Global PAYplus

Features and Services

Business Guide

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Version Control

Version	Date	Summary of Changes
1.0		Document created
2.0		Added section NLS/Telecode Conversion
3.0	June 2015	Added information to Linked Message Submit Service section
4.0	Nov 2015	Updated for rebranding
5.0	August 2018	Rebranded document to Finastra template

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1 Introduction

1.1 GPP Overview

Global PAYplus (GPP) is a state-of-the-art global payment services hub. It is designed to extend GPP's market-leading performance, scalability, and reliability to a service-oriented architecture (SOA) compliant platform.

GPP is designed around a broad range of payments industry and SOA standards. GPP uses well-established engineering principles to produce a state-of-the-art solution that is aligned with products and roadmaps of leading infrastructure vendors. GPP offers fast deployments, sustainable technology and interfaces, and economic cost of ownership.

GPP enables banks and financial institutions to:

- Reduce upfront capital expenditures by facilitating targeted deployments or gradual rollouts
- Lower operating expenses through superior Straight-Through Processing (STP) rates
- Increase customer engagement with payment initiation and processing decisions
- Minimize the need for manual intervention

1.2 GPP Design Features

GPP has the following key features:

- **Flexible Operation**: GPP enables deployment across single or multiple physical and logical entities. This enables a bank or financial institution to support multiple countries and separate subsidiaries on a single GPP implementation. GPP also supports outsourced operations as an Application Service Provider (ASP).
- **Channel-Independent Payment Processing**: GPP enables stateless service calls from external channels. A service call can trigger multiple GPP processes, such as to validate payment details, and then transmit a response to the originating channel.
- **Granular Design**: GPP has a granular payment orchestration that implements a wide variety of Web services. GPP is based on fine-grain SOA services, which are linked into the GPP workflows. GPP is configured with a standard workflow that can be tailored to specific system requirements.
- **Interface-Independent Payment Processing**: GPP enables interface-independent payment processing that can be accessed at flexible points during the workflow. The GPP compliance with XML ISO 20022-based standard enables external interfaces to communicate with GPP to access specific application functionality, such as account balance checks and anti-money laundering (AML) verifications.
- **Rules-Based Workflow Management**: GPP Control is a powerful rules-based design that enables quick time to market and aids automated transaction routing across various payment modes.
- **SOA Compliance**: GPP has native support for the ISO 20022 standard, XML specification, and an industry-standard Enterprise Service Bus (ESB).

1.3 Target Audience

This business guide is intended for system administrators, IT personnel, and GPP users who need to know about GPP features, functionality, and services.

2 GPP Application Features

2.1 Overview

Designed around a broad range of payments industry and SOA standards, GPP payment processing is comprised of specialized application features supported by an orchestration of various SOA services. The standard GPP single payment processing business flow is designed to cover all aspects of end-to-end single payment processing.

Note: The processes and SOA services in this document describe the GPP single payment processing business flow, also called the High Value business flow. The implementation of these processes can vary when assessing other business flows.

2.2 GPP Application Features

Feature	Description	Reference
Acknowledgements and Confirmations	Sends appropriate acknowledgment and confirmation messages as configured in the system	Acknowledgements and Confirmations Feature
Advice Messages	Enables banks and financial institutions to create business rules that can cause the system to generate and send advice messages	Advice Messages Feature
Balance Inquiry	Accesses debit party information and contributes to the selection of the appropriate business flow	Balance Inquiry Feature
Business Flow Selection	Determines the most appropriate business flow for each payment transaction message	Business Flow Selection Feature
Correspondent Chain Determination	Builds a correspondent chain according to industry guidelines	Correspondent Chain Determination Feature
Daily System Maintenance Activities	Enable the system to operate efficiently 24 hours a day, 7 days a week	Daily System Maintenance Activities
EBA Priority Payment	Enables banks to offer urgent intra-day, single credit Euro transfers	EBA Priority Payment Support
Fee Assessment	Enables banks and financial institutions to charge fees to the participating parties	Fee Assessment Feature
FX and Currency Conversion	Enables the transfer of funds in any currency for which a profile exists	FX and Currency Conversion Feature
IBAN Validation	Assists in debit and credit IBAN party identification	IBAN Validation Feature
Messaging Interfaces	Converts specific message attributes into the required format	Messaging Interfaces Feature
MOP Selection	Determines the most appropriate MOP for each payment transaction message	MOP Selection Feature
Party Identification	Identifies both the debit (Dr) party and the credit (Cr) party for each payment transaction message	Party Identification Feature
Payment Initiation	Includes the basic and fundamental processing steps for both manually created payments and dropped-in payments	Payment Initiation Feature
Payment Transaction Attributes Identification	Derives and identifies the fundamental payment transaction message attributes	Payment Transaction Attributes Identification Feature

Feature	Description	Reference
Posting Interface	Enables GPP to communicate with external banking interfaces for posting	Posting Interface Feature
Request for Charges Messages Validation	Validates incoming Request for Charges messages	Request for Charges Messages Validation
Special Processing	Enables a GPP user to manually implement specific non-customary instructions	Special Processing Feature
STP Validation	Increases STP rates for payment transaction messages	STP Validation Feature
Transaction Generation	Enables the system to generate a message that is related to an original payment transaction message	Transaction Generation Feature

2.3 Acknowledgements and Confirmations Feature

The GPP Acknowledgements and Confirmations feature sends appropriate acknowledgment and confirmation messages as configured in the system.

For example, if a payment is returned, GPP sends the message sender a Reject/Abort message (MT019) that includes a reason for the return.

A payment can be returned to the sending agent for the following reasons:

- Invalid SWIFT syntax of the application header
- Insufficient EOD balance in the debit-side bank account
- Attained thresholds for other participants (receivers)

GPP matches the original message to the rejection message, updates the original message with a relevant error code, and triggers an appropriate error message. The error message includes a description of the error, which enables a GPP user to take any required action.

2.4 Advice Messages Feature

GPP enables banks and financial institutions to create business rules that can cause the system to generate and send advice messages. GPP evaluates these business rules during the graceful termination subflow that concludes every processing flow during payment processing. If the business rule determines that GPP must generate and send an advice, the system sends the advice as defined in the Advising profile.

