INTERFACES

Technical - Overview

Integration Team

2018

AGENDA

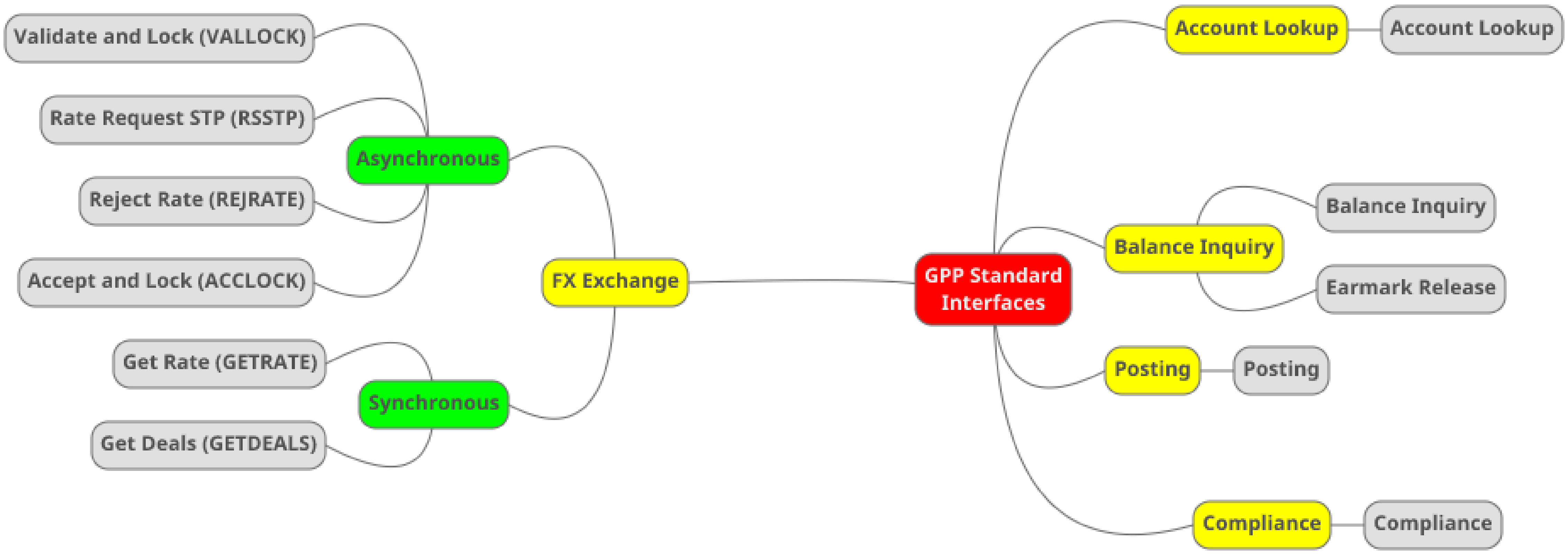
- Interfaces overview
- Common Behavior
- Request and Response
- Interface Type record structure
- UI Interface Profile

“

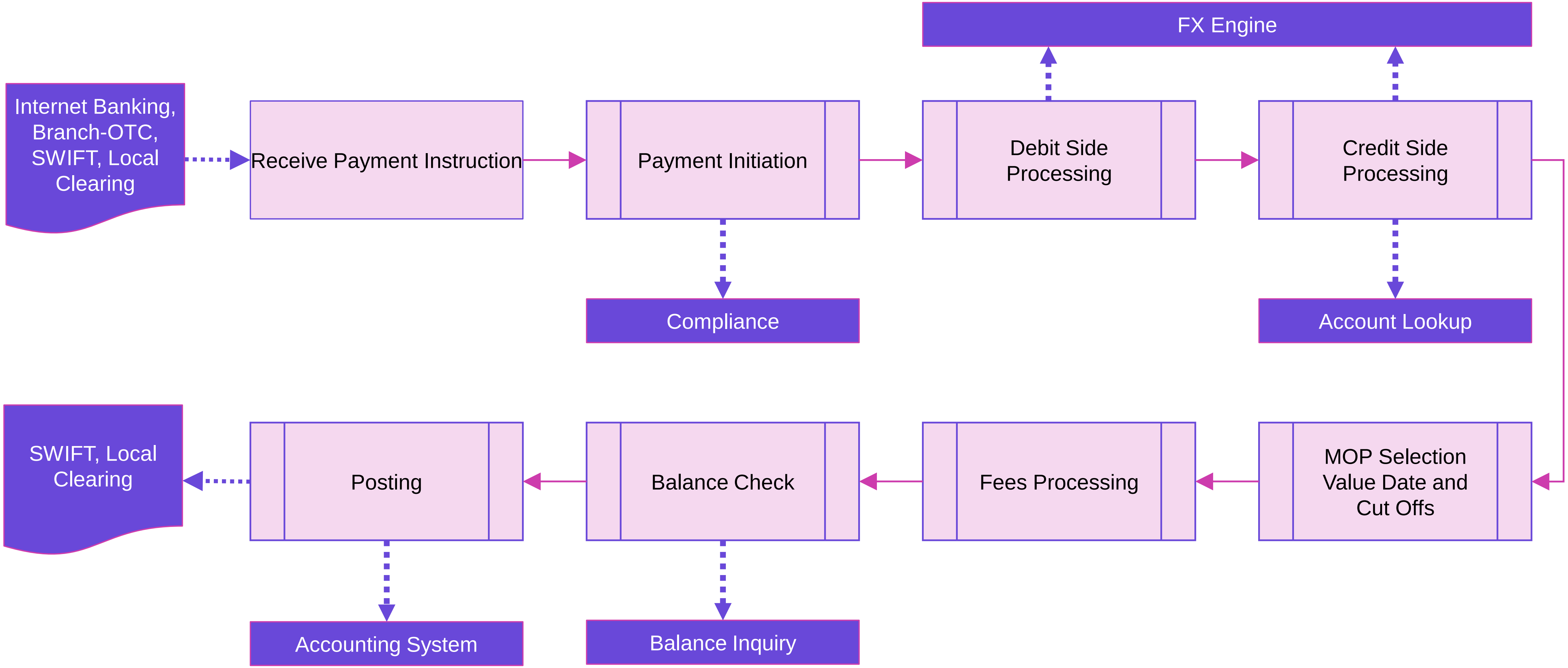
The Interfaces infrastructure is responsible for all data that enters and exits GPP.”

