
RTGS-XG Project Phase1 Implementation Guide



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Bank of Japan

Payment and Settlement Systems Department

*This is a provisional translation of the original presentation material in Japanese (for the reference purpose only).

- 1. Overview of RTGS-XG Project**
- 2. Opening New Account**
- 3. Settlement Process Using New Account**
- 4. Overview of Phase 2**

1. Overview of RTGS-XG Project

1-1. Project milestones

Nov 2005 Consultation paper

Feb 2006 Decision made to implement the project

Dec 2006 Functional specification for Phase1

Jan 2007 Specification on the computer-to-computer connection and file import/export functionality
(sent only to current/prospective participants)

Mar 2007 Functional specification for Phase 1 (2nd version)

Jul 2007 Overview of Interoperability Test

Overview of Running Test (RT)

* The above documents are available only in Japanese.

1. Overview of RTGS-XG Project

1-2. Phased implementation

Phase 1 planned on Oct 14 '08 at the earliest

- Introduce liquidity-saving features into BOJ-NET Funds Transfer System (BOJ-NET FTS)
- Incorporate FXYCS* payments into BOJ-NET FTS
(FXYCS will fully convert to RTGS mode, abolishing the current DNS mode)

Phase 2 planned around 2011

(along with the launch of the sixth-generation Zengin System)

- Incorporate large-value Zengin payments into BOJ-NET FTS

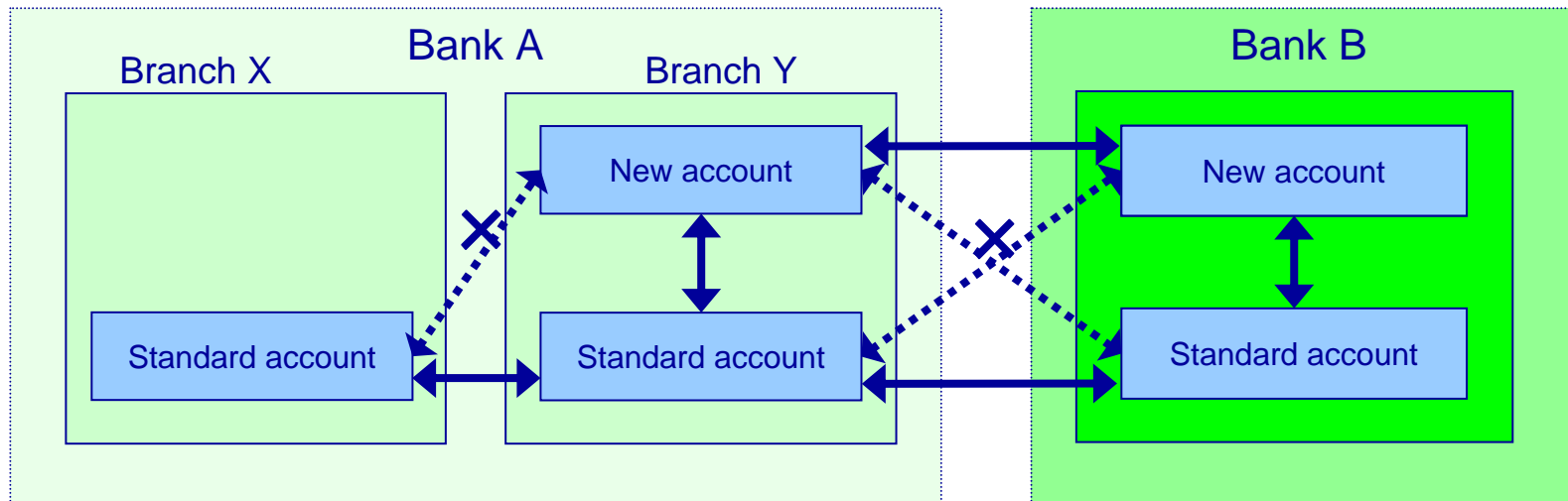
The Zengin System will develop an interface for connection to BOJ-NET FTS.

* Foreign Exchange Yen Clearing system

1. Overview of RTGS-XG Project

1-3. New account 当座勘定(同時決済口)

- Liquidity saving features (queuing and offsetting functionality) are provided at new accounts under RTGS-XG.
- Each institution can hold only one new account.
- Liquidity needed for settlements is transferred from standard accounts. Overdrafts are not available on new accounts.
- New accounts are available from 9:00 to 16:30. At the closing time, the outstanding balances on new accounts will be transferred to standard accounts.
- Payment instructions for new accounts must be submitted online.



Bank A cannot send payments from its new account to Bank B's standard account.

