Mojaloop ISO 20022 Market Practice Document

2. Introduction

By combining the principles of financial inclusion with the robust capabilities of ISO 20022, Mojaloop ensures that DFSPs and other stakeholders can deliver real-time payment solutions that are cost-effective, secure, and scalable to meet the demands of inclusive financial ecosystems.

2.1 How to Use This Document?

This document provides a foundational reference for implementing ISO 20022 messaging for IIPS within Mojaloop-based schemes. It outlines general guidelines and practices that apply universally across Mojaloop schemes, focusing on the base-level requirements. However, it is designed to be supplemented by scheme-specific rules documents, which can define additional message fields, validations, and rules necessary to meet the unique regulations and requirements of individual schemes. This layered approach enables each scheme to tailor its implementation details while maintaining consistency with the broader Mojaloop framework.

2.1.1 Relationship with Scheme-Specific Rules Documents

This document serves as a foundation for understanding how ISO 20022 is applied in Mojaloop, focusing on core principles and practices. However, it does not prescribe the detailed business requirements, validations, and governance frameworks that are specific to individual schemes. Scheme-specific rules address these details, including mandatory and optional field specifications, tailored compliance protocols, and defined procedures for error handling. They also encompass business rules governing message flows, participant roles, and responsibilities within the scheme. The flexibility of this document allows scheme administrators to adapt and extend its guidance to meet their unique operational needs.

2.1.2 Distinction Between Generic Practices and Scheme-Specific Requirements

This document distinctly separates generic practices from scheme-specific requirements to achieve a balance between consistency and adaptability in ISO 20022 implementations within Mojaloop. The generic practices outlined here establish foundational principles, including expectations for message structures, required fields to meet switch requirements, supported fields, and transactional flows. Additionally, they provide a high-level overview of the Mojaloop P2P FX transfer lifecycle.

Scheme-specific requirements, documented separately, delve into additional field mappings, enhanced validations, and precise rules for settlement, reconciliation, and dispute resolution. These requirements also encompass governance policies and compliance obligations tailored to the unique needs of individual schemes.

This distinction enables DFSPs to implement a consistent core messaging framework while granting scheme administrators the flexibility to define operational specifics. The generic practices presented in this document

are purposefully designed to be extensible, ensuring seamless integration with scheme-specific rules and supporting adherence to Mojaloop's ISO 20022 for IIPS standards.

3 Message Expectations, Obligations, and Rules

The Mojaloop transfer process is divided into three key phases, each essential to ensuring secure and efficient transactions. These phases use specific resources to enable participant interactions, ensuring clear communication, agreement, and execution. While some phases and resources are optional, the ultimate goal is to ensure every transfer is accurate, secure, and aligns with agreed terms.

1. Discovery
2. Agreement
3. Transfer

3.1 Currency Conversion

Currency conversion is included to support cross-currency transactions. As it is not always required, the associated messages and flows are only used when needed, ensuring flexibility for both single-currency and multi-currency scenarios.

3.2 JSON Messages

Mojaloop adopts a JSON variant of ISO 20022 messages, moving away from the traditional XML format to enhance efficiency and compatibility with modern APIs. The ISO 20022 organization is actively developing a canonical JSON representation of its messages, and Mojaloop aims to align with this standard as it evolves.

3.3 APIs

ISO 20022 messages are exchanged in Mojaloop via REST-like API calls. This approach enhances interoperability, reduces data overhead through lightweight JSON messages, and supports scalable and modular implementations. By integrating ISO 20022 with REST APIs, Mojaloop delivers a robust, adaptable framework that balances global standards with practical implementation needs.

3.4 ULIDs as Unique Identifiers

Mojaloop employs Universally Unique Lexicographically Sortable Identifiers (ULIDs) as the standard for unique identifiers across its messaging system. ULIDs offer a robust alternative to traditional UUIDs, ensuring globally unique identifiers while also enabling natural ordering by time of creation. This lexicographical sorting simplifies traceability, troubleshooting, and operational analytics.

3.5 Inter-ledger Protocol (v4) to represent the Cryptographic Terms

Mojaloop leverages the Inter-ledger Protocol (ILP) version 4 to define and represent cryptographic terms in its transfer processes. ILP v4 provides a standardized framework for secure and interoperable exchange of payment instructions, ensuring integrity and non-repudiation of transactions. By integrating ILP's cryptographic capabilities, Mojaloop supports precise and tamper-proof agreements between participants, enabling secure end-to-end transfer execution while maintaining compatibility with global payment ecosystems.

3.6 ISO 20022 Supplementary Data Fields

It is not expected that ISO 20022 supplementary data fields will be required for any of the messages used. If supplementary data is provided, the switch will not reject the message; however, it will ignore its contents and behave as if the supplementary data was not present.

4. Discovery Phase

The Discovery Phase is an optional step in the transfer process, necessary only when the payee (end party) must be identified and confirmed before initiating an agreement. This phase utilizes the parties resource, which facilitates the retrieval and validation of the payee's information to ensure they are eligible to receive the transfer. Key checks performed during this phase include verifying that the payee's account is active, identifying the currencies that can be transferred into the account, and confirming the account owner's details. This information allows the payer to verify the payee's details accurately, reducing the risk of errors and ensuring a secure foundation for the subsequent phases of the transfer process.

4.1 Message flow

The sequence diagram shows the discovery example messages in a Payer initiated P2P transfer.
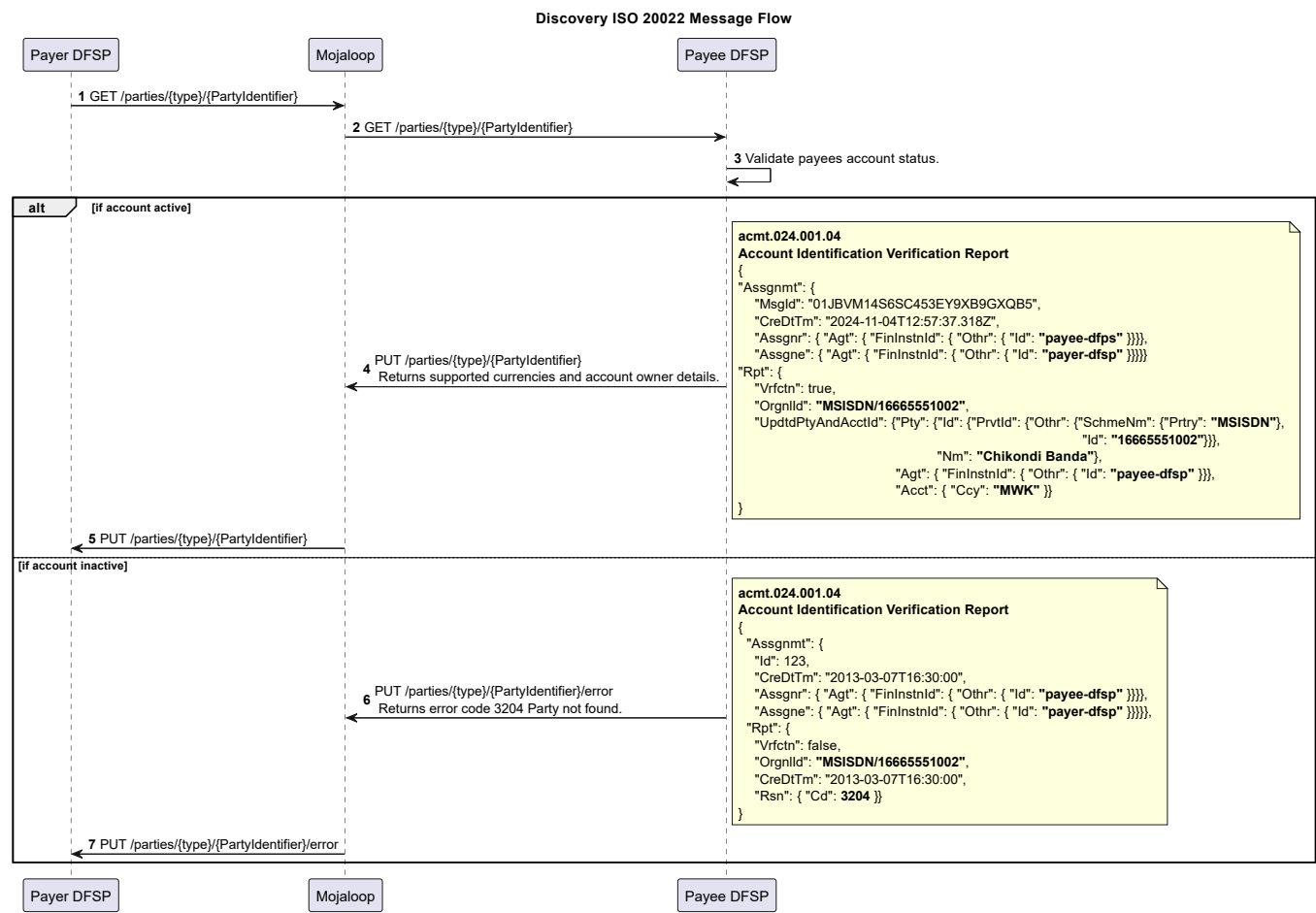
4.2 Parties Resource

The Parties resource provides all the necessary functionality in the discovery phase of a transfer. The functionality is always initiated with a GET /parties call, and responses to this are returned to the originator through a PUT /parties callback. Error messages are returned through the PUT /parties/.../error callback. These endpoints support an optional sub id type.

Endpoint	Message
GET /parties/{type}/{partyIdentifier}[/{subId}]	
PUT /parties/{type}/{partyIdentifier}[/{subId}]	acmt.024.001.04

Endpoint	Message
PUT /parties/{type}/{partyIdentifier}[/{subId}]/error	acmt.024.001.04

5. Agreement Phase

The **Agreement Phase** is a critical step in the Mojaloop transfer process, ensuring that all parties involved have a shared understanding of the transfer terms before any funds are committed. This phase serves several essential purposes:

1. **Calculation and Agreement of Fees**
   The Agreement Phase provides an opportunity for the calculation and mutual agreement on any applicable fees. This ensures transparency and prevents disputes related to charges after the transfer is initiated.
2. **Pre-Commitment Validation**
   It allows each participating organization to verify whether the transfer can proceed. This step helps identify and address potential issues early, reducing errors during the transfer and minimizing reconciliation discrepancies.
3. **Cryptographic Signing of Terms**
   The terms of the transfer are cryptographically signed during this phase. This mechanism ensures non-repudiation, meaning that parties cannot deny their involvement in or agreement to the transaction.
4. **Promoting Financial Inclusion**
   By presenting all parties with the complete terms of the transfer upfront, the Agreement Phase ensures that participants are fully informed before making any commitments. This transparency supports financial inclusively by enabling fair and informed decision-making for all stakeholders.

The Agreement Phase not only improves the reliability and efficiency of Mojaloop transfers but also aligns with its broader goal of fostering trust and inclusively in digital financial ecosystems.

The agreement phase is further divided into two phases.

5.1 Currency Conversion Agreement Sub-Phase

The Currency Conversion Agreement Sub-Phase is an optional step within the Agreement Phase, activated only when the transfer involves a currency conversion. During this sub-phase, the payer DFSP (Digital Financial Services Provider) coordinates with a foreign exchange (FX) provider to secure cross-currency liquidity required to complete the transaction. This step establishes the FX rates and associated fees, ensuring that both the DFSP and the FXP can rely on transparent and agreed-upon conversion terms. By addressing currency conversion needs before committing to the transfer, this sub-phase helps prevent delays and discrepancies, supporting a seamless cross-border transaction experience.

5.1.1 Message flow

The sequence diagram shows the discovery example messages in a Payer initiated P2P transfer.

Agreement phase on providing liquidity ISO 20022 Message Flow
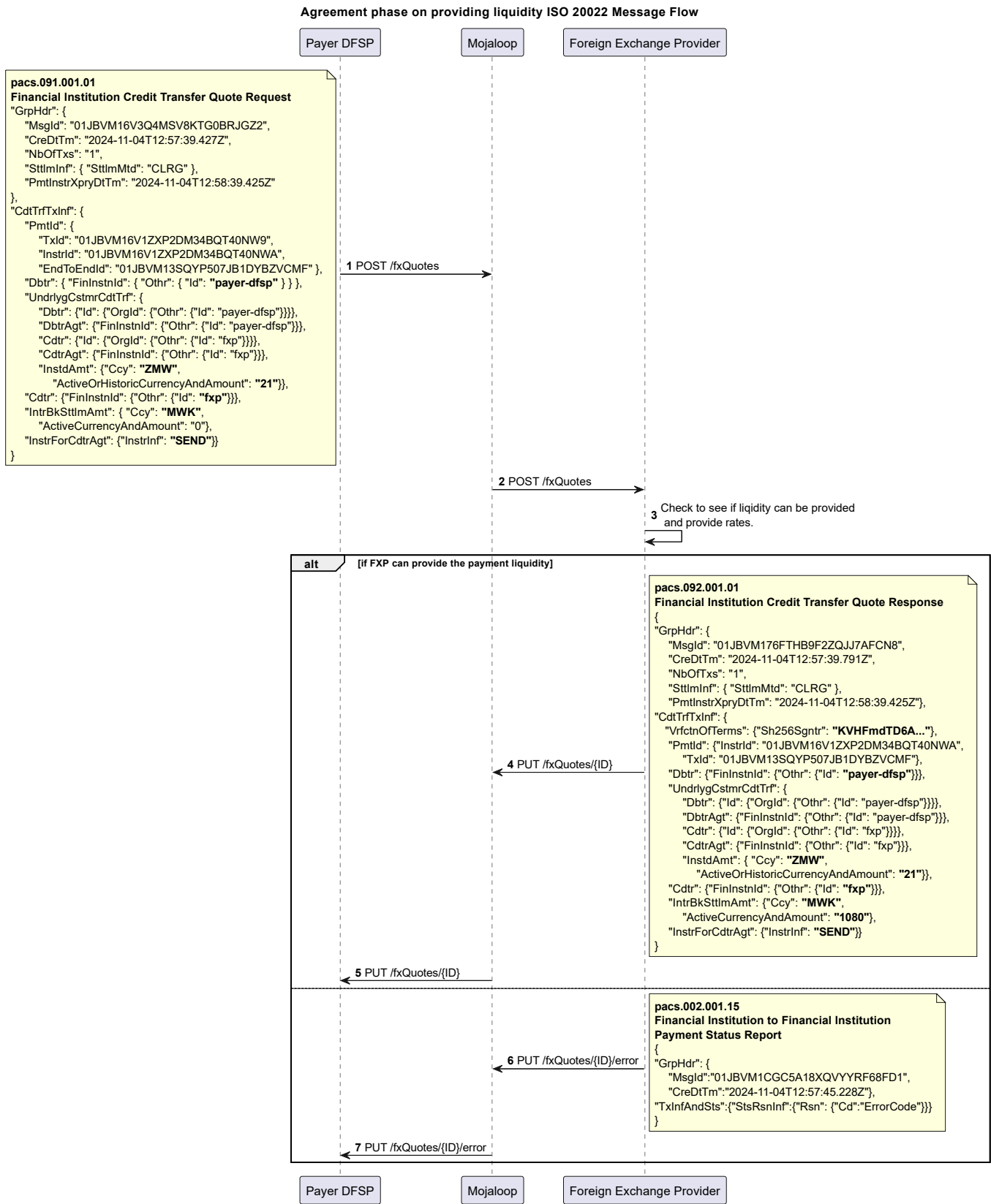
5.1.2 fxQuotes Resource

Endpoint	Message
POST /fxQuotes/{ID}	**pacs.091.001**
PUT /fxQuotes/{ID}	**pacs.092.001**
PUT /fxQuotes/{ID}/error	**pacs.002.001.15**

5.2 Transfer Terms Agreement Sub-Phase

The End-to-End Terms Agreement Sub-Phase involves the collaborative establishment of the transfer terms between the payer DFSP and the payee DFSP. This process ensures both parties are aligned on critical details such as the amount to be transferred, fees, and timing requirements. This sub-phase also facilitates the cryptographic signing of these terms, providing a robust framework for non-repudiation and accountability. By finalizing the transfer terms in a transparent manner, this sub-phase minimizes the risk of errors or disputes, enhancing the efficiency and trustworthiness of the overall Mojaloop transfer process.

