



ZIMSWITCH TECHNOLOGIES (PVT) LTD

SWITCHING YOU TO FINANCIAL FLEXIBILITY

**PRINCIPLES OF FINANCIAL MARKET
INFRASTRUCTURES (PFMI)**

**PUBLIC DISCLOSURE OF ZIMSWITCH TECHNOLOGIES
(PRIVATE) LIMITED'S SELF ASSESSMENT**

**Submitted to the Reserve Bank of Zimbabwe for the Year
Ended 31 December 2021**

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Abbreviations

ACH	Automated Clearing House
ATM	Automated Teller Machine
BIS	Bank of International Settlements
CPMI	Committee on Payment and Market Infrastructure
EPAZ	Electronic Payments Association of Zimbabwe
FMI	Financial Market Infrastructures
RTGS	Real Time Gross Settlement
RBZ	Reserve Bank of Zimbabwe
EFT	Electronic Funds Transfer
EFTS	Electronic Funds Transfer Switch
LOM	Liquid Optimising Mechanism
POS	Point of Sale
ICT	Information and Communications Technology
ISO	International Organisation for Standardisation

IOSCO	International Organisation of Securities Commissions
FI	Financial Institution
MMO	Mobile Money Operator
NPS	National Payment Systems
PCI DSS	Payment Card Industry Data Security Standard
PIN	Personal Identification Number
SLA	Service Level Agreement
TPPSP	Third Party Payments Service Provider
ZSSWG	Zimswitch Standards and Specifications Working Group
ZIMSWITCH	Zimswitch Technologies (Pvt) Ltd

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1 Executive Summary

In April 2012 the Bank for International Settlements' (BIS) Committee on Payment and Market Infrastructure and the Technical Committee of the International Organization of Securities Commissions (CPMI-IOSCO) published the 'Principles for financial market infrastructures' (collectively, the 'PFMI and each principle a 'Principle'). As defined by the BIS and IOSCO, a 'financial market infrastructure' (FMI) is "a multilateral system among participating institutions, including the operator of the system, that is used for the purposes of clearing, settling or recording payments, securities, derivatives or other financial transactions". The PFMIs are designed to ensure that the infrastructure supporting global financial markets is robust and able to withstand financial shocks.

The document assesses the operations of Zimswitch Technologies (Private) Limited against applicable principles for the period January to December 2021. This is the second assessment for the entity with the inaugural assessment having been concluded in 2015. Notable issues include:

- The need for real-time exposure monitoring for effective credit risk management, an improvement to the existing process through which monitoring is performed at specific intervals during a respective settlement cycle.
- The need for stress testing of the default management procedure to ensure efficiency, an extension to the current testing which is limited to adequacy of the collateral reserves in meeting the credit exposure of the respective participant.
- The need for establishment of a wind down plan for the Company to complement the existing recovery plan which is in place for raising of equity.

Below is a summary of the principles assessment, the observation ratings:

Principle	Rating
1: Legal basis An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.	Observed

Principle	Rating
2: Governance arrangements An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.	Observed
3: Risk-management framework An FMI should have a sound risk-management framework for comprehensively managing risks.	Observed
4: Credit exposure An FMI should effectively measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes.	Observed
5 Collateral An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks.	Observed
7: Liquidity risk An FMI should effectively measure, monitor, and manage its liquidity risk.	Observed
8: Settlement finality An FMI should provide clear and certain final settlement T+0 or T+1	Observed
9: Money settlements An FMI should conduct its money settlements in central bank money or near central bank money	Observed
13 Participant-default rules and procedures An FMI should have effective and clearly defined rules and procedures to manage a participant default.	Observed
15 General business risk: An FMI should identify, monitor, and manage its general business risk and hold sufficiently liquid net assets funded by equity to cover potential general business losses so that it can continue providing services as a going concern.	Observed
17: Operational risk An FMI should identify all plausible sources of operational risk, both internal and external, and minimise their impact through the deployment of appropriate systems, controls, and procedures.	Observed
18 Access and participation requirements An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.	Observed
19: Tiered participation arrangements An FMI should, to the extent practicable, identify, understand, and manage the material risks to it arising from tiered participation arrangements.	Observed
20: FMI Links An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.	Observed

Principle	Rating
21 Efficiency and effectiveness An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves	Observed
22: Communication procedures and standards An FMI should use or accommodate the relevant internationally accepted communication procedures and standards.	Observed
23: Disclosure of rules, key procedures, and market data An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.	Observed
Overall Assessment	Observed

1.1 General Description of the FMI, Markets Served and Key Metrics

Zimswitch Technologies (Private) Limited (hereinafter Zimswitch) is a private limited company, incorporated in 1994 under the laws of Zimbabwe. The Company was formed to facilitate infrastructure sharing amongst financial institutions starting with ATM and expanding to include POS, Mobile and Internet.

Zimswitch is a recognised Payment System in terms of the National Payment Systems Act [Chapter 24:23] with the Reserve Bank of Zimbabwe (RBZ) National Payments System (NPS) Department being the primary regulator. Zimswitch was designated as the national switch on the 9th of July 2020, in terms of Section 4 (1) of the Banking (Mobile Transmission, Mobile Banking and Mobile Money Interoperability) Regulations, Statutory Instrument 80 of 2020, read together with RBZ Press Statement dated 9 July 2020.