1. Overview of RTGS-XG Project

1-4. Type of payments settled through new accounts

- The following payment instructions will be settled through new accounts:

BOJ-NET	Present		RTGS-XG	
振替依頼 (Interbank transfer)	22101*		振替依頼(同時決済口) (Interbank transfer through new accounts)	33101
振替依頼・付記電文付(為替) (Third-party transfer)	22201		振替依頼・付記電文付(同時決済口)(為替) (Third-party transfer through new accounts)	33201
振替依頼・付記電文付(非為替) (Third-party transfer)	22202		振替依頼・付記電文付(同時決済口)(非為替) (Third-party transfer through new accounts)	33202

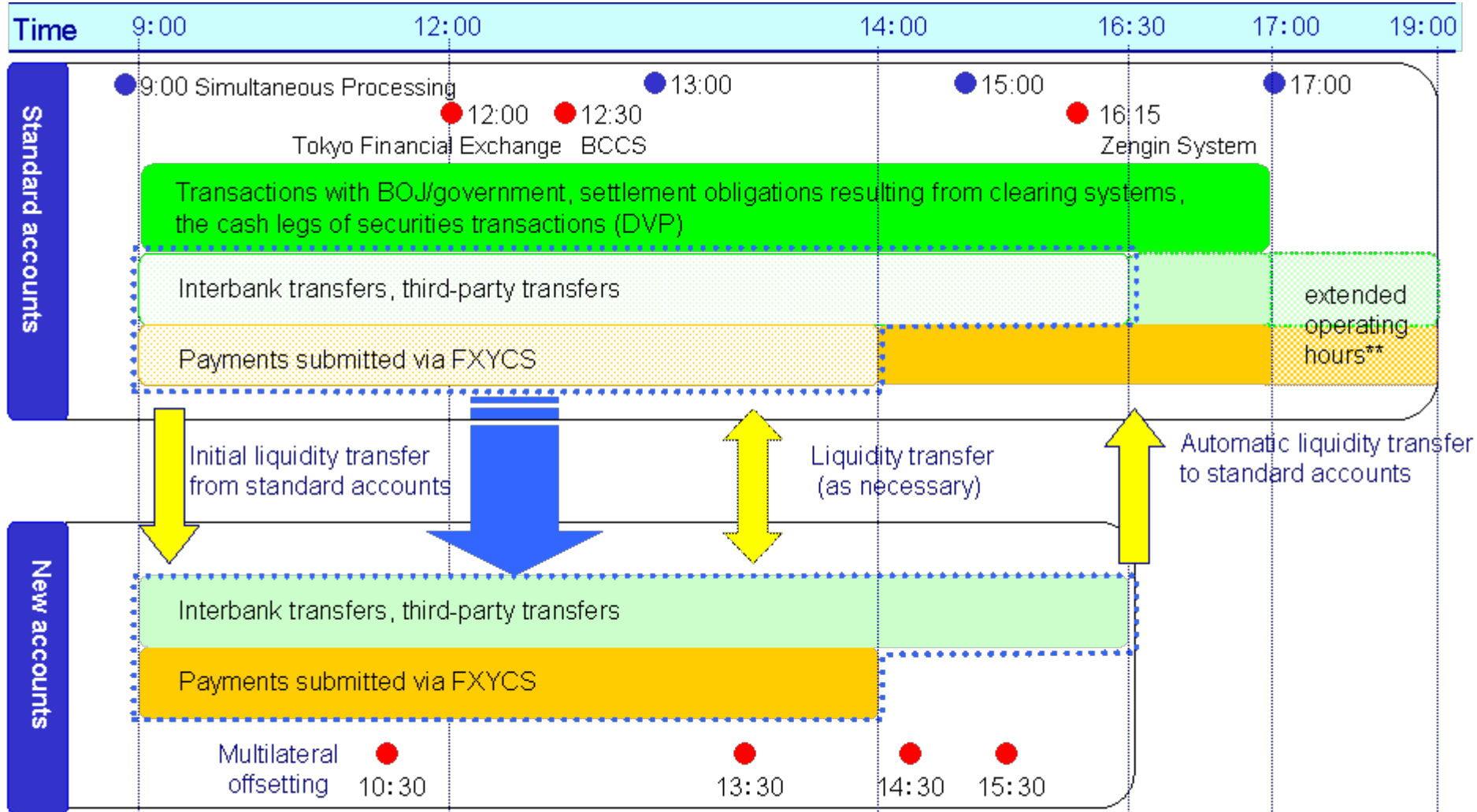
* Settlement obligations resulting from clearing systems and securities settlement systems will continue to be settled through standard accounts by 振替依頼.

FXYCS	Present		RTGS-XG	
CUSTOMER TRANSFER	25101		CUSTOMER TRANSFER (QUEUE OFFSET)	25301
BANK TRANSFER	25102*		BANK TRANSFER (QUEUE OFFSET)	25302

* Payments related to CLS will continue to be settled using BANK TRANSFER<25102>.

1. Overview of RTGS-XG Project

1-5. Operational timeline of BOJ-NET FTS



2. Opening New Account

2-1. Institutions expected to open a new account

- The following institutions are expected to open and use a new account, regardless of their value and volume of transactions:
 - (a) Institutions settling money market transactions in BOJ-NET FTS
 - Money market transactions include call loan transactions, NCD transactions, the cash legs of securities transactions (non-DVP), margin call transactions, the cash legs of pair-off nettings transactions, and OTC option premiums transactions.
 - (b) "Affiliated banks" (direct participants) in FXYCS
 - (c) Participants* in the Zengin System
 - Participants in the Zengin System are encouraged to start using a new account under Phase 1 in preparation for Phase 2.

*Banks settling their net positions in BOJ-NET FTS.