5.2.1 Message flow

The sequence diagram shows the discovery example messages in a Payer initiated P2P transfer.

Discovery ISO 20022 Message Flow

pacs.081.001.01
Financial Institution to Financial Institution
Customer Credit Transfer Quote Request
{
"GrpHdr": {
    "MsgId": "01JBVM19DJQ96BS9X6VA5AMW2Y",
    "CreDtTm": "2024-11-04T12:57:42.066Z",
    "NbOfTxs": "1",
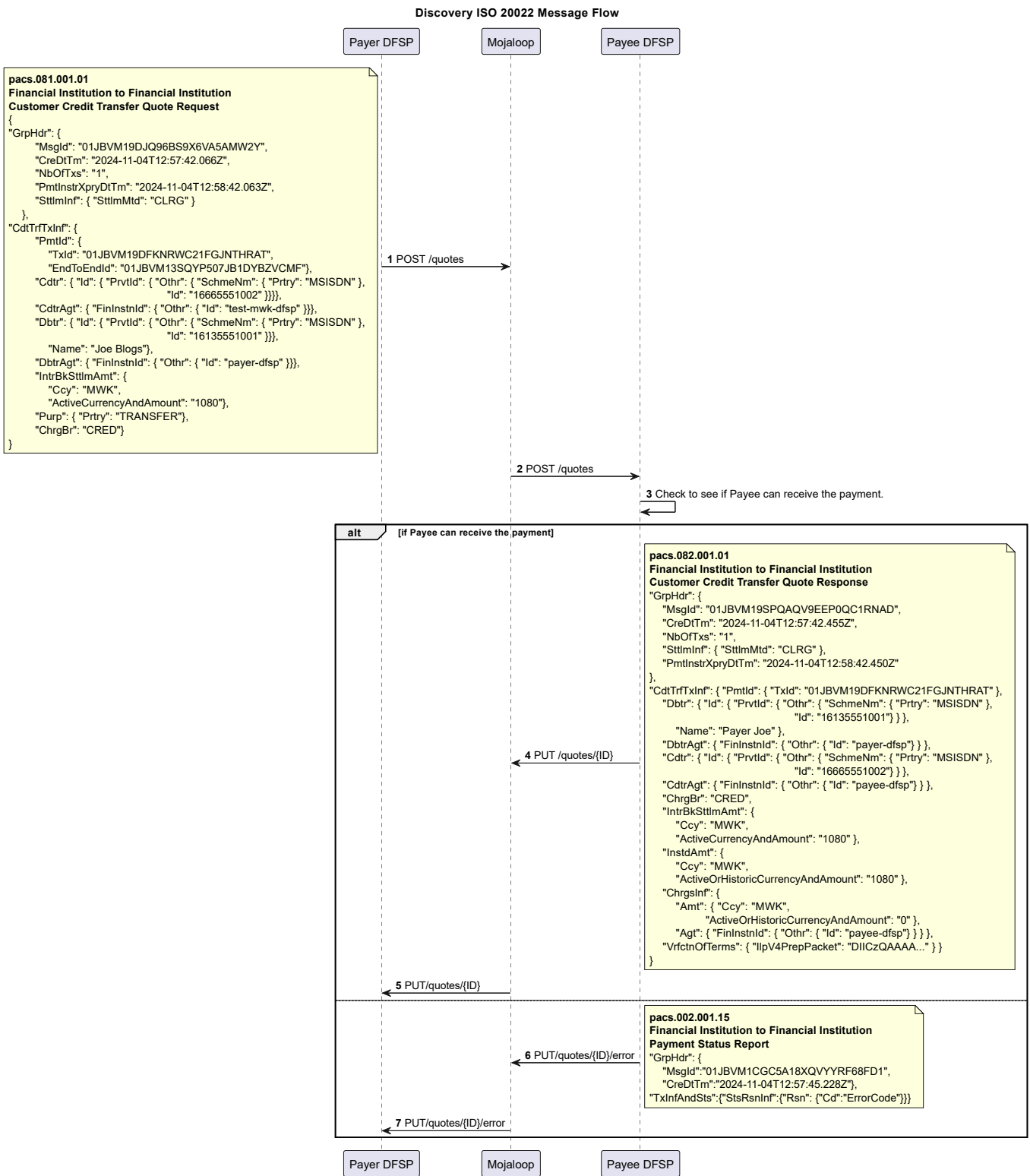   "PmtInstrXpryDtTm": "2024-11-04T12:58:42.063Z",
    "SttlmInf": { "SttlmMtd": "CLRG" }
  },
"CdtTrfTxInf": {
    "PmtId": {
      "TxId": "01JBVM19DFKNRWC21FGJNTHRAT",
      "EndToEndId": "01JBVM13SQYP507JB1DYBZVCMF"},
    "Cdtr": { "Id": { "PrvtId": { "Othr": { "SchmeNm": { "Prtry": "MSISDN" },
                      "Id": "16665551002" }}}},
    "CdtrAgt": { "FinInstnId": { "Othr": { "Id": "test-mwk-dfsp" }}},
    "Dbtr": { "Id": { "PrvtId": { "Othr": { "SchmeNm": { "Prtry": "MSISDN" },
                      "Id": "16135551001" }}},
      "Name": "Joe Blogs"},
    "DbtrAgt": { "FinInstnId": { "Othr": { "Id": "payer-dfsp" }}},
    "IntrBkSttlmAmt": {
      "Ccy": "MWK",
      "ActiveCurrencyAndAmount": "1080"},
    "Purp": { "Prtry": "TRANSFER"},
    "ChrgBr": "CRED"}
}

1 POST /quotes

2 POST /quotes

3 Check to see if Payee can receive the payment.

alt [if Payee can receive the payment]

pacs.082.001.01
Financial Institution to Financial Institution
Customer Credit Transfer Quote Response
"GrpHdr": {
    "MsgId": "01JBVM19SPQAQV9EEP0QC1RNAD",
    "CreDtTm": "2024-11-04T12:57:42.455Z",
    "NbOfTxs": "1",
    "SttlmInf": { "SttlmMtd": "CLRG" },
    "PmtInstrXpryDtTm": "2024-11-04T12:58:42.450Z"
},
"CdtTrfTxInf": { "PmtId": { "TxId": "01JBVM19DFKNRWC21FGJNTHRAT" },
    "Dbtr": { "Id": { "PrvtId": { "Othr": { "SchmeNm": { "Prtry": "MSISDN" },
                      "Id": "16135551001"} } },
      "Name": "Payer Joe" },
    "DbtrAgt": { "FinInstnId": { "Othr": { "Id": "payer-dfsp" } } },
    "Cdtr": { "Id": { "PrvtId": { "Othr": { "SchmeNm": { "Prtry": "MSISDN" },
                      "Id": "16665551002"} } },
    "CdtrAgt": { "FinInstnId": { "Othr": { "Id": "payee-dfsp"} } },
    "ChrgBr": "CRED",
    "IntrBkSttlmAmt": {
      "Ccy": "MWK",
      "ActiveCurrencyAndAmount": "1080" },
    "InstdAmt": {
      "Ccy": "MWK",
      "ActiveOrHistoricCurrencyAndAmount": "1080" },
    "ChrgsInf": {
      "Amt": { "Ccy": "MWK",
            "ActiveOrHistoricCurrencyAndAmount": "0" },
      "Agt": { "FinInstnId": { "Othr": { "Id": "payee-dfsp" } } } },
    "VrfctnOfTerms": { "IlpV4PrepPacket": "DIICzQAAAA..." } }
}

4 PUT /quotes/{ID}

5 PUT/quotes/{ID}

pacs.002.001.15
Financial Institution to Financial Institution
Payment Status Report
"GrpHdr": {
    "MsgId":"01JBVM1CGC5A18XQVYYRF68FD1",
    "CreDtTm":"2024-11-04T12:57:45.228Z"},
"TxInfAndSts":{"StsRsnInf":{"Rsn": {"Cd":"ErrorCode"}}}

6 PUT/quotes/{ID}/error

7 PUT/quotes/{ID}/error

5.2.2 Quotes Resource

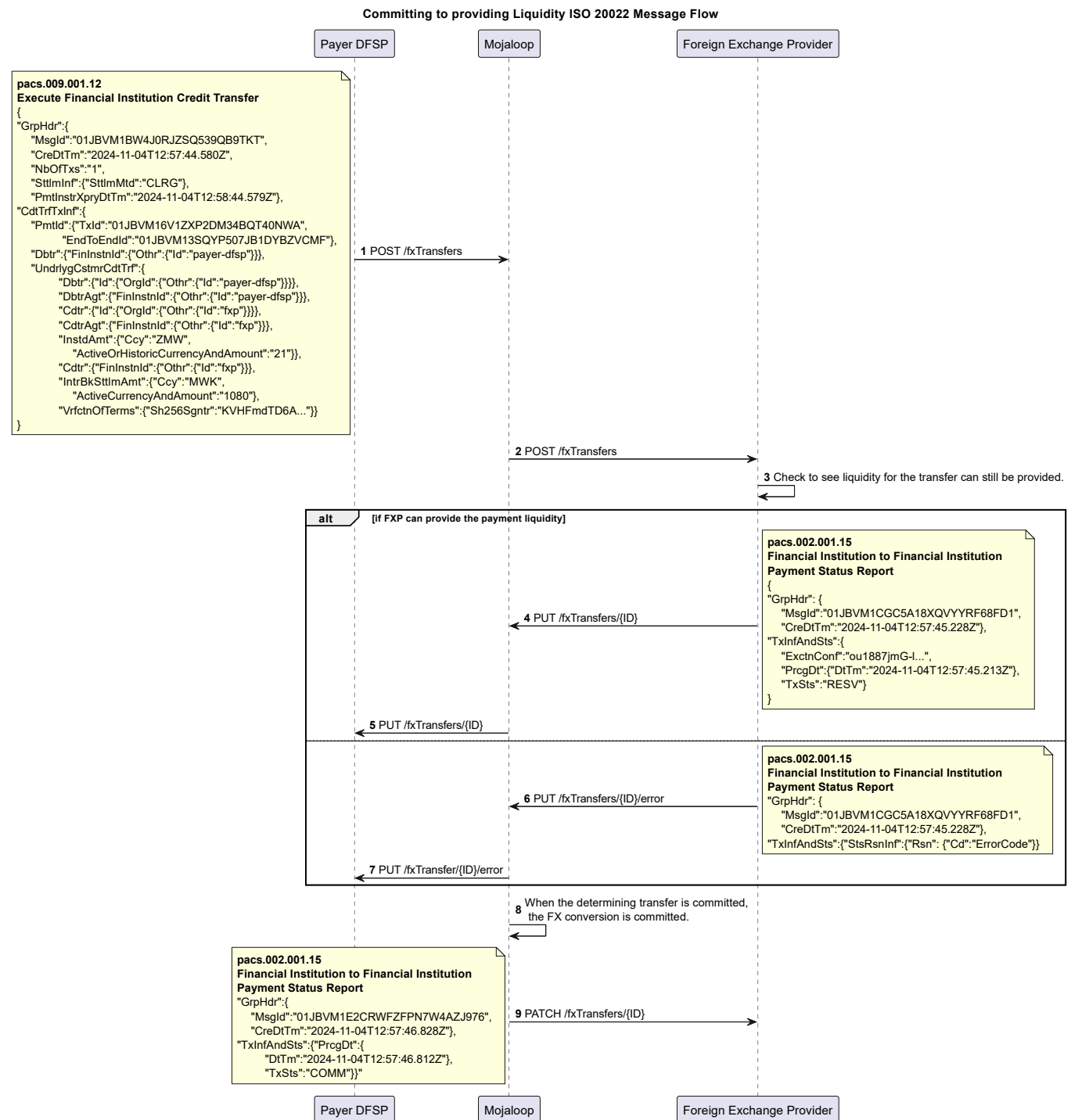| Endpoint	Message
POST /quotes/{ID}	**pacs.081.001**
PUT /quotes/{ID}	**pacs.082.001**
PUT /quotes/{ID}/error	**pacs.002.001.15**

6. Transfer Phase

Once the agreements have been successfully established during the Agreement Phase, accepting these terms triggers the Transfer Phase, where the actual movement of funds occurs. This phase is executed with precision to ensure that the agreed terms are honored, and all participants fulfill their commitments. The Transfer Phase is divided into two sub-phases: the Currency Conversion Execution Sub-Phase and the Transfer Clearing Sub-Phase, each corresponding to its respective sub-phase in the Agreement Phase.

6.1 Accepting Currency Conversion terms

The Currency Conversion Execution Sub-Phase occurs if the transfer involves a currency exchange. In this step, the foreign exchange provider, as agreed during the Agreement Phase, executes the currency conversion. The liquidity required for the cross-currency transfer is provided, and the converted funds are prepared for onward movement to the payee DFSP. This sub-phase is an opportunity for the FXP to ensure that the FX rates and fees agreed upon earlier are adhered to, safeguarding the transaction's financial integrity and transparency.

6.1.1 Message flow

The sequence diagram shows the transfer example messages in a Payer initiated P2P transfer.

