APPLICATION SERVER
GATEWAY

SWITCHING - GATEWAY
NON-ELECTRICITY-BILL MODULE
Connection and Reconciliation
Technical Specification

Version 1.0.1 (May 2009)

PT. PLN (PERSERO) DISTRIBUSI JAWA BARAT DAN BANTEN

2009

TABLE OF CONTENTS

TABLE OF FIGURES

REVISIONS

VERSION	DATE	DESCRIPTION
1.0.0	April 22nd, 2009	Initial Version
1.0.1	May 8th, 2009	Various miscellanous improper texts

SECTION 1
CONNECTION

Background

PLN-DJBB (Perusahaan Listrik Negara – Distribusi Jawa Barat dan Banten) is government company supplies electricity in Jawa Barat and Banten. As one of public company, one of major purpose is how to increase customer satisfaction by improving its customer service level including easing the customer pay their monthly electricity-related bills using a single and centralized data access through a unified gateway with financial standard messaging protocol, ISO8583:2003 (http://www.iso.org).

The simple idea is all registered switching need to access PLN-DJBB database must enter through single unified and standard gateway using standard message and standard mechanism. Further, direct access to database is highly prohibited.

Global Process Flow

Global process flow of payment can be illustrated as following:

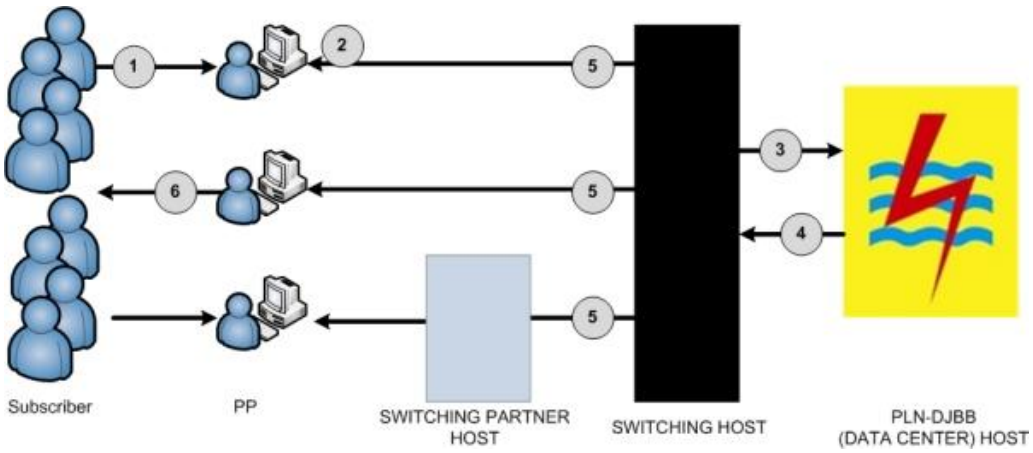

Figure 1. Global Process Flow

1. Customer come to SWITCHING/SWITCHING PARTNER PP to pay their non-elelectricty-bill charges
2. After type-in REGISTRATION NUMBER (13 digits), SWITCHING PP will send the request to SWITCHING HOST
3. SWITCHING HOST will create a standard message using PLN-DJBB Standard Message and sent it to PLN-DJBB GATEWAY HOST (later, known as GATEWAY only)
4. PLN-DJBB HOST will do a checking with its internal database and GATEWAY will response with appropriate information to SWITCHING HOST
5. SWITCHING HOST will re-package the message and response to SWITCHING PP
6. SWITCHING PP will receive the information and print the receipt if the payment process was successful

SECTION 2
CONNECTION ARCHITECTURE

Connection Architecture

Please notify carefully the following illustration described how every involved system are interact each others.

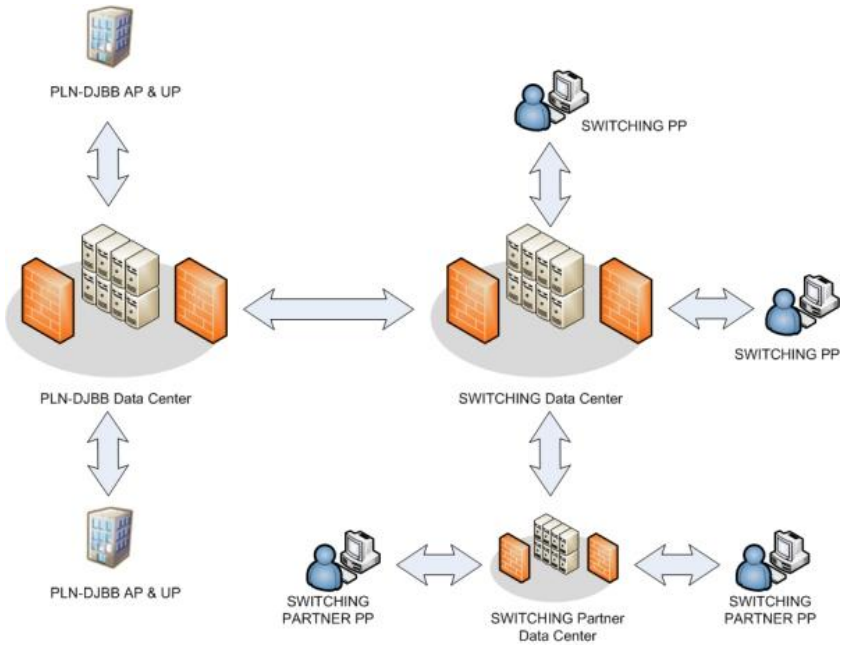

Figure 2. Connection Architecture

SWITCHING System can access PLN-DJBB System using dedicated communication channel, fiber channel for instance for link reliability and availability reasons. Any other connection other than mentioned, must be discussed first with PLN-DJBB.

Messaging System

TCP/IP Communication System will bring the information from SWITCHING System and PLN-DJBB-Application Server Gateway and vice-versa.

The standard communication protocol that used by PLN-DJBB Application Server is TCP/IP ("telnet" like), where client must send a negative byte value -1 (hexa -1x01 in JAVA/C instead of bytes of CRLF characters for real telnet application) to indicate END OF MESSAGE (EOM). Every request message will be responded by an appropriate reply according to each request type.

SECTION 3
MESSAGING PROTOCOL SPECIFICATION

Standard Messaging Protocol

PLN-DJBB message is ISO8583:2003 based message, a well-known and wide-used financial messaging protocol to be exchanged between SWITCHING SYSTEM and PLN-DJBB SYSTEM.

There are four basic message types as following:

- INQUIRY
  INQUIRY is a transaction to get non-electricity-bill information and status (paid or not paid).
  INPUT : REGISTRATION NUMBER
  OUTPUT : non-electricity-bill information, status
- PAYMENT
  PAYMENT is a transaction to set customer status as paid.
  INPUT : REGISTRATION NUMBER, Transaction Amount
  OUTPUT : Success or Fail
- REVERSAL
  REVERSAL is a transaction to reverse customer status as not paid.
  INPUT : REGISTRATION NUMBER, Transaction Amount, PLN-DJBB Reference Number
  OUTPUT : Success or Fail
- NETWORK MANAGEMENT
  NETWORK MANAGEMENT is transaction related to connection networking functions such as sign-on, sign-off, and echo.

Each message must be trailed by a negative byte value -1 (hexa -1x01 in JAVA/C) indicates end of message (EOM). The SWITCHING must be blocked, wait for a response from PLN-DJBB Gateway (synchronous). If a connection time-out was occurred (20-40 seconds were lapsed), SWITCHING can assume the network link was broken and response with TIMEOUT was occurred (for payment transaction see **Failed Flow**).

Message Sequence and Flow

Message sequence and flow can be illustrated as following:

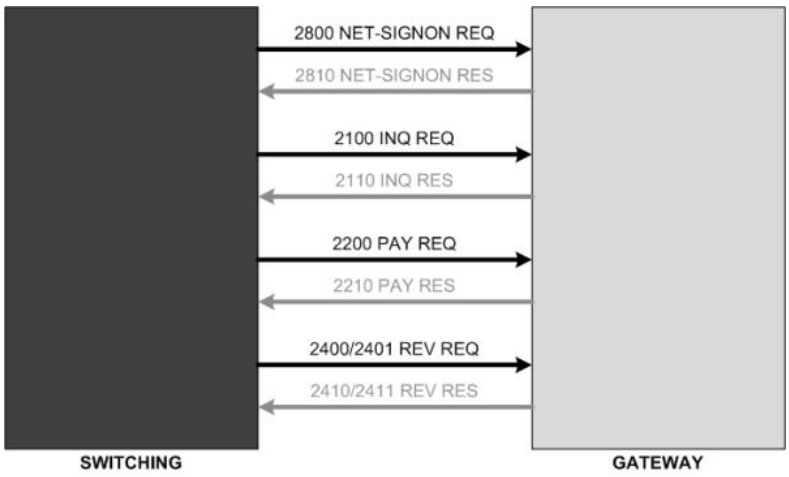

Figure 3. Global Message Flow

Before doing any transaction activities, SWITCHING must sign-on first by sending a message with type 2800 – Network Management Request and action 001 – Sign-On to GATEWAY with a predefined identification code (SWITCHING ID) provided by PLN-DJBB. If the SWITCHING signed-on successfully (described in response message sent by GATEWAY with type 2810 – Network Management Response), SWITCHING can do any transactions as long as available network connection to GATEWAY.

To enable non-electricity-bill payment, SWITCHING must send message type 2100 – Inquiry Request to PLN DJBB GATEWAY System. The key information must be send in this message is REGISTRATION NUMBER, the transaction unique number. GATEWAY will response with message type 2110 – Inquiry Response, consists of customer non-electricity-bill related information and status such as transaction amount, etc.

If customer pays the charge, SWITCHING must send a message with type 2200 – Payment Request to GATEWAY. GATEWAY will flag the non-electricity-bill record in database as paid. GATEWAY will response with message type 2210 – Payment Response with appropriate response code and information. The key information in this message is the flagging status, success or fail.

