MOJALOOP PI-24 OSS COMMUNITY MEETING REPORT

MOJALOOP OPEN-SOURCE COMMUNITY MEETING REPORT NAIROBI, KENYA 2024

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Submitted By:

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Acknowledgments

We extend our sincere gratitude to Sparc Systems Limited for affording us the opportunity to represent our organization at the Pi 24 Mojaloop Community meeting in Nairobi, Kenya. This invaluable experience provided us with a deep understanding of the collaborative efforts within the Mojaloop ecosystem and allowed us to contribute to discussions surrounding inclusive instant payment systems.

Sparc Systems Limited's commitment to advancing financial inclusion through initiatives like the COMESA project underscores our dedication to leveraging innovative solutions for the benefit of underserved communities. We are grateful for the trust and support extended to us throughout this journey, enabling us to actively participate in discussions, share insights, and contribute to the collective advancement of inclusive digital payment systems.

The opportunity to engage with esteemed professionals and experts from various organizations during the community meeting has been enriching and has undoubtedly broadened our perspective on the challenges and opportunities within the fintech landscape. We are confident that the knowledge and insights gained from this experience will further enhance our efforts towards implementing Mojaloop software and fostering cross-border trade between Malawi and Zambia.

Once again, we extend our heartfelt appreciation to Sparc Systems Limited for entrusting us with this opportunity and for their unwavering support in driving our mission of promoting financial inclusion and empowerment through innovative technologies.

Executive Summary

The Pi 24 Mojaloop Community meeting was conducted on 25th April to 28th April at Trademark hotel in Nairobi, Kenya. The purpose of these community meetings is to facilitate collaboration and communication among participants, ensuring that all stakeholders are wellinformed and aligned with the project's goals. Through these meetings, contributors can share updates on the development and implementation of Mojaloop, fostering a collective understanding of the project's trajectory. These meetings also serve as a platform for collective problem solving. Technical challenges and issues

that require solutions are identified and discussed, allowing participants to collaborate on finding effective resolutions. This problem solving aspect contributes to the continuous improvement and innovation within the Mojaloop ecosystem

Background

Sparc Systems was introduced to the Mojaloop Foundation in early September 2023, driven by the prospect of implementing Mojaloop software to facilitate cross border trade between Malawi and Zambia. This initiative is part of a COMESA project currently in the ProofofConcept (PoC) phase, with the actual implementation scheduled for the end of 2024. Following Sparc's participation in a workshop on October 27th and 28th, they received an invitation to the Pi 23 community meeting. The purpose of this meeting was to connect with community members who were not present during the workshop, allowing Sparc to gain insights into the current endeavors of the community and express appreciation for their ongoing work.Spar was later invited to the Pi 24 community meeting to present on the progress made on the accelerator program.

Community Meeting Overview

The convinning had the following systems integrators, central Banks and switch operators in attendance:
1. Sparc Systems Ltd – Malawi/Zambia
2. iMoSyS – Malawi

3. Izyane Zambia
4. Netone Zambia
5. Probase Zambia
6. ThitsaWorks Myanmar
7. INFITX
8. Sybrin South Africa
9. Tiger Beetle
10. Paysys Lab
11. mGurush
12. NatSwitch
13. RSwitch
14. Kenya Switch
15. WiredIn

First Day

The first day of the convening, Monday 25th April 2024 we had the following on our agenda.

- The event commenced with welcoming remarks from Simeon Oriko, Paul Hunter, and Steve Haley. They delved into the mission statement of Mojaloop, emphasizing its dedication to advancing financial inclusion by empowering organizations to establish interoperable payment systems. The focus was on enabling digital financial services accessible to everyone. Additionally, the speakers covered key aspects, including Mojaloop Foundation priorities, objectives for the week, insights into the organization's structure, and the foundational pillars of its workstreams.

- Gituku Kirika, the Chief Executive Officer of IPSL (Interswitch Payments Services Limited) in Kenya, delivered a keynote speech. Kirika discussed how PesaLink, an instant payments platform, has addressed the challenge of enabling instant

payments in the Kenyan market and shared IPSL's experiences with operating the PesaLink service so far.