2. Opening New Account

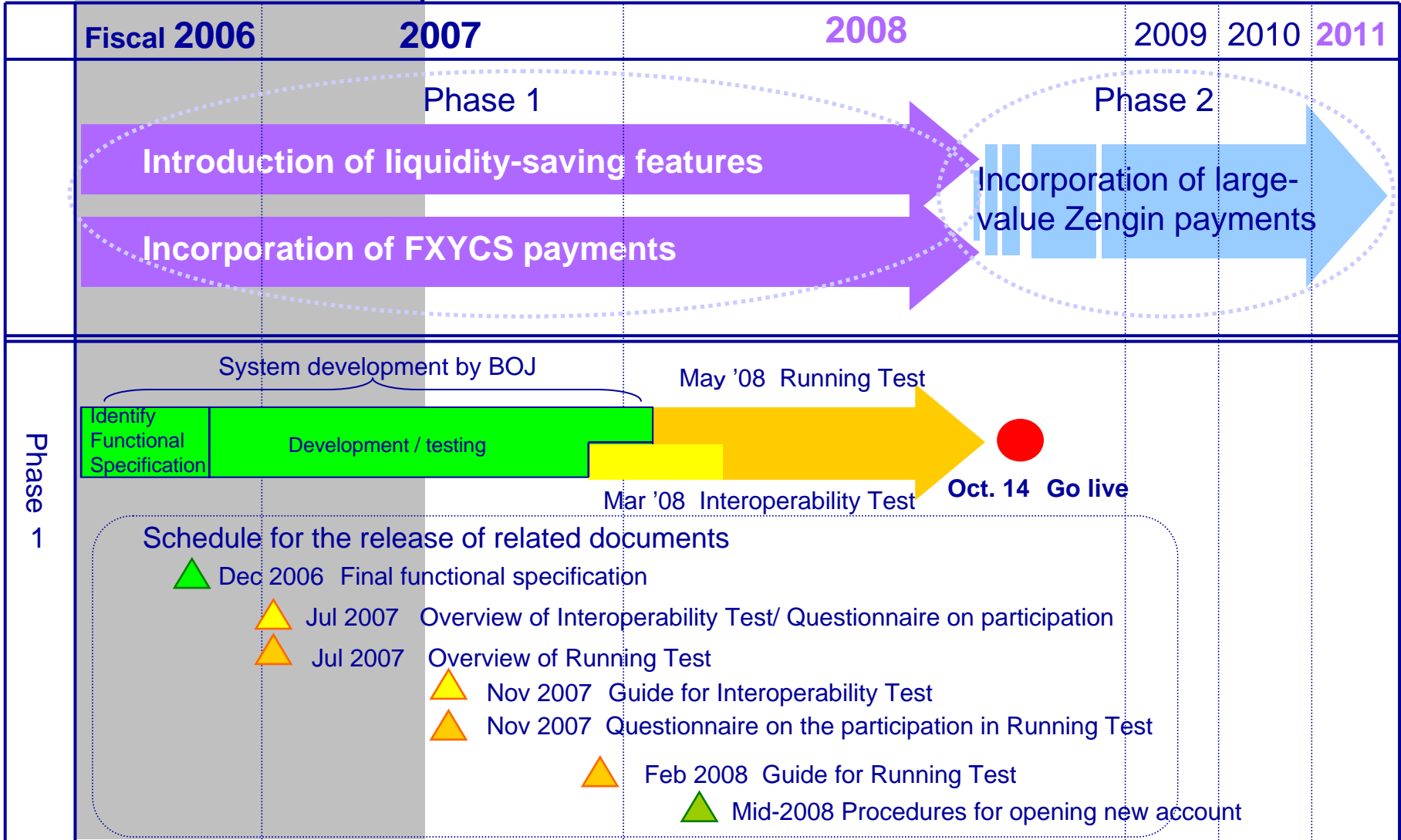
2-2. Conditions and procedures

- **Must be an online participant in BOJ-NET FTS.**
- **Choose one branch/office that will open a new account*.**
- **Submit necessary documents (e.g. application forms, account agreements) to BOJ.**
 - A detailed guide on the procedures for opening a new account will be available in mid-2008.
 - A transaction fee will be charged for each payment instruction sent, as in the current system. There will be no special fee for holding a new account.

* Participants can change their branch/office after the start of Phase 1.

2. Opening New Account

2-3. Schedule



2. Opening New Account

2-4-1. User tests

- Participants with computer-to-computer connection and those using file import/export functionality of the PC-based BOJ-NET terminal need to participate in Interoperability/Volume Stress Tests.
- Participants with computer-to-computer connection (including non-new account users) need to participate in Regression Test.
- Participants submitting payment instructions manually through PC-based BOJ-NET terminal are not subject to these tests.

Planned Testing Schedule

Test	Scheduled Date
Interoperability Test	Sunday, Mar 9, 2008
Interoperability Test	Sunday, Apr 6, 2008
Volume Stress Test	Sunday, Apr 27, 2008
Regression Test	Sunday, May 25, 2008

- Interoperability Test aims at verifying the ability of users to send correctly formatted payment instructions to the system and the interoperability between the system and users' internal systems.
- Volume Stress Test aims at verifying systems' processing capacity under heavy load conditions.

2. Opening New Account

2-4-2. User tests

- All participants planning to open a new account need to participate in Running Test.