GPP has the following primary advice types:

- Electronic advices created by GPP
- Electronic advices generated by a GPP interface

2.5 Balance Inquiry Feature

The GPP Balance Inquiry feature does the following:

- Checks the available funds of the debit party
- Posts the identification of the debit party
- Contributes to the selection of the appropriate business flow (depending on system configuration)

2.6 Business Flow Selection Feature

Using the GPP Business Flow Selection feature, GPP determines the most appropriate business flow for each payment transaction message that enters the system.

The Business Flow feature is rules based, allowing the workflow to be modified quickly and easily.

GPP is delivered to the client with all the key workflows pre-defined. These may be modified during the project phase, upon consultation with the D+H and integration teams.

GPP has the following business flows:

- **High Value Flow**: This is the primary single payment processing flow, and includes the following processes:
  - Payment Initiation: Identifies and enriches payment transaction attributes.
  - Party Identification: Includes identifying both the debit party and the credit party.
  - Method of Payment (MOP) Selection: Determines the most appropriate MOP for each payment transaction.
  - Fee Assessment: Determines the relevant fees for each party.
  - Foreign Exchange (FX) and Currency Conversion: Enables the transfer of funds in any currency for which a profile exists.
  - Posting: Enables GPP to communicate with external banking interfaces.
- **Mass Payments Flow:**
  - File receipt and de-bulk
  - File validations
  - Pre-processing
  - Return/Rejects
  - MOP selection
  - Converting to HV payment
  - Fees
  - Bulking parameters
  - File construction and transmission
- **Incoming Reject/Return Flow**: This flow executes the incoming reject and return process that matches a reject/return message with an original message.
- **N Messages Flow**: This flow processes the following SWIFT message types:
  - MTn92
  - MTn95
  - MTn96
  - MTn99
- **Request for Charges Flow**: This flow executes the Request for Charges process for SWIFT MT191 messages.
- **Approve/Refuse Cancel Flow**: This flow executes the approval and refusal process for a message cancellation action.
- **After Posting Response Flow**: In cases of an asynchronous interface with an accounting system, this flow executes the After Posting Response process to completion.

- **NAK/RJCT Flow**: This flow executes the process for incoming SWIFT NAK and rejection messages.
- **Resend Flow**: This flow executes the resend process flow following incoming SWIFT NAK and rejection messages.
- **Termination Flow**: This flow is accessed at the conclusion of each main flow. It includes the definition of all required advices and notifications, and generates the final message status.
- **Notifications Flow:** This flow is accessed at the conclusion of each main flow. It determines which advices and/or notifications to be sent.

2.7 Correspondent Chain Determination Feature

GPP automatically builds a correspondent chain according to industry guidelines.

After identifying both debit and credit parties, GPP builds a correspondent chain if the following occurs:

- **MOP Failure**: Funds cannot be transferred via a clearing system.
- **No Accounting Relationship**: The first party in the credit chain has no accounting relationship with the debit party.

GPP assesses various routing levels to arrive at a valid correspondent agent, which GPP uses to build a correspondent chain. GPP then automatically selects a MOP through which the payment can be executed.

The following GPP services implement this functionality:

- Generate a Direct Message Service
- Perform a Transfer Service
- Retrieve a Correspondent Service

2.7.1 Generate a Direct Message Service

If Direct and Cover is selected, this GPP service transforms the original payment transaction message in an MT202COV Cover message and generates a Direct message.

2.7.2 Perform a Transfer Service

This GPP service determines if a Serial message or a Direct and Cover message is used for the selected correspondent.

2.7.3 Retrieve a Correspondent Service

This GPP service attempts to reach the first party (correspondent agent) in the credit chain. The service uses the Standard Settlement Instructions to identify the **Their** correspondent agent. If the **Their** agent is not found, the service selects the **Our** correspondent agent, which is based on one of the following:

- A business rule
- A default selection of a country or currency correspondent

2.8 Daily System Maintenance Activities

GPP has a specific set of daily system maintenance activities that enable the system to operate efficiently 24 hours a day, 7 days a week.

GPP supports multiple offices that share a single application server, as such, daily maintenance activities are done per office, at local office time, and only for office-specific data.

At the end of each business day, GPP executes sequential Start of Day (SOD) activities to prepare the system for the next business day. These SOD activities include generic maintenance tasks essential for proper application operation.

GPP supports tailored scripts to run SOD maintenance activities according to specific bank operational and functional requirements. These scripts invoke the GPP Tasks Service, as described in Tasks ServiceTasks Service.

GPP can run SOD tasks at the end of the current business day or at the beginning of the next business day.

Note: The time of day can also vary. For example, GPP can perform End of Day (EOD) maintenance activities at 18:00, which causes all subsequent actions to be on the next business day. Relevant messages are only sent on the following calendar day.

The order that the tasks are executed is crucial to the proper functioning of GPP. The tasks, which are performed using SOA services, can be run in the following ways:

- **Manually**: An authorized GPP user runs tasks.
- **Automatically**: An external scheduling or monitoring application runs tasks.

GPP also supports online database backup, which enables backing up the database without interrupting normal banking operations.

2.9 EBA Priority Payment Support

GPP supports the EBA Priority Payment scheme, which enables banks to offer urgent intra-day, single credit Euro transfers to their customers.

The EBA Priority Payment scheme stipulates the following:

- The transferred funds must be available to the payment beneficiary on the day of acceptance by the sending bank.
- The transferred funds must be available within four hours of acceptance by the sending bank.
- The originating bank must process and route the payment to the selected channel within 90 minutes of the time of acceptance by the sending bank.
- The originating bank must process and route the payment to the selected channel before 13:30 CET.

EBA Priority Payments can be sent through any channel that meets these stipulations.

EBA Priority payments are sent with SWIFT message MT103+ that has field 23B set to **SPRI**.

2.10 Fee Assessment Feature

GPP enables banks and financial institutions to charge fees to the participating parties of each payment transaction processed by the system.

GPP determines the relevant fees for each party:

- **Debit Party**: Charged to the sender or initiator of the payment
- **Credit Party**: Charged to a fee account or deducted from the payment amount

GPP can deduct fees from the actual payment or can charge fees to principal accounts and fee account. Optionally, GPP can also transmit relevant fee data to external billing engines for additional processing.

Fees can also be waived upon a specific business request.

GPP can also charge agent fees, for example, when sending a payment with charge bearer **DEBT** for which GPP has identified the charge model.

GPP separates the fee processing flow as follows:

- **Core Processing**: Defines internal fees
- **Sender and Receiver Charges**: Handles incoming and outgoing agent fees
- **Request for Charges**: Handles incoming and outgoing Requests for Charges, as described in Request for Charges Messages Validation.

