ESB Implementation Architecture

### Mini Statement

|  |  |
| --- | --- |
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| **Prepared by** | **Eidiko Systems Integrators** |
|  |  |
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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Project Role | Approver | Company | Email | Email |
|  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Description | Version | Author |
| **20 Apr, 2020** | Initial Version | 1.0 | P V Sattibabu |

# Approval

# Revision History

# Introduction

## General Description

A mini statement service is used to get the details from particular bank(steward bank) and it will give acknowledge to the particular customer.

# 4. Integration Overview

## 4.1 Business Process

Mini statement request is initiated by a user/customer of steward bank to know the transaction details from an account.

### 4.1.1 Mini Statement

**Router Flow :IncomingRouterFlow.msgflow**

**A screenshot of a map

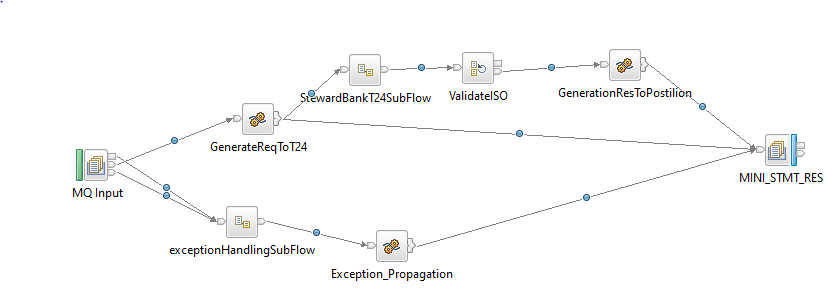
Description automatically generated**

Process Flow:

1. Postilion sends Mini statement Message from channel to App Connect Enterprise TCPIP Server Input.
2. The format of the request Message sent by Postilion is specified in Section 5.1.2.1
3. TCPIP Server Input Processes the incoming Mini Statement Message Request.
4. The Message is validated using RESET CONTENT DESCRIPTOR node and send to compute node
5. Compute node then filter queues based on Processing Code 38 gets queues MS\_SB\_TCP\_REQ and ALL\_SB\_TCP\_RES.
6. Compute Node Property i.e compute mode is set to LocalEnvironment and Meassage. Then set queue name dynamically using esql to the request queue i. MS\_SB\_TCP\_REQ, so that message is routed to Interface specific application.
7. In this flow Incoming Message is Logged in Database and file system(using Log4j).

**Img3.**

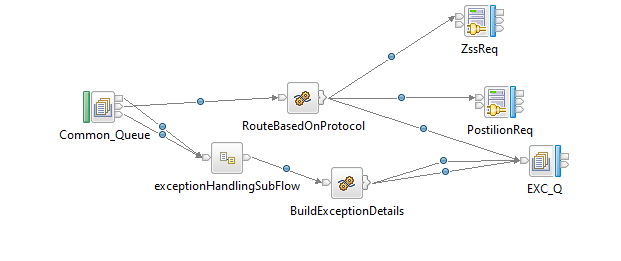
**ESB Flow :** **SB\_MiniStatement.msgflow**

****

Process Flow:

1. The message is routed from the IncomingRouterFlow to the interface ESB application through MS\_SB\_TCP\_REQ queue in MQ\_InputNode.
2. The format of the Mini Statement Send is DB Logged and the data is logged using Log4j is specified in Section 5.1.2.1.
3. On unsuccessful processing the exception is DB Logged and mentioned into the queue.
4. And the request to T24 Temenos is generated in the compute node GeneratingReqToT24.
5. The StewardBankT24 call will be processed here on the basis of processing code.
6. The ResetContentDescriptor is used to validate the T24 Response message.
7. Node GeneratingResToPostilion, the T24 response message will be placed in the Database by DB Logging and inserted into the log file(MINISTATEMENT.log) of Log4j.
8. On unsuccessful processing the exception is mentioned into the exception queue and the ExceptionHandler will handle the esceptions.
9. On successful processing of the T24 response the message is propagated to the response queue (ALL\_SB\_TCP\_RES).
10. From the ESB message flow (**Bill Payments Flow**) it will propagate to OutwardRouter queue which is picked from the Environment variables
11. All the queue names here are either taken from the Environment variables and by setting them in User Defined Properties.

**Router Flow :OutgoingRouterFlow.msgflow**

****

Process Flow:

1. The incoming message from the Bill Payments Flow to the response queue ALL\_SB\_TCP\_RES.
2. In OutgoingRouterFlow the Compute node RouteBasedOnProtocol is used to route according to the incoming message.
3. TCPIP Server Output Processes the Mini Statement Message Response.
4. On unsuccessful processing the exception is logged into the EXC\_Q queue.
5. The format of the Mini Statement message response will be in section
6. The TCPIP server output of App Connect Enterprise will send the Mini statement response back to the Postilion.

## 4.2 High Level Architecture

Following is the high level architecture diagram.

1

Channel

6

2

Postilion

3

5

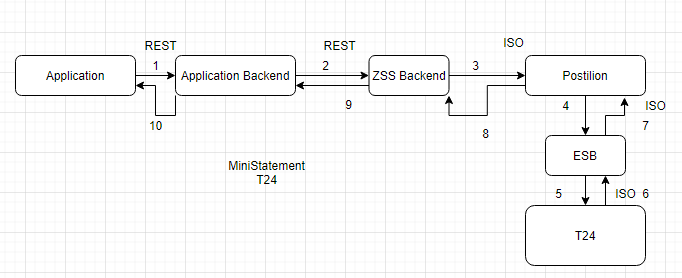
ESB

4

Temenos(T24)

## Detailed Architecture

Following is the detailed architecture diagram.



