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# Bank of Ayudhya Interface Specification

COOP.

**Version 2.1** 

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#### **Revision History**

Date	Version	Description	Author
09 September 2010	1.0	Drafted Version	Thanussak
19 October 2010	1.1	1. Update Message Flow.	Thanussak
		2. Add message flow.	
		3. Update overall picture diagram.	
		4. Security solution	
14 December 2010	2.0	1. Add function features	Thanussak
		2. Change message specification	
		3. Update diagram	
15 December 2010	2.1	Add spec function Account Name Inquiry	Supakorn
17 December 2010	2.1	Add function Coop loan payment	Thanussak

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# 1. Sytem Environment Information

#### **UAT Environment**

BAY Web Server (DREPMWEB)	
Public IP Address	To be defined later

Coop Server		
Public IP Address	Please provide	
URL	Please provide	
<b>Commnication Protocol</b>	otocol HTTPS	
Message Protocol	Message Format (Appendix A.)	

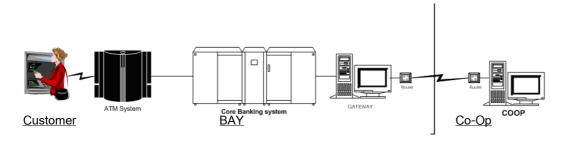
#### **Production Environment**

BAY Web Server (EPMWEB)		
Public IP Address	To be defined later	

Coop Server		
Public IP Address	Please provide	
URL	Please provide	
<b>Commnication Protocol</b>	HTTPS	
Message Protocol	Message Format (Appendix A.)	

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# 2. ภาพรวมการเชื่อมต่อ



อ้างอิงจากภาพรวมการเชื่อมต่อแสดงระหว่างช่องทางของธนาคารกรุงศรีฯ เริ่มจากลูกค้ามาที่ช่องทางของธนาคารเพื่อ ทำธุรกรรมที่เกี่ยวข้องกับสหกรณ์ ได้แก่ Balance Inquiry, Fund transfer, Money withdraw เมื่อทำรายการแล้วธนาคารฯ จะ ส่งไปยังสหกรณ์ เพื่อทำแจ้งสถานะของรายการ

การเชื่อมต่อระหว่างธนาคารฯ จะใช้ Protocol HTTPS (Pair-Value HTTPS Post) โดยมี Physical Line ที่เป็น Virtual Private Network โดยจะใช้ Lease Line หรือ MPLS ก็ได้

## 3. ฟังก์ชั่น

#### 3.1 Balance Inquiry

เป็น user function เพื่อแสดง Balance ของบัญชีของลูกค้า ได้แก่

- บัญชื่ออมทรัพย์สหกรณ์
- บัญชีเงินกู้สหกรณ์
- บัญชีออมทรัพย์ธนาคารกรุงศรีฯ
- บัญชีกระแสรายวันธนาคารกรุงศรีฯ

#### 3.2 Fund Transfer

เป็นรายการโอนเงินจากบัญชีของสหกรณ์ เข้าบัญชีของธนาคารฯ หรือ โอนจากบัญชีของธนาคารฯ เข้าบัญชีสหกรณ์ (ซำระเงินกู้สหกรณ์) สามารถทำได้ โดยการโอนเงินทุกครั้ง ธนาคารจะทำการ Inquiry Account Name เพื่อ นำมาแสดงที่หน้าจอตาม Channel ที่ลูกค้าทำรายการ หลังจากนั้นจะทำการโอนเงิน และส่งผลลัพธ์ไปแจ้งยัง สหกรณ์ทุกครั้ง

#### 3.3 Money withdraw

เป็นรายการถอนเงิน โดยสมาชิกสหกรณ์สามารถเลือกบัญชีที่จะทำการถอนเงินได้ ว่าจะเลือกบัญชีของสหกรณ์หรือ ว่าบัญชีของธนาคารกรุงศ์รีฯ ผลลัพธ์จากการถอนเงินจะส่งผลลัพธ์แจ้งกลับไปยังสหกรณ์

#### 3.4 Account Name Inquiry

เป็นรายการประเภทการค้นหาชื่อของสมาชิกสหกรณ์โดยธนาคารฯ จะส่งรายการไปร้องขอ เพื่อนำชื่อของสมาชิก สหกรณ์มาแสดงที่หน้าจอของช่องทางของธนาคารที่ลูกค้าทำรายการ

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### 4. Security

- 4.1 Communication line has been encrypted by using router feature (IP Sec).
- 4.2 Firewall allows Host to Host connectivity by fixing the server IP address on both BAY and Coop.
- 4.3 Transaction transmits by using HTTPS protocol.

