PAYATTITUDE ACCEPTANCE ON POS
MESSAGE SPECIFICATION DOCUMENT

ISO 8583
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Contents

UP otherwise known as Unified Payment Services Limited is Nigeria's premier Payments & Financial

Technology Company. UP operates as a shared infrastructure for the banking community in Nigeria and Payments Service Provider within and outside Nigeria, with a vision to be the most preferred e-payment service provider in Africa. We are the leading Payment Service Provider (PTSP) in Nigeria.

At UP, we PRIDE ourselves in our mission statement of Professionalism, Respect, Innovation, Dependability, and Execution. UP is scheme-neutral and option-neutral PayFinTech Company with ownership of different technologies. In demonstration of our cross-enterprise alliances and capabilities, UP is the first and only non-bank entity in Nigeria that is Principal Member or Licensed Acquirer of all of American Express, Mastercard, PayAttitude, UnionPay, and Visa.

INTRODUCTION

This specification document covers the interface specifications that must be supported by POS Terminals to integrate with Unified Payments Terminal Management System (UPTMS). It contains the POS screen menu, definitions for all messages and the data elements (or fields) transmitted between the POS Terminals and other devices (e.g TCM, hosts).

Acronyms and Abbreviations

POS	Point of Sales Terminal
UPTMS	Unified Payments Terminal Management System
TCM	Terminal Configuration Manager
TWO	Tranzware Online
MTI	Message Type Identifier
TID	Terminal Identifier
MID	Merchant Identifier

Project Duration
This project is expected to be completed and delivered with 4 weeks.

Confidentiality
The intellectual property exchanged during the course of this project belongs to Unified Payments likewise the final product of this project. It is therefore required of you to keep it confidential and not disclosed to any third party.

Connectivity

The POS should be able to establish connection using the following technologies depending on hardware capabilities

a. GPRS;
b. CDMA;
c. Ethernet;
d. Wi-Fi;
e. Bluetooth.

The terminal will connect using TCP/IP to 2 systems basically (Terminal Configuration Manager-TCM and Terminal Management System-TMS).

Architecture and Supported Message Types

ARCHITECTURE
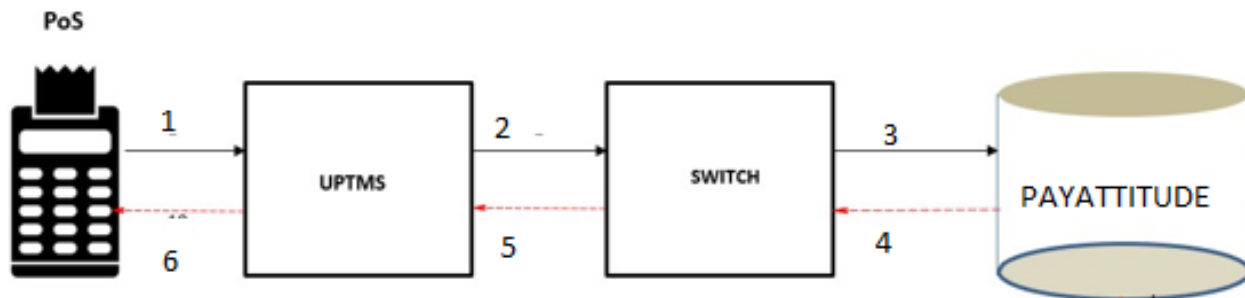
1. The initiated transaction is sent to UPTMS

2. UPTMS sends the transaction to the switch

3. The transaction is sent to PayAttitude server from the switch

4. PayAttitude send the response to the switch based on interaction with the holder

5. Switch send the response to UPTMS

6. The response is sent to the PoS

Upon a successful transaction a successful receipt is displayed on the POS and receipt is printed.

SUPPORTED MESSAGE TYPES

Message type codes are used to identify the general function of messages, and one Message type code is required in each transaction type message. UPTMS supports the message for both inbound and outbound messages. The message types shown below are divided according to the ISO standard message classes.