If technical problem was occurred, broken network link for instance, there is possibility that SWITCHING does not get the payment response sent by GATEWAY. In this case, SWITCHING must sent message with type 2400 – Reversal Request to GATEWAY. By referencing this message, GATEWAY will try to unflag the non-electricity-bill status with several conditions verifications. If all conditions are met, GATEWAY will accept the reversal request and reversed non-electricity-bill status back to not paid and send a response message with type 2410 – Reversal Response. If SWITCHING still does not get the reversal response from GATEWAY, SWITCHING must sent message with type 2401 – Reversal Repeat Request. If SWITCHING still does not receive a reversal repeat response message from GATEWAY, SWITCHING must send the second reversal repeat request and wait for GATEWAY response message (message type 2411 – Reversal Repeat Response). These

procedures must be taken and reported as log along with reconciliation process as reference data to determine if a suspect transaction is accepted or not by PLN-DJBB.

SWITCHING also can check the GATEWAY service availability by sending message with type 2800 – Network Management Request and action 301 – Echo Test.

Detail message/protocol specification can be read at **Attachment A**.

SECTION 4
MESSAGE FLOW

While sending/receiving message, SWITCHING may get one of two following situations:

- Normal
- FAIL to get payment response message
- Late Response
- Repeat Reversal

SWITCHING must be aware of critical transaction such as payment when the situation is not NORMAL. SWITCHING must send reversal request if it was occurred and send maximum 2 reversal repeat request if SWITCHING does not get reversal response in a period of time. PLN-DJBB was recommended that the grace period for sending and receiving messages are 20 seconds. Grace period here means how long SWITCHING or GATEWAY must be wait the message before disconnecting the connection and assumes that other party or network is broken.

Normal Flow

Normal flow is a successful transaction (see Figure 4).

Following steps are normal flow:

1. SWITCHING sends message type 2100
2. GATEWAY responses with message type 2110
3. When customer pays the bill, SWITCHING will send message type 2200 to GATEWAY. This time, the message means to update registration charge status as 'paid'
4. GATEWAY will send message type 2210 contains payment request status

LEGEND:

INQ : Inquiry (asking non-electricity-bill charge)
PAY : Payment (pay the charge)
REQ : Request
RES : Response

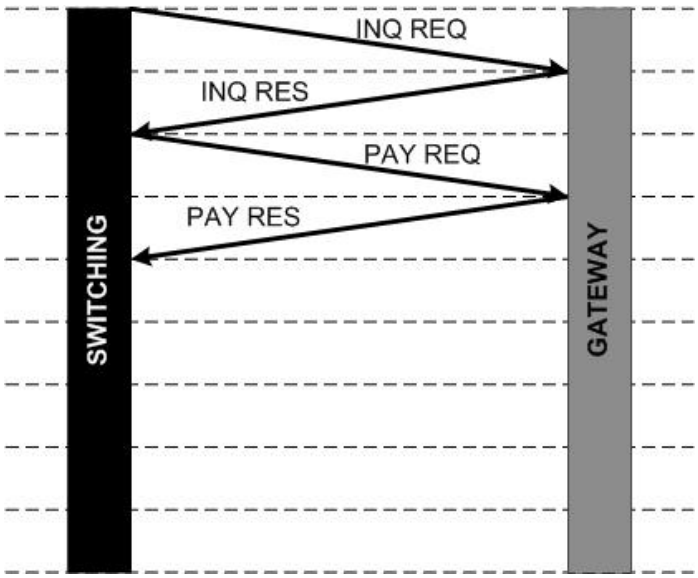

Figure 4. Normal Flow

Failed Flow

Failed transaction occurs when payment response message does not arrive in a period of time or SWITCHING send improper message stream (see Figure 5). Message does not arrive usually caused by failure of network or long-time processing in GATEWAY. In this condition SWITCHING can assume connection time-out was occurred. When the SWITCHING sends improper message, GATEWAY will send the exact message as sent by SWITCHING without further processing.

Following steps are example of failed flow for message does not arrive in period of time:

1. Same as step number 1-3 on **Normal Flow**
2. Same as step 4 on **Normal Flow**, but fail to reach SWITCHING
3. SWITCHING will wait for a period of time, then send message type 2400 – Reversal Request
4. GATEWAY sends the reversal response, message type 2410 – Reversal Response

LEGEND:

INQ : Inquiry (asking non-electricity-bill charge)
PAY : Payment (pay the charge)
RVS : Reversal
RVR : Reversal-Repeat
REQ : Request
RES : Response

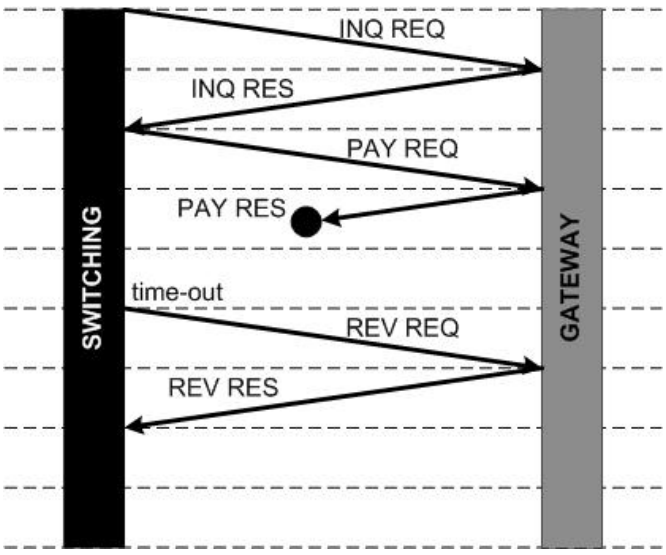

Figure 5. Failed Flow

Time-out (Late Response) Flow

Sometimes payment message response is arrived after specific of time (time-out).

Following steps are example of failed flow for message does not arrive in period of time:

1. Same as step number 1-3 on **Normal Flow**
2. Same as step 4 on **Normal Flow**, but GATEWAY was late to send the response
3. SWITCHING will wait for a period of time, then send message type 2400 – Reversal Request
4. GATEWAY sends the reversal response, message type 2410 – Reversal Response
5. SWITCHING receive message type 2210 after grace period (time-out). SWITCHING must consider that it is a failed transaction.

LEGEND:

INQ : Inquiry (asking non-electricity-bill charge)
PAY : Payment (pay the charge)
RVS : Reversal
RVR : Reversal-Repeat
REQ : Request
RES : Response

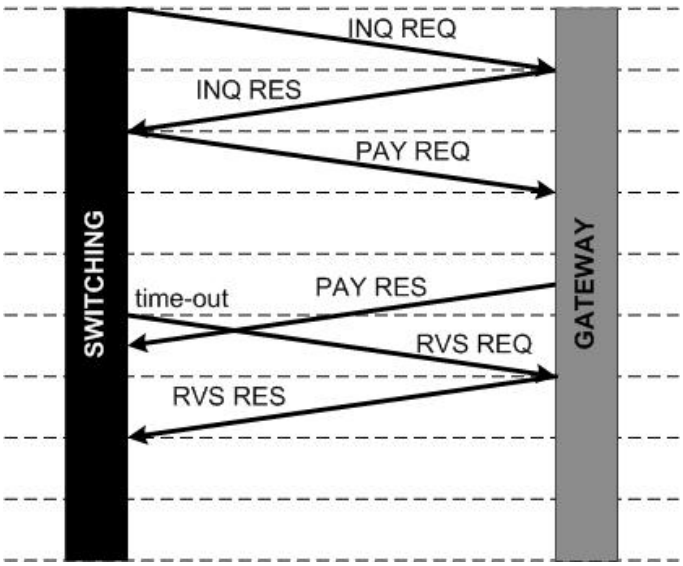

Figure 6. Time-out Flow

Repeat Reversal Flow

Repeat reversal flow usually occurs if first reversal request was failed/time-out.

Following steps are example of failed flow for message does not arrive in period of time:

1. Same as step number 1-3 on **Normal Flow**
2. Same as step 4 on **Normal Flow**, but GATEWAY was late to send the response
3. SWITCHING will wait for a period of time, then send message type 2400 – Reversal Request
4. But GATEWAY does not send the reversal response. SWITCHING must send message type 2401 - Reversal Repeat Request.
5. If success, GATEWAY will send reversal response

LEGEND:

INQ : Inquiry (asking non-electricity-bill charge)
PAY : Payment (pay the charge)
RVS : Reversal
RVR : Reversal-Repeat
REQ : Request
RES : Response

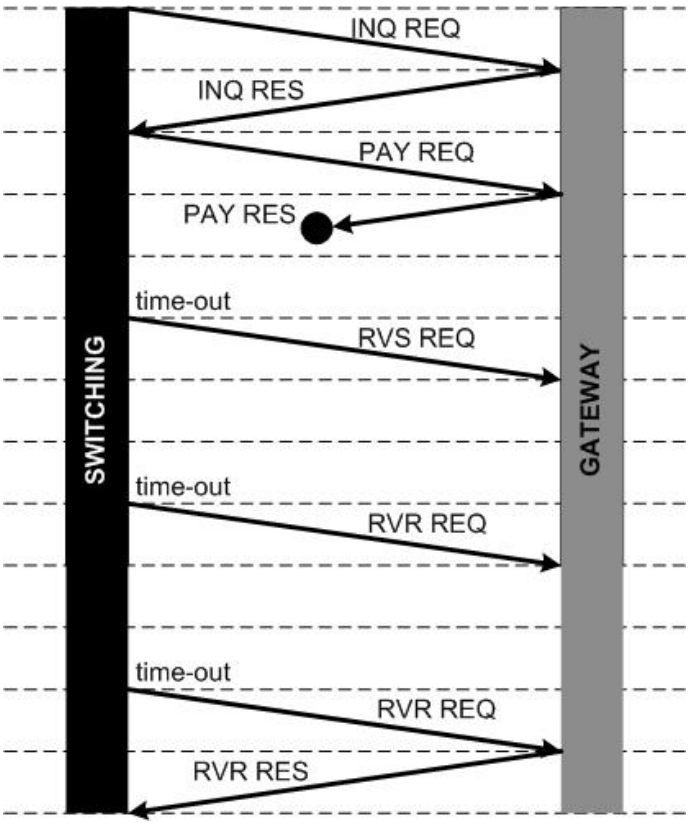

Figure 7. Repeat Reversal Flow

SECTION 5
RECONCILIATION

What is Reconciliation?