GPP implements the fees functionality using the following services:

- Fees Calculation Service
- Anticipated Funds Service

2.10.1 Fees Calculation Service

This service uses a business rule to determine if fee charges for a payment transaction should be waived.

This GPP service determines the following:

- **Fee Type**: Using a set of business rules, GPP determines the relevant type of fee to charge for each payment transaction.
- **Fee Amount**: Using a set of business rules, GPP calculates an amount to charge for every relevant Fee Type. Fee amounts for each type are calculated using a defined fee formula, which is based on one of the following:
  - Fixed amount
  - Percentage of a payment transaction (including minimum and maximum limits)
- **Fee Account**: GPP derives the fee account from one of the following:
  - Customer-level setup
  - Account-level setup
  - Business rule setup

2.10.2 Anticipated Funds Service

This GPP service does the following:

- Calculates anticipated funds for a payment transaction
- Handles Request for Charges that are associated with a request

2.11 FX and Currency Conversion Feature

GPP has extensive foreign exchange (FX) and currency conversion functionality. The system enables the transfer of funds in any currency for which a profile exists.

GPP implements this feature using the SOA FX and Currency Conversion services, as described in FX and Currency Conversion Services.

2.12 IBAN Validation Feature

GPP uses the IBAN Validation feature to assist in debit and credit party identification if an International Bank Account Number (IBAN) is provided.

GPP implements this feature using the SOA IBAN Validation service, as described in IBAN Validation Service.

2.13 Messaging Interfaces Feature

GPP has various messaging interfaces that enable transmitting messages according to specific message types. GPP can convert specific message attributes into the required format that is compatible with each message type.

This table lists the messages and message types supported by the GPP messaging interfaces.

Message	Message Types
SWIFT	MT101, MT102, and MT103 MT202, MT202COV, and MT203 MTn91 and MTn92 MTn95 and MTn96 MTn99 MT900 and MT910 MT400
ISO	ACMT_023 ACMT_024 CAMT_052 pacs 002 pacs 004 pacs 008 pain 001
Proprietary	Any combination of message attributes

Note: The GPP Posting Interface can be configured to execute posting either before or after the messaging phase of payment processing. For more information, see Posting Interface Feature.

2.14 MOP Selection Feature

The Method of Payment (MOP) is the means by which a payment is executed and delivered. Book Transfer, SWIFT, Real Time Gross Settlement (RTGS), and Draft are examples of MOPs. GPP uses MOP selection rules to determine the most appropriate MOP for each payment transaction message.

GPP supports the following types of MOP selection:

- **Automatic**: GPP uses MOP selection rules, which are defined by the bank or financial institution, to determine the MOP. This enables the bank to determine its own preferences in MOP selection while maintaining integrity of usage.

  GPP scans all MOP selection rules in the defined order of priority, and selects the rule with the following characteristics:

  - Highest priority of all compatible rules
  - Valid for the both the payment and the MOP
  - Earliest valid value date of all compatible rules
- **Manual**: The transaction initiator (manual or electronic) determines the MOP, in which case GPP validates the requested MOP against various validation parameters.

GPP implements this feature using the MOP Selection services, as described inMOP Selection Service.

2.15 Party Identification Feature

The GPP Party Identification feature enables GPP to identify both the debit party and the credit party for each payment transaction message entering the system.

GPP also identifies the first party in the debit or credit chain, and loads the party information and the party-related account details. If a party is identified by an account number, GPP can derive the account owner.

Using information retrieved during this process, GPP sets the debit and credit parties and their corresponding account numbers.

2.16 Payment Initiation Feature

GPP implements the Payment Initiation feature using the SOA Party Identification services, as described inParty Identification Services. The GPP Payment Initiation feature includes the basic and fundamental processing steps for both manually created payments and dropped-in payments.

Payments can be dropped into GPP by a variety of feeding systems and channels.

Payment initiation also enables the enrichment of additional payment attributes, including D+H add-on attributes, which are extension attributes that are defined by D+H and are used by GPP to support GPP core processing, GPP services and interfaces, and the GPP user interface.

GPP implements this feature using SOA Payment Initiation services, as described in Payment Initiation Services.

2.17 Payment Transaction Attributes Identification Feature

This GPP feature enables GPP to derive and identify fundamental payment transaction message attributes during the initial process in the business flow.

For example, this process derives the Office, which is the processing bank or financial institution. The Office enables GPP to determine the correct business flow for the transaction. GPP uses these attributes to assess the business flow selection rules to determine the required orchestration of services that are relevant for the transaction. GPP implements this feature using an SOA Payment Transaction Attributes Identification service, as described inPayment Transaction Attributes Identification Service.

2.18 Posting Interface Feature

The GPP Posting Interface feature enables GPP to communicate with external banking interfaces to transmit and receive essential payment processing information.

The interface enables GPP to interact with proprietary banking systems to retrieve information, such as:

- **Payment Transaction Messages**: GPP captures the message from a bank interface.
- **Account Information**: GPP retrieves account information if an account is not in the GPP repository.

At the end of the payment processing flow, the Posting Interface can activate a call to an ad-hoc interface that updates a bank's ledger books with the relevant data. Common payment information includes:

- **Debit-Side**: Includes account ID, amount, currency, and value date
- **Credit-Side**: Includes account ID, amount, currency, and value date
- **Applicable Fees**: Includes debit account and Profit and Loss credit account

The Posting Interface can return the following responses:

- **Success**: Indicates that posting was successfully completed.
- **Failure**: Indicates that posting was not successfully completed.
- **Error**: Indicates that an error occurred during the posting process. The error response contains an error code, which can trigger an action in GPP, and an error description. For example, insufficient funds in the debit account can cause GPP to route the message to a designated queue for further processing.

2.19 Request for Charges Messages Validation

This GPP feature enables GPP to ensure that incoming Request for Charges messages (SWIFT MTn91) are valid, reasonable, and have not been previously claimed. GPP then populates a valid transaction message with relevant data from the Request for Charges message and the original transaction message, which creates a funds transfer message that can be paid to the sender of the Request for Charges.

If GPP cannot automatically process a Request for Charges message, it is routed to a queue for manual processing by a GPP user. Possible manual actions include paying the request or terminating the message.

