

# 2009 SELF-ASSESSMENT OF THE RESERVE BANK INFORMATION AND TRANSFER SYSTEM

SEPTEMBER 2009

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# Introduction and Executive Summary

Safe and efficient payment systems are critical to the effective functioning of the financial system. The *Core Principles for Systemically Important Payment Systems* (Core Principles) are designed to assess systems which, if insufficiently protected against risk, have the potential to trigger or transmit further disruptions amongst participants or systemic disruptions in the financial area more widely.<sup>1</sup> In Australia, there is one systemically important payment system – the Reserve Bank Information and Transfer System (RITS), which is owned and operated by the Reserve Bank of Australia (Reserve Bank). RITS is a real-time gross settlement (RTGS) system that also accepts payment instructions from authorised RTGS feeder systems and settles the interbank obligations from net clearing arrangements as batches. The Reserve Bank conducts periodic self-assessments of RITS against the Core Principles. This document presents the self-assessment conducted by the Reserve Bank in 2009.

Since the last self-assessment of RITS was undertaken in 2005 the Reserve Bank has implemented a number of changes in RITS in response to market and technological developments. As well as upgrading the operating system and hardware to keep pace with technological developments, the Reserve Bank has enhanced RITS' business continuity and information security arrangements in accordance with international best practice. Most significantly, the Reserve Bank has opened a new, geographically remote backup site that is an alternative workspace for critical staff and has the same processing capacity as the primary site. This backup site is permanently staffed and has full system redundancy on-site. More recently, in response to user demand, the Reserve Bank has implemented targeted bilateral offset functionality, a tool that assists participants in managing credit exposures to clients while minimising liquidity needs.

It is the view of the Reserve Bank that RITS complies with the Core Principles. Nevertheless, work at the Reserve Bank is ongoing to ensure RITS continues to meet the Core Principles and international best practice. There are a number of projects underway that will offer further reductions in operational and credit risk in the payments system. These include the following:

- rotation of RITS production operations between the primary and backup sites on a regular basis; and
- working, in conjunction with the Australian Payments Clearing Association (APCA), to develop functionality to facilitate same-day settlement of direct-entry transactions (which are currently settled on a net deferred basis in the '9am batch' process). This will reduce both the credit risk associated with these payments and the concentration of operational risk in the 9am batch in RITS.

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<sup>1</sup> 3.0.2 of the *Core Principles for Systemically Important Payment Systems*, *Committee on Payment and Settlement Systems, Bank for International Settlements, January 2001*.

# General Background

## 1. The Reserve Bank Information and Transfer System

RITS is Australia's RTGS payment system. In RTGS systems, individual transactions are processed and settled continuously and irrevocably in real time. RTGS was introduced in Australia on 22 June 1998 to reduce the settlement risk associated with deferred settlement of high-value interbank payments and to promote the overall efficiency of Australia's wholesale payments system.

Over 90 per cent of interbank settlements, by value, in Australia are settled on a gross basis through RITS; this share has been broadly steady since RITS commenced operation in 1998. In 2008/09, RITS settled on average around 32 000 RTGS transactions each day, with a value of \$184 billion (Table 1, Graph 1). On the peak-value day in 2008/09, RITS settled over 47 000 RTGS transactions worth a total of \$289 billion. The levelling out in the volume of transactions and the fall in the value of transactions settled in RITS since mid 2008 is consistent with a decline in wholesale market activity since the financial market turbulence in late 2008.

**Table 1: Payments in Australia\***  
2008/09, daily average

	Volume 000s	Value \$billion
RTGS	32.2	184.0
– Customer payments (HVCS)	29.1	122.8
– Debt securities (Austraclear)**	2.9	47.2
– RITS cash transfers	0.2	14.4
Retail payments	23 165.6	54.6
– Direct entry	8 731.0	47.4
– Cheques	1 400.8	5.9
– Credit/charge cards	5 663.8	0.8
– Debit cards	7 370.0	0.5
Cash equities (CHES)	420.0	4.4
<b>Total</b>	<b>23 617.7</b>	<b>243.5</b>

\* Including payments that are not interbank payments

\*\* Excluding the settlement of intraday repurchase agreements

Sources: Australian Securities Exchange (ASX); RBA

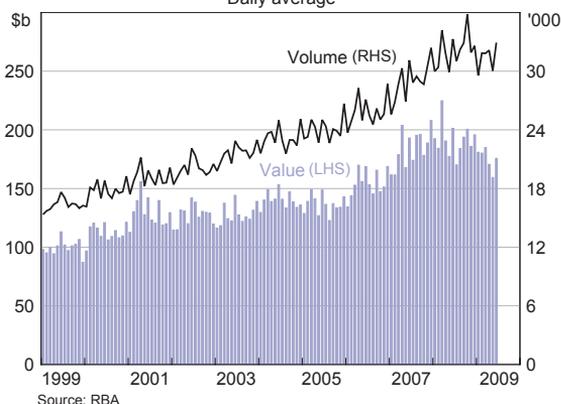
RTGS payments can be entered into RITS directly, or delivered via two linked external feeder systems – the High Value Clearing System (HVCS) and Austraclear (Figure 1). HVCS is a Society for Worldwide Interbank Financial Telecommunication (SWIFT) closed user group established by APCA, an industry body that establishes rules and procedures for clearing and settling payments in Australia. HVCS is used primarily to submit customer payments to RITS, including CLS Bank

obligations.<sup>2</sup> Austraclear transactions generally represent the cash legs of debt security transactions, which are settled on an RTGS basis. There is no minimum value for payments submitted to RITS, so time critical low-value payments can also be settled on an RTGS basis. The number of relatively low-value payments settled via RITS is significant and growing (Graph 2).

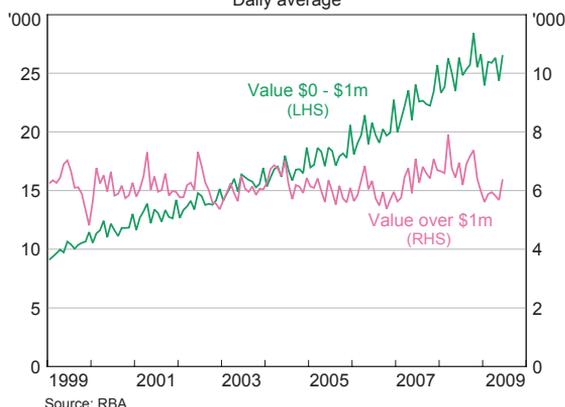
The interbank obligations that arise from the clearing of retail payment instruments are settled on a multilateral net basis in RITS. Bilateral net settlement obligations arising from each separate clearing stream, including cheques, direct entry (including obligations arising from the BPAY system) and cards (ATM, EFTPOS and credit cards), are provided to the Reserve Bank by each participant.<sup>3</sup> These are combined to calculate the overall multilateral net position for each participant, which is settled on a deferred basis at 9am the following business day. The cash legs of equities transactions also settle on a multilateral net basis, with obligations calculated by the Clearing House Electronic Sub-register System (CHES), operated by ASX Settlement and Transfer Corporation (ASTC), and settled in a batch at around noon each day.

This self-assessment of RITS against the Core Principles is conducted only in respect of the RTGS part of the system (shown above the dotted line in Figure 1), and encompasses the net settlement systems only to the extent that they affect RITS' compliance with the Core Principles.

**Graph 1**  
**RTGS Transactions**  
Daily average



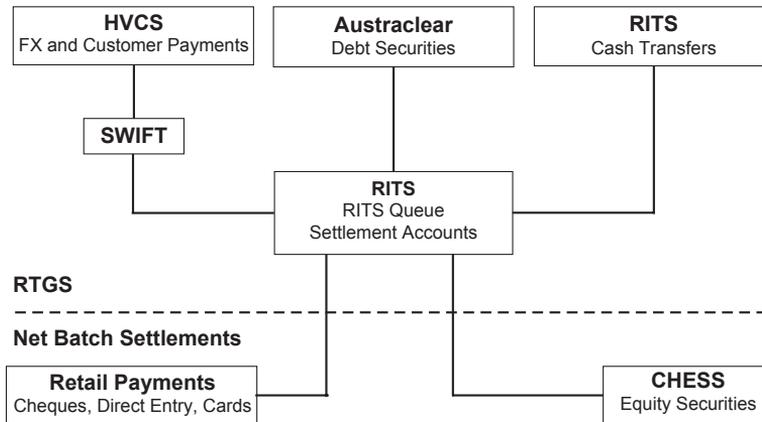
**Graph 2**  
**Number of RTGS Transactions**  
Daily average



2 CLS Bank is a bank chartered in the United States that is used by global financial market participants, including in Australia, to effect payment-versus-payment (PvP) settlement in the foreign exchange market. In offering PvP settlement, CLS is specifically designed to manage the risk that one party might pay away the currency it is selling and, due to the failure of its counterparty, not receive in return the currency it is purchasing.

3 The Reserve Bank performs the role of 'National Collator' of clearing stream obligations on behalf of APCA.

**Figure 1  
RITS Feeder Systems**



In RITS, transactions are settled using credit funds held in participants' Exchange Settlement Accounts (ESAs) at the Reserve Bank. As RITS is the means by which ESAs are accessed, all ESA holders are RITS settlement members. As of end June 2009, there were 67 RITS settlement members and 16 non-transactional RITS members. Non-transactional RITS members hold RITS membership either to participate in the Reserve Bank's open market operations or as batch administrators, but do not hold ESAs and instead settle any payments in RITS through an agent.