Reconciliation is the process of matching all payment transaction report from between GATEWAY and SWITCHING. Result of reconciliation report is equal payment transaction data between both parties.

Every working day, Collecting Agent (CA) is responsible for consolidating and matching all the transaction files. These files come from GATEWAY and SWITCHING. Reconciliation is based on settlement date which is stated in payment response from GATEWAY. Settlement date determine which transaction must be reported in certain date. The settlement time is defined by PLN-DJBB. Currently is set to 23:59:59. With this setting, all transactions occur between 00:00:00 – 23:59:59 in the same day, must be reported as one day transaction.

GATEWAY is always available for payment except the GATEWAY send information *cut-off* in its response message.

Based on reconciliation result, CA will transfer transaction fund to PLN-DJBB account in the next day (transaction day + 1).

All parties must develop reconciliation application to support reconciliation process based on each party responsibility.

Reconciliation Process Flow and Timing

Reconciliation process can be illustrated as following:

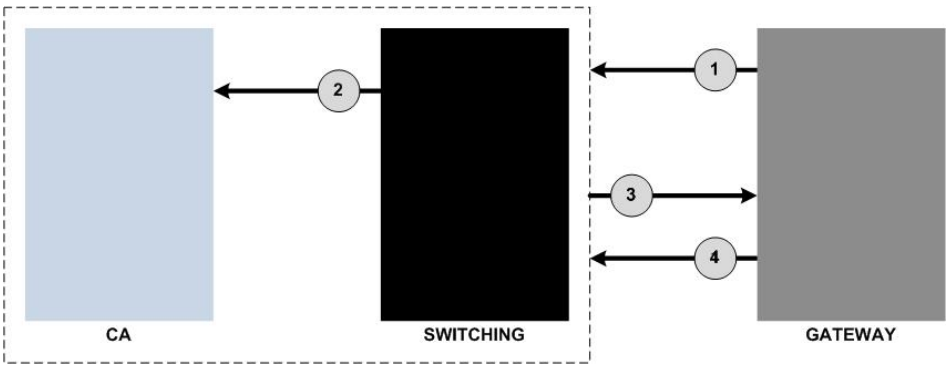

Figure 8. Reconciliation Process Flow

NO	TIME	ACTIVITY	ACTOR
1	(D+1) 00:00 – 08:00	Transaction Data Generation **AAAAAAA-53504-CCYYMMDD-BBBBBBB.txt** **AAAAAAA-53504-CCYYMMDD-BBBBBBB.txt.ctl** These files are stored in PLN-DJBB FTP Server (10.2.12.253:21, user/pwd is defined by PLN-DJBB), path: ntag/transaction. After SWITCHING download .txt, move these files to path ntag/transaction/process. **CAUTION**: DO NOT download file **.txt** if is no **.txt.ctl**	PLN-DJBB
2	(D+1) 00:00 – 08:00	Transaction Data Generation **AAAAAAA-53504-CCYYMMDD-BBBBBBB.ftr** **AAAAAAA-53504-CCYYMMDD-BBBBBBB.ftr.ctl** These files are stored in SWITCHING FTP Server (server and user/pwd are defined by SWITCHING).	SWITCHING
3	(D+1) 08:00 – 10:00	Reconciliation process between CA and SWITCHING by comparing **.txt** (downloaded by SWITCHING for CA) and **.ftr**, with suspect transaction in **AAAAAAA-53504-CCYYMMDD-BBBBBBB.rcn** as the result may contains *cancel* or *force* payment transaction. Store location is defined by SWITCHING. These files must be uploaded to PLN-DJBB FTP Server in path: ntag/suspect. If the .rcn contains suspect transactions, SWITCHING must provide file **AAAAAAA-53504-CCYYMMDD-BBBBBBB.log** contains log information (specification can be read at **Attachment D**)	SWITCHING-CA
4	(D+1) 10:00 – 12:00	PLN-DJBB processes .rcn with final suspect transaction in **AAAAAAA-53504-CCYYMMDD-BBBBBBB.fcn** as the result contains approved or not of *cancel* or *force* transaction. PLN-DJBB will store this file in PLN-DJBB FTP Server, path: ntag/final. SWITCHING can download this file if there is **AAAAAAA-53504-CCYYMMDD-BBBBBBB.fcn.ctl** file.	PLN-DJBB, SWITCHING

5	(D+1) 12:00 – 13:00	Final Report Generation of transaction fund must be transferred into PLN-DJBB account	SWITCHING
6	(D+1) 13:00 – 15:00	Time to Transfer of transaction fund to PLN-DJBB account based on Final Report	CA

LEGEND:

D : Transaction Day
D+1 : Transaction Day + 1
AAAAAAA : 7 digits of Switching Identification Code
CCYYMMDD : Transaction day, e.g. 20080401 means April 1st, 2008
BBBBBBB : 7 digits of Bank Identification Code

All generated files in reconciliation process (.txt, .ftr, .rcn, .fcn) are:

- 1 row = 1 transaction
- Text file with pipe (|) delimiter separated values.

HINT: You can open or import this file with Excel using CSV format and define the pipe (|) character as value delimiter.

- Always have header (first row) and checksum row (last row). Reconciliation file without transaction minimal contains 2 rows: header row and checksum row.

Detail reconciliation file specification can be read at **Attachment B**.

All control files for each reconciliation files (.txt.ctl, .ftr.ctl, .rcn.ctl, .fcn.ctl) are:

- Text file with pipe (|) delimiter separated values.
- Only have one row contains total number transaction (bill month payment) and total amount of transaction.

Detail reconciliation control file specification can be read at **Attachment C**.

Days of Reconciliation File Generation

Reconciliation can be done in working day only (Monday – Friday). According to this condition, there are three reconciliation types:

1. **Type-1 Reconciliation**, transaction was settled on Monday-Thursday will be reconciled on day D+1. Reconciliation file contains transaction with that settlement day only.
2. **Type-2 Reconciliation**, transaction was settled on Friday up to Sunday will be reconciled on consecutive Monday or next first working day. Reconciliation file contains transactions settled on Friday up to Sunday.
3. **Type-3 Reconciliation**, transaction was occurred in non working days or holidays will be reconciled on next first working day. Reconciliation file contains previous day of first holiday and holiday transactions.

PLEASE READ THE FOLLOWING TERMS CAREFULLY:

1. Reconciliation is based on settlement date **NOT** transaction date.
2. Date in reconciliation filename is reconciliation date (when reconciliation was taken)
3. Filename pattern is: **AAAAAAA-53504-CCYYMMDD-BBBBBBB**, **AAAAAAA** = Switching Identification Code (defined by PLN-DJBB), **53504** = PAN for NON-ELECTRICITY-BILL, **CCYY** = Year with century (4 digits), **MM** = month (2 digits, zero left-padding), **DD** = date (2 digits, zero left-padding), BBBBBBB = Bank Identification Code
4. Reconciliation file is always generated and reconciliation is always taken even there is no transactions ("empty recon file" contains header and checksum rows only)

Example of Type-1 Reconciliation:

- Transaction with settlement date is Monday, April 7th, 2008
- Reconciliation date is Tuesday, April 8th, 2008 and reconciliation process will be taken on Tuesday, April 8th, 2008
- Reconciliation Files:
    - PLN-DJBB Transaction Report (**AAAAAAA-53504-20080408-BBBBBBB.txt**)
    - SWITCHING Transaction Report (**AAAAAAA-53504-20080408-BBBBBBB.ftr**)
    - CA Reconciliation (Suspect) Report (**AAAAAAA-53504-20080408-BBBBBBB.rcn**)
    - PLN-DJBB Final Reconciliation (Suspect) Result Report (**AAAAAAA-53504-20080408-BBBBBBB.fcn**)

Example of Type-2 Reconciliation:

- Transaction with settlement date is Friday, April 11th, 2008
- Reconciliation date is Monday, April 14th, 2008 and reconciliation process will be taken on Monday, April 14th, 2008
- Reconciliation Files:
    - PLN-DJBB Transaction Report (**AAAAAAA-53504-20080414-BBBBBBB.txt**)
    - SWITCHING Transaction Report (**AAAAAAA-53504-20080407-BBBBBBB.ftr**)
    - CA Reconciliation (Suspect) Report (**AAAAAAA-53504-20080414-BBBBBBB.rcn**)

- PLN-DJBB Final Reconciliation (Suspect) Result Report (**AAAAAAA-53504-20080414-BBBBBBB.fcn**)

Example of Type-3 Reconciliation:

- Transaction with settlement date is Thursday, May 1st, 2008 (holiday). In this case, the reconciliation for settlement date on Wednesday, April 31st, 2008 also included.
- Reconciliation date is Friday, May 2nd, 2008 and reconciliation process will be taken on Friday, May 2nd, 2008
- Reconciliation Files:
  - PLN-DJBB Transaction Report (**AAAAAAA-53504-20080502-BBBBBBB.txt**)
  - SWITCHING Transaction Report (**AAAAAAA-53504-20080502-BBBBBBB.ftr**)
  - CA Reconciliation (Suspect) Report (**AAAAAAA-53504-20080502-BBBBBBB.rcn**)
  - PLN-DJBB Final Reconciliation (Suspect) Result Report (**AAAAAAA-53504-20080502-BBBBBBB.fcn**)

SECTION 6
CONNECTION TESTING

Development

PLN-DJBB provides dedicated Development Application Server for development phase. This server has address 10.2.12.253:63100 (or other as specified by PLN-DJBB). Switching can connect to this server to test its application. Subscriber ID (IDPEL) for testing purpose can be achieved from PLN-DJBB data center administrator. Please read following procedures how to do connection and functional testing using Development Application Server:

- Propose to PLN-DJBB Gateway Administrator to get a Switching Identification Code. These 7-digits must be registered at Gateway and sent as Switching ID in message stream. Each switching must have a unique identification code. If a switching sent message stream without a Switching ID or with an invalid/unregistered Switching ID, Gateway will responses with Unregistered Switching (response code = 0032).
- Register your 7-digits (number only) of bank code as switching partner. Bank Code is defined by Bank Indonesia (BI) as 3-digits of code. For compliance reason, switching can add zero right-padding to the code, e.g. if Bank X has BI Code 001, then the bank code must be registered to Gateway is 0010000. This information also must be sent as Bank Code in message stream. If a switching sent message stream without a Bank Code or with an invalid/unregistered Bank Code for the Switching ID, Gateway will response with Unregistered Bank Code (response code = 0031).