Reasons that can prevent GPP from automatically processing a Request for Charges message include:

- Failure to match the request for charges message to the original transaction
- A Request for Charges message was previously paid

GPP implements this functionality using the following services:

- **Request for Charges Service**: Calculates the amount of a Request for Charges message.
- **Outgoing Request for Charges Service**: Generates a Request for Charges message and matches and validates the incoming request for charges. It is performed after payment classification on the debit-side processing.

2.20 Special Processing Feature

The GPP Special Processing feature enables GPP users to manually implement specific non-customary instructions during payment processing.

The following services implement the Special Processing functionality:

- Special Instructions Service
- Stop Flags Service

2.20.1 Special Instructions Service

This GPP service assesses a business rule and generates an error message if a matching business rule is found. The error message contains special instructions and recommended actions.

2.20.2 Stop Flags Service

This GPP service checks for debit and credit party stop flags, and debit and credit country stop flags. If found, GPP changes the transaction message status to **Repair** and a relevant reason for the stop flag is viewable.

2.20.3 NLS/Telecode Conversion

Incoming payments containing NLS characters will be identified by GPP using a validation mechanism validation. Such payments will be moved to REPAIR for manual intervention by an operator.

In manually created payments a validation mechanism validation will check the presence of illegal characters upon Submit/Save Draft. If illegal characters are found, an error message will be displayed in a pop-up window and the operator will need to remove any NLS characters from the payment before re-trying to Submit/Save Draft.

2.21 STP Validation Feature

The GPP STP Validation feature increases STP rates for payment transaction messages. This feature validates message attributes for completeness and correctness before message transmission, which eliminates errors and omissions that can cause processing delays.

GPP implements this feature using the SOA STP Validation service, as described in STP Validation Service.

2.22 Transaction Generation Feature

The GPP Transaction Generation feature enables the system to generate a message that is related to an original payment transaction message.

For example, as part of the message processing flow, GPP can generate an answer message (SWIFT MTn96) in response to a query message (SWIFT MTn96).

3 GPP SOA Services

3.1 GPP SOA Services Overview

GPP includes SOA standalone services that enable specific GPP functionality. The SOA services also enable third-party applications to interface with GPP to retrieve specific information and access GPP functionality.

This table describes the GPP SOA services that are available as published services.

Service	Description	Reference
Action on Payments	Enables payment transaction messages retrieval	Action on Payments Services
FATF AML Compliance	Ensures compliance with FATF and AML regulations	FATF AML Compliance Service
FX and Currency Conversion	Enables the transfer of funds in any currency for which a profile exists	FX and Currency Conversion Services
IBAN Validation	Assists in debit and credit party identification	IBAN Validation Service
MOP Selection	Determines the most appropriate MOP for each payment transaction	MOP Selection Services
Party Identification	Interfaces with GPP to identify the participation parties in a transaction	Party Identification Services
Payment Initiation	Interfaces with GPP for compliance, validation, and data manipulation functionality	Payment Initiation Services
Payment Transaction Attributes Identification	Derives and identifies the fundamental attributes of a payment transaction message	Payment Transaction Attributes Identification Service
Queue List	Retrieves a list of payment transaction messages	Queue List Service
Static Data	Retrieves and updates static data	Static Data Services
STP Validation	Validates message attributes for completeness and correctness	STP Validation Service
Tasks	Uses tailored scripts to run daily maintenance activities	Tasks Service

3.2 Action on Payments Services

During message processing, GPP assigns a message status to each message, which tracks a message's progress through the business flow. The GPP Action on Payments services enable third-party applications to use the message status to retrieve payment transaction messages and to perform specific actions on payment transaction messages.

The following Action on Payments services are used in conjunction with the SOA Queue List service (see Queue List Service) to enable third-party applications to simulate the GPP interface to retrieve and perform specific actions on payment transaction messages.

GPP implements this feature using the following SOA services

- Message Load Status
- Linked Message Submit Service

3.2.1 Message Load Status

This GPP service enables third-party applications to retrieve the details of a specific payment transaction.

3.2.2 Linked Message Submit Service

This GPP service enables third-party applications to perform a specific action, such as Submit or Cancel, on a specific payment transaction message. In addition, MT195 queries can be sent using this service.

3.3 FATF AML Compliance Service

GPP ensures compliance with Financial Action Task Force (FATF) and Anti-Money Laundering (AML) regulations as stipulated by the United States Office of Foreign Assets Control (OFAC).

A dedicated GPP mechanism ensures that relevant payment attributes are not listed in any OFAC lists of Specially Designated Nationals (SDNs).

The FATF AML Compliance interface checks for a possible match between the relevant attributes of each payment transaction message and the SDN list. If GPP identifies a possible match, GPP routes the message to a designated queue for manual investigation by a GPP user.

When investigating a possible match, the GPP user can do one of the following:

- Cancel the payment
- Determine that the possible match is not a match and return the message to the payment processing flow
- Determine that the possible match is a match, terminate message processing, and route the message to a suspended credit account

The GPP Compliance interface operates either in real-time or asynchronously. As an asynchronous interface, GPP parks the payment transaction message until the compliance check returns an answer.

GPP Compliance interface requests and responses are in XML format.

The following services implement the FATF AML compliance functionality:

- **Compliance Check Service**: A GPP business rule determines if the system invokes this service. The rule action defines both the OFAC list to check and the specific message attributes to evaluate.

  Note: GPP can invoke this service at two times during the high-value, single processing flow. The first time is upon receipt of the payment transaction message, and the second is immediately before the message in transmitted.

- **Compliance Simulator**: GPP uses this internal simulator if the actual OFAC interface is not available.

3.4 FX and Currency Conversion Services

GPP has extensive foreign exchange (FX) and currency conversion functionality. The FX and Currency Conversion services enable the transfer of funds in any currency for which a profile exists.

If the debit account and credit account currencies are not the same as the payment currency, GPP makes the required conversions using the exchange rate for the currency pair (up to a defined threshold).

In addition, GPP converts all transactions to a base currency equivalent, which enables security checks, threshold limit checks, and other validations.

GPP can interface with a real-time FX engine, via the FIX protocol, using a group of services that enable:

- Aggregating payments with the same currency pair into a bulk transfer to achieve favorable exchange rates.
- Sending a request for a quote
- Sending a quote response
- Sending a single order, with or without a reference to a previous quote request
- Handling a confirmation report

At business setup, GPP invokes the Currency Conversion service to execute the conversion between two currencies. The service can use a quoted rate for the two currencies, or it can use a cross currency to obtain a conversion rate. This is called a base currency conversion, which converts payments into a base currency amount. GPP uses this type of conversion for queue counters and business rules.

