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Payment Order Management

Thought Paper

Introduction

These days it feels like payments are everywhere. You board a bus or a train, you create a payment; you park your car, you create a payment; and soon as you leave a shop, you will create a payment. As the world moves away from cash and the impact of the internet of things (IoT) increases, there will be an ever-increasing number of digitally created payments.

However, it is not just the volume of payments that is gaining prominence. Increasingly, financial institutions must be equipped in dealing with a wide variety of payments sources. In addition to payments from core banking systems or online and mobile banking, there are payment files from ERP/TMS systems, payment requests from open banking, support for digital wallets, and in the future, support for Central Bank Digital Currencies.

Orchestrating these payment requests through authentication decisions, data validation, payment routing and message formatting means that increasingly account servicing institutions are struggling to support the new payment landscape with legacy software.

This is where payment order management is required. Payment order management software orchestrates the receipt, validation and onward routing of payments.

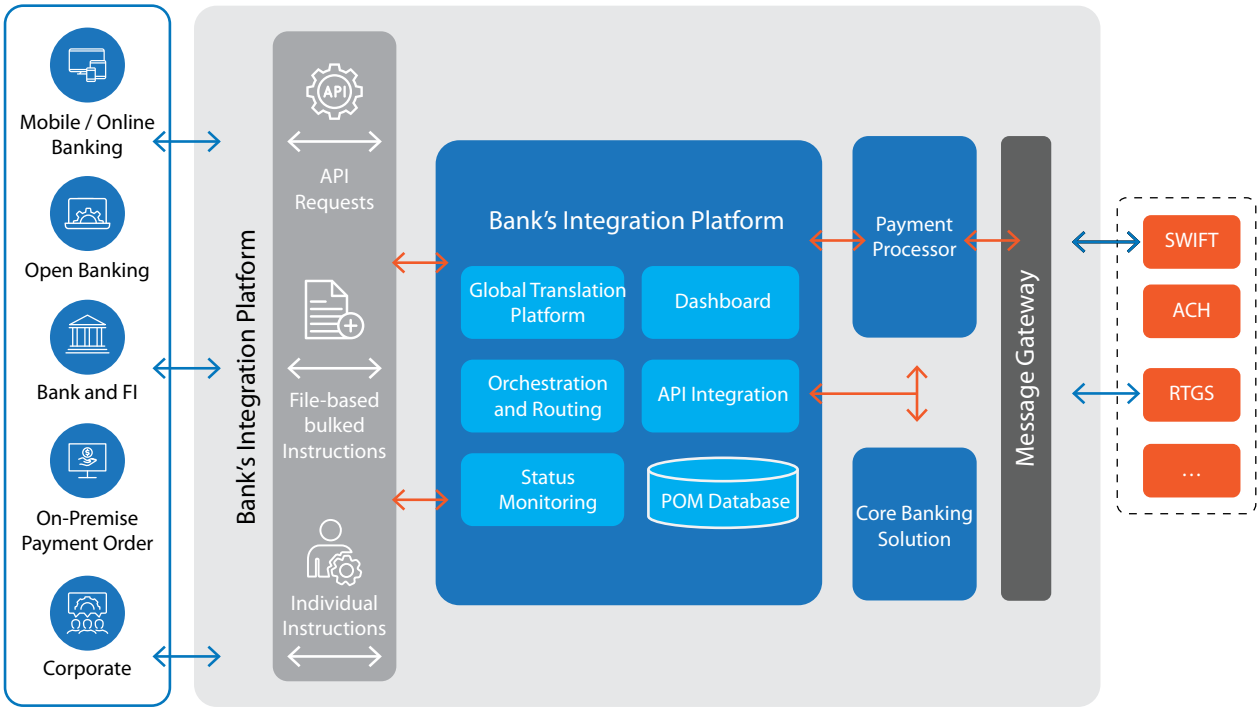
Payment Order Management is a set of systematic processes and orchestration that aims to manage the capturing and processing of a payment transaction. It is not limited by the origin of the payment order type or the format. It contributes to the optimization of the payment system resources by providing intelligent decision-making capability based on payment data, leading to an efficient orchestration of payment processing - an orchestration process that can be viewed using a personalized and interactive dashboard.

Managing Instructions

The first step towards a renewed payments technology landscape

Too often corporates are burdened by legacy Treasury management and ERP systems. These systems have struggled to keep pace with the rapidly evolving payments landscape. This gives an opportunity to banks to provide a service to their corporate customers through a comprehensive payments solution that enables better compatibility, and offers an agnostic approach to any incoming payment file format/instructions, transform and process them seamlessly. Here, a comprehensive payment order management solution, is increasingly becoming important.

This solution will not only simplify the payment order translations but will also effectively manage the acknowledgments.