The Company is also subject to other regulatory authorities such as:

- the Registrar of Companies in terms of the Companies and Other Business Entities Act (Chapter 24:31) and various Regulations under it which may be issued from time to time;
- Zimbabwe Revenue Authority (ZIMRA), in terms of the Revenue Authority Act (Chapter 23:11), Income Tax Act (Chapter 23:06), Value Added Tax Act (Chapter 23:12); Finance Act, and various other statutes which may govern specific transactions as and when they arise, such as Capital Gains Tax Act (Chapter 23:01);
- Financial Intelligence Unit (FIU), in terms of the Bank Use Promotion and Suppression of Money Laundering Act (Chapter 24:24) and the Money Laundering and Proceeds of Crime Act (Chapter 9: 24);
- National Social Security Authority (NSSA) in terms of the National Social Security Act (Chapter 17:04); and
- Zimbabwe Manpower Development Fund (ZIMDEF) in terms of the Manpower Planning and Development Act (Chapter 28:02).

As the National Payments Switch, Zimswitch facilitates the switching, clearing and settlement of domestic interbank transactions thereby providing interoperability amongst participating players in the financial services sector. Transactions switched include the following:

- Card-based interbank transaction switching services including ATM, POS as well as card not present transactions on Mobile and Internet.

- Account-based interbank transaction switching tagged “ZEEPAY”.

Participation on the Zimswitch platform is governed by the Zimswitch Switching Service User Agreement. Through this agreement, participants are bound to comply with the platform rules and guidelines and the Zimswitch Technical Specifications. Zimswitch has two types of participants, direct participants and indirect participants who are under the sponsorship of direct participants. As at 31 December 2021, Zimswitch had 27 participants which comprised of seventeen (17) Banks, five (5) Deposit Taking Microfinance Banks (DTMFIs), four (4) Mobile Money Operators (MMOs) and Icecash being the one (1) Payment System.



1.2 Summary of Major Changes

The last PFMI self-assessment for Zimswitch was conducted in 2015. Since then, the following major changes have taken place:

- There was a significant increase in transaction volumes following the national drive towards electronic payments and financial inclusion. Peak volumes were experienced in 2018 of 461% in comparison to 2016. However, this has since declined on account of various factors including the economic climate, increased use of foreign currency (in both cash and across the international schemes) and the impact of the COVID-19 pandemic.

- Zimswitch was designated as national payment switch on the 9th of July 2020, in terms of Section 4 (1) of the Banking (Mobile Transmission, Mobile Banking and Mobile Money Interoperability) Regulations, Statutory Instrument 80 of 2020, read together with RBZ Press Statement dated 9 July 2020. The mandate of the national payments switch is to provide interoperability amongst mobile money providers for wallet to wallet, bank to wallet and wallet to bank amongst other functionalities.

1.3 Objective of the Assessment

The objective of the assessment is to provide an overview of Zimswitch's observance of the PFMI as enshrined in its governance arrangements, policies, processes, and procedures.

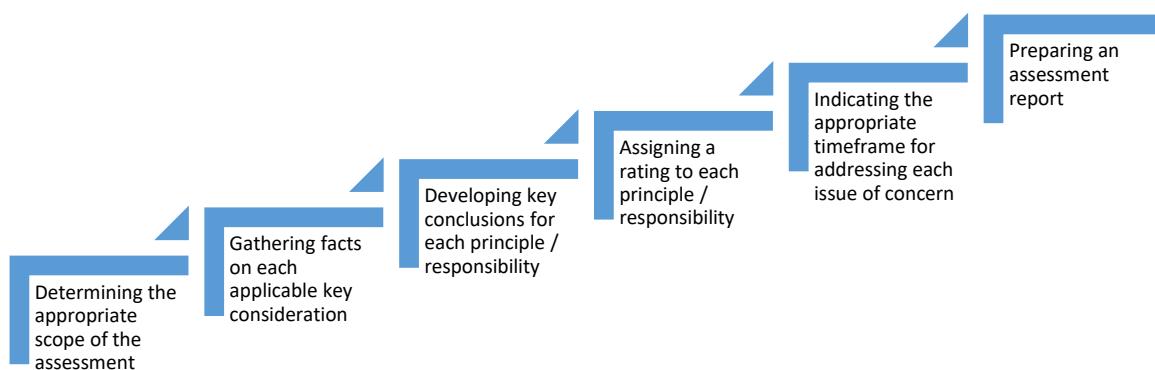
1.4 Scope of the Assessment

The scope of the assessment was limited to the PFMI applicable to Payment Systems i.e., principle 1, 2, 3, 4, 5, 7, 8, 9, 13, 15, 16, 17, 18, 19, 21, 22 and 23.

Principle	PSs	CSDs	SSSs	CCPs	TRs
1. Legal basis	•	•	•	•	•
2. Governance	•	•	•	•	•
3. Framework for the comprehensive management of risks	•	•	•	•	•
4. Credit risk	•		•	•	
5. Collateral	•		•	•	
6. Margin					•
7. Liquidity risk	•		•	•	
8. Settlement finality	•		•	•	
9. Money settlements	•		•	•	
10. Physical deliveries		•	•	•	
11. Central securities depositories		•			
12. Exchange-of-value settlement systems	•		•	•	
13. Participant-default rules and procedures	•	•	•	•	
14. Segregation and portability					•
15. General business risk	•	•	•	•	•
16. Custody and investment risk	•	•	•	•	
17. Operational risk	•	•	•	•	•
18. Access and participation requirements	•	•	•	•	
19. Tiered participation arrangements	•	•	•	•	•
20. FMI links		•	•	•	•
21. Efficiency and effectiveness	•	•	•	•	•
22. Communication procedures and standards	•	•	•	•	•
23. Disclosure of rules, key procedures, and market data	•	•	•	•	•
24. Disclosure of market data by trade repositories					•

1.5 Assessment Methodology

The Zimswitch PFMI Self-assessment was performed in line with the CPMI-IOSCO report on Disclosure Framework and Assessment. The process included consideration of each principle, their underlying key consideration and the questions set out in the PFMI: disclosure framework and assessment methodology. Key steps were as follows:



The assessment was coordinated by the Legal, Risk and Compliance function with participation and oversight by the management team. Overall accountability for the assessment was vested in the Company's Chief Executive Officer.