Committing to providing Liquidity ISO 20022 Message Flow

Payer DFSP | Mojaloop | Foreign Exchange Provider

pacs.009.001.12
Execute Financial Institution Credit Transfer
{
"GrpHdr":{
    "MsgId":"01JBVM1BW4J0RJZSQ539QB9TKT",
    "CreDtTm":"2024-11-04T12:57:44.580Z",
    "NbOfTxs":"1",
    "SttlmInf":{"SttlmMtd":"CLRG"},
    "PmtInstrXpryDtTm":"2024-11-04T12:58:44.579Z"},
"CdtTrfTxInf":{
    "PmtId":{"TxId":"01JBVM16V1ZXP2DM34BQT40NWA",
        "EndToEndId":"01JBVM13SQYP507JB1DYBZVCMF"},
    "Dbtr":{"FinInstnId":{"Othr":{"Id":"payer-dfsp"}}},
    "UndrlygCstmrCdtTrf":{
        "Dbtr":{"Id":{"OrgId":{"Othr":{"Id":"payer-dfsp"}}}},
        "DbtrAgt":{"FinInstnId":{"Othr":{"Id":"payer-dfsp"}}},
        "Cdtr":{"Id":{"OrgId":{"Othr":{"Id":"fxp"}}}},
        "CdtrAgt":{"FinInstnId":{"Othr":{"Id":"fxp"}}},
        "InstdAmt":{"Ccy":"ZMW",
            "ActiveOrHistoricCurrencyAndAmount":"21"},
        "Cdtr":{"FinInstnId":{"Othr":{"Id":"fxp"}}},
        "IntrBkSttlmAmt":{"Ccy":"MWK",
            "ActiveCurrencyAndAmount":"1080"},
        "VrfctnOfTerms":{"Sh256Sgntr":"KVHFmdTD6A..."}}
}

1 POST /fxTransfers

2 POST /fxTransfers

3 Check to see liquidity for the transfer can still be provided.

alt [if FXP can provide the payment liquidity]

pacs.002.001.15
Financial Institution to Financial Institution
Payment Status Report
{
"GrpHdr": {
    "MsgId":"01JBVM1CGC5A18XQVYYRF68FD1",
    "CreDtTm":"2024-11-04T12:57:45.228Z"},
"TxInfAndSts":{
    "ExctnConf":"ou1887jmG-I...",
    "PrcgDt":{"DtTm":"2024-11-04T12:57:45.213Z"},
    "TxSts":"RESV"}
}

4 PUT /fxTransfers/{ID}

5 PUT /fxTransfers/{ID}

pacs.002.001.15
Financial Institution to Financial Institution
Payment Status Report
"GrpHdr": {
    "MsgId":"01JBVM1CGC5A18XQVYYRF68FD1",
    "CreDtTm":"2024-11-04T12:57:45.228Z"},
"TxInfAndSts":{"StsRsnInf":{"Rsn": {"Cd":"ErrorCode"}}}

6 PUT /fxTransfers/{ID}/error

7 PUT /fxTransfer/{ID}/error

8 When the determining transfer is committed, the FX conversion is committed.

pacs.002.001.15
Financial Institution to Financial Institution
Payment Status Report
"GrpHdr":{
    "MsgId":"01JBVM1E2CRWFZFPN7W4AZJ976",
    "CreDtTm":"2024-11-04T12:57:46.828Z"},
"TxInfAndSts":{"PrcgDt":{
    "DtTm":"2024-11-04T12:57:46.812Z"},
    "TxSts":"COMM"}}"

9 PATCH /fxTransfers/{ID}

Payer DFSP | Mojaloop | Foreign Exchange Provider

6.1.2 fxTransfers Resource

Endpoint	Message
POST /fxTransfers/{ID}	**pacs.009.001**
PUT /fxTransfers/{ID}	**pacs.002.001.15**
PUT /fxTransfers/{ID}/error	**pacs.002.001.15**
PATCH /fxTransfers/{ID}/error	**pacs.002.001.15**

6.2 Transfer Execution and Clearing

The Funds Settlement Sub-Phase involves the actual transfer of funds between the payer DFSP and the payee DFSP. This step ensures that the amount agreed upon, including any associated fees, is accurately cleared in the appropriate accounts. This sub-phase completes the financial transaction, fulfilling the commitments made during the Agreement Phase. Through secure and efficient fund movement mechanisms, this sub-phase ensures that the transfer is completed smoothly and in compliance with the agreed terms.

6.2.1 Message flow

The sequence diagram shows the discovery example messages in a Payer initiated P2P transfer.
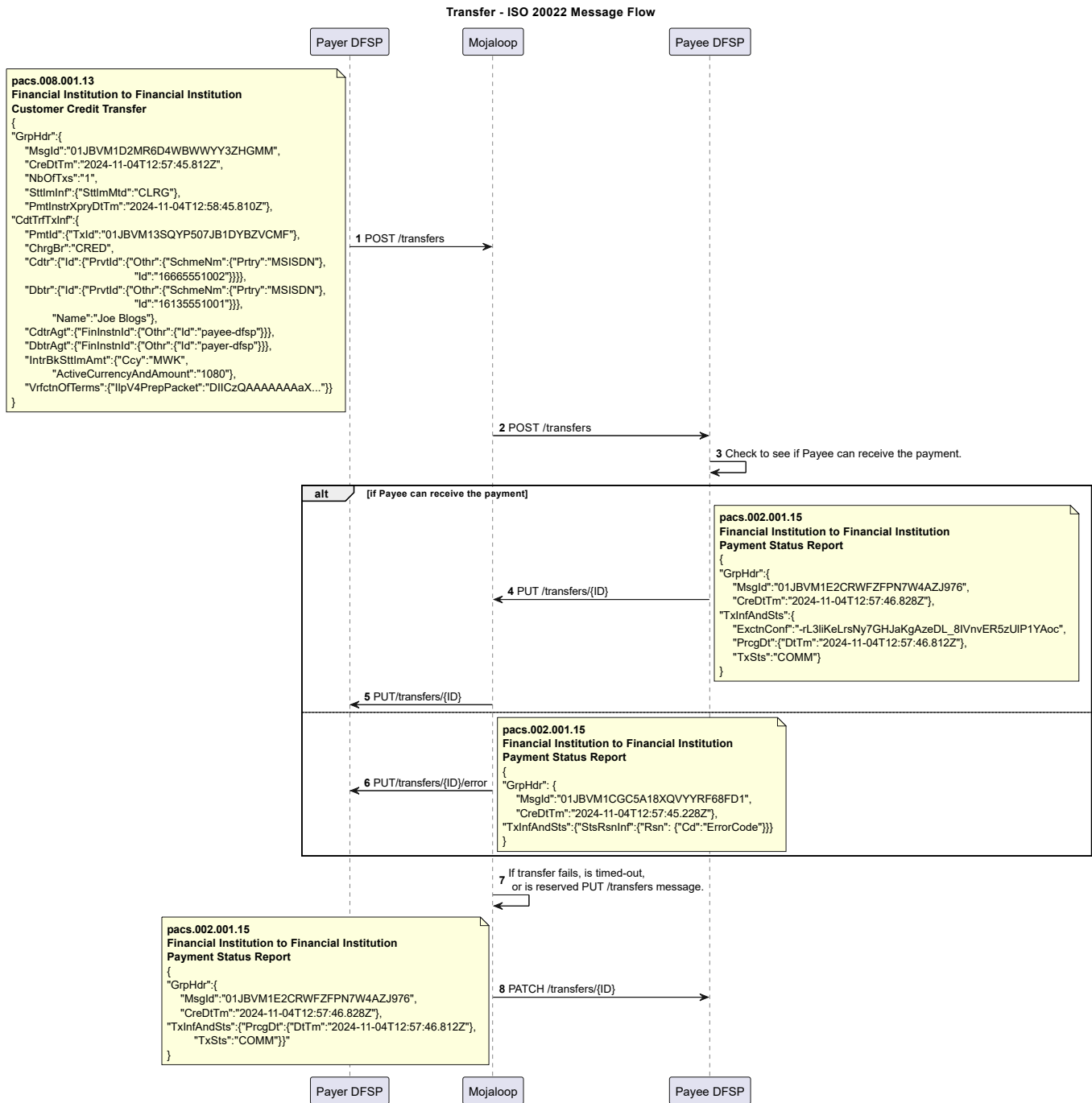
6.2.2 Transfers Resource

Endpoint	Message
POST /transfers/{ID}	**pacs.008.001**
PUT /transfers/{ID}	**pacs.002.001.15**

Endpoint	Message
PUT /transfers/{ID}/error	**pacs.002.001.15**
PATCH /transfers/{ID}/error	**pacs.002.001.15**

7. API Message Details

GET /parties/{type}/{partyIdentifier}[/{subId}]

The GET /parties endpoint does not support or require a payload, and can be seen as an instruction to trigger an Account identification Verification report.

- **{type}** - Party identifier types
  The **{type}** refers to the classification of the party Identifier type. Each scheme only supports a limited number of these codes. The codes supported by the scheme may be derived from the ISO 20022 external organisation or personal identification codes, or they could be FSPIOP supported codes. The full list of supported codes is available in the **Appendix A**.
- **partyIdentifier**
  This is the party identifier of the party being represented and of the type specified by the {type} above.
- **{subId}**
  This represent a sub-identifier or sub-type for the party that some implementations require in order to ensure uniqueness of the identifier.

Supported HTTP Responses

HTTP Error Code	Description and Common Causes
400 Bad Request	**Description**: The server could not understand the request due to invalid syntax. This response indicates that the request was malformed or contained invalid parameters. **Common Causes**: Missing required fields, invalid field values, or incorrect request format.
401 Unauthorized	**Description**: The client must authenticate itself to get the requested response. This response indicates that the request lacks valid authentication credentials. **Common Causes**: Missing or invalid authentication token.
403 Forbidden	**Description**: The client does not have access rights to the content. This response indicates that the server understood the request but refuses to authorize it. **Common Causes**: Insufficient permissions to access the resource.
404 Not Found	**Description**: The server can not find the requested resource. This response indicates that the specified resource does not exist. **Common Causes**: Incorrect resource identifier or the resource has been deleted.
405 Method Not Allowed	**Description**: The request method is known by the server but is not supported by the target resource. This response indicates that the HTTP method used is not allowed for the endpoint. **Common Causes**: Using an unsupported HTTP method (e.g., POST instead of PUT).

HTTP Error Code	Description and Common Causes
406 Not Acceptable	**Description**: The server cannot produce a response matching the list of acceptable values defined in the request's proactive content negotiation headers. This response indicates that the server cannot generate a response that is acceptable according to the Accept headers sent in the request. **Common Causes**: Unsupported media type or format specified in the Accept header.
501 Not Implemented	**Description**: The server does not support the functionality required to fulfill the request. This response indicates that the server does not recognize the request method or lacks the ability to fulfill the request. **Common Causes**: The requested functionality is not implemented on the server.
503 Service Unavailable	**Description**: The server is not ready to handle the request. This response indicates that the server is temporarily unable to handle the request due to maintenance or overload. **Common Causes**: Server maintenance, temporary overload, or server downtime.

Common Error Payload

All error responses return a common payload structure that includes a specific message. The payload typically contains the following fields:

- **errorCode**: A code representing the specific error.
- **errorDescription**: A description of the error.
- **extensionList**: An optional list of key-value pairs providing additional information about the error.

This common error payload helps clients understand the nature of the error and take appropriate actions.

7.2 PUT /Parties/{type}/{partyIdentifier}[/{subId}]

Account Identification Verification Report - acmt.024.001.04

Context

(DFSP -> DFSP)

This is triggers as a callback response to the GET /parties call. The message is between DFSPs connected in the scheme and is a check that validates that the account represented is active.