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# 5. Appendix A. Message Format

## 5.1 Balance Inquiry

Field	Field Name	Туре	Length	Decimal	Position		Remark
No.					From	To	
1.	Transaction Message code	•			•	•	
1.1	Transaction Message Code	CHAR	4		1	4	0700 = Balance inquiry request 0710 = Balance inquiry response
2.	Service Type		l		I.		
2.1	Service Type	CHAR	4		5	8	Service type
							'EATM' = ATMs
							ENET or EKOL = Internet banking
							EIVR or ETEL = Phone baning
3.	Processing Code						
3.1	Transaction Code	NUM	2	0	9	10	Transaction Code 30 = Balance inquiry
3.2	From Account Code	NUM	2	0	11	12	From A/C code 01 = Checking Account 11 = Savings Account 14 = COOP Deposit Account 34 = COOP Loan Account
3.3	To Account Code	NUM	2	0	13	14	To A/C Code 00 = Universal (not specify) 01 = Checking Account 11 = Savings Account 14 = COOP Deposit Account 34 = COOP Loan Account
4.	Transaction Date/Time	•					
4.1	Transaction Date	NUM	8	0	15	22	CCYYMMDD
4.2	Transaction Time	NUM	6	0	23	28	HHMMSS
5.	Primary Account Number						
5.1	PAN Length	NUM	2	0	29	30	Primary account number Length
5.2	PAN Number	CHAR	19		31	49	Primary account number (Card Number)
6.	Security Data						
6.1	PIN Block	CHAR	32		50	81	Filled with Space
7.	Acquirer Information (BAY)	•	•			•	
7.1	Acquirer Terminal Number	CHAR	16		82	97	Merchant Number
7.2	Acquirer Terminal Location	CHAR	30		98	127	Merchant Name
7.3	Acquirer Terminal Owner	CHAR	3		128	130	Acquirer Terminal Owner "BAY"
7.4	Acquirer Terminal City	CHAR	3		131	133	City "BKK", "UPD"
7.5	Terminal Sequence No	NUM	8		134	141	Transaction sequence number (or Order number)
7.6	Acquirer Trace Number	NUM	6	0	142	147	Acquirer Trace Number

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Field	Field Name	Type	Length	Decimal	Posi	tion	Remark
No.					From	То	
8.	Transaction Reference						
8.1	Acquirer Reference (BAY)	CHAR					ข้อมูลสมาชิกสหกรณ์ฯ (ธนาคารส่ง)
	COOP FIID	CHAR	10		148	157	
	COOP Customer ID	NUM	10		158	167	
	COOP Customer A/C	NUM	10		168	177	
	COOP Bank A/C	NUM	10		178	187	
	COOP Customer Bank A/C	NUM	10		188	197	
8.2	Issuer Reference (COOP)	CHAR	50		198	247	COOP Customer Name
9.	Transaction Amount						
9.1	Amount1	NUM	15	2	248	262	Zero
9.2	Amount2	NUM	15	2	263	277	Ledger Balance
9.3	Amount3	NUM	15	2	278	292	Available Balance
10.	Response Information						
10.1	Response Code	NUM	2	0	293	294	Response Code 00-99
10.2	Reversal Code	NUM	2	0	295	296	Reversal Code
10.3	Approve Code	NUM	6	0	297	302	Approve Code 000000-999999
10.4	Response Message	CHAR	18		303	320	Response Message

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#### 5.2 Fund Transfer / Coop Loan Payment