GPP Interfaces – Technical Guide

GPP STANDARD INTERFACES



GENERAL PAYMENT FLOW



COMMON BEHAVIOR

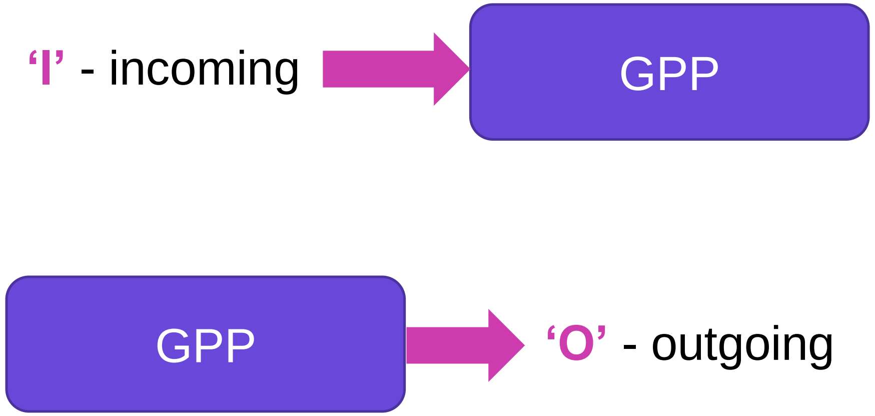
REQUEST DIRECTION

Incoming interface type

GPP functions as the server: it gets the request and returns the response.

Outgoing interface type

GPP functions as the client: it sends the request and may or may not get a response.



INTERFACE MODEL

Wait Behavior

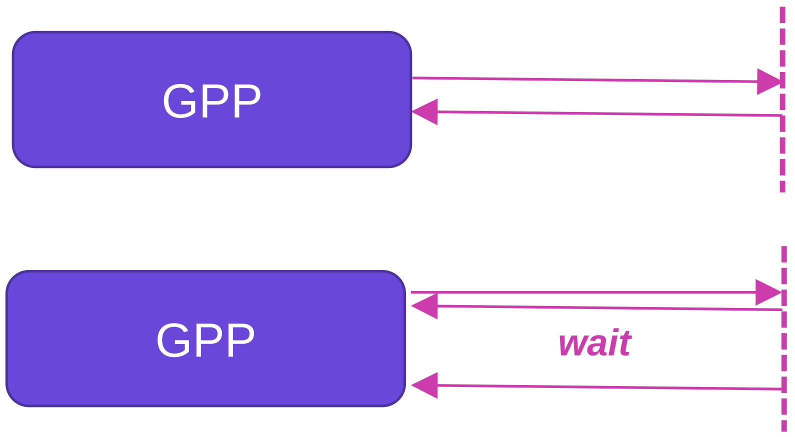
Synchronous model

Valid for incoming and outgoing types. GPP waits for a response before continuing the flow.

Asynchronous model

GPP parks the payment in a certain ‘Wait status’, as defined in the interface metadata. When a response is accepted, flow continues.

Message Wait Status is status in which the message is parked while waiting for the response.



INTERFACE STATUS

Active status

GPP communicate thru the interface. This is the default status.

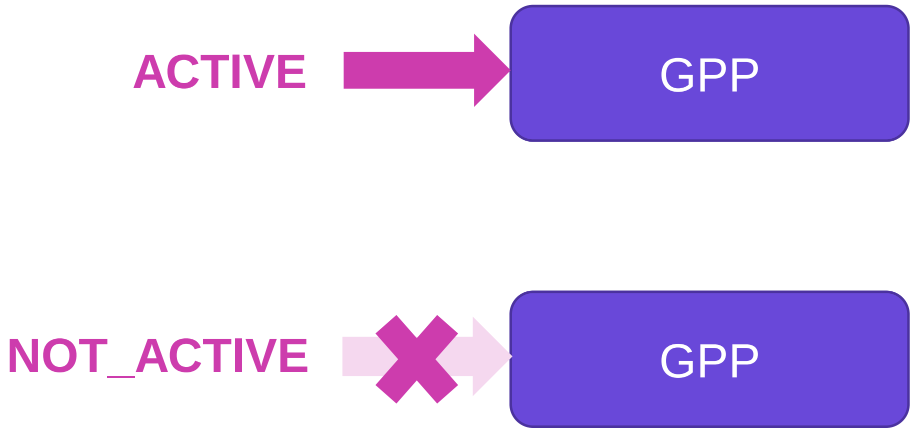
Not active status

GPP does not communicate thru the interface. Status is set automatically, when GPP identifies that there is a problem in communicating with the interface.

Stop After Connectivity Exception

Number of consecutive request transmission exceptions after which the interface is marked as inactive.

Note: Switch to active is done manually by a GPP user.



CONTINGENCY MODE

Not Active behaviour

STOP_UNTIL_ACTIVE

Do not create a request, stop the flow, and change the payment message status as defined in the 'Message Stop Status.' Send request when reactivated. Example is 'Account Lookup' for posting interface.