Planned Testing Schedule

Test		Scheduled Date
Step I	Test 1	Sunday, May 25, 2008
Step II	Test 1	Sunday, Jun 15, 2008
	Test 2	Sunday, Aug 3, 2008
	Test 3	Sunday, Sep 7, 2008
	Reserved for contingency	Sunday, Sep 21, 2008

- Test 1 in Step I aims at ensuring the readiness of users to make use of new accounts from a procedural and an operational point-of-view. Tests 1-3 in Step II mainly examine the management of payment flows (i.e. new market guidelines) based on certain scenarios.
- A questionnaire regarding participation in tests will be sent to participants around November 2007.

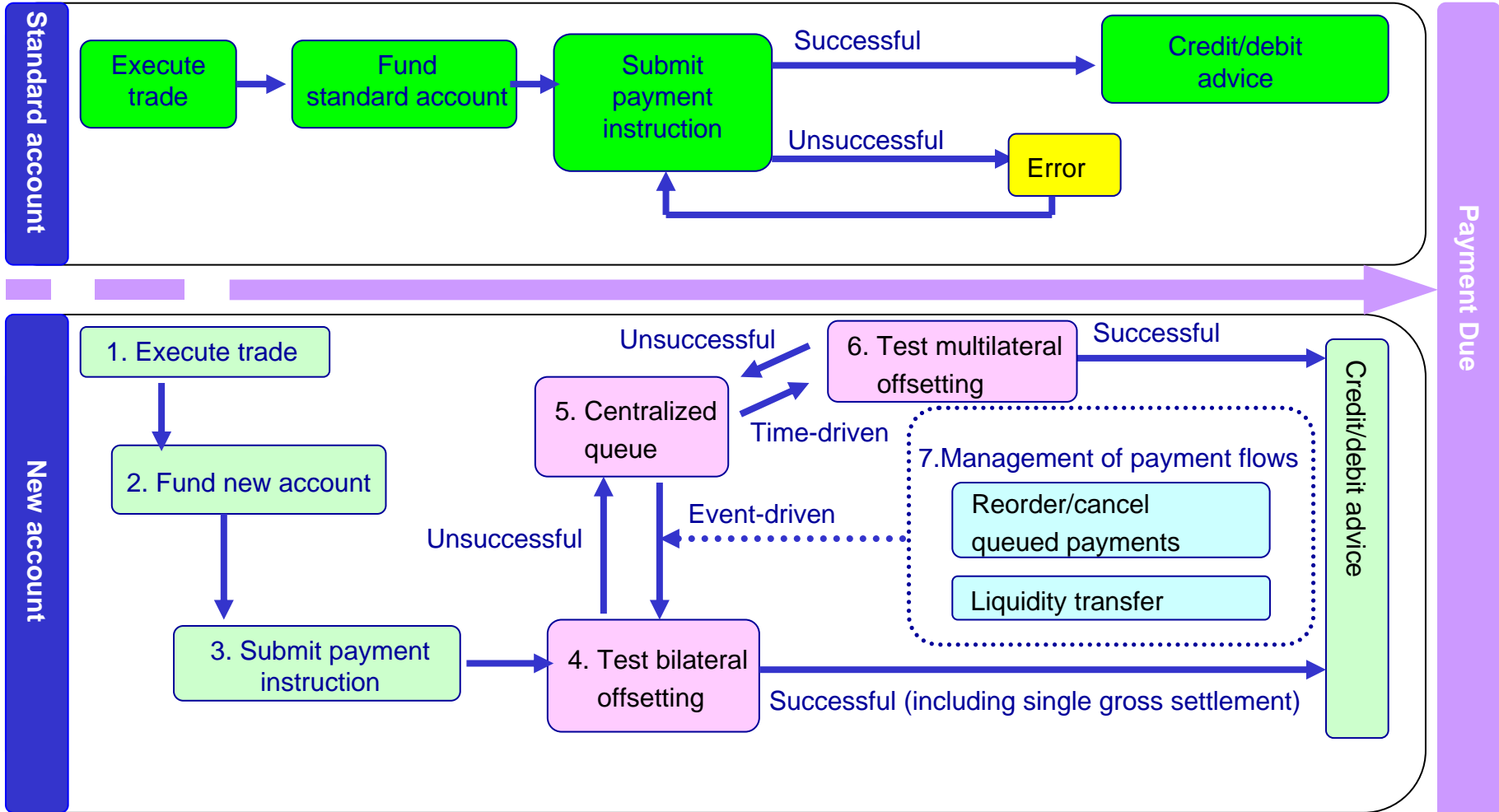
2. Opening New Account

2-5. Preparations by users

- **Develop internal rules and procedures.**
- **Plan liquidity management for new accounts.**
- **Make necessary changes to internal systems (e.g. systems for trade processing, submission of payment instruction)**
 - By the go-live of RTGS-XG Phase 1, all participants will have fully converted to the new access methods, i.e. PC-based BOJ-NET terminals and TCP/IP-based computer-to-computer connection.
 - Participants with computer-to-computer connection or those using file import/export functionality of the BOJ-NET terminal will need to convert to the new method and complete the necessary preparations before the start of Interoperability Test. Participants submitting payment instructions manually through PC-based BOJ-NET terminals are not required to make any special arrangements.

3. Settlement Process Using New Account

3-1. A Call loan transaction from trading to settlement



3. Settlement Process Using New Account

3-2-1 Trade execution

No significant change in the procedures related to trade execution.

- If the agreed delivery/repayment time falls within the available hour of new accounts (9:00-16:30), the trade will be settled through new accounts.
- Participants need to notify the counterparty in advance when settling a trade through standard accounts.