Field	Field Name	Type	Length	Decimal	Posi	tion	Remark
No.					From	To	
1.	Transaction Message code						
1.1	Transaction Message Code	CHAR	4		1	4	0200 = Fund Transfer request 0210 = Fund Transfer response
2.	Service Type	•			•	•	
2.1	Service Type	CHAR	4		5	8	'EATM' = ATMs
							ENET or EKOL = Internet banking
							'EIVR' or 'ETEL' = Phone baning
3.	Processing Code						
3.1	Transaction Code	NUM	2	0	9	10	42 - Fund transfer from COOP A/C to Bank A/C 43 - Fund transfer from Bank A/C to COOP A/C (Coop loan payment)
3.2	From Account Code	NUM	2	0	11	12	01 = Checking Account 11 = Savings Account 14 = COOP Deposit Account 34 = COOP Loan Account
3.3	To Account Code	NUM	2	0	13	14	To A/C Code 00 = Universal (not specify) 01 = Checking Account 11 = Savings Account 14 = COOP Deposit Account 34 = COOP Loan Account
4.	Transaction Date/Time						
4.1	Transaction Date	NUM	8	0	15	22	CCYYMMDD
4.2	Transaction Time	NUM	6	0	23	28	HHMMSS
5.	Primary Account Number						
5.1	PAN Length	NUM	2	0	29	30	Primary account number Length
5.2	PAN Number	CHAR	19		31	49	Primary account number (Card Number)
6.	Security Data						
6.1	PIN Block	CHAR	32		50	81	PIN Block
7.	Acquirer Information (BAY)						
7.1	Acquirer Terminal Number	CHAR	16		82	97	Merchant Number
7.2	Acquirer Terminal Location	CHAR	30		98	127	Merchant Name
7.3	Acquirer Terminal Owner	CHAR	3		128	130	Acquirer Terminal Owner "BAY"
7.4	Acquirer Terminal City	CHAR	3		131	133	City "BKK", "UPD"
7.5	Terminal Sequence No	NUM	8		134	141	Transaction sequence number (or Order number)
7.6	Acquirer Trace Number	NUM	6	0	142	147	Acquirer Trace Number
8.	Transaction Reference						
8.1	Acquirer Reference (BAY)	CHAR					ข้อมูลสมาชิกสหกรณ์ฯ (ธนาคารส่ง)
	COOP FIID	CHAR	10		148	157	

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Field	Field Name	Type	Length	Decimal	Posit	tion	Remark
No.					From	To	
	COOP Customer ID	NUM	10		158	167	
	COOP Customer A/C	NUM	10		168	177	
	COOP Bank A/C	NUM	10		178	187	
	COOP Customer Bank A/C	NUM	10		188	197	
8.2	Issuer Reference (Coop)	CHAR	50		198	247	COOP Customer Name
9.	Transaction Amount	-					
9.1	Amount1	NUM	15	2	248	262	Fund Transfer Amount
9.2	Amount2	NUM	15	2	263	277	Fee
9.3	Amount3	NUM	15	2	278	292	Zero
10.	Response Information						
10.1	Response Code	NUM	2	0	293	294	Response Code 00-99
10.2	Reversal Code	NUM	2	0	295	296	Reversal Code
10.3	Approve Code	NUM	6	0	297	302	Approve Code 000000-999999
10.4	Response Message	CHAR	18		303	320	Response Message

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#### 5.3 Money withdraw

Field	Field Name	Type	Length	Decimal	Position		Remark
No.					From	To	
1.	Transaction Message code	•	•			•	
1.1	Transaction Message Code	CHAR	4		1	4	0200 = Money Withdraw request 0210 = Money Withdraw response
2.	Service Type	•	•		•	•	
2.1	Service Type	CHAR	4		5	8	'EATM' = ATMs
							ENET or EKOL = Internet banking
							EIVR or ETEL = Phone baning
3.	Processing Code						
3.1	Transaction Code	NUM	2	0	9	10	10 - Cash withdraw
3.2	From Account Code	NUM	2	0	11	12	01 = Checking Account 11 = Savings Account
							14 = COOP Deposit Account 34 = COOP Loan Account
3.3	To Account Code	NUM	2	0	13	14	To A/C Code 00 = Universal (not specify)
							01 = Checking Account 11 = Savings Account
							14 = COOP Deposit Account 34 = COOP Loan Account
4.	Transaction Date/Time						
4.1	Transaction Date	NUM	8	0	15	22	CCYYMMDD
4.2	Transaction Time	NUM	6	0	23	28	HHMMSS
5.	Primary Account Number						
5.1	PAN Length	NUM	2	0	29	30	Primary account number Length
5.2	PAN Number	CHAR	19		31	49	Primary account number (Card Number)
6.	Security Data						
6.1	PIN Block	CHAR	32		50	81	Space
7.	Acquirer Information (BAY)						
7.1	Acquirer Terminal Number	CHAR	16		82	97	Merchant Number
7.2	Acquirer Terminal Location	CHAR	30		98	127	Merchant Name
7.3	Acquirer Terminal Owner	CHAR	3		128	130	Acquirer Terminal Owner "BAY"
7.4	Acquirer Terminal City	CHAR	3		131	133	City "BKK", "UPD"
7.5	Terminal Sequence No	NUM	8		134	141	Transaction sequence number (or Order number)
7.6	Acquirer Trace Number	NUM	6	0	142	147	Acquirer Trace Number
8.	Transaction Reference						
8.1	Acquirer Reference (BAY)	CHAR					ข้อมูลสมาชิกสหกรณ์ฯ (ธนาคารส่ง)
	COOP FIID	CHAR	10		148	157	