User Acceptance Test (UAT)

After development testing has been completed, switching can propose to PLN-DJBB to do a UAT. UAT will use Development Application Server connected to Development Database Server. The UAT result will determine a switching can start its operational or not using Production Gateway. UAT document can be obtained as separated document.

UAT scopes the following testing types:

- Functional Testing
  Test every implemented functions and check if the responses as expected or not (true/false). The testing items are described in UAT document.
- Performance Testing
  Customer service is one of primary concerns of PLN-DJBB. To serve better, switching as one of the service components must comply with all following performance constraints:
    - Switching application must have speed to complete transactions with minimum 5 transactions per seconds (TPS). The testing scenario are:
        - Create a testing driver (client) application for switching application to simulate 1.000 transactions hit the switching application.
        - Get the start time and end time of execution to get how long the switching to complete those transactions.

      TPS = 1.000 / time to complete (in seconds)

    - Switching must complete a transaction (inquiry or payment) maximum in 5 seconds (response time/RT). **Time to complete** also indicates the longest transaction has been taken, with maximum execution must be in 5 seconds also.

      RT = time to complete (in seconds) / 1.000

Based on UAT result, PLN-DJBB will give further instruction how to connect to Production Application Server (Gateway) and ready for daily operations.

ATTACHMENT A
MESSAGE/PROTOCOL SPECIFICATION

Network Management Request Message

Message Type Identifier : 2800

Sender : SWITCHING

Purpose : Request network management action to GATEWAY

FIELD	NAME	SUB FIELD	TYPE	LENGTH	FORMAT	DESCRIPTION	ISO8583:2003	
							STANDARD	DATA ELEMENT
1	MTI		n	4		Message Type Indicator 2800 = NetMan Request	YES	
2	Bit Map		h	16		Bit Map 0010000001010000 = use field 12, 40, 48 of ISO8583:2003 Data Element	YES	1
3	Date & Time, Local Transaction		n	14	CCYYMMDDhhmmss	Date & Time of local transaction	YES	12
4	Action Code		n	3		001 = sign-on 002 = sign-off 301 = echo test	YES	40
5	Length of Additional Private Data		n	3	zero left-padding	Length of additional private data (sub field of data element 48) for MTI=2800 Sum of sub-fields length 007	YES	48
6	Additional Private Data						YES	48
		Switcher ID	an	7	zero left-padding	Switcher Identification Code (provided by PLN) 0000000	Custom (sub data element 48:1)	48

Network Management Response Message

Message Type Identifier : 2810

Sender : GATEWAY

Purpose : Response the network management action request to SWITCHING

FIELD	NAME	SUB FIELD	TYPE	LENGTH	FORMAT	DESCRIPTION	ISO8583:2003	
							STANDARD	DATA ELEMENT
1	MTI		n	4		Message Type Indicator 2810 = NetMan Response	YES	
2	Bit Map		h	16		Bit Map 0010000003010000 = use field 12, 39, 40, 48 of ISO8583 Data Element	YES	1
3	Date & Time, Local Transaction		n	14	CCYYMMDDhhmmss	Date & Time of local transaction	YES	12
4	Response Code		n	4		0000 = successful 0005 = ERROR - Other 0011 = ERROR - Need to sign-on 0030 = ERROR - Invalid message 0032 = ERROR - Unregistered Switching 0068 = ERROR - Timeout 0090 = ERROR - Cut-off is in progress	YES	39
5	Action Code		n	3		001 = sign-on 002 = sign-off 301 = echo test	YES	40
6	Length of Additional Private Data		n	3	zero left-padding	Length of additional private data (sub field of data element 48) for MTI=2810 Sum of sub-fields length 007	YES	48
7	Additional Private Data						YES	48

		Switcher ID	an	7	zero left-padding	Identical to same field in network management request message	Custom (sub data element 48:1)	48

Inquiry Request Message

Message Type Identifier : 2100

Sender : SWITCHING

Purpose : Request non-electricity-bill information of based on a registration number to GATEWAY

FIELD	NAME	SUB FIELD	TYPE	LENGTH	FORMAT	DESCRIPTION	ISO8583:2003	
							STANDARD	DATA ELEMENT
1	MTI		n	4		Message Type Indicator 2100 = Inquiry Request	YES	
2	Bit Map		h	16		Primary Bitmap 4030004100010000 = use field 2, 11, 12, 26, 32, 48 of ISO8583:2003 Data Element	YES	1
3	Length of PAN		n	2	zero left-padding	Length of PAN 05	YES	2
4	Primary Account Number (PAN)	X	n	5		Billing Code for NON-EL-BILL 53504	YES	2
5	Switcher Trace Audit Number		n	12		Switcher Trace Audit Number 000000000000	YES	11
6	Date & Time, Local Transaction		n	14	CCYYMMDDhhmmss	Date & Time of local transaction	YES	12
7	Merchant Category Code		n	4		6010 = Teller 6011 = ATM 6012 = POS 6013 = AutoDebit/giralisasi 6014 = Internet 6015 = Kiosk 6016 = Phone Banking / Call Center 6017 = Mobile Banking 6018 = EDC	YES	26
8	Length of Bank Code		n	2	zero left-padding	Length of Bank Code 07		32

9	Bank Code		an	7	zero left-padding	Bank Code	YES	32
10	Length of Additional Private Data		n	3	zero left-padding	Length of additional private data (sub field of data element 48) for MTI=2100 Sum of sub-fields length 023	YES	48
11	Additional Private Data						YES	48
		Switcher ID	an	7	zero left-padding	Switcher Identification Code	Custom (sub data element 48:1)	48
		Registration Number	n	13	space left-padding	Registration Number 0000000000000	Custom (sub data element 48:2)	48
		Transaction Code	n	3	zero left-padding	Transaction Code RESERVED Currently always set to 000	Custom (sub data element 48:3)	48

Inquiry Response Message

Message Type Identifier : 2110

Sender : GATEWAY

Purpose : Response the inquiry request to SWITCHING

FIELD	NAME	SUB FIELD	TYPE	LENGTH	FORMAT	DESCRIPTION	ISO8583:2003	
							STANDARD	DATA ELEMENT
1	MTI		n	4		Message Type Indicator 2110 = Inquiry Response	YES	
2	Bit Map		h	16		Primary Bitmap 5030004102010004 = use field 2, 4, 11, 12, 26, 32, 39, 48, 62 of ISO8583:2003 Data Element	YES	1
3	Length of PAN		n	2	zero left-padding	Identical to same field in inquiry request message	YES	2
4	Primary Account Number (PAN)		n	5		Identical to same field in inquiry request message	YES	2
5	Transaction Amount		n	16			YES	4
		ISO Currency Code	n	3		ISO Currency Code Indonesian Rupiah = 360 360	YES	4
		Currency Minor Unit	n	1		Number of decimal value 0 = no decimal value n = n-last digits of value amount are decimal values 0	YES	4
		Value Amount	n	12	zero left-padding	Transaction Amount (Total Transaction Amount from DE48 without decimal values) 000000000000	YES	4
6	Switcher Trace Audit Number		n	12		Identical to same field in inquiry request message	YES	11

7	Date & Time, Local Transaction		n	14	CCYYMMDDhhmmss	Identical to same field in inquiry request message	YES	12
8	Merchant Category Code		n	4		Identical to same field in inquiry request message	YES	26
9	Length of Bank Code		n	2	zero left-padding	Identical to same field in inquiry request message		32
10	Bank Code		an	7	zero left-padding	Identical to same field in inquiry request message	YES	32
11	Response Code (RC)		n	4		0000 = successful 0005 = ERROR - Other 0011 = ERROR - Need to sign-on 0015 = ERROR - Unknown Registration Number 0016 = ERROR - PRR Subscriber 0017 = ERROR - Subscriber still have bills to pay 0030 = ERROR - Invalid message 0031 = ERROR - Unregistered Bank Code 0032 = ERROR - Unregistered Switching 0033 = ERROR - Unregistered Product 0034 = ERROR - Unregistered Terminal 0045 = ERROR - Invalid admin charges 0048 = ERROR - Registration is expired 0068 = ERROR - Timeout in Switching 0088 = ERROR - Bill already paid 0090 = ERROR - Cut-off is in progress	YES	39
12	Length of Additional Private Data		n	3	zero left-padding	Length of additional private data (sub field of data element 48) for MTI=2110 Sum of sub-fields length 133 if RC != 0000 235 if RC = 0000	YES	48