## Dependencies

### 4.4.1 External Dependencies

The following table lists external dependencies in the ESB solution perspective.

|  |  |
| --- | --- |
| # | External Dependency |
|  | Postilion Systems |
|  | Teminos(T24) System |

### 4.4.2 Internal Dependencies

The following table lists internal dependencies in the ESB solution perspective.

|  |  |
| --- | --- |
| # | Internal Dependency |
|  | MQ Server |
|  | DB Server |

### 

### 4.4.3 Consumer

#### 4.4.3.1 Request from Ministatement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | DFDL Element | Data Type | Mandatory | Length of the Field |
|  | PrimaryAccountNumber\_002 | LL | M | **1-99** |
| 2 | ProcessingCode\_003 | String | M | 6 |
| 3 | AmountTransaction\_004 | Decimal | M | 12 |
| 4 | AmountSettlement\_005 | Decimal | O | 12 |
| 5 | AmountCardHolderBilling\_006 | Decimal | O | 12 |
| 6 | TransmissionDatetime\_007 | dateTiemNoYear | M | 10 |
| 7 | AmountCardHolderBillingFee\_008 | Decimal | O | 8 |
| 8 | ConversionRateSettlement\_009 | String |  | 8 |
| 9 | ConversionRateCardholderBilling\_010 | String | O | 8 |
| 10 | SystemsTraceAuditNumber\_011 | String | M | 6 |
| 11 | TimeLocalTransaction\_012 | Time | M | **6** |
| 12 | DateLocalTransaction\_013 | monthDay | M | 4 |
| 13 | DateExpiration\_014 | yearMonth | M | 4 |
| 14 | DateSettlement\_015 | monthDay | M | 4 |
| 15 | DateConversion\_016 | monthDay | O | 4 |
| 16 | DateCapture\_017 | monthDay | O | 4 |
| 17 | MerchantType\_018 | String | M | 4 |
| 18 | AcquiringInstitutionCountryCode\_019 | String | O | 3 |
| 19 | PANExtendedCountryCode\_020 | String | O | 3 |
| 20 | ForwardingInstitutionCountryCode\_021 | String | O | 3 |
| 21 | PointOfServiceEntryMode\_022 | String | M | 3 |
| 22 | CardSequenceNumber\_023 | String | O | 3 |
| 23 | NetworkInternationalIdentifier\_024 | String | O | 3 |
| 24 | PointOfServiceConditionCode\_025 | String | M | 2 |
| 25 | PointOfServiceCaptureCode\_026 | String | O | 2 |
| 26 | AuthorizingIdentificationResponseLength\_027 | String |  | 1 |
| 27 | AmountTransactionFee\_028 | String | M | 9 |
| 28 | AmountSettlementFee\_029 | String | O | 9 |
| 29 | AmountTransactionProcessingFee\_030 | String | M | 9 |
| 30 | AmountSettlementProcessingFee\_031 | String | O | 9 |
| 31 | AcquiringInstitutionIdentificationCode\_032 | LL | M | 1-99 |
| 32 | ForwardingInstitutionIdentificationCode\_033 | LL | M | 1-99 |
| 33 | PrimaryAccountNumberExtended\_034 | LL | O | 1-99 |
| 34 | Track2Data\_035 | LL | O | 1-99 |
| 35 | Track3Data\_036 | LLL | O | 1-999 |
| 36 | RetrievalReferenceNumber\_037 | String | M | 12 |
| 37 | AuthorizationIdentificationResponse\_038 | String | O | 6 |
| 38 | ResponseCode\_039 | String | O | 2 |
| 39 | ServiceRestrictionCode\_040 | String | O | 3 |
| 40 | CardAcceptorTerminalIdentification\_041 | String | M | 8 |
| 41 | CardAcceptorIdentificationCode\_042 | String | M | 15 |
| 42 | CardAcceptorNameLocation\_043 | String | M | 40 |
| 43 | AdditionalResponseData\_044 | LL | O | 1-99 |
| 44 | Track1Data\_045 | LL | O | 1-99 |
| 45 | AdditionalDataISO\_046 | LLL | O | 1-999 |
| 46 | AdditionalDataNational\_047 | LLL | O | 1-999 |
| 47 | AdditionalDataPrivate\_048 | LLL | O | 1-999 |
| 48 | CurrencyCodeTransaction\_049 | String | M | 3 |
| 49 | CurrencyCodeSettlement\_050 | String | O | 3 |
| 50 | CurrencyCodeCardholderBilling\_051 | String | O | 3 |
| 51 | PersonalIdentificationNumberData\_052 | String | O | 8 |
| 52 | SecurityRelatedControlInformation\_053 | String | O | 16 |
| 53 | AdditionalAmounts\_054 | LLL | O | 1-999 |
| 54 | ReservedISO\_055 | LLL | O | 1-999 |
| 55 | ReservedISO\_056 | LLL | M | 1-999 |
| 56 | ReservedNational\_057 | LLL | O | 1-999 |
| 57 | ReservedNational\_058 | LLL | O | 1-999 |
| 58 | ReservedNational\_059 | LLL | M | 1-999 |
| 59 | AdviceReasonCode\_060 | LLL | O | 1-999 |
| 60 | ReservedPrivate\_061 | LLL | O | 1-999 |
| 61 | ReservedPrivate\_062 | LLL | O | 1-999 |
| 62 | ReservedPrivate\_063 | LLL | O | 1-999 |
| 63 | MessageAuthenticationCode\_064 | hexBinary | O | 8 |
| 64 | TertiaryBitmap\_065 | hexBinary | O | 8 |
| 65 | SettlementCode\_066 | String | O | 1 |