The following services implement the FX and currency conversion functionality:

- Currency Conversion Service: Calculates debit- and credit-side currency conversions
- Get RTR Quote Service: Obtains real-time FX quotes for a specific currency pair and amount, and can aggregate a group of payments for an FX quote

3.4.1 Currency Conversion Service

This GPP service handles the conversion between two currencies using one of the following:

- A quoted rate for the two currencies
- A cross currency to obtain a conversion rate

The service can calculate conversions using an FX rate obtained from GPP or using a rate from an external system. In addition, the service supports currency conversions with multiple occurrences of forward contract rates and dealer rates.

1. The Currency Conversion service workflow is as follows:
2. Identify the conversion type
3. Derive the rate type
4. Calculate the exchange rate
5. Calculate the converted amount
6. Validate the exchange rate and amount
7. Map the conversion result to transaction information

The service can be invoked during the message processing flow at each of the following processing phases:

- **Base Amount Conversion**: The instruction amount is converted from the instruction currency to the base currency.
- **Credit Amount Conversion**: The instruction amount is converted from the instruction currency to the credit currency.
- **Debit Amount Conversion**: The instruction amount is converted from the instruction currency to the debit currency. A debit amount conversion can also be performed for a Reverse Sell**,** in which the debit amount is converted from the debit currency to the instruction currency.
- **Fee Conversion:** If required and this option is configured, the fee amount is converted.

- **Forward Contract and Dealer Conversion**: Each line with its specified rate and amount is converted to a composite rate and composite amount.

Note: The Rate Usage profile enables GPP to perform currency conversions. This rule-driven profile supplies GPP with a specific rate type that is used in the conversion flow.

3.4.2 Get RTR Quote Service

This GPP service invokes a quote request for an FX engine. The quote request contains relevant quote information, such as currency pairs and amount value date.

The service can also aggregate a group of payments for an FX quote.

3.5 IBAN Validation Service

GPP uses the IBAN Validation service to assist in debit and credit party identification if an International Bank Account Number (IBAN) is provided.

This feature checks the customer ID for one of the following:

- **Valid IBAN ID**: In this case, the service returns the relevant IBAN elements, such as country code, bank id, branch id, and account number. The service also attempts to identify the relevant customer and related information.
- **Invalid IBAN ID**: In this case, the service returns a relevant response.
- **Non-IBAN ID**: In this case, the service returns a relevant response.

This feature can be implemented as both a standalone service and a front-end application. A third-party application can active the IBAN Validation standalone service.

3.6 MOP Selection Services

The Method of Payment (MOP) is the means by which a payment is executed and delivered. Book Transfer, SWIFT, Real Time Gross Settlement (RTGS), and Draft are examples of MOPs. The GPP MOP Selection services uses MOP selection rules to determine the most appropriate MOP for each payment transaction.

The selected MOP affects many aspects of payment transaction processing, such as:

- **Clearing Settlement Account**: Determines the clearing settlement account for an RTGS (such as TARGET)
- **Value Date:** Determines the value date using cut-off restrictions and relevant calendars
- **Formats and Message Types**: Determines relevant types
- **Membership Validation**: Determines if a membership is required, such as a Euro Banking Association (EBA) membership
- **RMA Exchange**: Determines if a Relationship Manager Account (RMA) exchange is required
- **Correspondent Routing**: Determines if routing through correspondents is allowed

GPP supports the following types of MOP selection:

- **Automatic**: GPP uses MOP selection rules, which are defined by the bank or financial institution, to determine the MOP. This enables the bank to determine its own preferences in MOP selection while maintaining integrity of usage.

  GPP scans all MOP selection rules in the defined order of priority, and selects the rule with the following characteristics:

  - Highest priority of all compatible rules
  - Valid for the both the payment and the MOP

- Earliest valid value date of all compatible rules

- **Manual**: The transaction initiator (manual or electronic) determines the MOP, in which case GPP validates the requested MOP against various validation parameters.

MOP selection consists of the following fine-grain services:

- MOP Bilateral Key Validation Service
- MOP Membership Validation Service
- MOP Selection Service
- MOP Validation Service
- MOP Value Date Calculation Service

3.6.1 MOP Bilateral Key Validation Service

If required, this service performs the following:

- Checks for a valid RMA entry for both payment sender and payment recipients
- Checks for a valid RMA entry within the determined value date

3.6.2 MOP Calendar and Value Date Calculation Service

This service, which can also be invoked separately as a stand-alone service, can affect the selection of a credit account if GPP credits a settlement account. The service uses defined cut-off times to do the following:

- Determines if a date is a valid calendar business date
- Determines the earliest value date for currency conversions

3.6.3 MOP Membership Validation Service

If required, this service checks for a valid clearing house membership for the first party in the credit chain.

3.6.4 MOP Selection Service

This service defines a list of relevant MOPS from all available MOPs.

3.6.5 MOP Validation Service

This service checks that MOPs selected by the MOP Selection service are valid according to a list of defined validations.

3.6.6 MOP Value Date Calculation Service

This service calculates the earliest achievable value date for all relevant MOPs.

3.7 Party Identification Services

The GPP Party Identification services enable third-party applications to interface with GPP to identify the participation parties in a transaction.

This GPP service identifies both the debit party and the credit party for each payment transaction message entering the system.

Third-party applications can also implement this service to identify the first party in the debit or credit chain, and loads the party information and the party-related account details. If a party is identified by an account number, GPP can derive the account owner.

On the debit side, if the message sender is not the first party in debit chain, this service can check for debit authorization, which can be either an authorization bypass or an authorization approval.

If the account cannot be located in the database, GPP can transmit an account lookup request (ACMT023 and ACMT024).

The following GPP services implement the Party Identification service:

- Account Derivation Service: For debit and credit side party identification
- Debit Authorization Service: For debit side party identification
- Find First in Chain Service: For debit and credit side party identification
- Load Customer Service: For debit and credit side party identification

3.7.1 Account Derivation Service

This GPP service derives the account record. The service receives party information and returns an account record, which contains account profile information that is available for queries and system enrichment.

3.7.2 Debit Authorization Service

If a payment transaction message sender is not the first party in the debit chain, this GPP service validates that the sender of the funds is authorized to debit the debit account in the message.

