

CONSULTATION PAPER

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# Payment Systems Oversight Act

MAS

Monetary Authority of Singapore

## INVITATION FOR YOUR FEEDBACK

This consultation paper sets out MAS' proposed Payment Systems Oversight Act. It provides a broad outline on MAS' oversight role for payment systems in Singapore and outlines the rationale and proposed powers for the Payment Systems Oversight Act. We welcome your feedback on this consultation paper.

Please submit your comments by 2 June 2003.

Please note that your comments may be made public unless confidentiality is expressly requested.

You may send your comments to:

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## EXECUTIVE SUMMARY

### Introduction

1. Payment systems are systems that facilitate the circulation of money and include any funds transfer systems, instruments and related business procedures and rules. In Singapore, some of these systems include high value payment systems such as the MAS Electronic Payment System (MEPS), and retail payment systems such as the cheque and Interbank GIRO clearing systems, Electronic Funds Transfer at Point of Sale (EFTPOS) and ATM networks.

2. Payment systems are critical to the effective functioning of the entire financial system. However, large-value payment systems also provide a channel for shocks to be transmitted across both domestic and international financial systems, thereby creating financial instability. Consequently, most central banks, including MAS, take an active interest in these payment systems for monetary and financial stability reasons.<sup>1</sup> It is also recognised that safe and efficient payment systems provide considerable benefits to the end-users (consumers) of payments, such as safer, cheaper and more convenient payment services. In this regard, many central banks also seek to ensure public confidence is upheld with respect to the operation of payment systems irrespective of whether they could cause financial instability. In focusing on these issues of financial stability and public confidence, while MAS pursues the primary objective of promoting safe payment systems, efficiency is also an important oversight objective for MAS.

3. A clear and consistent oversight<sup>2</sup> framework is a fundamental requirement for the effective promotion of safe and efficient payment systems. To date, the basis for MAS' oversight of payment systems in Singapore has been a combination of legislation in the Banking Act and an

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<sup>1</sup> MAS is also a user and provider of payment services. Like most central banks, MAS provides payment services through its real-time gross settlement system.

<sup>2</sup> The Bank for International Settlements' Committee on Payment and Settlement Systems (BIS-CPSS) - A Glossary of Terms Used in Payments and Settlement Systems, Jan 2001. Also in Payment Systems in the European Union, (Blue Book), April 1996. "A central bank task, principally intended to promote the smooth functioning of payment systems and to protect the financial system from possible 'domino effects' which may occur when one or more participants in the payment system incur credit or liquidity problems. Payment systems oversight aims at a given system (e.g. a funds transfer system) rather than individual participants."

informal and cooperative arrangement with the industry. This framework requires a review for a number of reasons. For example, while the existing legislation has served its purpose well, the structure is such that its legal basis is only applicable to specific systems. Further, the jurisdiction of the existing legislation, which extends only to financial institutions (FI), is no longer adequate given the increasing importance of non-FI players in the payment landscape. The existing oversight approach could therefore be enhanced to provide more clarity and certainty with respect to MAS' oversight objectives, roles and major policies vis-à-vis payment systems.

4. To address these issues, MAS proposes that a Payment Systems Oversight Act ("the Act") be enacted. The Act will provide a uniform basis for MAS to exercise oversight over payment systems in Singapore. However, it will be structured to allow MAS to adopt a risk-based approach in overseeing the various payment systems in Singapore, in recognition of the varying risk profiles of the different payment systems.

5. The Act will also provide the foundation for a clear and transparent oversight framework for payment systems. This will provide greater certainty for industry participants with regards to MAS' objectives, roles and major policies in payment systems oversight. The Act will ensure that the oversight framework is able to address both the risks and opportunities that payment systems will continue to present over time.

6. This consultation paper presents an outline of the proposed powers for MAS under the Act and some details on the proposed new oversight framework arrangements.

### **Overview of the Payment Systems Oversight Act**

7. The Act will provide MAS with a comprehensive framework for the oversight of payment systems in Singapore. Specifically, the focus of MAS' oversight will be on systems that are capable of causing either financial instability or widespread disruptions leading to loss of public confidence in payment systems in general.

8. MAS will refer to systems that are important in terms of financial stability as systemically important payment systems (SIPS). A SIPS is a system where, if it were insufficiently protected against risk, disruptions

within it could trigger or transmit further disruptions amongst participants or systemic disruptions in the financial area more widely.

9. Systems that are important in terms of public confidence but are not considered systemically important will be referred to as system-wide important payment systems (SWIPS). A SWIPS is a system where a disruption may not lead to financial instability but can create widespread disruptions due to the large number of users relying on the system, thereby affecting public confidence.

10. It is proposed that MAS will have two main sets of powers under the Act, namely, information gathering powers and regulatory powers. Information gathering powers will allow MAS to collect information from all payment system participants for monitoring and surveillance purposes. Regulatory powers will enable MAS to oversee designated payment systems (SIPS and SWIPS) more closely due to their importance in the financial market infrastructure. The Act and the proposals contained herein will only directly affect participants in payment systems. A participant is defined as a person that participates in a payment system in accordance with the rules governing the operation of the system or a person that is the operator of the system. Under this definition, consumers (or end-users) are not deemed to be participants in payment systems.

11. Based on current assessment, MAS has identified MEPS as the only systemically important payment system and the ACH systems (cheque and Interbank GIRO clearing systems) as the only system-wide important payment systems.

12. Hence, MAS proposes to designate the cheque clearing and Interbank GIRO systems at the outset of the Act. As MEPS is owned and operated by MAS, the actual designation will not apply. Instead, MAS will apply the same regulatory standards as will be applied to designated systems to its own internal operations for MEPS.

13. For all other payment systems, such as EFTPOS, credit card networks and ATM networks, for which information gathering powers apply, MAS will collect more information to better understand and monitor their system-wide implications. MAS will conduct a public consultation process before designating any additional payment systems.

14. For multi-purpose stored value card (MPSVC) schemes, such as CashCard and ez-link Card, there will be a separate regulatory regime under the Act. This regime will be based on the existing MPSVC regulatory framework in the Banking Act, where MAS' approval is required before a scheme can be established.

### **Liberalised MPSVC**

15. Currently, the issuance of any form of MPSVC is restricted to banks only. MAS proposes to liberalise this policy by allowing any entity to issue "non-widely accepted" MPSVC while retaining the current restriction of issuance of widely accepted MPSVC to only banks. A proposed legislative definition for "widely accepted" is outlined in this paper.

16. The proposal to liberalise the MPSVC policy is in recognition of the very low risks, in terms of financial stability and public confidence, associated with small MPSVC (or e-money schemes). The liberalisation will also create opportunities for greater innovation and competition in this market. MAS further proposes that MPSVC be renamed as multi-purpose stored value facilities (MPSVF) under the Act, to better reflect the technology neutral stance of the policy.

17. MAS welcomes comments and feedback on the proposals contained herein. We would like to draw attention to the following issues in particular:

- (i) The scope of the proposed powers under the Act;
- (ii) The criteria for designating payment systems under the Act;
- (iii) The payment systems identified for designation under the Act; and
- (iv) The proposed policy liberalisation for multi-purpose stored value cards (MPSVC).

18. Following the receipt of feedback on the proposals outlined in this paper, MAS will draft the Payment Systems Oversight Bill and release it for a second round of public consultation that will focus on the legislative and implementation aspects of the Act.

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# 1 INTRODUCTION

1.1 This consultation paper outlines MAS' proposed changes to its payment systems oversight framework, with the changes centred on a new piece of legislation – the Payment Systems Oversight Act (“the Act”).

1.2 By way of background, Section 2 outlines the role for central banks in payment systems. Section 3 appraises Singapore's payment system landscape and Section 4 details the role of MAS in overseeing payment systems. Section 5 outlines the case for reforming Singapore's existing payment systems oversight framework and Section 6 outlines the proposed structure of the Act. Section 7 identifies systems to be designated under the Act, the underlying rationale for designating these systems, and provides some examples on how MAS proposes to vary the intensity of powers for the different designated systems depending on their risk profiles. Section 8 details the proposed policy change for multi-purpose stored value cards (MPSVC). Lastly, Section 9 sets out a proposed implementation timetable for the Act.

## **2 ROLE FOR CENTRAL BANKS IN PAYMENT SYSTEMS OVERSIGHT**

### **2.1 REASONS FOR OVERSIGHT ROLE**

2.1.1 Payment systems are systems that facilitate the circulation of money and can include any funds transfer systems, instruments and related business procedures and rules.