3. Settlement Process Using New Account

3-2-2. Funding

Transfer funds from a standard account to a new account using 自己勘定間振替<33401> (liquidity transfer).

- Funds can be transferred within the limit of standard account balances and deposited collateral.
 - Participants can incur intraday overdrafts in standard accounts within the limit of their deposited collateral.
 - Balances on a new account can be transferred to a standard account within the limit of new account balances.
- In new accounts, payment instructions will be settled immediately without being placed in a queue if there is sufficient liquidity for settling these payment instructions.

Input screen

33401 当座勘定 (同時決済口) 自己勘定間振替	
振替依頼区分 (type of liquidity transfer)	<input type="text" value="2"/>
当座勘定 (同時決済口) 引落・当座勘定入金 : 1	
当座勘定引落・当座勘定 (同時決済口) 入金 : <input type="text" value="2"/>	
振替金額 (transfer value)	円 (JPY)

Select "2" for Liquidity transfer from a standard account to a new account.

Shows new account balances, standard account balances, and amount of deposited collateral after the transaction.

Output image

自己勘定間振替済通知	
取引実行日	_____
取引先	_____
振替依頼区分	_____
振替金額	_____
当座勘定	
当座勘定	
取引通番	_____
当座勘定	
取引通番	_____
受付番号	_____
当座勘定残高	_____
担保余裕額	_____
担保仮余裕額 (3時)	_____
担保仮余裕額 (5時)	_____
当座勘定 (同時決済口) 残高	_____

3. Settlement Process Using New Account

3-2-3. Submission of a payment instruction

Use 振替依頼(同時決済□) <33101>(Interbank transfer through new accounts) for making a request for a funds transfer. The process for submitting payment instructions is the same as in the former 振替依頼<22101> (Interbank transfer), except for the designation of payment priority.

Input screen

33101 当座勘定 (同時決済□) 振替依頼 (同時決済□)	
取引実行日	[] (Date)
受取人	[] (Receiving institution)
金額	[] 円 (JPY)
備考	[] (transaction code)
優先度区分	[1] 通常 : 0 優先 : 1 (normal) (priority)

For call loan transactions, select "1" (priority payments), and enter the relevant transaction code. For other transactions, select "0" (normal payments). "0" is set as a default.

3. Settlement Process Using New Account

3-2-4. Test bilateral offsetting algorithm

Upon receiving a payment instruction, the system automatically tests bilateral offsetting algorithm.

- When a payment instruction (either priority/ normal) satisfies the conditions for settlement, the system immediately carries out settlement, and sends a debit advice to the sending institution and a credit advice to the receiving institution.

Example of bilateral offsetting mechanism

Bank A submits a payment instruction of JPY 10 billion to Bank B

Payment instruction (A→B)

Receiving Institution: B
Value: JPY 10 billion

Does Bank B have payment instructions to Bank A (B→A) in its queue?

Does Bank A or B have balances that are more than the netted value?

Does Bank A have more than JPY 10 billion?

Settle A→B and B→A

Settle A→B

Place in queue

e.g.
-If Bank B→A is JPY 9 billion, Bank A needs to have JPY 1 billion on its account.
-If Bank B→A is JPY 12 billion, Bank B needs to have JPY 2 billion on its account.

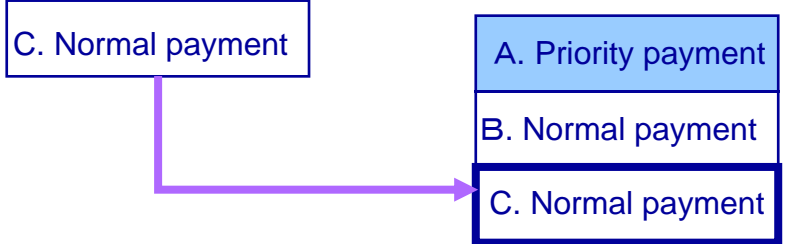
3. Settlement Process Using New Account

3-2-5. Centralized queue

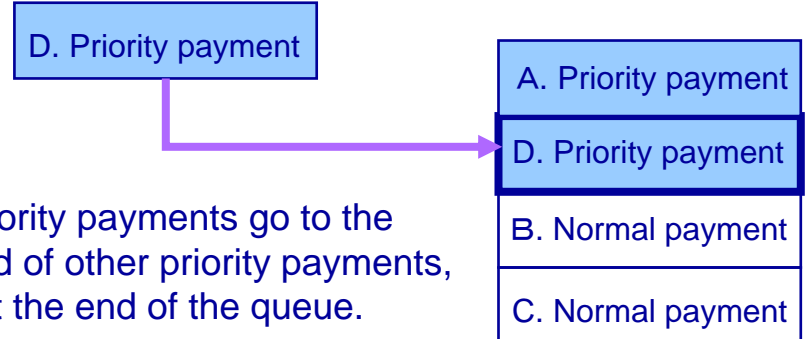
A payment instruction that does not satisfy the conditions for settlement is placed in the centralized queue. Both the sending and the receiving institutions will receive a notice that the payment instruction is queued.

Queue mechanism

<Normal Payment>



<Priority Payment>



Priority payments go to the end of other priority payments, not the end of the queue.