13	Additional Private Data							
		Switcher ID	an	7	zero left-padding	Identical to same field in inquiry request message	Custom (sub data element 48:1)	48
		Registration Number	n	13	space left-padding	Identical to same field in inquiry request message	Custom (sub data element 48:2)	48
		Transaction Code	n	3	zero left-padding	Transaction Code RESERVED Currently always set to 000	Custom (sub data element 48:3)	48
		Transaction Name	ans	25	space right-padding	Transaction Name	Custom (sub data element 48:4)	48
		Registration Date	n	8	CCYYMMDD	Registration Date in CM@X Available if RC in {0000, 0048, 0088}	Custom (sub data element 48:5)	48
		Expiration Date	n	8	CCYYMMDD	Expiration Date of Registration Available if RC in {0000, 0048, 0088}	Custom (sub data element 48:6)	48
		Subscriber ID	n	12	zero left-padding	Subscriber ID Available if RC in {0000, 0088}	Custom (sub data element 48:7)	48
		Subscriber Name	an	25	space right-padding	Subscriber Name Available if RC in {0000, 0088}	Custom (sub data element 48:8)	48
		PLN Reference Number	an	32	zero right-padding	PLN Reference Number Available if RC in {0000, 0088}	Custom (sub data element 48:9)	48
		Service Unit	an	5		Service Unit Code Available if RC=0000	Custom (sub data element 48:10)	48
		Service Unit Address	an	35	space right-padding	Service Unit Address Available if RC=0000	Custom (sub data element 48:11)	48
		Service Unit Phone	ns	15	space right-padding	Service Unit Phone Available if RC=0000	Custom (sub data element 48:12)	48

		Total Transaction Amount Minor Unit	n	1	zero left-padding	Total Transaction Amount Minor Unit Available if RC=0000 Currently always set to 2	Custom (sub data element 48:13)	48
		Total Transaction Amount		17	zero left-padding	Total Transaction Amount TA = RPTAG + AC Available if RC=0000 00000000000000000	Custom (sub data element 48:14)	48
		PLN-BILL Minor Unit	n	1	zero left-padding	PLN-Bill Minor Unit Available if RC=0000 Currently always set to 2	Custom (sub data element 48:15)	48
		PLN-BILL Value (RPTAG)	n	17	zero left-padding	PLN-Bill Available if RC=0000 00000000000000000	Custom (sub data element 48:16)	48
		Administration Charge Minor Unit	n	1	zero left-padding	Administration Charge Minor Unit Available if RC=0000 Currently always set to 2	Custom (sub data element 48:17)	48
		Administration Charge (AC)	n	10	zero left-padding	Administration Charge Available if RC=0000 0000000000	Custom (sub data element 48:18)	48
14	Length of Additional Private Data #2		n	3	zero left-padding	Length of additional private data #2 (sub field of data element 62) for MTI=2110 Sum of sub-fields length Available if RC=0000 020	YES	48
15	Additional Private Data #2					Available if RC=0000	YES	62
		Bill Component Type	n	2	zero left-padding	Bill Component Type Always set to 01	Custom (sub data element 62:1)	62
		Bill Component Minor Unit	n	1	zero left-padding	Bill Component Minor Unit Currently always set to 2	Custom (sub data element 62:2)	62
		Bill Component Value Amount	n	17	zero left-padding	Bill Component Value Amount 00000000000000000	Custom (sub data element 62:3)	62

Payment Request Message

Message Type Identifier : 2200

Sender : SWITCHING

Purpose : Request non-electricity-bill payment

FIELD	NAME	SUB FIELD	TYPE	LENGTH	FORMAT	DESCRIPTION	ISO8583:2003	
							STANDARD	DATA ELEMENT
1	MTI		n	4		Message Type Indicator 2200 = Payment Request	YES	
2	Bit Map		h	16		Primary Bitmap 5030004100010004 = use field 2, 4, 11, 12, 26, 32, 48, 62 of ISO8583:2003 Data Element	YES	1
3	Length of PAN		n	2	zero left-padding	Length of PAN 05	YES	2
4	Primary Account Number (PAN)		n	5		Billing Code for NON-EL-BILL 53504	YES	2
5	Transaction Amount		n	16			YES	4
		ISO Currency Code	n	3		Must be identical to same field in inquiry response message	YES	4
		Currency Minor Unit	n	1		Must be identical to same field in inquiry response message	YES	4
		Value Amount	n	12	zero left-padding	Transaction Amount (with admin charges) and will be validated by Switcher TC = RPTAG + AC 000000000000	YES	
6	Partner Central Trace Audit Number		n	12		Must be identical to same field in inquiry response message	YES	11
7	Date & Time, Local Transaction		n	14	CCYYMMDDhhmmss	Date & Time of local transaction	YES	12

8	Merchant Category Code		n	4		Must be identical to same field in inquiry response message	YES	26
9	Length of Bank Code		n	2	zero left-padding	Must be identical to same field in inquiry response message		32
10	Bank Code		an	7	zero left-padding	Must be identical to same field in inquiry response message	YES	32
11	Length of Additional Private Data		n	3	zero left-padding	Must be identical to same field in inquiry response message	YES	48
12	Additional Private Data						YES	48
		Switcher ID	an	7	zero left-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:1)	48
		Registration Number	n	13	space left-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:2)	48
		Transaction Code	an	3	zero left-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:3)	48
		Transaction Name	ans	25	space right-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:4)	48
		Registration Date	n	8	CCYYMMDD	Must be identical to same field in inquiry response message	Custom (sub data element 48:5)	48
		Expiration Date	n	8	CCYYMMDD	Must be identical to same field in inquiry response message	Custom (sub data element 48:6)	48
		Subscriber ID	n	12	zero left-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:7)	48
		Subscriber Name	an	25	space right-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:8)	48
		PLN Reference Number	an	32	zero right-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:9)	48

		Switcher Receipt Reference Number	an	32	zero right-padding	Switcher Receipt Reference Number Switcher must provide the value of receipt reference number printed on customer receipt	Custom (sub data element 48:10)	48
		Service Unit	an	5		Must be identical to same field in inquiry response message	Custom (sub data element 48:11)	48
		Service Unit Address	an	35	space right-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:12)	48
		Service Unit Phone	ns	15	space right-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:13)	48
		Total Transaction Amount Minor Unit	n	1	zero left-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:14)	48
		Total Transaction Amount		17	zero left-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:15)	48
		PLN-BILL Minor Unit	n	1	zero left-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:16)	48
		PLN-BILL Value (RPTAG)	n	17	zero left-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:17)	48
		Administration Charge Minor Unit	n	1	zero left-padding	Must be identical to same field in inquiry response message	Custom (sub data element 48:18)	48
		Administration Charge (AC)	n	10	zero left-padding	Must be identical to same field in inquiry response message (managed partner central only)	Custom (sub data element 48:19)	48
13	Length of Additional Private Data #2		n	3	zero left-padding	Length of additional private data #2 (sub field of data element 62) for MTI=2200 Sum of sub-fields length Available if RC=0000 016	YES	62

14	Additional Private Data #2						YES	62
		Bill Component Type	n	2	zero left-padding	Must be identical to same field in inquiry response message	Custom (sub data element 62:1)	62
		Bill Component Minor Unit	n	1	zero left-padding	Must be identical to same field in inquiry response message	Custom (sub data element 62:2)	62
		Bill Component Value Amount	n	17	zero left-padding	Must be identical to same field in inquiry response message	Custom (sub data element 62:3)	62

Payment Response Message

Message Type Identifier : 2210

Sender : GATEWAY

Purpose : Response the payment request to SWITCHING

FIELD	NAME	SUB FIELD	TYPE	LENGTH	FORMAT	DESCRIPTION	ISO8583:2003	
							STANDARD	DATA ELEMENT
1	MTI		n	4		Message Type Indicator 2210 = Payment Response	YES	
2	Bit Map		h	16		Primary Bitmap 5032004102010006 = use field 2, 4, 11, 12, 15, 26, 32, 39, 48, 62, 63 of ISO8583:2003 Data Element	YES	1
3	Length of PAN		n	2	zero left-padding	Identical to same field in payment request message	YES	2
4	Primary Account Number (PAN)		n	5		Identical to same field in payment request message	YES	2
5	Transaction Amount		n	16			YES	4
		ISO Currency Code	n	3		Identical to same field in payment request message	YES	4
		Currency Minor Unit	n	1		Identical to same field in payment request message	YES	4
		Value Amount	n	12	zero left-padding	Identical to same field in payment request message	YES	4
6	Switcher Trace Audit Number		n	12		Identical to same field in payment request message	YES	11
7	Date & Time, Local Transaction		n	14	CCYYMMDDhhmmss	Identical to same field in payment request message	YES	12

8	Date, Settlement		n	8	CCYYMMDD	Date of settlement (refer to PLN cut-off for reconciliation purpose) For instance, if cut-off at 16:00:00 (PLN Gateway Time), then all payment start from 16:00:01 must be reconciled as next-day transaction	YES	15
9	Merchant Category Code		n	4		Identical to same field in payment request message	YES	26
10	Length of Bank Code		n	2	zero left-padding	Identical to same field in payment request message		32
11	Bank Code		an	7	zero left-padding	Identical to same field in payment request message	YES	32
12	Response Code (RC)		n	4		0000 = successful 0005 = ERROR - Other 0011 = ERROR - Need to sign-on 0013 = ERROR - Invalid Transaction Amount 0015 = ERROR - Unknown Registration Number 0030 = ERROR - Invalid message 0031 = ERROR - Unregistered Bank Code 0032 = ERROR - Unregistered Switching 0033 = ERROR - Unregistered Product 0048 = ERROR - Registration is expired 0068 = ERROR - Timeout 0088 = ERROR - Bills already paid 0090 = ERROR - Cut-off is in progress 0093 = ERROR - Invalid Switcher Trace Audit Number 0097 = ERROR - Switching ID and/or Bank Code is not identical with inquiry 0098 = ERROR - PLN Reference Number is not valid	YES	39