- The panel discussion, led by Steve Haley, explored the key differences between IIPS (Inclusive Instant Payments Systems) and IPS (Instant Payments Systems), with insights from experts including Kosta Peric of the Bill and Melinda Gates Foundation, Christian Kajeneri of the Central Bank of Rwanda, Leonard Mwanza of the Bankers Association of Zambia, and Sabine Mensah of AfricaNenda. The panelists explained how IIPS aims to provide more inclusive and accessible instant digital payment solutions, while IPS focuses on a more streamlined, core instant payments functionality, and analyzed the potential impacts of these different approaches on people's daily financial lives.

- We had another insightful panel discussion led by Victor Malu, the senior business development lead from Mojaloop. The panelists included Fidelis Muia, the Director of Technical Services at the Kenya Bankers Association, Morgani Chishala, the Business Continuity Lead at the Zambia Electronic Clearing House Limited (ZECHL), Aimable Rukundo, the Chief Digital Innovation & Projects officer at RSwitch, and George Murage from IPSL. This panel focused on discussing the technical obstacles and challenges to implementing truly inclusive instant payment systems. The experts shared their perspectives on the infrastructure, integration, and interoperability requirements needed to build inclusive digital payment solutions that can reach and benefit underserved communities. The panel provided valuable insights into the technical complexities involved in making instant payments accessible to all.

- We then had a panel discussion led by Tulo Ndunda, the Business Development Associate from Mojaloop. The panelists included Blaise Pascal Gasabira, the Chief Executive Officer of RSwitch, and Leonard Chilomo, the Operations Manager at the National Switch Ltd in Malawi. This panel focused on exploring the operational challenges and obstacles to implementing inclusive instant payment systems. The experts shared insights into the practical considerations around things like agent networks, liquidity management, customer onboarding, and maintaining the stability and reliability of inclusive digital payment services. The discussion provided a deeper understanding of the operational complexities involved in bringing truly accessible instant payment solutions to underserved communities.

- We had another insightful panel discussion led by Paula Hunter, the Executive Director of the Mojaloop Foundation. The panelists included Lilian Tan, the Senior Program Officer for Women's Economic Empowerment & Financial Inclusion at the Bill and Melinda Gates Foundation, and Sabine Mensah, the Deputy Chief Executive Officer of AfricaNenda. This session focused on the important topic of gender and financial inclusion. The panel explored the unique challenges and barriers that women face in accessing and utilizing digital financial services, as well as strategies and solutions for promoting greater gender equity in financial inclusion. The experts shared valuable insights and best practices for designing and delivering inclusive instant payment systems that empower women and support their economic advancement.

- We an adopter showcase focused on the Rwanda Rswitch, delivered by Blaise Pascal Gasabira, the Chief Executive Officer of RSwitch. Joining him were representatives from the Wiredin team Alain Kajangwe, Bonaparte Ituze, and Maximillien Bingabo. This session included a live demonstration of the Rswitch platform and its capabilities. The speakers provided an indepth look at how Rswitch is working to enable inclusive instant payment solutions in Rwanda. They highlighted the technical architecture, key features, and realworld applications of the Rswitch system. The showcase gave attendees a deeper understanding of a concrete example of an inclusive instant payments system in action and the opportunities it presents for advancing financial inclusion.

- We had another adopter showcase, this time focusing on the Philippines and presented by Vicente Catudio. The session provided an overview of the instant payments initiatives taking place in the Philippines. Catudio shared insights into the country's efforts to develop inclusive and accessible digital payment solutions, highlighting the progress, challenges, and goals of these projects. The adopter showcase format allowed attendees to gain firsthand knowledge of realworld implementations of inclusive instant payment systems, expanding the discussion beyond just the conceptual level. This session gave participants a deeper understanding of how inclusive instant payments are being delivered in different regional contexts.

- Wanjiku Wanyeki's presentation on inclusive merchant payments provided a comprehensive overview of the key considerations across different stakeholders. To replace cash with truly inclusive digital payments, the experience for merchants, customers, financial institutions, and technology providers needs to be seamless and address their specific requirements. For merchants, this includes simplicity, easy onboarding, robust reconciliation, and support for various sales channels. Customers similarly need intuitive interfaces, accessibility through multiple digital channels, and hasslefree transactions. Financial institutions and technology providers must also prioritize simplicity, efficient onboarding, costeffectiveness, and the right technology infrastructure to enable secure, reliable, and scalable inclusive payment solutions. Underpinning these experiences are critical factors like data integrity, fraud prevention, transparent notifications, and effective failure handling all of which must be carefully considered to drive the widespread adoption of inclusive digital merchant payments.