STORE

Creates the request and saves it in database, payment message continues with the flow. Send request when reactivated. Example is 'Stop Posting' for the posting interface.

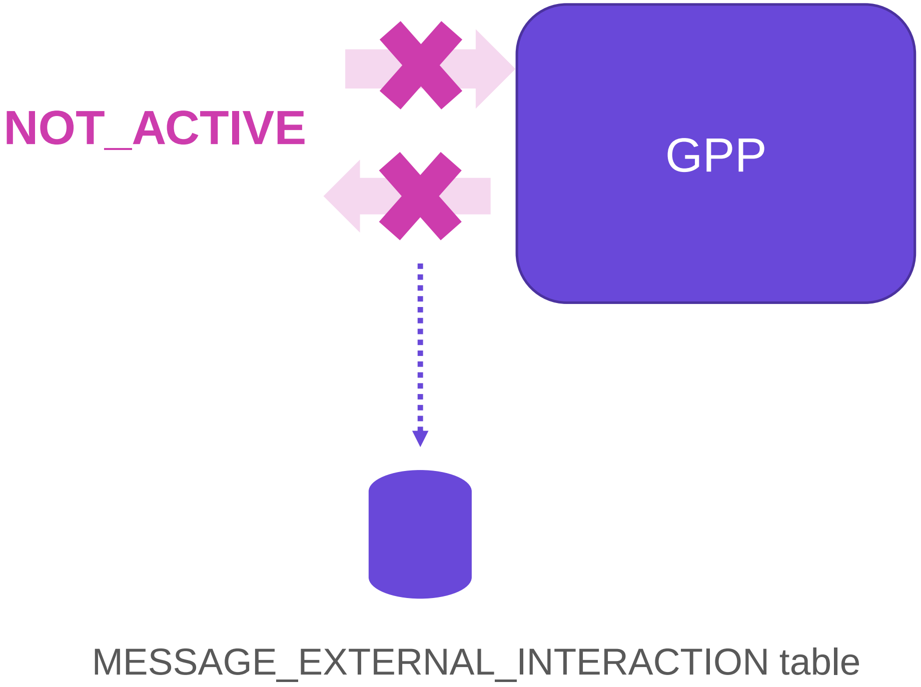
SKIP

Payment message continues with the flow and system does not create or send a request. Example is 'Sanctions Checking' for posting interface.

PERMANENT_STOP

Stop the flow and change the message status as defined in the 'Message Stop Status', no request is created. Does not send request when reactivated.

Note: Only one inactive behavior type can be applied per interface.



INTERFACE MONITOR INDEX

Track over the interface status

This monitor defines the interface status per payment message.

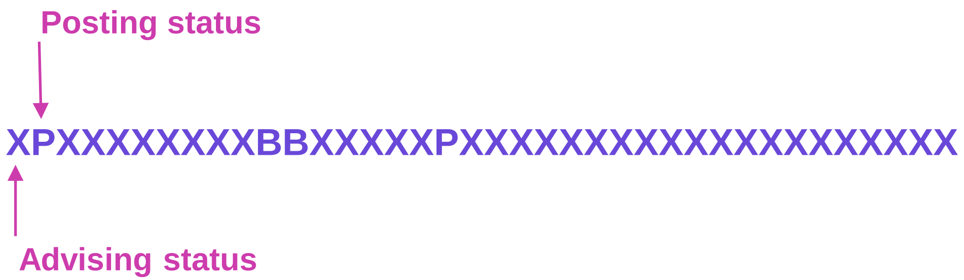
Examples of possible monitor values:

- **H -** Hold (i.e. when Not Active Behavior is set to ‘STOP’)
- **W -** Wait (i.e. when Not Active Behavior is set to ‘STORE’)
- **S -** Skipped (i.e. when Not Active Behavior is set to ‘SKIP’)
- **P –** Processed
- **X –** default value