| 66 | ExtendedPaymentCode\_067 | String | O | 2 |
| 67 | ReceivingInstitutionCountryCode\_068 | String | O | 3 |
| 68 | SettlementInstitutionCountryCode\_069 | String | O | 3 |
| 69 | NetworkManagementInformationCode\_070 | String | O | 3 |
| 70 | MessageNumber\_071 | String | O | 4 |
| 71 | MessageNumberLast\_072 | String | O | 4 |
| 72 | DateAction\_073 | date | O | 6 |
| 73 | CreditsNumber\_074 | String | O | 10 |
| 74 | CreditsReversalNumber\_075 | String | O | 10 |
| 75 | DebitsNumber\_076 | String | O | 10 |
| 76 | DebitsReversalNumber\_077 | String | O | 10 |
| 77 | TransferNumber\_078 | String | O | 10 |
| 78 | TransferReversalNumber\_079 | String | O | 10 |
| 79 | InquiriesNumber\_080 | String | O | 10 |
| 80 | AuthorizationsNumber\_081 | String | O | 10 |
| 81 | CreditsProcessingFeeAmount\_082 | String | O | 12 |
| 82 | CreditsTransactionFeeAmount\_083 | String | O | 12 |
| 83 | DebitsProcessingFeeAmount\_084 | String | O | 12 |
| 84 | DebitsTransactionFeeAmount\_085 | String | O | 12 |
| 85 | CreditsAmount\_086 | String | O | 16 |
| 86 | CreditsReversalAmount\_087 | String | O | 16 |
| 87 | DebitsAmount\_088 | String | O | 16 |
| 88 | DebitsReversalAmount\_089 | String | O | 16 |
| 89 | OriginalDataElements\_090 | String | O | 42 |
| 90 | FileUpdateCode\_091 | String | O | 1 |
| 91 | FileSecurityCode\_092 | String | O | 2 |
| 92 | ResponseIndicator\_093 | String | O | 5 |
| 93 | ServiceIndicator\_094 | String | O | 7 |
| 94 | ReplacementAmounts\_095 | String | O | 42 |
| 95 | MessageSecurityCode\_096 | String | O | 8 |
| 96 | AmountNetSettlement\_097 | String | O | 16 |
| 97 | Payee\_098 | String | O | 25 |
| 98 | SettlementInstitutionIdentificationCode\_099 | LL | O | 1-99 |
| 99 | ReceivingInstitutionIdentificationCode\_100 | LL | M | 1-99 |
| 100 | FileName\_101 | LL | O | 1-99 |
| 101 | AccountIdentification1\_102 | LL | M | 1-99 |
| 102 | AccountIdentification2\_103 | LL | O | 1-99 |
| 103 | TransactionDescription\_104 | LL | O | 1-99 |
| 104 | ReservedISO\_105 | LLL | O | 1-999 |
| 105 | ReservedISO\_106 | LLL | O | 1-999 |
| 106 | ReservedISO\_107 | LLL | O | 1-999 |
| 107 | ReservedISO\_108 | LLL | O | 1-999 |
| 108 | ReservedISO\_109 | LLL | O | 1-999 |
| 109 | ReservedISO\_110 | LLL | O | 1-999 |
| 110 | ReservedISO\_111 | LLL | O | 1-999 |
| 111 | ReservedNational\_112 | LLL | O | 1-999 |
| 112 | ReservedNational\_113 | LLL | O | 1-999 |
| 113 | ReservedNational\_114 | LLL | O | 1-999 |
| 114 | ReservedNational\_115 | LLL | O | 1-999 |
| 115 | ReservedNational\_116 | LLL | O | 1-999 |
| 116 | ReservedNational\_117 | LLL | O | 1-999 |
| 117 | ReservedNational\_118 | LLL | O | 1-999 |
| 118 | ReservedNational\_119 | LLL | O | 1-999 |
| 119 | ReservedPrivate\_120 | LLL | O | 1-999 |
| 120 | ReservedPrivate\_121 | LLL | O | 1-999 |
| 121 | ReservedPrivate\_122 | LLL | O | 1-999 |
| 122 | ReservedPrivate\_123 | LLL | M | 1-999 |
| 123 | ReservedPrivate\_124 | LLL | O | 1-999 |
| 124 | ReservedPrivate\_125 | LLL | O | 1-999 |
| 125 | ReservedPrivate\_126 | LLL | O | 1-999 |
| 126 | ReservedPrivate\_127 | String | M | 6 |
| 127 | Postilion\_Bitmaps\_Group\_127\_1 |  | O |  |
| 128 | SwitchKeyPostilionPrivate\_127\_2 | LL | M | 1-99 |
| 129 | RoutingInformationPostilionPrivate\_127\_3 | String | M | 48 |
| 130 | POSDataPostilionPrivate\_127\_4 | String | O | 22 |
| 131 | ServiceStationDataPostilionPrivate\_127\_5 | String | O | 73 |
| 132 | AuthorizationProfilePostilionPrivate\_127\_6 | String | O | 2 |
| 133 | CheckDataPostilionPrivate\_127\_7 | LL | O | 1-99 |
| 134 | RetentionDataPostilionPrivate\_127\_8 | LLL | O | 1-999 |
| 135 | AdditionalNodeDataPostilionPrivate\_127\_9 | LLL | O | 1-999 |
| 136 | CVVPostilionPrivate\_127\_10 | String | O | 3 |
| 137 | OriginalKeyPostilionPrivate\_127\_11 | LL | O | 1-99 |
| 138 | OriginalKeyPostilionPrivate\_127\_12 | LL | O | 1-99 |
| 139 | PosGeographicDataPostilionPrivate\_127\_13 | String | O | 17 |
| 140 | SponsorBankPostilionPrivate\_127\_14 | String | O | 8 |
| 141 | AddressVerificationDataPostilionPrivate\_127\_15 | LL | O | 1-99 |
| 142 | AddressVerificationResultPostilionPrivate\_127\_16 | String | O | 1 |
