Telefónica

Payment Manger

ISO 8583 Interface Guide for

Domestic POS Synchronous Transactions

Revision History

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Table of Contents

1. Overview

This document provides developers with the basic rules that govern the request/response message sets used by ISO 8583-based terminal systems to communicate with XIUS Payment Manager.

1.1 Payment Manager POS Integration Overview

POS terminals send and receive transaction requests to Payment Manager using the POS Gateway. The POS terminal sends a packaged transaction request, using the ISO 8583 standards detailed in this document, to the POS Gateway. The POS Gateway listens for these messages, interprets the message request and sends it on to Payment Manager for completion. An example of the flow is in Figure 1.

The POS terminal operator is responsible for configuring their messaging to match the Payment Manager requirements.

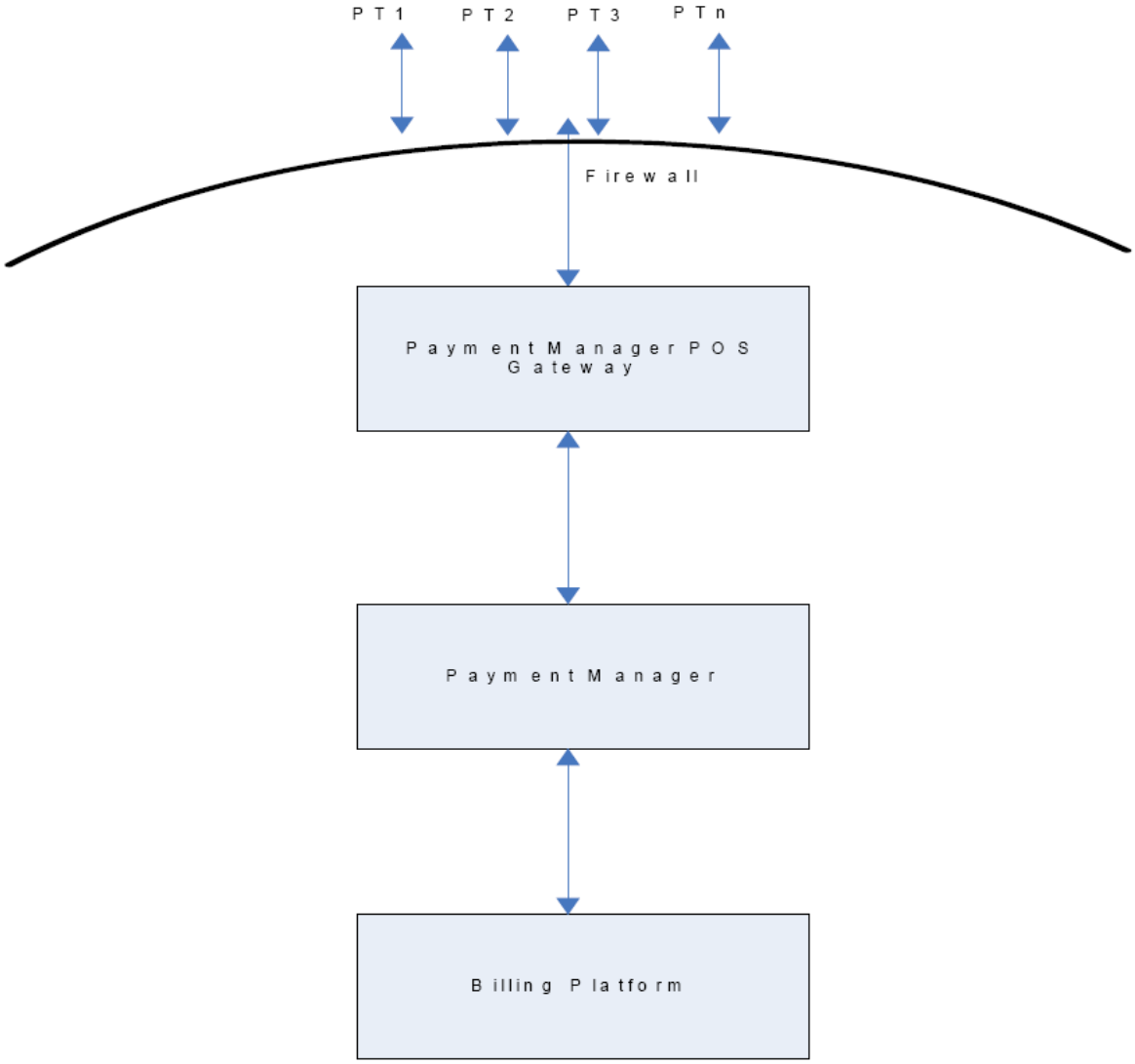
1.1.1 XIUS Specific Implementation of ISO 8583

XIUS uses a modified version of the standard ISO 8583 message definitions to meet specific client requirements, while using the standards defined in ISO 8583 as a base. XIUS Payment Manager currently supports the 1987 version of the ISO 8583 standard.

1.2 Architecture

The following diagram depicts the network architecture and message flow path for transactions initiated from ISO 8583 devices.

Figure 1: Physical Architecture of Payment Manager in a Point-of-Sale Distribution Scenario

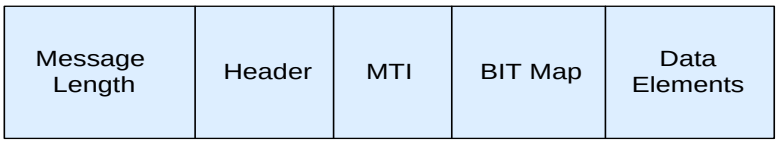


1.3 ISO 8583 Message Structure

The messages sent from the POS terminal to Payment manager are made up of the following elements.

- Header
- Message type indicator
- Bitmap
- Data Elements

Figure 2: Message Format



The following table describes the message components.

Table1: Message Format	
Message Component	**Description**
Message Length	The length of the message. Length of the message must be total length of the message including the length of the message
Header	ISO Message Header
MTI	Message Type Indicator
Bitmap	Indicates which data elements are present in the message.
Data Elements	Information about the Transaction is stored here.

1.3.1 Header

The ISO Messages must have header which starts with the word ISO followed by 9 numbers, for example: ISO123456789

1.3.2 Message Type Indicator

The message type indicator defines the type of transaction information contained in the message. For Payment Manager, the following message type indicators apply:

- 200-210 message type indicators denote a recharge transaction
- 400-410 message type indicators denote a reversal transaction
- 800-810 message type indicators denote an echo request

For each message type (e.g., 200, 400 and 800), XIUS uses only two message type indicator subclasses from the ISO 8583 standard:

- 200/400/800 messages indicate a request message, such as the request for a recharge from a POS terminal
- 210/410/810 messages indicate a response message, such as the transaction receipt and success message sent post-recharge to the originating POS terminal.

1.3.3 Bitmap

This is a sequence of bits with each bit representing a specific field of the message. The position of a bit in bitmap is an index of the corresponding field in the message.

1.3.4 Data Elements

The data elements contain the actual information of the transaction, such as subscriber numbers,

recharge amounts, and reselling distributor identification information. The data element packaging must follow the fields as described in the ISO 8583 Message Formats section of this document.

1.3.5 Version and Packaging

Payment Manager supports only 1987 version ISO8583 Messages and it recognizes only messages packaged in Binary format.

1.4 Response Codes

Response codes (error messages) are detailed in the tables that follow each section. These are the current response codes. Please contact XIUS for any updates to these response codes as they will continue to be adjusted as new needs arise.

2. ISO 8583 Message Formats

ISO 8583 transactions are performed in a request/response format. Point-of-Sale client software, developed by the customer with support from XIUS, sends ISO 8583 requests to the XIUS Payment Manager ISO 8583 interface portal. When a request is properly formatted, a response containing the requested information is returned. When a request is improperly formatted, the error response message indicates the reason for the failure of the transaction, as shown in response code tables.

2.1 Table Conventions

The following definitions apply to each of the following message format tables.