The RBZ provided training prior to the assessment on the PFMI including the disclosure framework and assessment methodology. Ongoing support was received throughout the assessment.

1.6 Distribution

This report is intended for public disclosure for the purposes of presenting the Company's observance of the PFMI including details of the gaps identified and how the Company intends on addressing the gaps. The content of the self-assessment is accurate as of May 2022 unless explicitly noted. Publication will be through the Company's website.

2 Principle by Principle Narrative Disclosure

2.1 Principle 1: Legal basis

An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each aspect of its activities in all relevant jurisdictions.

Zimswitch observes Principle 1 as per the narrative below:

Zimswitch is a duly registered company under the laws of Zimbabwe and in terms of the Companies and Other Business Entities Act of Zimbabwe [Chapter 24:31]. Further the Company is required to comply with the Finance Act [Chapter 23:04], Income Tax Act [Chapter 23:06], Value Added Tax Act [Chapter 23:12], National Social Security Act [Chapter 17:04], Data Protection Act [Chapter 11:12] and Labour Act [Chapter 28:01] among others.

Zimswitch ensures that its legal basis provides for a high degree of legal certainty for material aspects of its activities through liaison with legal counsel and regulatory authorities to ensure that all aspects of its operations are aligned to legislation and regulation. Where inconsistencies are observed, Zimswitch lobbies for necessary legislative or policy changes. Zimswitch has an internal legal counsel who works with external legal advisers to support this function. A Compliance function is also in place to provide a second line of defense in ensuring that the operations of the Company remain within the confines of the law and regulatory framework.

The company operates as a recognised Payment System under the National Payment Systems Act [Chapter 24:23] (NPS Act). The NPS Act provides a legal basis for the recognition, operation, regulation, and supervision of systems for the clearing of payment instructions between financial institutions. Through the NPS Act, the RBZ is the designated regulator, a function discharged through their National Payment Systems Department. Additional legal basis derived from the NPS Act include:

- I. Participation – In line with the provisions of the NPS Act (Section 3(3)), participation on the Switching System is restricted to financial institutions as defined in the Banking Act [Chapter 24:20].
- II. The use of netting arrangements - Zimswitch produces settlement reports on a multilateral net basis as supported in the NPS Act.

III. Settlement Finality and Irrevocability - The NPS Act, Section 11 states that payment instructions made through recognised payment and settlement systems for the purposes of settling obligations of a participant in the systems are final and irrevocable and shall not be reversed or set aside for any reason whatever, including insolvency of participants. In case of insolvency of participants, obligations from payment system rank above other third-party obligations in accordance with the NPS Act. The finality of transactions where a participant is insolvent is covered in the NPS Act which in summary states that there shall be no zero-hour rule.

. In terms of Statutory Instrument 80 of 2020 - Banking (Money Transmission, Mobile Banking and Mobile Money Interoperability) Regulations, 2020, Zimswitch shall connect and provide interoperability of payment systems and services to every money transmission provider and mobile banking provider, as shall be directed by written notice by the Reserve Bank from time to time.

Participation on the Zimswitch platform is governed by agreements signed between Zimswitch and the respective participant namely the Zimswitch Switching Service User Agreement (Zimswitch User Agreement), the Zimswitch Switching Service User Amending Agreement (Zimswitch User Amending Agreement) and the Zimswitch Security Agreement. Zimswitch User Financial Institutions (User FIs) who are direct participants on the platform sign the Zimswitch User Agreement which governs general participation on the switching platform and the Zimswitch Security Agreement which governs collateral arrangements. Indirect participants who access the switching platform under the sponsorship of a User FI sign the tripartite Zimswitch User Amending agreement with the sponsor and Zimswitch.

Through the signing of these agreements, participation is further governed by rules, procedures and guidelines embodied in the Zimswitch User Manual. The agreements as read with the User Manual give legal basis for participation and issuance of penalties for non-compliance. The agreements and user manual are maintained in consultation with the Market, Zimswitch Legal, Zimswitch Board and the National Payment Systems Department of the Reserve Bank of Zimbabwe.

Whilst a consultative approach to the crafting of participation rules, procedures and guidelines promotes collaboration and quality control, the process tends to be bureaucratic presenting an obstacle to the implementation of some initiatives especially those which are time sensitive and require swift operationalisation. It is recommended for the RBZ to institute a committee with

representation from industry players and regulatory authorities for the purposes of consultation on key aspects relating to the operation of Zimswitch and the National Payments System. This may include issues relating to standards, new products and services among other topical issues.

