



CBRTGS

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CBRTGS

Central Bank of Barbados Real Time Gross Settlement System



**Safeguarding Barbados'
Financial Services Sector Against
Systemic Risk**





CBRTGS In Action

CBRTGS Microsoft Internet Explorer

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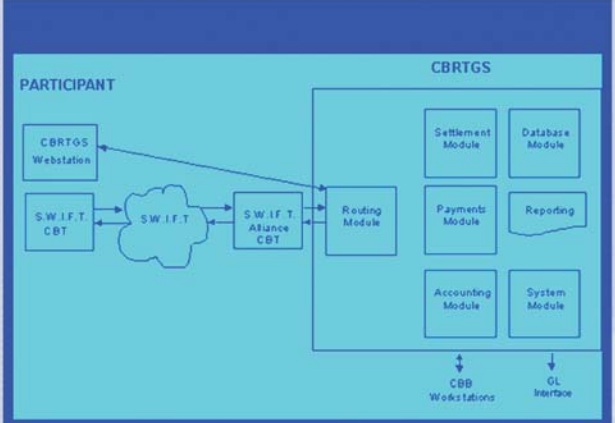
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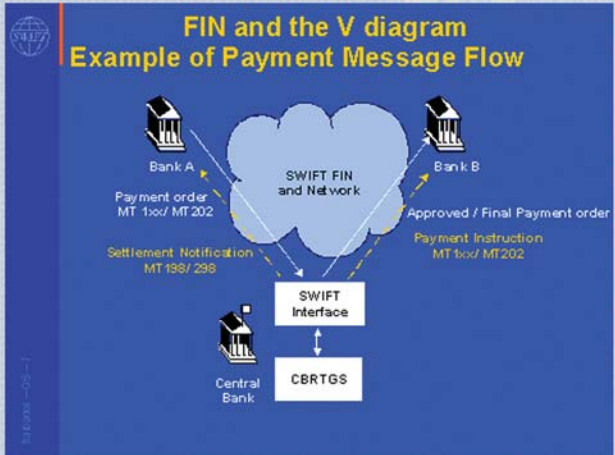


CBRTGS

- ☐ SETS
- ☐ Session
- ☐ Main
 - ☐ Calendar
 - ☐ Participant
 - ☐ Message
 - ☐ Template
 - ☐ Report
 - ☐ User
 - ☐ Service
- ☐ Routing
- ☐ Settlement
- ☐ External
- ☐ System
- ☐ PACS



The diagram illustrates the CBRTGS architecture. On the left, a 'PARTICIPANT' box contains 'CBRTGS Webstation' and 'S.W.I.F.T. CBT'. These connect to a central 'S.W.I.F.T. Alliance CBT' cloud. This cloud connects to a 'Routing Module' within the 'CBRTGS' system. The 'CBRTGS' system is a large box containing several modules: 'Settlement Module', 'Database Module', 'Payments Module', 'Reporting', 'Accounting Module', and 'System Module'. The 'Routing Module' connects to the 'Settlement Module'. Below the 'CBRTGS' box, there are two output points: 'CBB Workstations' and 'GL Interface'.



The diagram shows the flow of a payment message between Bank A and Bank B via the SWIFT network. Bank A sends a 'Payment order MT 100/ MT 202' to the 'SWIFT FIN and Network'. The network sends an 'Approved / Final Payment order Payment Instruction MT 100/ MT 202' to Bank B. A 'Settlement Notification MT 198/ 298' is sent from Bank B back to Bank A. A 'SWIFT Interface' box is shown at the bottom, connected to the 'SWIFT FIN and Network' and the 'CBRTGS' system. The 'Central Bank' is also shown at the bottom, connected to the 'SWIFT Interface'.

Done

Start Octavia... CBRTGS... Internal... Microso... CBRTG... Docume... Local intranet

risk. As described above, interbank transfers are made on a transaction-by-transaction basis and are settled immediately. This procedure eliminates the possibility of unsettled debt between banks. In the event that a commercial bank has a temporary shortage of credit during the day, that problem cannot be transferred to other banks, therefore eliminating any systemic risks.

Safety

The CBRTGS is a safe, sound and secure system which meets rigorous international standards similar to those associated with large value cross-border funds transfer systems. As part of its safety mechanism, the CBRTGS allows commercial banks to verify that transactions are authentic and that they are not tampered with during the transfer process.

To ensure that the system recovers in a short space of time from any operational failure and that no data are lost, a Hotsite back-up arrangement has been established. The Hotsite serves as a fallback mechanism should the main site at the Central Bank fail. Also, all data relating to transactions are replicated instantaneously at the back-up site and this allows the system to provide continuity of services to all participants.