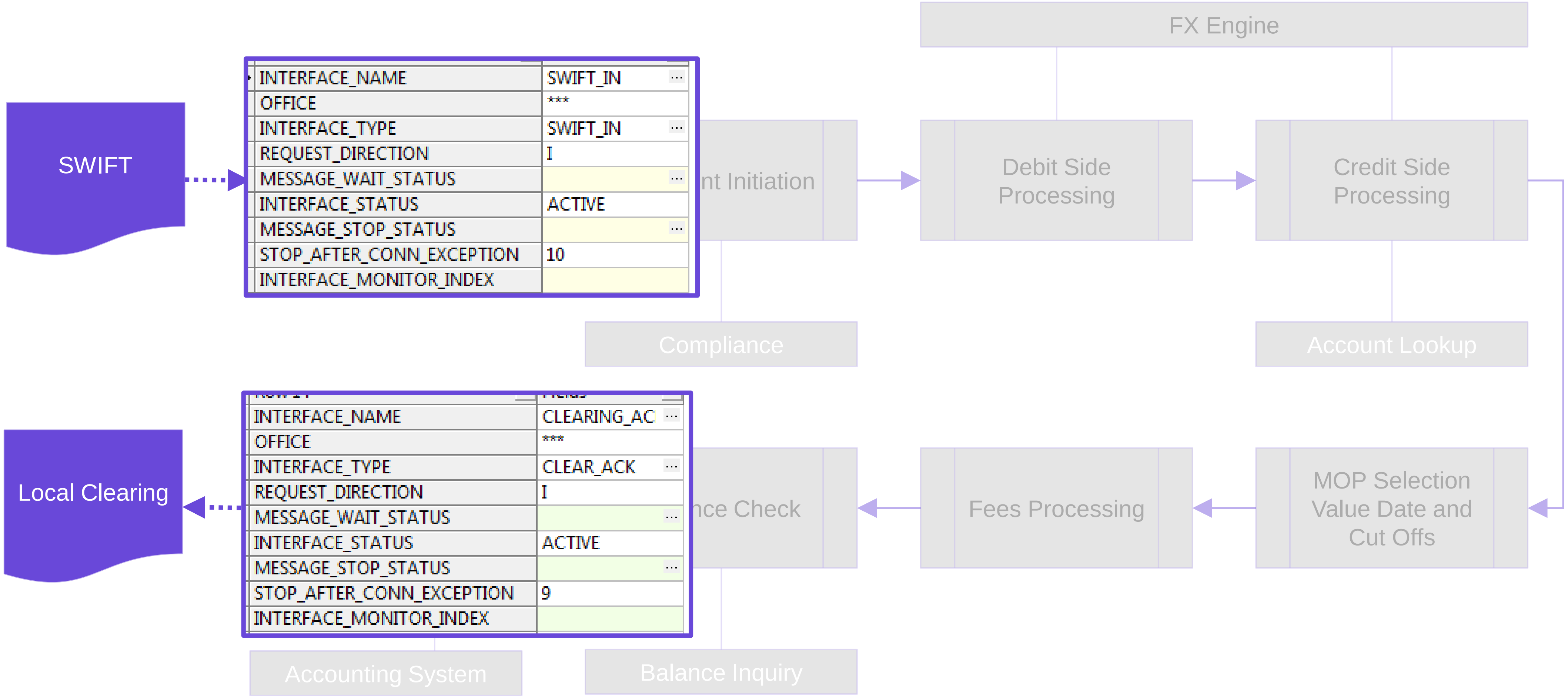
Database location

MINF.P_INTERFACE_STATE_MONITOR

Example



FROM SWIFT TO LOCAL CLEARING ACK

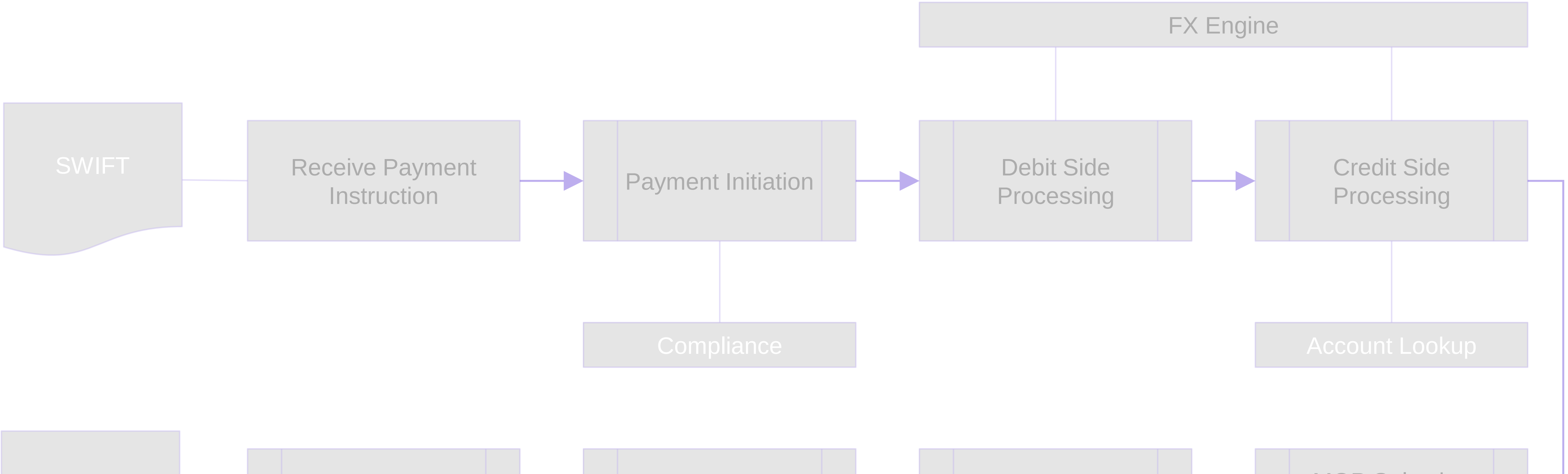


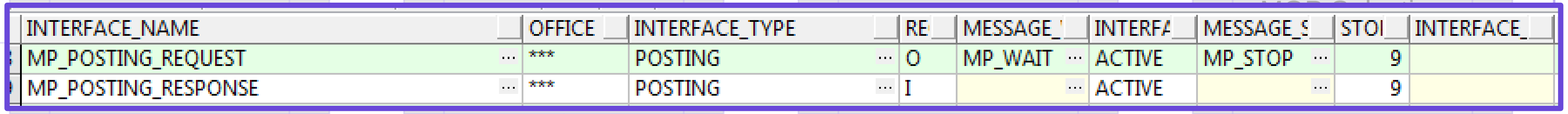
INTERFACE_NAME	SWIFT_IN
OFFICE	***
INTERFACE_TYPE	SWIFT_IN
REQUEST_DIRECTION	I
MESSAGE_WAIT_STATUS	
INTERFACE_STATUS	ACTIVE
MESSAGE_STOP_STATUS	
STOP_AFTER_CONN_EXCEPTION	10
INTERFACE_MONITOR_INDEX	

INTERFACE_NAME	CLEARING_AC
OFFICE	***
INTERFACE_TYPE	CLEAR_ACK
REQUEST_DIRECTION	I
MESSAGE_WAIT_STATUS	
INTERFACE_STATUS	ACTIVE
MESSAGE_STOP_STATUS	
STOP_AFTER_CONN_EXCEPTION	9
INTERFACE_MONITOR_INDEX	

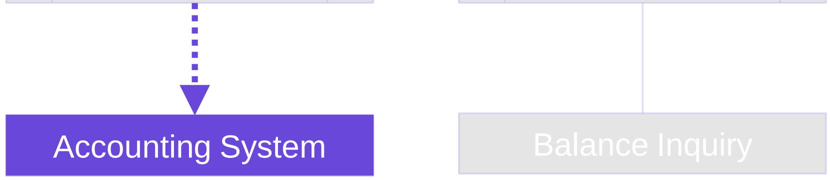
ASYNCHRONOUS MODEL

GPP send accounting information to Accounting Server, route payment message to MP_WAIT status until response will be received.