2.2 Principle 2: Governance arrangements

An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

Zimswitch observes Principle 2 as per the narrative below:

The Company's objectives as enshrined in the company's mission, are to provide for an effective, secure and reliable service to meet the requirements of all stakeholders in the financial payments services sector in Zimbabwe. Zimswitch endeavors to remain on the cutting edge of switching products through efficiency and innovation, to be the preferred channel for local and international payments, to build up volumes in order to reduce transaction costs and to provide value and return to shareholders. Zimswitch places a high priority on efficiency and effectiveness through its innovation and efficiency pillar. Innovation requires adherence to communications standards and protocols in addition to security standards and best practices. Efficiency is also a requirement through the establishment of operational procedures which include settlement, default management, customer query resolution and risk management.

The company has a clear governance framework that is led by the Board of Directors at the top. The Board is assisted in discharging its roles and responsibilities by the following Board Committees:

- I. Human Resources Committee - assists and advises the Board on matters relating to human resources and remuneration of the Board, senior management and all staff, in order to motivate and retain the best talents in the market and maximising shareholder value.
- II. Finance and Audit Committee - assists the board to fulfill its oversight responsibilities in areas such as an entity's financial reporting, internal control systems, and the internal and external audit functions.

- III. Technical and Business Development Committee - assists the Board in fulfilling its oversight responsibilities on specific technical matters which are beyond the scope or expertise of non-technical Board members.
- IV. Risk and Compliance Committee -assists the board to fulfill its risk management oversight responsibilities and compliance with laws and regulations.

The Board consists of 9 non-executive members, including an independent Chairman. The Board has a diversity of skills which ensure that it can fulfil its broad roles and responsibilities. The Board members receive training on various aspects of their roles to ensure that they discharge their roles effectively. The training includes general corporate governance, risk management, PFMIs and AML/CFT. The company pays market-based Board sitting allowances to incentivise members to discharge their roles. The Company undertakes annual evaluation of Board performance, policies, processes and procedures to ensure that they are designed to assist the Board in effectively fulfilling its role.

Management is headed by the Chief Executive Officer who reports to the Board and operates in terms of the Management Charter. The company has a clear and Board approved organisational structure. The Management Committee is responsible for the day to day running of the business. The Committee constantly monitors the key risk areas and key performance indicators of the business. The Management Committee is responsible for the overall business activities of the company, with particular attention given to technology, systems, business objectives and sustainability. Management roles and responsibilities are set out in their Key Result Areas (KRAs). Management has the appropriate experience, mix of skills and experience and the integrity for the operation and risk management of the Company. Management performance is evaluated by the Board.

Zimswitch aims to recruit qualified staff who have proven knowledge and skills for the job and continuous performance reviews are done to ensure staff deliver what is expected of them. Employees are guided by a Code of Conduct in addition to a Controls Framework which assists in ensuring appropriate conduct in line with the organisation's values.

Zimswitch recognises and is accountable to various stakeholders as follows:

- I. Shareholders – The Zimswitch Board is accountable to the shareholders for their stewardship of the company. Annual General Meetings are held to appraise Shareholders of the performance of the Company.

- II. Regulator – Zimswitch is accountable to the regulator, RBZ, National Payment Systems with respect to its operations. The Company operates in line with regulatory directives and guidelines as issued from time to time. Various returns are submitted to the regulator including audit reports, management accounts and platform transactional statistics.
- III. Participants- Zimswitch is accountable to its participants. Zimswitch is committed to providing efficiency, effective and safe switching service to its participants. Various service metrics have been established and are tracked in support of this commitment as embodied in the User Agreement and Manual. Zimswitch engages with participants through its Account Management Framework as well as through participation at industry forums such as Bankers Association of Zimbabwe (BAZ), Electronic Payments Association of Zimbabwe (EPAZ), Bankers' ICT and Inter-Bank Operations Committees. Special communication is performed through Circulars, Amendments to User Manual, Emails, Letters and Mainstream Newspaper Notices.
- IV. Merchants – Zimswitch is also accountable to Merchants who utilise the payment system for receiving payments for their goods and services. Merchant engagements is performed under the tiered participation framework with various merchant engagements, workshops and trainings.
- V. Public – Zimswitch is also accountable to the transacting public with appropriate communication as and when necessary on products and services, fees and other related matters. Zimswitch engages the public through various fora including the Zimbabwe International Trade Fair (ZITF), Zimbabwe Agricultural Shows (ZAS), in-store and through social media platforms.

2.3 Principle 3: Risk-management framework

An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.

Zimswitch observes Principle 3 as per the narrative below:

Risk Management is an integral part of Zimswitch corporate governance framework. Zimswitch Risk Management is based on the principles of Financial Market Infrastructure and borrows from the ISO31000 standard. Zimswitch has a Risk Management Framework that

stipulates the approach to risk management including the roles and responsibilities, risk management methodology, risk appetite and tolerances.

Risk Management is overseen by the Zimswitch Board which has delegated this function to the Risk and Compliance Committee for effective oversight on behalf of the Board. This Committee is governed by a Risk and Compliance Committee Charter which outlines the Committee's authority, roles, responsibility, access and reporting lines. Zimswitch also has a Risk and Compliance function that carries out the day-to-day risk management activities in liaison with management. The function has a dual reporting line into the Zimswitch Chief Executive Officer and into the Board Risk and Compliance Committee. Additionally, Management has a forum to oversee risk management called the Management Risk Committee which is governed by the Management Risk Committee Charter. The Management Risk Committee is responsible for the identification and analysis of risks. The committee also recommends remedial action and tracks the resolution of these remedial actions.