The Global Translation Platform

The ***"Global Translation Platform"*** module of the payment order management suite provides a comprehensive solution to support the translation of messages from old to new formats in both directions of flow – *Customer-Bank-Network and Network-Bank- Customer.* Moreover, the Global *Translation Platform's easy integration architecture* provides a win-win solution, as the corporates do not need to upgrade their software, and the bank can see benefits from the increased loyalty of their customers.

- The *Global Translation Platform* acts as a universal processor to read and understand payment instructions in any format - XML, CSV, MT, EDIFACT, or ISO20022.
- It can translate any format of instructions into the standard format accepted by the bank's *payment processor.* Thereby removing the need to perform the conversion by the ERP/TMS systems or channels or by any middle layer.
- The state of the art *Instruction Mapping and Translation architecture* makes it easy for the *Global Translation Platform* to ready and map the payment data as per the required output standard.

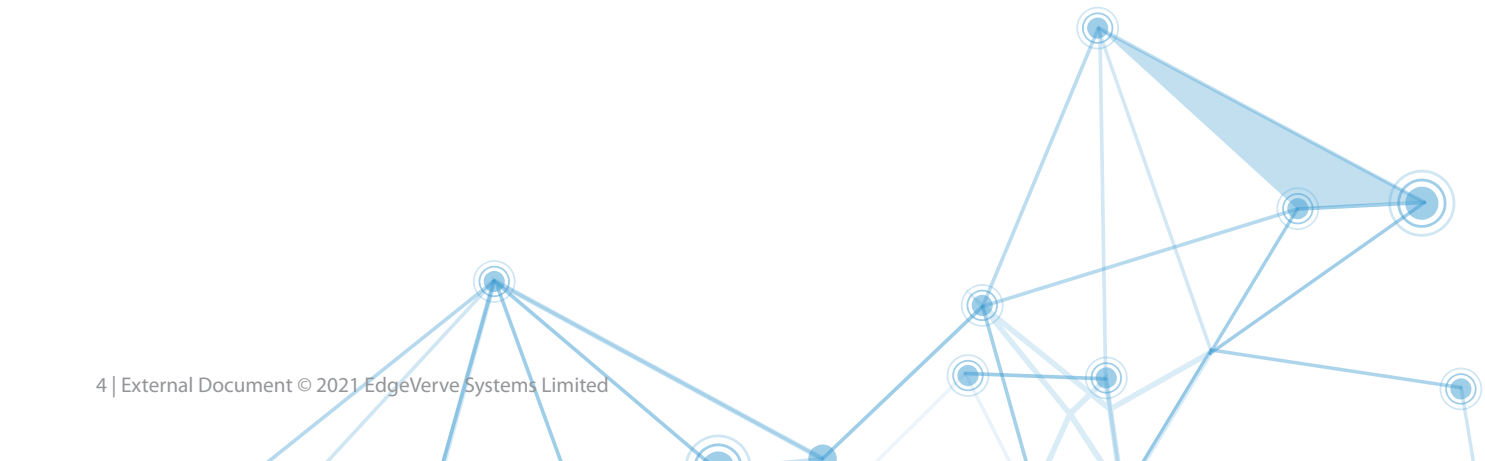
- It removes the need for any additional middle layers in the bank's landscape to convert the file or individual level instructions, or API-based payment initiation requests before pushing them into the queues of the payment processor that would need conversion or mapping to any other format of another standard, say ISO 20022.
- *The Global Translation Platform* has bi-directional communication capability. It can also convert the incoming messages received from the payment processor into the native language of the customer's ERP/TMS systems. This brings interoperability between the corporates' systems and the payment processor.
- It can translate the generated instructions from the payment processor as per the format acceptable by ACH or RTGS systems.

Customer Acknowledgements

Customers need to be able to track the status of a payment order. As a result customer acknowledgements are an essential part of payment order management. In addition, greater customer value is derived by providing the acknowledgements in specific formats that can be directly fed into the customer's payment reconciliation software.

- The payment order management suite can send the acknowledgements to the ERP/TMS systems or channels in the format desired by the corporate customers.
- The format of the acknowledgement type is a system configuration. As part of the instruction management service, customers can select the format of the acknowledgements.
- Based on the preference selected, the payment order management can start delivering acknowledgements back to their ERP/TMS systems and share the individual payment order status or for bulk payment disbursements, thereby helping customers to keep track of the payment orders.
- The payment order management can repair the processing of instructions sent via file, message, or API. It can also reject the instruction where it appears invalid.
- It can send negative acknowledgements to the customer channel, intimating them about the payment instruction status, as "Rejection".