2.1.2 They form a critical part of market and economic infrastructure, as they are the means by which monetary values are transferred around the economy. However, payment systems also provide a channel for shocks to be transmitted across both domestic and international financial systems, thereby creating financial instability.<sup>3</sup> The risk of such shocks is becoming greater with the increasing interdependence of financial systems throughout the world.

2.1.3 Given the importance of payment systems for financial stability, central banks are generally the lead regulators in overseeing payment systems. Central banks are also closely involved in payment system oversight due to the need to ensure the effective functioning of payment systems for the successful implementation of monetary policy.

2.1.4 Safety and efficiency are broad objectives held by central banks when undertaking payment system oversight. It is important for payment systems to function in a safe and efficient manner, as this will facilitate the smooth functioning of the financial system and, more generally, a country's economic growth and international competitiveness. Safe and efficient payment systems are also critical for engendering public confidence in electronic transactions and the currency, as they provide considerable benefits to end-users.<sup>4</sup>

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<sup>3</sup> As an illustration of the critical nature of payment systems, MAS' high value payment system, MEPS, processed S\$10 trillion worth of interbank payments in 2002. This was 64 times the amount of Singapore's GDP for the same period.

<sup>4</sup> Specifically, consumers benefit from conducting transactions at lower risk, lower cost, and faster speeds. For example, the electronic crediting of salaries and debiting of bill payments has revolutionised the way consumers conduct their daily business affairs.

2.1.5 Furthermore, given that the nature of payment systems are largely based on agreements between the system members or participants<sup>5</sup>, central banks can play a key role in facilitating system reforms that are directed towards increased safety and efficiency. A lack of co-ordination between system members could lead to delays in necessary reforms for payment systems. For example, reforms could be delayed, or worse still, not implemented as a result of system participants perceiving the costs to them to outweigh the benefits. Specifically, reforms encouraging the use of better risk management standards, more efficient technologies, or shorter clearing times, while in the interest of the payment system and financial system as a whole, may not be welcomed by the participants. This is because, being commercial entities, they may view these as direct costs with benefits that will not accrue directly to them. Therefore, consensus on reforms for payment systems could be difficult to obtain and safety and efficiency may be compromised without public policy intervention.

## 2.2 INTERNATIONAL POSITION

2.2.1 In recognition of the above factors, central banks around the world have in recent years been working to formalise and strengthen their oversight arrangements for payment systems.

2.2.2 For instance, Australia's Payment System (Regulation) Act provides for the regulation of designated payment systems for the purposes of promoting safety, efficiency, competition, and overall stability of the payment system landscape. Canada has also recently enacted its Canadian Payments Act, which allows the Canadian Payment Association to designate payment systems that are deemed to be of "national importance".

2.2.3 Annexes A and B contain comparative tables of the payment systems oversight objectives and legal frameworks in these and other countries.

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<sup>5</sup> In this Consultation Paper, "participant" is defined as a person that participates in a payment system in accordance with the rules governing the operation of the system or a person that is the operator of the system. Under this definition, consumers (or end-users) are not deemed to be participants in payment systems.

### 3 SINGAPORE'S PAYMENT SYSTEM LANDSCAPE

3.1 The main payment systems in Singapore currently include one "wholesale" (high value) payment system and six "retail" (low value) payment systems. The wholesale payment system is the MAS Electronic Payment System (MEPS) and it is used for processing high value (or urgent) payments. The retail payment systems include those for cheque, Interbank GIRO and card payments. Statistics for these payment systems are shown in Table 1 below.

**Table 1: Main payment instruments/systems in Singapore (2002)**

	<b>Value (S\$billion)</b>	<b>Volume (million)</b>	<b>Ave Txn Value (S\$)</b>
MEPS	10,035	2	4,925,138
Cheques (SGD)*	380	90	4,212
Interbank GIRO*	92	46	1,996
Cheques (USD)*	11.3	0.4	25,596
Credit Cards	12	N.A.	N.A.
EFTPOS	6	97	64
Shared ATM	10	19	511
CashCard	0.2	116	2
ez-link Card	0.45	586	0.77

\* This data is understated as MAS collects only Interbank transactions statistics for cheque and Interbank GIRO payments, i.e. intra-bank items ("own items") are not included.

3.2 More comprehensive details on these payment system arrangements can be found in the publication, *Payment Systems in Singapore*, prepared by MAS and the Bank for International Settlements' Committee on Payment and Settlement Systems (BIS-CPSS) and published in November 2001 (available on MAS' website, [www.mas.gov.sg](http://www.mas.gov.sg))

## 4 MAS' OVERSIGHT ROLE FOR PAYMENT SYSTEMS

### 4.1 PAYMENT SYSTEMS OVERSIGHT OBJECTIVES

4.1.1 MAS recognises the importance of payment systems for financial stability and thus pursues the main oversight objective of promoting their safety. In particular, MAS seeks to ensure that there are adequate risk reduction or risk management measures in the design and operations of payment systems. At the same time, MAS recognises the need to oversee payment systems with due consideration for efficiency to ensure that they are able to respond effectively to the changing payment needs of the users in the face of financial liberalisation and economic globalisation. Broadly, MAS' oversight objectives can be summarised as follows:

#### **Safety**

As a primary objective, MAS seeks to ensure payment systems are designed and operated in a safe manner, so that they do not compromise financial stability. For example, MAS seeks to identify where risks may arise or be transmitted through payment systems and following the assessment of these risks, MAS will initiate changes to reduce unnecessary risks. One example of MAS' work in this regard was the replacement of the deferred net settlement system used for high value payments with MEPS, a real-time gross settlement (RTGS) system, in 1998. RTGS systems eliminate credit risk<sup>6</sup> due to settlement lags<sup>7</sup> within the system as settlement in an RTGS system is on a real-time basis.

MAS also seeks to ensure payment systems are governed by a well-founded legal framework, thereby further enhancing the safety of payment systems. An example of MAS' work in this area was the recently enacted *Payment and Settlement Systems (Finality and Netting) Act (FNA) 2002*. The FNA reduces systemic risk as it provides protection to designated payment systems against certain

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<sup>6</sup> Credit risk refers to the risk that a party is unable to meet its financial obligations.

<sup>7</sup> Within large-value funds transfer systems, settlement lag refers to the time lag between the initiation of payment messages and their final settlement. As long as final settlement has not occurred, any payment activity undertaken on the basis of "unsettled" payment messages remains conditional and results in credit risk. [International Financial Risk Institute <http://risk.ifci.ch/138960.htm>]

laws, such as the laws of insolvency, where these systems meet certain conditions as laid down by the legislation and MAS. Payments through these systems are deemed to be final and irrevocable.

### ***Efficiency***

While safety is the primary oversight objective, MAS also seeks to ensure payment systems in Singapore operate in a practical manner for the users and that the systems are efficient for the economy. An efficient payment system should be one where the cost is reasonable and its processes are timely and simple, leading to cheap and convenient payment services for users. There could be an inherent trade-off between safety and efficiency; for example, there would be no significant gains from implementing a payment system that had numerous safety features but was extremely costly or difficult to use, as this would only result in payment traffic going to less safe alternatives. With this in mind, MAS works closely with the industry by encouraging efforts to adopt new processing techniques to improve production and other efficiency indicators.

An example of an initiative in Singapore's payments industry that has led to increased efficiency is the eGIRO system, which removes the manual delivery of magnetic tapes between banks using the Interbank GIRO system for debit and credit transfers. Another initiative that is currently undertaken by the industry, the Cheque Truncation System, allows for cheque presentment by electronic means, hence eliminating the need for paper flows in the cheque clearing process.

## **4.2 THE BASIS FOR MAS' OVERSIGHT OF PAYMENT SYSTEMS**

4.2.1 Currently, MAS combines a legislative basis for oversight with a more informal and cooperative approach. The legislative basis for MAS' oversight activities for certain payment systems is drawn from the Banking Act. In particular, the Banking Act has specific provisions relating to the oversight framework for the clearing house for cheque and Interbank GIRO transactions (Section 59) and for the issuance of multi-purpose stored value cards (MPSVC) (Section 77A). In addition, Section 29A of the MAS Act governs the operations of MEPS.

4.2.2 Payment systems thus fall into three distinct categories within MAS' current oversight framework: those owned and operated by MAS, those regulated under the above Acts by MAS, and those where no explicit legislation apply.

4.2.3 Currently, MEPS is the only payment system that falls into the first category. Like many central banks, MAS owns and operates its national large-value payment system, MEPS. Even so, there are internal oversight arrangements in place that follow a similar approach to that for other privately operated payment systems. MAS separates its payment system oversight function for MEPS from the operations of MEPS. The payments oversight area oversees the rules for participation in MEPS, as well as enhancements for the design and operation of MEPS.