- We closed off the day with a keynote from Michael Eganza, In his keynote, the Director of Banking and Payment Services at the Central Bank of Kenya, provided a comprehensive overview of the country's National Payments System. He detailed the system's evolution, performance, and the government's strategic priorities outlined in the 20222025 National Payments Strategy. The presentation highlighted Kenya's significant progress in financial inclusion, largely driven by the growth of mobile money, and the high digitization of the economy. However, Eganza also outlined several key challenges, including inefficient infrastructure utilization, limited interoperability between payment systems, high transaction costs for endusers, and the preference for cash over digital payments. To address these issues, the central bank's nearterm priorities include achieving fullscale interoperability, reviewing the regulatory framework, exploring central bank digital currencies, enhancing regional payment integration, and fostering customercentric innovation while managing risks. The keynote offered valuable insights into Kenya's efforts to build an inclusive, efficient, and modern payments ecosystem.

Second Day

The second day of the convening, Wednesday 26th April 2024 we had the following on the agenda.

Here is a refined version of the overview of the various presentations that kicked off the day:

- The day began with Oliver Manzi providing Mojaloop proof of concept updates. This was followed by a presentation from Alain Kachagwe of Wiredin, who shared insights on the progress and success of the RSwitch initiative in Rwanda.Next, Jonathan Pinifolo, the Chief Operating Officer of the COMESA Business Council, delivered a presentation on COMESA's progress, the COMESA RFP, and a demo of the COMESA Accelerator program. George Murage from IPSL then took the stage to discuss IPSL's objectives, outcomes, and an introduction to the participants of the IPSL Accelerator program in Kenya. Lastly, Joe Arinaitwe provided an overview of the developments in South Sudan. This diverse lineup of presentations offered attendees a comprehensive look at the various inclusive instant payments initiatives underway across different regional markets, highlighting the progress, challenges, and collaborative efforts to advance financial inclusion.

- The day continued with the Mojaloop Zambia accelerator program, where Desire Kachenje, the Grants and Partnerships Manager, introduced the participating companies, which included presentations from Izyane Inovsolutions Ltd. by Ackim Chisha and Thom Simbeye, Probase by Luis Roy Zulu, Imosys by Austin Thope and Gehazi Jenda, and Sparc System by James Simbi, who showcased our work on MOSIP integration for a beneficiary management system and portal, offering attendees a comprehensive look at the innovative solutions being developed to advance inclusive instant payments in the Zambian market.

- Paul Makin presented an introduction to the plenary workstreams, providing an overview of the key focus areas and initiatives that would be discussed in the subsequent sessions. This set the stage for the deeper dives and discussions around the various workstreams driving progress in the inclusive instant payments space.

- We had a presentation on the merchant payments workstream, delivered by a team consisting of Karim Jindani from Paysys Labs, Ei Nghon from Thitsaworks, and Bonaparte Ituze from Wiredin. The presentation provided an indepth look at the key focus areas and initiatives within the merchant payments workstream, sharing insights and expertise from the different contributors to give attendees a

comprehensive understanding of the merchant payments landscape and the ongoing efforts to enable more inclusive solutions.

- The presentation on the G2P (GovernmenttoPerson) workstream, led by Paul Makin from the Mojaloop Foundation and Paul Baker from Infitix, focused on aligning the digital public goods of Mojaloop, MOSIP, and MIFOS (Fineract) to support inclusive beneficiary payments. The key innovation was the proposed "Payment Alias Token" a personlinked token that can be used by beneficiaries to receive payments, allowing them to update their underlying account details without changing the token. This solution addresses the challenge of reliably identifying the correct DFSP (Digital Financial Service Provider) account for G2P payments, leveraging MOSIP for KYC validation and the Mojaloop platform for secure, interoperable payments, showcasing a collaborative effort to enhance the G2P ecosystem through the utilization of these complementary digital public goods.

- The day concluded with a presentation on the Mojaloop Settlement Workstream, delivered by Jason Bruwer and Sam Kummary, outlined the team's objectives to provide fully flexible settlement models, support small settlement batches, enable deterministic assignment of payments to batches, and allow administrators to settle payments by criteria rather than just batch identifiers. The team is currently working on integrating a new Settlement service into the current Mojaloop production release, which will impact areas like fulfillment, a new frontend for Hub operators, and processing of settled events to update participant accounts. The presentation also covered the performance testing conducted in both modest and ampedup environments, using different database configurations, to identify key areas for improvement, such as the need for TigerBeetle updates and a Redis upgrade, as Mojaloop continues to enhance the scalability and capabilities of its settlement functionality.