The payment order management solution has complete ownership of a payment order right from validation to translation and through to customer acknowledgments, making the end to end transaction reconciliation easy and efficient for the cutomers and banks. Based on the reachability of the payee and time of initiation, Payment Order Management can identify the format of the outbound networks and, if required, can translate the messages to the required format from the payment processor before sending it to the network. All this makes the transmission of messages from the customer to settlement systems a frictionless experience, providing a win-win scenario for both - bank and its customers.



Payment Orchestration and Intelligent Routing

In the global payments ecosystem, banks need to support different payment schemes to provide comprehensive payment service solution to their customers. The global banking space has been witnessing a change in the existing ecosystem by the arrival of BigTechs, Fintechs, and other incumbents like Visa and MasterCard. They aim to build an efficient and better cross-border payment solutions by offering multiple-rail payment services. With the increasing adoption of blockchain in the payment industry, the future will lean towards an instant, resilient, transparent, and secured model of banks, Fintechs, payment service providers, and third-party payment processors to transfer payments to any part of the world in a sophisticated and cost-efficient manner. The use of distributed-ledger technology is showing merits in a bilateral settlement without any intermediaries and clearing systems involvement. The changing shift in the payment industry has also put an emphasis on banks to choose a "future-ready Banking" model for multi-rail payment services for payment transfers. The payment order management can play a vital role in bank's integration to multiple payment rails, the co-existence of future sophisticated Closed User Group networks, and the existing global banking model.

Reachability

The payee's reachability, the payment instructions' format and even the receipt time could all influence the processing of the payment instruction. Each payment scheme has its own nuances and could use different payment processors (for banks with multiple payment processing engines).

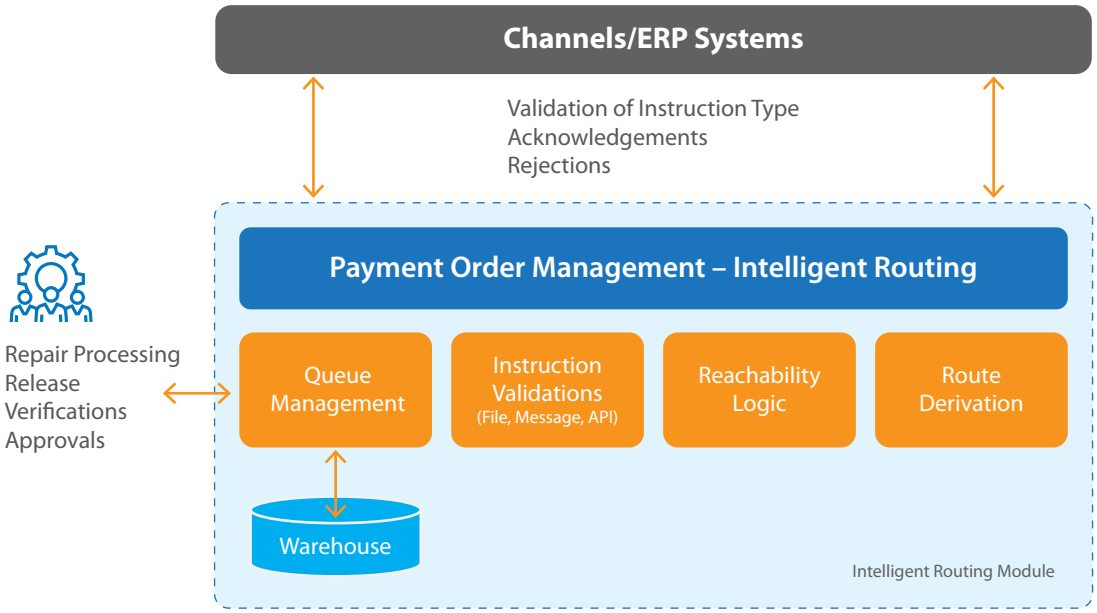
- The payment order management orchestration logic helps to select the optimal processing route and business workflows to effectively process each payment type.
- It also ensures that any SLA requirements required by the scheme type are adhered to and confirmed to the customer.
- It runs the instructions through the specific business process flows to ensure different payment instructions are processed correctly and according to the payment scheme rules.
- The "Reachability" logic validates the different methods of payment settlement that are available to the financial institution to receive the payment instructions. It validates the receiver institution memberships before the selection of payment method. It performs holiday validations on the payment system, beneficiary and payment currencies to decide on the settlement date.
- After validating all parameters, the payment order management suite can generate and release instructions. Before the release of instructions, it also performs cut-off checks. If cut off time has passed, the intelligent routing can auto-enrich the method of payment to next available method of settlement. Bank can configure the payment settlement preference priority.

Route Derivation

Increasingly, payment orchestration requires intelligent routing to identify optimal rails to transfer different payments.

- With in-built *"Route Derivation"* logic, the payment order management system identifies the optimal payment rails based on the payment type – real-time, high value or low value, currency and location of the payee account. It aims to achieve the quickest, cheapest or optimal route to deliver the payment instructions to the intended creditor's institution.