13	Length of Additional Private Data		n	3	zero left-padding	Identical to same field in payment request message	YES	48
14	Additional Private Data						YES	48
		Switcher ID	an	7	zero left-padding	Identical to same field in payment request message	Custom (sub data element 48:1)	48
		Registration Number	n	13	space left-padding	Identical to same field in payment request message	Custom (sub data element 48:2)	48
		Transaction Code	an	3	zero left-padding	Identical to same field in payment request message	Custom (sub data element 48:3)	48
		Transaction Name	ans	25	space right-padding	Identical to same field in payment request message	Custom (sub data element 48:4)	48
		Registration Date	n	8	CCYYMMDD	Identical to same field in payment request message	Custom (sub data element 48:5)	48
		Expiration Date	n	8	CCYYMMDD	Identical to same field in payment request message	Custom (sub data element 48:6)	48
		Subscriber ID	n	12	zero left-padding	Identical to same field in payment request message	Custom (sub data element 48:7)	48
		Subscriber Name	an	25	space right-padding	Identical to same field in payment request message	Custom (sub data element 48:8)	48
		PLN Reference Number	an	32	zero right-padding	Identical to same field in payment request message	Custom (sub data element 48:9)	48
		Switcher Receipt Reference Number	an	32	zero right-padding	Identical to same field in payment request message	Custom (sub data element 48:10)	48
		Service Unit	an	5		Identical to same field in payment request message	Custom (sub data element 48:11)	48

		Service Unit Address	an	35	space right-padding	Identical to same field in payment request message	Custom (sub data element 48:12)	48
		Service Unit Phone	ns	15	space right-padding	Identical to same field in payment request message	Custom (sub data element 48:13)	48
		Total Transaction Amount Minor Unit	n	1	zero left-padding	Identical to same field in payment request message	Custom (sub data element 48:14)	48
		Total Transaction Amount		17	zero left-padding	Identical to same field in payment request message	Custom (sub data element 48:15)	48
		PLN-BILL Minor Unit	n	1	zero left-padding	Identical to same field in payment request message	Custom (sub data element 48:16)	48
		PLN-BILL Value (RPTAG)	n	17	zero left-padding	Identical to same field in payment request message	Custom (sub data element 48:17)	48
		Administration Charge Minor Unit	n	1	zero left-padding	Identical to same field in payment request message	Custom (sub data element 48:18)	48
		Administration Charge (AC)	n	10	zero left-padding	Identical to same field in payment request message	Custom (sub data element 48:19)	48
15	Length of Additional Private Data #2		n	3	zero left-padding	Identical to same field in payment request message	YES	62
16	Additional Private Data #2						YES	62
		Bill Component Type	n	2	zero left-padding	Identical to same field in payment request message	Custom (sub data element 62:1)	62
		Bill Component Minor Unit	n	1	zero left-padding	Identical to same field in payment request message	Custom (sub data element 62:2)	62
		Bill Component Value Amount	n	17	zero left-padding	Identical to same field in payment request message	Custom (sub data element 62:3)	62
17	Length of Info Text		n	3		Length of Info Text		63

18	Info Text		ans	999		Custom Message from PLN e.g. "Hemat Listrik & Ayo Bebas Narkoba"		63

Reversal (Repeat) Request Message

Message Type Identifier : 2400 / 2401

Sender : SWITCHING

Purpose : Request to reverse a non-electricity-bill transaction

FIELD	NAME	SUB FIELD	TYPE	LENGTH	FORMAT	DESCRIPTION	ISO8583:2003	
							STANDARD	DATA ELEMENT
1	MTI		n	4		Message Type Indicator 2400 = Reversal Request 2401 = Reversal Repeat Request (2x)	YES	
2	Bit Map		h	16		Primary Bitmap 5030004100010104 = use field 2, 4, 11, 12, 26, 32, 48, 56, 62 of ISO8583:2003 Data Element	YES	1
3	Length of PAN		n	2	zero left-padding	Must be identical to same field in payment request message	YES	2
4	Primary Account Number (PAN)		n	5		Must be identical to same field in payment request message	YES	2
5	Transaction Amount		n	16			YES	4
		ISO Currency Code	n	3		Must be identical to same field in payment request message	YES	4
		Currency Minor Unit	n	1		Must be identical to same field in payment request message	YES	4
		Value Amount	n	12	zero left-padding	Must be identical to same field in payment request message	YES	4
6	Partner Central Trace Audit Number		n	12		Must be identical to same field in payment request message	YES	11
7	Date & Time, Local Transaction		n	14	CCYYMMDDhhmmss	Date & Time of local transaction	YES	12
8	Merchant Category Code		n	4		Must be identical to same field in payment request message	YES	26
9	Length of Bank Code		n	2	zero left-padding	Must be identical to same field in payment request message		32

10	Bank Code		n	7	zero left-padding	Must be identical to same field in payment request message	YES	32
11	Length of Additional Private Data		n	3	zero left-padding	Must be identical to same field in payment request message	YES	48
12	Additional Private Data						YES	48
		Switcher ID	an	7	zero left-padding	Must be identical to same field in payment request message	Custom (sub data element 48:1)	48
		Registration Number	n	13	space left-padding	Must be identical to same field in payment request message	Custom (sub data element 48:2)	48
		Transaction Code	an	3	zero left-padding	Must be identical to same field in payment request message	Custom (sub data element 48:3)	48
		Transaction Name	ans	25	space right-padding	Must be identical to same field in payment request message	Custom (sub data element 48:4)	48
		Registration Date	n	8	CCYYMMDD	Must be identical to same field in payment request message	Custom (sub data element 48:5)	48
		Expiration Date	n	8	CCYYMMDD	Must be identical to same field in payment request message	Custom (sub data element 48:6)	48
		Subscriber ID	n	12	zero left-padding	Must be identical to same field in payment request message	Custom (sub data element 48:7)	48
		Subscriber Name	an	25	space right-padding	Must be identical to same field in payment request message	Custom (sub data element 48:8)	48
		PLN Reference Number	an	32	zero right-padding	Must be identical to same field in payment request message	Custom (sub data element 48:9)	48
		Switcher Receipt Reference Number	an	32	zero right-padding	Must be identical to same field in payment request message	Custom (sub data element 48:10)	48

		Service Unit	an	5		Must be identical to same field in payment request message	Custom (sub data element 48:11)	48
		Service Unit Address	an	35	space right-padding	Must be identical to same field in payment request message	Custom (sub data element 48:12)	48
		Service Unit Phone	ns	15	space right-padding	Must be identical to same field in payment request message	Custom (sub data element 48:13)	48
		Total Transaction Amount Minor Unit	n	1	zero left-padding	Must be identical to same field in payment request message	Custom (sub data element 48:14)	48
		Total Transaction Amount		17	zero left-padding	Must be identical to same field in payment request message	Custom (sub data element 48:15)	48
		PLN-BILL Minor Unit	n	1	zero left-padding	Must be identical to same field in payment request message	Custom (sub data element 48:16)	48
		PLN-BILL Value (RPTAG)	n	17	zero left-padding	Must be identical to same field in payment request message	Custom (sub data element 48:17)	48
		Administration Charge Minor Unit	n	1	zero left-padding	Must be identical to same field in payment request message	Custom (sub data element 48:18)	48
		Administration Charge (AC)	n	10	zero left-padding	Must be identical to same field in payment request message	Custom (sub data element 48:19)	48
13	Length of Original Data Element		n	2		Length of Original Data Element 37	YES	56
14	Original Data Element						YES	56
		Original MTI	n	4		MTI of Payment 2200	Custom (sub data element 56:1)	56
		Original Switcher Trace Audit Number	n	12		Original Switcher Trace Audit Number in payment request message	Custom (sub data element 56:2)	56

		Original Date & Time Local Transaction	n	14	CCYYMMDDhhmmss	Original Date & Time Local Transaction in payment request message	Custom (sub data element 56:3)	56
		Original Bank Code	n	7	zero left-padding	Original Bank Code in payment request message	Custom (sub data element 56:4)	56
15	Length of Additional Private Data #2		n	3	zero left-padding	Length of additional private data #2 (sub field of data element 62) for MTI=2400/2401 Sum of sub-fields length Available if RC=0000 016	YES	62
16	Additional Private Data #2						YES	62
		Bill Component Type	n	2	zero left-padding	Must be identical to same field in payment request message	Custom (sub data element 62:1)	62
		Bill Component Minor Unit	n	1	zero left-padding	Must be identical to same field in payment request message	Custom (sub data element 62:2)	62
		Bill Component Value Amount	n	17	zero left-padding	Must be identical to same field in payment request message	Custom (sub data element 62:3)	62

Reversal (Repeat) Response Message

Message Type Identifier : 2410 / 2411

Sender : GATEWAY

Purpose : Response the reversal request to SWITCHING

FIELD	NAME	SUB FIELD	TYPE	LENGTH	FORMAT	DESCRIPTION	ISO8583:2003 STANDARD	ISO8583:2003 DATA ELEMENT
1	MTI		n	4		Message Type Indicator 2410 = Reversal Response 2411 = Reversal Repeat Response	YES	
2	Bit Map		h	16		Bit Map 5030004102010104 = use field 2, 4, 11, 12, 26, 32, 39, 48, 56, 62 of ISO8583:2003 Data Element	YES	1
3	Length of PAN		n	2	zero left-padding	Identical to same field in reversal request message	YES	2
4	Primary Account Number (PAN)		n	5		Identical to same field in reversal request message	YES	2
5	Transaction Amount		n	16			YES	4
		ISO Currency Code	n	3		Identical to same field in reversal request message	YES	4
		Currency Minor Unit	n	1		Identical to same field in reversal request message	YES	4
		Value Amount	n	12	zero left-padding	Identical to same field in reversal request message	YES	4
6	Partner Central Trace Audit Number		n	12		Identical to same field in reversal request message	YES	11
7	Date & Time, Local Transaction		n	14	CCYYMMDDhhmmss	Identical to same field in reversal request message	YES	12
8	Merchant Category Code		n	4		Identical to same field in reversal request message	YES	26

9	Length of Bank Code		n	2	zero left-padding	Identical to same field in reversal request message		32
10	Bank Code		n	7	zero left-padding	Identical to same field in reversal request message	YES	32
11	Response Code (RC)		n	4		0000 = successful 0005 = ERROR - Other 0011 = ERROR - Need to sign-on 0012 = ERROR - Settlement had been done 0013 = ERROR - Invalid Transaction Amount 0015 = ERROR - Unknown Registration Number 0030 = ERROR - Invalid message 0031 = ERROR - Unregistered Bank Code 0032 = ERROR - Unregistered Switching 0033 = ERROR - Unregistered Product 0048 = ERROR - Registration is expired 0063 = ERROR - No payment 0068 = ERROR - Timeout 0090 = ERROR - Cut-off is in progress 0092 = ERROR - Switcher Receipt Reference Number is not available 0093 = ERROR - Invalid Switcher Trace Audit Number 0094 = ERROR - Reversal had been done 0097 = ERROR - Invalid original data element 0098 = ERROR - PLN Reference Number is not valid	YES	39
12	Length of Additional Private Data		n	3	zero left-padding	Identical to same field in reversal request message	YES	48
13	Additional Private Data						YES	