Third Day

The third day of the convening, Wednesday 27th April 2024 we had the following on the agenda.

- The day began with core team reports presented by a group of experts, including Sam Kummary, David Fry, Steven Oderayi, and Paul Baker. These reports provided updates and insights from the various teams responsible for driving the

development and implementation of the Mojaloop platform. The presentation covered a range of topics and workstreams, drawing on the collective knowledge and experience of the core Mojaloop team to give attendees a comprehensive overview of the progress, challenges, and next steps in advancing the opensource inclusive payments solution.

- Following the core team reports, we had a presentation from Michael Richards, the Finance Services Principal at Infitix, focusing on ISO20022. Richards provided an indepth look at the ISO20022 financial messaging standard and its relevance to the Mojaloop ecosystem. The presentation covered the key features and benefits of ISO20022, as well as the technical considerations and implementation requirements for aligning Mojaloop's payment infrastructure with this widelyadopted standard. By delving into the ISO20022 standard, Richards offered attendees a deeper understanding of how Mojaloop can ensure interoperability and compatibility with broader financial messaging practices to further support the goal of building inclusive digital payment solutions.

- Michael Richards returned to the stage, this time joined by Arunjay Katakam from the Inclusive Action Lab, to lead a presentation discussing international payments. The joint presentation provided an indepth exploration of the challenges and considerations around enabling seamless crossborder payment capabilities within the Mojaloop ecosystem. Richards and Katakam shared their insights and experiences, drawing on their respective areas of expertise, to outline the technical, regulatory, and operational factors that need to be addressed to facilitate inclusive international payment flows. The presentation offered attendees a comprehensive understanding of the work being done to expand the reach and impact of Mojalooppowered solutions beyond national borders, further supporting financial inclusion on a global scale.

- James Bush and Joran Greef delivered a comprehensive presentation on the progress of the vNext workstream, which is a new implementation of the Mojaloop core service components. vNext is a "dropin" evolution of the current Mojaloop product, migrating to TypeScript and aligning the code more closely with the business domain, while maintaining the same underlying feature set and APIs. The team has completed an initial beta assessment with promising results, and is now focused on addressing key backlog items, including strengthening engineering

practices, completing the core clearing and ledger functionality, ensuring full API specification compliance, and finalizing the deployment pipeline. The vNext workstream is working to incorporate these enhancements into the official Mojaloop release, with clear milestones to be communicated soon, and the team is actively seeking additional resources to accelerate the timeline.

- Paul Makin's presentation on the Mojaloop roadmap review offered a comprehensive overview of the project's strategic direction and key focus areas moving forward. Highlighting the ongoing work within various workstreams, including Settlement, G2P (GovernmenttoPerson) payments, and the vNext initiative, Makin outlined the planned enhancements and improvements across the Mojaloop platform, such as flexible settlement models, deterministic assignment of payments to batches, and the integration of digital public goods like MOSIP and MIFOS to support inclusive use cases. The roadmap review also emphasized the community's efforts to ensure a smooth transition and adoption of the vNext iteration, underscoring the commitment to minimizing risk and disruption for existing Mojaloop adopters as the project continues to evolve and expand its capabilities

- James Bush delivered a presentation outlining the upcoming Technical Planning Workshops, which aim to bring together the Mojaloop community to collaborate on the detailed technical implementation plans and roadmaps. The workshops will focus on aligning the technical vision and requirements for the Mojaloop platform, identifying and prioritizing technical initiatives, discussing the architecture, design patterns, and implementation approaches, coordinating the efforts of the various workstreams and contributors, and establishing clear milestones, dependencies, and delivery timelines. Bush emphasized the importance of these workshops in fostering crossfunctional alignment, facilitating technical discussions, and ensuring the Mojaloop project maintains a cohesive and coordinated technical strategy as it continues to evolve and expand its capabilities, underscoring the community's commitment to transparent and collaborative technical planning.