- The orchestration process for high-value or cross-border payments may require an AML validation before the transfer of funds, while, low-value domestic payments can be processed with lighter validation. For example, under PSD2 low-value domestic payments can be exempted from strong customer authentication. Similarly, within bank transfers or transfers to own accounts can skip certain validation checks and time-based validation events.
- The *"Route Derivation"* logic identifies the relationships that bank has with the beneficiary bank and derives the optimal payment chain to move funds in a time and cost-efficient manner.
- The payment order management has the intelligence to validate the instructions based on the network rules and scheme based standards.
- It auto-rejects payment instructions that do not qualify as valid instructions. As such, it reduces manual effort and cost in attending such invalid instructions from the payment processor queue. The valid payment instructions are accepted and moved to the payment processor to generate successful payment orders



Fraud Management

Fraud Management is an important aspect of the payment transfer process. Banks need to ensure that they can identify payments for any anti-money laundering activities or transfers that do not comply with FATF regulations. As Banks have various systems to monitor, investigate, and stop such transfers, the payment order management orchestrates this process.

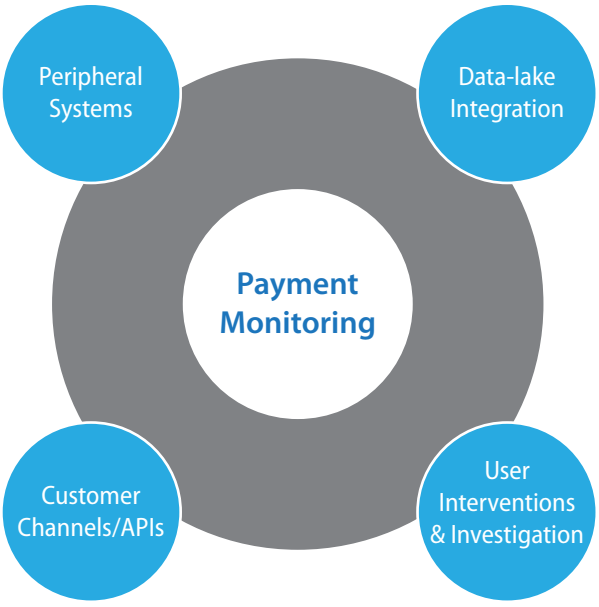
- Where manual intervention is required (for example, additional validation or fraud review), the payment order management will assign the payment to the correct queue using the "Queue Management" process. It directs instructions to different processing queues and re-queues them based on the actions of the payment reviewer.
- The next set of *Queue Management* tasks are performed based on the suspense handling processes of the bank. The payment order management can easily integrate with other Anti-Money Laundering (AML) systems for payment investigation and case management.
- The maker-checker logic within the Payment Order Management ensures that only intended users can approve the payments instructions based on their role and amount- limit eligibility.
- For the high-value payments with additional risk, a 6-eye verification logic can be triggered for due diligence compared to a standard 4-eye check validation. This approach can prove highly effective for the operations team to avoid verification errors, which otherwise adds to the operational risk and frauds in the payment verification process.

Payment Status Event Monitoring

Monitoring the payment status is an integrated function of a payment execution process. The ERP/TMS systems and digital channels may lack the capability to view the payment status during the transaction lifecycle in a payment system. Customers are dependent on the payment status reports generated based on request or shared with them as a part of end-of-day reporting. The payment order management suite has the intelligence to monitor the payment status and share with other interfaces.

- It can generate an appropriate status based on the state of the payment transaction during the processing.
- The payment status can be transmitted to customers to monitor payment updates in an online mode.
- The online monitoring benefits customers who need to track the transaction status for any business-related monitoring.
- The payment order management records the transaction status and stores it in its instruction activity-monitoring database to provide a source status feed for peripheral systems in a chronological manner.
- It can be integrated with data-warehouse and data-lake to provide reconciliation reports and the payment history that can be helpful in any investigation, reporting, disputes, and fraud management.
- This eliminates the dependency on EOD reports to have transaction awareness. The host systems can make a request as and when required to find the latest status of the payment instruction.
- Customers remain informed about their transactions, and if required, can follow-up with the bank for any user intervention or investigation.
- The status monitoring for high-risk payments can be helpful for both - *the bank and the customers.*

Integration of
Instruction-Activity Monitoring



Payment Auto-Enrichments

With the growing volume of payment traffic, higher rates of straight-through processing is a key requirement. Payments falling in repair increase the cost of transactions. They also cost effort and time to operation users who need to attend the failed transaction manually and clear them for processing.