The debit authorization can be given to a specific bank or, at a wider level, to a group of branches within a region, country, or bank.

This service can either perform the debit authorization or bypass it. The method is selected using defined set of rules and conditions.

3.7.3 Find First in Chain Service

This GPP service determines the first party in the debit or credit chain.

The list of parties and their priority in the system are based on the market standard and are hard-coded into the service.

3.7.4 Load Customer Service

This GPP service returns the unique party ID and the related party profile information for either a debit party or a credit party.

This related information is then available for use in any further payment assessment flows.

3.7.5 Standing Orders

Standing Orders is a payment initiation profile that defines when and from which template the message is evaluated.

After choosing a template in the Template ID field the debit account specified in that template is displayed in the Debit account number field.

The Execute Manually button is enabled on existing Standing Order profiles (it should be disabled in CREATE mode). If a user makes changes to an existing profile and attempts to click the button before saving them, a respective error message will be displayed.

When the Execute Manually button is clicked the Standing Order profile is evaluated regardless of any Time of Recurrence values defined for the standing order.

If the parameters defined for the Standing Order do not result in a fund sweep, no payment is created and a respective error is be displayed.

Note: For Standing Orders of Payment Type Sweep, once the Time of Recurrence arrives or when the operator clicks Execute Manually, the system calls the Credit Debit Balance (CDB) sync interface. CDB retrieves the current balance of the debit account specified in the Template ID field.

The system also takes into account the values specified in the fields Min. remaining balance, Min. sweep amount and Max. sweep amount to determine the fund sweep payment amount. Once an amount is calculated and all parameters are met, a payment is be created.

3.8 Payment Initiation Services

The GPP Payment Initiation services enable third-party applications to interface with GPP for compliance, validation, and data manipulation functionality.

Payment Initiation services also enable the enrichment of additional payment attributes, including D+H add-on attributes, which are extension attributes that are defined by D+H and are used by GPP to support GPP core processing, GPP services and interfaces, and the GPP user interface.

For example, the services enable GPP to support multiple offices at the system level using the additional **Office** payment attribute. This attribute associates every payment with a specific financial institution and its respective business logic. Also, the additional **Department** attribute, which is associated with a specific user, enables GPP to determine which user can access specific payments.

The following GPP services implement the payment initiation functionality:

- FATF AML Compliance Service: Ensures FATF AML compliance
- FX and Currency Conversion Services: Performs FX and currency conversions
- Data Manipulation Service: Includes repair and enrichment functionality
- Map Payment to Rule Service: Assesses the **Department** and **Product** D+H add-on attributes
- Matching Check Service: Performs duplicate checks
- Message Filter Service: Performs message filtering

3.8.1 FATF AML Compliance Service

GPP ensures compliance with FATF and AML regulations as stipulated by the United States OFAC, as described in FATF AML Compliance Service.

3.8.2 Data Manipulation Service

This GPP service assesses a business rule where the rule action is a data manipulation instruction profile that is capable of setting up a value or removing a value from any of the payment attributes. This service enriches the payment with additional values.

For example, if the creditor agent country code is not provided as part of the original payment information, GPP can derive the code from the creditor agent BIC and include it with the payment details. Other business rules can then use the enriched information.

3.8.3 Map Payment to Rule Service

This GPP service assesses a specific business rule, which is an input parameter to the service. The business rule action points to a reference date (usually a profile in GPP). The profile contains the message attribute value. For example, the department business rules determine the **P_DEPARTMENT** attribute, and the product business rules determine the **P_PRODUCT_CD** attribute.

3.8.4 Matching Check Service

This GPP service matches payment transaction messages to a list of archived payment transaction messages to ensure that no duplicate payment transactions are processed. GPP uses the system index rule capability to define an index string, and assesses automatic and manual matching algorithms.

If the automatic matching algorithm does not identify a matching payment, GPP activates the manual algorithm and directs the payment to a manual queue. A GPP user can then match the incoming payment with possible matching payments.

3.8.5 Message Filter Service

This GPP service prevents straight-through processing for payment transaction messages. The service assesses a business rule that determines if a payment transaction message is directed to the **Message Filter** queue.

For example, due to high end-of-day traffic, a bank decides only payments in the Euro (**EUR**) currency should be accepted into the workflow for processing.

To accomplish this, the bank defines a Message Filter rule that matches all messages with a settlement currency other than **EUR**. After the bank attaches this rule to the local office, the system accepts into the workflow only those messages with a **EUR** settlement currency. The system routes all other messages to the **Message Filter** queue.

At any point, the bank can decide to accept all messages into the workflow for processing. The bank detaches the Message Filter rule, which causes the system to accept all messages into the workflow and release all messages currently held in the **Message Filter** queue.

Messages can be released from this queue in one of the following ways:

- **Manually**: By a GPP user
- **Automatically**: By invoking the Action on Payments services (see Action on Payments Services).

3.9 Payment Transaction Attributes Identification Service

The GPP Payment Transaction Attributes Identification service enables third-party applications to interface with GPP to derive and identify the fundamental attributes of a payment transaction message.

For example, this service derives the **Office**, which is the processing bank or financial institution. The **Office** enables GPP to determine the correct business flow for the transaction.

The GPP Set Basic Transaction Attributes service includes the following functionality:

- Assigns a unique message ID (**MID**) to the payment
- Derives the payment **Office** attribute to allow proper selection of the business rules
- Defines the message creation date
- Defines the debit MOP
- Defines the message type

3.10 Queue List Service

The GPP Queue List service enables third-party applications to retrieve a list of payment transaction messages that meet a specific list of criteria, such as a unique message status.

Third-party applications can invoke this service with specific input parameters to return a specific list of payment transaction messages. The input parameters include:

- **Search Criteria**: Determine the list of payment transaction messages the service returns
- **Message Attributes**: Determine the specific message attributes that the service returns for each message
- **Sort Criteria**: Determine the sort order in which the service returns the payment transaction messages.

3.11 Static Data Services

GPP enables third-party applications to retrieve and update static data, which GPP uses to define profiles and parties, using the following services:

- Load Profile Service
- Multiple Profile Action Service
- Profile Action Service
- Profile List Service

3.11.1 Load Profile Service

This GPP service enables third-party applications to retrieve all profile-specific data using the unique profile ID and the unique entry ID.

3.11.2 Multiple Profile Action Service

This GPP service enables third-party applications to perform multiple actions on multiple static data records in a single request. For instance, in a single request GPP can be instructed to delete a one record while saving another.