INTERFACE_NAME	OFFICE	INTERFACE_TYPE	RE	MESSAGE_'	INTERFA	MESSAGE_S	STOI	INTERFACE_
MP_POSTING_REQUEST ···	***	POSTING ···	O	MP_WAIT ···	ACTIVE	MP_STOP ···	9	
MP_POSTING_RESPONSE ···	***	POSTING ···	I	···	ACTIVE	···	9	



REQUEST AND RESPONSE

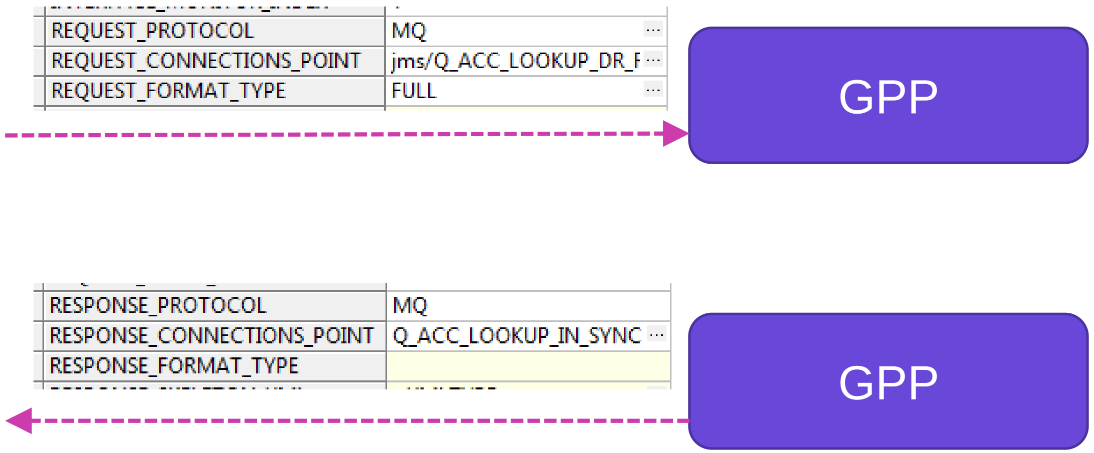
TRANSPORT PROTOCOL

- **MQ -** Java Message Service (JMS) can **guarantee message delivery. JMS** supports BACKOUT queues (failures) and listeners failover mechanism.
- **WEB_SERVICE -** SOAP over HTTP (SOAP 1.1, 1.2). Security is supported on both client and server sides (WS-Security).
- **SOAP_JMS –**SOAP over JMS used for reliability, scalability, and asynchronous messaging support.
- **FILE -** File drop is based on share folder approach.
- **MQFTE1 -** MQ FTE (File Transfer Edition) enables secure and reliable managed file transfers.

  Important: MQFTE server is required at bank side.
- **Email -** Messages with string attachment
- **SFTP2 -** Secure File Transfer protocol.

  Important: SFTP server is required at bank side

Example - **INTERFACE_TYPES** table



REQUEST_PROTOCOL	MQ
REQUEST_CONNECTIONS_POINT	jms/Q_ACC_LOOKUP_DR_F
REQUEST_FORMAT_TYPE	FULL

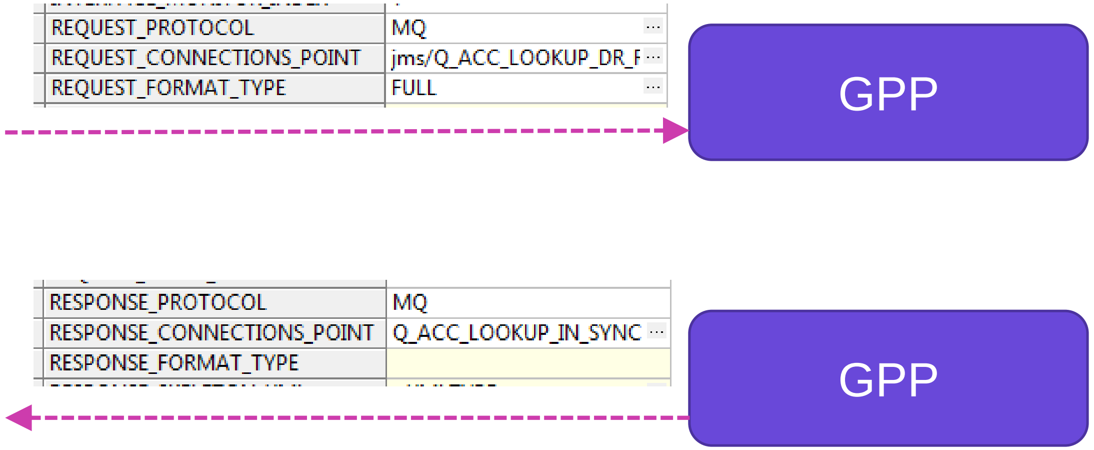
RESPONSE_PROTOCOL	MQ
RESPONSE_CONNECTIONS_POINT	Q_ACC_LOOKUP_IN_SYNC
RESPONSE_FORMAT_TYPE	