| 143 | CardHolderInformationPostilionPrivate\_127\_17 | LL | O | 1-99 |
| 144 | ValidationDataPostilionPrivate\_127\_18 | LL | O | 1-99 |
| 145 | BankDetailsPostilionPrivate\_127\_19 | String | O | 31 |
| 146 | OriginatorAuthorizerDatePostilionPrivate\_127\_20 | String | M | 8 |
| 147 | RecordIdentificationPostilionPrivate\_127\_21 | LL | O | 1-99 |
| 148 | StructuredDataPostilionPrivate\_127\_22 | LLLLL | M | 1-99999 |
| 149 | PayeeNameAddressPostilionPrivate\_127\_23 | String | O | 253 |
| 150 | PayerAccountPostilionPrivate\_127\_24 | LL | O | 1-99 |
| 151 | ICCDataPostilionPrivate\_127\_25 | LLLL | O | 1-9999 |
| 152 | ICCData\_Bitmaps\_Group\_127\_25\_1 |  | O |  |
|  | AmountAuthorizedPostilionPrivate\_127\_25\_2 | String | O | 12 |
| 153 | AmountOtherPostilionPrivate\_127\_25\_3 | String | O | 12 |
| 154 | ApplicationIdentifierPostilionPrivate\_127\_25\_4 | LL | O | 1-99 |
| 155 | ApplicationInterchangeProfilePostilionPrivate\_127\_25\_5 | String | O | 4 |
| 156 | ApplicationTransactionCounterPostilionPrivate\_127\_25\_6 | String | O | 4 |
| 157 | ApplicationUsageControlPostilionPrivate\_127\_25\_7 | String | O | 4 |
| 158 | AuthorizationResponseCodePostilionPrivate\_127\_25\_8 | String | O | 2 |
| 159 | CardAuthReliabilityIndicatiorPostilionPrivate\_127\_25\_9 | String | O | 1 |
| 160 | CardAuthResultsCodePostilionPrivate\_127\_25\_10 | String | O | 1 |
| 161 | ChipConditionCodePostilionPrivate\_127\_25\_11 | String | O | 1 |
| 162 | CryptogramPostilionPrivate\_127\_25\_12 | String | O | 16 |
| 163 | CryptogramInformationDataPostilionPrivate\_127\_25\_13 | String | O | 2 |
| 164 | CvmListPostilionPrivate\_127\_25\_14 | LLL | O | 1-999 |
| 165 | CvmResultsPostilionPrivate\_127\_25\_15 | String | O | 6 |
| 166 | InterfaceDeviceSerialNumberPostilionPrivate\_127\_25\_16 | String | O | 8 |
| 167 | IssuerActionCodePostilionPrivate\_127\_25\_17 | String | O | 11 |
| 168 | IssuerApplicationDataPostilionPrivate\_127\_25\_18 | LL | O | 1-99 |
| 169 | IssuerScriptResultsPostilionPrivate\_127\_25\_19 | LLL | O | 1-999 |
| 170 | TerminalApplicationVersionNumberPostilionPrivate\_127\_25\_20 | String | O | 4 |
| 171 | TerminalCapabilitiesPostilionPrivate\_127\_25\_21 | String | O | 6 |
| 172 | TerminalCountryCodePostilionPrivate\_127\_25\_22 | String | O | 3 |
| 173 | TerminalTypePostilionPrivate\_127\_25\_23 | String | O | 2 |
| 174 | TerminalVerificationResultPostilionPrivate\_127\_25\_24 | String | O | 10 |
| 175 | TerminalCategoryCodePostilionPrivate\_127\_25\_25 | String | O | 1 |
| 176 | TransactionCurrencyCodePostilionPrivate\_127\_25\_26 | String | O | 3 |
| 177 | TransactionDatePostilionPrivate\_127\_25\_27 | String | O | 6 |
| 178 | TransactionSequenceCounterPostilionPrivate\_127\_25\_28 | L | O | 1-9 |
| 179 | TransactionTypePostilionPrivate\_127\_25\_29 | String | O | 2 |
| 180 | UnpredictableNumberResultPostilionPrivate\_127\_25\_30 | String | O | 8 |
| 181 | IssuerAuthDataPostilionPrivate\_127\_25\_31 | LL | O | 1-99 |
| 182 | IssuerScriptTemplate1PostilionPrivate\_127\_25\_32 | LLLL | O | 1-9999 |
| 183 | IssuerScriptTemplate2PostilionPrivate\_127\_25\_33 | LLLL | O | 1-9999 |
| 184 | OriginalNodePostilionPrivate\_127\_26 | LL | O | 1-99 |
| 185 | CardVerificationResultPostilionPrivate\_127\_27 | String | O | 1 |
| 186 | AmericanExpressCardIdentifierPostilionPrivate\_127\_28 | String | O | 4 |
| 187 | SecureData3DPostilionPrivate\_127\_29 | hexBinary | O | 40 |
| 188 | SecureData3DResultPostilionPrivate\_127\_30 | String | O | 1 |
| 189 | IssuerNetworkIDPostilionPrivate\_127\_31 | LL | O | 1-99 |
| 190 | UCAFDataPostilionPrivate\_127\_32 | LL | O | 1-99 |
| 191 | ExtendedTransactionTypePostilionPrivate\_127\_33 | String | O | 4 |
| 192 | AccountTypeQualifierPostilionPrivate\_127\_34 | String | O | 2 |
| 193 | AcquirerNetworkIDPostilionPrivate\_127\_35 | LL | O | 1-99 |
| 194 | CustomerIDPostilionPrivate\_127\_36 | LL | O | 1-99 |
| 195 | ExtendedResponseCodePostilionPrivate\_127\_37 | String | O | 4 |
| 195 | AdditionalPOSDataCodePostilionPrivate\_127\_38 | LL | O | 1-99 |
| 196 | OriginalResponseCodePostilionPrivate\_127\_39 | String | O | 2 |
| 197 | MessageAuthenticationCode\_128 | hexBinary | O | 8 |