- Paul Makin continued his presentation by introducing the Product Council's proposed workstreams for the upcoming program increment, which included a focus on Merchant Payments and enabling PISP (Payment Initiation Service Provider) capabilities, exploring proofofconcepts for CrossBorder payments,

addressing the Localization needs of Hub Operators to support Mojaloop deployments, and investigating integrations with initiatives like the COMESA PAPSS (PanAfrican Payment and Settlement System), TCIB (Tripartite Remittance Corridor), and the Interledger Protocol (ILP) through targeted proofofconcepts. Makin's comprehensive overview provided attendees with a clear understanding of the strategic priorities and key workstreams that will shape the Mojaloop project's roadmap in the coming period, addressing critical areas for advancing inclusive digital payment solutions.

- The breakout session on Localization, led by Sam Kummary, focused on defining the workstream's goals and priorities for the upcoming program increment. Key discussion points included identifying candidate items such as timezone support for viewing transactions and reporting, the ability to operate in any supported currency with a followup for the vNext implementation, language localization of hub operator portals and error codes, and customization of the hub operator interface appearance and interaction points. The session also covered the need for guidance and best practices around enduser interfaces and input modes, considering local compliance requirements, as well as a review of available localization guidelines for portal interfaces. This structured approach to addressing the technical requirements for localization aims to ensure the Mojaloop platform can be tailored to meet the specific needs of different markets and hub operators.

- The breakout session on Localization, led by Karim Jindani and James Bush, delved into the scope of APIs for DFSP1's RegisterMerchant, focusing on streamlining the merchant registration process under various scenarios, whether merchants are already registered or not. This process requires essential fields such as Merchant ID, Merchant DBA name, DFSP ID (part of header), and Merchant Account within the DFSP, alongside optional fields like Merchant Category, Expected Turnover, Location, and Alias. Determining the format for Alias, particularly crucial for USSD input, involves deliberation on whether it should be passed as a parameter or centrally generated. Moreover, ensuring the uniqueness of merchants across diverse identification systems worldwide is vital to guarantee precise registration.

Fourth Day

- The day began with a presentation from Sam Kummary and Michael Richards focused on the technical considerations around Multischeme Capabilities within the Mojaloop ecosystem, as well as the work being done to explore proxies that could facilitate the integration of Mojaloop with larger regional payment initiatives like PAPSS (PanAfrican Payment and Settlement System) and TCIB (Tripartite Remittance Corridor). The presentation covered the challenges and design considerations for enabling Mojaloop to operate seamlessly within a multischeme environment, addressing topics such as scheme definitions, routing and discovery, and balancing scheme autonomy with interoperability requirements. The team also discussed the technical requirements, architectural patterns, and potential implementation approaches for the PAPSS and TCIB proxy integrations, with the goal of expanding the reach and connectivity of Mojalooppowered inclusive payment solutions across Africa and beyond.

- James Bush's presentation on participation tools during the recent Mojaloop PI community meeting underscored Mojaloop's commitment to inclusive engagement. The session highlighted a range of resources aimed at empowering stakeholders to contribute effectively to Mojaloop's development. Bush likely provided insights into the functionalities and best practices of these tools, emphasizing their role in advancing Mojaloop's mission of financial inclusion. Overall, the presentation demonstrated Mojaloop's dedication to collaborative innovation and empowering stakeholders to drive meaningful impact in financial services delivery.

- The community awards session marked the conclusion of Mojaloop PI 24, recognizing individuals who made notable contributions to the community during this period. Among the awardees was James Simbi from Sparc, who received recognition as a promising new member in the community. The session served as a celebration of the collective efforts and achievements within the Mojaloop community, acknowledging the dedication and impact of its members. As the concluding event for Mojaloop PI 24, the awards session provided a moment to appreciate the collaborative spirit and contributions that have shaped the community's progress during this specific phase.

Networking

Interaction Summary:

During the event, we engaged with various individuals representing different companies, introducing Sparc Systems and elaborating on our mission, community involvement, achievements, and our vision for the future of digital payments. Notable individuals we interacted with include:

- Steve Harley from Mojaloop
- Paul Baker and Dr. Warren Carew from Infitx
- Miller Abel from Gate Foundation
- John Muthyora from AfricaNenda
- Amiable Rukundo from RSwitch
- Ei Nghon from Thitsaworks

We also engaged with other stakeholders present at the event, including fellow members of the Zambia Accelerator program from Zambia and Malawi.

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These contacts will facilitate further communication and collaboration with the individuals and organizations we interacted with during the event.