Table2: Table Conventions	
Nomenclature	**Description**
N	Numeric
AN	Alphanumeric
LLVAR	Variable field. 2 numeric fields followed by the field data. Maximum length shown in Length field
LLLVAR	Variable field. 3 numeric fields followed by the field data. Maximum length shown in Length field

Note: All fields are mandatory unless noted optional in the description. Formats not noted are defined as fixed unless noted otherwise. The following diagrams and tables describe the message formats used by the Payment Manager ISO 8583 API

2.2 Supported Message Type

2.2.1 Request Messages

Table 3: Supported Request Message Types	
Message Type ID	**Message Type**
0200	Request Message for Account Recharge and PIN Purchase
0400	Request Message for Account Recharge Reversals and PIN Purchase Reversals
0800	Echo Request Message

2.2.2 Response Messages

Table4: Supported Response Message Types	
Message Type ID	**Message Type**
0210	Response Message for Account Recharge and PIN Purchase
0410	Response Message for Account Recharge Reversals and PIN Purchase Reversals
0810	Echo Response Message

2.2.3 Processing Codes

The message types highlighted above are differentiated by processing codes.

2.2.3.1 Movistar Processing Codes

Processing Code	Message Type
180000	Processing Code for Synchronous Recharge and Reversal Request
180300	Processing Code for Packet Recharge.

2.2.3.2 Tuenti Processing Codes

Processing Code	Message Type
180001	Processing Code for Synchronous Recharge and Reversal Request
180301	Processing Code for Packet Recharge For Tuenti

2.2.3.3 MVNO 1 Processing codes

Processing Code	Message Type
180002	Processing Code for Synchronous Recharge.
100002	Processing Code for Subscriber Account Validation
180302	Processing Code for Packet Recharge

2.2.3.4 MVNO 2 Processing codes

Processing Code	Message Type
180003	Processing Code for Synchronous Recharge
100003	Processing Code for Subscriber Account Validation
180303	Processing Code for Packet Recharge

2.2.3.5 MVNO 3 Processing codes

Processing Code	Message Type
180004	Processing Code for Synchronous Recharge
100004	Processing Code for Subscriber Account Validation
180304	Processing Code for Packet Recharge

3. Messages Initiated from Point-of-Sale Terminals

<table>
<tr><th colspan="2">Java Client for new Distributor Integration</th></tr>
<tr><th>Echo Request</th><th>Description</th></tr>
<tr><td>Input</td><td>
For a new Distributor integration, we can use java client to check the connectivity from POS to PM DOM. The following message type can be directly run the start script using start.sh.

m.setMTI ("0800"); → (Message Type)
m.set(3,"990000"); →(processing code)
m.set(11,generateNumber(6)); →(System Trace Audit Number)
m.set(12,"102730"); →(Time HHMMSS)
m.set(13,"1114"); →(Month Date)
m.set(24,"026"); →(Distributor ID)
m.set(41,"LEELA"); →(Device ID)

Step 1: we need to edit clinet.java file and we need to modify the distributor id. After that we need to save the file.

Step 2: we need to give the POS port in the below string which we are trying to hit the port.

ISOChannel channel = new NACChannel("10.112.148.5",16420,new RISO87BPackager(),ISOUtil.hex2byte ("6000030000"));

Step 3: After that we need to run the start script like below format.
sh Start.sh
Step 4: Press Enter.
Step 6: The result appears in pos gateway and iso log.
<u>Note:</u> We can test recharges by using this java client and we need to add the some fields in the above message type.

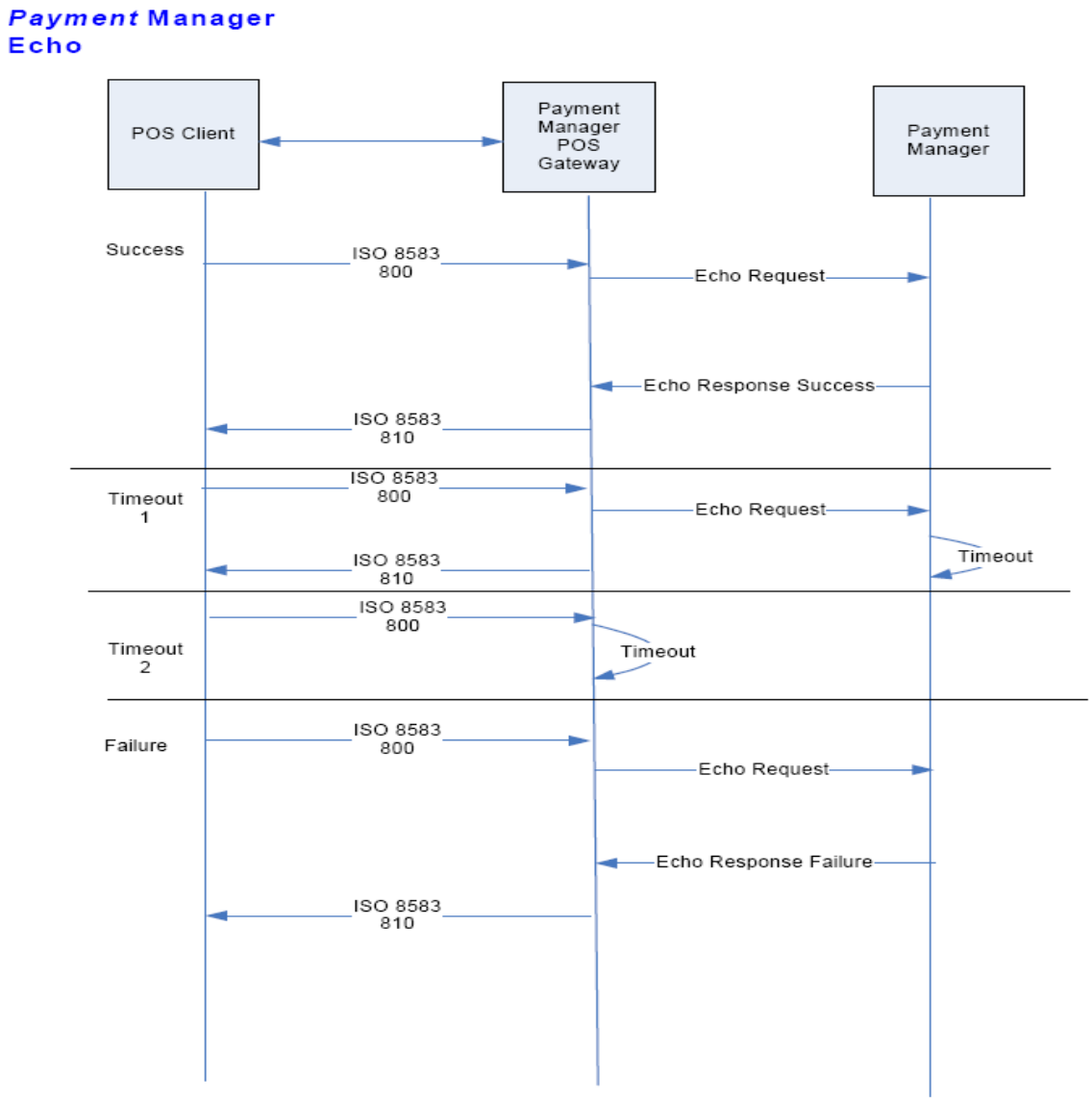
If we need to test a recharge/reversal it is required to comment echo fields and required to uncomment recharge fields.
In step2, if required can change the port number.
</td></tr>
</table>

3.1 Echo Message for Connectivity Test

The following diagram and table describe an echo message. The echo is a handshake, used to verify the availability of Payment Manager in the network. Figure 3 demonstrates the communications between the distributor, XIUS Point-of-Sale gateway, and Payment Manager for an echo transaction.

Note: It is possible to use Echo Message, to test the PM network connectivity, only for the distributors who are in **Active** status.

Echo Message using ISO 8583



3.1.1 Echo - New Distributor Integration

New Distributor Integration	
Request	**Description**
Echo	For a new Distributor integration, you can use these strings to check the connectivity from POS to Domestic PM. The following strings can be directly injected in to POS ports using Telnet. Below strings are only indicative and does not support for any transactions. 6000030000 -- [Header] 0800 -- [Echo Request Message Type ID] 3038010000800000-- [bitmap hexadecimal value] 990000---[Processing Code] 222222 -- [System Trace Audit Number] 080656 -- [Transaction Time] 0212--- [Transaction Date] 041800 -- [Distributor ID] 301 -- [Terminal ID] **Step 1:** Connect to Telnet using 10.112.148.5 16420. The following message appears. Trying 10.112.148.5 Connected to epnagwdes.otecel.com.ec (10.112.148.5) Escape character is '^]' Request: 0800303801000080000099000000000000010000125712042004050026323633332020202020 Response: 0810303801000280000099000000000000010000125705213704050026303032363333202020 20 **Note**: Above strings are only examples and does not support for any transactions.