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Field	Field Name	Туре	Length	Decimal	Position		Remark
No.					From	To	
	COOP Customer ID	NUM	10		158	167	
	COOP Customer A/C	NUM	10		168	177	
	COOP Bank A/C	NUM	10		178	187	
	COOP Customer Bank A/C	NUM	10		188	197	
8.2	Issuer Reference (Coop)	CHAR	50		198	247	COOP Customer Name
9.	Transaction Amount	-					
9.1	Amount1	NUM	15	2	248	262	Money Withdraw Amount
9.2	Amount2	NUM	15	2	263	277	Fee
9.3	Amount3	NUM	15	2	278	292	Zero
10.	Response Information						
10.1	Response Code	NUM	2	0	293	294	Response Code 00-99
10.2	Reversal Code	NUM	2	0	295	296	Reversal Code
10.3	Approve Code	NUM	6	0	297	302	Approve Code 000000-999999
10.4	Response Message	CHAR	18		303	320	Response Message

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#### 5.4 Account name inquiry

Field	Field Name	Type	Length	Decimal	Posi	tion	Remark
No.					From	To	
1.	Transaction Message code						
1.1	Transaction Message Code	CHAR	4		1	4	0100 = Acct name inquiry request 0110 = Acct name inquiry response
2.	Service Type						
2.1	Service Type	CHAR	4		5	8	'EATM' = ATMs
							ENET or EKOL = Internet banking
							'EIVR' or 'ETEL' = Phone baning
<i>3</i> .	Processing Code	_	1		1	1	
3.1	Transaction Code	NUM	2	0	9	10	31 - To AC: name Query
3.2	From Account Code	NUM	2	0	11	12	01 = Checking Account 11 = Savings Account 14 = COOP Deposit Account 34 = COOP Loan Account
3.3	To Account Code	NUM	2	0	13	14	To A/C Code  00 = Universal (not specify)  01 = Checking Account  11 = Savings Account  14 = COOP Deposit Account  34 = COOP Loan Account
4.	Transaction Date/Time						
4.1	Transaction Date	NUM	8	0	15	22	CCYYMMDD
4.2	Transaction Time	NUM	6	0	23	28	HHMMSS
5.	Primary Account Number						
5.1	PAN Length	NUM	2	0	29	30	Primary account number Length
5.2	PAN Number	CHAR	19		31	49	Primary account number (Card Number)
6.	Security Data						
6.1	PIN Block	CHAR	32		50	81	Space
<b>7.</b>	Acquirer Information (BAY)						
7.1	Acquirer Terminal Number	CHAR	16		82	97	Merchant Number
7.2	Acquirer Terminal Location	CHAR	30		98	127	Merchant Name
7.3	Acquirer Terminal Owner	CHAR	3		128	130	Acquirer Terminal Owner "BAY"
7.4	Acquirer Terminal City	CHAR	3		131	133	City "BKK", "UPD"
7.5	Terminal Sequence No	NUM	8		134	141	Transaction sequence number (or Order number)
7.6	Acquirer Trace Number	NUM	6	0	142	147	Acquirer Trace Number
8.	Transaction Reference						
8.1	Acquirer Reference (BAY)	CHAR					ข้อมูลสมาชิกสหกรณ์ฯ (ธนาคารส่ง)
	COOP FIID	CHAR	10		148	157	
	COOP Customer ID	NUM	10		158	167	

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Field	Field Name	Type	Length	Decimal	Position		Remark
No.					From	To	
	COOP Customer A/C	NUM	10		168	177	
	COOP Bank A/C	NUM	10		178	187	
	COOP Customer Bank A/C	NUM	10		188	197	
8.2	Issuer Reference (Coop)	CHAR	50		198	247	COOP Customer Name
9.	Transaction Amount						
9.1	Amount1	NUM	15	2	248	262	Request amount
9.2	Amount2	NUM	15	2	263	277	Fee
9.3	Amount3	NUM	15	2	278	292	Zero
10.	Response Information						
10.1	Response Code	NUM	2	0	293	294	Response Code 00-99
10.2	Reversal Code	NUM	2	0	295	296	Reversal Code
10.3	Approve Code	NUM	6	0	297	302	Approve Code 000000-999999
10.4	Response Message	CHAR	18		303	320	Response Message