Smaller settlement members may also settle transactions through an agent, rather than directly across their own ESA; only eight settlement members chose to do so as of end June 2009.

RITS is designed to be liquidity efficient. It incorporates a central queue employing a liquidity-efficient 'next-down looping' algorithm that seeks to minimise liquidity needs by continuously searching through the queued payments to determine whether payments can be settled individually or by bilateral offset. The system's automated bilateral-offset functionality involves identifying offsetting payments between any pair of participants that are unsettled on the queue and testing them for simultaneous settlement to help prevent system gridlock.<sup>4</sup> Participants can also nominate specific offsetting payments to be settled simultaneously to assist in managing client credit constraints.

RITS participants also have real-time access to information on their settled transactions, queued transactions and ESA balance to assist in efficient liquidity management. Other design features of the system enable participants to reserve liquidity for priority payments by using the payment status and sub-limit features in RITS.

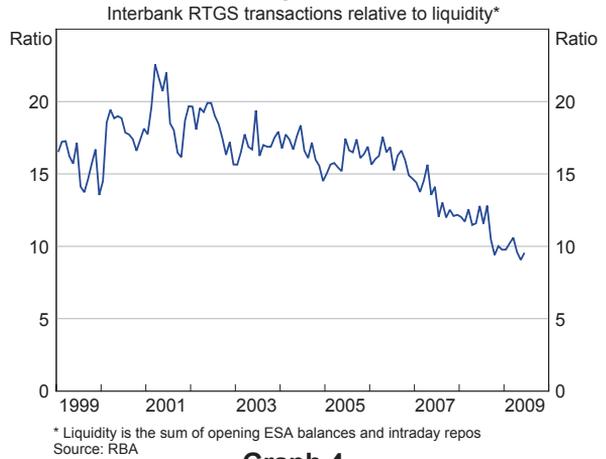
In combination, the liquidity-saving features within RITS help to ensure efficient recycling of liquidity. Liquidity turnover in RITS (the average number of times each dollar of liquidity is used to settle a payment) is currently around ten (Graph 3). The downward trend in liquidity turnover is likely to reflect the lower opportunity cost of liquidity as the

<sup>4</sup> Gridlock refers to a situation in which the failure of some instructions to settle because of insufficient funds prevents a substantial number of other instructions from other participants from settling.

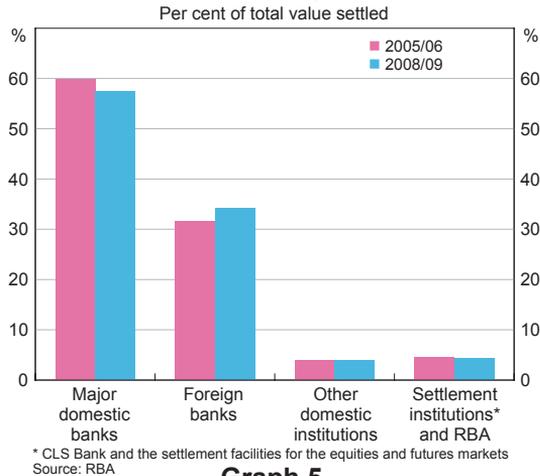
Reserve Bank has gradually broadened the range of securities it accepts in return for liquidity in RITS (see below). At the margin, the increasing number of participants in RITS and the resulting greater dispersion of payments across RITS members may also have contributed to increased overall demand for liquidity. Nevertheless, the system remains concentrated, with the major Australian banks a counterpart to almost 60 per cent of transactions settled through RITS (Graph 4). More recently, the decline in liquidity turnover in RITS is likely to reflect the increase in participants' demand for ESA balances (accommodated by the Reserve Bank) and the decline in value settled, both of which are associated with the turbulence in financial markets.

Liquidity in RITS is sourced from participants' overnight ESA balances and additional funds made available to participants by the Reserve Bank via interest-free intraday repurchase agreements (repos). Access to these funds is limited only by participants' holdings of eligible securities. The list of eligible securities was expanded in late 2007 to include securities issued by authorised deposit-taking institutions (ADIs), residential mortgage-backed securities and asset-backed commercial paper. While the Reserve Bank had been moving over time towards broadening the eligible securities for repos, the timing of this change was accelerated by emerging strains in financial markets and the associated

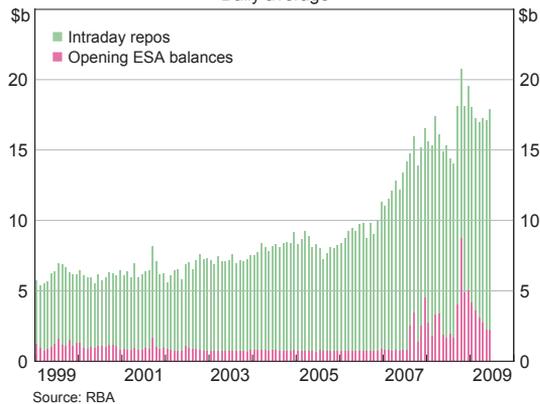
**Graph 3**  
**Liquidity Turnover**



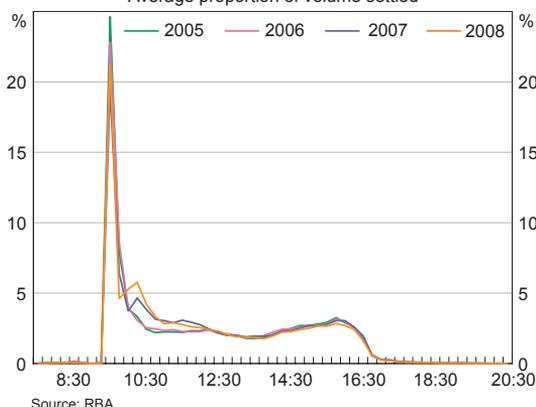
**Graph 4**  
**Concentration of RTGS Payments and Receipts**



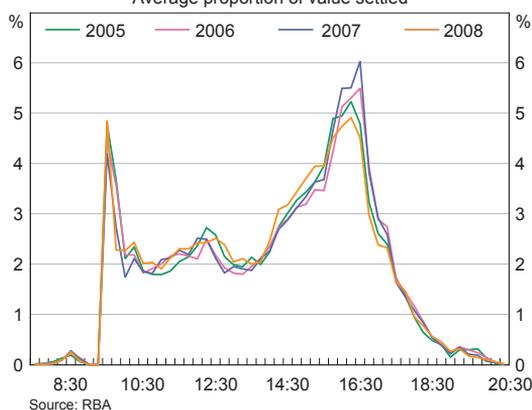
**Graph 5**  
**Liquidity**  
Daily average



**Graph 6**  
**RTGS Settlement Profile**  
 Average proportion of volume settled



**Graph 7**  
**RTGS Settlement Profile**  
 Average proportion of value settled



increase in demand for liquidity. Participants' demand for liquidity increased further with the worsening of financial market conditions in late 2008, following the bankruptcy of Lehman Brothers (Graph 5). The Reserve Bank accommodated the additional demand for liquidity by increasing the level of overnight ESA balances.

The effect of the increased liquidity in RITS in the past year can also be seen in the settlement profile of RTGS transactions. The volume of settlements peaks at around 9.30am, soon after the opening of the RITS day session, as offshore customer payment instructions received by participants earlier are submitted to the system (Graph 6).<sup>5</sup> The peak in the value of settlements is around 4.30pm, in part reflecting participants' liquidity management strategies and the squaring of positions at the end of the day (Graph 7). This peak was slightly less pronounced in 2008 compared with recent years, partly reflecting the increased liquidity available to settle payments earlier in the day.

## 2. The Regulatory Framework

Four main regulatory bodies have responsibility for aspects of Australia's payments system. The Reserve Bank and the Australian Prudential Regulation Authority (APRA) hold the major regulatory responsibilities related to systemically important payment systems and their participants, respectively. The Australian Competition and Consumer Commission (ACCC) and the Australian Securities and Investments Commission (ASIC) also have responsibilities in this area, although these are more narrowly focused. The respective roles of these regulators in relation to the payments system are discussed below.

<sup>5</sup> The RITS day session begins at 9.15am. Prior to this, settlement is limited to interbank Austraclear and RITS transactions, and the 9am batch.

## The Reserve Bank of Australia

The Reserve Bank has both an operational and regulatory role in Australia's payments system. As set out in the *Reserve Bank Act 1959*, the Payments System Board of the Reserve Bank is responsible for determining the Reserve Bank's payments system policy in a way that will best contribute to: controlling risk in the financial system; promoting the efficiency of the payments system; and promoting competition in the market for payment services, consistent with overall stability of the financial system. The Payments System Board is comprised of the Governor as chair, one other Reserve Bank appointee, an appointee from APRA and up to five other members.

Most of the powers and functions of the Payments System Board derive from the *Payment Systems (Regulation) Act 1998*. This Act allows the Reserve Bank to obtain information from payments system participants, to designate a payment system, and to set access regimes and standards for designated payment systems. In addition, under the *Payment Systems and Netting Act 1998* (PSNA) the Reserve Bank is able to ensure that settlement finality in approved RTGS systems and multilateral netting arrangements is legally certain. The Reserve Bank also has the power to determine that a settlement system is a recognised settlement system under the *Cheques Act 1986*, which allows for the turnback, or presumed dishonour, of cheques for which a failed drawee institution has not settled.