		Switcher ID	an	7	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 48:1)	48
		Registration Number	n	13	space left-padding	Identical to same field in reversal request message	Custom (sub data element 48:2)	48
		Transaction Code	an	3	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 48:3)	48
		Transaction Name	ans	25	space right-padding	Identical to same field in reversal request message	Custom (sub data element 48:4)	48
		Registration Date	n	8	CCYYMMDD	Identical to same field in reversal request message	Custom (sub data element 48:5)	48
		Expiration Date	n	8	CCYYMMDD	Identical to same field in reversal request message	Custom (sub data element 48:6)	48
		Subscriber ID	n	12	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 48:7)	48
		Subscriber Name	an	25	space right-padding	Identical to same field in reversal request message	Custom (sub data element 48:8)	48
		PLN Reference Number	an	32	zero right-padding	Identical to same field in reversal request message	Custom (sub data element 48:9)	48
		VSI Receipt Reference Number	an	32	zero right-padding	Identical to same field in reversal request message	Custom (sub data element 48:10)	48
		Service Unit	an	5		Identical to same field in reversal request message	Custom (sub data element 48:11)	48
		Service Unit Address	an	35	space right-padding	Identical to same field in reversal request message	Custom (sub data element 48:12)	48

		Service Unit Phone	ns	15	space right-padding	Identical to same field in reversal request message	Custom (sub data element 48:13)	48
		Total Transaction Amount Minor Unit	n	1	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 48:14)	48
		Total Transaction Amount		17	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 48:15)	48
		PLN-BILL Minor Unit	n	1	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 48:16)	48
		PLN-BILL Value (RPTAG)	n	17	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 48:17)	48
		Administration Charge Minor Unit	n	1	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 48:18)	48
		Administration Charge (AC)	n	10	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 48:19)	48
14	Length of Original Data Element		n	2		Identical to same field in reversal request message	YES	56
15	Original Data Element						YES	56
		Original MTI	n	4		Identical to same field in reversal request message	Custom (sub data element 56:1)	56
		Original Partner Central Trace Audit Number	n	12		Identical to same field in reversal request message	Custom (sub data element 56:2)	56
		Original Date & Time Local Transaction	n	14	CCYYMMDDhhmmss	Identical to same field in reversal request message	Custom (sub data element 56:3)	56
		Original Bank Code	n	7	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 56:4)	56

16	Length of Additional Private Data #2		n	3	zero left-padding	Identical to same field in reversal request message	YES	62
17	Additional Private Data #2						YES	62
		Bill Component Type	n	2	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 62:1)	62
		Bill Component Minor Unit	n	1	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 62:2)	62
		Bill Component Value Amount	n	17	zero left-padding	Identical to same field in reversal request message	Custom (sub data element 62:3)	62

Message Stream Examples

NETWORK MANAGEMENT:SIGN-ON
REQUEST : 2800001000000101000020080502072300001007100000D3
RESPONSE : 2810001000000301000020080502072300000000100710000D3

NETWORK MANAGEMENT:SIGN-OFF
REQUEST : 2800001000000101000020080502072300002007100000D3
RESPONSE : 2810001000000301000020080502072300000000200710000D3

INQUIRY: OK
REQUEST : 2100403000410001000005535041000000000012009041907230060150701100000231000D35355520100001000
RESPONSE : 2110503000410201000405535043600000000550000100000000000120090419072300601507011000000023510000D3535552010000100PERUBAHAN DAYA
200904172009051653555000000 1SUBSCRIBER NAME E5BA37AC52083904FDEF185BE297009A53555JL RAYA 123 022-12345678
20000000005500000020000000005500000020000000000020012000000000000000000

PAYMENT: OK
REQUEST : 2200503000410001000405535043600000000550000100000000000120090419072305601507011000023510000D3535552010000100PERUBAHAN DAYA
200904172009051653555000000 1SUBSCRIBER NAME E5BA37AC52083904FDEF185BE297009A809AAAE3427B7F0419A9F501DE47EB6053555JL RAYA 123
022-12345678 20000000005500000020000000005500000020000000000020012000000000000000000
RESPONSE : 2210503200410201000605535043600000000550000100000000000120090419072305200904196015070110000000023510000D3535552010000100PERUBAHAN DAYA
200904172009051653555000000 1SUBSCRIBER NAME E5BA37AC52083904FDEF185BE297009A809AAAE3427B7F0419A9F501DE47EB6053555JL RAYA 123
022-12345678 20000000005500000020000000005500000020000000000020012000000000000000000033Hemat Listrik & Ayo Bebas Narkoba

REVERSAL: OK
REQUEST : 2400503000410001010405535043600000000550000100000000000120090419072325601507011000023510000D3535552010000100PERUBAHAN DAYA
200904172009051653555000000 1SUBSCRIBER NAME E5BA37AC52083904FDEF185BE297009A809AAAE3427B7F0419A9F501DE47EB6053555JL RAYA 123
022-12345678 20000000005500000020000000005500000020000000000372200100000000000120090419072305011000002001200000000000000000
RESPONSE : 2410503000410201010405535043600000000550000100000000000120090419072325601507011000000023510000D3535552010000100PERUBAHAN DAYA
200904172009051653555000000 1SUBSCRIBER NAME E5BA37AC52083904FDEF185BE297009A809AAAE3427B7F0419A9F501DE47EB6053555JL RAYA 123
022-12345678 20000000005500000020000000005500000020000000000372200100000000000120090419072305011000002001200000000000000000

REVERSAL REPEAT: OK
REQUEST : 2401503000410001010405535043600000000550000100000000000120090419072325601507011000023510000D3535552010000100PERUBAHAN DAYA
200904172009051653555000000 1SUBSCRIBER NAME E5BA37AC52083904FDEF185BE297009A809AAAE3427B7F0419A9F501DE47EB6053555JL RAYA 123
022-12345678 20000000005500000020000000005500000020000000000372200100000000000120090419072305011000002001200000000000000000

RESPONSE : 2411503000410201010405535043600000000550000100000000000120090419072325601507011000000023510000D3535552010000100PERUBAHAN DAYA
200904172009051653555000000 1SUBSCRIBER NAME E5BA37AC52083904FDEF185BE297009A809AAAE3427B7F0419A9F501DE47EB6053555JL RAYA 123
022-12345678 20000000005500000020000000005500000020000000000372200100000000000120090419072305011000002001200000000000000000

ATTACHMENT B
RECONCILIATION SPECIFICATION

Transaction File by PLN-DJBB (.txt)

NO	COLUMN NAME	TYPE	LENGTH	FORMAT	DESCRIPTION	CHECKSUM ROW
1	Date & Time, Local Transaction	n	14	CCYYMMDDhhmmss	Date & Local time when the transaction takes place	CCYYMMDD000000
2	Switcher ID	an	7	zero left-padding	Switcher Identification Code	Switcher ID
3	Merchant Category Code	n	4	zero left-padding	Merchant Category Code	0000 (fixed)
4	PLN Reference Number	an	32		PLN Reference Number	Total number of transaction
5	Switcher Receipt Reference Number	an	32	space right-padding	Switcher Receipt Reference Number	00000000000000000000000000000000 (fixed)
6	Subscriber ID	n	12	space left-padding	Subscriber Identification Code	000000000000 (fixed)
7	Registration Number	n	13		Registration Number	0000000000000 (fixed)
8	Date, Registration	n	8	CCYYMMDD	Date when the registration was taken	00000000 (fixed)
9	Transaction Code	n	2	zero left-padding	Transaction Code	00 (fixed)
10	Transaction Amount	n	17	zero left-padding	Total Amount Payable to PLN last 2 digits are decimal	SUM (Transaction Amount)
11	Bank Code	an	7	zero left-padding	Bank Code (defined by BI and PLN-DJBB)	Bank Code

Example

```
DT|SWITCHERID|MERCHANT|REFNUM|SREFNUM|SUBID|REGNUM|REGD|TRAN_CODE|TRAN_AMOUNT|BANKCODE
20090419072305|10000D3|6015|E5BA37AC52083904FDEF185BE297009A|809AAAE3427B7F0419A9F501DE47EB60|535550000001|5355520100001|20090417|20|00000000055000000|0110000
20090419081107|10000D3|6015|6B29C48AEDF69A44995BED1C8479903D|55A1057BC86A34140DAD19D68D3F6175|535550000101|5355520100003|20090415|20|00000000025000000|0110000
20090419081200|10000D3|6015|1915E73B87C14124695FD196B7744289|18C8C5C7BC124CD461438C22E11A5547|535550001001|5355519100011|20090410|19|00000000020000000|0110000
20090419000000|10000D3|0000|00000000000000000000000000000003|00000000000000000000000000000000|000000000000|0000000000000|00000000|00|00000000100000000|0110000
```

Above example shows PLN-DJBB generate recon file .txt contains 3 transactions.