In conclusion, the CBRTGS will play a major role in safeguarding Barbados' financial services sector against systemic, credit, settlement and operational risks in a way similar to that existing in developed economies.



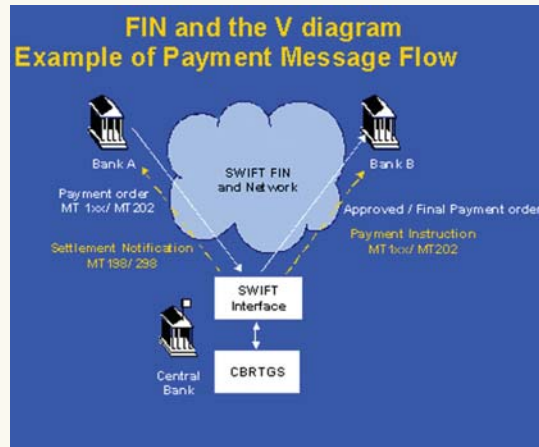
Background

On October 11, 2002, the Central Bank of Barbados broke new ground with the introduction of the Central Bank Real Time Gross Settlement System (CBRTGS).

The concept of Real Time Gross Settlement (RTGS) is not new. RTGS systems have been installed by central banks in almost all developed economies. They are intended to complement deferred net settlement systems in order to eliminate settlement risk and to provide immediate and irrevocable use of incoming funds of participating commercial banks and other financial institutions. Such systems provide opportunities for banks to offer much improved services to both corporate and individual customers. They also provide direct benefits to the banks; for example, by supporting interbank straight-through processing of large value and other urgent interbank payment transactions.

The CBRGTS is mainly for the processing of large value and time-sensitive payments. As in other countries, the CBRTGS will co-exist with new computer-assisted deferred net settlement systems which will process low value and other less urgent transactions such as those arising from the use of cheques and direct debits.

The CBRTGS meets international standards for the safety, soundness and efficiency of payment systems, and thus enhances the overall image of the Barbados financial sector both at home and abroad. In addition, the



*SWIFT, the
FIN Network
and participants'
SWIFT
interfaces*

In the second quarter of 2001, the Central Bank assumed responsibility for the CBRTGS and the commercial banks undertook the implementation of the ACH. The first meeting to launch the CBRTGS design was held in September 2001. After just over a year, the CBRTGS, utilising special purpose software provided by The Montran Corporation, is a reality.

The CBRTGS: beneficial to all

The CBRTGS complies with all relevant international core principles and standards issued by the Bank for International Settlements (BIS). It provides an essential component of the infrastructure of a modern financial sector in that it increases the stability, efficiency and effectiveness of the financial services delivery mechanisms. In particular, it removes the settlement risks associated with the transfer of large value and other time-sensitive transactions because, as an automated gross settlement system, it provides immediate, irrevocable and legally final transfer of funds between participants and their customers.

availability of the CBRTGS and the soundness of its legal and regulatory framework support Barbados' promotional efforts as a jurisdiction in which electronic commerce can thrive.

The introduction of the CBRTGS ended almost three years of intense planning and work. In February 2000, the Central Bank decided that, in keeping with international best practices, an overhaul of the domestic payment system was crucial. The Central Bank, in collaboration with the commercial banks, initiated a process to reform the payment system, a reform process that included the implementation of the Automated Clearing House (ACH) or arrangements to process electronic low value transactions and the CBRTGS.

However, the CBRTGS will also require the banks to better manage their liquidity on an intra-day basis, as transactions will be processed only if sufficient funds are available in the settlement account maintained by them at the Central Bank. Should sufficient funds not be available, transactions will be placed in a queue until the account has been replenished from either incoming payments or by making use of the Intra-day Credit Facility that has been established at the Bank.

The Intra-day Credit Facility will allow a smooth flow of payments throughout the day. In the event that a bank is unable to make payments, the Central Bank will inject intra-day funding into the system. This is based on a Master Agreement which has been signed by all commercial banks. Under this Agreement, the banks have three options to fund their accounts:

- the use of REPO agreements;
- discounting Government Paper; and
- obtaining short-term credit from the Central Bank.

Banks can also use the interbank money market to borrow from other banks and thus make best use of the funds available in the banking system. They can also borrow from the Central Bank's overnight discount window.

In summary, the Central Bank and the banks have carefully ensured that the CBRTGS will operate smoothly and provide a high level of service to customers.

Financial System Stability

The CBRTGS will support the Central Bank in fulfilling its public policy objective to safeguard the soundness, safety and efficiency of the financial services sector by reducing systemic and settlement



- query past data on all Government accounts and thus improve the planning and control process;
- access data and print advices, reports and statements without intervention by the Central Bank; and
- make more informed financial decisions based on immediately available account information.