The Reserve Bank also has responsibilities relating to clearing and settlement facilities. Under the *Corporations Act 2001*, the Reserve Bank is responsible for ensuring that licensed clearing and settlement facilities conduct their affairs in a way that causes or promotes overall stability in the Australian financial system. As such the Reserve Bank has determined a set of *Financial Stability Standards* against which licensed clearing and settlement facilities are formally assessed at least once a year.<sup>6</sup> Within the scope of the Reserve Bank's financial stability role, these standards are broadly consistent with international recommendations for securities settlement systems and central counterparties developed jointly by the Committee on Payment and Settlement Systems (CPSS) and the International Organization of Securities Commissions (IOSCO).

## Australian Prudential Regulation Authority

APRA is Australia's prudential regulator. It has responsibility for the supervision of, among others, ADIs – including banks, building societies, credit unions and specialist credit card institutions – which are participants in the payments system and offer payment services to users such as consumers and firms. APRA develops and enforces prudential standards with the aim of ensuring that, under all reasonable circumstances, financial promises made by institutions it supervises are met within a stable, efficient and competitive financial system.

## Other regulators

As Australia's competition regulator, the ACCC is responsible for ensuring that payments system arrangements comply with the provisions of the *Trade Practices Act 1974*. This Act prohibits conduct such as price agreements, boycotts and exclusive dealing with the purpose or effect of substantially lessening competition. The ACCC may authorise such conduct if it judges it to

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6 [2008/09 Assessment of Clearing and Settlement Facilities in Australia](#)

be in the public interest, and indeed has done so in the case of the regulations and procedures for the five clearing systems operated by APCA.<sup>7</sup> To ensure a co-ordinated policy approach on competition and access in the payments system, the ACCC and the Reserve Bank have agreed a Memorandum of Understanding (MOU). The intent is that the ACCC retains responsibility for competition and access in a payment system unless the Reserve Bank imposes an access regime or sets standards for that system.

ASIC has responsibility for market integrity and consumer protection in relation to payment transactions, and across the financial system more generally, under the *Corporations Act* and the *Trade Practices Act*. ASIC is also responsible for the licensing and regulation of clearing and settlement facilities operating in Australia under the *Corporations Act*. ASIC's principal focus in carrying out this role is on the fair and effective provision of services. As discussed above, the Reserve Bank also has regulatory responsibilities for clearing and settlement facilities, which are focused on protection from systemic risk. Given the shared responsibility for regulating clearing and settlement facilities, ASIC and the Reserve Bank have agreed an MOU, which is intended to promote transparency, help prevent unnecessary duplication of effort and minimise the regulatory burden on facilities.

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<sup>7</sup> APCA currently co-ordinates and manages five clearing systems: the Australian Paper Clearing System (APCS) for cheques, the Bulk Electronic Clearing System (BECS) for direct entry, the Consumer Electronic Clearing System (CECS) for ATM and EFTPOS transactions, HVCS and the Australian Cash Distribution and Exchange System (ACDES).

# Developments since the 2005 Assessment

In 2005, RITS was subject to both a self-assessment and an independent assessment by the International Monetary Fund (IMF), conducted as part of the Financial Sector Assessment Program (FSAP). As part of its aim of continuously enhancing RITS in response to market and technological developments, the Reserve Bank has implemented a number of significant changes since 2005. In particular, over recent years a number of enhancements have been made to operational risk management policy and business continuity arrangements, in accordance with evolving international best practice in this area. The Reserve Bank has also responded to a number of improvements suggested by the IMF in its FSAP assessment of RITS.

## **Business Continuity**

RITS' business continuity arrangements have been enhanced substantially over the past four years. At the time of the FSAP, the Reserve Bank was in the process of building a new geographically remote backup site. Previously, the Reserve Bank's backup arrangements were split over two sites: a business recovery site, which provided an alternative workspace for critical staff located outside the CBD, and a geographically remote corporate recovery site, providing synchronous backup of IT operations. These functions were combined in mid 2007 at a new business recovery site. In addition, the new backup site offers full system redundancy on-site, through the duplication of equipment and links to service providers. Furthermore, the backup site is permanently staffed, thereby eliminating any delay in recovery time due to the need to relocate staff. Later this year, the Reserve Bank intends to commence rotating production operations between the two sites on a regular basis.

## **Information Security**

At the time of the FSAP, implementation of a new, more secure, RITS user interface was well advanced. The member functionality aspect of this project was implemented in December 2006, bringing RITS security into line with international standards with respect to confidentiality, integrity and authenticity in the transmission of information and data. As part of the user interface project, the Reserve Bank introduced digital certificates to strengthen authentication, integrity and protection from non-repudiation. Secure Sockets Layer (SSL) technology was also implemented, providing end-to-end encryption for messages exchanged via a new internet browser-based user interface and across the Austraclear National Network Infrastructure (ANNI, a closed user group network used to access Austraclear and RITS). The launch of the highly secure browser-based interface also lowered the cost of RITS access to small participants through the option of using the internet to access RITS. The internet has also provided an alternative connectivity option in the event of problems with ANNI. Subsequently, the high standard of security in RITS has been verified in several external security reviews.

## RITS Platform Upgrades

More recently, the Reserve Bank completed an upgrade to the RITS platform, including hardware, operating systems, databases and firewalls, which has reduced operational risk and improved recovery times. In February 2009, the RITS platform was upgraded to new software, including new versions of Open VMS and the Oracle Database. At the same time, the system was moved to a new storage area network and the network switches were upgraded.

## Consultation with Users

In response to the IMF recommendation that the Reserve Bank establish a consultative framework with users, the Reserve Bank has set up a RITS User Group, with meetings held in Melbourne and Sydney every six months. In addition to these meetings, the Reserve Bank continues to liaise closely with industry through its membership of relevant APCA management committees for a number of clearing systems, particularly HVCS, and *ad hoc* working groups that have been established to co-ordinate specific projects. Communication with users has also been enhanced with the launch of the RITS Information Facility, through which all relevant RITS documents are available online.

## Targeted Bilateral Offset

As a result of discussions with industry in these fora, the Reserve Bank has developed several enhancements to RITS. Most recently, the Reserve Bank implemented targeted bilateral offset functionality, a tool that assists participants in managing client credit constraints, while minimising liquidity needs. Using targeted bilateral offset, two members can select offsetting transactions to settle simultaneously. Such transactions might otherwise be delayed due to binding constraints on individual customer credit limits.

## Low-value Feeder Project

The Reserve Bank is also working with APCA on a project to develop a ‘Low-value Payments Feeder’. The objective is to minimise the settlement risk associated with the deferred net settlement of retail payments, while at the same time simplifying access to the clearing network for direct entry and cheque transactions.

Currently, retail payments are settled on a net next-day basis in the ‘9am batch’. This delay in interbank settlement means that participants in these systems are exposed to credit risk associated with the settlement process (see section 3.2). The 9am batch process concentrates operational risk because other RTGS payments cannot be settled until the 9am batch is complete. In order to minimise the duration of the credit exposure, and reduce the concentration of operational risk in the single daily batch process, the Reserve Bank is developing functionality in RITS to allow same-day settlement of retail payments. With the development of this functionality, the Reserve Bank intends to work with the industry to migrate settlement of retail payments, starting with direct entry payments, away from a single daily batch process to multiple intraday settlements as files of payment instructions are exchanged between participants.

These files are currently exchanged across a web of bilateral links. To help simplify access to the clearing network, the Reserve Bank is developing an optional ‘switch’ for files of direct entry and cheque instructions. The switch will accommodate the different network preferences of various industry participants by enabling the transfer of files between networks (eg, SWIFT and the Community of Interest Network<sup>8</sup>). The facility will also be able to translate files sent using different file-transfer protocols and therefore accommodate participants’ preferences with respect to protocols.

## **Non-resident Participants**

As part of their contractual obligations on joining RITS, non-resident participants agree to be subject to the non-exclusive jurisdiction of the courts of New South Wales. There are also special provisions in the *Corporations Act* to deal with the insolvency of a foreign company. Nevertheless, the IMF recommended that entities located outside the Australian jurisdiction that apply for participation in RITS, either as a branch or on a remote basis, be required to provide a legal opinion that analyses possible conflict of laws and potential legal risk for RITS and its participants. At this stage, the Reserve Bank has declined to require such legal opinions as it is not convinced that the potential benefits of gaining further legal certainty warrant the additional cost to new participants.

## **RITS Pricing**

The IMF also recommended that the Reserve Bank consider reviewing pricing in RITS. The Reserve Bank regularly reviews RITS pricing but, to date, has decided against making any changes. The pricing structure is currently being reviewed in the context of new services being introduced. Users will be provided with the opportunity to provide feedback on any changes that may result from this review.

## **Oversight Arrangements**

With respect to the Reserve Bank’s responsibilities as overseer, the IMF recommended considering whether current arrangements avoid potential conflicts of interest between the policy and oversight functions, and the Reserve Bank’s role as operator of RITS.

As the IMF noted, Australia has been a pioneer in establishing a separate board responsible for payments system policy and oversight. This separation is enforced up to and including the level of Assistant Governor, with Payments Policy Department responsible for payments system policy and oversight, while Payments Settlements Department is responsible for operating RITS. The Reserve Bank has decided not to implement separation at the senior executive level, as internal discussion at the Reserve Bank’s Executive Committee offers considerable benefits, and other procedures are in place to identify and address any conflicts of interest that might arise.