3.1.2 Echo Message for Connectivity Test Request Message (0800)

Table 5: ISO 8583 Echo Request Message-Type 0800							
BIT MAP	**PM FIELD NAME**	**DATA TYPE**	**LENGTH**	**FORMAT**	**MANDATORY /OPTIONAL**	**SAMPLE**	**COMMENTS**
0	Message Type ID	N	4	F	Mandatory	0800	Echo Request Message Type ID
1	Bitmap	H	16	F	Mandatory		
3	Processing Code	N	6	F	Optional	990000	Format: TTAAOX where TT represents Transaction Type AA and OX both represents affected accounts. Specifically AA represents Origin Account and OX represents Destination Account. Echo TT - 99. AA - 00 OX - 00
11	System Trace Audit Number	N	6	F	Optional	123456	The number cannot be repeated. Reference Number to identify the

							transaction
24	Network International ID	AN	25	F	Mandatory	movistar123	This field must hold Distributor ID. ID will be validated to verify if it exists in PM system.
41	Terminal ID	AN	8	F	Mandatory	t2345678	This field must hold Store Manager ID. ID will be validated to verify if it exists in PM system.
42	Merchant ID	AN	15	F	Optional	123456789012345	This field must hold Subagent ID.
63	Channel Number	AN	999	LLLVAR	Optional	6	Specifies the transaction originating Channel. Valid channel number are 1 – SMS 2 – ATM 6 – Distributor POS Device

3.1.3 Echo Message for Connectivity Test Response Message (0810)

Table 6: ISO 8583 Echo Response Message-Type 0810							
BIT MAP	**PM FIELD NAME**	**DATA TYPE**	**LENGTH**	**FORMAT**	**MANDATORY/ OPTIONAL**	**SAMPLE**	**COMMENTS**
0	Message Type Identifier	N	4	F	Mandatory	0810	Echo Response Message Type ID
1	Bitmap	Bitmap	16	F	Mandatory		
3	Processing Code	N	6	F	Optional	990000	Format: TTAAOX where TT represents Transaction Type AA and OX both represents affected accounts. Specifically AA represents Origin Account and OX represents Destination Account. Echo TT - 99. AA - 00 OX - 00
11	System Trace Audit Number	N	6	F	Optional	123456	This field must hold Store Manager ID.

							ID will be validated to verify if it exists in PM system.
12	Local Transaction Time	N	6	hhmmss	Mandatory	221530	Payment Manager System Time when the transaction was processed. Format: hhmmss hh is 0-23 mm is 01-59 ss is 01-59
13	Local Transaction Date	N	6	mmdd	Mandatory	0915	PaymentManager system date
24	Network International ID	AN	3	F	Mandatory	MOVISTAR123	Distributor ID
39	Response Code	AN	2	F	Mandatory	00	Response code for the request transaction (0800) payment.
41	Terminal ID	AN	8	F	Mandatory	tb12345q	Same as request data
42	Merchant ID	AN	15	F	Optional	123456789012345	This field must hold Subagent ID.
63	Channel Number	AN	999	LLLVAR	Optional	6	Specifies the transaction originating Channel. Valid channel numbers

							are 1 – SMS 2 – ATM 6 – Distributor POS Device

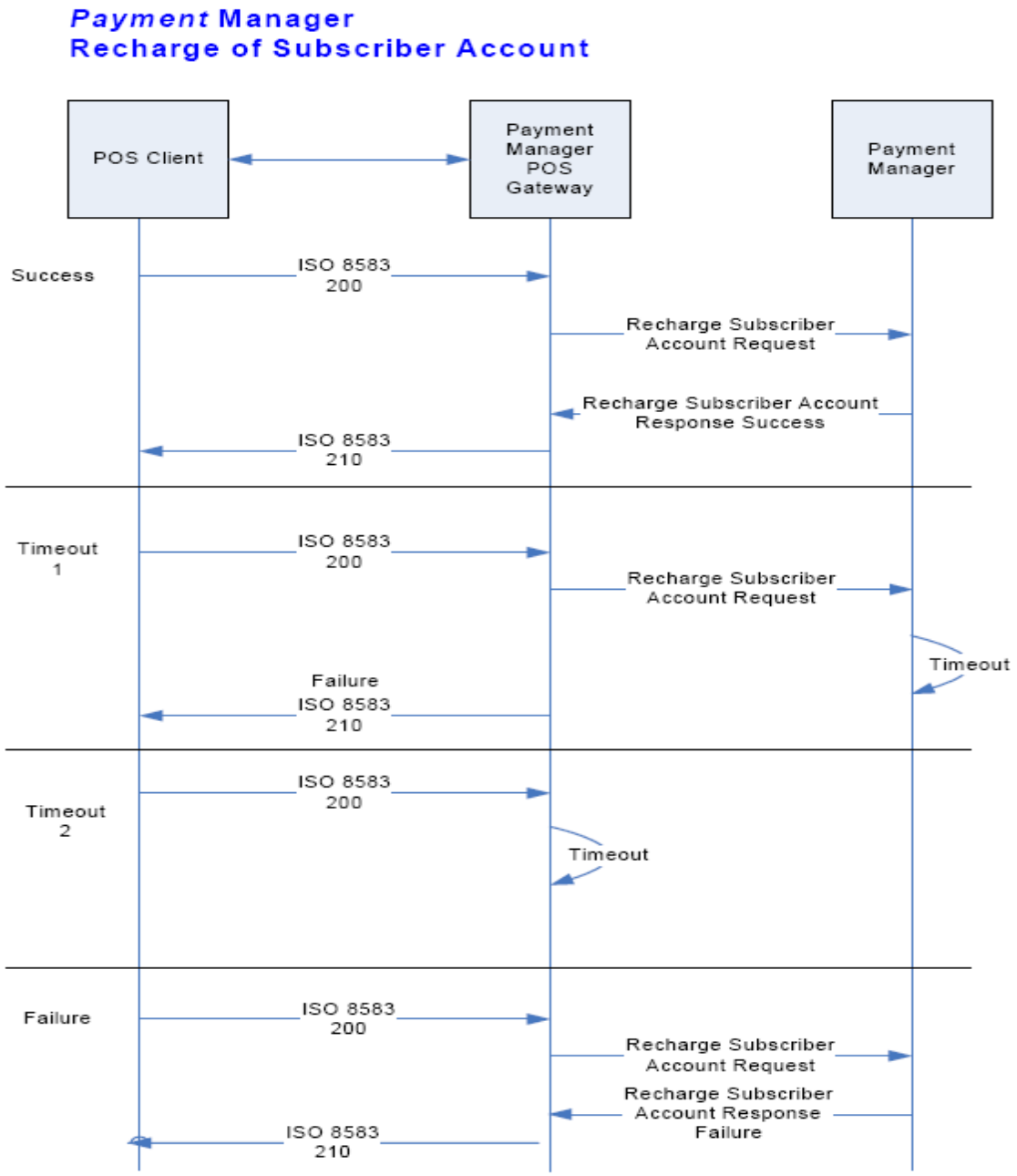
3.1.4 Response code for Echo Request Message

Table 7: Response Code for Echo Request Message		
RESPONSE CODE	**DESCRIPTION**	**SCENARIO**
00	Successful Transaction	Transaction Successful
99	Payment Manager not available (Unable to connect to Payment Manager)	POS GW not able to connect to the Payment Manager

3.2 Recharge Transaction Message

0200-0210 transactions are used for account recharge in XIUS Payment Manager. These requests are generated from a point-of-sale interface upon subscriber request.**¡Error! No se encuentra el origen de la referencia.** and the following table shows ISO 8583 message flow for standard real-time Recharge Requests

Figure 3: Recharge Message using ISO 8583



3.2.1 Recharge - New Distributor Integration

New Distributor Integration	
Request	**Description**
Recharge	For a new Distributor integration, you can use these strings to check the connectivity from POS to Domestic PM. The following strings can be directly injected in to POS ports using Telnet. Below strings are only indicative and does not support for any transactions. 6000030000 -- [Header] 0200-- [Request Message Type ID] 703801000080000010-- [bitmap hexadecimal value] 0984607000—[Subscriber Number] 180000---[Processing Code] 222222 -- [System Trace Audit Number] 080656 -- [Transaction Time] 0212--- [Transaction Date] 041800 -- [Distributor ID] 301 -- [Terminal ID] **Step 1:** Connect to Telnet using 10.112.148.5 16420. The following message appears. Trying 10.112.148.5 Connected to epnagwdes.otecel.com.ec (10.112.148.5) Escape character is '^]' Request: 02007038010000800000100984607000180000000000000100001257120420040500263236353520202020 Response: 02107038010006800000100984607000180000000000000100001257120420040500263530333835353030323635352020202020 **Note**: Above strings are only examples and does not support for any transactions.