CONNECTION POINT

The actual connection point to the external systems

- <u>JNDI name </u>for the JMS resource (for MQ or SOAP _JMS)
- <u>Queue name </u>(MQ) for non JMS message queues
- <u>Web service end point </u>(for WEB_SERVICE and SOAP _JMS)
- <u>Folder path </u>(for FILE or SFTP) with permissions setup

Example - **INTERFACE_TYPES** table



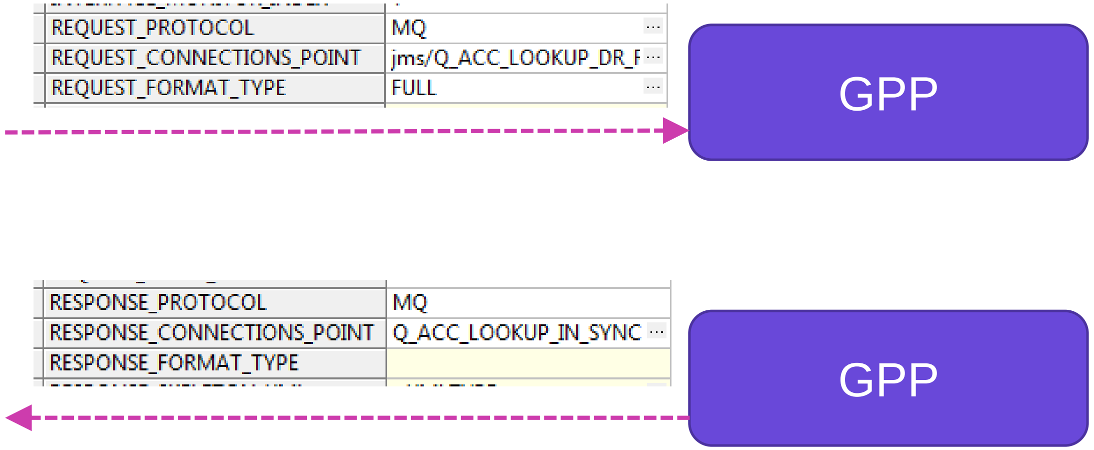
REQUEST_PROTOCOL	MQ
REQUEST_CONNECTIONS_POINT	jms/Q_ACC_LOOKUP_DR_F
REQUEST_FORMAT_TYPE	FULL

RESPONSE_PROTOCOL	MQ
RESPONSE_CONNECTIONS_POINT	Q_ACC_LOOKUP_IN_SYNC
RESPONSE_FORMAT_TYPE	

MESSAGE FORMAT TYPE

- **FULL -** full (all existing message information) Fndt Message is sent out in XML format
- **JSON –** formatted Fndt Message is sent out in JSON format
- A **subset** of Fndt Message (only a part of existing messages information) is sent out in the request
  - ACK_NOTIFY
  - Pain_012
  - CDB_OUT_CR_DEFAULT (fields list)
- **PROPRIETRY -** A proprietary structure defined for a specific customer, where Fndt Message mapped into the customer proprietary format (handled by code and ☺)