3.11.3 Profile Action Service

This GPP service enables third-party applications to perform a specific action, such as **Save**, **Hold**, or **Delete**, on a specific static data profile.

These actions are also accessible via the GPP user interface.

3.11.4 Profile List Service

This GPP service enables third-party applications to retrieve a list of parties and their applicable bank ID types, such as the National Clearing Code (NCC).

Using the bank ID, this service searches both party and NCC profiles to retrieve relevant information.

3.12 STP Validation Service

The GPP STP Validation service enables third-party applications to validate message attributes for completeness and correctness before message transmission, which eliminates errors and omissions that can cause processing delays.

Banks and financial institutions can invoke this service before the GPP processing flow.

This service, which uses an STP Validation profile, performs payment attribute validations. For instance, a profile can be defined to ensure that a beneficiary account number conforms to a specific length and structure.

The STP Validation service supports the following methods:

- GPP performs the entire STP validation process and returns a final result.
- GPP details a list of available related information enabling a third-party application to determine a course of action.

3.13 Tasks Service

The GPP Tasks service enables banks and financial institutions to use tailored scripts to run daily maintenance activities according to specific bank operational and functional requirements.

An external scheduling or monitoring application can run the following types of daily system maintenance tasks:

- SOD and EOD Tasks
- Periodic Updates

3.13.1 SOD and EOD Tasks

External scheduling or monitoring applications can invoke the GPP Tasks service to run the following tasks:

- **Activate Mature Profile Changes**: This task activates profile changes that have reached the defined effective date.
- **Clean Deleted Entries**: The task performs the following activities for a specific office:
  - Permanently deletes from the system profile entries that are marked for deletion
  - Permanently deletes from the system old non-profile entries from a specific range of dates
- **Clean Profile Audit Entries**: This task permanently deletes from the system audit entries for profiles of a specific office that have a date that is older than a defined time period.
- **Delete from History**: This task permanently deletes from the system matured payments and templates.
- **Move to History**: This task sets a **History** status to selected payments.
- **Next Business Date**: This task advances the business date of one of the following:
  - A specific office
  - An office with all its attached and active MOPs
  - A specific MOP that belongs to a specified office
- **Refresh Messages Snapshot**: This is a reconciliation task that uses the DB2 Materializes Query Table to enable queries.
- **Release from Scheduled**: This task checks that messages of a specific office or specific MOP, and have either a **Schedule** or **Wait Release** status can be released for further processing.
- **Suspend Inactive Users**: This task suspends users who have not logged in to the system for a defined period of time.

3.13.2 Periodic Updates

External scheduling or monitoring applications can invoke the GPP Tasks Service to update the following data from external directories:

- **Accuity GPF**: Uploads the Accuity Global Payment File (GPF), which contains information about financial institutions in all major countries, including head office and branch mailing addresses, contact information, SWIFT and BICs, and national clearing codes.
- **BICPlusIBAN Directory**: Uploads the complete list of the ISO9362 Bank Identifier Codes (BICs) with the national bank and branch identifiers, and IBAN-related information.
- **Exchange Rates**: Executes a proprietary Exchange Rate batch upload.
- **SEPA Routing Directory**: Uploads the Single Euro Payments Area (SEPA) Routing Directory to ensure that the system sends SEPA payments to the correct SEPA-ready destination using the best SEPA-ready channel. The directory is updated monthly and reflects the latest status of financial institutions' SEPA capabilities.

- **SWIFT RMA Directory**: Uploads the SWIFT Relationship Management Application (RMA) directory to enable the management of SWIFT business relationships and ensure that the system only sends payments to correspondents with which the bank holds agreements.
- **Target 2**: Uploads the Target2 directory.
- **Vendor Codes**: Executes a proprietary Vendor Codes upload.

4 GPP User Interface Features

4.1 GPP User Interface Features Overview

GPP includes a user-friendly user interface that integrates security and access control mechanisms that are designed to guarantee application data integrity and confidentiality.

The GPP user interface also enables users to create and manage the profiles and processes that constitute the payment transaction messaging process.

This table describes the primary features and functionality of the GPP user interface.

Feature	Description	Reference
Business Rules	Enable users to tailor the system to specific business requirements	Business Rules
Customized Fields	Enables banks and financial institutions to define payment attributes	Customized Field Attributes
Error Messages and Audit Trail Messages	Used to monitor and track messages during the processing flow	Error Messages and Audit Trail Messages
Message Creation	Enables users to create messages	Message Creation
Message Search Functionality	Enables users to search for specific messages using relevant criteria	Message Search Functionality
Message Status and Filters Tree	Enables users to manage, process, and search for payment transaction messages	Message Status and Filters Tree
Profiles	Define relationships between data items in the system	Profiles
Message Page	Enables users to create and process messages	Message Window
User Entitlement and Access	Enables authorized users to access relevant system data and functionality	User Entitlement and Access

4.2 Business Rules

GPP uses business rules to achieve flexibility in payment processing. By creating and maintaining business rules, a bank or financial institution can tailor system behavior to specific business requirements.

GPP has many types of business rules, and each type is used for a specific purpose. For example, GPP uses Department Determination business rules to automatically determine the department to which a message belongs. This attribute is crucial to user entitlement (see User Entitlement and Access). GPP uses Fee Formula Selection business rules to define an amount for every fee type that is assessed.

GPP supports system rules, which are controlled by D+H, such as Message workflow determination.

A business rule has a set of conditions and a result. The conditions refer to attributes of messages or other data in the system. The result is the action performed by GPP if the conditions are met. For example, a Product Determination rule defines an urgent payment result for a message with the following conditions:

- Payment currency is set to **EUR**
- Message priority is set to **High**

A message that meets both conditions is processed as an urgent message.

4.3 Custom Fields

GPP has the following types of payment attributes, which are used during the payment processing flow:

- **Standard Attributes**: Payment attributes taken from the ISO 20022 and supported by pain and pacs message types.
- **D+H Extension Attributes**: Payment attributes not taken from the ISO 20022 and not supported by pain and pacs message types. There are two types of D+H extension attributes:
  - Add-On Attributes: Payment attributes defined by D+H. Add-on attributes are used by GPP to support GPP core processing, GPP services and interfaces, and the GPP user interface.
  - Customized Field Attributes: Payment or profile attributes defined by D+H clients, such as banks and financial institutions. Customized fields are used by individual clients to store additional information.