- The payment order management, with its auto-enrichment logic can auto-repair or enrich payment instructions.
- The AI and ML algorithms can process failed payments with more complex suspense handling. For example, the auto-enrichment can re-route the payment to a different payment system if the original payment system cut off time has passed, instead of scheduling the payment for the next day processing
- It can pre-validate the instructions, make an early failure warning, and highlight errors to customers prior to the payment being processed (which save customers both time and money).
- With an autosuggestion option, it can inform customers about the set of possible errors in the transaction to avoid failure during payment processing.
- The network-level validations can validate the payment based on the network rules. The *early-failure- warning-response* mechanism ensures the utilization of payment processor for core payment processing remains optimized.
- It can validate the format and semantics of instructions and enrich the instructions as per the payment scheme standards. This reduces the number of rejected instructions where standard header details or file format do not meet the standards criteria.
- With AI/ML, many scenarios can become part of the auto-enrichments and auto-repair processing. Payment Order management can prove instrumental in solving this complexity saving both the bank and customer money.

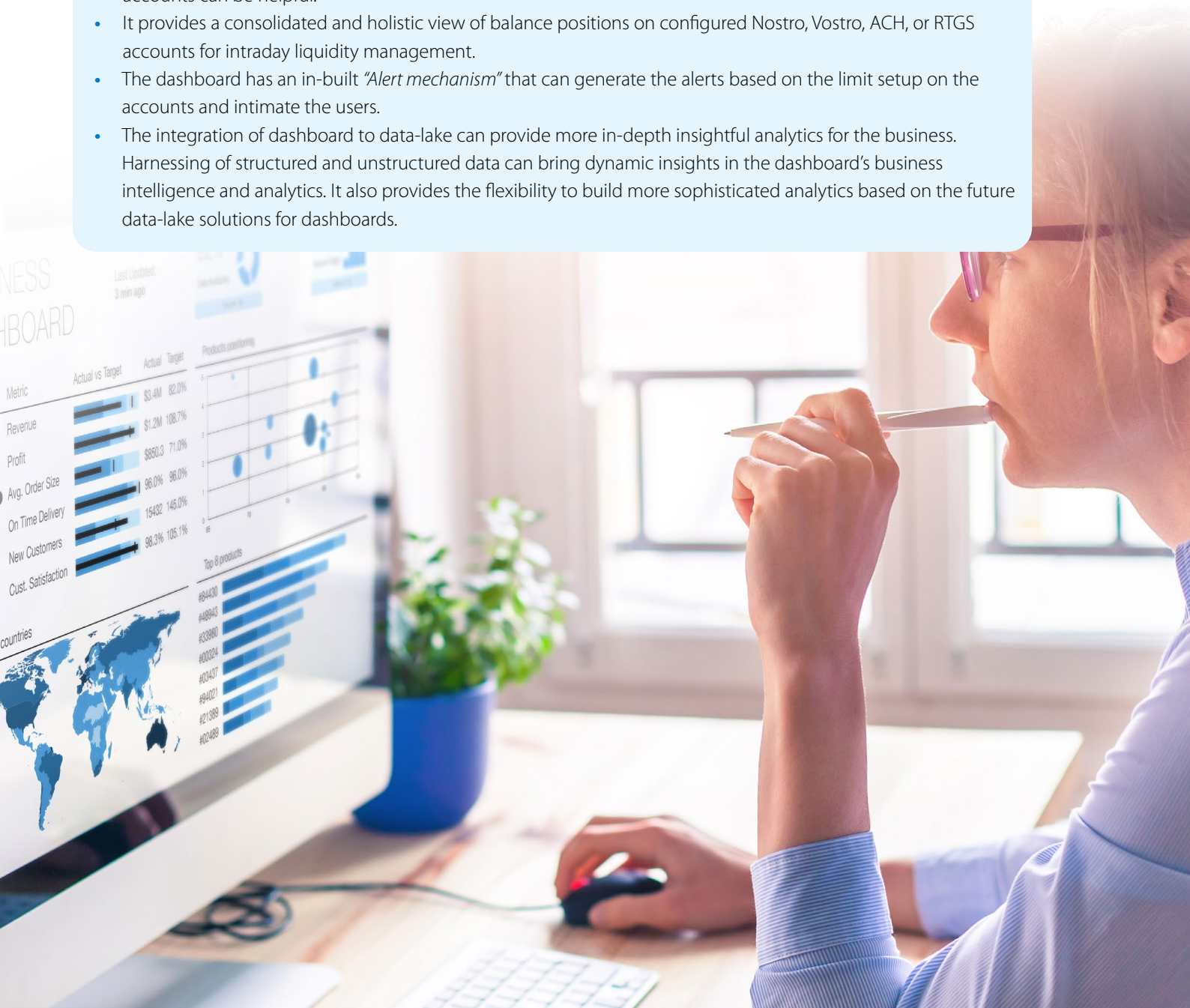
Payment Dashboard

Dashboards are key elements to any business operations by providing pertinent data to business users and management to help them make informed decisions. Management and application users may need different sets of information based on the department and job role. Payment order management can help each user to customize the dashboard as per the requirement.