The spirit of the IMF’s recommendation has, however, been reflected in formalisation of oversight methods and procedures, including regular monitoring and reporting.

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<sup>8</sup> *The Community of Interest Network is a virtual private network that facilitates a single point of connection to the network for participants.*

# Assessment against the Core Principles

## 1. Legal Basis

*Core Principle 1: The system should have a well founded legal basis under all relevant jurisdictions.*

### 1.1 Assessment of compliance

RITS complies with this principle. The RITS rules, together with Australian legislation, provide a comprehensive and well-established framework for RTGS payments.

### 1.2 Legal framework

The *RITS Regulations and Conditions of Operation* (RITS Regulations) provide the legal structure for RITS. The RITS Regulations set out rules for the operation of RITS and the rights and obligations of participants and the Reserve Bank. The legal basis of RITS is established by contract. Standard agreements are executed to bind each party to the RITS Regulations. The RITS Regulations explicitly submit each party to the non-exclusive jurisdiction of the courts of New South Wales and their courts of appeal.

RITS accepts payment transfer instructions from approved feeder systems, including ‘batch feeder’ settlements submitted by an approved batch administrator. Admission as a feeder system is by specific reference in the RITS Regulations and contractual arrangement with the Reserve Bank.

### 1.3 Legal certainty of finality of settlement

Finality of settlement in RITS is made legally certain by Reserve Bank approval of RITS under Part 2, Section 9 of the PSNA. The PSNA provides for the Reserve Bank to approve an RTGS system so that transactions in that system are protected from the potential application of the zero-hour rule. Under this rule, a court-ordered liquidation is deemed to commence from the midnight before the court order was granted, which could result in payments made in the RTGS system by a failed institution on the day of insolvency being declared invalid. This would undermine the irrevocable nature of RTGS payments and create severe liquidity, and potentially systemic, problems in the payments system.

Fallback arrangements, in the event that RITS is unavailable and a decision has been made that it is unlikely to recover, provide for multilateral netting of payments received from the HVCS and Austraclear feeder systems. The legal certainty of this multilateral netting, and therefore irrevocability of finality of settlement, is protected by an approval under Part 3, Section 12 of the PSNA.

## **2. Understanding Financial Risks**

*Core Principle II: The system's rules and procedures should enable participants to have a clear understanding of the system's impact on each of the financial risks they incur through participation.*

### **2.1 Assessment of compliance**

RITS complies with this principle. The RITS rules and procedures are clear, comprehensive and up to date. As RITS is an RTGS system, RITS participants are not subject to credit risk as part of the settlement process. The liquidity risks that arise from participation in RITS and the methods available to participants to manage these risks are clearly evident from the RITS rules and procedures.

### **2.2 RITS rules and procedures**

The RITS rules and procedures encompass the RITS Regulations and associated agreements, and a range of supporting documentation provided online through the RITS Information Facility. In particular, detailed User Guides are available via the RITS Information Facility. Details are updated as changes occur. When changes are made to the RITS Regulations, the Reserve Bank circulates the updated version to all members. Members are generally notified of other changes by email or through RITS.

The rules and procedures set out the legal basis of RITS, identify the obligations and rights of the participants and the system operator, and describe how the system operates. In explaining the system design, the operating and settlement process timetable, the arrangements for liquidity provision and the procedures for managing liquidity risks, the rules and procedures provide participants with a clear understanding of the financial risks they incur through participation.

The Reserve Bank provides participant training and monitors the performance of participants to ensure the rules and procedures are well understood. Training is provided to all new RITS members, and refresher training is offered to all members at regular intervals. Training consists of presentations by the Reserve Bank on the key features of RITS and the opportunity to perform transactions in a test environment. The Reserve Bank also tracks the daily payments of participants against their regular patterns of payments to identify and proactively deal with potential issues.

## **3. Management of Financial Risks**

*Core Principle III: The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.*

### **3.1 Assessment of compliance**

RITS complies with this principle. Since it is an RTGS system, RITS participants are not exposed to unintended credit risk in its operations: since customer accounts are not updated before interbank settlement is completed (with finality), there is no opportunity for a build-up of credit

exposures between participants. The Reserve Bank's exposure to participants from providing liquidity is managed by taking title to eligible securities under repos.

RITS participants incur liquidity risks which they manage through the use of repos and various liquidity-saving tools available in RITS. Participants' liquidity management responsibilities and the alternative tools available to meet them are set out clearly in the *Overview of Functionality*, available from the RITS Information Facility. The Reserve Bank monitors participants' liquidity management in RITS, and liaises with participants where necessary to improve performance or prevent potential problems arising.

### **3.2 Credit exposures between participants**

The RTGS mode of settlement in RITS is designed to ensure that unintended credit exposures do not accumulate between participants during the settlement process: payment messages are exchanged between banks simultaneously with transfer of funds across ESAs. By contrast, under the deferred net mode of settlement such exposures can arise, since banks typically update customers' accounts in respect of payment messages exchanged prior to the completion of interbank settlement. The longer the delay between the update of customer accounts and the transfer of the agreed settlement asset (ESA balances) between banks, the longer the duration of interbank credit exposure, and the greater the potential for large exposures to build up.

### **3.3 Credit exposure between the Reserve Bank and participants**

The Reserve Bank, as the operator of RITS, provides the means of settlement and additional liquidity to participants in the RTGS system. In doing so, the Reserve Bank has the potential to incur credit exposures to participants. These are managed by requiring payments to be settled using funds in participants' ESAs, which cannot be overdrawn, and by providing liquidity to participants through repos.

To promote the efficient flow of liquidity within the system and minimise the potential for gridlock to arise, the Reserve Bank provides additional liquidity to participants via interest-free intraday repos. In unusual circumstances where a participant is unable to reverse an intraday repo with the Reserve Bank by the end of the day, the transaction can be converted to an overnight repo, with interest charged at 25 basis points above the target cash rate. The Reserve Bank only accepts highly rated debt securities denominated in Australian dollars as securities for repo. Eligible securities include those issued by: the Australian Government; the central borrowing authorities of the state and territory governments; certain supranational organisations, foreign governments and government agencies with an explicit government guarantee; and some ADIs with an ESA. More recently, some asset-backed securities and other highly-rated private securities have also become eligible for repo. Participants can only repo securities issued by a related party if they are asset-backed securities issued by a bankruptcy-remote special-purpose vehicle. To manage market risk, the Reserve Bank applies haircuts of between 2 and 10 per cent to all securities under repo, depending on the quality of the security. In the event of a very large price movement, the Reserve Bank requires additional securities to be provided as overcover. A full description of this facility and eligible securities is provided on the Reserve Bank website.

In the event of insolvency, the close-out netting provisions included in the repo agreements allow the Reserve Bank to close out or terminate the second leg of the repo immediately. This right is protected by Part 4 of the PSNA. Since a participant must use securities issued by a third party, both the participant and the issuer would have to fail for the Reserve Bank to be in a total loss situation.

### 3.4 Participants' liquidity risk

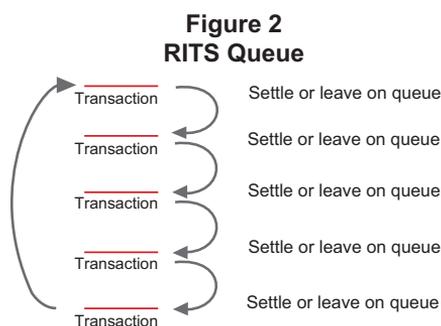
#### *Reserve Bank's responsibilities*

As discussed above, the Reserve Bank helps RITS participants to manage their liquidity risk by making intraday liquidity available to participants, subject only to their ability to provide eligible securities. Furthermore, liquidity risk to participants is mitigated by the design of the RITS queue, which uses a liquidity efficient next-down looping algorithm (Figure 2). It also incorporates a bilateral auto-offset mechanism that helps prevent gridlock, and targeted bilateral offset functionality.<sup>9</sup>

The Reserve Bank also monitors RITS in real time for any functional problems, including those that may impact on liquidity. Monitoring includes checks as to whether a participant's payments are consistent with previously observed patterns and viewing queued payments information to ensure bottlenecks are not occurring. Where necessary,

the Reserve Bank liaises with participants to improve liquidity management performance and avert potential problems. These arrangements, which are set out in an internal policy document, have been successful in ensuring the smooth operation of RITS. By number, over half of each day's settlements occur before noon, while half of the value is settled by 2.15pm (Table 2).

Nevertheless, there is a significant peak in settlements towards the end of the day. This suggests that liquidity recycling in the system could be improved, and entails a risk that a large value of payments could be affected if an operational problem (at the level of either the participant or the central system) occurred late in the day and could not be resolved quickly. Some payment systems impose throughput guidelines and pricing policies to prevent these sorts of issues. At this stage, however, the Reserve Bank is comfortable managing these issues through liaison with participants.



<sup>9</sup> When each payment is examined, the bilateral auto-offset mechanism searches the queue for offsetting payments between the same participants which can be settled simultaneously thereby minimising the amount of liquidity required. The targeted bilateral offset functionality allows a pair of participants to select specific payments to be settled simultaneously.