Part 3 companies or trust and other non-bank finance houses which the Bank regulates will also have access to the CBRTGS.

The CBRTGS & Individual Businesses

The CBRTGS will allow banks to offer a local wire transfer service to individuals or businesses. This will give customers another means of transferring large value or time-sensitive payments such as those associated with commercial contracts, or those that currently require the use of commercial bank cheques or other certified instruments.

Moreover, each CBRTGS payment will be settled in real-time across the books of the Central Bank on a transaction-by-transaction basis and each transaction will be processed irrevocably in real-time. A commercial bank receiving an incoming payment instruction will therefore incur no risk in making the associated funds available on a rapid basis to the ultimate beneficiary, as such funds are already credited to its settlement account at the Bank. It is not possible for such CBRTGS payments to be dishonoured, as may happen, for example, with cheques.

In this system, transactions will be settled across the books of the Central Bank as soon as they are received. This action will eliminate the uncertainty and delay usually associated with such transactions which can take several days to process using net settlement mechanisms.

The Bank owns and operates the CBRTGS which embraces three main components:

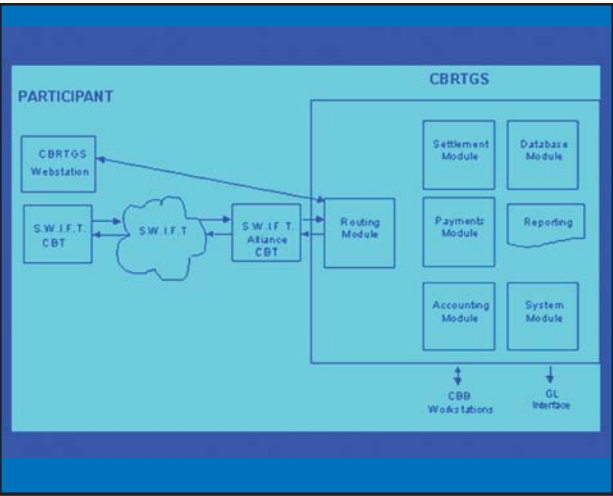
- (i) SWIFT, the FIN Network and participants' SWIFT interfaces;
- (ii) The participant web station; and
- (iii) The central system with its associated workstation facilities at the Central Bank.

CBRTGS uses the SWIFT network for the exchange of RTGS payment instructions. Most CBRTGS participants, including the Central Bank, are connected to the SWIFT terminals which are currently used by participants to submit international transactions into the SWIFT system. The same infrastructure will be utilised for domestic transactions. For a limited period, the commercial banks not connected to SWIFT will utilise the services of the Central Bank for submitting and receiving transactions.

The participant web station

The SWIFT FIN system monitors the payments traffic of members of the CBRTGS Closed User Group (CUG) and directs domestic Barbadian payment instructions to the CBRTGS.

Participants will also access the Central System through separate web stations via a Virtual Private Network (VPN) in a way similar to that used by individuals to access the Internet.





CBRTGS

The CBRTGS supports a range of functions and specifically allows commercial banks to:

- make electronic transfers in real-time between all domestic banking sector participants;
- make electronic transfers in real-time on behalf of their customers;
- make electronic transfers in real-time between banks, customers and the Accountant General;
- make electronic transfers in real-time as payments for Central Bank services;
- offer cash management services to their customers who can have urgent transfers processed at a moment's notice, assuming that covering funds are available;
- access on-line account balances and transaction activity information;
- access on-line payments, which are pending in queues;
- re-prioritise or cancel pending payments in queues; and
- monitor the operational status of the CBRTGS Central System.

In summary, the CBRTGS will allow banks to manage their payments business in line with their customer priorities, whilst making best use of the available liquidity within the banking system

without introducing credit, liquidity or systemic risk. The CBRTGS will also provide direct support for the evolution of an interbank money market and will allow the Central Bank to execute its monetary policy operations in an efficient manner.

Specific benefits will also accrue to the Government of Barbados. Prior to the introduction of the CBRTGS, Government's payment instructions were processed by the Bank on behalf of the Treasury Department via the deferred net settlement system. Soon, the Treasury Department will be linked to the CBRTGS system, and thus both outgoing and incoming payments will be made electronically. This will improve the speed with which such transactions are made, allowing Government to better manage its cash whilst increasing the efficiency of its payments into the economy.

In summary, CBRTGS will enable the Accountant General to:

- monitor the intra-day activity and balances on the Government's accounts in real time and thus proactively manage its cash;
- submit transactions into the system directly rather than having to request such services from the Bank;

The central system, with its associated workstation facilities, at the Central Bank of Barbados