4.2.4 For example, MAS' payments oversight area has undertaken a self-assessment of MEPS against the *Core Principles for Systemically Important Payment Systems* (CPSIPS – an internationally accepted set of principles on the design and operation of systemically important payment systems, such as MEPS).<sup>8</sup> MAS is also currently participating in the International Monetary Fund (IMF) Financial Sector Assessment Program (FSAP), which also includes the assessment of MEPS against the CPSIPS.

4.2.5 All other payment systems in Singapore are privately owned and operated. Amongst these, systems operated by the Automated Clearing House (ACH), which include SGD cheque clearing, USD cheque clearing, and Interbank GIRO operations, are regulated by MAS as provided for in Section 59 of the Banking Act. The legislation mainly provides MAS with powers to establish and inspect the operations of ACH, and appoint alternative operators for ACH under certain conditions. The issuance of MPSVC also comes under MAS' regulation, as provided for in Section 77A of the Banking Act. The legislation provides for MAS' powers to approve, under terms and conditions, the issuance of MPSVC by banks.

4.2.6 For the other privately operated systems where no explicit legislation apply, for instance, the NETS' EFTPOS network and shared ATM networks, MAS largely exercises its oversight influence over these system providers through the banks that are either participants or major stakeholders in those systems. In general, MAS relies on informal and

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<sup>8</sup> These principles were published in January 2001 and prepared by the Committee on Payment and Settlement Systems (CPSS) under the auspices of the Bank for International Settlements.

cooperative arrangements with the system participants and stakeholders to achieve its payment systems oversight objectives.



## **5 NEED FOR REFORM OF SINGAPORE'S PAYMENT SYSTEMS OVERSIGHT FRAMEWORK**

5.0.1 While the existing basis for MAS' payment systems oversight (as described in Section 4) has been effective to date, it is likely to be progressively weakened due to a number of factors.

### **5.1 LIMITED SCOPE**

5.1.1 MAS' jurisdiction under the Banking Act only extends to financial institutions. This is inadequate for MAS' payment systems oversight as non-financial institution payment service providers are increasingly playing a greater role in the payments industry, with many seeking to undertake a wide range of payments activities. This has resulted in MAS placing greater reliance on an informal and cooperative arrangement with the industry. While useful, applying such an informal approach to non-financial institutions could require greater resources to achieve the desired outcomes.

### **5.2 PIECEMEAL PAYMENTS RELATED LEGISLATION**

5.2.1 The existing payments related legislation has been introduced on a need basis (e.g. Section 59 and Section 77A of the Banking Act). This piecemeal approach to legislating for payment systems has led to a need for more clarity with respect to MAS' oversight role and policies. A more uniform legislative approach will establish the basis for more consistent and predictable policy making for payment systems. Moreover, a more formalised and transparent oversight framework will give payment system operators and participants a clearer view of the oversight framework for Singapore's payment system industry and equip them with better information in making business decisions that could be affected by regulations.

### **5.3 INTERNATIONAL REGULATORY TRENDS AND DEVELOPMENTS**

5.3.1 In parallel with the increasing international awareness of the importance of payment systems for financial stability and public confidence,

there is an increased recognition by payment systems overseers that a more formalised oversight framework helps to ensure their work is clear, transparent and effective. To this extent, by implementing a new payment system oversight framework, as outlined in this paper, MAS is keeping in-step with international trends and developments.

5.3.2 For these reasons above, MAS intends to implement a Payment Systems Oversight Act to form the foundation of a clearer and more consistent payment systems oversight framework for Singapore. While oversight is a dynamic process, it is important that the supporting framework be one that is robust.

## **6 PROPOSED STRUCTURE OF THE PAYMENT SYSTEMS OVERSIGHT ACT**

6.0.1 The Act will form the foundation of MAS' payment systems oversight framework. Existing payments oversight related legislation (Section 59 and Section 77A of the Banking Act) will be repealed. The matters covered in these sections will be covered in the new legislation.

6.0.2 This new Act is distinct from the recently enacted *Payment and Settlement Systems (Finality and Netting) Act 2002* (FNA). The FNA serves to strengthen the legal underpinning of Singapore's payment systems by providing certain payment systems with protection from the laws of insolvency where certain conditions are met. To this extent, the FNA serves to promote MAS' payment systems oversight objective of safety. In contrast, the Act proposed in this paper focuses on MAS' overall payment systems oversight role, as it sets out how MAS seeks to promote its payment systems objectives of both safety and efficiency.

### **6.1 POWERS CONFERRED ON MAS BY THE ACT**

6.1.1 Under the Act, it is proposed that MAS would have two main sets of powers:

- (i) Information gathering powers – these powers would apply to all payment systems for purposes of monitoring, surveillance, and statistical analysis; and
- (ii) Regulatory powers – these powers would apply to those systems that are considered important for financial stability and public confidence. MAS would designate these systems so that it is clear which systems are subject to its regulatory powers.

### **6.2 INFORMATION GATHERING POWERS**

6.2.1 It is proposed that the Act provide MAS with the power to require a participant in a payment system to provide payment system related information to MAS upon request. The purpose of this requirement is to ensure MAS has access to relevant information in order to effectively monitor the development of the payment system industry in Singapore.

Hence, the type of information gathered will be primarily statistical in nature. It is important for MAS to have access to comprehensive and reliable payment statistics, as they will support MAS' policy decisions for payment systems. Specifically, payments data is needed to improve the understanding of how payment systems work, as well as to identify and evaluate areas for improvement in terms of payment system safety and efficiency.

6.2.2 Data collection may be on a periodic or an ad-hoc basis. Data to be collected would include transaction volumes and values as well as cost data. However, MAS will be conscious of the need to provide for reasonable time to be given in complying with its data requests as participants may not necessarily have the required data at their disposal and thus require more time to make them available.

6.2.3 For the main payment systems in Singapore (refer to Table 1 in Section 3), MAS proposes, as a longer-term project, to develop a formalised regular data collection, rather than relying on ad-hoc data requests. This will reduce the regulatory burden on payment system participants and streamline the data collection process for participants and MAS. A more formalised payments statistics collection will provide the public with comprehensive information on payments trends, and it will also allow for a more thorough and accurate analysis of the local payments scene vis-à-vis international developments.

### **6.3 REGULATORY POWERS**

6.3.1 It is proposed that designated payment systems be subject to regulatory powers under the Act, in addition to the above-mentioned information gathering powers. This increased oversight of designated payment systems reflects the greater potential impact on the safety and efficiency of Singapore's overall payment system landscape and financial system. A summary of the regulatory powers proposed for all designated systems is presented below. Section 7 lists the systems that MAS proposes to designate.

### **6.3.1 Establishment of Access Regimes**

6.3.1.1 It is proposed that MAS have the power to determine the rules for participation in a designated system, specifically with respect to access for new participants, following consultation with affected parties. The underlying principle that influences MAS' decisions with respect to access regimes will be that payment systems that are dominant due to economies of scale should have objective and publicly disclosed criteria for participation, which permit fair and open access.<sup>9</sup>

### **6.3.2 Establishment of Standards**

6.3.2.1 It is also proposed that MAS have the power to establish standards that relate to the safety and efficiency of a designated payment system. Such standards may cover issues such as performance benchmarks and security standards. Similar to the establishment of access regimes, these standards will be established following consultation with the affected parties.

### **6.3.3 Regulations and Directions**

6.3.3.1 It is proposed that MAS have regulation making powers that will mainly relate to corporate governance arrangements, such as the appointment, responsibilities, and duties of chief executive officers, directors and auditors of operators of designated payment systems.

6.3.3.2 It is proposed that MAS have the power to issue directions that may relate to, among other things, the manner in which a payment system conducts its activities. The power to issue directions will be used mainly when MAS considers it necessary to issue a direction to a single participant, as opposed to a class of participants or payment systems, where regulations may be more appropriate.

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<sup>9</sup> This principle is based on Core Principle IX of the *Core Principles for Systemically Important Payment Systems*. While these Core Principles are specifically directed at Systemically Important Payment Systems (i.e. systems that can adversely affect financial stability), a number of the Principles are useful to apply to other systems and, as the CPSS report notes, "particularly if the system is widely used and users have no ready substitute of making the same payments" paragraph 6.11. This situation could arise where payments infrastructure cannot be duplicated without being economically inefficient.

### **6.3.4 Inspection by MAS**

6.3.4.1 It is proposed that MAS have the power to inspect and investigate the operations of a designated payment system. This on-site function will complement MAS' off-site oversight approach and enable MAS to develop a greater understanding of the operating environments of payment systems.