Here is an example of the message:

```
{
"Assgnmt": {
    "MsgId": "01JBVM14S6SC453EY9XB9GXQB5",
    "CreDtTm": "2024-11-04T12:57:37.318Z",
    "Assgnr": { "Agt": { "FinInstnId": { "Othr": { "Id": "payee-dfps" }}}},
    "Assgne": { "Agt": { "FinInstnId": { "Othr": { "Id": "payer-dfsp" }}}}},
"Rpt": {
    "Vrfctn": true,
    "OrgnlId": "MSISDN/16665551002",
```

```
    "UpdtdPtyAndAcctId": {
        "Pty": {
            "Id": {"PrvtId": {"Othr": {"SchmeNm": {"Prtry": "MSISDN"},
                                            "Id": "16665551002"}}},
            "Nm": "Chikondi Banda"},
        "Agt": { "FinInstnId": { "Othr": { "Id": "payee-dfsp" }}},
        "Acct": { "Ccy": "MWK" }}}
    }
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details

   This section specifies the header requirements for the API are specified.
2. Required Fields

   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields

   This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)
4. Unsupported Fields

   This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.
5. Supported HTTP Responses

   This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an *
asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.

Name	Description
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required fields

There are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **Assgnmt** - Assignment	Identifies the identification assignment.

ISO 20022 Field	Description
* **MsgId** - MessageIdentification	Unique identification, as assigned by the assigner, to unambiguously identify the message.
* **CreDtTm** - CreationDateTime	Date and time at which the identification assignment was created.
* **Assgnr** - Assignor	Party that assigns the identification assignment to another party. This is also the sender of the message.
{or * **Pty** - Party	Identification of a person or an organisation.
* **Id** - Identification	Unique and unambiguous way to identify an organisation.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - PrivateIdentification	Unique and unambiguous identification of a person, for example a passport.
or} * **Agt** - Agent	Identification of a financial institution.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution, as assigned under an internationally recognised or proprietary identification scheme.
* **Assgne** - Assignee	Party that the identification assignment is assigned to. This is also the receiver of the message.
{or * **Pty** - Party	Identification of a person or an organisation.
* **Id** - Identification	Unique and unambiguous way to identify an organisation.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - PrivateIdentification	Unique and unambiguous identification of a person, for example a passport.
or} * **Agt** - Agent	Identification of a financial institution.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution, as assigned under an internationally recognised or proprietary identification scheme.
* **Rpt** - Report	Information concerning the verification of the identification data for which verification was requested.
* **OrgnlId** - OriginalIdentification	Unique identification, as assigned by a sending party, to unambiguously identify the party and account identification information group within the original message.
* **Vrfctn** - Verification	Identifies whether the party and/or account information received is correct. Boolean value.
* **UpdtdPtyAndAcctId** - UpdatedPartyAndAccountIdentification	Provides party and/or account identification information.

ISO 20022 Field	Description
* **Pty** - Party	Account owner that owes an amount of money or to whom an amount of money is due.
* **Id** - Identification	Unique and unambiguous way to identify an organisation.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - PrivateIdentification	Unique and unambiguous identification of a person, for example a passport.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description
Assgnmt.Assgnr.Pty.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
Assgnmt.Assgnr.Pty.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
Assgnmt.Assgnr.Pty.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
Assgnmt.Assgnr.Pty.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
Assgnmt.Assgnr.Pty.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
Assgnmt.Assgnr.Pty.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
Assgnmt.Assgnr.Pty.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
Assgnmt.Assgnr.Pty.**CtryOfRes** - CountryOfResidence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
Assgnmt.Assgnr.Pty.**CtctDtls** - ContactDetails	Set of elements used to indicate how to contact the party.
Assgnmt.Assgnr.Agt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"

ISO 20022 Field	Description
Assgnmt.Assgnr.Agt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
Assgnmt.Assgnr.Agt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
Assgnmt.Assgnr.Agt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
Assgnmt.Assgnr.Agt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
Assgnmt.Assgnr.Agt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
Assgnmt.Assgnr.Agt.**BrnchId** - BranchIdentification	Definition: Identifies a specific branch of a financial institution. Usage: This component should be used in case the identification information in the financial institution component does not provide identification up to branch level.
Assgnmt.Assgne.Pty.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
Assgnmt.Assgne.Pty.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
Assgnmt.Assgne.Pty.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
Assgnmt.Assgne.Pty.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
Assgnmt.Assgne.Pty.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
Assgnmt.Assgne.Pty.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
Assgnmt.Assgne.Pty.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
Assgnmt.Assgne.Pty.**CtryOfRes** - CountryOfResidence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
Assgnmt.Assgne.Pty.**CtctDtls** - ContactDetails	Set of elements used to indicate how to contact the party.

ISO 20022 Field	Description
Assgnmt.Assgne.Agt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
Assgnmt.Assgne.Agt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
Assgnmt.Assgne.Agt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
Assgnmt.Assgne.Agt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
Assgnmt.Assgne.Agt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
Assgnmt.Assgne.Agt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
Assgnmt.Assgne.Agt.**BrnchId** - BranchIdentification	Definition: Identifies a specific branch of a financial institution. Usage: This component should be used in case the identification information in the financial institution component does not provide identification up to branch level.
Rpt.UpdtdPtyAndAcctId.Pty.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
Rpt.UpdtdPtyAndAcctId.Pty.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
Rpt.UpdtdPtyAndAcctId.Pty.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
Rpt.UpdtdPtyAndAcctId.Pty.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
Rpt.UpdtdPtyAndAcctId.Pty.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
Rpt.UpdtdPtyAndAcctId.Pty.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
Rpt.UpdtdPtyAndAcctId.Pty.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
Rpt.UpdtdPtyAndAcctId.Pty.**CtryOfRes** - CountryOfResidence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.

ISO 20022 Field	Description
Rpt.UpdtdPtyAndAcctId.Pty.**CtctDtls** - ContactDetails	Set of elements used to indicate how to contact the party.
Rpt.UpdtdPtyAndAcctId.**Acct** - Account	Unambiguous identification of the account of a party.
Rpt.UpdtdPtyAndAcctId.**Agt** - Agent	Financial institution servicing an account for a party.
Rpt.**Rsn** - Reason	Specifies the reason why the verified identification information is incorrect.
Rpt.**OrgnlPtyAndAcctId** - OriginalPartyAndAccountIdentification	Provides party and/or account identification information as given in the original message.
SplmtryData - SupplementaryData	Additional information that cannot be captured in the structured elements and/or any other specific block.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support. If a message is rejected, then a different end point must be called which is why the report and reason codes are not supported in this message.

ISO 20022 Field	Description
Assgnmt.**Cretr** - Party50Choice	
Assgnmt.**FrstAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
OrgnlAssgnmt - MessageIdentification8	
Rpt.OrgnlPtyAndAcctId.Pty.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
Rpt.OrgnlPtyAndAcctId.Pty.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
Rpt.OrgnlPtyAndAcctId.Pty.CtctDtls.**URLAdr** - MaxText	Specifies a character string with a maximum length of 2048 characters.
Rpt.OrgnlPtyAndAcctId.Agt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
Rpt.OrgnlPtyAndAcctId.Agt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.

ISO 20022 Field	Description
Rpt.OrgnlPtyAndAcctId.Agt.BrnchId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
Rpt.OrgnlPtyAndAcctId.Agt.BrnchId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
Rpt.UpdtdPtyAndAcctId.Pty.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
Rpt.UpdtdPtyAndAcctId.Pty.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
Rpt.UpdtdPtyAndAcctId.Pty.CtctDtls.**URLAdr** - MaxText	Specifies a character string with a maximum length of 2048 characters.
Rpt.UpdtdPtyAndAcctId.Agt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
Rpt.UpdtdPtyAndAcctId.Agt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
Rpt.UpdtdPtyAndAcctId.Agt.BrnchId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
Rpt.UpdtdPtyAndAcctId.Agt.BrnchId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.

Supported HTTP Responses

HTTP Error Code	Description and Common Causes
400 Bad Request	**Description**: The server could not understand the request due to invalid syntax. This response indicates that the request was malformed or contained invalid parameters. **Common Causes**: Missing required fields, invalid field values, or incorrect request format.
401 Unauthorized	**Description**: The client must authenticate itself to get the requested response. This response indicates that the request lacks valid authentication credentials. **Common Causes**: Missing or invalid authentication token.
403 Forbidden	**Description**: The client does not have access rights to the content. This response indicates that the server understood the request but refuses to authorize it. **Common Causes**: Insufficient permissions to access the resource.
404 Not Found	**Description**: The server can not find the requested resource. This response indicates that the specified resource does not exist. **Common Causes**: Incorrect resource identifier or the resource has been deleted.

HTTP Error Code	Description and Common Causes
405 Method Not Allowed	**Description**: The request method is known by the server but is not supported by the target resource. This response indicates that the HTTP method used is not allowed for the endpoint. **Common Causes**: Using an unsupported HTTP method (e.g., POST instead of PUT).
406 Not Acceptable	**Description**: The server cannot produce a response matching the list of acceptable values defined in the request's proactive content negotiation headers. This response indicates that the server cannot generate a response that is acceptable according to the Accept headers sent in the request. **Common Causes**: Unsupported media type or format specified in the Accept header.
501 Not Implemented	**Description**: The server does not support the functionality required to fulfill the request. This response indicates that the server does not recognize the request method or lacks the ability to fulfill the request. **Common Causes**: The requested functionality is not implemented on the server.
503 Service Unavailable	**Description**: The server is not ready to handle the request. This response indicates that the server is temporarily unable to handle the request due to maintenance or overload. **Common Causes**: Server maintenance, temporary overload, or server downtime.

Common Error Payload

All error responses return a common payload structure that includes a specific message. The payload typically contains the following fields:

- **errorCode**: A code representing the specific error.
- **errorDescription**: A description of the error.
- **extensionList**: An optional list of key-value pairs providing additional information about the error.

This common error payload helps clients understand the nature of the error and take appropriate actions.

7.3 PUT /parties/{type}/{partyIdentifier}[/{subId}]/error

Account Identification Verification Report - acmt.024.001.04

Context

(DFSP -> DFSP)

This is triggered as a callback response to the GET /parties call when an error occurs. The message is between DFSPs connected in the scheme and indicates an error in the account verification process. All DFSP participating the the scheme are expected to respond with this message.

Here is an example of the message:

```
{
  "Assgnmt": {
```

```
      "MsgId": "01JBVM14S6SC453EY9XB9GXQBW",
      "CreDtTm": "2013-03-07T16:30:00",
      "Assgnr": { "Agt": { "FinInstnId": { "Othr": { "Id": "payee-dfsp" } } } },
      "Assgne": { "Agt": { "FinInstnId": { "Othr": { "Id": "payer-dfsp" } } } }
    },
    "Rpt": {
      "Vrfctn": false,
      "OrgnlId": "MSISDN/16665551002",
      "CreDtTm": "2013-03-07T16:30:00",
      "Rsn": { "Cd": 3204 }
    }
  }
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details
   This section specifies the header requirements for the API are specified.
2. Required Fields
   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields
   This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)
4. Unsupported Fields
   This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.

Header Details

The API message header should contain the following details. Required headers are specified with an *
asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.

Name	Description
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **Assgnmt** - Assignment	Information related to the identification assignment.

ISO 20022 Field	Description
* **MsgId** - MessageIdentification	Unique identification, as assigned by the assigner, to unambiguously identify the message.
* **CreDtTm** - CreationDateTime	Date and time at which the identification assignment was created.
* **Assgnr** - Assignor	Party that assigns the identification assignment to another party. This is also the sender of the message.
{or * **Pty** - Party	Identification of a person or an organisation.
* **Id** - Identification	Unique and unambiguous way to identify an organisation.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - PrivateIdentification	Unique and unambiguous identification of a person, for example a passport.
or} * **Agt** - Agent	Identification of a financial institution.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution, as assigned under an internationally recognised or proprietary identification scheme.
* **Assgne** - Assignee	Party that the identification assignment is assigned to. This is also the receiver of the message.
{or * **Pty** - Party	Identification of a person or an organisation.
* **Id** - Identification	Unique and unambiguous way to identify an organisation.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - PrivateIdentification	Unique and unambiguous identification of a person, for example a passport.
or} * **Agt** - Agent	Identification of a financial institution.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution, as assigned under an internationally recognised or proprietary identification scheme.
* **Rpt** - Report	Information concerning the verification of the identification data for which verification was requested.
* **OrgnlId** - OriginalIdentification	Unique identification, as assigned by a sending party, to unambiguously identify the party and account identification information group within the original message.
* **Vrfctn** - Verification	Identifies whether the party and/or account information received is correct. Boolean value.

ISO 20022 Field	Description
* **Rsn** - Reason	Specifies the reason why the verified identification information is incorrect.
{or * **Cd** - Code	Reason why the verified identification information is incorrect, as published in an external reason code list.
or} * **Prtry** - Proprietary	Reason why the verified identification information is incorrect, in a free text form.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description
Assgnmt.Assgnr.Pty.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
Assgnmt.Assgnr.Pty.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
Assgnmt.Assgnr.Pty.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
Assgnmt.Assgnr.Pty.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
Assgnmt.Assgnr.Pty.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
Assgnmt.Assgnr.Pty.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
Assgnmt.Assgnr.Pty.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
Assgnmt.Assgnr.Pty.**CtryOfRes** - CountryOfResidence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
Assgnmt.Assgnr.Pty.**CtctDtls** - ContactDetails	Set of elements used to indicate how to contact the party.
Assgnmt.Assgnr.Agt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
Assgnmt.Assgnr.Agt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system

ISO 20022 Field	Description
Assgnmt.Assgnr.Agt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
Assgnmt.Assgnr.Agt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
Assgnmt.Assgnr.Agt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
Assgnmt.Assgnr.Agt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
Assgnmt.Assgnr.Agt.**BrnchId** - BranchIdentification	Definition: Identifies a specific branch of a financial institution. Usage: This component should be used in case the identification information in the financial institution component does not provide identification up to branch level.
Assgnmt.Assgne.Pty.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
Assgnmt.Assgne.Pty.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
Assgnmt.Assgne.Pty.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
Assgnmt.Assgne.Pty.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
Assgnmt.Assgne.Pty.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
Assgnmt.Assgne.Pty.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
Assgnmt.Assgne.Pty.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
Assgnmt.Assgne.Pty.**CtryOfRes** - CountryOfResidence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
Assgnmt.Assgne.Pty.**CtctDtls** - ContactDetails	Set of elements used to indicate how to contact the party.
Assgnmt.Assgne.Agt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
Assgnmt.Assgne.Agt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system

ISO 20022 Field	Description
Assgnmt.Assgne.Agt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
Assgnmt.Assgne.Agt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
Assgnmt.Assgne.Agt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
Assgnmt.Assgne.Agt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
Assgnmt.Assgne.Agt.**BrnchId** - BranchIdentification	Definition: Identifies a specific branch of a financial institution. Usage: This component should be used in case the identification information in the financial institution component does not provide identification up to branch level.
Rpt.**OrgnlPtyAndAcctId** - OriginalPartyAndAccountIdentification	Provides party and/or account identification information as given in the original message.
Rpt.**UpdtdPtyAndAcctId** - UpdatedPartyAndAccountIdentification	Provides party and/or account identification information.
SplmtryData - SupplementaryData	Additional information that cannot be captured in the structured elements and/or any other specific block.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
Assgnmt.**Cretr** - Party50Choice	
Assgnmt.**FrstAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
OrgnlAssgnmt - MessageIdentification8	
Rpt.OrgnlPtyAndAcctId.Pty.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
Rpt.OrgnlPtyAndAcctId.Pty.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
Rpt.OrgnlPtyAndAcctId.Pty.CtctDtls.**URLAdr** - MaxText	Specifies a character string with a maximum length of 2048 characters.

ISO 20022 Field	Description
Rpt.OrgnlPtyAndAcctId.Agt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
Rpt.OrgnlPtyAndAcctId.Agt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
Rpt.OrgnlPtyAndAcctId.Agt.BrnchId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
Rpt.OrgnlPtyAndAcctId.Agt.BrnchId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
Rpt.UpdtdPtyAndAcctId.Pty.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
Rpt.UpdtdPtyAndAcctId.Pty.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
Rpt.UpdtdPtyAndAcctId.Pty.CtctDtls.**URLAdr** - MaxText	Specifies a character string with a maximum length of 2048 characters.
Rpt.UpdtdPtyAndAcctId.Agt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
Rpt.UpdtdPtyAndAcctId.Agt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
Rpt.UpdtdPtyAndAcctId.Agt.BrnchId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
Rpt.UpdtdPtyAndAcctId.Agt.BrnchId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.

7.4 POST /fxQuotes/

Financial Institution Credit Transfer Quote Request - pacs.091.001.01

Context

(DFSP -> FXP)

This message is initiated by a DFSP who is requesting liquidity cover in another currency to fund a transfer. The message is sent to a foreign exchange provider and is a request for conversion terms. The source currency is specified in `CdtTrfTxInf.UndrlygCstmrCdtTrf.InstdAmt.Ccy` and the target currency is specified in `CdtTrfTxInf.IntrBkSttlmAmt.Ccy`.

Conversion Type SEND

If the `CdtTrfTxInf.InstrForCdtrAgt.InstrInf` is defined as SEND, then the source currency amount is expected to be defined
`CdtTrfTxInf.UndrlygCstmrCdtTrf.InstdAmt.ActiveOrHistoricCurrencyAndAmount`, and the target

currency amount will be calculated based on the source currency amount and fees. (The target amount `CdtTrfTxInf.IntrBkSttlmAmt.ActiveCurrencyAndAmount` should be specified as 0 and will not be used in the calculation.)

Conversion Type `RECEIVE`

If the `CdtTrfTxInf.InstrForCdtrAgt.InstrInf` is defined as `RECEIVE`, then the target currency amount is expected to be defined `CdtTrfTxInf.IntrBkSttlmAmt.ActiveCurrencyAndAmount`, and the source currency amount will be calculated based on the target currency amount and fees. (The source amount `CdtTrfTxInf.UndrlygCstmrCdtTrf.InstdAmt.ActiveOrHistoricCurrencyAndAmount` should be specified as 0 and will not be used in the calculation.)

In this phase of the transfer all participants to agree on the terms, and are expected to validate whether the transfer will be able to proceed. The Foreign Exchange provider is expected to respond to this request with a PUT /fxQuotes callback.