Transaction File by SWITCHING (.ftr)

NO	COLUMN NAME	TYPE	LENGTH	FORMAT	DESCRIPTION	CHECKSUM ROW
1	Date & Time, Local Transaction	n	14	CCYYMMDDhhmmss	Date & Local time when the transaction takes place	CCYYMMDD000000
2	Switcher ID	an	7	zero left-padding	Switcher Identification Code	Switcher ID
3	Merchant Category Code	n	4	zero left-padding	Merchant Category Code	0000 (fixed)
4	PLN Reference Number	an	32		PLN Reference Number	Total number of transaction
5	Switcher Receipt Reference Number	an	32	space right-padding	Switcher Receipt Reference Number	00000000000000000000000000000000 (fixed)
6	Subscriber ID	n	12	space left-padding	Subscriber Identification Code	000000000000 (fixed)
7	Registration Number	n	13		Registration Number	0000000000000 (fixed)
8	Date & Time, Registration	n	8	CCYYMMDD	Date when the registration was taken	00000000 (fixed)
9	Transaction Code	n	2	zero left-padding	Transaction Code	00 (fixed)
10	Transaction Amount	n	17	zero left-padding	Total Amount Payable to PLN last 2 digits are decimal	SUM (Transaction Amount)
11	Bank Code	an	7	zero left-padding	Bank Code (defined by BI and PLN-DJBB)	Bank Code

Example

```
DT|SWITCHERID|MERCHANT|REFNUM|SREFNUM|SUBID|REGNUM|REGD|TRAN_CODE|TRAN_AMOUNT|BANKCODE
20090419072305|10000D3|6015|E5BA37AC52083904FDEF185BE297009A|809AAAE3427B7F0419A9F501DE47EB60|535550000001|5355520100001|20090417|20|00000000055000000|0110000
20090419081200|10000D3|6015|1915E73B87C14124695FD196B7744289|18C8C5C7BC124CD461438C22E11A5547|535550001001|5355519100011|20090410|19|00000000020000000|0110000
20090419000000|10000D3|0000|00000000000000000000000000000002|00000000000000000000000000000000|000000000000|0000000000000|00000000|00|00000000075000000|0110000
```

Above example shows SWITCHING generate recon file .ftr contains 2 transactions.

Reconciliation File by CA (.rcn)

NO	COLUMN NAME	TYPE	LENGTH	FORMAT	DESCRIPTION	CHECKSUM ROW
1	Reconciliation Result Type	n	1		1 = Force Payment 2 = Cancel Payment	0
2	Date & Time, Local Transaction	n	14	CCYYMMDDhhmmss	Date & Local time when the transaction takes place	CCYYMMDD000000
3	Switcher ID	an	7	zero left-padding	Switcher Identification Code	Switcher ID
4	Merchant Category Code	n	4	zero left-padding	Merchant Category Code	0000 (fixed)
5	PLN Reference Number	an	32		PLN Reference Number	Total number of transaction
6	Switcher Receipt Reference Number	an	32	space right-padding	Switcher Receipt Reference Number	00000000000000000000000000000000 (fixed)
7	Subscriber ID	n	12	space left-padding	Subscriber Identification Code	000000000000 (fixed)
8	Registration Number	n	13		Registration Number	0000000000000 (fixed)
9	Date & Time, Registration	n	8	CCYYMMDD	Date when the registration was taken	00000000 (fixed)
10	Transaction Code	n	2	zero left-padding	Transaction Code	00 (fixed)
11	Transaction Amount	n	17	zero left-padding	Total Amount Payable to PLN last 2 digits are decimal	SUM (Transaction Amount)
12	Bank Code	an	7	zero left-padding	Bank Code (defined by BI and PLN-DJBB)	Bank Code

NOTES

- Fields must be matched are *PLN Reference Number, Switcher Receipt Reference Number, Subscriber ID, Registration Number, Transaction Code, Transaction Amount*.

Example

```
FLAG|DT|SWITCHERID|MERCHANT|REFNUM|SREFNUM|SUBID|REGNUM|REGD|TRAN_CODE|TRAN_AMOUNT|BANKCODE
2|20090419081107|10000D3|6015|6B29C48AEDF69A44995BED1C8479903D|55A1057BC86A34140DAD19D68D3F6175|535550000101|5355520100003|20090415|20|00000000025000000|01100
00
0|20090419000000|10000D3|0000|00000000000000000000000000000003|00000000000000000000000000000000|000000000000|0000000000000|00000000|00|0000000100000000|01100
00
```

Above example shows CA generate recon file .rcn contains intersection result of two recon files (.txt from PLN-DJBB and .ftr from SWITCHING). It is based on earlier examples of .txt dan .ftr.

Final Reconciliation File by PLN-DJBB (.fcn)

NO	COLUMN NAME	TYPE	LENGTH	FORMAT	DESCRIPTION	CHECKSUM ROW
1	Reconciliation Result Type	n	1		3 = Success for FORCE PAYMENT request 4 = Fail for for FORCE PAYMENT request 5 = Success for CANCEL PAYMENT request 6 = Fail for for CANCEL PAYMENT request	0
2	Date & Time, Local Transaction	n	14	CCYYMMDDhhmmss	Date & Local time when the transaction takes place	CCYYMMDD000000
3	Switcher ID	an	7	zero left-padding	Switcher Identification Code	Switcher ID
4	Merchant Category Code	n	4	zero left-padding	Merchant Category Code	0000 (fixed)
5	PLN Reference Number	an	32		PLN Reference Number	Total number of transaction
6	Switcher Receipt Reference Number	an	32	space right-padding	Switcher Receipt Reference Number	00000000000000000000000000000000 (fixed)
7	Subscriber ID	n	12	space left-padding	Subscriber Identification Code	000000000000 (fixed)
8	Registration Number	n	13		Registration Number	0000000000000 (fixed)
9	Date & Time, Registration	n	8	CCYYMMDD	Date when the registration was taken	00000000 (fixed)
10	Transaction Code	n	2	zero left-padding	Transaction Code	00 (fixed)
11	Transaction Amount	n	17	zero left-padding	Total Amount Payable to PLN last 2 digits are decimal	SUM (Transaction Amount)
12	Bank Code	an	7	zero left-padding	Bank Code (defined by BI and PLN-DJBB)	Bank Code

Example

```
FLAG|DT|SWITCHERID|MERCHANT|REFNUM|SREFNUM|SUBID|REGNUM|REGD|TRAN_CODE|TRAN_AMOUNT|BANKCODE
5|20090419081107|10000D3|6015|6B29C48AEDF69A44995BED1C8479903D|55A1057BC86A34140DAD19D68D3F6175|535550000101|5355520100003|20090415|20|00000000025000000|01100
00
0|20090419000000|10000D3|0000|00000000000000000000000000000003|00000000000000000000000000000000|000000000000|0000000000000|00000000|00|00000000100000000|01100
00
```

Above example shows PLN-DJBB generate recon file .fcn contains processing result (APPROVE or REJECT) to each rows of recon file .rcn sent by CA. PLN-DJBB will check row per row and do manual checking to transaction log which must be provided by SWITCHING accompanying recon file .rcn if there is minimal 1 suspect transaction in .rcn.

ATTACHMENT C
RECONCILIATION CONTROL FILE SPECIFICATION

Specification

All reconciliation control files have same specification as following:

NO	COLUMN NAME	TYPE	LENGTH	FORMAT	DESCRIPTION
1	Total Number of Transaction	n	32	zero left-padding	Total number of transaction (CHECKSUM VALUE OF FIELD PLN REFERENCE NUMBER)
2	Total of Transaction Amount	n	17	zero left-padding	Total Amount Payable to PLN (CHECKSUM VALUE OF FIELD TRANSACTION AMOUNT)

Example

Example of reconciliation control file content:

```
00000000000000000000000000000003|00000000001000000
```

This content means there is 3 transactions with total amount Rp. 1.000.000,00.

ATTACHMENT D
LOG FILE SPECIFICATION

Description

Suspect Transaction Log file:

- Must be provided if there is minimal one suspect transaction in reconciliation file .rcn
- Contains logged message streams were sent to and received from GATEWAY by SWITCHING
- Has filename format **AAAAAAA-53504-CCYYMMDD-BBBBBBB.log**

HINT: Primary conditions that a suspect (cancel) transaction can be approved by PLN-DJBB are suspect (cancel) transactions occurs when broken network link and execution of reversal procedures. Suspect (force) transaction should not be occurred in major conditions.

Specification

NO	COLUMN NAME	TYPE	LENGTH	FORMAT	DESCRIPTION
1	Transaction Date-Time	n	14	space right-padding	Transaction Date-Time
2	PLN Reference Number	an	32		PLN Reference Number
3	Registration Number	n	13		Registration Number
4	Subscriber ID	n	12	space left-padding	Subscriber ID
5	Transaction Amount	n	17	zero left-padding	Total Amount Payable to PLN last 2 digits are decimal
6	Message Stream	ans			Logged Message Stream

NOTE: The content must be ordered by Registration Number in ascending, then Transaction Date-Time in ascending. Each field is delimited with pipe (|) character.

Example

```
20090419081107|6B29C48AEDF69A44995BED1C8479903D|5355520100001|535550000001|00000000020000000|INQUIRY_REQUEST_STREAM
20090419081107|6B29C48AEDF69A44995BED1C8479903D|5355520100001|530000000001|00000000020000000|INQUIRY_RESPONSE_STREAM
20090419081110|6B29C48AEDF69A44995BED1C8479903D|5355520100001|530000000001|00000000020000000|PAYMENT_REQUEST_STREAM
20090419081130|6B29C48AEDF69A44995BED1C8479903D|5355520100001|530000000001|00000000020000000|REVERSAL_REQUEST_STREAM
20090419081150|6B29C48AEDF69A44995BED1C8479903D|5355520100001|530000000001|00000000020000000|REVERSAL_REPEAT_REQUEST_STREAM
20090419081210|6B29C48AEDF69A44995BED1C8479903D|5355520100001|530000000001|00000000020000000|REVERSAL_REPEAT_REQUEST_STREAM
```

NOTE: INQUIRY_REQUEST_STREAM and others in same field represents the real message stream. Current use is for practical writing reason only.

Above example shows that transaction for Registration Number 5355520100001 with amount 200.000 is failed and the SWITCHING sends reversal and two reversal-repeat requests without response from GATEWAY (this condition probably because of broken network link). If there is a suspect (cancel) transaction (in file .rcn) for that Subscriber ID with above transaction logs, the suspect (cancel) transaction will be processed without further verification. Otherwise, manual verification must be taken between PLN-DJBB and SWITCHING.