Output image

待機通知 (振替依頼) (queued payment)			
取引実行日(date)	-----	優先度区分	(normal/priority)
(reference number)	受付番号	振替依頼人	(sending institution)
	-----	引落予定額	-----
	-----	振替金受取人	(receiving institution)
備考	(transaction code)	-----	(debit amount)

The reference number needed for making inquiries and for reordering/canceling queued payments.

3. Settlement Process Using New Account

3-2-6. Test multilateral offsetting algorithm

The system automatically tests multilateral offsetting algorithm for queued payment instructions at specified times during the day.

- Multilateral offsetting algorithm will run at 10:30, 13:30, 14:30, and 15:30.
 - Multilateral offsetting algorithm will run for a maximum of about 10 minutes.
 - When multilateral offsetting algorithm is complete, the system will send a completion notice to all participants.
 - While multilateral offsetting algorithm is running, the following types of payment instructions are blocked:
 - 振替依頼 (interbank transfer through new accounts)
 - 振替依頼・付記電文付き (interbank transfer through new accounts)
 - CUSTOMER TRANSFER (QUEUE OFFSET)
 - BANK TRANSFER (QUEUE OFFSET)
 - 自己勘定間振替 (liquidity transfer)
 - 取消 (cancellation)
 - a certain type of information inquiries
- The system immediately settles queued payment instructions that satisfy the conditions for settlement, and sends a debit advice to the sending institution and a credit advice to the receiving institution.

3. Settlement Process Using New Account

3-2-7. Management of payment flows

As in the current system, users can manage the settlement process by monitoring account balances. Users can also reorder queued payment instructions and inject further liquidity in new accounts.

当座勘定(同時決済口)受払残高 (Total balances)

取引実行日 _____
 取引区分 _____
 取引先 _____
 当座勘定(同時決済口)残高(A)

当座勘定残高(B)	担保余裕額(C)
当座勘定 (同時担保受払時決済口)残高(D)	担保(同時受払)余裕額(E)
残高合計(A+B+D)	担保余裕額合計(C+E)

当座勘定(同時決済口)	(うち外為)
入金件数 _____	(_____)
入金額(F) _____	(_____)
引落件数 _____	(_____)
引落額(G) _____	(_____)
入金予定件数 _____	(_____)
入金予定額(H) _____	(_____)
引落予定件数 _____	(_____)
引落予定額(I) _____	(_____)
資金過不足見込額(J=A+H-I)	_____
当座勘定資金見込額合計(B+D+J)	_____

- i) 受払残高<33951> (total balance report)
 - Balances on each type of account, value and volume of debits and credits made from/to a new account.
- ii) 当座勘定(同時決済口)受払明細一覧<33961> (New account total activity)
 - List of all payment instructions settled/queued.
- iii) 当座勘定(同時決済口)受払明細(受付番号指定) <33962> (transaction detail report)
 - Details of each payment instruction including information attached to third-party transfers.

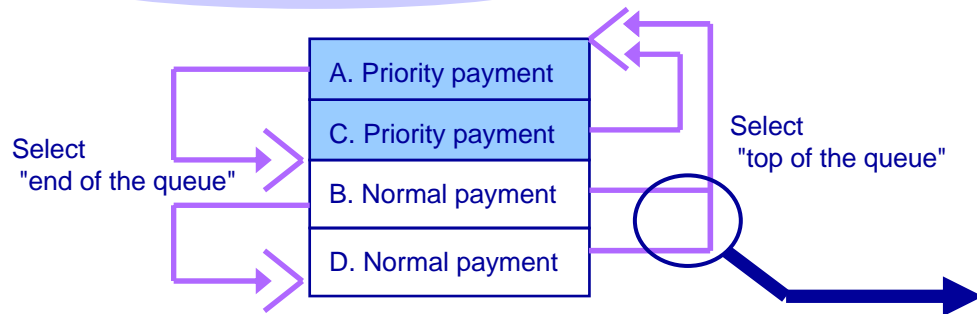
Shows balances on each account at the time of inquiry, the value and volume of queued incoming/outgoing payments, and the projected balance assuming all queued payments are settled.

3. Settlement Process Using New Account

3-2-8. Reordering queued payments

Users can reorder queued payments with 待機順序変<33301>(Reorder queued payments).

Reorder queued payments



Input screen

93301 当座勘定 (同時決済口) 待機順序変更	
受付番号	[] (reference number)
変更区分	[] 先頭: 1 最後尾: 2 (top of queue) (end of queue)

Output image

The system sends 待機順序変更通知 (queue order change notice) to the sending/receiving institution.

- The change notice is sent to the receiving institution only when the priority of the payment instruction is changed from "normal" to "priority".

3-2-9. Cancellation

Users can cancel queued payment instructions with 取消(振替依頼) <33111> (cancellation).

- The sending institution needs to notify the receiving institution of the cancellation of the queued payment.

Input screen

33111 当座勘定 (同時決済口) 取消 (振替依頼)	
受付番号	[] (reference number)

Output image

The system sends 取消通知(振替依頼) (cancellation notice) to the sending/receiving institution.

3. Settlement Process Using New Account

3-2-9. End-of-day processing

The available hour of new accounts ends at 16:30*, 30 minutes ahead of the closing time of BOJ-NET FTS. At 16:30, the system automatically transfers balances on new accounts to standard accounts, and cancels all payment instructions left on the queue.