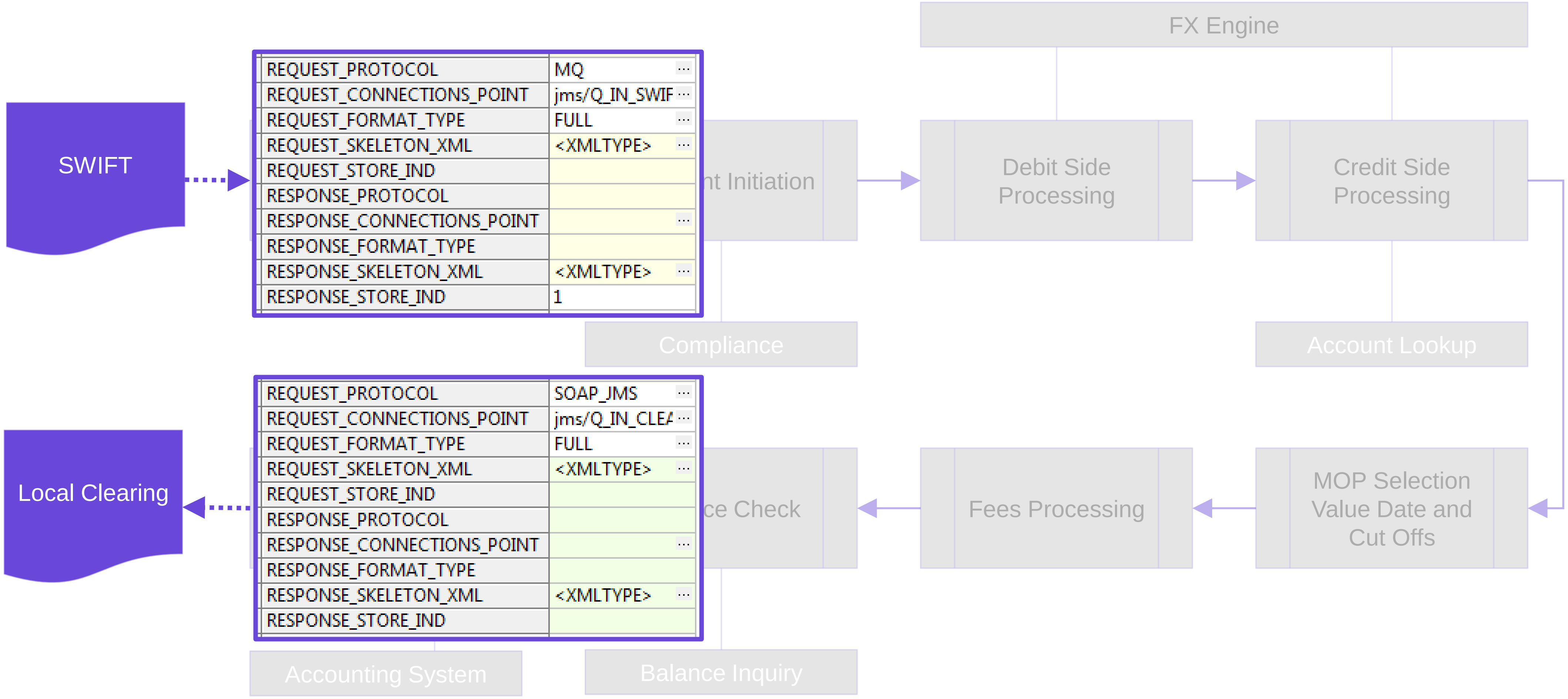
Example - **INTERFACE_TYPES** table



REQUEST_PROTOCOL	MQ
REQUEST_CONNECTIONS_POINT	jms/Q_ACC_LOOKUP_DR_F
REQUEST_FORMAT_TYPE	FULL

RESPONSE_PROTOCOL	MQ
RESPONSE_CONNECTIONS_POINT	Q_ACC_LOOKUP_IN_SYNC
RESPONSE_FORMAT_TYPE	

FROM SWIFT TO LOCAL CLEARING ACK

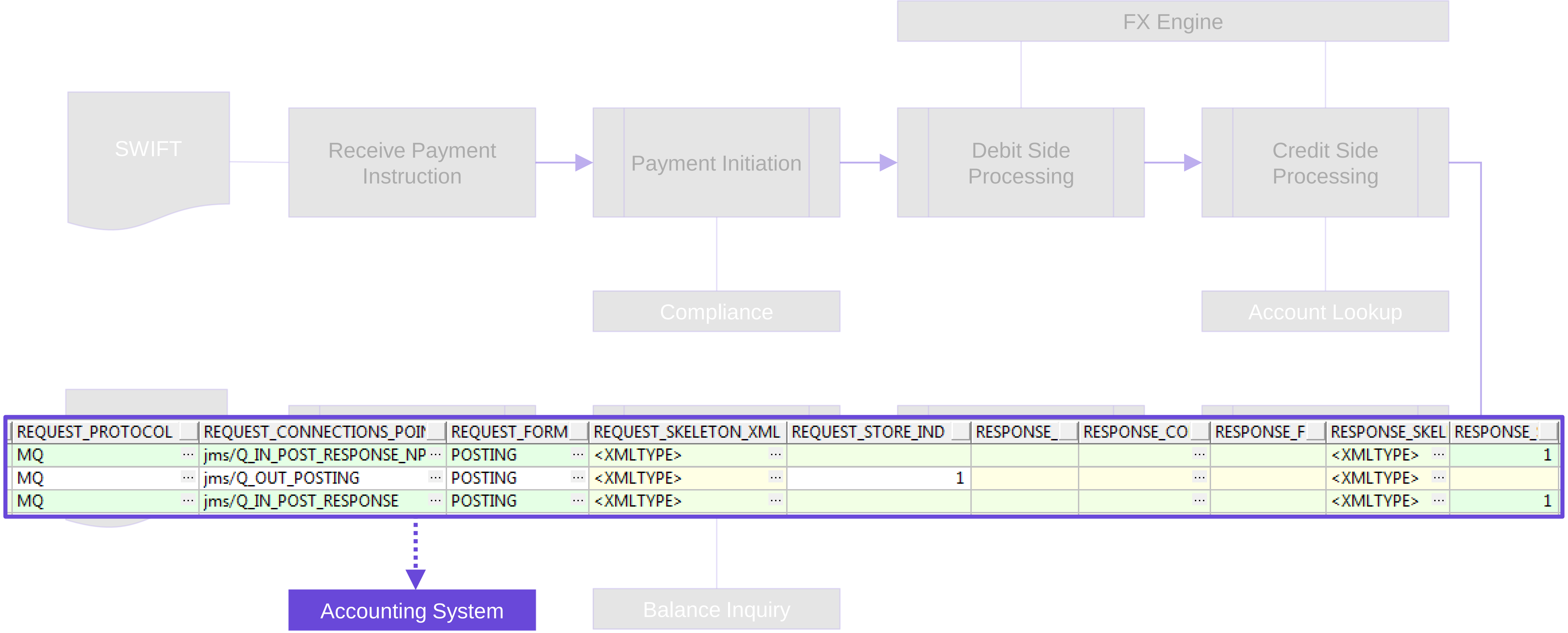


REQUEST_PROTOCOL	MQ
REQUEST_CONNECTIONS_POINT	jms/Q_IN_SWIF
REQUEST_FORMAT_TYPE	FULL
REQUEST_SKELETON_XML	<XMLTYPE>
REQUEST_STORE_IND	
RESPONSE_PROTOCOL	
RESPONSE_CONNECTIONS_POINT	
RESPONSE_FORMAT_TYPE	
RESPONSE_SKELETON_XML	<XMLTYPE>
RESPONSE_STORE_IND	1

REQUEST_PROTOCOL	SOAP_JMS
REQUEST_CONNECTIONS_POINT	jms/Q_IN_CLEA
REQUEST_FORMAT_TYPE	FULL
REQUEST_SKELETON_XML	<XMLTYPE>
REQUEST_STORE_IND	
RESPONSE_PROTOCOL	
RESPONSE_CONNECTIONS_POINT	
RESPONSE_FORMAT_TYPE	
RESPONSE_SKELETON_XML	<XMLTYPE>
RESPONSE_STORE_IND	

ASYNCHRONOUS MODEL

GPP send accounting information to Accounting Server, route payment message to MP_WAIT status until response will be received.