The Zimswitch Risk Management Framework provides for the identification, analysis, treatment, monitoring and reporting of risks within the Zimswitch environment. The organisation has defined key risk policies including risk appetite and tolerances and addressing each applicable principle of the PFMIs.

Zimswitch employs sound risk management planning including:

- Collateral management to mitigate the settlement and consequently credit risk.
- Business continuity planning to ensure that the Company can recover in the event of adverse events. Included in business continuity planning is ICT Disaster Recovery planning and Financial Recovery planning.

The Company currently does not have an orderly wind down plan, but work is underway to implement one.

2.4 Principle 4: Credit exposure

An FMI should effectively measure, monitor, and manage its credit risk from participants and from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. A CCP should also maintain additional financial resources to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the [one/

two] participant[s] and [its/their] affiliates that would potentially cause the largest aggregate credit exposure[s] in extreme but plausible market conditions.

Zimswitch observes Principle 4 as per the narrative below:

Zimswitch switching system is exposed to credit risk arising from the settlement obligations amongst participants on the switching system. Zimswitch is not directly exposed to credit risk as it manages credit risk on behalf of its participants. Zimswitch manages its credit exposure through the implementation of collateral reserves which are used to fund settlement in the event of settlement default. These collateral reserves are maintained monthly or as necessary to enable adequate coverage. Credit exposure is monitored regularly to ensure that the provided safeguards are sufficient.

Credit exposures on the Zimswitch platform at any given time is the net of issued and acquired transaction values during a given business cycle. Settlement on the switching system occurs on a T+1 basis during weekdays with no settlement during weekends and public holidays which are settled on the next business day. Monitoring of credit exposures is done through automated reports which are generated at specified intervals. In order to further improve the credit management process, there is need for real-time automated monitoring of exposure with notifications when the exposure reaches certain thresholds and disconnection of participants once the collateral amount has been depleted.

2.5 Principle 5: Collateral

An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks.

Zimswitch observes Principle 5 as per the narrative below:

Zimswitch collateral is lodged by participants with the RBZ in Central Bank Money. There is no consideration for other forms of assets on account of liquidity risk. The collateral is lodged in the participant's collateral current account held with the RBZ. Zimswitch has power of attorney over the collateral reserves to fund settlement in the event of a participant default. Collateral is not available for investment by either Zimswitch or the respective participant.

2.6 Principle 7: Liquidity risk

An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources to effect same-day and, where appropriate, intraday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of [one/two] participant[s] and [its/their] affiliates that would generate the largest aggregate liquidity need in extreme but plausible market conditions.

Zimswitch observes Principle 7 as per the narrative below:

Zimswitch has liquidity risk management policies and practices in place to address liquidity risk which occurs mainly when a participant is unable to fund its settlement obligations when they are due. To mitigate liquidity risk, settlement is performed in Central Bank Money. Further, participants are required to lodge collateral in Central Bank Money. The collateral is lodged in the participant's collateral current account held with the RBZ. Zimswitch has power of attorney over the collateral reserves to fund settlement in the event of a participant default. Collateral requirements are reviewed monthly or when market events affect credit exposure trends.

It is key to note that collateral is not the primary instrument for meeting settlement obligations. Participants are responsible for managing their liquidity risk as they fund their settlement obligations individually with collateral only acting as a guarantee in the event of settlement failure. At no point does Zimswitch fund settlement on behalf of its participants. The nature of liquidity needs of a participant is the net position of its issued and acquired interbank transactions across the platform including transaction fees and charges. The quantum is dependent on the size of the institution with respect to issued customers and the expanse and distribution of their acquiring activities. Settlement is on at T+1 with settlement occurring on a daily basis with the exception of weekends and public holidays. Settlement of Zimswitch transactions is performed through the RBZ RTGS system. Settlement confirmations are used to inform successful settlement and Collateral monitoring reports are used to track liquidity risk.

Zimswitch employs monthly stress testing to establish adequacy of measures employed to mitigate liquidity risk. Currently the test scenario aims to establish the effectiveness of the collateral amount lodged in covering the participant's settlement obligations. It is however

recommended to test the use of the collateral reserve for settlement to establish efficiency of the default management process.

2.7 Principle 8: Settlement finality

An FMI should provide clear and certain final settlement, at a minimum, by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.

Zimswitch observes Principle 8 as per the narrative below:

Settlement finality is defined at the point of reporting of a participant's settlement obligations. Zimswitch generates reports with lists of all transactions of the day and the net settlement obligations for each participant. Settlement is performed via RTGS which enforces finality in line with the provisions of the National Payment Systems Act [Chapter 24:23]. The Zimswitch User Agreement and User Manual also stipulate settlement finality.

The National Payment Systems Act [Chapter 24:23] recognises the finality of the settlement obligations notwithstanding the provisions of the Insolvency Act [Chapter 6:07] or the Companies and Other Business Entities Act [Chapter 24:31] for a Recognised Payment System or Participant that is being wound up, under judicial management or curatorship. Furthermore, the settlement obligations of that payment system or participants shall be binding on the liquidator, judicial manager, or curator.

Zimswitch legal framework and rules grant power of attorney to Zimswitch over the collateral reserves lodged by a participant such that in the event of default whether through wind up, judicial management or curatorship, Zimswitch may still effect settlement. This framework is in line with the principles of financial market infrastructures.