**Table 2: RTGS Average Throughput**  
2008/09

	Time by which each percentage of total payments is settled		
	25	50	75
<b>Summer time*</b>			
– Number	10:00	11:15	14:00
– Value	11:45	14:15	16:00
<b>Winter time**</b>			
– Number	9:45	11:15	14:00
– Value	11:30	14:00	15:45

\* 6 October 2008 to 3 April 2009  
\*\* 1 July 2008 to 3 October 2008 and 6 April 2009 to 30 June 2009  
Source: RBA

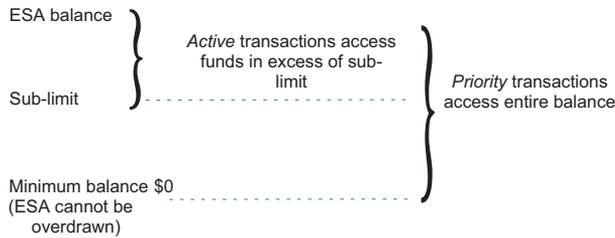
### *Participants' responsibilities*

While the Reserve Bank makes intraday liquidity available to RITS participants, participants are responsible for managing their own liquidity risk. The Reserve Bank conducts open market operations in order to ensure that end-of-day system liquidity is adequate to maintain the cash rate at its target. Individual participants' holdings of eligible securities and their use of intraday repos are commercial decisions for each participant. The tools in RITS which facilitate participants' liquidity management are set out in the *RITS Overview of Functionality* and discussed below.

RITS participants have access to a range of information to enable them to manage their liquidity risk through the RITS interface, accessed via the internet or Austraclear's proprietary ANNI network. This interface provides participants with real-time information to manage their liquidity efficiently. In particular, RITS participants can view their current ESA balances, settled payments and receipts, queued inward and outward transactions, the value of first and second leg intraday repos, and their projected end-of-day ESA balances.

The sub-limit feature of RITS allows participants to efficiently manage and conserve liquidity. Participants can determine the way in which individual transactions draw on liquidity by setting the payment status ('deferred', 'active' or 'priority') and reserving liquidity for priority payments using a sub-limit (Figure 3). Payments with a deferred status are not tested for settlement until their status is amended. Active payment instructions are settled so long as the level of the paying institution's ESA balance remains above the participant's specified sub-limit. Priority payments, by contrast, are tested against the full ESA balance. This functionality can be accessed through either the RITS user interface or via SWIFT messages, and sub-limits can be changed at any time during the settlement day.

**Figure 3**  
**Reserving Liquidity Using Sub-limits**



## 4. Prompt Final Settlement

*Core Principle IV: The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day.*

### 4.1 Assessment of compliance

RITS complies with this principle. RITS is an RTGS system; once payment instructions and funding ability are validated, payments are settled in real time with immediate finality.

### 4.2 Finality of settlement

Payment in RITS is final and irrevocable upon the simultaneous debit and credit of the paying and receiving participants' ESAs at the Reserve Bank.<sup>10</sup> As discussed in section 1.3, an approval under Part 2, Section 9 of the PSNA provides legal certainty for settlement in RITS in the face of participant insolvency. As such, in the event of insolvency all transactions settled on the day of the insolvency are irrevocable and cannot be unwound.

Given the irrevocability of settlement in RITS, the RITS Regulations give the Reserve Bank the ability to suspend a participant's membership and remove its unsettled transactions from the system queue if the Reserve Bank becomes aware of an insolvency event in respect of that participant, or otherwise has reason to believe that participant will be unable to fund its settlement obligations. The RITS Regulations require each member to immediately advise the Reserve Bank if it becomes aware of an insolvency event in respect of itself (or a suspected insolvency event in respect of another participant). If the Reserve Bank suspends a participant, it must inform that participant and may give notice of the suspension to all members.

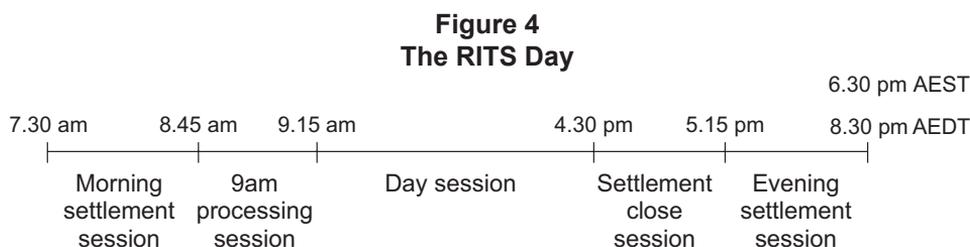
### 4.3 Timing of settlement

Payments are settled with finality in RITS as soon as payment instructions and funding availability are validated. Payment instructions submitted to RITS are automatically checked to ensure the message and entry fields are valid, with valid payment instructions placed on the system queue for settlement testing. (The transaction types that are valid for settlement in the various sessions during the RITS day are explained below.) A payment is queued until settlement is possible using some combination of funds in the paying member's ESA and bilaterally offsetting payments. When this test is successful, the payment is settled irrevocably.

<sup>10</sup> This is the case even where a participant has sent a payment instruction in error; in such circumstances it is up to the parties to the transaction to bilaterally negotiate a solution to the problem. The RITS Regulations provide for the Reserve Bank to reverse erroneous ESA entries caused by RITS itself.

Although settlement occurs as soon as payment instructions and funding availability are validated, a payment need not settle in RITS on the day the payment instruction is made, although the vast majority do. Indeed, until a payment has been settled, the sending participant may recall the transaction from the queue if it is no longer intended for settlement in that session. Occasionally, the sending participant will set the status of a payment to deferred to prevent it from settling in that session but will not recall it. At the end of a session, transactions that are no longer eligible for settlement are removed from the queue (with notification sent to the paying participant) and may be resubmitted in a subsequent session if still intended for settlement. These arrangements – detailed in the *RITS Overview of Functionality* – in no way compromise the finality of settlement in RITS.

Standard settlement hours in RITS, as established by the RITS Conditions of Operation, are 7.30am to 6.30pm (Australian Eastern Standard Time) and from 7.30am to 8.30pm during Australian Eastern Daylight Time (the first Sunday in October to the first Sunday in April). Prior to 9.15am, settlement is limited to RITS cash transfers and interbank Austraclear transactions (during the morning settlement session) and the deferred net obligations from the 9am batch (during the 9am processing session) (Figure 4). Other payment instructions can be submitted to RITS during this time, but they will not be tested for settlement until the main day session commences.



The evening settlement session is designed to facilitate CLS Bank settlement. Only ‘evening agreed’ settlement participants, as defined in the RITS Regulations, can participate fully in the evening settlement session from 5.15pm onwards. To allow the settlement of remaining queued transactions at the end of the day session there is a 45-minute settlement close session. At the end of the settlement close session, any remaining queued payments involving non-evening agreed participants are removed from the queue.<sup>11</sup>

The Reserve Bank has the discretion to vary the operating hours under the RITS Regulations. For example, RITS settlement session extensions may be made by the Reserve Bank in the unusual circumstances where there are substantial unsettled transactions remaining at the scheduled session close time. Participants may request extensions to session times, according to procedures outlined in the *RITS Overview of Functionality*. The decision to extend a settlement session rests with the Reserve Bank and individual requests are considered against guidelines known to participants. Participant requests for session extensions are monitored over time and action taken where necessary to improve participant settlement performance.

<sup>11</sup> Non-evening agreed participants can only re-submit (or submit new) RITS cash transfers and interbank Austraclear transactions during the evening settlement session; they cannot submit any SWIFT transactions. Evening agreed participants can submit any of these transaction types, except customer SWIFT payments, for settlement in the evening session. Any unsettled transactions between evening agreed participants submitted during the day session remain on the queue and are tested for settlement during the evening settlement session.

## **5. Settlement in Multilateral Netting Systems**

*Core Principle V: A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation.*

### **5.1 Assessment of compliance**

Not applicable. RITS is an RTGS system.

## **6. Settlement Assets**

*Core Principle VI: Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk and little or no liquidity risk.*

### **6.1 Assessment of compliance**

RITS complies with this principle. RITS settles in central bank funds through ESAs at the Reserve Bank.

## **7. Security and Operational Reliability**

*Core Principle VII: The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing.*

### **7.1 Assessment of compliance**

RITS complies with this principle. RITS provides a very high level of confidentiality, integrity, authentication, non-repudiation and auditability. Over the past five years, RITS has achieved system availability of at least 99.85 per cent on an annual basis. RITS' operational reliability is ensured by continuous monitoring, in-built warning systems, clear procedures to cope with any system incidents and regular testing of the contingency arrangements. In line with international best practice, RITS is synchronously mirrored at a geographically remote backup site, which is permanently staffed. Full redundancy exists at both sites, ensuring that there is no single point of failure at either site. RITS operational risk policies and procedures are comprehensive and subject to regular rigorous review, including audits and external reviews, to ensure they remain effective over time.

### **7.2 Security**

Access to RITS is tightly controlled using a range of security products depending on the method of access. Security policies are revisited annually and in the event of changes to either the nature of the risk or the assets being protected.

To gain access to the RITS User Interface, each user requires a RITS token with a valid and unique digital certificate; these are issued to users via a secure process. When logging on, the user must provide a user-id and password, their RITS token and a token codeword. Access rights are controlled via unique logons for each user, creating an audit trail for each action within the system. The scope of a user's access is limited according to their needs, and RITS provides for the

separation of duties at all stages of payment and administrative processes. Security administrators can review event logs and follow up on unusual activity. All transactions can be traced end-to-end to prove submission and receipt, and are signed using a private key that allows for enhanced non-repudiation of the transaction.