### **6.3.5 Notification Requirements for Designated Payment Systems**

6.3.5.1 It is proposed that the operators of designated payment systems have an obligation to notify MAS should any major problem arise in their operations or if there are significant changes to their operating rules. Having the operators of designated systems notify MAS of such events will accord MAS with time to respond should it consider that safety and efficiency could be jeopardised.

### **6.3.6 Control of Designated Payment System's Operations**

6.3.6.1 It is proposed that if MAS considers the operator of a designated payment system to be carrying on its operations in a manner that is likely to be detrimental to the participants, then MAS would have the power to:

- (i) Require the operator of the designated system to take any action as MAS may consider necessary;
- (ii) Appoint a person to advise the operator of the designated payment system on the proper conduct of its business; and
- (iii) Assume control of and carry on the business of the designated payment system or direct some other person to assume control of and carry on the business of the designated payment system.

6.3.6.2 This provision is effectively an emergency power allowing MAS various options in addressing a crisis situation, that is, where the operator of the system is carrying on business in a manner considered to be detrimental to the participants, particularly in terms of financial stability or public confidence.

Questions

- Q1 *What do you think of the scope of these powers?*
- Q2 *Are they appropriate to address concerns for payment systems with respect to safety and efficiency?*
- Q3 *Are there any powers that you consider unnecessary? If so, please provide reasons why.*
- Q4 *Are there any additional powers you would like to see MAS have over payment systems in Singapore?*
- Q5 *What alternative approach, if any, would you suggest to the above information gathering and regulatory powers?*

## 7 SYSTEMS TO BE DESIGNATED UNDER THE ACT

### 7.1 CRITERIA FOR DESIGNATION OF PAYMENT SYSTEMS

7.1.1 Systems identified for designation are those that are considered to be important in terms of financial stability and public confidence. It is proposed that systems primarily important in terms of financial stability will be referred to as systemically important payment systems (SIPS) and systems primarily important for public confidence will be referred to as system-wide important payment systems (SWIPS):

- SIPS are systems where, if the system were insufficiently protected against risk, disruption within it could trigger or transmit further disruptions amongst participants or systemic disruptions in the financial area more widely;<sup>10</sup> and
- SWIPS are systems where a failure or disruption within such systems is unlikely to cause systemic instability but could lead to widespread disruptions due to its large user base, thereby affecting public confidence in payment systems more widely.

### 7.2 PROPOSED CRITERIA FOR SIPS

7.2.1 For systems that are important in terms of financial stability, MAS proposes to draw on the internationally accepted definition of systemically important payment systems (SIPS) as outlined in the Bank for International Settlements Committee on Payment and Settlement Systems' report "*Core Principles for Systemically Important Payment Systems*":

"It is likely that a system is of systemic importance if at least one of the following is true:

- it is the only payment system in a country, or the principal system in terms of the aggregate value of payments;
- it handles mainly payments of high individual value;

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<sup>10</sup> Definition of SIPS is taken from the BIS CPSS' report *Core Principles for Systemically Important Payment Systems*, January 2001, p7.



- it is used for the settlement of financial market transactions or for the settlement of other payment systems.”<sup>11</sup>

### 7.3 PROPOSED CRITERIA FOR SWIPS

7.3.1 It is proposed that system-wide important payment systems (SWIPS) would include one or more of the following characteristics:

- It is widely used by consumers.
- It is widely accepted by merchants and financial institutions.
- It has no, or relatively few, short-term substitutes. That is, it is used as a primary means of making particular types of payment.

Q6 *What are your views on these criteria for the systems to be designated under the Payment Systems Oversight Act?*

Q7 *Would you consider that by designating systems that are SWIPS and SIPS, MAS would be meeting its objectives of promoting safety and efficiency in Singapore's payment systems?*

Q8 *What would you consider as a good set of criteria to assess whether a payment system should be designated by MAS under the Act?*

### 7.4 SYSTEMS IDENTIFIED FOR DESIGNATION

7.4.1 Based on current assessment, MAS has identified MEPS as the only systemically important payment system and the ACH systems (cheque and Interbank GIRO clearing systems) as the only system-wide important payment systems.

7.4.2 MEPS is the principal payment system in Singapore based on the aggregate value of payments processed.<sup>12</sup> The individual payments processed are also primarily high-value in nature.<sup>13</sup> Further, MEPS is also the system used for the settlement of FX and government securities as well

<sup>11</sup> Bank for International Settlements Committee on Payment and Settlement Systems' report "Core Principles for Systemically Important Payment Systems", January 2001, p17.

<sup>12</sup> The next largest payment system is the SGD cheque clearing system, which accounted for around 3.8% of the total value of MEPS transactions in 2002.

<sup>13</sup> In 2002 the average daily value of a transaction processed in MEPS was around S\$ 4.9 million.

as the facilitation of the multilateral net settlement of cheque and Interbank GIRO transactions. For these reasons, MEPS is clearly a SIPS. However, as MEPS is owned and operated by MAS, the actual designation will not apply. Instead, MAS will apply the same regulatory standards to its own internal operations for MEPS as will be applied to designated systems.

7.4.3 Systems operated by ACH pertain to both wholesale and retail payment transactions, and hence, are critically important for Singapore's economy to function properly. The payments passing through these systems often relate to important payments such as salary or bill payments. A disruption in one of these systems could result in widespread disruptions, affecting the pace of the economy as well as public confidence. For these reasons, the ACH systems are considered SWIPS. Hence, MAS proposes to designate the cheque clearing and Interbank GIRO systems at the outset of the Act.

7.4.4 For all other payment systems, such as EFTPOS, credit card networks and ATM networks, for which information gathering powers apply, MAS will collect more information to better understand and monitor their system-wide implications. MAS will conduct a public consultation process before designating any additional payment systems.

*Q9 Do you agree with the classification of these systems as SIPS or SWIPS? If not, why not?*

*Q10 Are there any other systems that you consider should be classified as a SIPS or SWIPS? Why?*

## **7.5 VARYING THE INTENSITY OF POWERS FOR DIFFERENT DESIGNATED SYSTEMS**

7.5.1 The powers proposed for the Act, as outlined in Section 6 above, are wide-ranging but are consistent with those in jurisdictions that already have such legislation in place. However, it is MAS' intention to vary the intensity of these powers for different designated systems to commensurate with the degree of impact of each system on the safety and efficiency of Singapore's overall payment system landscape. This approach will allow the Act to remain broad and applicable over time.

## **7.6 SYSTEMS DOMICILED IN FOREIGN JURISDICTIONS**

7.6.1 The Continuous Linked Settlement (CLS) system is an example of a system operating in Singapore yet domiciled in a foreign jurisdiction. It is not MAS' intention to regulate such systems under the Act, as MAS will continue to rely on the "home supervision" of such systems. For example, the Federal Reserve Bank of New York oversees CLS' operations, given that CLS is incorporated in the United States. However, as a member of the Foreign Exchange Settlement Risk sub-group under the Committee on Payment and Settlement Systems, MAS has co-operative oversight for CLS. In this way, MAS keeps in touch with regulatory issues relating to CLS, in particular those that may have impact on the safety and efficiency of Singapore's payment systems.

## 8 POLICY CHANGE FOR MPSVC UNDER PAYMENT SYSTEMS OVERSIGHT ACT

### 8.1 RATIONALE FOR AMENDING MPSVC POLICY

8.1.1 The current regulatory framework for stored value cards (Section 77A of the Banking Act) limits multi-purpose stored value card (MPSVC) issuance to banks. MAS proposes to liberalise the MPSVC market such that any entity can issue non-widely accepted MPSVC. However, only banks can issue widely accepted MPSVC.

8.1.2 MAS recognises that some MPSVC schemes, when operated on a small scale, present very low risk, and acknowledges that the existing policy may be unnecessarily restrictive and can impede potential increases in competition and innovation. Such small MPSVC schemes should therefore be allowed to operate, even if the entity issuing the stored value cards is not a bank. At the same time, MAS recognises the need to maintain the current restrictions for MPSVC schemes that operate on a large scale (i.e. widely accepted MPSVC such as NETS CashCard and ez-link Card) and will continue to require that their float values be stored with a bank. This will give consumers some protection, as the stored values with the bank would be subject to reserve and liquidity requirements.