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#### 5.5 Reversal

Field	Field Name	Type	Length	Decimal	Position		Remark
No.					From	To	
1.	Transaction Message code						
1.1	Transaction Message Code	CHAR	4		1	4	0400 = Fund Transfer/ Cash Withdraw Reversal Request 0410 = Fund Transfer/ Cash Withdraw Reversal Response
2.	Service Type						
2.1	Service Type	CHAR	4		5	8	'EATM' = ATMs
							ENET or EKOL' = Internet banking
							'EIVR' or 'ETEL' = Phone baning
3.	Processing Code						
3.1	Transaction Code	NUM	2	0	9	10	10 - Cash withdraw 42 - Fund transfer from COOP A/C to Bank A/C 43 - Fund transfer from Bank A/C to COOP A/C
3.2	From Account Code	NUM	2	0	11	12	01 = Checking Account 11 = Savings Account 14 = COOP Deposit Account 34 = COOP Loan Account
3.3	To Account Code	NUM	2	0	13	14	To A/C Code 00 = Universal (not specify) 01 = Checking Account 11 = Savings Account 14 = COOP Deposit Account 34 = COOP Loan Account
4.	Transaction Date/Time						
4.1	Transaction Date	NUM	8	0	15	22	CCYYMMDD
4.2	Transaction Time	NUM	6	0	23	28	HHMMSS
5.	Primary Account Number						
5.1	PAN Length	NUM	2	0	29	30	Primary account number Length
5.2	PAN Number	CHAR	19		31	49	Primary account number (Card Number)
6.	Security Data	ı					
6.1	PIN Block	CHAR	32		50	81	Space
7.	Acquirer Information (BAY)	l		I			
7.1	Acquirer Terminal Number	CHAR	16		82	97	Merchant Number
7.2	Acquirer Terminal Location	CHAR	30		98	127	Merchant Name
7.3	Acquirer Terminal Owner	CHAR	3		128	130	Acquirer Terminal Owner "BAY"
7.4	Acquirer Terminal City	CHAR	3		131	133	City "BKK", "UPD"
7.5	Terminal Sequence No	NUM	8		134	141	Transaction sequence number (or Order number)
7.6	Acquirer Trace Number	NUM	6	0	142	147	Acquirer Trace Number

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Field	Field Name	Туре	Length	Decimal	Posit	tion	Remark
No.					From	To	
8.	Transaction Reference						
8.1	Acquirer Reference (BAY)	CHAR					ข้อมูลสมาชิกสหกรณ์ฯ (ธนาคารส่ง)
	COOP FIID	CHAR	10		148	157	
	COOP Customer ID	NUM	10		158	167	
	COOP Customer A/C	NUM	10		168	177	
	COOP Bank A/C	NUM	10		178	187	
	COOP Customer Bank A/C	NUM	10		188	197	
8.2	Issuer Reference (Coop)	CHAR	50		198	247	COOP Customer Name
9.	Transaction Amount						
9.1	Amount1	NUM	15	2	248	262	Request Amount
9.2	Amount2	NUM	15	2	263	277	Fee
9.3	Amount3	NUM	15	2	278	292	Zero
10.	Response Information						
10.1	Response Code	NUM	2	0	293	294	Response Code 00-99
10.2	Reversal Code	NUM	2	0	295	296	Reversal Code
10.3	Approve Code	NUM	6	0	297	302	Approve Code 000000-999999
10.4	Response Message	CHAR	18		303	320	Response Message

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## 6. Appendix B. Message Response Code

Response Code	Response Description
00	Approve
50	Ineligible transaction
51	Transaction not authorized
52	Uses limit exceeded
53	Amount exceeded limit
54	Invalid Amount
55	Invalid Request
70	Ineligible account
71	Account is closed
72	Account not assign, Contact bank
73	Account not authorize, Contact bank
74	Account is held, Contact bank
75	Inactive account, Contact bank
76	N/A
77	Statement Information not available
78	Insufficient Fund
79	Invalid Account Type or Contact number
80	System error
81	Routing lookup problem, Unable to process
82	Database problem
83	Invalid Message Authentication Code
84	Message edit error (Invalid Message)
85	N/A
86	N/A
87	Destination not available
88	External Decline
89	System not available

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## 7. Appendix C. Reversal Response Code

Response Code	Response Description
01	Communication timeout
02	Command Reject
03	Destination not available
05	Suspect transaction or customer timeout
06	Transaction timeout at terminal
08	Customer cancle transaction at terminal
10	Hardware error
12	Invalid original amount
14	Suspicious reversal override
15	Dispenser error
16	Duplicate transaction
17	Reconcile transaction error
18	Invalid admin transaction
19	Unknown hardware error (Default)
21	Invalid message authentication code
22	MAC key synchronization error
23	Invalid response message