Here is an example of the message:

```json
{
"GrpHdr": {
    "MsgId": "01JBVM16V3Q4MSV8KTG0BRJGZ2",
    "CreDtTm": "2024-11-04T12:57:39.427Z",
    "NbOfTxs": "1",
    "SttlmInf": { "SttlmMtd": "CLRG" },
    "PmtInstrXpryDtTm": "2024-11-04T12:58:39.425Z"
},
"CdtTrfTxInf": {
    "PmtId": {
        "TxId": "01JBVM16V1ZXP2DM34BQT40NW9",
        "InstrId": "01JBVM16V1ZXP2DM34BQT40NWA",
        "EndToEndId": "01JBVM13SQYP507JB1DYBZVCMF" },
    "Dbtr": { "FinInstnId": { "Othr": { "Id": "payer-dfsp" } } },
    "UndrlygCstmrCdtTrf": {
        "Dbtr": {"Id": {"OrgId": {"Othr": {"Id": "payer-dfsp"}}}},
        "DbtrAgt": {"FinInstnId": {"Othr": {"Id": "payer-dfsp"}}},
        "Cdtr": {"Id": {"OrgId": {"Othr": {"Id": "fxp"}}}},
        "CdtrAgt": {"FinInstnId": {"Othr": {"Id": "fxp"}}},
        "InstdAmt": {"Ccy": "ZMW",
            "ActiveOrHistoricCurrencyAndAmount": "21"}},
    "Cdtr": {"FinInstnId": {"Othr": {"Id": "fxp"}}},
    "IntrBkSttlmAmt": { "Ccy": "MWK",
        "ActiveCurrencyAndAmount": "0"},
    "InstrForCdtrAgt": {"InstrInf": "SEND"}}
}
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details
   This section specifies the header requirements for the API are specified.

2. Required Fields

This section specifies which fields are required in order to meet the message validating requirements.

3. Optional Fields

This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)

4. Unsupported Fields

This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.

5. Supported HTTP Responses

This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an * asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).

Name	Description
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - GroupHeader	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - Message Identification	Specifies a character string with a maximum length of 35 characters.

ISO 20022 Field	Description
* **CreDtTm** - Creation Date and Time	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
* **NbOfTxs** - Number of Transactions	Specifies a numeric string with a maximum length of 15 digits.
* **SttlmInf** - Settlement Information	Specifies the details on how the settlement of the original transaction(s) between the instructing agent and the instructed agent was completed.
* **SttlmMtd** - SettlementMethodCode	Specifies the method used to settle the credit transfer instruction. INDA: Indirect Account INGA: Indirect Agent COVE: Cover CLRG: Clearing

ISO 20022 Field	Description
* **PmtInstrXpryDtTm** - Payment Instruction Expiry Date and Time	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
* **CdtTrfTxInf** - Credit Transfer Transaction Information	Provides further details specific to the individual transaction(s) included in the message.
* **PmtId** - PaymentIdentification	Set of elements used to reference a payment instruction.

ISO 20022 Field	Description
* **TxId** - TransactionIdentification (FSPIOP equivalent: quoteId in quote request, transferId in transfer request)	Definition: Unique identification, as assigned by the first instructing agent, to unambiguously identify the transaction that is passed on, unchanged, throughout the entire interbank chain. Usage: The transaction identification can be used for reconciliation, tracking or to link tasks relating to the transaction on the interbank level. Usage: The instructing agent has to make sure that the transaction identification is unique for a preagreed period. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
* **IntrBkSttlmAmt** - InterbankSettlementAmount	Amount of money moved between the instructing agent and the instructed agent.
* **ActiveCurrencyAndAmount**	
* **Ccy** - Currency	Identification of the currency in which the account is held.
* **UndrlygCstmrCdtTrf** - Underlying Customer Credit Transfer	TBD
* **Dbtr** - Party that owes an amount of money to the (ultimate) creditor.	Specifies the identification of a person or an organisation.
* **Id** - Identification	Unique and unambiguous identification of a party.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - Person	Unique and unambiguous identification of a person, for example a passport.
* **Cdtr** - Party to which an amount of money is due.	Specifies the identification of a person or an organisation.
* **Id** - Identification	Unique and unambiguous identification of a party.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.

ISO 20022 Field	Description
or} * **PrvtId** - Person	Unique and unambiguous identification of a person, for example a passport.
* **DbtrAgt** - Financial institution servicing an account for the debtor.	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **CdtrAgt** - Financial institution servicing an account for the creditor.	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **InstdAmt** - InstructedAmount	Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party.
* **ActiveOrHistoricCurrencyAndAmount** - Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party.	Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party.
* **Ccy** - Currency	Identification of the currency in which the account is held.
* **Dbtr** - Debtor	Party that owes an amount of money to the (ultimate) creditor.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **Cdtr** - Creditor	Party to which an amount of money is due.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **InstrForCdtrAgt** - InstructionForCreditorAgent	Set of elements used to provide information on the remittance advice.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these

requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description
CdtTrfTxInf.PmtId.**InstrId** - InstructionIdentification (FSPIOP equivalent: transactionRequestId)	Definition: Unique identification, as assigned by an instructing party for an instructed party, to unambiguously identify the instruction. Usage: The instruction identification is a point to point reference that can be used between the instructing party and the instructed party to refer to the individual instruction. It can be included in several messages related to the instruction. This field has been changed from the original ISO20022 \`Max35Text\`\` schema to a ULIDIdentifier schema.
CdtTrfTxInf.PmtId.**EndToEndId** - EndToEndIdentification (FSPIOP equivalent: transactionId)	Definition: Unique identification, as assigned by the initiating party, to unambiguously identify the transaction. This identification is passed on, unchanged, throughout the entire end-to-end chain. Usage: The end-to-end identification can be used for reconciliation or to link tasks relating to the transaction. It can be included in several messages related to the transaction. Usage: In case there are technical limitations to pass on multiple references, the end-to-end identification must be passed on throughout the entire end-to-end chain. This field has been changed from the original ISO20022 \`Max35Text\`\` schema to a ULIDIdentifier schema.

ISO 20022 Field	Description
CdtTrfTxInf.PmtId.**UETR** - UETR	Universally unique identifier to provide an end-to-end reference of a payment transaction.
CdtTrfTxInf.PmtId.**ClrSysRef** - ClearingSystemReference	Unique reference, as assigned by a clearing system, to unambiguously identify the instruction.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.**PstlAdr** - Postal Address	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.**CtryOfRes** - Country of Residence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.**CtctDtls** - Contact Details	Set of elements used to indicate how to contact the party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.**PstlAdr** - Postal Address	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.**CtryOfRes** - Country of Residence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.**CtctDtls** - Contact Details	Set of elements used to indicate how to contact the party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.Dbtr.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.Dbtr.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.Dbtr.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.Dbtr.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent

ISO 20022 Field	Description
CdtTrfTxInf.Dbtr.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.Dbtr.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Dbtr.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.Cdtr.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.Cdtr.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.Cdtr.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.Cdtr.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.Cdtr.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.Cdtr.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Cdtr.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.InstrForCdtrAgt.**Cd** - Code	Coded information related to the processing of the payment instruction, provided by the initiating party, and intended for the creditor's agent.
CdtTrfTxInf.InstrForCdtrAgt.**InstrInf** - InstructionInformation	Further information complementing the coded instruction or instruction to the creditor's agent that is bilaterally agreed or specific to a user community.
CdtTrfTxInf.**PmtTpInf** - PaymentTypeInformation	Set of elements used to further specify the type of transaction.

ISO 20022 Field	Description
CdtTrfTxInf.**DbtrAcct** - DebtorAccount	Account used to process a payment.
CdtTrfTxInf.**DbtrAgt** - DebtorAgent	Financial institution servicing an account for the debtor.
CdtTrfTxInf.**CdtrAgt** - CreditorAgent	Financial institution servicing an account for the creditor.
CdtTrfTxInf.**CdtrAcct** - CreditorAccount	Account to which a credit entry is made.
CdtTrfTxInf.**Purp** - Purpose	Underlying reason for the payment transaction.
CdtTrfTxInf.**VrfctnOfTerms** - VerificationOfTerms	Set of elements used to provide information on the underlying terms of the transaction.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**BtchBookg** - BatchBookingIndicator	
GrpHdr.**CtrlSum** - DecimalNumber	
GrpHdr.**TtlIntrBkSttlmAmt** - ActiveCurrencyAndAmount	A number of monetary units specified in an active currency where the unit of currency is explicit and compliant with ISO 4217.
GrpHdr.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
GrpHdr.SttlmInf.**SttlmAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**ClrSys** - ClearingSystemIdentification3Choice	

ISO 20022 Field	Description
GrpHdr.SttlmInf.**InstgRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**InstgRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**InstdRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**InstdRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**ThrdRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**ThrdRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.**PmtTpInf** - PaymentTypeInformation	Provides further details of the type of payment.
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
CdtTrfTxInf.**SttlmPrty** - Priority3Code	
CdtTrfTxInf.**SttlmTmIndctn** - SettlementDateTimeIndication1	
CdtTrfTxInf.**SttlmTmReq** - SettlementTimeRequest2	
CdtTrfTxInf.**PrvsInstgAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.

ISO 20022 Field	Description
CdtTrfTxInf.**PrvsInstgAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**PrvsInstgAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**PrvsInstgAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**IntrmyAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**IntrmyAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**UltmtDbtr** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.Dbtr.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.

ISO 20022 Field	Description
CdtTrfTxInf.Dbtr.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.DbtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.DbtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**DbtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.CdtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.CdtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**CdtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.Cdtr.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.Cdtr.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**UltmtCdtr** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**InstrForNxtAgt** - InstructionForNextAgent	Further information related to the processing of the payment instruction, provided by the initiating party, and intended for the next agent in the payment chain.
CdtTrfTxInf.**RmtInf** - RemittanceInformation2	
CdtTrfTxInf.**UndrlygAllcn** - TransactionAllocation1	
CdtTrfTxInf.UndrlygCstmrCdtTrf.**UltmtDbtr** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**InitgPty** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**DbtrAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**DbtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.**CdtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**CdtrAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**UltmtCdtr** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**InstrForCdtrAgt** - InstructionForCreditorAgent	Further information related to the processing of the payment instruction, provided by the initiating party, and intended for the creditor agent.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**InstrForNxtAgt** - InstructionForNextAgent	Further information related to the processing of the payment instruction, provided by the initiating party, and intended for the next agent in the payment chain.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**Tax** - TaxData	Details about tax paid, or to be paid, to the government in accordance with the law, including pre-defined parameters such as thresholds and type of account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**RmtInf** - RemittanceInformation22	
CdtTrfTxInf.**SplmtryData** - SupplementaryData	Additional information that cannot be captured in the structured fields and/or any other specific block.
SplmtryData - SupplementaryData	Additional information that cannot be captured in the structured fields and/or any other specific block.

7.5 PUT /fxQuotes/{ID}

Financial Institution Credit Transfer Quote Response - pacs.092.001.01

Context

(FXP -> DFSP)

This is triggered as a callback response to the POST /fxQuotes call. The message is generated by the foreign exchange provider and is a message response that includes the conversion terms. The FXP is expected to respond with this message if a terms requested are favorable and the FXP would like to participate in the transaction.

The source currency amount is expected to be defined `CdtTrfTxInf.UndrlygCstmrCdtTrf.InstdAmt.ActiveOrHistoricCurrencyAndAmount`, and the target currency amount is provided in the `CdtTrfTxInf.IntrBkSttlmAmt.ActiveCurrencyAndAmount` field. These are clearing amounts and must have fees already included in their calculation.

The `GrpHdr.PmtInstrXpryDtTm` specifies the expiry of the terms presented. It is the responsibility of the FXP to enforce this expiry in the transfer phase of a transaction.

The `CdtTrfTxInf.VrfctnOfTerms.Sh256Sgntr` must contain the ILPv4 cryptographically signed condition, which is a cryptographic version of the conversion terms.

Here is an example of the message:

```
{
"GrpHdr": {
    "MsgId": "01JBVM176FTHB9F2ZQJJ7AFCN8",
    "CreDtTm": "2024-11-04T12:57:39.791Z",
    "NbOfTxs": "1",
    "SttlmInf": { "SttlmMtd": "CLRG" },
    "PmtInstrXpryDtTm": "2024-11-04T12:58:39.425Z"
},
"CdtTrfTxInf": {
    "VrfctnOfTerms": {"Sh256Sgntr": "KVHFmdTD6A..."},
    "PmtId": {"InstrId": "01JBVM16V1ZXP2DM34BQT40NWA",
        "TxId": "01JBVM13SQYP507JB1DYBZVCMF"},
    "Dbtr": {"FinInstnId": {"Othr": {"Id": "payer-dfsp"}}},
    "UndrlygCstmrCdtTrf": {
        "Dbtr": {"Id": {"OrgId": {"Othr": {"Id": "payer-dfsp"}}}},
        "DbtrAgt": {"FinInstnId": {"Othr": {"Id": "payer-dfsp"}}},
        "Cdtr": {"Id": {"OrgId": {"Othr": {"Id": "fxp"}}}},
        "CdtrAgt": {"FinInstnId": {"Othr": {"Id": "fxp"}}},
        "InstdAmt": { "Ccy": "ZMW",
            "ActiveOrHistoricCurrencyAndAmount": "21"}},
    "Cdtr": {"FinInstnId": {"Othr": {"Id": "fxp"}}},
    "IntrBkSttlmAmt": {"Ccy": "MWK",
        "ActiveCurrencyAndAmount": "1080"},
    "InstrForCdtrAgt": {"InstrInf": "SEND"}}
}
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details
   This section specifies the header requirements for the API are specified.
2. Required Fields
   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields
   This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)

4. Unsupported Fields

This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.

5. Supported HTTP Responses

This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an * asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).

Name	Description
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - GroupHeader	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - Message Identification	Specifies a character string with a maximum length of 35 characters.

ISO 20022 Field	Description
* **CreDtTm** - Creation Date and Time	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
* **NbOfTxs** - Number of Transactions	Specifies a numeric string with a maximum length of 15 digits.
* **SttlmInf** - Settlement Information	Specifies the details on how the settlement of the original transaction(s) between the instructing agent and the instructed agent was completed.
* **SttlmMtd** - SettlementMethodCode	Specifies the method used to settle the credit transfer instruction. INDA: Indirect Account INGA: Indirect Agent COVE: Cover CLRG: Clearing

ISO 20022 Field	Description
* **PmtInstrXpryDtTm** - Payment Instruction Expiry Date and Time	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
* **CdtTrfTxInf** - CreditTransferTransaction68_FX_Quotes	Set of elements providing information specific to the individual credit transfer(s).
* **PmtId** - PaymentIdentification	Set of elements used to reference a payment instruction.

ISO 20022 Field	Description
* **TxId** - TransactionIdentification (FSPIOP equivalent: quoteId in quote request, transferId in transfer request)	Definition: Unique identification, as assigned by the first instructing agent, to unambiguously identify the transaction that is passed on, unchanged, throughout the entire interbank chain. Usage: The transaction identification can be used for reconciliation, tracking or to link tasks relating to the transaction on the interbank level. Usage: The instructing agent has to make sure that the transaction identification is unique for a preagreed period. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
* **IntrBkSttlmAmt** - InterbankSettlementAmount	Amount of money moved between the instructing agent and the instructed agent.
* **ActiveCurrencyAndAmount**	
* **Ccy** - Currency	Identification of the currency in which the account is held.
* **UndrlygCstmrCdtTrf** - Underlying Customer Credit Transfer	TBD
* **Dbtr** - Party that owes an amount of money to the (ultimate) creditor.	Specifies the identification of a person or an organisation.
* **Id** - Identification	Unique and unambiguous identification of a party.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - Person	Unique and unambiguous identification of a person, for example a passport.
* **Cdtr** - Party to which an amount of money is due.	Specifies the identification of a person or an organisation.
* **Id** - Identification	Unique and unambiguous identification of a party.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.