Field Definitions:

Field	Description	Format	Attribute
Field 002	Primary account number	LLVAR	n ..19
Field 003	Processing code		an 6
Field 004	Amount, transaction		n 12
Field 007	Transmission date and time	MMDDhhmmss	n 10
Field 011	Systems trace audit number		n 6
Field 012	Time, local transaction	Hhmmss	n 6
Field 013	Date, local transaction	MMDD	n 4
Field 014	Date, expiration	YYMM	n 4
Field 018	Merchant's type		n 4
Field 022	POS entry mode		N3
Field 023	Card sequence number		n3
Field 025	POS PIN capture code		n2
Field 026	POS PIN Capture Code		
Field 028	Amount, transaction fee		x + n 8
Field 032	Acquiring institution id code	LLVAR	an.. 11
Field 033	Forwarding Institution ID	LLVAR	n.. 11
Field 035	Track 2 data	LLVAR	z..37
Field 037	Retrieval reference number		an 12
Field 038	Authorization ID response		n 6
Field 039	Response Code		an 2
Field 040	Service restriction code		N3
Field 041	Card acceptor terminal id		ans 8
Field 043	Card acceptor name/location		ans 40

Field 049	Currency code, transaction		n 3
Field 052	PIN Data		Hex16
Field 055	Integrated Circuit Card System	LLLVAR	ANS..510
Field 060	Private Data 1	LLLLVAR	ans…9999
Field 062	Private Data 1	LLLLVAR	ans…9999
Field 123	POS data code	LLLVAR	an15
Field 124	Near Field Communication Data	LLLLVAR	ans…9999
Field 128	Secondary Message Hash Value	AN	64

PAYATTITUDE MESSAGE IDENTIFIERS

SERVICE TYPE	PROCESS CODE	SERVICE ID	FIELDS
BILLS PAYMENT/ AIRTIME VENDING	50	BP01	F03/F62
WITHDRAWAL	01	WD01	F03/F62
DEPOSIT	21	DP01	F03/F62
TRANSFER	38	DP01	F03/F62
Merchant Purchase	00	MP01	F03/F62

Message Class	Processing Code	MTI	Description

Validation (Name Enquiry)	31	0100	Validation request
		0110	Validation Response
Authorization (Agency Transactions)	50	0200	Authorization request
		0210	Authorization response
Authorization (Merchant Purchase)	00	0200	Authorization request
		0210	Authorization response

Key Exchange

Test Keys: **3CDDE1CC6FDD225C9A8BC3EB065509A6**

Message Class	Processing Code	MTI	Description
Network Message	9A0000	0800	Master Key Update Request
		0810	Master Key Update Response
Network Message	9B0000	0800	Session Key Update Request
		0810	Session Key Update Response
Network Message	9G0000	0800	PIN Key Update Request
		0810	PIN Key Update Response
Network Message	9C0000	0800	Parameter Update Request
		0810	Parameter Update Response

Request	Response
Field 000: 0800 Field 003: Processing code Field 007: Transmission date and time Field 011: Systems trace audit number Field 012: Time, local transaction Field 013: Date, local transaction Field 041: Card acceptor terminal id Mandatory Field 062: Private, management data 1 Field 063: Private, management data 2 Field 064: Primary Message Hash Value	Field 000: 0810 Field 007: Transmission date and time Field 011: Systems trace audit number Field 012: Time, local transaction Field 013: Date, local transaction Field 039: Response code Field 041: Card acceptor terminal id Field 053: Security related control information Field 062: Private, management data 1 Field 063: Private, management data 2 Field 064: Primary Message Hash Value

MERCHANT PURCHASE TRANSACTION FLOW

1. Select PayAttitude
2. Input the transaction amount
3. Input the customer phone number (to be debited)
4. Terminal forward transaction (*Debit authorization*) to UPTMS
5. Terminal receives an "approved" response
6. Prints receipt

