' for EFTPOS

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'N'
4.	Sub Code	1	'0'
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS
6.	Last Txn Success	1	'0' = Fail, '1' = SUCCESS
7.	Response Code	2	Response code for the call.
8.	Response Text	20	
9.	Merchant	2	
10	Txn Type	1	
11	Account Type	7	
12	Amount Cash	9	
13	Amount Purchase	9	
14	Amount Tip	9	
15	Auth Code	6	
16	Txn Reference	16	Contains the cheque serial number if the Get Last request is directed at Cheque Auth
17	Stan	6	
18	Merchant ID	15	
19	Terminal ID	8	
20	Expiry Date	4	
21	Settlement Date	4	
22	Date	6	
23	Time	6	
24	Card Type	20	
25	PAN	20	

26	Track 2	40	
27	RRN	12	
28	Card Name	2	
29	Txn Flags	8	See note 1.
30	Balance Received from Host	1	'0' = FALSE, '1' = TRUE
31	Amount Balance	9	
32	Cleared Funds Balance	9	
33	Purchase Analysis Data	3	Length of the following Purchase Analysis Data field. This field is optional and may not be present. If the field is blank set this to "000"
34	Purchase Analysis Data	XXXX	Purchase Analysis Data property. Leave as blank by default. Please see Appendix B for the format of this field.

Note 1: Txn Flags

Index	Contents
0	Offline Transaction. '1'=true, '0'=false
1	Receipt Printed. '1'=true, '0'=false
2	Manual Card Entry. '0'=unknown, 'S'=swiped, 'K'=Keyed
3	Communication method. '1'=P66, '2'=Argent, '3'=X25
4	Currency. '0'=AUD, '1'=Currency Converted
5	Paypass. '0'=non-PayPass, '1'=PayPass
6	Undefined
7	Undefined

3.10 Status Enquiry

Queries the EFTPOS PINpad to return its status and software version.
The event StatusEvent is fired when this operation ends.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'K'
4.	Sub Code	1	Type of Status to request. '0' by default. '0'=Normal Status '1'=Terminal App Info '2' = App CPAT '3' = App Name Table '4' = Undefined '5' = Pre-Swipe Status(WW only)
5.	Merchant	2	"00"
6.	App	2	'00'=EFTPOS See Appendix 'C' for other options

Response (for Subcode = '0')

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'K'
4.	Sub Code	1	' '
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS
6.	Response Code	2	Response code for the call.
7.	Response Text	20	
8.	Merchant	2	
9.	AIIC	11	
10	NII	3	
11	Merchant ID	15	
12	Terminal ID	8	
13	Timeout	3	
14	Logged On flag	1	
15	Pinpad Serial Number	16	
16	Pinpad Version Number	16	
17	EFTPOS Network	32	
18	Data Field Length	3	Length of the data field to follow.
19	Data Field	XXX	Please see "Data Field" in the ActiveX spec

Response (for Subcode = '5')

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'K'
4.	Sub Code	1	''5'
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS
6.	Response Code	2	Response code for the call.

7.	Response Text	20	
8.	Merchant	2	
9.	Card data	40	
10	Purchase Amount	9	
11	Cash out Amount	9	
12	Other amount	9	
13	Account Selected	1	‘0’ = Savings. ‘1’ = Cheque. ‘2’ = Credit
14	Terminal ID	8	

3.11 Receipt Event

This event is fired from the EFTCLIENT to the POS. The POS must respond to this event before the EFTCLIENT will continue.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'3'
4.	Sub Code	1	See Note 1
5.	Receipt Data	X	Length = Len(msg) – 7 This field will only be present if the sub-code is of type 'R'

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'3'
4.	Sub Code	1	' '