8.1.3 Three main factors drive the decision to allow non-banks to issue non-widely accepted MPSVC:

- (i) The existing policy may be *impeding potential increases in competition and innovation*. In recent years, MAS has received several queries from local and foreign companies intending to start innovative MPSVC schemes in Singapore. However, under Section 77A of the Banking Act, unless a bank is the holder of the stored value, none of these schemes is able to proceed, despite the lower risks involved.
- (ii) *MPSVC is not always akin to deposit taking*, as some MPSVC are limited in scope relative to deposit taking activities:
  - Some MPSVC are very *limited in usage* due to the narrow range of products that can be purchased using the MPSVC. Thus the MPSVC is not a ready substitute for cash or bank deposits. This limited acceptance, and hence

limited usage, could be by design.<sup>14</sup> Other MPSVC may be limited in acceptance or usage due to being in a pilot stage of development.

- Values stored on MPSVC are also generally *limited in amount* as MPSVC issuers often voluntarily enforce limits on MPSVC due to safety concerns. This is in contrast to deposit accounts where banks accept unlimited funds. There is also little incentive or prudence in storing all of one's wealth on an MPSVC, as generally, interest is not paid on the stored value. Therefore, there is a *clear distinction in the functionality* of MPSVC versus deposit funds.
- (iii) Due to the limited scope of some MPSVC, they *pose very low risk* in terms of public confidence, safety and efficiency. For MPSVC that are widely used and accepted (e.g. CashCard and ez-link Card), there could be a risk that a disruption or a failure in the system could lead to some inconvenience for consumers. However, it is unlikely that financial instability or a loss of public confidence will arise from such disruptions. Annex C presents a detailed analysis of the risks associated with MPSVC and presents data illustrating the very low values involved in MPSVC activities. However, to provide some immediate context on the low values involved – CashCard represented 0.04% of total retail payments in Singapore in 2002.

## 8.2 RESTRICTIONS FOR WIDELY ACCEPTED MPSVC

8.2.1 MAS will remain prudent when liberalising the MPSVC policy. Therefore, non-bank entities will only be allowed to issue MPSVC that are not widely accepted. On the other hand, the issuing of widely accepted MPSVC is akin to deposit taking and consumers of these large-scale MPSVC schemes expect to continue to have some protection should the issuer run into difficulty. MAS will therefore continue to restrict the issuing of widely accepted MPSVC to banks as they are closely supervised and subject to reserve and liquidity requirements on the proceeds collected from the schemes.

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<sup>14</sup> For example, prepaid phone cards that could be used to purchase new ring tones or icons in addition to the traditional purpose of making phone calls would still be quite limited in scope, yet would be MPSVC and prohibited under the current policy as there would be multiple purposes for using the card.

### 8.3 DEFINITION OF WIDELY ACCEPTED MPSVC

8.3.1 It is proposed that what constitutes widely accepted MPSVC be determined primarily by the value of the float for an MPSVC scheme. Such schemes with a float of \$30 million or more will be deemed as widely accepted MPSVC.

8.3.2 The **value of the float** is a strong indicator of whether an MPSVC scheme is widely accepted. Besides representing the total amount of consumers' funds at risk, the size of an MPSVC's float usually also reflects to a great extent, its level of usage and acceptance by consumers and merchants, respectively. A \$30 million float limit captures the existing MPSVC schemes in operation in Singapore as widely accepted MPSVC, namely NETS CashCard and ez-link Card.

*Q11 Do you think the proposed criterion for the definition of widely accepted MPSVC is simple, clear and appropriate?*

*Q12 Are there other criteria that you think would be practical and relevant for determining what is widely accepted MPSVC?*

### 8.4 OVERSIGHT FRAMEWORK FOR MPSVC

8.4.1 It is proposed that non-widely accepted MPSVC be subject only to MAS' information gathering powers under the Act. Through the use of these powers, MAS will be able to monitor trends and developments in these smaller MPSVC schemes. For example, MAS will collect turnover statistics and data relating to their operations. This information will assist MAS to assess whether such schemes become widely accepted and, if so, require them to issue the pre-paid values through a bank.

8.4.2 MAS also proposes to issue guidelines for all forms of MPSVC, recommending that issuers embark on a process of consumer education. In particular, MAS will recommend that MPSVC issuers disclose to consumers the procedures they follow for storing and refunding of pre-paid values as well as the general rights and responsibilities of MPSVC holders.

*Q13 What do you think of the scope of the proposed powers for non-widely accepted MPSVC?*

*Q14 Will MAS' proposal to issue guidelines emphasising the role of consumer education to support this policy change be going far enough in protecting consumers' interests in this area?*

8.4.3 For widely accepted MPSVC, the issuer has to be a licensed bank and will be required to obtain MAS' approval for establishing the scheme. Similar prudential regulatory requirements will apply to widely accepted MPSVC schemes as are currently applied to MPSVC schemes under Section 77A of the Banking Act. The proceeds from such schemes will be subject to MAS' reserve and liquidity requirements.

*Q15 What do you think of the proposed oversight powers for widely accepted MPSVC?*

*Q16 Are there any additional powers that you would like MAS to have over widely accepted MPSVC?*

8.4.4 Single Purpose Stored Value Cards, such as prepaid phone cards, will not be subjected to MAS regulation, as is currently the case under Section 77A of the Banking Act.

## **8.5 PROPOSED NAME CHANGE FOR MPSVC**

8.5.1 Rapid technology advancements and innovations have resulted in different forms of stored value solutions in the payments market. For example, there are pre-payment schemes based on virtual cards on the Internet instead of physical cards. Thus, MAS proposes that MPSVC be renamed Multi-Purpose Stored Value Facility (MPSVF) to reflect the technology neutral stance of MAS' policy in this area.

## **9 IMPLEMENTATION TIMETABLE**

9.1 Following the receipt of feedback on the proposals outlined in this paper, MAS will draft the Payment Systems Oversight Bill and release it for a second round of public consultation that will focus on the legislative and implementation aspects of the Act. It is proposed that the Act be implemented in the first quarter of 2004.



## ANNEX A. CENTRAL BANKS' PAYMENT SYSTEMS OVERSIGHT ROLES AND OBJECTIVES IN OTHER JURISDICTIONS

Roles	Mechanism used	Australia	Canada	European Area*	United Kingdom*	United States
Overseer	Oversight by legislation	✓	✓	✓	✓	
	Oversight by customary practise	✓	✓	✓	✓	✓
Operator		- Reserve Bank Information and Transfer System (RITS) (HVPS) - National Collator	No, the Canadian Payments Association (CPA) operates Canada's Large Value Transfer System (LVPS). However, BoC is very involved in CPA's activities vis-à-vis LVPS.	TARGET (HVPS)	- Operates part of the CHAP Sterling and CHAPS Euro systems, as well as link between CHAPS Euro and TARGET	- ACH - Fedwire (HVPS)
Settlement agent		Settlement agent for RITS and retail payment systems	Settlement agent for LVPS	--	Settlement bank for CHAPS, CREST and major retail systems	Settlement agent for Fedwire

Oversight Objectives	Australia	Canada	European Area	United Kingdom*	United States
Efficiency	e	e	e	e	e
Safety	e	e	i	e	e
Stability	e	e	e		
Competition	e	e	e		e
Others		Control systemic risk in payment and settlement systems	- Security - Safeguard transmission channel for monetary policy - Sound	- Identify and eliminate / control risks in payment and settlement systems - Effectiveness - Promote improvement	Integrity
Non-oversight objectives		Developmental: To facilitate the development of new payment methods and technologies.			