AGENCY SERVICES AND TRANSACTION FLOW

1.   PAYATTITUDE: - TRANSACTION FLOW FOR CASH DEPOSIT (Beneficiary *bank code is expected to be sent in the transaction message*)

1. Selects cash deposit from the Menu
2. Agent selects PayAttitude on POS terminal
3. Agent enter Amount (With fee inclusive if Any)
4. Enters customer's phone number
5. Forward transaction (*Name Inquiry*) to UPTMS
6. Customer press "Enter" button or "OK" on the POS to confirm beneficiary name as a result of 5 above
7. Terminal forward transaction (*Debit authorization*) to UPTMS
8. Terminal receives an "approved" response

9. Prints receipt

2. PAYATTITUDE: - TRANSACTION FLOW FOR TRANSFER

1. Selects cash deposit from the Menu
2. Agent selects PayAttitude on POS terminal
3. Agent enter Amount (With fee inclusive if Any)
4. Enters customer's phone number
5. List of all banks are displayed on the POS
6. Customer selects recipient's Bank
7. Forward transaction (*Name Inquiry*) to UPTMS
8. Customer press "Enter" button or "OK" on the POS to confirm beneficiary name as a result of 5 above
9. Terminal forward transaction (*Debit authorization*) to UPTMS
10. Terminal receives an "approved" response
11. Prints receipt

3. PAYATTITUDE: - TRANSACTION FLOW FOR WITHDRAWAL

1. Selects cash withdrawal from the Menu
2. Agent selects PayAttitude on POS terminal
3. Agent enter Amount (With fee inclusive if Any)
4. Enters customer's phone number
5. Forward transaction to UPTMS
6. Terminal receives an "approved" response
7. Prints receipt

4. PAYATTITUDE: - Airtime Vending

1. Selects biller from list of billers on POS
2. Enter Amount (With fee inclusive if Any)
3. Customer enters phone number to be toped up
4. Enters customer's phone number to be debited
5. Forward transaction to UPTMS
6. Terminal receives an "approved" response
7. Prints receipt

5. PAYATTITUDE: - Bills Payment

1. Selects biller from list of billers on POS
2. Enter Amount (With fee inclusive if Any)
3. Customer enters is unique ID (eg meter number, Smart card number etc)

4. Enters customer's phone number to be debited
5. POS carry out Name validation based on 3 above
6. Customer press "Enter" button or "OK" on the POS to confirm name validation as a result of 3 above
7. Terminal forward transaction (*Debit authorization*) to UPTMS
8. Terminal receives an "approved" response
9. Prints receipt

MESSAGE STRUCTURE:

Purchase: (Sample message)

Authorization Request	Authorization Response
Field 000: 0200	Field 000: 0210
Field 002: Primary account number (sample data element; 9501000000000001)	Field 002: Primary account number (sample data element; 9501000000000001)
Field 003: Processing code	Field 003: Processing code
Field 004: Amount, transaction	Field 004: Amount, transaction
Field 007: Transmission date and time	Field 007: Transmission date and time
Field 011: Systems trace audit number	Field 011: Systems trace audit number
Field 012: Time, local transaction	Field 012: Time, local transaction
Field 013: Date, local transaction	Field 013: Date, local transaction
Field 014: Date, expiration	Field 014: Date, expiration
Field 018: Merchant's type	Field 018: Merchant's type
Field 022: POS entry mode (sample data element; 051)	Field 022: POS entry mode
Field 023: Card sequence number	Field 023: Card sequence number
Field 025: POS PIN capture code	Field 025: POS PIN capture code
Field 026: Amount, transaction fee	Field 026: Amount, transaction fee
Field 028: Amount, transaction fee	Field 028: Amount, transaction fee
Field 032, Acquiring institution id code	Field 032, Acquiring institution id code
Field 033: Forwarding Institution ID	Field 033: Forwarding Institution ID
Field 035: Track 2 data (sample data element; 9501000000000001D3012--Track 2 data)	Field 035: Track 2 data (sample data element; 9501000000000001D3012--Track 2 data)
Field 037: Retrieval reference number	Field 037: Retrieval reference number
Field 040: Service restriction code (sample data element; 221)	Field 038:Authorization ID response
	Field 039: Response Code
Field 041: Card acceptor terminal id	Field 040: Service restriction code
Field 042: Card acceptor id code	Field 041: Card acceptor terminal id
Field 043: Card acceptor name/location	Field 042: Card acceptor id code
Field 049: Currency code, transaction(566)	Field 043: Card acceptor name/location
Field 062: Private, management data 2(**sample data element**: **00698MP010133307032743655)**	Field 049: Currency code, transaction
Where	Field 055: Integrated Circuit Card System Related
Separator = .	Field 060: Private, management data 1
Parameters in Blue color are variables	Field 123: POS data code
Parameters in RED color are constant	Field 124: Near Field Communication Data
07032743655 is the customer phone number)	Field 128: Secondary Message Hash Value
Field 123: POS data code (sample data element;510101513344101)	
Field 128: Secondary Message Hash Value	

