

Large-value payment systems

BAHTNET

1. The Bank of Thailand Automated High-value Transfer Network (BAHTNET) is a large-value, on-line and real-time gross settlement (RTGS) system. BAHTNET provides finality and irrecoverable funds transfer across the accounts of member institutions held at the BOT. BAHTNET is designed as an interbank funds transfer system for commercial banks and financial institutions with BOT accounts, as well as for third party credit transfers by the general public who can use the service to transfer funds nationwide. Furthermore, it also handles current account inquiries, general messaging, message broadcast and multilateral funds transfer. BAHTNET has been re-developed to incorporate a real-time automated DVP system for Thai Government Securities (TGS), as of December 11, 2001.

Ownership

2. BAHTNET is owned, operated and regulated by the BOT, and governed under the BOT Regulation on BAHTNET of 2001.

Participation

3. BAHTNET has 59 member institutions as of December 2001, including 31 commercial banks, twelve finance and securities companies, six specialized banks, six departments in the BOT, one government organization and the TSD. 34 institutions participate as SWIFT members with their own workstations, while 25 institutions participate as non-SWIFT members with their BOT web stations. The remaining two institutions are associated members.

Types of transactions

4. BAHTNET handles funds transfer and securities related transactions. Fund transfer transactions range from interbank payments, internal funds transfer and foreign exchange related transactions initiated between institutions or on behalf of their customers. At this stage, securities transactions incorporate only outright trading of government securities among participants. Additionally, participants can provide securities transfer services for their customers by directly accessing their customer accounts in the settlement agent scheme.

Operation of the system

5. BAHTNET operates during weekdays from 8:30-17:30, except on bank holidays. The Payment Systems Group is directly responsible for overseeing operations in close co-operation with the Information Technology Group. BAHTNET adopts the SWIFT message format and uses the SWIFT network as the main message carrier in order to meet international standards, to create the capability to support future financial development, and to facilitate connection to members' and international payment systems. However, the BOT web-based system has been internally developed to facilitate participants who may not be currently ready to utilize SWIFT. In addition, the BOT web station is also offered as a monitoring tool for all participants to perform account balance or account movement inquiries, queue management, messaging services and reporting facilities.

Settlement

6. BAHTNET transactions are settled across participant accounts at the BOT on a RTGS basis, and so carry no credit risk.

Risks and risk management

7. The BOT focuses on the elimination of liquidity risk in the system by implementing the following mechanisms:

8. *Queuing mechanism and gridlock resolution* These are tools that have been developed to handle the queue of funds transfer instructions that are unable to be settled due to the inadequacy of funds in the sending institution's account. Payment instructions remain queued until the sender has sufficient funds to settle them. When several instructions from various institutions stand in the queue, the system will search for the group of instructions and calculate the net position of each institution. If the net balance of each related institution is a positive amount, the system will then process all the related instructions simultaneously. This would reduce the liquidity needs in the system. These mechanisms were put in place on August 11, 1997 and allow participants to manage their queues by reordering the priority of their transactions.

9. *Intraday liquidity facilities (ILF)*. ILF provide participants with access to collateralized overdraft at the BOT. The facility is limited to 30% of the allocated loan window credit line, which must be collateralized by government bonds. Members are charged for using the facility, which was introduced on February 1, 1999. The BOT terminated this cap of 30% of the loan

window credit line on March 10, 2000, and currently allows members unlimited collateralized use of the facility without charges during the day.

10 High-value check migration Interbank loans, interbank foreign exchange, funds transfer for non-residents, and government securities settlement have been settled through BAHTNET since March 10, 2000. Previously, these types of transactions have accounted for over 80% of check clearing transactions. This change is an important development to reduce settlement risk.

11. Use of credit balance. The BOT has considered allowing member banks to use the credit balance from the normal round of check clearing operations to settle any drawn ILF credit line or other funds transfer transactions in BAHTNET. This may reduce short-term interest rate fluctuations in the money market, reduce the cost burden of member banks, and reduce liquidity risk in the system. However, members must have an allocated ILF credit line above 10% of the average funds transfer value in BAHTNET in the past two weeks. Also, the BOT will treat the ILF backed-up bonds as a collateral for the use of the check clearing credit balance. Previously, the BOT did not allow for the use of the credit balance from the normal round of check clearing and held such credit balance until the return round of check clearing returned has been settled the following morning.

12 30-70 percent measure. The BOT requires participants in BAHTNET to send funds transfer instructions amounting to at least 30% of their daily average funds transfer value prior to 12:00 and at least 70% prior to 15:00. This condition was imposed in early-2001 and is aimed to ensure the smooth operation of the settlement process and to avoid the heavy congestion of instructions, particularly in the afternoon, and liquidity management problems.

Technical aspects

13 The BOT uses a V-shape message topology. A business message flow may involve several message transfers. With the V-shape topology, the BOT will always serve as one end of each message transfer, for example as the message sender or receiver. The sender and the receiver of a message transfer can use either SWIFT or the BOT web station. The BOT expects that this additional complexity can be reduced by a design that incorporates a message-oriented middleware and its appropriate adapters to transform and automatically route messages.

Pricing policies

14 Since the policy aims to discourage the sending of transactions through the web, transactions sent through SWIFT are granted a discount whereas transactions sent through the web are charged at a premium price. BAHTNET fees are set to encourage members to submit funds transfer instructions early in the day. There are three time zones with ascending fee rates. The first time zone operates from 8:30-12:00 (with the lowest charge), followed by the second time zone from 12:00-16:00, and finally the third time zone (with the highest charges) after 16:00.

Governance

15 Currently, BAHTNET is operated and monitored by the Payment Systems Group under the policy approved by Payment Systems Committee.

Major projects and policies being implemented

16 BAHTNET will be developed and enhanced continuously in order to respond to the rapid changes in business needs and technology. Moreover, the BOT is currently studying the development of a cross-border capability of BAHTNET.