Note 1

Receipt Type	*Description*
R	Receipt present for POS to print
C	Customer receipt about to be printed
M	Merchant receipt about to be printed
S	Settlement receipt about to be printed
L	Logon receipt about to be printed
A	Audit receipt about to be printed
U	Duplicate receipt about to be printed
B,D,E,F,G,H,I,J,K,N,O,P,Q,T,V,W,X,Y,Z	Unknown receipt about to be printed

3.12 Display Event

This event is fired from the EFTCLIENT to the POS. The POS should not reply to this event. It enables the POS to have an optional second operator or customer display for the EFTPOS messages.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'S'
4.	Sub Code	1	'0'
5.	Number of Lines	2	Always '02'
6.	Line Length	2	Always '20'
7.	Display Text	40	The Text To Display. Two lines of 20 character's each.
8.	Cancel Key Flag	1	Cancel Key Enabled. 0=disabled, 1=enabled
9.	Accept/Yes Key Flag	1	Accept/Yes Key Enabled. 0=disabled, 1=enabled
10.	Decline/No Key Flag	1	Decline/No Key Enabled. 0=disabled, 1=enabled
11.	Authorise Key Flag	1	Authorise Key Enabled. 0=disabled, 1=enabled
12.	Input Data Field Key	1	Input Data Field Enabled Key. See Note 1
13.	OK Key Flag	1	OK Key Enabled. 0=disabled, 1=enabled
14	Reserved (Not Defined)	1	Reserved (Not Defined)
15	Reserved (Not Defined)	1	Reserved (Not Defined)
16	Graphic Code	1	
17	Purchase Analysis Data	3	Length of the following Purchase Analysis Data field. This field is optional and may not be present. If the field is blank set this to "000"
18	Purchase Analysis Data	XXXX	Purchase Analysis Data property. See Appendix B for the format of this field.

Note 1: This field is set if the Authorise Key Flag is set.
The Input Field Key values can be:

'1' = Normal ascii input
'2' = Formatted Amount entry ($0.cc)
'3' = 2 decimal place formatted entry without dollar sign
'4' = Masked Password entry
'5' = Supervisor Request from Pinpad.
'6' = One key input from POS. As soon as one key is pressed on the POS, the key is sent to the pinpad

It is mandatory that a POS support option '1' for this key type.

3.13 Send Key Request

This method sends a keystroke from the POS to the PINpad to simulate a transaction dialog button press.
This method is primarily used when a POS receives a key press via the OnKeyDown() event that is to be used by PC-EFTPOS as one of the key presses.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'Y'
4.	Sub Code	1	'0'
5.	Key to Press	1	Indicates the key to be pressed. '0' for the CANCEL key or OK key (See Note 1) '1' for the YES key '2' for the NO key '3' for the AUTH key
6.	Auth or Input Data	20	Entry data collected by POS

Note 1: The OK and Cancel key are actually the same button. The pinpad can only set one or the other at a single time.

3.14 PIN Request – Auth

This command sends a pin auth request to the bank. It is the same as the transaction request with the added “datafield” property and a transaction type of ‘X’. This command is not supported by all pinpads.

Request

	Field	Length	Contents
1.	Start Flag	1	‘#’
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	‘W’
4.	Sub Code	1	‘0‘
5.	Merchant	2	‘00’
6.	Txn Type	1	‘X’
7.	Training Mode	1	‘0’
8.	Enable Tipping	1	‘0’
9.	Amount Cash	9	‘000000000’
10	Amount Purchase	9	‘000000000’
11	Auth Number	6	‘000000’
12	Txn Reference Number	16	
13	Receipt Auto Print	1	‘0’
14	Cut Receipt	1	‘0’
15	Card number source	1	
16	Card number	20	
17	Expiry Date	4	
18	Track 2 details	40	
19	Account Type	1	
20	App	2	‘00’=EFTPOS See Appendix ‘C’ for other options
21	RRN	12	‘00000000000’
22	Data Field Length	3	Length of the following data field
23	Data Field	XXX	