3.2.2 Recharge Transaction Request Message (0200)

When subscriber is present the request is interpreted as Recharge Request.

Table 8: ISO 8583 Recharge Request Message-Type 0200

BIT MAP	PM FIELD NAME	DATA TYPE	LENGTH	FORMAT	MANDATORY/ OPTIONAL	SAMPLE	COMMENTS
0	Message Type Identifier	N	4	F	Mandatory	0200	Recharge Request Message Type ID
1	Bitmap	H	16	F			
2	Subscriber Number	N	9	LLVAR	Mandatory	091234567	Mobile Number of the subscriber whose recharge transaction is sent from the POS Terminal
3	Processing Code	N	6	F	Optional	180000/180300	Format: TTAAOX where TT represents Transaction Type AA and OX both represents affected accounts Specifically AA represents Origin Account

							and OX represents Destination Account. Recharge of Subscriber Account TT - 18 AA - 00 OX - 00
4	Transaction Amount	N	12	F	Mandatory	000000002000	Amount which will be used to recharge the mobile number. Last 2 digits denote decimal values.
11	System Trace Audit Number	N	6	F	Mandatory	123456	Reference Number to identify the transaction
24	Network International ID	N	25	F	Mandatory	123	This field must hold Distributor ID. ID will be validated to verify if it exists in PM system.

35	Subscriber Number	N	9	LLVAR	Optional	091234567	Mobile Number of the subscriber whose recharge transaction is sent from the POS Terminal
37	Subscriber Number	N	9	LLVAR	Optional	091234567	Mobile Number of the subscriber whose recharge transaction is sent from the POS Terminal
41	Terminal ID	AN	8	F	Mandatory	12345678	This field must hold Sales Person ID
42	Merchant ID	AN	15	F	Optional	123456789012345	This field must hold Sub-Distributor ID.
45	Track 1 data	AN	15	LLVAR	Conditional	COM234	Packet Code.
49	Currency Code	AN	3	F	Optional	840	Supply the standard 3 digit **Currency Code** to specify the currency of the transaction amount.

63	Channel Number	AN	999	LLLVAR	Optional	6	Specifies the transaction originating **Channel**. Valid channel numbers are 1 – SMS 2 – ATM 6 – Distributor POS Device

3.2.3 Recharge Transaction Response Message (0210)

Table 9: ISO 8583 Recharge Response Message-Type 0210

ISO BIT NUM	FIELD NAME	Data Type	Length	Format	MANDATORY /OPTIONAL	Sample	COMMENTS
0	Message Type Identifier	N	4	F	Mandatory	0210	Recharge Request Message Type ID
1	Bitmap	H	16	F			
2	Subscriber Number	N	9	LLVAR	Mandatory	091234567	Mobile Number of the subscriber whose recharge transaction is sent from the POS Terminal
3	Processing Code	N	6	F	Optional	180000	Format: TTAAOX TT represents Transaction

							Type AA and OX both represents affected accounts Specifically AA represents Origin Account and OX represents Destination Account. Recharge of Subscriber Account TT - 18 AA - 00 OX - 00
11	System Trace Audit Number	N	6	F	Mandatory	123456	Reference Number to identify the transaction
24	Network International ID	AN	25	F	Mandatory	movistar123	This field must hold Distributor ID. ID will be validated to verify if it exists in PM system.
35	Subscriber Number	N	9	F	Optional	091234567	If Field# 02 does not contain a subscriber number, value

							in this field will be considered as subscriber number
37	Subscriber Number	N	9	F	Optional	091234567	If field# 02 and Filed# 35 valid subscriber number, then value in this field will be considered as Subscriber Number
38	Authorization Number	AN	6	F	Mandatory	123456	Transaction ID assigned by Payment Manager
39	Response Code	AN	2	F	Mandatory	00	Response returned for the transaction performed.
41	Terminal ID	AN	8	F	Mandatory	12345678	This field must hold Sales Person ID.
42	Merchant ID	AN	15	F	Optional	123456789012345	This field must hold Sub-Distributor IDID. If this field is available the transaction is considered to

							be initiated by the merchant
49	Currency Code	AN	3	F	Optional	840	Supply the standard 3 digit **Currency Code** to specify the currency of the transaction amount.
63	Channel Number	AN	999	LLLVAR	Optional	6	Specifies the transaction originating **Channel**. Valid channel numbers are 1 – SMS 2 – ATM 6 – Distributor POS Device

3.2.4 Response Codes Recharge Message

Table 10: Response codes for Recharge Message

RESPONSE CODE	DESCRIPTION	SCENARIO
00	Successful Transaction	Transaction Successful
01	MIN not exists in Billing System	If Subscriber does not exist in Billing System
02	Subscriber is not Active.	Subscriber status not Active in Billing System
03	Request Message not correctly formatted.	Invalid Message Length

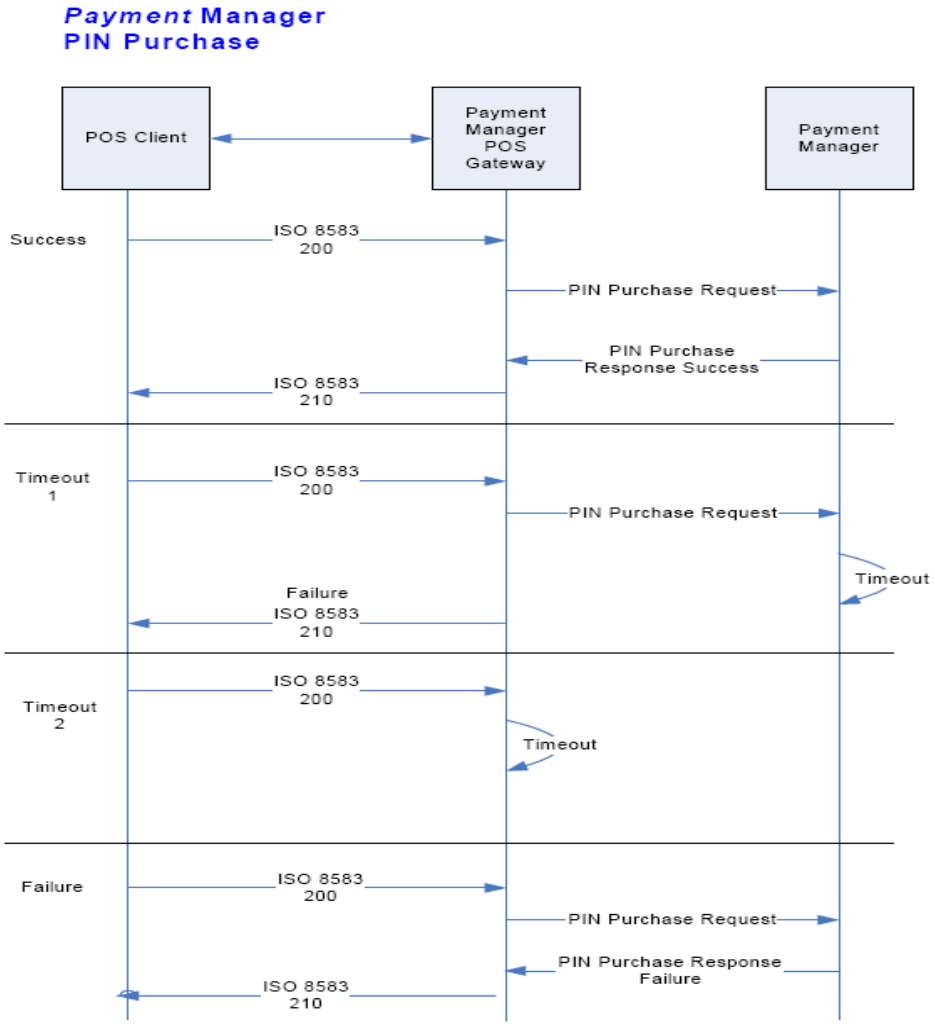
04	POS Gateway System Error	Exception Error while processing a request in POS Gateway
05	Inactive Denomination	Denomination Status set to Inactive in Payment Manager
06	Invalid Processing Code	If Processing Code is not set as “180000”
11	Invalid Denomination Value	If Transaction Amount does not match the fixed denomination set
15	Invalid MVNO	During Tuenti subscriber validation
16	Subscriber Number filled with Null or all Zeros	If Subscriber Number is filled with Null or all Zeros
17	Invalid Subscriber Length	Subscriber Number Length does not match the length set.
18	Invalid Subscriber Prefix	Subscriber prefix does not match the prefix set in Payment Manager
23	Subscriber suspended in Prepaid system	If Subscriber status is suspended in IN
24	Fraud Subscriber found in the Payment Manager while doing Transaction	Subscriber has previously violated fraud rule and status has been set to fraud
25	Subscriber has broken a Fraud Rule.	Subscriber violated fraud rules.
26	Fraud detected in Prepaid System	Fraud Subscriber Status in the Billing System
27	State Query returns “PE”	“PE” is returned as a response to State Query request from Altamira billing system
31	Invalid Payment Reference Number	If Reference Number contains special characters
48	Invalid Transmission Date & Time	If Date and Time is not set or is not numeric or not valid date and time