All traffic across the various networks that are used to access RITS is secure. Access via the internet and ANNI is encrypted end-to-end using the SSL protocol. All SWIFT messages are secured using standard SWIFT security. The RITS application and supporting infrastructure is segmented using firewalls approved by the Defence Signals Directorate (the agency responsible for evaluating information security products and services used by the Australian Government), so that only authorised traffic can reach it. Within the RITS infrastructure, there is further segmentation that limits access to the RITS databases.

Physical access to the data centres where equipment is located is restricted via electronic access controls to only those staff who require access. The backup site is also designed in such a way as to provide physical protection to the building.

### 7.3 Operational reliability

RITS is designed to have a very high standard of operational reliability, with comprehensive procedures in place to: ensure reliability of IT infrastructure, monitor performance in real time and address potential problems early; maintain sufficient capacity; and manage change effectively. There are sufficient numbers of well-trained operational staff to ensure that the system can be operated safely at any time. To minimise key person risk, staff are cross-trained to allow greater flexibility in filling key roles.

Availability of RITS system components under the Reserve Bank’s control (application software and hardware; which is targeted at 99.9 per cent) has been 99.85 per cent or higher on an annual basis throughout the assessment period of 2006 to 2009 (Table 3). Availability is measured relative to total hours available when the system is open for settlement and reporting. Availability of external network components (comprising the Austraclear and SWIFT networks) that are outside the Reserve Bank’s control has been slightly lower.

Over 2008/09, there were six incidents involving RBA-controlled components of RITS, although only two resulted in downtime in RITS, the longest of which was a 30-minute delay to the opening of the RITS day session. With respect to the non-RBA-controlled components, there were two incidents in 2008/09, both involving Austraclear. Appropriate follow-up action was taken in order to avoid repeat occurrences of these incidents, according to the procedures described in section 7.5.

**Table 3: RITS System Availability**  
Per cent

Year	RBA-controlled components	Non-RBA-controlled components
2006	99.85	99.77
2007	99.90	99.82
2008	99.96	99.90
First half 2009	99.99	99.82

Source: RBA

A complete inventory of all Reserve Bank-owned RITS hardware and software is maintained and a Service Level Agreement between Payments Settlements Department (which is responsible for operating RITS) and the Reserve Bank's Systems and Technology Department (which provides IT infrastructure and support) sets out minimum acceptable standards for this equipment. Minimum service and operational standards for the external network components of RITS (ie, Austraclear and SWIFT) are set out in agreements between the Reserve Bank and the relevant operator. Under the RITS rules and procedures, RITS members are required to have operational capacity and backup commensurate with their business operations and importance to the system as a whole. The RITS Help Desk monitors RITS in real time for any potential operational problems at either the system or participant level. To aid in this process the Help Desk has access to tabular data and graphical representations. The performance of all IT equipment is automatically monitored – including hardware availability, CPU utilisation, physical memory utilisation and database utilisation – with notification alarms sent to IT Operations staff at pre-defined trigger points. Procedures are in place to escalate issues as appropriate to address potential problems early and notify relevant staff.

Regular performance and capacity testing ensures that RITS has sufficient capacity to handle significant increases in volume. The Reserve Bank ensures that RITS has sufficient operational capacity to process a peak day's transactions in less than two hours. Capacity is targeted to be sufficient to accommodate projected volumes 18 months in advance, with 20 per cent headroom. Current capacity exceeds these targets.

Rigorous change management policy and procedures exist to protect the integrity and quality of the IT software and hardware. Changes are subject to stringent testing, using separate test environments, before implementation is approved. Where necessary, system participants are involved in this testing. Major or high-risk changes are implemented outside operating hours, to allow time for verification before the system opens. All changes have appropriate back-out plans.

## **7.4 Business continuity**

RITS is synchronously mirrored at a geographically remote backup site, which is permanently staffed. Full redundancy exists at both sites, ensuring there is no single point of failure at either site. RITS can be operated from the backup site indefinitely as the backup site has the same processing capacity as the primary site. From late 2009, production operations will be alternated between the primary and backup sites on a regular basis. Critical staff also have the ability to work from home through remote login using a Virtual Private Network. The recovery time target is between 15 and 40 minutes, depending on the severity of the operational problem. In all cases, synchronous backup means RITS has a zero recovery point and no transaction data have ever been lost.

Detailed Contingency Event Plans have been developed, and all key scenarios are tested at least annually. The scenarios cover the failure of individual servers, firewalls, routers, links and site outages. The tests involve all elements of the policy, including network providers and utilities. To ensure staff are fully aware of the arrangements and procedures, staff are tested on this knowledge in regular 'at-desk' contingency drills. All contingency procedures can be easily referenced in a single document, which is continually updated.

The RITS Help Desk monitors RITS in real time for any problems at either the system or participant level, and participants are required to notify the Help Desk immediately on becoming aware of any technical problem affecting their RITS transaction activity.

In the event of an incident, there are clear procedures for prioritising and escalating to the appropriate decision makers. Crisis management procedures include the provision of timely information to stakeholders, including RITS members and interdependent systems. A web-based crisis communication facility for RITS enables the operator to disseminate information via email, SMS and voice messages to a large number of stakeholders within minutes. This facility can also be operated from remote locations and does not rely on the availability of either the primary or backup site. Conference call facilities can also be quickly invoked to enable discussion between key stakeholders.

In the extremely low-probability event that both the primary and backup sites were rendered inoperable and RTGS processing was abandoned for the day, fallback arrangements in Austraclear and HVCS may be invoked. These allow for interbank settlement on a deferred net basis the following day.

## **7.5 Risk assessment and review**

Operational risk policies (which cover security and operational reliability issues) are developed and approved by the senior management of the Payments Settlements Department. All operational risks are documented and addressed, using a framework developed and overseen by the Reserve Bank's Risk Management Unit, which reports to the Reserve Bank's Risk Management Committee. Under this framework, all risks are identified and described, their impact and probability is assessed, mitigating controls are implemented and responsibility for managing the risk is assigned. In addition to periodic reviews of operational risk policies, risks are always re-assessed following an incident and policies varied as appropriate.

The Reserve Bank requires incident reports and undertakes intensive follow-up on internally and externally sourced RITS-related incidents to ensure action is taken to avoid repeat occurrences. Payments Settlements Department maintains a database of known incidents that is used to identify and follow up on persistent problems.

RITS is subject to an extensive audit programme conducted by the Reserve Bank's Audit Department on at least an annual basis. The Reserve Bank's internal audit programme is comprehensive comprising, but not limited to, technical reviews and regular operational inspections. The Reserve Bank employs external auditors to review the work of the internal Audit Department; these auditors have the option of directly auditing RITS. RITS is also subject to external audit reviews by the Australian Government's Australian National Audit Office. In addition, over the past two years Payments Settlements Department has initiated five external reviews, focusing mainly on security policies and procedures as this was considered the highest priority area.

## 8. Efficiency

*Core Principle VIII: The system should provide a means of making payments which is practical for its users and efficient for the economy.*

### 8.1 Assessment of compliance

While this principle requires considerable subjective assessment, the Reserve Bank's assessment is that RITS complies with this principle.

### 8.2 Objectives of RITS

The Australian financial system is characterised by deep financial markets, a wide range of financial instruments and large values of foreign exchange transactions. Participants in these markets require a payment system providing prompt final settlement, with minimum exposure to other participants. Thus the Reserve Bank's objective in developing and operating RITS is to provide the infrastructure through which high-value payments can be made in a safe and efficient manner, in order to support Australia's financial markets.

As an RTGS system, RITS prevents the build-up of unsettled interbank obligations (and the associated credit risk) throughout the day. This is consistent with best practice for a developed economy with reliable infrastructure (eg, electricity and telecommunications). RITS also provides an opportunity for participants in Australia's financial markets to manage foreign exchange settlement risk by settling foreign exchange transactions on a payment-versus-payment basis through CLS Bank.

### 8.3 Efficiency

The design of RITS is efficient in that it takes advantage of Australia's skilled workforce and sophisticated use of technology to provide an international best practice electronic RTGS system at a reasonable cost to users and the economy as a whole.

The objective of RITS pricing is to recover the Reserve Bank's operational cost of running RITS. Currently, this is met by a flat transaction fee. ESA holders pay a fee of \$0.88 (plus 10 per cent goods and services tax) for each debit and credit to their ESA through RITS. The social cost of RITS amounts to the development costs absorbed by the Reserve Bank. To ensure that the benefits of any new development outweigh the costs, the Reserve Bank consults widely on any proposed changes, as was the case with the initial development of RITS in the late 1990s (see *Self-assessment of the Reserve Bank Information and Transfer System*, August 2005 for further details).

RITS is designed to be liquidity efficient. The benefit of an RTGS system (compared with the deferred net mode of settlement) in terms of the elimination of unintended credit exposures between participants comes at the cost of somewhat reduced liquidity efficiency. The design of RITS minimises the liquidity needs of participants to the extent possible. RITS has a central queue which incorporates a bilateral auto-offset mechanism (see section 3.4 for details). RITS also incorporates tools that allow participants to manage their payments in an efficient manner, including providing real-time information and a queue management facility that allows participants to prioritise payments. Liquidity is recycled such that on average, each dollar of liquidity is used around ten times each day.