2.8 Principle 9: Money settlements

An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.

Zimswitch observes Principle 9 as per the narrative below:

Zimswitch conducts money settlements in Central Bank Money as obligations arising from Zimswitch transactions are settled through the RTGS system.

2.9 Principle 13: Participant-default rules and procedures

An FMI should have effective and clearly defined rules and procedures to manage a participant default that ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

Zimswitch observes Principle 13 as per the narrative below:

Zimswitch defines participant default as the event of failure to settle in full obligations arising from the participation on the platform. Zimswitch has rules which clearly identify and manage possible default scenarios by a participant as documented in section 7 of the Zimswitch User Manual.

Zimswitch employs collateral as a guarantee against possible default by participants with the reserves being held with the RBZ on behalf of participants. Procedures are in place to ensure the adequacy of these reserves on a monthly basis or as and when required by market events. Zimswitch has power of attorney over the participant's collateral reserves that are maintained by participants and in the event of default, the Company institutes the release of the funds to cover the shortfall.

The following key provisions are made through the documented default management rules as documented in section 7 of the Zimswitch User Manual:

- The rules and procedures recognise the use of the balance funded in the participants Liquidity Optimising Mechanism (LOM) account on the RTGS system as the primary source of funding with collateral being the secondary source of funding in the event and to the extent of default.
- The procedure should not change the normal settlement procedure except to the extent of the source of funding of the participant's settlement obligation which will be from the collateral reserve.
- The procedure provides for settlement of obligations that have been cleared for settlement. In line with the NPS Act [Chapter 24:23] section 11, transaction processed through the Zimswitch platform are final and irrevocable. As such, at the point of

default, any unsettled transactions shall constitute obligations owed by the defaulting participant to other non-defaulting participants.

- In the event of default, any excess exposure that is not covered by the respective collateral reserve is removed from the settlement registers to allow net settlement. The loss is shared by participants on a pro-rata leaving the defaulting participant to settle bilaterally with the affected participants.
- The procedure provides for disconnection of the participant to prevent further undue exposure to other participants.

The defaulting participant remains a bonafide participant on the switching system and can be reconnected once any outstanding obligations are settled and collateral reserves replenished within the stipulated times.

2.10 Principle 15: General business risk

An FMI should identify, monitor, and manage its general business risk and hold sufficiently liquid net assets funded by equity to cover potential general business losses so that it can continue providing services as a going concern. This amount should at all times be sufficient to ensure an orderly wind-down or reorganisation of the FMI's critical operations and services over an appropriate time period.

Zimswitch observes Principle 15 as per the narrative below:

Zimswitch has a board endorsed Risk Management Framework which outlines the responsibilities, methodologies, policies, and controls for identifying, monitoring and managing general business risk with the objective to ensure that the entity remains financially viable and a going concern. Zimswitch employs a standard methodology for the identification, assessment, measurement, control and monitoring of risks which borrows from the ISO 31000 standard.

General Business Risk is embodied throughout all risk categories and is often defined as an impact of other risk scenarios. However general business risks encompass risks that affect the viability of the business or its going concern including strategic risk, reputational risk, revenue leakages, exchange loss, liquidity risk (working capital), investment risk. General business risks inherent to the Zimswitch environment are identified through risk assessments and

various internal and external audits which review the micro and macro-economic environment and financial reporting framework.

Zimswitch employs a strategic management process which involves the setting of strategic objectives and their review. This process ensures the relevance of the strategy which is set by management and approved by the Board. The strategic management process takes into consideration external and internal factors such as competition, technological advancements and innovation, market needs, internal capacities etc.

Management Accounts are issued monthly which reflect specific key risk indicators relating to general business risk such as liquidity, return on assets, return on investment, budget vs income/expenditure etc. The Board reviews the financial position, considers and approves any capital raising initiations as well as communicating with shareholders on prospectus issue. The board also determines and approves the pricing/valuation for any shares to be issued.

External Auditors are engaged annually to verify whether financial statements are free from material misstatements

Zimswitch holds liquid net assets funded by equity. Liquid Net Assets are the portion of net assets held in cash or that is easily converted to cash. Cash plus other assets that can be easily converted to cash equate to Liquid Net Assets. Associated costs are determined through the budget. The Company's liquid assets must be enough to cover operational expenses. At any given time, the company is required to hold liquid assets whose amount should cover six (6) months operational expenses at a minimum.

The Company currently has a recovery plan and is in the process of developing a winding down plan.

2.11 Principle 17: Operational risk

An FMI should identify all plausible sources of operational risk, both internal and external, and minimise their impact through the deployment of appropriate systems, controls, and procedures. Systems should ensure a high degree of security and operational reliability, and have adequate, scalable capacity. Business continuity plans should aim for timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale disruption.

Zimswitch observes Principle 17 as per the narrative below:

Zimswitch manages operational risk in terms of a Board approved Risk Management Framework which borrows from the ISO 31000 standard. Operational risks inherent to the Zimswitch operational environment are identified through risk assessments and various internal and external audits which review people, processes and technology amongst other internal and external factors.