70	Prepaid System not available	Billing System Not Available / Payment Manager not able to connect to the Billing System
71	Prepaid System Details are not active in Payment Manager	If Comverse or Altamira server connection details are not active
72	Replenishment channel association is not configured for a given distributor	If a channel is not configured/associated to a distributor
74	ALTAMIRA Error	Unable to Process the Altamira Response Message due to improper Response Message
75	Tuxedo Format Error	Tuxedo Format Error
76	SUBSCRIBER DOES NOT BELONGS THIS OPERATOR	SUBSCRIBER DOES NOT BELONGS THIS OPERATOR
77	SUBSCRIBER IS NOT ELIGIBLE FOR AIR/PACKET TRANSACTION	SUBSCRIBER IS NOT ELIGIBLE FOR AIR/PACKET TRANSACTION
78	Packet code not found	Packet code not found in PM application.
79	The bolt-on does not exist	Offer not available in Altamira

3.3 PIN Purchase Request Message

0200-0210 transactions are used for PIN purchase in XIUS Payment Manager. These requests are generated from a point-of-sale interface upon subscriber request. Figure 4 and the following table depict the various 0200 message flow

Figure 4: PIN Purchase message using ISO 8583



3.3.1 PIN Purchase Request Message (0200)

Table 11: ISO 8583 PIN Recharge Request Message-Type 0200							
BIT MAP	**PM FIELD NAME**	**DATA TYPE**	**LENGTH**	**FORMAT**	**MANDATORY/ OPTIONAL**	**SAMPLE**	**COMMENTS**
0	Message Type Identifier	N	4	F	Mandatory	0200	Recharge Request Message Type ID
1	Bitmap	H	16	F			
3	Processing Code	N	6	F	Optional	180000	Format: TTAAOX where TT represents Transaction Type AA and OX both represents affected accounts Specifically AA represents Origin Account and OX represents Destination Account. Recharge of

							Subscriber Account TT - 18 AA - 00 OX - 00
4	Transaction Amount	N	12	F	Mandatory	000000002000	Amount which will be used to Purchase the PIN number. Last 2 digits denote decimal values.
11	System Trace Audit Number	N	6	F	Mandatory	123456	Reference Number to identify the transaction
24	Network International ID	AN	25	F	Mandatory	movistar123	This field must hold Distributor ID. ID will be validated to verify if it exists in PM system.

41	Terminal ID	AN	8	F	Mandatory	12345678	This field must hold Sales Person ID
42	Merchant ID	AN	15	F	Optional	123456789012345	This field must hold Sub-Distributor ID. If this field is available the transaction is considered to be initiated by the merchant"
63	Channel Number	AN	999	LLLVAR	Optional	6	Specifies the transaction originating Channel. Valid channel numbers are 1 – SMS 2 – ATM 6 – Distributor POS Device

3.3.2 PIN Purchase Response Message (0210)

Table 12: ISO 8583 PIN Purchase Response Message-Type 0210							
ISO BIT NUM	**FIELD NAME**	**Data Type**	**Length**	**Format**	**MANDATORY/ OPTIONAL**	**Sample**	**COMMENTS**

0	Message Type Identifier	N	4	F	Mandatory	0210	Recharge Request Message Type ID
1	Bitmap	H	16	F			
3	Processing Code	N	6	F	Optional	180000	Format: TTAAOX TT represents Transaction Type AA and OX both represents affected accounts Specifically AA represents Origin Account and OX represents Destination Account. Recharge of Subscriber Account TT - 18 AA - 00 OX - 00
4	Transaction Amount	N	12	F	Mandatory	000000 002000	Amount which will be used to Purchase the PIN number.

							Last 2 digits denote decimal values.
11	System Trace Audit Number	N	6	F	Mandatory	123456	Reference Number to identify the transaction
12	Local Transaction Time	N	6	hhmmss	Optional	221530	Payment Manager System Time when Transaction was processed. Format: hhmmss where hh is 0-23 mm is 01-59 ss is 01-59 Note: Transaction Time is set only in the case of failed transaction.
24	Network International ID	AN	25	F	Mandatory	movistar123	This field must hold Distributor ID. ID will be validated to verify if it exists in PM system.

38	Authorization Number	AN	6	F	Mandatory	123456	Transaction ID assigned by Payment Manager
39	Response Code	AN	2	F	Mandatory	00	This is the status code indicating the result of the execution of Pin Purchase Request
41	Terminal ID	AN	8	F	Mandatory	12345678	This field must hold Sales Person ID.
42	Merchant ID	AN	15	F	Optional	123456789012345	This field must hold Sub-Distributor IDID. If this field is available the transaction is considered to be initiated by the merchant
43	PIN Number	AN	40	F	Optional	876543897654308	PIN Number generated by the system
57	PIN Number	AN	999	LLLVAR	Optional	876543897654308	If Field#43 does not contain Pin

							Number then this field will hold Pin Number
63	Channel Number	AN	999	LLLVAR	Optional	6	Specifies the transaction originating Channel. Valid channel numbers are 1 – SMS 2 – ATM 6 – Distributor POS Device

3.3.3 Response Codes for PIN Purchase Recharge

Table 13: Response Codes for PIN Purchase Recharge

RESPONSE CODE	DESCRIPTION	SCENARIO
00	Successful Transaction	Transaction Successful
03	Request Message not correctly formatted.	Invalid Message Length
04	POS Gateway System Error	Exception Error while processing a request in POS Gateway
05	Inactive Denomination	Denomination Status set to Inactive in Payment Manager
06	Invalid Processing Code	If Processing Code is not set as “180000”
10	Duplicate Transaction	If the Retrieval Reference number repeats within the same day
11	Invalid Denomination Value	If Transaction Amount does not match the fixed denomination set