ISO 20022 Field	Description
or}　　　　* **PrvtId** - Person	Unique and unambiguous identification of a person, for example a passport.
* **DbtrAgt** - Financial institution servicing an account for the debtor.	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **CdtrAgt** - Financial institution servicing an account for the creditor.	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **InstdAmt** - InstructedAmount	Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party.
* **ActiveOrHistoricCurrencyAndAmount** - Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party.	Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party.
* **Ccy** - Currency	Identification of the currency in which the account is held.
* **Dbtr** - Debtor	Party that owes an amount of money to the (ultimate) creditor.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **Cdtr** - Creditor	Party to which an amount of money is due.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **VrfctnOfTerms** - VerificationOfTerms	Set of elements used to provide information on the underlying terms of the transaction.
{or　　* **IlpV4PrepPacket** - Interledger Protocol packet (ILPv4) containing Cryptographically signed terms	Interledger Protocol packet (ILPv4) containing Cryptographically signed terms

ISO 20022 Field	Description
or} * **Sh256Sgntr** - SHA-256 signature of the terms	Specifies a hexadecimal string. NOTE: This pattern is not the original ISO20022 specification.
* **InstrForCdtrAgt** - InstructionForCreditorAgent	Set of elements used to provide information on the remittance advice.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description
CdtTrfTxInf.PmtId.**InstrId** - InstructionIdentification (FSPIOP equivalent: transactionRequestId)	Definition: Unique identification, as assigned by an instructing party for an instructed party, to unambiguously identify the instruction. Usage: The instruction identification is a point to point reference that can be used between the instructing party and the instructed party to refer to the individual instruction. It can be included in several messages related to the instruction. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.

ISO 20022 Field	Description
CdtTrfTxInf.PmtId.**EndToEndId** - EndToEndIdentification (FSPIOP equivalent: transactionId)	Definition: Unique identification, as assigned by the initiating party, to unambiguously identify the transaction. This identification is passed on, unchanged, throughout the entire end-to-end chain. Usage: The end-to-end identification can be used for reconciliation or to link tasks relating to the transaction. It can be included in several messages related to the transaction. Usage: In case there are technical limitations to pass on multiple references, the end-to-end identification must be passed on throughout the entire end-to-end chain. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
CdtTrfTxInf.PmtId.**UETR** - UETR	Universally unique identifier to provide an end-to-end reference of a payment transaction.
CdtTrfTxInf.PmtId.**ClrSysRef** - ClearingSystemReference	Unique reference, as assigned by a clearing system, to unambiguously identify the instruction.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.**PstlAdr** - Postal Address	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.**CtryOfRes** - Country of Residence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.**CtctDtls** - Contact Details	Set of elements used to indicate how to contact the party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.**PstlAdr** - Postal Address	Information that locates and identifies a specific address, as defined by postal services.

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.**CtryOfRes** - Country of Residence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.**CtctDtls** - Contact Details	Set of elements used to indicate how to contact the party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.Dbtr.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.Dbtr.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.Dbtr.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.Dbtr.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.Dbtr.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.Dbtr.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Dbtr.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.Cdtr.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.Cdtr.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.Cdtr.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.

ISO 20022 Field	Description
CdtTrfTxInf.Cdtr.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.Cdtr.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.Cdtr.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Cdtr.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.InstrForCdtrAgt.**Cd** - Code	Coded information related to the processing of the payment instruction, provided by the initiating party, and intended for the creditor's agent.
CdtTrfTxInf.InstrForCdtrAgt.**InstrInf** - InstructionInformation	Further information complementing the coded instruction or instruction to the creditor's agent that is bilaterally agreed or specific to a user community.
CdtTrfTxInf.**PmtTpInf** - PaymentTypeInformation	Set of elements used to further specify the type of transaction.
CdtTrfTxInf.**DbtrAcct** - DebtorAccount	Account used to process a payment.
CdtTrfTxInf.**DbtrAgt** - DebtorAgent	Financial institution servicing an account for the debtor.
CdtTrfTxInf.**CdtrAgt** - CreditorAgent	Financial institution servicing an account for the creditor.
CdtTrfTxInf.**CdtrAcct** - CreditorAccount	Account to which a credit entry is made.
CdtTrfTxInf.**Purp** - Purpose	Underlying reason for the payment transaction.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperitive to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description

ISO 20022 Field	Description
GrpHdr.**BtchBookg** - BatchBookingIndicator	
GrpHdr.**CtrlSum** - DecimalNumber	
GrpHdr.**TtlIntrBkSttlmAmt** - ActiveCurrencyAndAmount	A number of monetary units specified in an active currency where the unit of currency is explicit and compliant with ISO 4217.
GrpHdr.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
GrpHdr.SttlmInf.**SttlmAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**ClrSys** - ClearingSystemIdentification3Choice	
GrpHdr.SttlmInf.**InstgRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**InstgRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**InstdRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**InstdRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**ThrdRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**ThrdRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.**PmtTpInf** - PaymentTypeInformation	Provides further details of the type of payment.
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.

ISO 20022 Field	Description
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
CdtTrfTxInf.**SttlmPrty** - Priority3Code	
CdtTrfTxInf.**SttlmTmIndctn** - SettlementDateTimeIndication1	
CdtTrfTxInf.**SttlmTmReq** - SettlementTimeRequest2	
CdtTrfTxInf.**PrvsInstgAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**PrvsInstgAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**PrvsInstgAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.

ISO 20022 Field	Description
CdtTrfTxInf.**IntrmyAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**IntrmyAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**IntrmyAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**UltmtDbtr** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.Dbtr.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.Dbtr.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.DbtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.DbtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**DbtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.CdtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.CdtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**CdtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.Cdtr.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.Cdtr.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.

ISO 20022 Field	Description
CdtTrfTxInf.**UltmtCdtr** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**InstrForNxtAgt** - InstructionForNextAgent	Further information related to the processing of the payment instruction, provided by the initiating party, and intended for the next agent in the payment chain.
CdtTrfTxInf.**RmtInf** - RemittanceInformation2	
CdtTrfTxInf.**UndrlygAllcn** - TransactionAllocation1	
CdtTrfTxInf.UndrlygCstmrCdtTrf.**UltmtDbtr** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**InitgPty** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**DbtrAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**DbtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt3Acct** - CashAccount	Provides the details to identify an account.

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**CdtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**CdtrAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**UltmtCdtr** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**InstrForCdtrAgt** - InstructionForCreditorAgent	Further information related to the processing of the payment instruction, provided by the initiating party, and intended for the creditor agent.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**InstrForNxtAgt** - InstructionForNextAgent	Further information related to the processing of the payment instruction, provided by the initiating party, and intended for the next agent in the payment chain.

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.**Tax** - TaxData	Details about tax paid, or to be paid, to the government in accordance with the law, including pre-defined parameters such as thresholds and type of account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**RmtInf** - RemittanceInformation22	
CdtTrfTxInf.**SplmtryData** - SupplementaryData	Additional information that cannot be captured in the structured fields and/or any other specific block.
SplmtryData - SupplementaryData	Additional information that cannot be captured in the structured fields and/or any other specific block.

Supported HTTP Responses

HTTP Error Code	Description and Common Causes
400 Bad Request	**Description**: The server could not understand the request due to invalid syntax. This response indicates that the request was malformed or contained invalid parameters. **Common Causes**: Missing required fields, invalid field values, or incorrect request format.
401 Unauthorized	**Description**: The client must authenticate itself to get the requested response. This response indicates that the request lacks valid authentication credentials. **Common Causes**: Missing or invalid authentication token.
403 Forbidden	**Description**: The client does not have access rights to the content. This response indicates that the server understood the request but refuses to authorize it. **Common Causes**: Insufficient permissions to access the resource.
404 Not Found	**Description**: The server can not find the requested resource. This response indicates that the specified resource does not exist. **Common Causes**: Incorrect resource identifier or the resource has been deleted.
405 Method Not Allowed	**Description**: The request method is known by the server but is not supported by the target resource. This response indicates that the HTTP method used is not allowed for the endpoint. **Common Causes**: Using an unsupported HTTP method (e.g., POST instead of PUT).
406 Not Acceptable	**Description**: The server cannot produce a response matching the list of acceptable values defined in the request's proactive content negotiation headers. This response indicates that the server cannot generate a response that is acceptable according to the Accept headers sent in the request. **Common Causes**: Unsupported media type or format specified in the Accept header.

HTTP Error Code	Description and Common Causes
501 Not Implemented	**Description**: The server does not support the functionality required to fulfill the request. This response indicates that the server does not recognize the request method or lacks the ability to fulfill the request. **Common Causes**: The requested functionality is not implemented on the server.
503 Service Unavailable	**Description**: The server is not ready to handle the request. This response indicates that the server is temporarily unable to handle the request due to maintenance or overload. **Common Causes**: Server maintenance, temporary overload, or server downtime.

Common Error Payload

All error responses return a common payload structure that includes a specific message. The payload typically contains the following fields:

- **errorCode**: A code representing the specific error.
- **errorDescription**: A description of the error.
- **extensionList**: An optional list of key-value pairs providing additional information about the error.

This common error payload helps clients understand the nature of the error and take appropriate actions.

7.6 PUT /fxQuotes/{ID}/error

Financial Institution to Financial Institution Payment Status Report - pacs.002.001.15

Context

(DFSP -> FXP, FXP -> DFSP, HUB -> DFSP, HUB -> FXP)

This is triggered as a callback response to the POST /fxQuotes call when an error occurs. The message is generated by the entity who first encounter the error which can either be the DFSP, the HUB, or the FPX. All other participants involved are informed by this message. The `TxInfAndSts.StsRsnInf.Rsn.Cd` contains the Mojaloop error code, which specified the source and cause of the error.

Here is an example of the message:

```
{
"GrpHdr": {
    "MsgId":"01JBVM1CGC5A18XQVYYRF68FD1",
    "CreDtTm":"2024-11-04T12:57:45.228Z"},
"TxInfAndSts":{"StsRsnInf":{"Rsn": {"Cd":"ErrorCode"}}}
}
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details

This section specifies the header requirements for the API are specified.

2. Required Fields

This section specifies which fields are required in order to meet the message validating requirements.

3. Optional Fields

This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)

4. Unsupported Fields

This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.

5. Supported HTTP Responses

This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an * asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).

Name	Description
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - Set of characteristics shared by all individual transactions included in the message.	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - MessageIdentification	Definition: Point to point reference, as assigned by the instructing party, and sent to the next party in the chain to unambiguously identify the message. Usage: The instructing party has to make sure that MessageIdentification is unique per instructed party for a pre-agreed period.
* **CreDtTm** - CreationDateTime	Date and time at which the message was created.
* **TxInfAndSts** - Information concerning the original transactions, to which the status report message refers.	Provides further details on the original transactions, to which the status report message refers.

ISO 20022 Field	Description
* **StsRsnInf** - Information concerning the reason for the status.	Unsure on description.
* **Rsn** - Reason	Specifies the reason for the status report.
{or * **Cd** - Code	Reason for the status, as published in an external reason code list.
or} * **Prtry** - Proprietary	Reason for the status, in a proprietary form.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description
TxInfAndSts.StsRsnInf.**Orgtr** - Originator	Party that issues the status.
TxInfAndSts.StsRsnInf.**AddtlInf** - AdditionalInformation	Additional information about the status report.
TxInfAndSts.**StsId** - Unique identification, as assigned by the original sending party, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**OrgnlInstrId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original instruction. (FSPIOP equivalent: transactionRequestId)
TxInfAndSts.**OrgnlEndToEndId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original end-to-end transaction. (FSPIOP equivalent: transactionId)
TxInfAndSts.**OrgnlTxId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original transaction. (FSPIOP equivalent: quoteId)
TxInfAndSts.**OrgnlUETR** - Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.	Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.

ISO 20022 Field	Description

TxInfAndSts.**TxSts** - Specifies the status of the transaction.	Specifies the external payment transaction status code.
	
	For FSPIOP transfer state enumeration mappings:
	{
	"COMM": "COMMITED",
	"RESV": "RESERVED",
	"RECV": "RECEIVED",
	"ABOR": "ABORTED"
	}
	
	NOTE: enum enforcement is not apart of the ISO20022 specification, but is added here for FSPIOP mappings.

TxInfAndSts.**AccptncDtTm** - Date and time at which the status was accepted.	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
TxInfAndSts.**AcctSvcrRef** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.

ISO 20022 Field	Description
TxInfAndSts.**ClrSysRef** - Reference that is assigned by the account servicing institution and sent to the account owner to unambiguously identify the transaction.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**ExctnConf** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the confirmation.	Specifies a hexadecimal string. NOTE: This pattern is not the original ISO20022 specification.
TxInfAndSts.**SplmtryData** - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.
TxInfAndSts.**PrcgDt** - Date/time at which the instruction was processed by the specified party.	Specifies the reason for the status.
SplmtryData - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**OrgnlBizQry** - OriginalBusinessQuery1	
OrgnlGrpInfAndSts - OriginalGroupHeader22	
TxInfAndSts.**OrgnlGrpInf** - OriginalGroupInformation29	
TxInfAndSts.**ChrgsInf** - NOTE: Unsure on description.	Seemingly a generic schema for charges, with an amount, agent, and type.
TxInfAndSts.**FctvIntrBkSttlmDt** - StatusReasonChoice	Specifies the reason for the status.

ISO 20022 Field	Description
TxInfAndSts.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
TxInfAndSts.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
TxInfAndSts.**OrgnlTxRef** - OriginalTransactionReference42	

7.7 POST /quotes

Financial Institution to Financial Institution Customer Credit Transfer Quote Request - pacs.081.001.01

Context

(DFSP -> DFSP)

This request for quote message that is initiated by the payer DFSP who is requesting the payee DFSP to provide the terms of the transfer. The reply to this request is a callback made on the PUT /quotes endpoint. In this phase of the transfer all participants present and agree on the terms of the transfer, and are expected to validate whether the transfer will be able to proceed.

If this transaction includes currency conversion, then the transfer amount and currency specified must be in target currency. The transfer amounts is specified in the `CdtTrfTxInf.IntrBkSttlmAmt.ActiveCurrencyAndAmount` and the `CdtTrfTxInf.IntrBkSttlmAmt.Ccy` fields. Both the `ChrgBr` type `CRED` and `DEBT` are supported.

Charge Type `CRED`

If the `CdtTrfTxInf.ChrgBr` is defined as `CRED`, then the transfer amount is expected to remain the same in the returned transfer terms and the payee party receive amount is adjusted to account for any fees.

Charge Type `DEBT`

If the `CdtTrfTxInf.ChrgBr` is defined as `DEBT`, then the amount the payee party receives must equal the transfer amount specified. The transfer amount in returned transfer terms is adjusted to account for any fees.

The Identifier for this request must be a ULID generated identifier and is specified in the `CdtTrfTxInf.PmtId.TxId` field. If this transfer is part of a wider transaction, then that too is represented by a ULID specified in the `CdtTrfTxInf.PmtId.EndToEndId` field.

Here is an example of the message:

```
{
  "GrpHdr": {
        "MsgId": "01JBVM19DJQ96BS9X6VA5AMW2Y",
        "CreDtTm": "2024-11-04T12:57:42.066Z",
```

```
            "NbOfTxs": "1",
            "PmtInstrXpryDtTm": "2024-11-04T12:58:42.063Z",
            "SttlmInf": { "SttlmMtd": "CLRG" }
        },
    "CdtTrfTxInf": {
            "PmtId": {
                "TxId": "01JBVM19DFKNRWC21FGJNTHRAT",
                "EndToEndId": "01JBVM13SQYP507JB1DYBZVCMF"},
            "Cdtr": { "Id": { "PrvtId": { "Othr": { "SchmeNm": { "Prtry": "MSISDN" },
                                                  "Id": "16665551002" }}}},
            "CdtrAgt": { "FinInstnId": { "Othr": { "Id": "test-mwk-dfsp" }}},
            "Dbtr": { "Id": { "PrvtId": { "Othr": { "SchmeNm": { "Prtry": "MSISDN" },
                                                  "Id": "16135551001" }}},
                "Name": "Joe Blogs"},
            "DbtrAgt": { "FinInstnId": { "Othr": { "Id": "payer-dfsp" }}},
            "IntrBkSttlmAmt": {
                "Ccy": "MWK",
                "ActiveCurrencyAndAmount": "1080"},
            "Purp": { "Prtry": "TRANSFER"},
            "ChrgBr": "CRED"}
    }
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details

   This section specifies the header requirements for the API are specified.
2. Required Fields

   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields

   This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)
4. Unsupported Fields

   This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.
5. Supported HTTP Responses

   This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an *
asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).