User Interactive and Personalized Experience

Dashboards should be user-interactive to provide insight into the payments data. At the same time, they should be able to support a set of activities for its users. The payment order management ensures that users can create personalized views and filter the information as per the need.

- The interactive dashboard provides analytics about payment data – incoming and outgoing payment traffic, the volume of transactions by status at a given point of time, cash positions in different currency accounts, useful analytics for cash management, and suspense handling tasks.
- It provides information on instructions under fraud and AML queues with a linkage to fraud and AML queues. Users can navigate directly to these queues to take action on the listed transactions.
- It supports the cash management operations for Treasury, where information on the cash positions on different accounts can be helpful.
- It provides a consolidated and holistic view of balance positions on configured Nostro, Vostro, ACH, or RTGS accounts for intraday liquidity management.
- The dashboard has an in-built *"Alert mechanism"* that can generate the alerts based on the limit setup on the accounts and intimate the users.
- The integration of dashboard to data-lake can provide more in-depth insightful analytics for the business. Harnessing of structured and unstructured data can bring dynamic insights in the dashboard's business intelligence and analytics. It also provides the flexibility to build more sophisticated analytics based on the future data-lake solutions for dashboards.



Dashboard APIs

APIs play an important role in supporting many business functions. Throughout the payments market there is an ever-growing focus on how APIs can be leveraged to expand the business and leverage them in providing micro-services.

- The Dashboard comes with API infrastructure to make it more flexible and responsive.
- The APIs help the Dashboard bring the real-time status of the liquidity positions of clearing and settlement accounts by connecting to ACH and RTGS API platform.
- Banks can leverage the RTGS and ACH API infrastructure internally as well. The data received from ACH and RTGS systems can be harnessed for static, transactional, and liquidity information.
- The data can be percolated to the Core Banking Solution and other back-end systems as a feed for further analysis and harnessing.
- The API capability of payment order dashboard ensures to bring real-time interaction between users and the system.

Progressive Renovation

Banks have been gradually upgrading their legacy payment systems to meet new business models and payment rails. The evolution of new payment schemes, customer expectations for innovative solution offerings, a technological edge for the competitive eco-system, growing complexity in the payments, and the regulatory requirements are some of the key drivers to push the banking industry towards a renovation. Banks have been investing in this process to either catch up with competitors or stay ahead of the curve. There has been a focus on the "future-banking" model as well, where banks can offer new services and solutions to corporates as per the new evolving "Corporate Banking" model. However, changing a legacy payment processing capability that is embedded in the bank may seem a daunting task to many banks. Thankfully, the payment order management can reduce the risks associated with replacing a legacy payment system.

Progressive Renovation for Legacy Payment System

The "Progressive Renovation" in the legacy transformation reference is where the legacy payment systems progressively migrate to new payment systems. Both legacy and the new payment systems can be integrated with the payment order management suite to leverage its application management functions.

- It removes the need to add any additional integration layer to connect to legacy payment systems and can accept the instructions from both legacy and new payment processors.
- It can also translate the instructions in the format as acceptable by the legacy system and, at the same time, translate the instructions to a different format as accepted by the new payment processor.
- The instruction distribution process can route the payment traffic based on the payment scheme type or value between the legacy and the new payment system.
- This provides control over payment orchestration flows to move progressively towards the new payment processors as the legacy payment system is decommissioned.

Progressive Renovation for other Lines of Business

With the growing complexity of payment operations, various departments pertinent to different lines of business within a bank or corporates need to integrate with a standard payment processing solution. Introducing payment order management allows upstream systems to be decoupled from the payment processor. This will enable changes that needs to implemented in the payment processors. They need to be independent of the systems that supports other lines of business that need to generate payments.

- The payment order management can orchestrate different payments for these departments and help them leverage its multiple services, which these departments may lack in their inherited payment systems.
- The Group Corporate Treasury may find it beneficial to use single upload for bulk payments disbursements, corporate payables or receivables, batch-authorization and straight-through- payment processing features.
- The direct integration to Payment Processors via the Payment Order Management suite can enhance the business function capabilities concerning payment services.
- It can leverage the intelligent routing mechanism to optimally route the payment instructions, create and execute payments for cash management operations and take advantage of the latest payment developments, which the payment order management and the payment processor can jointly deliver.
- The dashboard capabilities can further enhance the scope of treasury operations to give them a personalized and holistic view.