e – explicit  
i – implicit

## ANNEX B. PAYMENT SYSTEMS LEGISLATION IN OTHER JURISDICTIONS

	Australia	Canada	European Area*	United Kingdom*	United States
<b>Legislation referring to payment system issues</b>	- Payment System and Netting Act (PSNA)	NIL	- European Parliament Directives (EPD) affecting payment and securities settlement systems - settlement Finality Directive, Cross-Border Transfers, The E-Money Directive	- Financial Markets and Insolvency (Settlement Finality) Regulations 1999 - Bank of England Act (BoE Act)	- Regulation E and Regulation CC - US Code, Chapter 45, sections 4401 to 4406
<b>Legislation specifically referring to payment system oversight</b>	- Reserve Bank Act (RBAAct) - Payment System (Regulation) Act (PSRA)	- Payment Clearing and Settlement Act (PCSA) - Canadian Payments Act (CPA)	- Article 105 (2) of the Treaty establishing European Community (the "Treaty") and Article 3 of the Statute of the European System of Central Banks and the European Central Bank (the "Statute")	NIL	NIL
<b>Legislated oversight objectives</b>	The powers of RBA within PSRA and PSNA are to be exercised to contribute to - control risks in financial system - promote efficiency in payment systems - promote competition in payment services, consistent with the overall stability of financial system	(PCSA): Concerns itself with the supervision and regulation of clearing and settlement systems to control risk in Canada financial system and promote the system's efficiency and stability. (CPA): Seeks to establish and operate national systems for the clearing and settlement of payments and other arrangements for the making or exchange of payments. Also to facilitate the interaction of the Canadian Payments Association's systems with others involved in the exchange, clearing and settlement of payments. In addition, to facilitate the development of new payment technologies and methods.	To promote the smooth operation of payment systems	NIL	NIL
<b>Legislation relating to payment systems</b>					
<b>- Powers applying to general payments oversight</b>	PSRA provides for the regulation of designated payment systems and purchased payment facilities.	(PCSA): regulates designated payment systems. Payment systems are designated if they are deemed by BoCanada as to pose systemic risk and the Minister of Finance considers it is in the public interest to be designated. (CPA): allows the Minister for Finance to designate payment systems that are deemed national in scope or playing a major role in supporting transactions in Canadian financial markets or the Canadian economy.	- The Governing Council, (one of the decision making body of ECB) formulates the common policy stance for Euro area. - For oversight areas that are not specifically covered by ECB, policies are made at NCB level will apply. - Retail payments schemes -- schemes that have cross border implications, the general policies will be established at ECB level, for those with less systemic risk, and oversight will be carry by individual NCB.	NIL	NIL
<b>- Powers applying to specific payment systems / instruments</b>	- Stored value instruments === holder of the stored value of a payment facility must be a Authorised Deposit Taking institutions, or be authorised by the RBA under section 23 (2) of PSRA, or be exempted by the RBA under section 25 (1) === RBA must Gazette all changes, including awarding or revoking, of authorisation and exemptions on institutions with respect to stored value  - Cheques Act === Provided that cheques are settled in a recognised settlement they may be deemed	NIL	- Cross Border Credit Transfer Directive === The directive is to allow small and medium sized enterprises to make credit transfers (in euros) within Euro Area quickly and efficiently. It set the minimum level of customer information required and have a clearly defined timescale for the transfer. - E-Money Directive === The directive is to set the minimum rules for electronic money issuance within the Euro Area.	- The Cheques Act and the Deregulation (Bills of Exchange) Order 1996 regulate chequeing activities in UK. - Has adopted the three EU Directives affecting payment systems	- Regulation CC establishes the rules on cheque clearing cycles, covering collection and return of cheques and imposing a responsibility on banks to return unpaid cheques expeditiously. - Regulation E prescribes rules on the issuance of Electronic Fund Transfers (EFT) cards. It covers consumer liability for unauthorised transfers of such instruments and requires institutions to disclose terms and conditions of EFT services.

	Australia	Canada	European Area*	United Kingdom*	United States
	recognised settlement they may be deemed dishonoured if the financial institution on which the cheques are drawn is unable to provide the funds. === RBA is to determine if a cheque settlement system is recognised settlement system.				
- Designation/licensing of payment systems	<ul style="list-style-type: none"> <li>- RBA may designate a payment system if it considers that designating the system is in the public interest.</li> <li>- RBA could revoke the designation awarded to a payment system.</li> <li>- Designation and revocation of designation must be Gazetted.</li> <li>- Designation allows RBA to impose / change / revoke the access criteria to, and set standards for the designated systems.</li> <li>- Designation allows RBA to arbitrate dispute among, and give directions to participants of designated systems</li> </ul>	<ul style="list-style-type: none"> <li>- Payment systems that could cause systemic risk, or those that the Minister considered that are in public interest to designate, could be designated and be subjected to PCSA.</li> <li>- The payment system would be designated by BoCanada and the designation would be gazetted.</li> <li>- Under the scope of PSCA, clearing and settlement systems were defined as systems that have three participants (one of which is a bank), clears and settles Canadian currency and payment obligations are settled across accounts in BoCanada.</li> <li>- Once designated, BoCanada could enter into agreements with the payment system and/or participants (see Others), issue directives, carry out inspections/audits, impose fees on clearing houses (see Others), as well as apply settlement finality rules on the systems.</li> <li>- The Canadian Payment Association has in place a similar designation process. The salient difference is that the Canadian Payment Act allows the Association to designate any payment system operating in Canada that is deemed to be of "national importance", while the BoCanada only regulates systemically important payments systems.</li> </ul>	NIL	NIL	NIL
- Right for central bank to act as settlement agent	NIL	BoC has the right to act as settlement agent for major clearing and settlement systems.	NIL	NIL	NIL
- Information gathering powers	<ul style="list-style-type: none"> <li>- RBA may require, either designated payment systems or non-designated payment systems, to provide it with information relating to the system or its participants</li> <li>- RBA may request authorised or exempted holders of stored value to provide information</li> </ul>	<ul style="list-style-type: none"> <li>- Designated systems shall provide BoCanada with information as the Bank may require.</li> <li>- Payment systems designated by the Canadian Payment Association shall provide the Minister for Finance with information pertaining to the designated system as and when requested to do so.</li> </ul>	NIL	NIL	NIL
- Inspection powers		BoCanada may carry out inspections on designated payment systems.	NIL	NIL	NIL

	Australia	Canada	European Area*	United Kingdom*	United States
<b>- Rights to issue standards, guidelines and directives</b>	<ul style="list-style-type: none"> <li>- RBA may determine standards / give directions that are to be complied with by the designated payment system.</li> <li>- RBA may give notices and directives to institutions which are authorised holders of store value</li> </ul>	<ul style="list-style-type: none"> <li>- BoCanada may issue directives to Clearing House / Participants / Payment Systems if it deems that the Clearing House / Participants / Payment Systems are engaging in acts that may cause systemic risks.</li> <li>- BoCanada may not issue directives that are not directly related to payment systems issues, e.g. ownership structure of participants, participants' corporate governance or capital adequacy issues.</li> <li>- If a Clearing House fails to comply with the provisions set out in PSCA, its participants will be liable.</li> <li>- The Canadian Payments Association, through the Minister for Finance, may issue guidelines and directives to the manager or the participant of a designated payment system in respect of: the conditions that a person must meet to become a participant in the designated payment system; the operation of the designated payment system, the interaction of the designated payment system with other payment systems; and the relationship of the designated system with users.</li> </ul>	<ul style="list-style-type: none"> <li>- The Treaty provides that ECB can adopt any acts / regulations as required by the ECB to carry out its tasks.</li> <li>- One of the common legal instrument used by EU Council and the European Parliament are Directives. Examples relating to payment systems include the Settlement Finality Directive, the e-money Directive and the Cross-Border Credit Transfers Directive.</li> <li>- Directives are used to harmonise the different legislations between EU member states.</li> </ul>	NIL	NIL
<b>- Powers to enforce if non-compliant</b>	<ul style="list-style-type: none"> <li>- Criminal code applies to all non-compliance in PSRA.</li> <li>- RBA can revoke the exemption and authorisation previously awarded to an institution as holder of store value.</li> </ul>	<ul style="list-style-type: none"> <li>- BoCanada may issue a directive to order a payment system participant to cease operations, refrain for certain acts, performs specific acts.</li> <li>- Parties who contravene provisions in PSCA are liable to fines and/or imprisonment.</li> <li>- The Canadian Payments Association may apply to a superior court for an order directing the payment system manager or participant to comply with the directive(s) issued. Parties who contravene the provision in the CPA may be fined or imprisoned.</li> </ul>	<ul style="list-style-type: none"> <li>- Enforcement can be ensured by legal instruments available to ECB and NCB. Otherwise, more traditional, informal means can also be used, e.g. moral suasion.</li> <li>- The general arrangement in the Euro Area is that NCB will be the lead overseer for compliance within their country and in view of the increasing cross-border payment activities, NCB could take initiative to liaise with other NCBs if required, to carry out the oversight responsibility</li> </ul>	NIL	NIL
<b>- Arbitration powers between system participants</b>	RBA may arrange for disputes between parties of a designated payment system to be settled by arbitration, or for disputes with a party not within a designated payment system if it is on access criteria.	NIL	NIL	NIL	NIL
<b>Legislated provision on settlement finality</b>					
<b>- Applicability (i.e. all payment systems or specific ones)</b>	<ul style="list-style-type: none"> <li>- RBA can approve a RTGS systems and netting systems if it views that these systems may have systemic implications.</li> <li>- Approved systems are governed by PSNA</li> </ul>	Designated clearing and settlement systems that have transactions settled across accounts of BoCanada are protected systems with respect to finality.	EPD will be applicable to designated payment systems within the EU member states.	The Financial Markets and Insolvency (Settlement Finality) Regulations 1999 enables BoE to designate UK payment systems, such that the rules of the designated payment system will take precedence over normal insolvency laws. CHAPS sterling and CHAPS Euro are currently designated payment systems in UK. BoE must have regard to systemic risk in all cases when determining whether or not to	The US Code, Chapter 45, sections 4401 to 4406 is applicable to clearing houses / associations / corporations or similar organisations that provide clearing, netting or settlements services to members who are financial institutions or other clearing organisations.