Name	Description
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.

Name	Description
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - Group Header	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - Message Identification	Specifies a character string with a maximum length of 35 characters.
* **CreDtTm** - Creation Date and Time	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
* **NbOfTxs** - Number of Transactions	Specifies a numeric string with a maximum length of 15 digits.

ISO 20022 Field	Description
* **SttlmInf** - Settlement Information	Specifies the details on how the settlement of the original transaction(s) between the instructing agent and the instructed agent was completed.
* **SttlmMtd** - SettlementMethodCode	Specifies the method used to settle the credit transfer instruction. INDA: Indirect Account INGA: Indirect Agent COVE: Cover CLRG: Clearing
* **CdtTrfTxInf** - Credit Transfer Transaction Information	Provides further details specific to the individual transaction(s) included in the message.
* **PmtId** - PaymentIdentification	Set of elements used to reference a payment instruction.
* **TxId** - TransactionIdentification (FSPIOP equivalent: quoteId in quote request, transferId in transfer request)	Definition: Unique identification, as assigned by the first instructing agent, to unambiguously identify the transaction that is passed on, unchanged, throughout the entire interbank chain. Usage: The transaction identification can be used for reconciliation, tracking or to link tasks relating to the transaction on the interbank level. Usage: The instructing agent has to make sure that the transaction identification is unique for a preagreed period. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
* **IntrBkSttlmAmt** - InterbankSettlementAmount	Amount of money moved between the instructing agent and the instructed agent.
* **ActiveCurrencyAndAmount**	
* **Ccy** - Currency	Identification of the currency in which the account is held.

ISO 20022 Field	Description
* **ChrgBr** - ChargeBearerTypeCode	Specifies which party(ies) will pay charges due for processing of the instruction. DEBT: BorneByDebtor All transaction charges are to be borne by the debtor. CRED: BorneByCreditor All transaction charges are to be borne by the creditor. SHAR: Shared In a credit transfer context, means that transaction charges on the sender side are to be borne by the debtor, transaction charges on the receiver side are to be borne by the creditor. In a direct debit context, means that transaction charges on the sender side are to be borne by the creditor, transaction charges on the receiver
* **Dbtr** - Debtor	Party that owes an amount of money to the (ultimate) creditor.
* **Id** - Identification	Unique and unambiguous identification of a party.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - Person	Unique and unambiguous identification of a person, for example a passport.
* **DbtrAgt** - DebtorAgent	Financial institution servicing an account for the debtor.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **CdtrAgt** - CreditorAgent	Financial institution servicing an account for the creditor.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **Cdtr** - Creditor	Party to which an amount of money is due.
* **Id** - Identification	Unique and unambiguous identification of a party.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - Person	Unique and unambiguous identification of a person, for example a passport.

ISO 20022 Field	Description
* **Purp** - Purpose	Underlying reason for the payment transaction.
{or * **Cd** - Code	Underlying reason for the payment transaction, as published in an external purpose code list.
or} * **Prtry** - Proprietary	Purpose, in a proprietary form.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description
GrpHdr.**PmtInstrXpryDtTm** - Payment Instruction Expiry Date and Time	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.

ISO 20022 Field	Description
CdtTrfTxInf.PmtId.**InstrId** - InstructionIdentification (FSPIOP equivalent: transactionRequestId)	Definition: Unique identification, as assigned by an instructing party for an instructed party, to unambiguously identify the instruction. Usage: The instruction identification is a point to point reference that can be used between the instructing party and the instructed party to refer to the individual instruction. It can be included in several messages related to the instruction. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
CdtTrfTxInf.PmtId.**EndToEndId** - EndToEndIdentification (FSPIOP equivalent: transactionId)	Definition: Unique identification, as assigned by the initiating party, to unambiguously identify the transaction. This identification is passed on, unchanged, throughout the entire end-to-end chain. Usage: The end-to-end identification can be used for reconciliation or to link tasks relating to the transaction. It can be included in several messages related to the transaction. Usage: In case there are technical limitations to pass on multiple references, the end-to-end identification must be passed on throughout the entire end-to-end chain. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
CdtTrfTxInf.PmtId.**UETR** - UETR	Universally unique identifier to provide an end-to-end reference of a payment transaction.
CdtTrfTxInf.PmtId.**ClrSysRef** - ClearingSystemReference	Unique reference, as assigned by a clearing system, to unambiguously identify the instruction.
CdtTrfTxInf.Dbtr.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
CdtTrfTxInf.Dbtr.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
CdtTrfTxInf.Dbtr.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Dbtr.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.

ISO 20022 Field	Description
CdtTrfTxInf.Dbtr.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Dbtr.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
CdtTrfTxInf.Dbtr.**PstlAdr** - Postal Address	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.Dbtr.**CtryOfRes** - Country of Residence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
CdtTrfTxInf.Dbtr.**CtctDtls** - Contact Details	Set of elements used to indicate how to contact the party.
CdtTrfTxInf.DbtrAgt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.DbtrAgt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.DbtrAgt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.DbtrAgt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.DbtrAgt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.DbtrAgt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.DbtrAgt.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.CdtrAgt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.CdtrAgt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.CdtrAgt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.CdtrAgt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.CdtrAgt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.

ISO 20022 Field	Description
CdtTrfTxInf.CdtrAgt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.CdtrAgt.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.Cdtr.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
CdtTrfTxInf.Cdtr.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
CdtTrfTxInf.Cdtr.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Cdtr.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
CdtTrfTxInf.Cdtr.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Cdtr.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
CdtTrfTxInf.Cdtr.**PstlAdr** - Postal Address	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.Cdtr.**CtryOfRes** - Country of Residence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
CdtTrfTxInf.Cdtr.**CtctDtls** - Contact Details	Set of elements used to indicate how to contact the party.
CdtTrfTxInf.**PmtTpInf** - PaymentTypeInformation	Set of elements used to further specify the type of transaction.
CdtTrfTxInf.**UndrlygCstmrCdtTrf** - Underlying Customer Credit Transfer	TBD
CdtTrfTxInf.**InstdAmt** - InstructedAmount	Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party.
CdtTrfTxInf.**XchgRate** - ExchangeRate	Factor used to convert an amount from one currency into another. This reflects the price at which one currency was bought with another currency.
CdtTrfTxInf.**ChrgsInf** - ChargesInformation	Provides information on the charges to be paid by the charge bearer(s) related to the payment transaction.
CdtTrfTxInf.**DbtrAcct** - DebtorAccount	Unambiguous identification of the account of the debtor to which a debit entry will be made as a result of the transaction.

ISO 20022 Field	Description
CdtTrfTxInf.**CdtrAcct** - CreditorAccount	Unambiguous identification of the account of the creditor to which a credit entry will be posted as a result of the payment transaction.
CdtTrfTxInf.**InstrForCdtrAgt** - InstructionForCreditorAgent	Set of elements used to provide information on the remittance advice.
CdtTrfTxInf.**InstrForNxtAgt** - InstructionForNextAgent	Set of elements used to provide information on the remittance advice.
CdtTrfTxInf.**RgltryRptg** - RegulatoryReporting	Information needed due to regulatory and statutory requirements.
CdtTrfTxInf.**Tax** - Tax	Provides details on the tax.
CdtTrfTxInf.**VrfctnOfTerms** - CryptographicLockChoice	Cryptographically signed terms

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**BtchBookg** - BatchBookingIndicator	
GrpHdr.**CtrlSum** - DecimalNumber	
GrpHdr.**TtlIntrBkSttlmAmt** - ActiveCurrencyAndAmount	A number of monetary units specified in an active currency where the unit of currency is explicit and compliant with ISO 4217.
GrpHdr.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
GrpHdr.SttlmInf.**SttlmAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**ClrSys** - ClearingSystemIdentification3Choice	
GrpHdr.SttlmInf.**InstgRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**InstgRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.

ISO 20022 Field	Description
GrpHdr.SttlmInf.**InstdRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**InstdRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**ThrdRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**ThrdRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.**PmtTpInf** - PaymentTypeInformation	Provides further details of the type of payment.
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
CdtTrfTxInf.**SttlmPrty** - Priority3Code	
CdtTrfTxInf.**SttlmTmIndctn** - SettlementDateTimeIndication1	
CdtTrfTxInf.**SttlmTmReq** - SettlementTimeRequest2	

ISO 20022 Field	Description
CdtTrfTxInf.**AccptncDtTm** - A particular point in the progression of time defined by a mandatory	date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
CdtTrfTxInf.**PoolgAdjstmntDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
CdtTrfTxInf.ChrgsInf.Agt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.ChrgsInf.Agt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**MndtRltdInf** - CreditTransferMandateData1	
CdtTrfTxInf.**PrvsInstgAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**PrvsInstgAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**PrvsInstgAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.

ISO 20022 Field	Description
CdtTrfTxInf.**PrvsInstgAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**IntrmyAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**IntrmyAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**UltmtDbtr** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.**InitgPty** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.DbtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.DbtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**DbtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.CdtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.CdtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**CdtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**UltmtCdtr** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.**RltdRmtInf** - RemittanceLocation8	
CdtTrfTxInf.**RmtInf** - RemittanceInformation22	
CdtTrfTxInf.**SplmtryData** - SupplementaryData	Additional information that cannot be captured in the structured fields and/or any other specific block.

ISO 20022 Field	Description
SplmtryData - SupplementaryData	Additional information that cannot be captured in the structured fields and/or any other specific block.

Supported HTTP Responses

HTTP Error Code	Description and Common Causes
400 Bad Request	**Description**: The server could not understand the request due to invalid syntax. This response indicates that the request was malformed or contained invalid parameters. **Common Causes**: Missing required fields, invalid field values, or incorrect request format.
401 Unauthorized	**Description**: The client must authenticate itself to get the requested response. This response indicates that the request lacks valid authentication credentials. **Common Causes**: Missing or invalid authentication token.
403 Forbidden	**Description**: The client does not have access rights to the content. This response indicates that the server understood the request but refuses to authorize it. **Common Causes**: Insufficient permissions to access the resource.
404 Not Found	**Description**: The server can not find the requested resource. This response indicates that the specified resource does not exist. **Common Causes**: Incorrect resource identifier or the resource has been deleted.
405 Method Not Allowed	**Description**: The request method is known by the server but is not supported by the target resource. This response indicates that the HTTP method used is not allowed for the endpoint. **Common Causes**: Using an unsupported HTTP method (e.g., POST instead of PUT).
406 Not Acceptable	**Description**: The server cannot produce a response matching the list of acceptable values defined in the request's proactive content negotiation headers. This response indicates that the server cannot generate a response that is acceptable according to the Accept headers sent in the request. **Common Causes**: Unsupported media type or format specified in the Accept header.
501 Not Implemented	**Description**: The server does not support the functionality required to fulfill the request. This response indicates that the server does not recognize the request method or lacks the ability to fulfill the request. **Common Causes**: The requested functionality is not implemented on the server.
503 Service Unavailable	**Description**: The server is not ready to handle the request. This response indicates that the server is temporarily unable to handle the request due to maintenance or overload. **Common Causes**: Server maintenance, temporary overload, or server downtime.

Common Error Payload

All error responses return a common payload structure that includes a specific message. The payload typically contains the following fields:

- **errorCode**: A code representing the specific error.
- **errorDescription**: A description of the error.
- **extensionList**: An optional list of key-value pairs providing additional information about the error.

This common error payload helps clients understand the nature of the error and take appropriate actions.

PUT 7.8 /quotes/{ID}

Financial Institution to Financial Institution Customer Credit Transfer Quote Response - pacs.082.001.01

Context

(DFSP -> DFSP)

This is triggered as a callback response to the POST /quotes call. The message is generated by the payee DFSP and is a message response that includes the transfer terms. The payee DFSP is expected to respond with this message if a terms requested are favorable and the payee DFSP would like to participate in the transaction.

The transfer amounts is specified in the `CdtTrfTxInf.IntrBkSttlmAmt.ActiveCurrencyAndAmount` and the `CdtTrfTxInf.IntrBkSttlmAmt.Ccy` fields. These are clearing amounts and must have fees already included in their calculation.

The `GrpHdr.PmtInstrXpryDtTm` specifies the expiry of the terms presented. It is the responsibility of the payee DFSP to enforce this expiry in the transfer phase of a transaction.

The `CdtTrfTxInf.PmtId.TxId` must reference the message that this is a response to and is the same as what is included in the path as `{ID}`.

The `CdtTrfTxInf.VrfctnOfTerms.IlpV4PrepPacket` must contain the ILPv4 cryptographically signed packet, which is a cryptographic version of the transfers terms. These are the terms against with the payer DFSP agrees, and against which the non-repudiation of the transfer is base. It is thus important that the payer DFSP inspects these terms.