. Key policies designed to manage operational risk include information security, business continuity, change management, product development, incident management, human resource and anti-money laundering, combating of the financing of terrorism and counter financing of proliferation. Key controls include:

- I. Service level agreements with critical service providers to ensure service excellence and protection in the event of service disputes.
- II. Clear and concise documentation of participation rules and guidelines as documented in the Zimswitch User Manual and Zimswitch Technical specification to ensure efficiency and effectiveness.
- III. Adoption of international standards for communication including ISO8583 and ISO20022 including security standards (PCI DSS, ISO27001) and best practices including use of Hardware Security Modules (HSMs) and messaging encryption.
- IV. Robust product development framework which includes Board and RBZ approval among other internal and external checks and balances. Products developed where possible are based on international standards including EMV.
- V. Robust business continuity planning guided by a business impact analysis which addresses risk-based scenarios across the Zimswitch environment including links to participants. Associated contingency planning include redundancy across all critical infrastructure, replication and stress testing.

The Board reviews the Company's Operational Risk through feedback from various checkpoint including:

- I. Tracking of performance indicators such as uptime, system capacity, transaction failure rates etc.
- II. Internal and external audits
- III. System health checks

- IV. Annual BCP/DRP testing
- V. Gap analysis by PCI Qualified Security Assessors

2.12 Principle 18: Access and participation requirements

An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

Zimswitch observes Principle 18 as per the narrative below:

Zimswitch has implemented a framework for participation on the switching system which promotes fairness and open access within the confines of the applicable legislation and regulatory framework.

In line with the provisions of the NPS Act (Section 3(3)), participation on the Switching System is restricted to financial institutions as defined in the Banking Act [Chapter 24:20]. Further, – section 3 (1) of the Banking (Money Transmission, Mobile Banking and Mobile Money Interoperability) Regulations, 2020 Statutory Instrument 80 of 2020) recognised mobile money providers as financial institutions in terms of the Banking Act.

Zimswitch has two types of participants, direct and indirect participants with direct participants being those financial institutions that are able to participate in the clearing and settlement on the RBZ RTGS system. Zimswitch permits indirect access to other financial institutions as well as non-financial institutions subject to their sponsorship by a bonafide direct participant on the switching system and approval of that sponsorship arrangement by RBZ. All financial institutions must be licensed under the Banking Act [Chapter 24:20] or Microfinance Act [24:29] and FMIs must be recognised under the National Payment Systems Act [Chapter 24:23].

All applications to participate on the Zimswitch switching system are subject to a due diligence to assess the potential risk that the entity may present to the switching system. The due diligence interrogates ownership, governance arrangements and any litigation, sanctions and penalties against the entity. The due diligence also reviews the financial soundness of the entity and operational indicators including service arrangements and business continuity planning. The review is performed by Management who then makes a recommendation to the Zimswitch Board for approval.

On approval, pre-requisite to going live on the switching service include the following:

- I. Entering into the Zimswitch Switching Service User Agreement and the Zimswitch Security Agreement for direct participants or the Zimswitch Switching Service User Amending Agreement for indirect participants
- II. Payment of Joining Fee, Membership Subscriptions
- III. Lodgment of collateral
- IV. Adherence to the Zimswitch User Manual and the Zimswitch Technical Specification
- V. Sharing of infrastructure

The participation framework is reviewed in line with changes in legislation, regulatory guidelines or risk landscape. Reviews are performed by Management and approved by the Zimswitch Board and the RBZ as and when significant changes are implemented in the environment.

The Zimswitch User Agreement provides for orderly exit of a participant voluntarily or involuntarily. The procedures for orderly wind down of a participant are documented in the standard Zimswitch Agreement which is signed with Zimswitch and its participants. Further, issues regarding finality of prior settlement in the event of judicial management are addressed legislatively through the NPS Act [Chapter 24:23] section 13-16.

2.13 Principle 19: Tiered participation arrangements

An FMI should, to the extent practicable, identify, understand, and manage the risks to it arising from tiered participation arrangements.

Zimswitch observes Principle 19 as per the narrative below:

Zimswitch recognises tiered participant arrangements as entities who indirectly utilise the platform but are not bound by any legal agreement or rules of participation. These arrangements are largely observed through merchants who utilise the Zimswitch platform through their relationship with the acquiring banks. Zimswitch is able to identify these merchants that are utilising the platform by the naming of the various POS devices that are active on the platform. Statistics across the platform show the number and value of transactions recorded under each merchant including the successful and failed transaction.

Zimswitch has mechanisms in place to identify, monitor and manage risks arising from the tiered arrangement. As the contractual relationship is through the acquiring participants, Zimswitch works with the respective participants to address any identified risks. However, Zimswitch endeavors to engage with merchants for the purposes of education and awareness on their interaction with the switching system. Key issues addressed include transaction failure, customer query resolution, new products and services. Zimswitch also works with merchants to promote the use of electronic payments through instore engagements and sponsorship of promotions.

2.14 Principle 20: FMI Links

An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.

Zimswitch observes Principle 20 as per the narrative below:

FMI Links are categorized as Payment Systems according to the Zimbabwean Legislation. Zimswitch has established FMI links as follows:

- I. Indirect participants who are mobile money providers and a payment system
- II. RTGS system for the purposes of settlement

The Zimswitch participation framework provides for indirect participation by FMIs through the sponsorship of direct participants on the switching system. Documented access rules are incorporated in the Zimswitch User Manual section 7. In order to identify the risks arising from the participation of the FMIs, Zimswitch conducts due diligence prior to engagement of prospective links and on an ongoing basis.