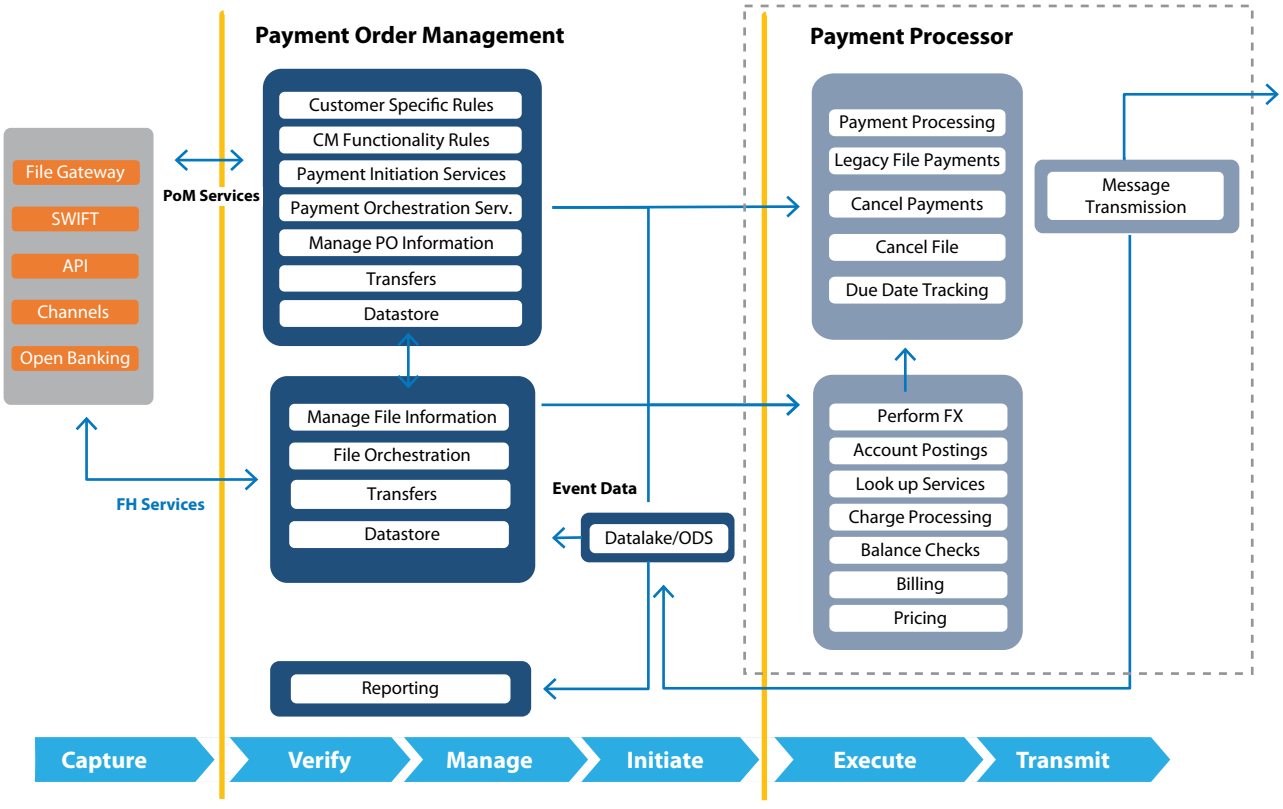
Progressive Renovation in a Big Bang Migration

The evolution of payment instruction from the physical to the electronic format has widely influenced the reach and operations of banks. Banks could process and send instructions to any part of the world with the help of SWIFT connectivity and process domestic payments to local clearing and RTGS systems. As the new payment services and schemes evolved, each supported by different standards and formats, they significantly shaped the banking landscape and payment systems to meet the current needs. The typical banking landscape may have multiple legacy payment systems to support banks' different payment services such as high value - local rtgs, low value - ach payments, bulk payments and international SWIFT transfers. The inheritance of legacy payment systems has been in response to the lack of future visibility, limitations of technology at the time, the role of banks in the globalized and integrated world, changing corporate banking, growing focus on automation and straight-through processing.

Many banks have maintained multiple payment processors in their landscape to support the processing of different payment schemes to achieve efficient processing. This further compensates for any functional limitations or scalability challenges due to the usage of a single payment processor as a complete solution.

The payment order management can play a crucial role in supporting migration in a complex banking landscape of multiple legacy payment systems.