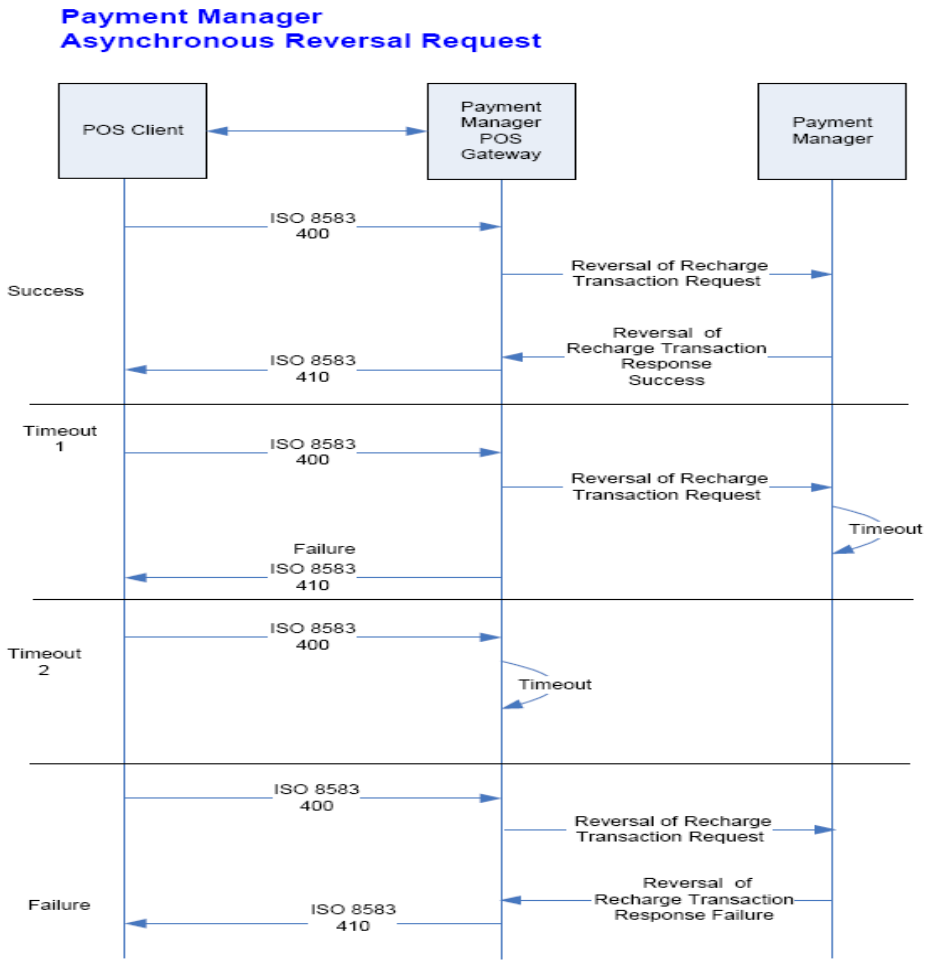
15	Invalid MVNO	During Tuenti subscriber validation
20	Transaction does not exists for Reversal	Transaction not available in Payment Manager
21	Transaction already reversed	Transaction has reversed status in Payment Manager
31	Invalid Payment Reference Number	If Reference Number contains special characters
48	Invalid Transmission Date & Time	If Date and Time is not set or is not numeric or not valid date and time
70	Prepaid System not available	Billing System Not Available / Payment Manager not able to connect to the Billing System
71	Prepaid System Details are not active in Payment Manager	If Comverse or Altamira server connection details are not active
72	Replenishment channel association is not configured for a given distributor	If a channel is not configured/associated to a distributor
75	Tuxedo Format Error	Tuxedo Format Error
76	Offer not available for the subscriber's plan	Offer not available for the subscriber's plan
77	Billing System Error	Billing System Error
78	Packet Code not Found	Packet Code is not found in PM Application
80	Funds Not available	If a distributor's Credit Enabled status is No and distributor's available balance is less than the recharge amount then this error code will return from Payment Manager.
81	No Credit Limit available for Distributor	If Distributor's Credit Enabled status is Yes and Distributor's available credit limit is less than the recharge amount then this error code will return from Payment Manager.
82	Pin Purchase value is not within the Predefined Denomination	If the Denomination Value is not within Predefined Denominations defined in the Payment Manager other than Other Value consideration

83	Pin Purchase value is not within the Min-Max Range	If the Denomination Value is not with the Min-Max Value defined in the Payment Manager
84	PINs not available in the Database	PINs are exhausted in the Payment Manager Database.
92	Invalid Sales Person Identity	If Sales person ID contains special characters
94	Sub Distributor Identity for the Null or empty spaces	If Sub distributor ID contains special characters or null or empty spaces
95	Sub Distributor does not exist or in Inactive state	Sub Distributor does not exist in Payment Manager or has an Inactive Status
96	Invalid Distributor Identity	If Distributor ID contains special characters or null or empty spaces
97	Distributor does not exist or in Inactive state	Distributor does not exist in Payment Manager or has an Inactive Status
98	Payment Manager System Error	Exception raised in the Payment Manager while processing the Request
99	Payment Manager not available (Unable to connect to Payment Manager)	POS GW not able to connect to the Payment Manager

3.4 Recharge Reversal Transaction Message

A reversal occurs when Payment Manager receives a request to reverse a recent recharge transaction from a point-of-sale interface. Figure 5 and the following table depict a reversal request

Figure 5: Recharge Reversal message using ISO 8583



3.4.1 Reversal - New Distributor Integration

New Distributor Integration	
Request	**Description**
Reversal	For a new Distributor integration, you can use these strings to check the connectivity from POS to Domestic PM. The following strings can be directly injected in to POS ports using Telnet. Below strings are only indicative and does not support for any transactions. 6000030000 -- [Header] 400 -- [Reversal Message Type ID] 703801000080000010-- [bitmap hexadecimal value] 180000---[Processing Code] 222222 -- [System Trace Audit Number] 080656 -- [Transaction Time] 0212--- [Transaction Date] 041800 -- [Distributor ID] 301 -- [Terminal ID]

	Step 1: Connect to Telnet using 10.112.148.5 16420. The following message appears. Trying 10.112.148.5 Connected to epnagwdes.otecel.com.ec (10.112.148.5) Escape character is '^]' Request: 040070380100008000001009846070001800000000000001000012571204200405002632363535202020 Response: 041070380100068000001009846070001800000000000001000012571204200405002635303333835363030 3236353520202020 **Note**: Above strings are only examples and does not support for any transactions.

3.4.2 Recharge Reversal Transaction Request Message (0400)

Table 14: ISO 8583 Recharge Reversal Request Message-Type 0400

BIT MAP	PM FIELD NAME	DATA TYPE	LENGTH	FORMAT	MANDATORY/ OPTIONAL	SAMPLE	COMMENTS
0	Message Type Identifier	N	4	F	Mandatory	0400	Recharge Request Message Type ID
1	Bitmap	H	16	F			

2	Subscriber Number	N	9	LLVAR	Mandatory	091234567	Mobile Number of the subscriber whose recharge transaction is sent from the POS Terminal
3	Processing Code	N	6	F	Optional	180000	Format: TTAAOX TT represents Transaction Type AA and OX both represents affected accounts Specifically AA represents Origin Account and OX represents Destination Account. Recharge of Subscriber Account TT - 18 AA - 00 OX - 00

4	Transaction Amount	N	12	F	Mandatory	000000002000	Amount which is to be deducted for the recharge Transaction. Last 2 digits denote decimal values.
11	System Trace Audit Number	N	6	F	Mandatory	123456	Reference Number to identify the transaction
24	Network International ID	AN	25	F	Mandatory	movistar 123	This field must hold Distributor ID. ID will be validated to verify if it exists in PM system.
35	Subscriber Number	N	9	LLVAR	Mandatory	091234567	Mobile Number of the subscriber whose recharge transaction is sent from the POS Terminal

37	Subscriber Number	N	9	LLVAR	Mandatory	091234567	Mobile Number of the subscriber whose recharge transaction is sent from the POS Terminal.
38	Authorization Number	AN	6	F	Mandatory	123456	Transaction ID assigned by Payment Manager
41	Terminal ID	AN	8	F	Mandatory	12345678	This field must hold Sales Person ID.
42	Merchant ID	AN	15	F	Optional	123456789012345	This field must hold Sub-Distributor ID. If this field is available the transaction is considered to be initiated by the merchant.

49	Currency Code	AN	3	F	Optional	840	Supply the standard 3 digit **Currency Code** to specify the currency of the transaction amount.
63	Channel Number	AN	999	LLLVAR	Optional	6	Specifies the transaction originating **Channel**. Valid channel numbers are 1 – SMS 2 – ATM 6 – Distributor POS Device

3.4.3 Recharge Reversal Transaction Request Message (0410)

Table 15: ISO 8583 Recharge Reversal Response Message-Type 0410							
ISO BIT NUM	**FIELD NAME**	**DATA TYPE**	**LENGTH**	**FORMAT**	**MANDATORY /OPTIONAL**	**SAMPLE**	**COMMENTS**
0	Message Type Identifier	N	4	F	Mandatory	0210	Recharge Request Message Type ID
1	Bitmap	H	16	F			
2	Subscriber Number	N	9	F	Mandatory	091234567	Mobile Number of the subscriber whose recharge transaction is

							sent from the POS Terminal
3	Processing Code	N	6	F	Optional	180000	Format: TTAAOX TT represents Transaction Type AA and OX both represents affected accounts Specifically AA represents Origin Account and OX represents Destination Account. Recharge of Subscriber Account TT - 18 AA - 00 OX - 00
4	Transaction Amount	N	12	F	Mandatory	000000002000	Amount which is to be deducted for the recharge Transaction. Last 2 digits denote decimal values.
11	System Trace Audit Number	N	6	F	Mandatory	123456	Reference Number to identify the

							transaction
24	Network International ID	AN	25	F	Mandatory	movistar123	This field must hold Distributor ID. ID will be validated to verify if it exists in PM system.
35	Subscriber Number	AN	9	F	Optional	091234567	If Field# 02 does not contain a subscriber number, value in this field will be considered as subscriber number
37	Subscriber Number	AN	9	F	Optional	091234567	If field# 02 and Filed# 35 d valid subscriber number, then value in this field will be considered as Subscriber Number
38	Authorization Number	AN	6	F	Mandatory	123456	Transaction ID assigned by Payment Manager