Agency/Bills payments: (sample message)

Authorization Request	Authorization Response

Field 000: 0200
Field 002: Primary account number (sample data element; 9501000000000001)
Field 003: Processing code
Field 004: Amount, transaction
Field 007: Transmission date and time
Field 011: Systems trace audit number
Field 012: Time, local transaction
Field 013: Date, local transaction
Field 014: Date, expiration
Field 018: Merchant's type
Field 022: POS entry mode (sample data element; 051)
Field 023: Card sequence number
Field 025: POS PIN capture code
Field 026: Amount, transaction fee
Field 028: Amount, transaction fee
Field 032, Acquiring institution id code
Field 033: Forwarding Institution ID
Field 035: Track 2 data (sample data element; 9501000000000001D3012--Track 2 data)
Field 037: Retrieval reference number
Field 040: Service restriction code (sample data element; 221)
Field 041: Card acceptor terminal id
Field 042: Card acceptor id code
Field 043: Card acceptor name/location
Field 049: Currency code, transaction(566)
Field 060: Private, management data 1
(**sample data element** 010083K07226448041Static Number=12.**57001214**.**Acct**=**0001451023**.**Phone= 07032743655)**
Where
   Separator = .
   Parameters in Blue color are variables
   Parameters in RED color are constant
Field 062:   Private, management data 2(**sample data element**: **00698MP0101333**07032743655)
Where
 Separator = .
 Parameters in Blue color are variables
 Parameters in RED color are constant
 07032743655 is the customer phone number)
 Field 123: POS data code (sample data element;510101513344101)
 Field 128: Secondary Message Hash Value
	Field 000: 0210
	Field 002: Primary account number (sample data element; 9501000000000001)
	Field 003: Processing code
	Field 004: Amount, transaction
	Field 007: Transmission date and time
	Field 011: Systems trace audit number
	Field 012: Time, local transaction
	Field 013: Date, local transaction
	Field 014: Date, expiration
	Field 018: Merchant's type
	Field 022: POS entry mode
	Field 023: Card sequence number
	Field 025: POS PIN capture code
	Field 026: Amount, transaction fee
	Field 028: Amount, transaction fee
	Field 032, Acquiring institution id code
	Field 033: Forwarding Institution ID
	Field 035: Track 2 data (sample data element; 9501000000000001D3012--Track 2 data)
	Field 037: Retrieval reference number
	Field 038:Authorization ID response
	Field 039: Response Code
	Field 040: Service restriction code
	Field 041: Card acceptor terminal id
	Field 042: Card acceptor id code
	Field 043: Card acceptor name/location
	Field 049: Currency code, transaction
	Field 055: Integrated Circuit Card System Related
	Field 060: Private, management data 1
	Field 062: Private, management data 2
	Field 123: POS data code
	Field 124: Near Field Communication Data
	Field 128: Secondary Message Hash Value