#### 4.4.3.2 Response

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | DFDL Element | Data Type | Mandatory | Length of the Field |
|  | PrimaryAccountNumber\_002 | LL | M | **1-99** |
| 2 | ProcessingCode\_003 | String | M | 6 |
| 3 | AmountTransaction\_004 | Decimal | M | 12 |
| 4 | AmountSettlement\_005 | Decimal | O | 12 |
| 5 | AmountCardHolderBilling\_006 | Decimal | O | 12 |
| 6 | TransmissionDatetime\_007 | dateTiemNoYear | M | 10 |
| 7 | AmountCardHolderBillingFee\_008 | Decimal | O | 8 |
| 8 | ConversionRateSettlement\_009 | String | O | 8 |
| 9 | ConversionRateCardholderBilling\_010 | String | O | 8 |
| 10 | SystemsTraceAuditNumber\_011 | String | M | 6 |
| 11 | TimeLocalTransaction\_012 | Time | M | **6** |
| 12 | DateLocalTransaction\_013 | monthDay | M | 4 |
| 13 | DateExpiration\_014 | yearMonth | M | 4 |
| 14 | DateSettlement\_015 | monthDay | M | 4 |
| 15 | DateConversion\_016 | monthDay | O | 4 |
| 16 | DateCapture\_017 | monthDay | O | 4 |
| 17 | MerchantType\_018 | String | M | 4 |
| 18 | AcquiringInstitutionCountryCode\_019 | String | O | 3 |
| 19 | PANExtendedCountryCode\_020 | String | O | 3 |
| 20 | ForwardingInstitutionCountryCode\_021 | String | O | 3 |
| 21 | PointOfServiceEntryMode\_022 | String | M | 3 |
| 22 | CardSequenceNumber\_023 | String | O | 3 |
| 23 | NetworkInternationalIdentifier\_024 | String | O | 3 |
| 24 | PointOfServiceConditionCode\_025 | String | M | 2 |
| 25 | PointOfServiceCaptureCode\_026 | String | O | 2 |
| 26 | AuthorizingIdentificationResponseLength\_027 | String | O | 1 |
| 27 | AmountTransactionFee\_028 | String | M | 9 |
| 28 | AmountSettlementFee\_029 | String | O | 9 |
| 29 | AmountTransactionProcessingFee\_030 | String | M | 9 |
| 30 | AmountSettlementProcessingFee\_031 | String | O | 9 |
| 31 | AcquiringInstitutionIdentificationCode\_032 | LL | M | 1-99 |
| 32 | ForwardingInstitutionIdentificationCode\_033 | LL | M | 1-99 |
| 33 | PrimaryAccountNumberExtended\_034 | LL | O | 1-99 |
| 34 | Track2Data\_035 | LL | O | 1-99 |
| 35 | Track3Data\_036 | LLL | O | 1-999 |
| 36 | RetrievalReferenceNumber\_037 | String | M | 12 |
| 37 | AuthorizationIdentificationResponse\_038 | String | O | 6 |
| 38 | ResponseCode\_039 | String | M | 2 |
| 39 | ServiceRestrictionCode\_040 | String | O | 3 |
| 40 | CardAcceptorTerminalIdentification\_041 | String | M | 8 |
| 41 | CardAcceptorIdentificationCode\_042 | String | M | 15 |
| 42 | CardAcceptorNameLocation\_043 | String | M | 40 |
| 43 | AdditionalResponseData\_044 | LL | O | 1-99 |
| 44 | Track1Data\_045 | LL | O | 1-99 |
| 45 | AdditionalDataISO\_046 | LLL | O | 1-999 |
| 46 | AdditionalDataNational\_047 | LLL | O | 1-999 |
| 47 | AdditionalDataPrivate\_048 | LLL | M | 1-999 |
| 48 | CurrencyCodeTransaction\_049 | String | M | 3 |
| 49 | CurrencyCodeSettlement\_050 | String | O | 3 |
| 50 | CurrencyCodeCardholderBilling\_051 | String | O | 3 |
| 51 | PersonalIdentificationNumberData\_052 | String | O | 8 |
| 52 | SecurityRelatedControlInformation\_053 | String | O | 16 |
| 53 | AdditionalAmounts\_054 | LLL | M | 1-999 |
| 54 | ReservedISO\_055 | LLL | O | 1-999 |
| 55 | ReservedISO\_056 | LLL | M | 1-999 |
| 56 | ReservedNational\_057 | LLL | O | 1-999 |
| 57 | ReservedNational\_058 | LLL | O | 1-999 |
| 58 | ReservedNational\_059 | LLL | M | 1-999 |
| 59 | AdviceReasonCode\_060 | LLL | O | 1-999 |
| 60 | ReservedPrivate\_061 | LLL | O | 1-999 |
| 61 | ReservedPrivate\_062 | LLL | O | 1-999 |
| 62 | ReservedPrivate\_063 | LLL | O | 1-999 |
| 63 | MessageAuthenticationCode\_064 | hexBinary | O | 8 |
| 64 | TertiaryBitmap\_065 | hexBinary | O | 8 |
| 65 | SettlementCode\_066 | String | O | 1 |
| 66 | ExtendedPaymentCode\_067 | String | O | 2 |
| 67 | ReceivingInstitutionCountryCode\_068 | String | O | 3 |
| 68 | SettlementInstitutionCountryCode\_069 | String | O | 3 |
| 69 | NetworkManagementInformationCode\_070 | String | O | 3 |
| 70 | MessageNumber\_071 | String | O | 4 |
| 71 | MessageNumberLast\_072 | String | O | 4 |