39	Response Code	AN	2	F	Mandatory	00	Response returned for the transaction performed
41	Terminal ID	AN	8	F	Mandatory	12345678	This field must hold Sales Person ID.
42	Merchant ID	AN	15	F	Optional	123456789 012345	This field must hold Sub-Distributor ID. If this field is available the transaction is considered to be initiated by the merchant.
49	Currency Code	AN	3	F	Optional	840	Supply the standard 3 digit **Currency Code** to specify the currency of the transaction amount.
63	Channel Number	AN	999	LLLVAR	Optional	6	Specifies the transaction originating **Channel**. Valid channel numbers are 1 – SMS 2 – ATM 6 – Distributor POS Device

3.4.4 Response codes for Recharge Reversal Messages

Table 16: Response codes for Recharge Reversal Messages		
RESPONSE CODE	**DESCRIPTION**	**SCENARIO**
00	Successful Transaction	Transaction Successful
01	MIN not exists in Billing System	If Subscriber does not exist in Billing System
02	Subscriber is not Active.	Subscriber status not Active in Billing System
03	Request Message not correctly formatted.	Invalid Message Length
04	POS Gateway System Error	Exception Error while processing a request in POS Gateway
05	Inactive Denomination	Denomination Status set to Inactive in Payment Manager
06	Invalid Processing Code	If Processing Code is not set as “180000
11	Invalid Denomination Value	If Transaction Amount does not match the fixed denomination set
15	Invalid MVNO	During Tuenti subscriber validation
14	Unable to Cancel	The reversal transaction is rejected at the billing system due to the transaction delay.
16	Subscriber Number filled with Null or all Zeros	If Subscriber Number is filled with Null or all Zeros
17	Invalid Subscriber Length	Subscriber Number Length does not match the length set.
18	Invalid Subscriber Prefix	Subscriber prefix does not match the prefix set in Payment Manager
20	Transaction does not exists for Reversal	Transaction not available in Payment Manager
21	Transaction already reversed	Transaction has reversed status in Payment Manager

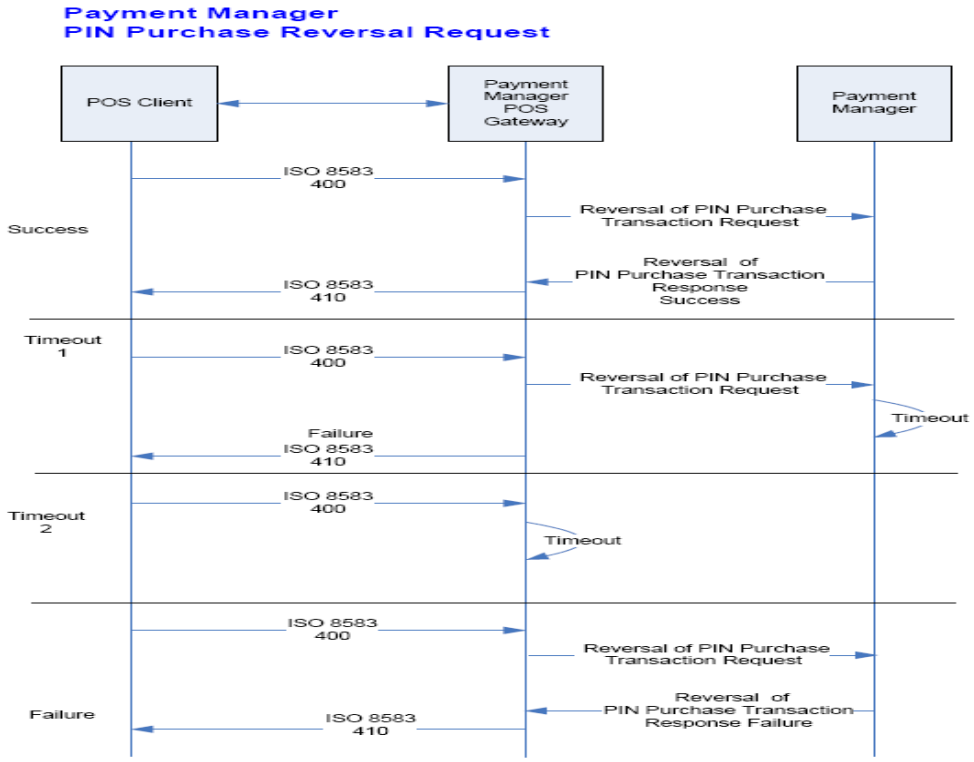
22	Transaction cannot be reversed as the Minutes are already consumed.	Time has been consumed; hence, transaction cannot be reversed.
23	Subscriber suspended in Prepaid system	If Subscriber status is suspended in IN
24	Fraud Subscriber found in the Payment Manager while doing Transaction	Subscriber has previously violated fraud rule and status has been set to fraud
26	Fraud detected in Prepaid System	Fraud Subscriber Status in the Billing System
27	State Query returns “PE”	“PE” is returned as a response to State Query request from Altamira billing system
31	Invalid Payment Reference Number	If Reference Number contains special characters
48	Invalid Transmission Date & Time	If Date and Time is not set or is not numeric or not valid date and time
70	Prepaid System not available	Billing System Not Available / Payment Manager not able to connect to the Billing System
71	Prepaid System Details are not active in Payment Manager	If Comverse or Altamira server connection details are not active
72	Replenishment channel association is not configured for a given distributor	If a channel is not configured/associated to a distributor
74	ALTAMIRA Error	Unable to Process the Altamira Response Message due to improper Response Message
75	Tuxedo Format Error	Tuxedo Format Error
76	Offer not available for the subscriber’s plan	Offer not available for the subscriber’s plan
77	Billing System Error	Billing System Error
78	Packet Code not Found	Packet Code is not found in PM Application

3.5 PIN Purchase Reversal Transaction

A reversal occurs when Payment Manager receives a request to reverse a recent recharge transaction from a point-of-sale interface. Figure 6 and the following table depict a PIN Purchase reversal request.

¡Error! No se encuentra el origen de la referencia. and the following table depict a Recharge Inquiry request message.

Figure 6: PIN Purchase Reversal message using ISO 85883



3.5.1 PIN Purchase Reversal Transaction Request Message (0400)

Table 17: ISO 8583 PIN Purchase Reversal Request Message-Type 0400							
BIT MAP	**PM FIELD NAME**	**DATA TYPE**	**LENGTH**	**FORMAT**	**MANDATORY/ OPTIONAL**	**SAMPLE**	**COMMENTS**
0	Message Type Identifier	N	4	F	Mandatory	0400	Recharge Request Message Type ID
1	Bitmap	H	16	F			
3	Processing Code	N	6	F	Optional	180000	Format: TTAAOX TT represents Transaction Type AA and OX both represents affected accounts Specifically AA represents Origin Account and OX represents Destination Account. Recharge of Subscriber Account TT - 18 AA - 00 OX - 00

4	Transaction Amount	N	12	F	Mandatory	000000002000	Amount which will be used to reverse the Purchase the PIN number. Last 2 digits denote decimal values.
11	System Trace Audit Number	N	6	F	Mandatory	123456	Reference Number to identify the transaction
24	Network International ID	AN	25	F	Mandatory	movistar123	This field must hold Distributor ID. ID will be validated to verify if it exists in PM system.
38	Authorization Number	AN	6	F	Mandatory	123456	Transaction ID assigned by Payment Manager
41	Terminal ID	AN	8	F	Mandatory	12345678	This field must hold Sales Person ID.

42	Merchant ID	AN	15	F	Optional	12345678 9012345	This field must hold Sub-Distributor ID. If this field is available the transaction is considered to be initiated by the merchant.
63	Channel Number	AN	999	LLLVAR	Optional	6	Specifies the transaction originating Channel. Valid channel number are 1 – SMS 2 – ATM 6 – Distributor POS Device

3.5.2 PIN Purchase Reversal Transaction Response Message (0410)

Table 18: ISO 8583 PIN Purchase Reversal Response Message-Type 0410

ISO BIT NUM	FIELD NAME	DATA TYPE	LENGTH	FORMAT	MANDATORY/ OPTIONAL	SAMPLE	COMMENTS
0	Message Type Identifier	N	4	F	Mandatory	0210	Recharge Request Message Type ID
1	Bitmap	H	16	F			

3	Processing Code	N	6	F	Optional	180000	Format: TTAAOX TT represents Transaction Type AA and OX both represents affected accounts Specifically AA represents Origin Account and OX represents Destination Account. Recharge of Subscriber Account TT - 18 AA - 00 OX - 00
4	Transaction Amount	N	12	F	Mandatory	000000002000	Amount which will be used to Reverse PIN Purchase transaction. Last 2 digits denote decimal values.