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'W'
4.	Sub Code	1	'0'
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS
6.	Response Code	2	Response code for the call.
7.	Response Text	20	
8.	Merchant	2	
9.	Txn Type	1	'X'
10	Account Type	7	
11	Amount Cash	9	
12	Amount Purchase	9	
13	Amount Tip	9	
14	Auth Code	6	
15	Txn Reference	16	
16	Stan	6	
17	Merchant ID	15	
18	Terminal ID	8	
19	Expiry Date	4	
20	Settlement Date	4	
21	Date	6	
22	Time	6	
23	Card Type	20	
24	PAN	20	
25	Track 2	40	
26	RRN	12	

3.15 PIN Request – Pin Change

This command sends a pin change request to the bank. It is the same as the transaction request with the added “datafield” property and a transaction type of ‘K’

Request

	Field	Length	Contents
9.	Start Flag	1	‘#’
10	Length	4	Length of message including start and length fields
11	Command Code	1	‘W’
12	Sub Code	1	‘0‘
13	Merchant	2	‘00’
14	Txn Type	1	‘K’
15	Training Mode	1	‘0’
16	Enable Tipping	1	‘0’
17	Amount Cash	9	‘000000000’
18	Amount Purchase	9	‘000000000’
19	Auth Number	6	‘000000’
20	Txn Reference Number	16	
21	Receipt Auto Print	1	‘0’
22	Cut Receipt	1	‘0’
23	Card number source	1	
24	Card number	20	
25	Expiry Date	4	
26	Track 2 details	40	
27	Account Type	1	
28	App	2	‘00’=EFTPOS See Appendix ‘C’ for other options
29	RRN	12	‘00000000000’
30	Data Field Length	3	Length of the following data field
31	Data Field	XXX	

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'W'
4.	Sub Code	1	'0'
5.	Success Flag	1	'0' = Fail, '1' = SUCCESS
6.	Response Code	2	Response code for the call.
7.	Response Text	20	
8.	Merchant	2	
9.	Txn Type	1	'K'
10	Account Type	7	
11	Amount Cash	9	
12	Amount Purchase	9	
13	Amount Tip	9	
14	Auth Code	6	
15	Txn Reference	16	
16	Stan	6	
17	Merchant ID	15	
18	Terminal ID	8	
19	Expiry Date	4	
20	Settlement Date	4	
21	Date	6	
22	Time	6	
23	Card Type	20	
24	PAN	20	
25	Track 2	40	
26	RRN	12	

3.16 Cheque Auth

This command sends a cheque auth request. This command is not supported by all pinpad's.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'H'
4.	Sub Code	1	'0'
5.	App	2	'00'=EFTPOS See Appendix 'C' for other options
6.	Txn Type	1	' '
7.	Branch Code	6	
8.	Account Number	14	
9.	Serial Number	14	
10	Purchase Amount	9	
11	Cheque Type	1	'0' = Business Guarantee '1' = Personal Guarantee '2' = Personal Appraisal '3' = Personal Appraisal
12	Txn Ref Number	12	Optional field

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	1	'H'
4.	Sub Code	1	'0'
5.	Success Flag	1	'0' = Fail, '1' = Success
6.	Response Code	2	
7.	Response Text	20	
8.	Merchant	2	'00'
9.	Amt Purchase	9	
10	Auth Code	6	
11	Reference Code	12	

3.17 Generic POS Command – Display Data

Used to display text on the pinpad screen. Please note this is not supported by all pinpads.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message
3.	Command Code	1	'X'
4.	Sub Code	1	'0'
5.	# lines of text to display	2	
6.	Timeout	3	
7.	Display Map options: Byte 0 = '1' to indicate that the PINpad will display Byte 1 = '1' to indicate that the POS will display	2	
8.	PINpad Keymap: Byte 0 = '1' indicates ENTER key allowed Byte 1 = '1' indicated CLEAR key allowed Byte 2-7 = not used	8	
9.	POS Keymap Byte 0 = OK button on POS display Byte 1 = CANCEL button on POS display Byte 2-7 = not used	8	
10.	PINpad Line Length	3	
11.	POS Display Data (2 lines at 20 char each line)	40	
12.	PINpad Line Data in (line length) char blocks	#lines * line length	