Zimswitch has established links with five (5) FMIs. The links enable interoperability between the FMIs and Zimswitch direct participants who are banks and deposit taking microfinance institutions. The links are governed by the Zimswitch Switching Service User Amending Agreement which gives a legal basis for the FMI's participation on the switching system. Credit and Liquidity risk is assumed by the sponsor who is responsible for collateral management and settlement on behalf of the FMI. Operational risk is managed through Service Level Agreements which set minimum requirements for transaction success rates, monthly link failover tests and annual disaster recovery tests.

Zimswitch has a manual interface to the RTGS platform for the purposes of settlement. Batch upload of net settlement positions are made to the RTGS system with funding through the individual participant's RTGS LOM accounts. Operational rules are embodied in the Zimswitch User Manual as well as the ZETSS Procedure Manual.

2.15 Principle 21: Efficiency and effectiveness

An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

Zimswitch observes Principle 21 as per the narrative below:

Provision of efficiency and effectiveness is enshrined in the Company's mission which clearly states that Zimswitch aims to provide for an effective, secure and reliable service to meet the requirements of all stakeholders in the financial payments system in Zimbabwe, remaining on the cutting edge of switching products through efficiency and innovation, to be the preferred channel for international payments and to build up volumes in order to reduce transaction costs. At a strategic level, efficiency and effectiveness are key pillars with consideration to industry feedback, market scans and trends in the financial services sector to inform the organisation's strategic initiatives and performance reviews.

As part of its commitment to efficiency and effectiveness, Zimswitch operates high performance systems which are supported by high end computing equipment. This has cost implications with respect to capital and operational expenditure. However, in-order to maintain optimal pricing which promotes the use of electronic payment services, Zimswitch runs a three-year equipment refresh cycle thereby spreading the investment over a three-year period. Further, operational costs are restricted to only what is necessary. The pricing of Zimswitch is based on a cost-plus model balancing meeting business needs and affordability for end users.

Operationally, Management track adherence to stipulated performance metrics as part of ongoing performance evaluation including issues of SLA, customer service, credit management, timely settlement and efficient query and dispute management. These metrics are tracked daily with consolidation at month end. To demonstrate the Company's resolve, Zimswitch institutes performance-based incentives including penalties for non-performance which are extended to participants as guided by the participation framework. Further, the regulator, RBZ has real-time access to dashboards which track key metrics for efficiency and

effectiveness including system up-time, participant availability, transaction failure rate and transaction volumes and values.

2.16 Principle 22: Communication procedures and standards

An FMI should use or accommodate the relevant internationally accepted communication procedures and standards in order to facilitate efficient recording, payment, clearing, and settlement across systems.

Zimswitch observes Principle 22 as per the narrative below:

Zimswitch employs internationally accepted messaging standards and communication protocols for financial instructions. The Zimswitch Communication procedures and standards are documented in the Zimswitch Technical Specification document including:

- I. Card Transaction Switching - the ISO8583 standard
- II. EFT Transaction Switching “ZEEPAY” – the ISO 20022 standard

Hardware Security Modules (HSMs) and Encryption Protocols are used to enhance security in the connection of participants to the switching system and intended data exchange.

2.17 Principle 23: Disclosure of rules, key procedures, and market data

An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.

Zimswitch observes Principle 23 as per the narrative below:

The Zimswitch Constitution and Operating Rules and Guidelines for Participation are documented in the Zimswitch User Manual which is shared to prospective participants as part of the on-boarding process and active participants on an on-going basis. In order to ensure a clear understanding, a training portal is in place where participants receive on demand training of the Zimswitch rules, guidelines, products and services. The manual as well as other relevant material are available through the same portal.



Zimswitch communicates with participants through various means including circulars, letters, emails and newsletters. In order to enhance communication, Zimswitch runs an Account Management Framework with quarterly meetings to discuss pertinent issues including new products, product adoption status, uptime and other performance metrics.

Zimswitch endeavours to provide low-cost services in line with policy to increase the usage of electronic payments and promote financial inclusion. In support of this, the Zimswitch fee structure is clearly communicated to participants and the public. Zimswitch fees and charges are passed to the member institutions some of whom may absorb the costs on behalf of their customers. However, member institutions who pass these fees and charges to their members are required to adhere to the Zimswitch fee structure. Any fee padding to the “Zimswitch Fees” is prohibited.

While participants are the primary customers on the switching system, Zimswitch endeavours to engage with the transacting public through its website, social media platforms, advertisements and print media. Zimswitch utilises these various fora to promote education and awareness of the end-customer as they interact with the Zimswitch Platform in line with the Consumer Protection Framework.

Whilst this is the second PFMI self-assessment, this will be the first public disclosure in line with the CPMI-IOSCO disclosure framework for financial market infrastructures. The company is committed to completing and regularly disclosing the self-assessment in compliance with this requirement.

3 Conclusion

Zimswitch is committed to the provision of safe, secure, efficient and effective payment services to its participants and the transacting public. This commitment is demonstrated through observance of international standards and best practices, principally the CPMI-IOSCO's PFMIs. In line with the self-assessment, for the period 1 January to 31 December 2021 Zimswitch observed the PFMIs with recommendations for improvement in the normal course of business including:

- The need for real-time exposure monitoring for effective credit risk management, an improvement to the existing process through which monitoring is performed at specific intervals during a respective settlement cycle.
- The need for stress testing of the default management procedure to ensure efficiency, an extension to the current testing which is limited to adequacy of the collateral reserves in meeting the credit exposure of the respective participant.
- The need for establishment of a wind down plan for the Company to complement the existing recovery plan which is in place for raising of equity.