	Australia	Canada	European Area*	United Kingdom*	United States
				make a designation order.	
- Exception to "zero hour" rule (for RTGS systems)-	Notwithstanding any other law, if a participant of an approved RTGS system goes into administration, its payment has the effect as if the participant had gone into administration on the next day.	- If the settlement rules of a designated payment system provide that payment obligations made are final and irrevocable, the payment shall not be reversed, repaid or set aside. - Collaterals provided to a designated payment system for obligations incurred in the system shall not be subjected to any stay, provision or order sought by creditors.	- EPD stipulates that transfer orders and netting shall be legally enforceable and binding on third parties in event of insolvency proceedings. - Transfer orders must be entered into the system before the opening of the insolvency proceedings. - No law, regulation, rule or practice shall lead to the unwinding of a netting. - Collateral provided to the system/central banks shall not be affected by the insolvency against the system participant.	Designated payment systems will have rules preceding over and thus protected against normal insolvency laws.	- Notwithstanding any other provision of law: ===Payment obligations and payment entitlements of a member of a clearing organisation are netted in accordance to the conditions of the netting contract. === any failed member of a clearing organisation is subject to the condition of the netting contract - No laws, injunctions, or court issues could limit or delay the enforceability of netting contracts
- Exceptions to "cherry picking" (for netting systems)^	Notwithstanding any other law, if a party to an approved netting system goes into administration, the netting and payment made by that party to discharge a net obligation in that system is not voidable in the external administration.	- Obligations of participants in a designated payment system may be netted if the settlement rules so provides. - Where the settlement rules of a designated payment system provides that payment obligations made are final and irrevocable, the payment shall not be reverse, repaid or set aside	- EPD stipulates that transfer orders and netting shall be legally enforceable and binding on third parties in event of insolvency proceedings. - Transfer orders must be entered into the system before the opening of the insolvency proceedings. - No law, regulation, rule or practice shall lead to the unwinding of a netting. - Collateral provided to the system/central banks shall not be affected by the insolvency against the system participant.	BoE can designate a payment system so that their rules take precedence over normal insolvency law	- Notwithstanding any other provision of law: ===Payment obligations and payment entitlements of a member of a clearing organisation are netted in accordance to the conditions of the netting contract. === Any failed member of a clearing organisation is subject to the condition of the netting contract - No laws, injunctions, or court issues could limit or delay the enforceability of netting contracts
- Reference to other jurisdictions insolvency laws	Sections 6(2), and 10(3) specifically mentioned "... have effect despite any other laws" suggesting that its scope could include laws in other jurisdictions.	- Notwithstanding that the payment and settlement systems may extend to other countries, and that the settlement rules are governed by the foreign jurisdiction; if the judicial proceeding is in Canada, Canada legalisations will apply. - Foreign banks who wish to be a participant of a designated payment system has to provide the governor laws (foreign laws) applicable to the foreign bank. If the Governor deems from the information provided by the foreign bank that its participation would pose systemic risk, the Governor may prohibit that bank from participating in the system or require that bank to comply with directives that the Governor consider necessary.	- No law, regulations etc concluded before the opening of insolvency proceeding shall lead to the unwinding of a netting. - the rights and obligations of the insolvent participant participating in the payment system is determined by the law governing that system.	NIL	NIL

	Australia	Canada	European Area*	United Kingdom*	United States
<b>Legislated powers to payments industry body(ies)</b>	NIL	- Canadian Payment Association (CPA) was established by Canadian Payments Act to establish, operate and plan the evolution of Canada's payment and settlement systems. In doing so, it has to promote the efficiency, safety and soundness of its clearing and settlement systems and to consider the interest of general users. - Subject to approval by the Governor, CPA can issue bye-laws to its members.	NIL	NIL	NIL
<b>Others</b>	- If a party has been wrongly denied access to a designated payment system, the party could request RBA to issue directive to remedy the situation or apply to Federal Court for an order. - Prior to imposing and changing the access criteria to a designated payment system, as well as making standards to the system, RBA must seek comments from the public. - RBA may, at its own discretion, not seek comments from the public, if it considers the making / changing of standard is urgent or minor. - RBA must take reasonable steps to ensure payment systems' participants are aware of changes to the standards or access criteria of its system	- PSCA allows BoCanada to be a direct participant in systems, to act as custodian of financial assets for systems. - PSCA also allows BoCanada to act as central counterparty in designated systems and to provide liquidity loans to a clearing house or central counterparty of a designated system. - BoCanada may provide guarantees of settlement to participants in a designated payment system (secured or unsecured guarantees). - BoCanada may impose fees on clearing houses for administering PCSA - PCSA allows BoC to pay interest on special deposits accepted from a clearing house or from participants in a clearing and settlement system - provides a cost effective form of collateral.	- European Central Bank (ECB) and national central banks (NCB) can provide payment facilities - ECB can make regulations pertaining to payment matters in Euro area, however, there is an appropriate level of co-ordination between ECB and NCBs on the oversight and regulation of payment systems within Euro Area. ECB is to be consulted on any provisions in the field of payment systems.	NIL	NIL

\* The European Area has been defined here as comprising the European System of Central Banks (ESCB) and the Eurosystem. The ESCB is the ECB and the central banks of all EU Member States, whereas the Eurosystem comprises the ECB and National Central Banks of the Member States that adopted the euro (i.e. the Eurosystem is a subset of ESCB). The EU Council and the European Parliament use legal instruments such as Directives, which apply to the ESCB and have an impact on the framework for payment and settlement systems. The Eurosystem is tasked with the oversight of payment systems for its members to the extent that these systems use the euro. (For example the UK is not in the Eurosystem but it is in the ESCB and as such the Directives apply to it.)

~ The zero hour rule is when a court may date the bankruptcy of an institution from the midnight prior to the bankruptcy order being made. Thus RTGS systems need to be made exempt from this rule to provide certainty for settlement finality.

^ Cherry Picking exposure refers to uncertainty about the finality of multilateral netting arrangements and the potential for liquidators to pick out the assets that favouring the institution being liquidated despite these assets being previously netted.

## ANNEX C. RISK ANALYSIS FOR MULTI-PURPOSE STORED VALUE CARDS

1. This annex discusses the main risks arising from the issuance of MPSVC, for banks and non-banks alike, and shows how an MPSVC issuer can mitigate these risks through their own risk management systems and procedures.

2. There are two aspects of MPSVC issuance: a payment system aspect, since the instrument is used for purchase of goods and services; and a prudential aspect, since there is a holder of stored value who accepts a prepayment of money prior to the instrument being used by consumers for its intended purpose. Therefore, one approach is to analyse the risks of MPSVC issuance from two aspects:

- System focused risk analysis; and
- Institution focused risk analysis.

### **System focused risk analysis**

3. MPSVC systems are not systemically important as the values passing through these systems are small (see box below) and disruptions in these systems are unlikely to cause contagion effects that would threaten the stability of payment systems or the financial system more generally.

#### Values-at-risk of MPSVC compared with other systems

Values-at-risk of MPSVC systems are likely to be very small; CashCard, an MPSVC which is already widely accepted within Singapore, represents only a small fraction of total retail payments (0.04% in 2002). For further context, the total value of CashCard transactions in 2002 represented only 0.002% of the transactions processed in MEPS during 2002 and about 0.13% of total GDP and 0.56% of M1 in 2002.

More relevant comparisons can be made with respect to the other retail systems in Singapore, namely cheques, EFTPOS and Interbank GIRO. However, this still illustrates the very low values at risk in MPSVC systems; as at end 2002, the total value of all CashCard transactions amount to only 0.05% of cheque, 0.22% of Interbank GIRO and 3.33% of EFTPOS transaction values.

4. For MPSVC schemes with large user bases and high transaction volumes, such as the CashCard and ez-link Card, a disruption could lead to some inconvenience to consumers. For instance, users may face delays if the ez-link card system malfunctioned, or face erroneous fines for apparent

non-payment of ERP charges if the CashCard system failed. However, it is unlikely that such temporary inconveniences would affect public confidence.