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	X	'X'
4.	Sub Code	1	'0'
5.	Response Code	2	Response code for the call.
6.	Response Text	20	
7.	Data	X	

3.18 Generic POS Command – Print Data

Used to print data on the pinpads internal printer. Please note this is not supported by all pinpads.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message
3.	Command Code	1	'X'
4.	Sub Code	1	'1'
5.	# lines to print	2	
6.	Printer Bytemap: Byte 0 = '1' to print on NPT printer Byte 1 = Not Supported	2	
7.	Line Length of each print line	3	
8.	Print Data. This is # lines * line length	#lines * line length	

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	X	'X'
4.	Sub Code	1	'1'
5.	Response Code	2	Response code for the call.
6.	Response Text	20	
7.	Data	X	

3.19 Generic Slave Command

This is used to access the pinpad via the PC-EFTPOS Slave application.

- The slave application is an application in the EFTPOS terminal that can be controlled by the EFT-client and POS. This command provides a way for the POS to direct a command to the EFTPOS terminals slave application.
- Depending upon the command issued to the system, there may or may not be a response immediately. Also, there may be more than one response to a command. Until the slave application is disabled, it is possible to receive a response at any time.
- This request is not recommended to be used unless you have worked directly with PC-EFTPOS and understand what you are doing.

Request

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message
3.	Command Code	1	'X'
4.	Sub Code	1	'Z'
5.	Slave Request	n	

Response

	Field	Length	Contents
1.	Start Flag	1	'#'
2.	Length	4	Length of message including start and length fields
3.	Command Code	X	'X'
4.	Sub Code	1	'Z'
5.	Response code	2	00 = valid reply.
6.	Slave Response	N	Response from Slave application. Only present if response code was '00'. Other response codes may have the response text in this place.

Appendix A – XML Message Format

The XML message format is based upon the standard PC-EFTPOS ActiveX interface.

It does not comply with the TCP/IP interface specification at all.

Note:

- ***There is currently no test client available using the XML interface. Do not use the XML interface without discussions with PC-EFTPOS***.

1. Message Structure

	Field	Length	Contents
1.	Start Flag	1	'&'
2.	Length	6	Length of message including start and length fields
3.	XML Tags	*	XML document in the format < PCEFTPOS_BRIDGE> < PCEFTPOS_MSGID> ? <\PCEFTPOS_MSGID> <PCEFTPOS_DESTINATION> <\PCEFTPOS_DESTINATION> <PCEFTPOS_SOURCE> <\PCEFTPOS_SOURCE> <PCEFTPOS_METHOD> <Tag1>Value</Tag1> <Tag2>Value</Tag2> . . <Tagn>Value</Tagn> </PCEFTPOS_METHOD> </ PCEFTPOS_BRIDGE >

Where:

- PCEFTPOS_MSGID is
- PCEFTPOS_ DESTINATION is
- PCEFTPOS_ SOURCE is
- PCEFTPOS_ METHOD is a method from the ActiveX control
- PCEFTPOS_EVENT is an event returned from the Client.
- Tag1 etc is a property from the ActiveX control

2. Methods

- The XML interface allows any ActiveX method to be called. The POS is required to accurately complete the required properties for each method as per the PC-EFTPOS ActiveX interface guide.

3. Events

- PC-EFTPOS will generate events to the POS as per the ActiveX Developers Guide. These events will have the required properties set and are to be interpreted as per the ActiveX guide.

4. Properties

- Any property from the ActiveX control can be set in any method with an XML interface.
- The client will validate the properties for EFTPOS requests only.