| 72 | DateAction\_073 | date | O | 6 |
| 73 | CreditsNumber\_074 | String | O | 10 |
| 74 | CreditsReversalNumber\_075 | String | O | 10 |
| 75 | DebitsNumber\_076 | String | O | 10 |
| 76 | DebitsReversalNumber\_077 | String | O | 10 |
| 77 | TransferNumber\_078 | String | O | 10 |
| 78 | TransferReversalNumber\_079 | String | O | 10 |
| 79 | InquiriesNumber\_080 | String | O | 10 |
| 80 | AuthorizationsNumber\_081 | String | O | 10 |
| 81 | CreditsProcessingFeeAmount\_082 | String | O | 12 |
| 82 | CreditsTransactionFeeAmount\_083 | String | O | 12 |
| 83 | DebitsProcessingFeeAmount\_084 | String | O | 12 |
| 84 | DebitsTransactionFeeAmount\_085 | String | O | 12 |
| 85 | CreditsAmount\_086 | String | O | 16 |
| 86 | CreditsReversalAmount\_087 | String | O | 16 |
| 87 | DebitsAmount\_088 | String | O | 16 |
| 88 | DebitsReversalAmount\_089 | String | O | 16 |
| 89 | OriginalDataElements\_090 | String | O | 42 |
| 90 | FileUpdateCode\_091 | String | O | 1 |
| 91 | FileSecurityCode\_092 | String | O | 2 |
| 92 | ResponseIndicator\_093 | String | O | 5 |
| 93 | ServiceIndicator\_094 | String | O | 7 |
| 94 | ReplacementAmounts\_095 | String | O | 42 |
| 95 | MessageSecurityCode\_096 | String | O | 8 |
| 96 | AmountNetSettlement\_097 | String | O | 16 |
| 97 | Payee\_098 | String | O | 25 |
| 98 | SettlementInstitutionIdentificationCode\_099 | LL | O | 1-99 |
| 99 | ReceivingInstitutionIdentificationCode\_100 | LL | M | 1-99 |
| 100 | FileName\_101 | LL | O | 1-99 |
| 101 | AccountIdentification1\_102 | LL | M | 1-99 |
| 102 | AccountIdentification2\_103 | LL | O | 1-99 |
| 103 | TransactionDescription\_104 | LL | O | 1-99 |
| 104 | ReservedISO\_105 | LLL | O | 1-999 |
| 105 | ReservedISO\_106 | LLL | O | 1-999 |
| 106 | ReservedISO\_107 | LLL | O | 1-999 |
| 107 | ReservedISO\_108 | LLL | O | 1-999 |
| 108 | ReservedISO\_109 | LLL | O | 1-999 |
| 109 | ReservedISO\_110 | LLL | O | 1-999 |
| 110 | ReservedISO\_111 | LLL | O | 1-999 |
| 111 | ReservedNational\_112 | LLL | O | 1-999 |
| 112 | ReservedNational\_113 | LLL | O | 1-999 |
| 113 | ReservedNational\_114 | LLL | O | 1-999 |
| 114 | ReservedNational\_115 | LLL | O | 1-999 |
| 115 | ReservedNational\_116 | LLL | O | 1-999 |
| 116 | ReservedNational\_117 | LLL | O | 1-999 |
| 117 | ReservedNational\_118 | LLL | O | 1-999 |
| 118 | ReservedNational\_119 | LLL | O | 1-999 |
| 119 | ReservedPrivate\_120 | LLL | O | 1-999 |
| 120 | ReservedPrivate\_121 | LLL | O | 1-999 |
| 121 | ReservedPrivate\_122 | LLL | O | 1-999 |
| 122 | ReservedPrivate\_123 | LLL | M | 1-999 |
| 123 | ReservedPrivate\_124 | LLL | O | 1-999 |
| 124 | ReservedPrivate\_125 | LLL | O | 1-999 |
| 125 | ReservedPrivate\_126 | LLL | O | 1-999 |
| 126 | ReservedPrivate\_127 | String | M | 6 |
| 127 | Postilion\_Bitmaps\_Group\_127\_1 |  | O |  |
| 128 | SwitchKeyPostilionPrivate\_127\_2 | LL | M | 1-99 |
| 129 | RoutingInformationPostilionPrivate\_127\_3 | String | M | 48 |
| 130 | POSDataPostilionPrivate\_127\_4 | String | O | 22 |
| 131 | ServiceStationDataPostilionPrivate\_127\_5 | String | O | 73 |
| 132 | AuthorizationProfilePostilionPrivate\_127\_6 | String | O | 2 |
| 133 | CheckDataPostilionPrivate\_127\_7 | LL | O | 1-99 |
| 134 | RetentionDataPostilionPrivate\_127\_8 | LLL | O | 1-999 |
| 135 | AdditionalNodeDataPostilionPrivate\_127\_9 | LLL | O | 1-999 |
| 136 | CVVPostilionPrivate\_127\_10 | String | O | 3 |
| 137 | OriginalKeyPostilionPrivate\_127\_11 | LL | O | 1-99 |
| 138 | OriginalKeyPostilionPrivate\_127\_12 | LL | O | 1-99 |
| 139 | PosGeographicDataPostilionPrivate\_127\_13 | String | O | 17 |
| 140 | SponsorBankPostilionPrivate\_127\_14 | String | O | 8 |
| 141 | AddressVerificationDataPostilionPrivate\_127\_15 | LL | O | 1-99 |
| 142 | AddressVerificationResultPostilionPrivate\_127\_16 | String | O | 1 |
| 143 | CardHolderInformationPostilionPrivate\_127\_17 | LL | O | 1-99 |
| 144 | ValidationDataPostilionPrivate\_127\_18 | LL | O | 1-99 |
| 145 | BankDetailsPostilionPrivate\_127\_19 | String | O | 31 |