4.3.1 Add-On Attributes

Add-on attributes are D+H extension attributes that are defined by D+H and are used by GPP to support GPP core processing, GPP services and interfaces, and the GPP user interface.

The GPP database stores add-on attributes in fields that are explicitly referenced by GPP processes and services.

For example, **Office** is an add-on attribute that GPP derives and attaches to messages. The **Office** attribute is also used by GPP in various business processes.

4.3.2 Customized Field Attributes

Customized fields are D+H extension attributes that are defined by D+H clients and are used to store additional information. Customized fields extend the GPP data model but do not require changes to GPP programming code or database table structures.

GPP enables banks and financial institutions to create the following types of customized fields:

- Payment Message: The customized field is attached to a payment message. For more information, see Custom Fields.
- Static Data: The customized field is attached to specific static data, such as profile data. For more information, see Custom Fields.

For example, a client can define a customized field that contains additional contact information for an account. GPP can make this information accessible to client-specific applications and interfaces.

A client can create customized fields for the following levels:

- System: The customized field is accessible to all offices.
- Office: The customized field is accessible only to the office for which it was created.
- Client: The customized field is accessible only to the specific client for which it was created. This level refers to the client of the bank or financial institution, not the D+H client.

4.4 Error Messages and Audit Trail Messages

GPP generates system error messages and audit trail messages. Both types of messages can be used to monitor and track messages during the processing flow. GPP enables an external system management or monitoring tool to access error and audit trail messages.

The GPP template error table generates the following types of error and audit trail messages:

- **Audit Trail**: Track significant changes to a message, and are viewable in the Audit Trial section of the Message Window.
- **Message Errors**: Track significant errors that prevent straight-through processing or that cause GPP to route a message to a queue for manual intervention. The error message includes a description of the message error.
- **Message Error Log**: Track technical and non-business errors that occur in the system. These errors enable GPP users to monitor the payment processing flow by providing information that can be used to set alerts.

4.5 Message Creation

The GPP user interface enables GPP users to create messages in the following ways:

- From scratch: A GPP user creates a message by entering all message details.
- From a template: A GPP user creates a message using a previously defined template which contains reusable data. Additional data is provided by the GPP user.

4.6 Message Search Functionality

The GPP user interface enables GPP users to search for specific messages using relevant search criteria.

Messages can be retrieved from the following:

- **Active Database**: Holds ongoing and completed transactions
- **History Database**: Holds old transactions
- **Template Messages**: Holds messages created by a user-defined template

4.7 Message Status and Filters Tree

The Messages and Filters tree in the main application window is the primary GPP organizational and navigational tool. GPP users can use the Messages and Filters tree to manage, process, and search for payment transaction messages.

Payment transaction message are organized into a hierarchal tree by flow type, message status, and customized filters.

The highest branch of the tree sorts messages by flow type:

- **Batch Payment**: Mass payment processing.
- **Single Payment**: High value payment processing. These messages are additionally sorted by:
  - Message Status: Assigned by GPP during the processing flow.
  - Customized Filters: Created by user-defined criteria.

The Messages and Filters tree also organizes messages into groups of messages that have a similar status or require a similar action. These groups can be divided into subgroups.

These groups include:

- **Exception**: This group contains incoming or outgoing messages that have exceptions. For example, possible duplicate payments and payments that have authentication or compliance exceptions.
- **Final**: This group contains messages that have completed the processing flow. This group includes the **Cancelled**, **Completed**, **Rejected**, **Rejected Duplicate**, and **Returned** queues.
- **Inactive**: This group contains the **Inactive Compliance**, **Inactive Account Lookup**, and **Inactive Posting** queues.

- **Internal**: This group contains messages that are waiting for initialization. No other user operations can be performed on these messages. This group includes the **Received** queue.
- **Manual Process**: This group contains incoming or outgoing messages that require manual intervention.
- **Service**: This group contains the **Service Complete**, **Service Rejected**, **Service Wait**, and **Service Wait ACK** queues.
- **Waiting**: This group contains messages waiting for acknowledgment, confirmation, posting, or approval.
- **Warehouse**: This group contains messages that are waiting for a specific system occurrence, such as a future date or updated exchange rate.

The Messages and Filters tree stores messages by office and processing date. It can also display information, such as total number messages in the queue and total number of messages in the base currency.

4.8 Profiles

GPP enables GPP users to define profiles, which are used to define relationships between data items in the system. These relationships determine how GPP processes messages.

Profiles are made up of static or configuration data and are managed via the GPP user interface. All GPP profiles share common management and editing features, such as user interface buttons and fields.

4.9 Message Window

The GPP Message Window enables GPP users to create and process messages.

Message attributes are grouped into meaningful categories that facilitate finding relevant attributes.

The Message Window enables customization to meet specific system requirements, various message formats (such as pacs, pain, or SWIFT), and various message types (such as customer messages or bank messages).

Each window layout can define specific mandatory and optional fields, field attributes, and restrictions. After creation, message windows are dynamically selected based on GPP user-defined rules.

The actions that can be performed on messages vary by message type and message status.

4.10 User Entitlement and Access

GPP system administrators assign each GPP user an Entitlement profile, which enables a user to access only relevant system data and functionality.

The Entitlement profile is composed of a group of Entitlement Class profiles that define the entities and functionality a user can access. A user can have read-only access or full access to application, as defined in the Entitlement Class profiles.

GPP application functionality is controlled by enabling or disabling the menu options and buttons that the system displays, as defined in the Entitlement Class profiles.

The Entitlement Class profiles include:

- **Access Classes Profile**: Determines the business functions and operations a user can access
- **Message Types Classes Profile**: Determines the message types a user can access
- **Messages and Filters Classes Profile**: Determines the statuses and the customized filters a user can access

- **Department Classes Profile**: Determines the departments and offices a user can access
- **Rule Types Classes Profile**: Determines the business rules a user can access
- **Alerts Classes Profile**: determines the alerts a use can access

GPP enables creating groups of users, who have similar roles, to authorize access to application data and functionality.

Appendix A: Glossary

Term/Acronym	Description
ASO	Application Service Provider
EOD	End of Day
ESB	Enterprise Service Bus
GPF	Accuity Global Payment File
MID	Message ID
MOP	Method of Payment
RTGS	Real Time Gross Settlement
SOA	Service-Oriented Architecture
SOD	Start of Day

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