The Reserve Bank makes intraday liquidity available to participants through interest-free intraday repos (limited only by their holdings of eligible securities). While participants do incur a transaction fee and must pay an initial margin when they take out an intraday repo, the primary driver of participants' liquidity costs is the opportunity cost of the eligible securities sold under repo. However, the opportunity cost of holding eligible securities is relatively low due to the wide range of eligible securities and the overlap with overnight capital holdings related to prudential requirements. Furthermore, the extent of individual participants' use of intraday liquidity reflects the trade-off between their opportunity cost of holding eligible securities and the cost of delaying the settlement of payments intraday.

The efficiency of RITS is further enhanced by the fact that it allows participants significant freedom to choose the appropriate level of service (and associated fixed cost) based on their needs and degree of sophistication. This ensures RITS is a practical payments solution for all users. The design of RITS allows participants to choose the most cost-effective means of linking their proprietary payments processing systems to RITS. Participants' ability to integrate their proprietary systems with RITS is facilitated by the use of SWIFT messages, which are based on international standards. The variety of queue-management features available in RITS minimises the degree of sophistication required of participants' proprietary systems. Participants who have relatively low RTGS transactions values (less than 0.25 per cent of total value) also have the option (subject to approval) to settle via an agent, reducing their fixed costs further.

## **9. Access Criteria**

*Core Principle IX: The system should have objective and publically disclosed criteria for participation, which permit fair and open access.*

### **9.1 Assessment of compliance**

RITS complies with this principle. The eligibility criteria have been developed with the aim of allowing fair and open access to RITS. These access criteria are objective and publicly disclosed in media releases, available on the Reserve Bank's website.

### **9.2 Eligibility criteria**

Since settlement in RITS occurs using central bank money, only an institution with an ESA at the Reserve Bank can be a settlement member in RITS.<sup>12</sup> Furthermore, since RITS is the only means of access to ESAs, all ESA holders must be members of RITS, meeting all of its operating conditions and charges. Thus, the eligibility criteria for ESA holders effectively form the eligibility criteria for settlement membership in RITS. These criteria are established by the Payments System Board of the Reserve Bank, and are set out in the March 1999 and March 2003 media releases.<sup>13</sup> To obtain an ESA an applicant must be:

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<sup>12</sup> A separate class of member – RITS non-transactional member – that does not undertake transactions within RITS does not require an ESA, and so is exempt from the ESA eligibility criteria. These members require RITS non-transactional membership either to participate in the Reserve Bank's open market operations or as batch administrators, but they do not require an ESA because they do not participate directly in RITS. See [Eligible Counterparties and Batch Settlement in RITS](#) for the relevant eligibility criteria.

<sup>13</sup> See [March 1999 Media Release](#) and [March 2003 Media Release](#)

- an actual or prospective provider of third-party (customer) payment services with a need to settle clearing obligations with other providers;<sup>14</sup>
- able to demonstrate that they have the liquidity to meet settlement obligations under routine conditions, during seasonal peaks and under periods of stress; and
- satisfy the Reserve Bank that they have the necessary operational capacity.

The eligibility criteria are designed to enhance competition in the provision of payment services by allowing all providers of third-party payment services access, irrespective of their institutional status.

The second criterion listed above addresses the ability of participants to manage liquidity risk, including that associated with operating in the RTGS system. Furthermore, the Reserve Bank has the ability to impose additional requirements on applicants as reasonably necessary to manage the liquidity and operational risks that participants bring to the RTGS system. This reduces the likelihood that an individual participant could disrupt the operation of RITS through defaulting, becoming a liquidity sink,<sup>15</sup> or excessively delaying payments. Additional requirements are imposed as follows:

- organisations not supervised by APRA that participate in deferred net settlement systems that settle in RITS (ie, the daily 9am and CHESSE batches) and therefore build up credit exposures in these systems, have to meet collateral requirements on an ongoing basis (unless they are always net receivers in the payments clearing arrangements);<sup>16</sup> and
- collateral requirements may be imposed on any institution on a transitional basis if that institution has only limited payments experience.

The access arrangements to RITS are also designed to be efficient, in that disproportionate requirements are not imposed on smaller participants. Institutions whose payments consistently account for less than 0.25 per cent of all RTGS transactions may make RTGS transactions through an agent, rather than as direct participants in RITS.<sup>17</sup> Indirect participation in RITS is not available more broadly because of the concern that it might lead to a high degree of concentration of payments through a few direct participants, and thus an unacceptable concentration of liquidity and operational risks in these participants. Indirect participation also introduces credit risk for participants because settlement between an indirect participant and its settlement agent occurs in commercial bank money. Although some smaller institutions are thus required to participate in RITS directly, the cost of technical access to RITS was reduced significantly by the introduction of the internet browser-based user interface in 2006.

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14 *This encompasses all ADIs (as defined by APRA) and a range of other institutions. In general non-ADI applicants must be current or prospective members of a payments clearing arrangement or operate a clearing house that acts as a central counterparty, as ESAs will be provided only for settlement obligations from the clearing process.*

15 *Liquidity sink describes a situation where a participant is able to receive but not send payments, and thereby drains liquidity from the system.*

16 *To address this risk in the case of institutions supervised by APRA, the Reserve Bank generally relies on APRA's prudential supervision of these institutions.*

17 *The Reserve Bank requires all authorised banks to be RITS members and have an ESA for contingency purposes, even if they settle through an agent.*

### 9.3 Termination of participant membership

The rules relating to suspension, termination and resignation from RITS are set out in the RITS Regulations. The Reserve Bank may at any time terminate or vary the terms of the membership of any institution, or impose particular conditions on an institution’s membership of RITS. In addition to these rights, the Reserve Bank may suspend, for such a period as it considers appropriate, any member: who fails to comply with any provision of the RITS Regulations; who is guilty of any conduct regarded by the Reserve Bank to be contrary to the interests of the members of the system; or who has become insolvent. A member may resign by giving the Reserve Bank one month’s notice in writing or, if the Reserve Bank agrees, a shorter period of notice.

## 10. Governance

*Core Principle X: The system’s governance arrangements should be effective, accountable and transparent.*

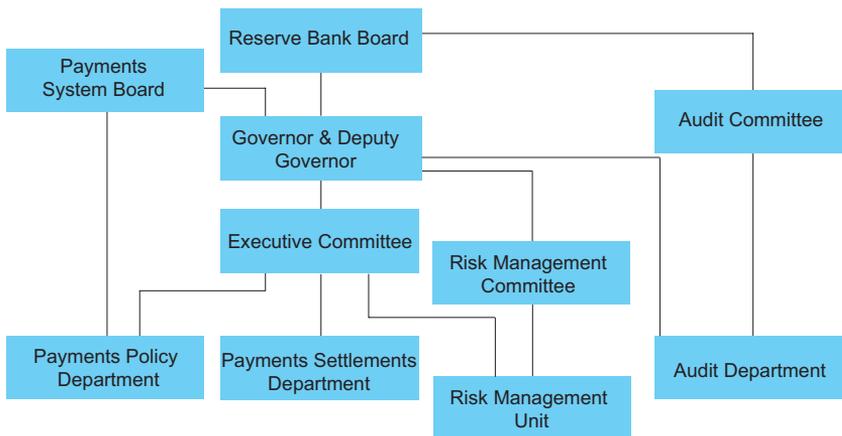
### 10.1 Assessment of compliance

RITS complies with this principle.

### 10.2 Effective governance arrangements

RITS is owned by the Reserve Bank and operated as a functional area of the Reserve Bank – it is not a separate entity. The management and operation of RITS fall under the governance structure of the Reserve Bank, and are subject to its normal Reserve Bank Board oversight, decision-making and audit processes (Figure 5). The Governor and Deputy Governor of the Reserve Bank are appointed by the Australian Government in accordance with the *Reserve Bank Act*. The Governor is the chief executive of the Reserve Bank (as an independent statutory authority) and chairman of the Reserve Bank Board and Payments System Board. The Governor reports to these boards and is accountable for the policy decisions and performance of the Reserve Bank.

**Reserve Bank Governance Structure**



Decisions affecting the day-to-day operations, customer relations and development of RITS are the responsibility of the Payments Settlements Department of the Reserve Bank. Clear procedures are in place to elevate day-to-day operational matters within Payments Settlements Department and other areas of the Reserve Bank, as appropriate. Decisions concerning the operation of RITS and ESAs are required to be consistent with the policy environment determined by Payments Policy Department (the functional area of the Reserve Bank responsible for payments system oversight) and approved by the senior executive of the Reserve Bank (through the Executive Committee).

Payments Settlements Department is part of the Reserve Bank's Banking and Payments Group, which is headed by an Assistant Governor and is subject to frequent operational audits conducted by the internal audit area of the Reserve Bank. The Reserve Bank Audit Committee – comprising two non-executive members of the Reserve Bank Board, the Deputy Governor of the Reserve Bank and an external appointed member – meets quarterly. Minutes of the Audit Committee are circulated to the Reserve Bank Board and discussed as appropriate.

The Payments System Board of the Reserve Bank has responsibility for oversight of payment systems, including RITS, to ensure compliance with its payments system policy. Monitoring of RITS for this purpose is conducted by the Payments Policy Department of the Reserve Bank, which is separate to Payments Settlements Department in the organisational structure, with separate reporting lines up to and including the level of Assistant Governor. The Payments Policy and Payments Settlements Departments meet regularly to discuss policy issues and operational developments, and the Payments System Board is periodically updated on developments.