| 146 | OriginatorAuthorizerDatePostilionPrivate\_127\_20 | String | M | 8 |
| 147 | RecordIdentificationPostilionPrivate\_127\_21 | LL | O | 1-99 |
| 148 | StructuredDataPostilionPrivate\_127\_22 | LLLLL | M | 1-99999 |
| 149 | PayeeNameAddressPostilionPrivate\_127\_23 | String | O | 253 |
| 150 | PayerAccountPostilionPrivate\_127\_24 | LL | O | 1-99 |
| 151 | ICCDataPostilionPrivate\_127\_25 | LLLL | O | 1-9999 |
| 152 | ICCData\_Bitmaps\_Group\_127\_25\_1 |  | O |  |
|  | AmountAuthorizedPostilionPrivate\_127\_25\_2 | String | O | 12 |
| 153 | AmountOtherPostilionPrivate\_127\_25\_3 | String | O | 12 |
| 154 | ApplicationIdentifierPostilionPrivate\_127\_25\_4 | LL | O | 1-99 |
| 155 | ApplicationInterchangeProfilePostilionPrivate\_127\_25\_5 | String | O | 4 |
| 156 | ApplicationTransactionCounterPostilionPrivate\_127\_25\_6 | String | O | 4 |
| 157 | ApplicationUsageControlPostilionPrivate\_127\_25\_7 | String | O | 4 |
| 158 | AuthorizationResponseCodePostilionPrivate\_127\_25\_8 | String | O | 2 |
| 159 | CardAuthReliabilityIndicatiorPostilionPrivate\_127\_25\_9 | String | O | 1 |
| 160 | CardAuthResultsCodePostilionPrivate\_127\_25\_10 | String | O | 1 |
| 161 | ChipConditionCodePostilionPrivate\_127\_25\_11 | String | O | 1 |
| 162 | CryptogramPostilionPrivate\_127\_25\_12 | String | O | 16 |
| 163 | CryptogramInformationDataPostilionPrivate\_127\_25\_13 | String | O | 2 |
| 164 | CvmListPostilionPrivate\_127\_25\_14 | LLL | O | 1-999 |
| 165 | CvmResultsPostilionPrivate\_127\_25\_15 | String | O | 6 |
| 166 | InterfaceDeviceSerialNumberPostilionPrivate\_127\_25\_16 | String | O | 8 |
| 167 | IssuerActionCodePostilionPrivate\_127\_25\_17 | String | O | 11 |
| 168 | IssuerApplicationDataPostilionPrivate\_127\_25\_18 | LL | O | 1-99 |
| 169 | IssuerScriptResultsPostilionPrivate\_127\_25\_19 | LLL | O | 1-999 |
| 170 | TerminalApplicationVersionNumberPostilionPrivate\_127\_25\_20 | String | O | 4 |
| 171 | TerminalCapabilitiesPostilionPrivate\_127\_25\_21 | String | O | 6 |
| 172 | TerminalCountryCodePostilionPrivate\_127\_25\_22 | String | O | 3 |
| 173 | TerminalTypePostilionPrivate\_127\_25\_23 | String | O | 2 |
| 174 | TerminalVerificationResultPostilionPrivate\_127\_25\_24 | String | O | 10 |
| 175 | TerminalCategoryCodePostilionPrivate\_127\_25\_25 | String | O | 1 |
| 176 | TransactionCurrencyCodePostilionPrivate\_127\_25\_26 | String | O | 3 |
| 177 | TransactionDatePostilionPrivate\_127\_25\_27 | String | O | 6 |
| 178 | TransactionSequenceCounterPostilionPrivate\_127\_25\_28 | L | O | 1-9 |
| 179 | TransactionTypePostilionPrivate\_127\_25\_29 | String | O | 2 |
| 180 | UnpredictableNumberResultPostilionPrivate\_127\_25\_30 | String | O | 8 |
| 181 | IssuerAuthDataPostilionPrivate\_127\_25\_31 | LL | O | 1-99 |
| 182 | IssuerScriptTemplate1PostilionPrivate\_127\_25\_32 | LLLL | O | 1-9999 |
| 183 | IssuerScriptTemplate2PostilionPrivate\_127\_25\_33 | LLLL | O | 1-9999 |
| 184 | OriginalNodePostilionPrivate\_127\_26 | LL | O | 1-99 |
| 185 | CardVerificationResultPostilionPrivate\_127\_27 | String | O | 1 |
| 186 | AmericanExpressCardIdentifierPostilionPrivate\_127\_28 | String | O | 4 |
| 187 | SecureData3DPostilionPrivate\_127\_29 | hexBinary | O | 40 |
| 188 | SecureData3DResultPostilionPrivate\_127\_30 | String | O | 1 |
| 189 | IssuerNetworkIDPostilionPrivate\_127\_31 | LL | O | 1-99 |
| 190 | UCAFDataPostilionPrivate\_127\_32 | LL | O | 1-99 |
| 191 | ExtendedTransactionTypePostilionPrivate\_127\_33 | String | O | 4 |
| 192 | AccountTypeQualifierPostilionPrivate\_127\_34 | String | O | 2 |
| 193 | AcquirerNetworkIDPostilionPrivate\_127\_35 | LL | O | 1-99 |
| 194 | CustomerIDPostilionPrivate\_127\_36 | LL | O | 1-99 |
| 195 | ExtendedResponseCodePostilionPrivate\_127\_37 | String | O | 4 |
| 195 | AdditionalPOSDataCodePostilionPrivate\_127\_38 | LL | O | 1-99 |
| 196 | OriginalResponseCodePostilionPrivate\_127\_39 | String | O | 2 |
| 197 | MessageAuthenticationCode\_128 | hexBinary | O | 8 |