Appendix B – Purchase Analysis Data

The purchase analysis data field allows the POS to send custom tag data to the PINpad.
It is also possible for the pinpad to return data to the POS in this field for certain messages.
The format for both send and receive of this data is the same. The value of each Tag is dependent upon the Pinpad application.

Only use this field if instructed by PC-EFTPOS.

	Field	Length	Contents
The following fields are repeated for each tag.			
1.	Tag Name	3	The name of the tag as defined by the PINpad.
2.	Tag Data Length	3	The length of the tag data to follow, not including the tag name and data length fields. ASCII and padded with leading zeros.
3.	Tag Data	X	The tag data as defined by the PINpad

Example 1: Setting the property to “XXX006ABCDEF” would mean the PINpad receives a tag called “XXX” with a length of 6 and the data “ABCDEF”

Example 2: Setting the property to “XXX001aYYY003ABCZZZ00245” the PINpad receives:

- A tag called “XXX” with a length of 1 and the data “a”
- A tag called “YYY” with a length of 3 and the data “ABC”
- A tag called “ZZZ” with a length of 2 and the data “45”

Defined Tags to PC-EFTPOS

The following tags are options for the POS to send to the PC-EFTPOS system to perform features which may be supported by various pinpads.

Silent Card Not Supported in Transaction

- This tag allows the pinpad to saliently end a sale if the card that is presented is not handled by the pinpad.
- The pinpad will exit with a response code indicating the card is not accepted, but the pinpad will not do any displays on the POS.
- TAG:
  - SLT0011
- Banks Supported:
  - CBA
  - NAB?
- Transaction Types Supported:
  - Transaction

Limit Account Selection

- This tag instructs the pinpad to limit the accounts that are allowed for this sale. It can be used by the POS to stop a customer selecting a particular account (even if the bank rules allow it)
- TAG:
  - LAS<LLL><abc>
  - Where a = CHQ, b = SAV, c = CR

    - Values are ‘0’ for not allowed and ‘1’ for allowed
    - Eg LAS003001
- Banks Supported:
    - CBA
- Transaction Types Supported:
    - Transaction

Operator Display Prompts

- Optional return tag on the Display Event or Transaction Response that returns additional operator display information
- TAG:
    - ODP<display Data>
- Banks Supported:
    - None. Custom add-on DLL required.
- Transactions types Supported:
    - Display Events.
    - Transaction Events.

Field 48 Data

- Data to be sent to the bank in Field 48
- TAG:
    - F48
- Banks Supported:
    - ANZ
- Transaction Types Supported:
    - All

Myer Specific

- Myer Gift Card specific tags for ANZ to handle.
- TAG:
    - MYR
- Banks Supported:
    - ANZ
- Transaction Types Supported:
    - All

Defined Tags from PC-EFTPOS

The following tags may be returned by the PC-EFTPOS system on any event response. The POS can check these and use them if they are required.

Unique Card Identifier

- The UCI tag may be returned to provide a unique hashed value of a card that can be used by the POS to identify the same card in future sales.
- The UCI will only be unique when returned from the same banks pinpad.
- TAG:
    - UCI{hash value}
    - Eg UCI1234567890
- Banks Supported:
    - None!
- Transaction Types Supported:
    - All.

Available Balance

- Balance available after a sale
- TAG:
    - ABA
- Banks Supported:
    - ANZ
- Transaction Types Supported:
    - Transaction Response.
-

Cleared Funds Balance

- Balance of cleared funds.
- TAG:
    - CFD
- Banks Supported:
    - ANZ
- Transaction Types Supported:

Transaction Response

Appendix C – Application Codes

- These codes allow the POS to direct a command to a specific application.
- They should only be used in consultation with PC-EFTPOS.

Code	Application
“00”	EFTPOS
“01”	AGENCY
“02”	PC-EFTPOS Configurable Application
“03”	Gift Card
“04”	Fuel
“05”	Medicare
“06”	Amex
“07”	Cheque Auth