### **Institution focused risk analysis**

#### ***Liquidity risk***

5. Liquidity risk is one of the main risks faced by issuers of MPSVC. Liquidity risk is the risk that an issuer is unable to meet demands for redemption for the issued MPSVC. Redemption is usually made by entities (e.g. merchants) that accept the issued MPSVC as payment for goods and services provided, although consumers may also demand a refund of any unused MPSVC.

6. The level of liquidity risk an issuer is exposed to will, to a large extent, depend on its investment policies for the proceeds collected from the issuance of MPSVC, referred as the “float”. The investment policy determines whether funds will be invested in cash, financial instruments or other forms of assets. The more liquid its invested assets are, the more likely an issuer will be able to meet its liquidity obligations on both a day-to-day basis as well as in times of extreme financial conditions (e.g. sudden massive redemption by consumers).

7. However, the trade-off for the issuer for investing the float entirely in highly liquid assets is a lower expected return on its investments. The issuer therefore would ideally have liquidity management policies in place such that it is able to manage liquidity effectively while generating satisfactory investment returns.

#### ***Credit / market risk***

8. Credit and market risks exist primarily as a result of the issuer's option to invest its MPSVC proceeds in financial assets like loans, securities, bonds, FX, etc. As a holder of various financial assets, it is exposed to the possibility of default by the issuers of the financial assets (credit risk). In addition, market movements (e.g. prices, interest rates, exchange rates, etc.) subject the issuer to adverse movements in the mark-to-market value of its financial assets (market risk).

9. The level of credit and market risks an issuer faces depends on the soundness of its investment policies and the assets classes in which it chooses to invest its float funds. It also depends on the efficiency of its credit



and market risk management systems to respond to any adverse changes in asset quality or market movements. It is possible for an MPSVC issuer to tightly control its exposure to financial risk, if it invests the float in low risk investments as suggested in the analysis above.

### ***Operational risk***

10. Operational risk refers to the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems, or from external events. Generally, operational risk can arise on two different levels:

- (i) The failure or deficiency of critical computing and telecommunication systems and networks (hardware and software) resulting in the deterioration, delay or loss of service; and
- (ii) The failure, inadequacy or absence of either internal risk control systems or procedures used for the tracking, detection and reporting of risks resulting in errors, fraud, security breaches and attacks from either internal or external sources.

11. Therefore, the actual level of operational risk, to which an issuer is exposed, depends on many factors including system design, development, testing, implementation and monitoring. Other factors include systems and personnel administration as well as operating control policies and procedures. Business continuity planning, audit, corporate governance and vendor/outsourcing management are also important factors to consider.

### ***Security risk***

12. Security risk is a specific component of operational risk. It is dealt with separately in this paper in order to highlight some of the important security risk aspects that relate to MPSVC products.

13. Security risk can arise from within a particular MPSVC system itself by virtue of its components, processes and other design features and characteristics. Security risk can also arise at any stage of the payment process or as a result of the underlying platform used to process the MPSVC payment. For example, all else being equal, a system that transmits payment messages and data over open networks like the internet will possibly possess an inherently higher level of security risk than a system that does this processing over proprietary networks like credit-card and debit-card networks.

14. These security vulnerabilities may give rise to the risk of fraud such as the duplication of genuine MPSVC devices (e.g. counterfeiting), alteration or duplication of data stored on devices or in messages transmitted between devices (e.g. double spending) and modification of the software functions on a device.

15. In order to mitigate security risk, the MPSVC issuer can ensure its security risk management framework is able to actively identify, assess, mitigate and monitor security risk aspects that specifically relate to the MPSVC system itself. The level of security chosen by the issuer at each level of the MPSVC system (consumer, merchant, operator, etc.) will depend on an assessment of the trade-off between having a more secure MPSVC system and factors like cost-effectiveness, speed and functionality.

16. For example, cryptography will most likely be the primary security measure used to protect the integrity and confidentiality of the payment messages, to authenticate the relevant parties in a payment transaction and also to enforce non-repudiation of payment instructions. However, increased cryptographic security often implies stronger algorithms, longer key lengths, sound key management techniques and specialised processing hardware, which may then translate to higher costs and slower processing speeds.

17. In addition, given the technical expertise required to evaluate such security risk aspects and the ever-evolving nature of the technologies involved, an MPSVC issuer would need to regularly assess its security risk management framework to ensure its continued effectiveness. An issuer could also consider regularly submitting its MPSVC system to independent security assessments to complement its internal risk management efforts.

### ***Legal risk***

18. Legal risk arises primarily from the potential legal actions taken against the issuer by consumers as well as entities (e.g. merchants) that accept MPSVC as payment. Legal actions to seek redress could be taken in the following areas (this list is not exhaustive):

- Theft and fraudulent usage of the electronic money;
- Loss or damage of the electronic money device;
- Operation errors, delays and malfunctions; and
- Data and information privacy.

19. An MPSVC issuer's exposure to legal risk will depend on the issuer's efforts in disclosing and explaining relevant information to help

consumers and merchants use its MPSVC products. Relevant information includes rights and responsibilities, terms and conditions of use, pricing, product features, risks involved, etc. Such efforts will help protect the issuer in any legal action taken against it, in the event problems or disputes occur.

### ***Risk of money laundering***

20. Central banks are increasingly focusing on whether the movements of funds associated with criminal activities are made harder to detect with the advent of e-money such as MPSVC. MPSVC products available today may possess two characteristics that make them attractive as a payment tool for money laundering purposes:

- Compared to currency, MPSVC (e.g. stored value cards) provide a less bulky and conspicuous means of transporting large sums of money; and
- MPSVC that can be used across computer networks like the Internet can provide a means to transfer funds quickly and anonymously compared to traditional electronic fund transfer services offered by banks (e.g. wire transfer).

21. An issuer exposed to money-laundering faces several immediate risks. Legal/ regulatory risk is in the form of sanctions, fines, prosecution and other statutory penalties. In addition there is reputational risk, as the public and industry's perception of the integrity of the issuer will be affected.

22. There are various measures that can be taken to mitigate exposure to money laundering. Such measures focus on the design specifications of the MPSVC and include placing limits on transaction values or the MPSVC maximum load value. Another important measure can be to limit person-to-person payments to ensure transactions always pass through a central switch to ensure an audit trail exists and dubious activity can be easily detected through monitoring transactions.

## GLOSSARY

<u>Key Terms</u>	<u>Definition</u>
Access	In relation to a payment system, access means the entitlement or eligibility of a person to become a participant in the system, as a user of the system, on a commercial basis on terms that are fair and reasonable.
ACH	Automated Clearing House
CLS	Continuous Linked Settlement System
FNA	Payment and Settlement Systems (Finality and Netting) Act 2002
MEPS	MAS Electronic Payment System
Multi-purpose stored value facility	<p>A multi-purpose stored value facility is a facility in relation to which the following conditions are satisfied:</p> <ul style="list-style-type: none"> <li>(a) the facility is purchased by a person from another person; and</li> <li>(b) the facility is able to be used as a means of making payments up to the amount that, from time to time, is available for use under the conditions applying to the facility; and</li> <li>(c) those payments are to be made by the provider of the facility or by a person acting under an arrangement with the provider (rather than by the user of the facility).</li> </ul> <p>Excluded from this definition are cash and any facility that is issued by a person for payment of goods or services or both goods and services that are only provided by that person.</p>
Oversight of payment systems	BIS CPSS - A Glossary of Terms Used in Payments and Settlement Systems, Jan 2001. Also in Payment Systems in the European Union, (Blue Book), April 1996. "A central bank task, principally intended to promote the smooth functioning of payment systems

and to protect the financial system from possible ‘domino effects’ which may occur when one or more participants in the payment system incur credit or liquidity problems. Payment systems oversight aims at a given system (e.g. a funds transfer system) rather than individual participants.”

Participant	<p>A participant in relation to a payment system, means</p> <ul style="list-style-type: none"><li>(a) a person that is a participant in the system in accordance with the rules governing the operation of the system; or</li><li>(b) a person that is the operator of the system.</li></ul>
Payment system	<p>A payment system means a funds transfer system or other system that facilitates the circulation of money and includes any instruments and procedures that relate to the system.</p>
SIPS	<p>SIPS are systems where, if the system were insufficiently protected against risk, disruption within it could trigger or transmit further disruptions amongst participants or systemic disruptions in the financial area more widely.<sup>15</sup></p>
SWIPS	<p>SWIPS are systems where a failure or disruption within such systems is unlikely to cause systemic instability but could lead to widespread disruptions due to its large user base, thereby affecting public confidence in payment systems more widely.</p>

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<sup>15</sup> Definition of SIPS is taken from the BIS CPSS’ report *Core Principles for Systemically Important Payment Systems*, January 2001, p7.