### 4.4.4 Error Handling

A Common flow by name "StewardBank\_Exception\_Handler" is designed so as to receive any exception and parse it. Upon parsing a corresponding database entry is made against the particular transaction. Subsequent to that an error log is updated with error description and id with the interface specific name.

### Retry Mechanism

|  |  |
| --- | --- |
| **Nr of retries** | **Comments/Details** |
| No of Retries | 3 in Configurable. |
| Time gap between retries | 1. Configurable. |

### Reference Data

|  |  |
| --- | --- |
| **Domain** | **Reference Data Table** |
| N/A | N/A |

# Database Definitions

**5.1 Scripts**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TableName** | **Sl.No** | **Column Name** | **Data**  **Type** | **Purpose** |
| **INTEGRATION\_SOL\_DETAILS** | **1** | PROC\_CODE | VARCHAR2(20 BYTE) | Contains the unique number for each message details. Checks with the ISO message field ProcessingCode\_003 |
| **2** | REQ\_QUEUE | VARCHAR2(20 BYTE) | Contains the queue name of the Request queue from Bill Payments Flow. |
| **3** | RES\_QUEUE | VARCHAR2(20 BYTE) | Contains the Response queue name. |
| **4** | DOMAIN | VARCHAR2(20 BYTE) | Contains the Domain name of the message. |
| **TableName** | **Sl.No** | **Column Name** | **Data**  **Type** | **Purpose** |
| **RAW\_AUDIT\_LOGGING** | **1** | MSGID | VARCHAR2(100 BYTE) | Contains the unique number for each transaction details. |
| **2** | LOGGING\_TIME | TIMESTAMP(6) | Contains the timestamp, to know when the message was received. |
| **3** | MESSAGE | CLOB | Contains the received message. |
| **4** | MESSAGETYPE | VARCHAR2(100 BYTE | Contains the type of message is received(T24 Request, Application Request, Application Response, T24 Response). |
| **5** | APPNAME | VARCHAR2(100 BYTE | Contains the name of the application. |
| **6** | BROKER | VARCHAR2(100 BYTE | Contains the name of the broker. |
| **TableName** | **Sl.No** | **Column Name** | **Data**  **Type** | **Purpose** |
| VARCHAR2(8 BYTE) | **1** | MSGID | VARCHAR2(100 BYTE) | Contains the unique number for each transaction details. |
| **2** | LOGGING\_TIME | TIMESTAMP(6) | Contains the timestamp, to know when the message was received. |
| **3** | MESSAGE | CLOB | Contains the received message. |
| **4** | MESSAGETYPE | VARCHAR2(100 BYTE | Contains the type of message is received(T24 Request, Application Request, Application Response, T24 Response). |
| **5** | APPNAME | VARCHAR2(100 BYTE | Contains the name of the application. |
| **6** | BROKER | VARCHAR2(100 BYTE | Contains the name of the broker. |
| **7** | ERRORDESCRIPTION | CLOB | Contains the details of the error and its description. |

# Queue Definitions

## 6.1 Scripts

|  |  |  |  |
| --- | --- | --- | --- |
| **QM Objects** | **Script** | | |
| Queues | Name | Purpose | Script Combined |
| MS\_SB\_TCP\_REQ | Receives the Messages from Channel via Router to ESB Bill Payments Flow. | <Final Script Will be placed, after complete Unit Testing> |
| ALL\_SB\_TCP\_RES | This is the Queue used to send to response back to the channel via router. |
| RAW\_LOG\_SB\_REQ | This queue is used to DB Log the successful transactions into the database. |
|  | ERR\_LOG\_SB\_REQ | Thisqueue is used to DB Log the error/unsuccessful transactions into the database. |  |
|  | SB\_EXCQ | The common flow ‘StewardBankExceptionHandling’ uses this queue to store the exception details. |  |
|  | EXC\_Q | This queue is used to store the exceptions occurred in the flows. |  |

# 

# Integration Definition

### IntegrationDetails

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | **CBO** | |
| **Protocol/Format** | ISO8583/WMQ/DFDL | | ISO8583/WMQ/DFDL | |
| **Mode** | Async | | Async | |
| **Endpoint Info** | localhost:8806 | | localhost:8806 | |
| **Samples Messages**  **(XML / CSV**  **/ PDL /etc)** | XML Files | | XML Files | |
| POSTILION Request |  | Request to T24 |  |
| Outward Response to POSTILION |  | Response from T24 |  |
| **Resources**  **(XSD)** | POSTILION Request |  | Request to T24 |  | |
| Outward Response to POSTILION |  | Response from T24 |  | |

# Requirements

## Integration Requirements

This interface will perform these levels of validation:

|  |  |  |
| --- | --- | --- |
| # | Integration Requirement | Comments / Details |
| 1 | Schema Validation Requirements | Inherent with XSDs and message model of ISO8583\_1987. |
| 2 | Records Validation Requirements | According to the requirements. |
| 3 | Transformation Requirements | There are no transformations, the message is from ISO to ISO through out the flow. |
| 4 | Routing Requirements | Handled by the IncomingRouter and OutgoingRouter message flows. |
| 5 | Enrichment Requirements | According to the requirements. |
| 6 | Logging Requirements | Database Centric |
| 7 | Exception Handling Requirements | See “Error Handling” section above. |
| 8 | Retry Mechanism | Configurable |

## Business Requirements

|  |  |  |
| --- | --- | --- |
| # | Business Requirement | Comments / Details |
|  | N/A |  |

## Non-functional Requirements

The following are service specific non-functional requirements. Non-functional requirements already provided by the overall solution, as described in the Technical Design document, should not be referred here.

### Volume

|  |  |  |
| --- | --- | --- |
| # | Requirement | Detail |
| 1 | Records / Transaction / Files |  |
| 2 | Message Load size |  |

### Performance

|  |  |  |
| --- | --- | --- |
| # | Requirement | Detail |
| 1 | Frequency | Daily |

### Security

|  |  |  |
| --- | --- | --- |
| # | Requirement | Detail |
| 1 | Message security | All outgoing messages are digitally signed and sent. |
| 2 | Authentication | None |
| 3 | Authorization | None |