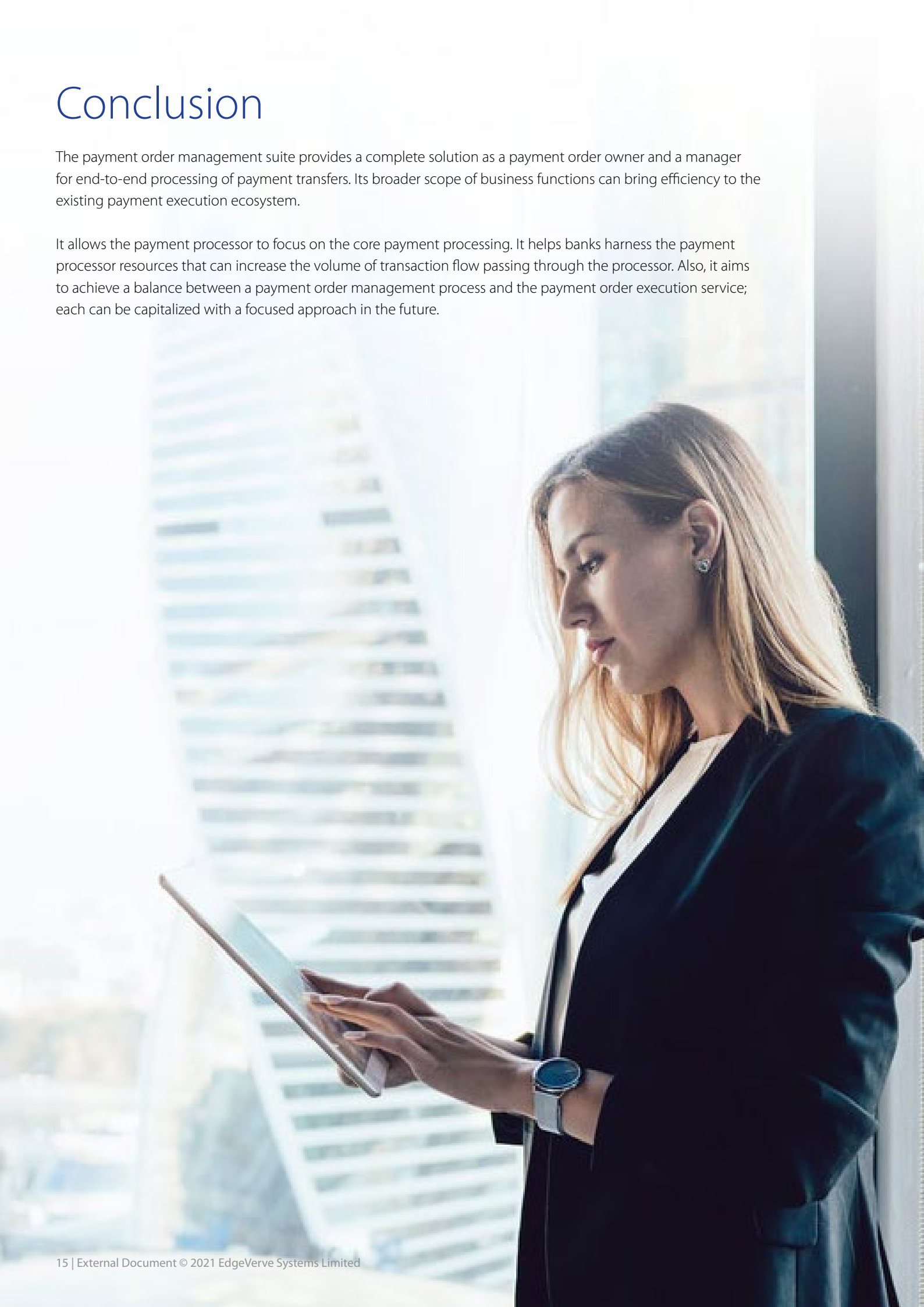
- It can integrate with multiple legacy payment systems for High Value, Low Value, bulk, and accept the payment instruction in their native format.
- It becomes an integration platform for the bank to connect old and new payment systems and orchestrate the payment flows as per any transformation plan.
- It provides a single solution for banks for instruction mapping and translation, bi-directional *routing, orchestration of different payment flows, scheduling, bulking of payments, repair, and suspense management.*
- It can divert payment traffic from various networks to new payment processors and relegate legacy system as a secondary payment system during the migration phase.
- Banks can use the payment order management to perform major order processing activities and relegate older systems to perform account-posting task.
- It plays a vital role in the comprehensive transformation approach for banks.



Conclusion

The payment order management suite provides a complete solution as a payment order owner and a manager for end-to-end processing of payment transfers. Its broader scope of business functions can bring efficiency to the existing payment execution ecosystem.

It allows the payment processor to focus on the core payment processing. It helps banks harness the payment processor resources that can increase the volume of transaction flow passing through the processor. Also, it aims to achieve a balance between a payment order management process and the payment order execution service; each can be capitalized with a focused approach in the future.



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Finacle solutions address the core banking, omnichannel banking, payments, treasury, origination, liquidity management, Islamic banking, wealth management, analytics, artificial intelligence, and blockchain requirements of financial institutions to drive business excellence. An assessment of the top 1250 banks in the world reveals that institutions powered by the Finacle Core Banking solution, on average, enjoy 7.2% points lower costs-to-income ratio than others.

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