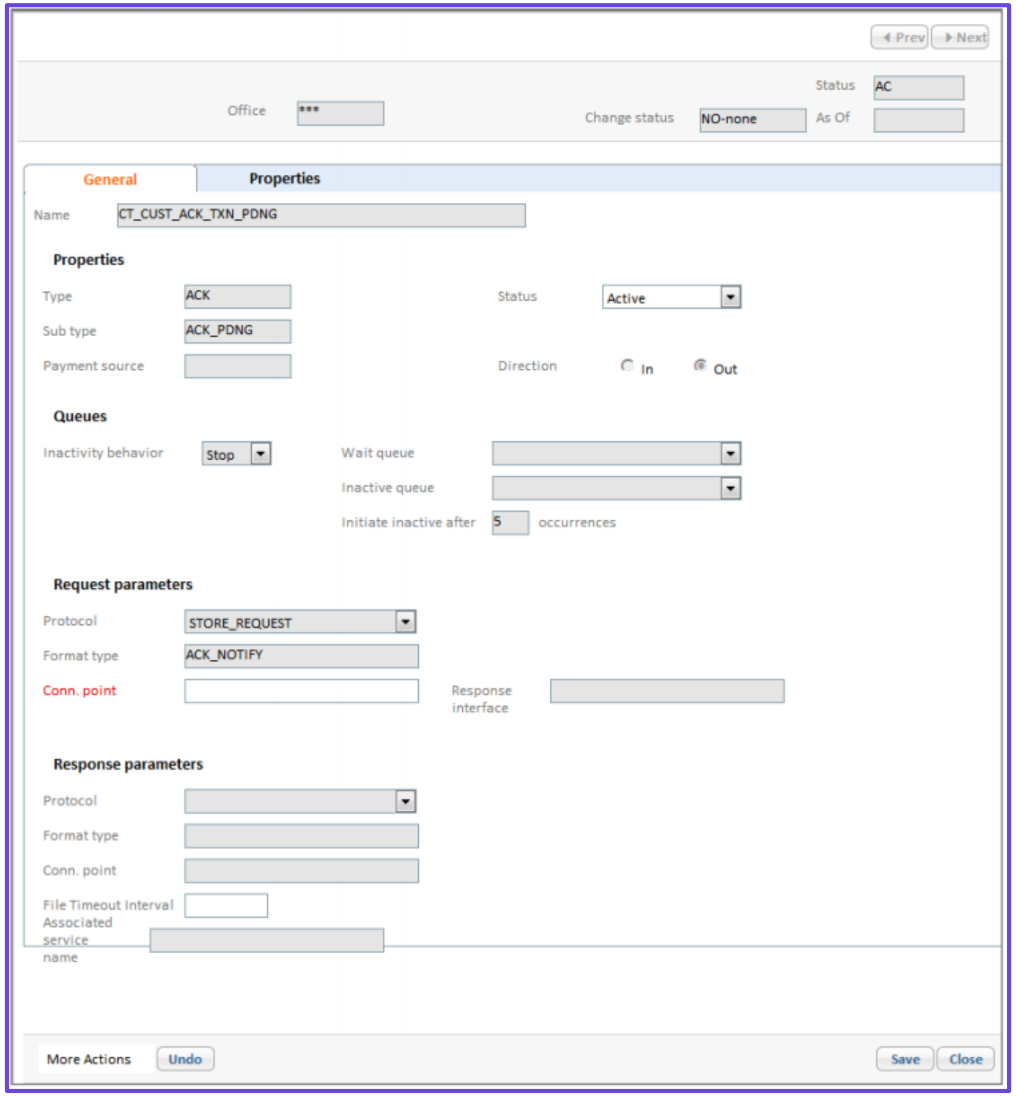
REQUEST_PROTOCOL	REQUEST_CONNECTIONS_POI	REQUEST_FORM	REQUEST_SKELETON_XML	REQUEST_STORE_IND	RESPONSE_	RESPONSE_CO	RESPONSE_F	RESPONSE_SKEL	RESPONSE_
MQ ···	jms/Q_IN_POST_RESPONSE_NP ···	POSTING ···	<XMLTYPE> ···			···		<XMLTYPE> ···	1
MQ ···	jms/Q_OUT_POSTING ···	POSTING ···	<XMLTYPE> ···	1		···		<XMLTYPE> ···	
MQ ···	jms/Q_IN_POST_RESPONSE ···	POSTING ···	<XMLTYPE> ···			···		<XMLTYPE> ···	1

INTERFACE PROFILE

User Interface Setup

The **Interface profile** in the user interface specifies, for example, the inactivity status, where payments are parked if the service is inactive, and the number of malfunction events that automate the service to Inactive status

Note: The only attributes that are open to GPP users are the **interface status** and the **interface connection** point.



Office: ***

Status: AC

Change status: NO-none

As Of:

Name: CT_CUST_ACK_TXN_PDNG

Properties

Type: ACK

Status: Active

Sub type: ACK_PDNG

Payment source:

Direction: ○ In ● Out

Queues

Inactivity behavior: Stop

Wait queue:

Inactive queue:

Initiate inactive after 5 occurrences

Request parameters

Protocol: STORE_REQUEST

Format type: ACK_NOTIFY

Conn. point:

Response interface:

Response parameters

Protocol:

Format type:

Conn. point:

File Timeout Interval:

Associated service name:

Thank you

Integration Team

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