11	System Trace Audit Number	N	6	F	Mandatory	123456	Reference Number to identify the transaction
24	Network International ID	AN	25	F	Mandatory	movistar 123	This field must hold Distributor ID. ID will be validated to verify if it exists in PM system.
38	Authorization Number	AN	6	F	Mandatory	123456	Transaction ID assigned by Payment Manager
39	Response Code	AN	2	F	Mandatory	00	Response returned for the transaction performed
41	Terminal ID	AN	8	F	Mandatory	12345678	This field must hold Sales Person ID.
42	Merchant ID	AN	15	F	Optional	123456789012345	This field must hold Sub-Distributor ID. If this field is available the transaction is considered to be initiated by

							the merchant.
63	Channel Number	AN	999	LLLVAR	Optional	6	Specifies the transaction originating Channel. Valid channel numbers are 1 – SMS 2 – ATM 6 – Distributor POS Device

3.5.3 Response codes for PIN Recharge Reversal Messages

Table 19: Response codes for PIN Recharge Reversal Messages

RESPONSE CODE	DESCRIPTION	SCENARIO
00	Successful Transaction	Transaction was successful
03	Request Message is not correctly formatted	If error occurs during unpacking of ISO8583 Message
04	POS Gateway System Error	General POS Gateway System Error
05	Denomination (Transaction Amount) is not active in PM System	Denomination Status set to Inactive in Payment Manager
06	Invalid Processing Code	If Processing Code is not set as “180000”
11	Invalid Format for Transaction Amount	If Transaction Amount is not set or is not numeric value, not a positive value or is zero
15	Invalid MVNO	During Tuenti subscriber validation

20	Transaction does not exists for Reversal	Transaction does not exists for Reversal
21	Transaction is already Reversed	Transaction is already Reversed
31	Invalid Format for Reference Number	If Reference Number is not set or is not numeric value, not a positive value or is all zeroes
36	Invalid Sub Distributor	Sub Distributor does not exist in PM System
40	Transaction does not exist for Reversal	Transaction does not exist for Reversal
70	Prepaid System not available	Billing System Not Available / Payment Manager not able to connect to the Billing System
71	Billing System Access Information is set as inactive in PM System	If Billing System Access Information is set as inactive in PM System
72	Replenishment Channel association is not configured for a given Distributor	If a channel is not configured/associated to a distributor
75	Tuxedo Format Error	Tuxedo Format Error
76	Offer not available for the subscriber's plan	Offer not available for the subscriber's plan
77	Billing System Error	Billing System Error
78	Packet Code not Found	Packet Code is not found in PM Application

4. Mapping of POS Return Codes to PM Response Codes

Table20: MAPPING OF POS RETURN CODES TO PM RESPONSE CODES		
ISO 8583 Interface Response Code	**Response Code Displayed In Web Interface**	**Description**
01	E-451	MIN not exists in Billing System
02	E-461	Subscriber is not Active
03	E-462	Request Message not correctly formatted
04	E-463	POS GW System Error
05	E-464	In active denomination
11	E-350	Invalid Denomination Value
16	E-465	Subscriber Number filled with Null or all Zeros
17	E-466	Invalid subscriber length
18	E-467	Invalid subscriber prefix
20	E-458	Transaction does not exists for Reversal
21	E-459	Transaction Already Reversed
22	E-457	transaction cannot be reversed as the Minutes are already consumed
23	E-352	Subscriber suspended in Prepaid system
24	E-468	Fraud Subscriber Found in the PM while doing Transaction
25	E-469	Subscriber has broken a Fraud Rule
26	E-470	Fraud detected in Prepaid System
27	E-508	Billing System returns “PE” for state query
31	E-471	Invalid Payment Reference Number
48	E-472	Invalid Transmission Date & Time
70	E-473	Prepaid System not available
71	E-474	Prepaid System Details are not active in PM
72	E-475	Unable to process Billing System Response for COMVERSE

73	E-476	COMVERSE Error
74	E-477	ALTAMIRA Error
75	E-490	GEN Record Not found for the defined Prefix Series
80	E-293	Funds Not available
81	E-478	No Credit Limit available for Distributor
82	E-479	Pin Purchase value is not within the Predefined Denomination
83	E-480	Pin Purchase value is not within the Min-Max Range
84	E-481	Pins not available in the DB
85	E-482	Pin Purchase Reversal cannot be done as already the Pin is activated
86	E-483	Recharge value is not within the Min-Max Range
92	E-484	Invalid Sales Person Identity
94	E-486	Sub Distributor Identity for the Null or empty spaces
95	E-487	Sub Distributor does not exists / inactive State
96	E-488	Invalid Distributor Identity
97	E-456	Distributor does not exists / inactive State
98	E-454	Payment Manager System Error
99	E-489	Payment Manager not available (Unable to connect to Payment Manager)

5. Usage Scenario

5.1 Usage Scenario 1: Subscriber Validation

The following usage scenario demonstrates the process used by XIUS Payment Manager to periodically test the availability of communication between Payment Manager and an external entity.

1. The point-of-sale server sends an echo message 0800 to Payment Manager to test the availability of Payment Manager
2. Payment Manager receives the request and sends appropriate response message 0810 to the originating point-of-sale server

5.2 Usage Scenario 2: Recharge Request

This usage scenario depicts the method used by Payment Manager to process asynchronous recharge requests received via ISO 8583.

1. Subscriber requests a recharge from an ISO 8583-enabled Point-of-Sale terminal.
2. The Point-of-Sale terminal sends an ISO 8583 message with field #0 (message Type ID) set to value 0200 and field # 3 (processing code) set to value TTAA0X to Payment Manager.
3. The Payment Manager receives the requests from the Point-of-Sale Terminal.
4. Payment Manager interprets the 0200 message and the processing code as Recharge Request.
5. Payment Manager sends the Account Recharge Request to Account Recharge business component in Payment Manager Application Server.
6. Account Recharge Business Component in Payment Manager Application Server sends the Account Recharge request to Prepaid Billing System.
7. The Prepaid Billing System Processes the Account Recharge Request and sends a response back to Payment Manager Application Server.
8. Payment Manager Application Server records transaction information for tracking and auditing purposes and sends the Account Recharge Response.
9. Payment Manager sends an ISO8583 Response Message with Field#0(Message Type ID) set to value 0210 to Point-of-Sale Terminal. The amount is set in Field #4
10. Point-of-Sale Terminal provides recharge confirmation message to subscriber.

5.3 Usage Scenario 3: Transaction Reversal Request

Usage scenario 3 describes the process for reversing a recently performed recharge transaction.

1. Subscriber requests a reversal transaction from a Point-of-Sale Terminal.
2. Payment Manager receives the Account Status Inquiry Request Message from Point-of-Sale Terminal.
3. Point-of-Sale Terminal sends ISO8583 Message with Field#0(Message Type ID) set to value 0400 and Field#3(Processing Code) set to value TTAA0X to Payment Manager.

4. Payment Manager interprets the 0400 Message and the processing code as Transaction Reversal Request and verifies whether the reversal requested is within the valid time period or not.
5. Payment Manager sends the Transaction Reversal Request to Transaction Reversal Business Component in Payment Manager Application Server.
6. If there is sufficient balance to reverse the transaction, Transaction Reversal Business Component in Payment Manager Application Server sends the reversal request to Prepaid Billing System.
7. The Prepaid Billing System Processes the reversal request and sends a response back to Payment Manager Application Server.
8. Payment Manager Application Server sends the reversal response.
9. Payment Manager sends an ISO8583 Response Message with Field#0(Message Type ID) set to value 0410 to Point-of-Sale Terminal. The reversal transaction amount is reflected in Field # 4
10. Payment Manager sends a reversal transaction success message to Point-of-Sale Terminal.
11. Point-of-Sale Terminal provides reversal transaction confirmation message to Subscriber.

Note: No partial reversals are supported. Reversals must be equal to the original recharge amount.