### 10.3 Accountability and transparency

The Reserve Bank website provides a detailed description of RITS, including the Reserve Bank's role in its operation and oversight. It includes a description of ESAs and their eligibility requirements, details of securities that can be used in overnight and intraday repos, and the mechanics of how these are used to generate liquidity. The website also includes statistics on RTGS transactions, and media releases and other publications relating to payments system matters. The roles of the various parts of the Reserve Bank in operating and overseeing RITS, and the governance structure of the Reserve Bank more generally, are also described in material available on the Reserve Bank website.

The RITS governance arrangements ensure accountability and transparency to RITS participants and other relevant parties.

- Consultation with users and other parties in relation to prospective changes to RITS is the responsibility of Payments Settlements Department. This department liaises with system users, including via semi-annual user-group forums, to discuss current developments and prospective changes to the system. For specific projects, operational and technical working groups are formed to facilitate feedback from users. The Reserve Bank is also represented on the management committee of HVCS.
- All decisions affecting the operation of RITS are advised to participants. Policy decisions that impact upon RITS are also advised by media release. Major decisions and the reasons for them are explained in the Reserve Bank's Annual Report and, if relevant, in the Payments System Board Annual Report.

Accountability and transparency to the community more generally is ensured by the appearance of the Governor and other Reserve Bank executives semi-annually before a Parliamentary committee (the House of Representatives Standing Committee on Economics). This Committee may ask the Governor and other Reserve Bank executives questions on aspects of the Reserve Bank's functions and responsibilities, including those related to the payments system. The Committee is responsible for inquiring into the activities of the Reserve Bank and ensuring its transparency and accountability to Parliament, the financial sector and the community as a whole. Reports of the Committee are tabled in the House of Representatives.

# Central Bank Responsibilities

## A. Disclosure

*The central bank should define clearly its payment system objectives and should disclose publicly its role and major policies with respect to systemically important payment systems.*

### A.1 Assessment of compliance

The Reserve Bank complies with this disclosure responsibility.

As explained in the Regulatory Framework section above, the Reserve Bank has both a regulatory and an operational role in Australia's payments system. The Reserve Bank's regulatory responsibilities reside with its Payments System Board. A practical description of the Payments System Board's role and responsibilities, including how it is supported by the work of the Payments Policy Department of the Reserve Bank, is available on the Reserve Bank website and in Payments System Board Annual Reports.

Payments System Board policy decisions are communicated through media releases, which are published on the Reserve Bank website. Where a policy decision is of direct relevance to a payment system, or its participants, this may also be directly communicated. Regulatory decisions made by the Payments System Board, and implemented by the Reserve Bank using powers granted to it by legislation, are published in the *Commonwealth of Australia Gazette*. The provisions of some Acts require tabling of approvals before Parliament and can be subject to disallowance periods. The Reserve Bank maintains on its website lists of approvals granted, standards and access regimes imposed, and a range of other supporting documentation.

The Reserve Bank's role and policies as owner and operator of Australia's only systemically important payment system, RITS, are clearly defined in the RITS Regulations. The regulations are consistent with the Reserve Bank's legislative responsibilities with regard to payment systems, and are publicly available on the Reserve Bank's website. A practical description of the Reserve Bank's role and policies relating to RITS is also provided on the Reserve Bank website.

## B. Compliance of Central Bank Operated Systems

*The central bank should ensure that the systems it operates comply with the Core Principles.*

### B.1 Assessment of compliance

The Reserve Bank has established procedures to ensure that RITS complies with the Core Principles.

The Payments System Board is responsible for the oversight of the payments system under provisions in the *Reserve Bank Act*. As a part of this role, the Payments System Board, via the Payments Policy Department, oversees the operations of RITS. A formal self-assessment of RITS

against the Core Principles is undertaken periodically by the Reserve Bank and published on the Reserve Bank's website. To date, assessments have been undertaken in 2000, 2005 and 2009.<sup>18</sup>

To avoid any conflicts of interest, the Payments Settlements Department of the Reserve Bank (which is responsible for developing and operating RITS) is separate from the Payments Policy Department (which is responsible for the oversight of RITS) in the Reserve Bank's organisational structure. There are separate reporting lines up to and including the level of Assistant Governor, and Payments Policy Department also reports to the separate Payments System Board (see Figure 5 above).

Payments Policy Department conducts its oversight of RITS by monitoring RITS on an ongoing basis, including associated risks, market behaviour, costs, and rules and regulations. Payments Policy Department is also informed of any operational problems and, where appropriate, discusses with Payments Settlements Department the measures that are necessary to mitigate systemic risk. Any application for an ESA and thus RITS membership (see section 9.2 above) must be approved by both the Payments Policy and Payments Settlements Departments.

## **C. Compliance of Privately Operated Systems**

*The central bank should oversee compliance with the Core Principles by systems it does not operate and it should have the ability to carry out this oversight.*

### **C.1 Assessment of compliance**

The Reserve Bank has legislative power to obtain the necessary information to oversee compliance with the Core Principles by payment systems it does not operate. As described in the Regulatory Framework section above, the Reserve Bank's powers under the *Payment Systems (Regulation) Act* include the power to obtain information from payments system participants, and to set access regimes and determine standards for designated payment systems.

Australia's RTGS system, RITS, is owned and operated by the Reserve Bank and is currently Australia's sole systemically important payment system. Since RITS settles payments instructions from feeder systems, the Reserve Bank takes appropriate steps to ensure that the operation of those feeder systems does not have implications for the compliance of RITS with the Core Principles. The Reserve Bank can influence actions taken by relevant feeder systems via its operational role in respect of RITS, or via policy actions under powers afforded by the *Payment Systems (Regulation) Act* and the *Corporations Act*.

## **D. Co-operation with Other Authorities**

*The central bank, in promoting payment system safety and efficiency through the Core Principles, should co-operate with other central banks and with any other relevant domestic or foreign authorities.*

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<sup>18</sup> The 2000 self-assessment was published as part of the Payments System Board's Annual Report. The 2005 and this 2009 self-assessment have been published in more detail in stand-alone form.

## D.1 Assessment of compliance

To achieve its goals of stability, efficiency and competition in the payments system, the Reserve Bank co-operates with other relevant domestic and international regulatory authorities.

### *Domestic Co-operation*

The Australian financial supervisory authorities consist of the Reserve Bank, APRA and ASIC. The Reserve Bank has separate MOUs with APRA and ASIC. The MOU with APRA sets out the roles of each party in ensuring the stability of the financial system and detailing the framework for co-operation, including provisions for information sharing, consultation and regular meetings between senior management from both institutions. The Reserve Bank's MOU with ASIC sets out a similar framework for co-operation in respect of regulatory responsibilities for clearing and settlement facilities. Some of these facilities act as feeder systems to RITS and may be RITS members.

High-level co-ordination between these agencies and the Treasury – all of which have interests in various aspects of the payment system and its participants – is conducted through the Council of Financial Regulators. In response to the recent financial turmoil the Council has issued a joint MOU between its members detailing the management of and response to financial distress.

There are also overlapping responsibilities between the Reserve Bank and the ACCC around access and competition issues in payment systems. This overlap is dealt with in an MOU between the two agencies, which sets out each agency's responsibilities, covers the issue of regulatory consistency, the goal of information sharing and the co-ordination process.

The Reserve Bank has also established procedures for liaison with APCA, a self-regulatory industry body. Regular liaison with ASX in respect of its clearing and settlement facilities is conducted within the framework of the Reserve Bank's oversight of clearing and settlement facilities.

### *International Co-operation*

International co-operation on payment system issues occurs formally through the CPSS,<sup>19</sup> the EMEAP Working Group on Payment and Settlement Systems and the CLS Oversight Committee. The Reserve Bank is also represented on the Basel Committee on Banking Supervision. When an issue is of concern to other groupings of international institutions, communication is done on an *ad hoc* basis. This is facilitated by the Reserve Bank's maintenance of close relations with other central banks and other relevant international institutions.

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<sup>19</sup> The membership of the CPSS was expanded in July 2009 to include an additional nine countries, including Australia.

# List of Acronyms

ACCC	Australian Competition and Consumer Commission
ACDES	Australian Cash Distribution and Exchange System
ADI	Authorised Deposit-taking Institution
ANNI	Austraclear National Network Infrastructure
APCA	Australian Payments Clearing Association
APCS	Australian Paper Clearing System
APRA	Australian Prudential Regulation Authority
ASIC	Australian Securities and Investments Commission
ASTC	ASX Settlement and Transfer Corporation
ASX	Australian Securities Exchange
BECS	Bulk Electronic Clearing System
CECS	Consumer Electronic Clearing System
CHES	Clearing House Electronic Sub-register System
Core Principles	Core Principles for Systemically Important Payment Systems
CPSS	Committee on Payment and Settlement Systems
ESA	Exchange Settlement Account
FSAP	Financial Sector Assessment Program
HVCS	High Value Clearing System
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
MOU	Memorandum of Understanding
PSNA	<i>Payment Systems and Netting Act 1998</i>
Repo	Repurchase agreement
Reserve Bank	Reserve Bank of Australia
RITS	Reserve Bank Information and Transfer System
RITS Regulations	RITS Regulations and Conditions of Operation
RTGS	Real-time gross settlement
SSL	Secure Sockets Layer
SWIFT	Society for Worldwide Interbank Financial Telecommunication