- * On days when the settlement time of the Zengin System starts later than the regular starting time, the available hour of new accounts is extended by the same time length.
- When necessary, participants can re-enter/resend the cancelled payment instructions to settle in standard accounts.

Output image

Automatic liquidity transfer to standard accounts

Automatic cancellation of queued payment instructions

自己勘定間振替済通知(自動振替分)

取引実行日 _____

取引先 _____

振替金額 _____

当座勘定

取引通番 _____ 受付番号 _____ 当座勘定

(同時決済口)残高 ¥0.

当座勘定

取引通番 _____

当座勘定残高 _____

担保余裕額 _____

担保仮余裕額(5時) _____

取消通知<振替依頼> (自動取消分)

取引実行日 _____ 優先度区分 _____

受付番号 振替依頼人 引落取消額

振替金受取人

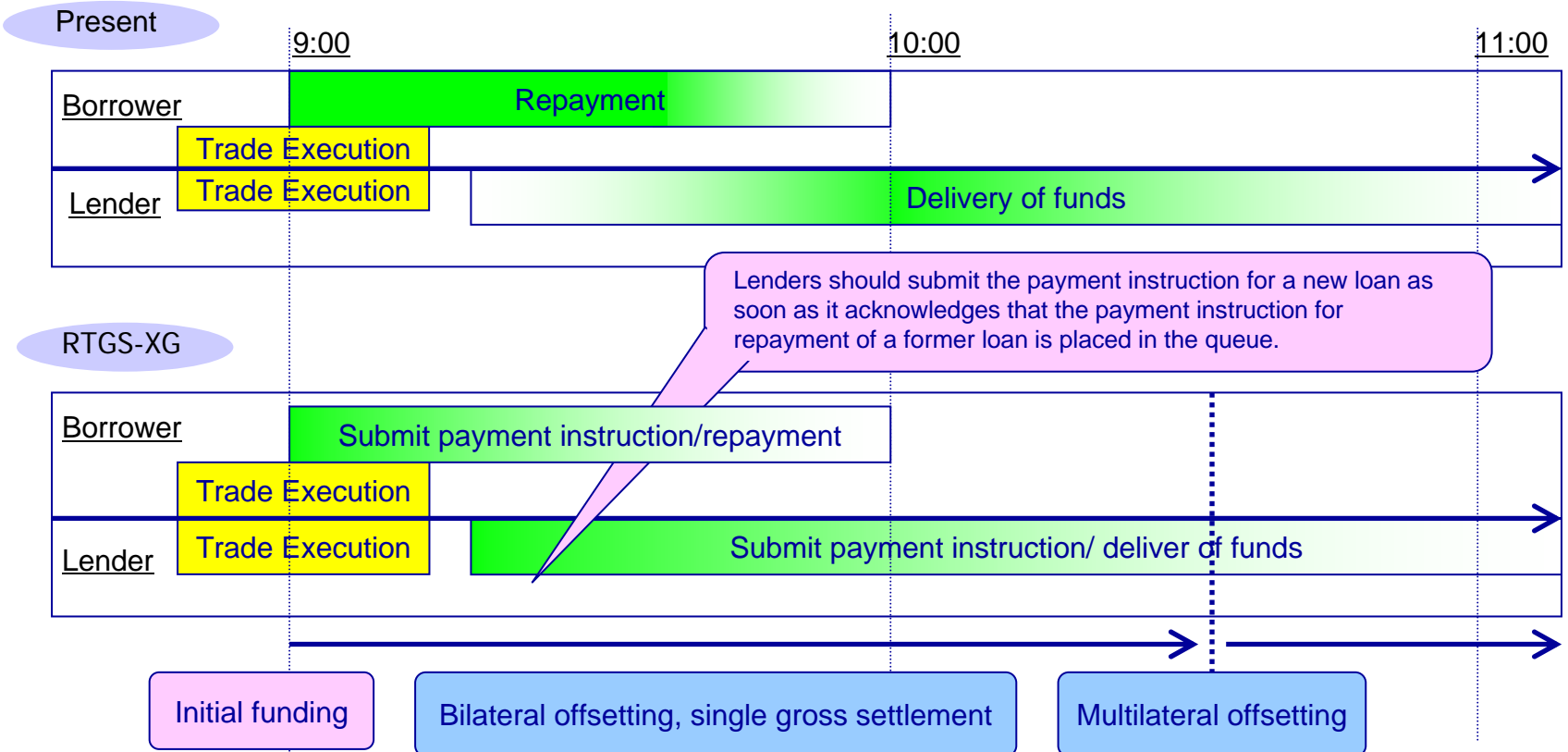
備考 _____

3. Settlement Process Using New Account

3-3 . Market guidelines for money market transactions

Market participants will continue to follow market guidelines such as "one-hour rule*" and "repayment first rule**", which facilitate the smooth flow of payments in the current BOJ-NET FTS. For an effective use of new accounts, lenders should submit the payment instruction for a new loan as soon as it acknowledges that the payment instruction for repayment of a former loan is placed in the queue.

*Lenders should release the funds within an hour after a contract is made. **Borrowers of call loans should start repayment immediately after the opening of the system and complete the repayment by 10:00 at the latest.



3. Settlement Process Using New Account

3-4. Initial funding

Users need to transfer liquidity from standard accounts to new accounts before sending payment instructions, typically immediately after the opening of the system.

- At a minimum, the value of "Total value of outgoing payments – Total value of incoming payments" will be transferred to new accounts by 10:00.

<Example> Payments to be settled between 9:00-10:00

【Outgoing payments】

	Transaction Type	Value
①	Call loan	JPY 10 billion (payment to A)
②	Call loan	JPY 5 billion (payment to B)
③	DVP for JGB	JPY 5 billion
④	DVP for non-JGB	JPY 5 billion

【Incoming payments】

	Transaction Type	Value
⑤	Call loan	JPY 5 billion (payment from A)
⑥	Call loan	JPY 5 billion (payment from B)
⑦	DVP for non-JGB	JPY 5 billion

Payments to be settled through new accounts

Present

JPY 25 billion is required on a standard account (account balances + deposited collateral) in order to settle all payment instructions sent between 9:00 and 10:00 without using incoming funds.

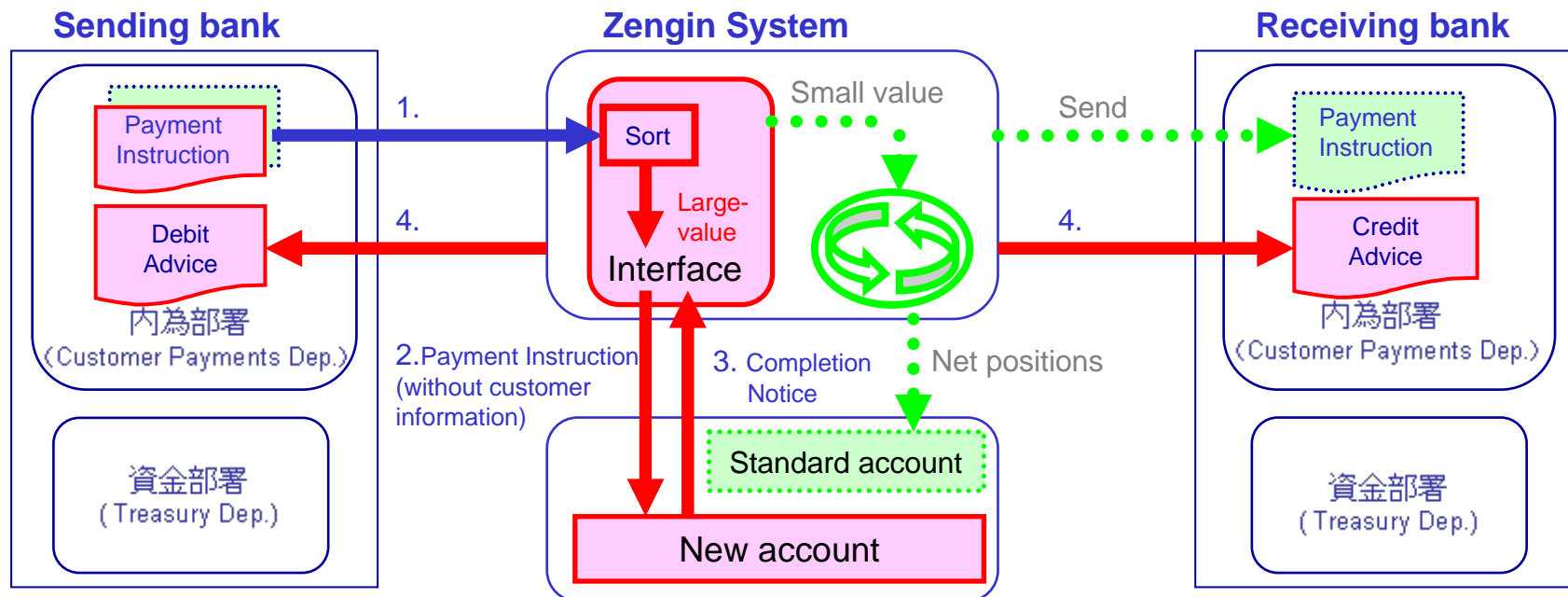
RTGS-XG

JPY 10 billion is required on a standard account in order to settle all payment instructions without using incoming payments.

Need to transfer JPY 5 billion to a new account from its standard account before sending payment instructions.

4. Overview of Phase 2

In Phase 2, large-value Zengin payments (e.g. above JPY 100 million) will be settled on a real-time basis through new accounts via the Zengin System's new interface.



BOJ-NET Funds Transfer System

1. Sending bank sends a payment instruction to the Zengin System.
2. If the payment instruction is large-value, the Zengin System sends a payment instruction without customer information to BOJ-NET FTS for settlement through new accounts.
3. The BOJ-NET FTS debits/credits the relevant new accounts and sends a completion notice to the Zengin System.
4. Upon receiving the completion notice, the Zengin System sends a debit advice with customer information to the sending bank and a credit advice to the receiving bank.

References

1. *Proposal for the NEXT-Generation RTGS Project of the BOJ-NET Funds Transfer System*,
Dec 2005, Bank of Japan
2. *Framework for the Next-Generation RTGS Project of the BOJ-NET Funds Transfer System*,
Feb 2006, Bank of Japan
3. *Japan's Next-Generation RTGS*,
Oct 2006, Bank of Japan

The above documents are available on the Bank of Japan website (www.boj.or.jp/en/index.htm) . Click “Payment, Settlement, Market Infrastructure” — “Payment and Settlement Systems” — “Operation of BOJ-NET”.

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