Here is an example of the message:

```
{
"GrpHdr": {
    "MsgId": "01JBVM19SPQAQV9EEP0QC1RNAD",
    "CreDtTm": "2024-11-04T12:57:42.455Z",
    "NbOfTxs": "1",
    "SttlmInf": { "SttlmMtd": "CLRG" },
    "PmtInstrXpryDtTm": "2024-11-04T12:58:42.450Z"
},
"CdtTrfTxInf": {
    "PmtId": { "TxId": "01JBVM19DFKNRWC21FGJNTHRAT" },
    "Dbtr": { "Id": { "PrvtId": { "Othr": { "SchmeNm": { "Prtry": "MSISDN" },
                                            "Id": "16135551001"}}},
        "Name": "Payer Joe" },
    "DbtrAgt": { "FinInstnId": { "Othr": { "Id": "payer-dfsp"}}},
    "Cdtr": { "Id": { "PrvtId": { "Othr": { "SchmeNm": { "Prtry": "MSISDN" },
```

```
                                              "Id": "16665551002"}}},
    "CdtrAgt": { "FinInstnId": { "Othr": { "Id": "payee-dfsp"}}},
    "ChrgBr": "CRED",
    "IntrBkSttlmAmt": {
        "Ccy": "MWK",
        "ActiveCurrencyAndAmount": "1080" },
    "InstdAmt": {
        "Ccy": "MWK",
        "ActiveOrHistoricCurrencyAndAmount": "1080" },
    "ChrgsInf": {
        "Amt": { "Ccy": "MWK",
                 "ActiveOrHistoricCurrencyAndAmount": "0" },
        "Agt": { "FinInstnId": { "Othr": { "Id": "payee-dfsp"}}}},
    "VrfctnOfTerms": { "IlpV4PrepPacket": "DIICzQAAAA..." }}}
  }
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details
   This section specifies the header requirements for the API are specified.
2. Required Fields
   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields
   This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)
4. Unsupported Fields
   This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.
5. Supported HTTP Responses
   This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an * asterisks.

Name	Description
Content-Length *integer* (header)	The Content-Length header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, MSISDN, PERSONAL_ID.
* **ID** *string* (path)	The identifier value.

Name	Description
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - Group Header	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - Message Identification	Specifies a character string with a maximum length of 35 characters.
* **CreDtTm** - Creation Date and Time	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
* **NbOfTxs** - Number of Transactions	Specifies a numeric string with a maximum length of 15 digits.
* **SttlmInf** - Settlement Information	Specifies the details on how the settlement of the original transaction(s) between the instructing agent and the instructed agent was completed.
* **SttlmMtd** - SettlementMethodCode	Specifies the method used to settle the credit transfer instruction. INDA: Indirect Account INGA: Indirect Agent COVE: Cover CLRG: Clearing

ISO 20022 Field	Description
* **PmtInstrXpryDtTm** - Payment Instruction Expiry Date and Time	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
* **CdtTrfTxInf** - Credit Transfer Transaction Information	Set of elements providing information specific to the individual credit transfer(s).
* **PmtId** - PaymentIdentification	Set of elements used to reference a payment instruction.

ISO 20022 Field	Description
* **TxId** - TransactionIdentification (FSPIOP equivalent: quoteId in quote request, transferId in transfer request)	Definition: Unique identification, as assigned by the first instructing agent, to unambiguously identify the transaction that is passed on, unchanged, throughout the entire interbank chain. Usage: The transaction identification can be used for reconciliation, tracking or to link tasks relating to the transaction on the interbank level. Usage: The instructing agent has to make sure that the transaction identification is unique for a preagreed period. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
* **IntrBkSttlmAmt** - InterbankSettlementAmount	Amount of money moved between the instructing agent and the instructed agent.
* **ActiveCurrencyAndAmount**	
* **Ccy** - Currency	Identification of the currency in which the account is held.
* **ChrgBr** - ChargeBearerTypeCode	Specifies which party(ies) will pay charges due for processing of the instruction. DEBT: BorneByDebtor All transaction charges are to be borne by the debtor. CRED: BorneByCreditor All transaction charges are to be borne by the creditor. SHAR: Shared In a credit transfer context, means that transaction charges on the sender side are to be borne by the debtor, transaction charges on the receiver side are to be borne by the creditor. In a direct debit context, means that transaction charges on the sender side are to be borne by the creditor, transaction charges on the receiver
* **Dbtr** - Debtor	Party that owes an amount of money to the (ultimate) creditor.

ISO 20022 Field	Description
* **Id** - Identification	Unique and unambiguous identification of a party.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - Person	Unique and unambiguous identification of a person, for example a passport.
* **DbtrAgt** - DebtorAgent	Financial institution servicing an account for the debtor.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **CdtrAgt** - CreditorAgent	Financial institution servicing an account for the creditor.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **Cdtr** - Creditor	Party to which an amount of money is due.
* **Id** - Identification	Unique and unambiguous identification of a party.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - Person	Unique and unambiguous identification of a person, for example a passport.
* **VrfctnOfTerms** - CryptographicLockChoice	Cryptographically signed terms
{or * **IlpV4PrepPacket** - Interledger Protocol packet (ILPv4) containing Cryptographically signed terms	Interledger Protocol packet (ILPv4) containing Cryptographically signed terms
or} * **Sh256Sgntr** - SHA-256 signature of the terms	Specifies a hexadecimal string. NOTE: This pattern is not the original ISO20022 specification.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description

ISO 20022 Field	Description
CdtTrfTxInf.PmtId.**InstrId** - InstructionIdentification (FSPIOP equivalent: transactionRequestId)	Definition: Unique identification, as assigned by an instructing party for an instructed party, to unambiguously identify the instruction. Usage: The instruction identification is a point to point reference that can be used between the instructing party and the instructed party to refer to the individual instruction. It can be included in several messages related to the instruction. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
CdtTrfTxInf.PmtId.**EndToEndId** - EndToEndIdentification (FSPIOP equivalent: transactionId)	Definition: Unique identification, as assigned by the initiating party, to unambiguously identify the transaction. This identification is passed on, unchanged, throughout the entire end-to-end chain. Usage: The end-to-end identification can be used for reconciliation or to link tasks relating to the transaction. It can be included in several messages related to the transaction. Usage: In case there are technical limitations to pass on multiple references, the end-to-end identification must be passed on throughout the entire end-to-end chain. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
CdtTrfTxInf.PmtId.**UETR** - UETR	Universally unique identifier to provide an end-to-end reference of a payment transaction.
CdtTrfTxInf.PmtId.**ClrSysRef** - ClearingSystemReference	Unique reference, as assigned by a clearing system, to unambiguously identify the instruction.
CdtTrfTxInf.Dbtr.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
CdtTrfTxInf.Dbtr.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
CdtTrfTxInf.Dbtr.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Dbtr.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.

ISO 20022 Field	Description
CdtTrfTxInf.Dbtr.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Dbtr.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
CdtTrfTxInf.Dbtr.**PstlAdr** - Postal Address	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.Dbtr.**CtryOfRes** - Country of Residence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
CdtTrfTxInf.Dbtr.**CtctDtls** - Contact Details	Set of elements used to indicate how to contact the party.
CdtTrfTxInf.DbtrAgt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.DbtrAgt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.DbtrAgt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.DbtrAgt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.DbtrAgt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.DbtrAgt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.DbtrAgt.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.CdtrAgt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.CdtrAgt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.CdtrAgt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.CdtrAgt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.CdtrAgt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.

ISO 20022 Field	Description
CdtTrfTxInf.CdtrAgt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.CdtrAgt.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.Cdtr.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
CdtTrfTxInf.Cdtr.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
CdtTrfTxInf.Cdtr.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Cdtr.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
CdtTrfTxInf.Cdtr.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Cdtr.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
CdtTrfTxInf.Cdtr.**PstlAdr** - Postal Address	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.Cdtr.**CtryOfRes** - Country of Residence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
CdtTrfTxInf.Cdtr.**CtctDtls** - Contact Details	Set of elements used to indicate how to contact the party.
CdtTrfTxInf.**PmtTpInf** - PaymentTypeInformation	Set of elements used to further specify the type of transaction.
CdtTrfTxInf.**UndrlygCstmrCdtTrf** - Underlying Customer Credit Transfer	TBD
CdtTrfTxInf.**InstdAmt** - InstructedAmount	Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party.
CdtTrfTxInf.**XchgRate** - ExchangeRate	Factor used to convert an amount from one currency into another. This reflects the price at which one currency was bought with another currency.
CdtTrfTxInf.**ChrgsInf** - ChargesInformation	Provides information on the charges to be paid by the charge bearer(s) related to the payment transaction.
CdtTrfTxInf.**DbtrAcct** - DebtorAccount	Unambiguous identification of the account of the debtor to which a debit entry will be made as a result of the transaction.

ISO 20022 Field	Description
CdtTrfTxInf.**CdtrAcct** - CreditorAccount	Unambiguous identification of the account of the creditor to which a credit entry will be posted as a result of the payment transaction.
CdtTrfTxInf.**InstrForCdtrAgt** - InstructionForCreditorAgent	Set of elements used to provide information on the remittance advice.
CdtTrfTxInf.**InstrForNxtAgt** - InstructionForNextAgent	Set of elements used to provide information on the remittance advice.
CdtTrfTxInf.**Purp** - Purpose	Underlying reason for the payment transaction.
CdtTrfTxInf.**RgltryRptg** - RegulatoryReporting	Information needed due to regulatory and statutory requirements.
CdtTrfTxInf.**Tax** - Tax	Provides details on the tax.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**BtchBookg** - BatchBookingIndicator	
GrpHdr.**CtrlSum** - DecimalNumber	
GrpHdr.**TtlIntrBkSttlmAmt** - ActiveCurrencyAndAmount	A number of monetary units specified in an active currency where the unit of currency is explicit and compliant with ISO 4217.
GrpHdr.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
GrpHdr.SttlmInf.**SttlmAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**ClrSys** - ClearingSystemIdentification3Choice	
GrpHdr.SttlmInf.**InstgRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**InstgRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**InstdRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.

ISO 20022 Field	Description
GrpHdr.SttlmInf.**InstdRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**ThrdRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**ThrdRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.**PmtTpInf** - PaymentTypeInformation	Provides further details of the type of payment.
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
CdtTrfTxInf.**SttlmPrty** - Priority3Code	
CdtTrfTxInf.**SttlmTmIndctn** - SettlementDateTimeIndication1	
CdtTrfTxInf.**SttlmTmReq** - SettlementTimeRequest2	

ISO 20022 Field	Description
CdtTrfTxInf.**AccptncDtTm** - A particular point in the progression of time defined by a mandatory	date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
CdtTrfTxInf.**PoolgAdjstmntDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
CdtTrfTxInf.ChrgsInf.Agt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.ChrgsInf.Agt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**MndtRltdInf** - CreditTransferMandateData1	
CdtTrfTxInf.**PrvsInstgAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**PrvsInstgAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**PrvsInstgAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.

ISO 20022 Field	Description
CdtTrfTxInf.**PrvsInstgAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**IntrmyAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**IntrmyAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**UltmtDbtr** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.**InitgPty** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.DbtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.DbtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**DbtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.CdtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.CdtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**CdtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**UltmtCdtr** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.**RltdRmtInf** - RemittanceLocation8	
CdtTrfTxInf.**RmtInf** - RemittanceInformation22	
CdtTrfTxInf.**SplmtryData** - SupplementaryData	Additional information that cannot be captured in the structured fields and/or any other specific block.

ISO 20022 Field	Description
SplmtryData - SupplementaryData	Additional information that cannot be captured in the structured fields and/or any other specific block.

Supported HTTP Responses

HTTP Error Code	Description and Common Causes
400 Bad Request	**Description**: The server could not understand the request due to invalid syntax. This response indicates that the request was malformed or contained invalid parameters. **Common Causes**: Missing required fields, invalid field values, or incorrect request format.
401 Unauthorized	**Description**: The client must authenticate itself to get the requested response. This response indicates that the request lacks valid authentication credentials. **Common Causes**: Missing or invalid authentication token.
403 Forbidden	**Description**: The client does not have access rights to the content. This response indicates that the server understood the request but refuses to authorize it. **Common Causes**: Insufficient permissions to access the resource.
404 Not Found	**Description**: The server can not find the requested resource. This response indicates that the specified resource does not exist. **Common Causes**: Incorrect resource identifier or the resource has been deleted.
405 Method Not Allowed	**Description**: The request method is known by the server but is not supported by the target resource. This response indicates that the HTTP method used is not allowed for the endpoint. **Common Causes**: Using an unsupported HTTP method (e.g., POST instead of PUT).
406 Not Acceptable	**Description**: The server cannot produce a response matching the list of acceptable values defined in the request's proactive content negotiation headers. This response indicates that the server cannot generate a response that is acceptable according to the Accept headers sent in the request. **Common Causes**: Unsupported media type or format specified in the Accept header.
501 Not Implemented	**Description**: The server does not support the functionality required to fulfill the request. This response indicates that the server does not recognize the request method or lacks the ability to fulfill the request. **Common Causes**: The requested functionality is not implemented on the server.
503 Service Unavailable	**Description**: The server is not ready to handle the request. This response indicates that the server is temporarily unable to handle the request due to maintenance or overload. **Common Causes**: Server maintenance, temporary overload, or server downtime.

Common Error Payload

All error responses return a common payload structure that includes a specific message. The payload typically contains the following fields:

- **errorCode**: A code representing the specific error.
- **errorDescription**: A description of the error.
- **extensionList**: An optional list of key-value pairs providing additional information about the error.

This common error payload helps clients understand the nature of the error and take appropriate actions.

7.9 PUT /quotes/{ID}/error

Financial Institution to Financial Institution Payment Status Report - pacs.002.001.15

Context

(DFSP -> DFSP, HUB -> DFSP)

This is triggered as a callback response to the POST /quotes call when an error occurs. The message is generated by the entity who first encounter the error which can either be the DFSP, or the HUB. All other participants involved are informed by this message. The `TxInfAndSts.StsRsnInf.Rsn.Cd` contains the Mojaloop error code, which specified the source and cause of the error.

Here is an example of the message:

```
{
"GrpHdr": {
    "MsgId":"01JBVM1CGC5A18XQVYYRF68FD1",
    "CreDtTm":"2024-11-04T12:57:45.228Z"},
"TxInfAndSts":{"StsRsnInf":{"Rsn": {"Cd":"ErrorCode"}}}
}
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details
   This section specifies the header requirements for the API are specified.
2. Required Fields
   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields
   This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)
4. Unsupported Fields
   This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.
5. Supported HTTP Responses
   This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an *
asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.

Name	Description
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - Set of characteristics shared by all individual transactions included in the message.	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - MessageIdentification	Definition: Point to point reference, as assigned by the instructing party, and sent to the next party in the chain to unambiguously identify the message. Usage: The instructing party has to make sure that MessageIdentification is unique per instructed party for a pre-agreed period.
* **CreDtTm** - CreationDateTime	Date and time at which the message was created.
* **TxInfAndSts** - Information concerning the original transactions, to which the status report message refers.	Provides further details on the original transactions, to which the status report message refers.
* **StsRsnInf** - Information concerning the reason for the status.	Unsure on description.
* **Rsn** - Reason	Specifies the reason for the status report.
{or * **Cd** - Code	Reason for the status, as published in an external reason code list.
or} * **Prtry** - Proprietary	Reason for the status, in a proprietary form.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description
TxInfAndSts.StsRsnInf.**Orgtr** - Originator	Party that issues the status.

ISO 20022 Field	Description
TxInfAndSts.StsRsnInf.**AddtlInf** - AdditionalInformation	Additional information about the status report.
TxInfAndSts.**StsId** - Unique identification, as assigned by the original sending party, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**OrgnlInstrId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original instruction. (FSPIOP equivalent: transactionRequestId)
TxInfAndSts.**OrgnlEndToEndId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original end-to-end transaction. (FSPIOP equivalent: transactionId)
TxInfAndSts.**OrgnlTxId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original transaction. (FSPIOP equivalent: quoteId)
TxInfAndSts.**OrgnlUETR** - Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.	Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.

TxInfAndSts.**TxSts** - Specifies the status of the transaction.	Specifies the external payment transaction status code.
	
	For FSPIOP transfer state enumeration mappings:
	{
	"COMM": "COMMITED",
	"RESV": "RESERVED",
	"RECV": "RECEIVED",
	"ABOR": "ABORTED"
	}
	
	NOTE: enum enforcement is not apart of the ISO20022 specification, but is added here for FSPIOP mappings.

ISO 20022 Field	Description
TxInfAndSts.**AccptncDtTm** - Date and time at which the status was accepted.	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.

Note on the time format:
1) beginning / end of calendar day
00:00:00 = the beginning of a calendar day
24:00:00 = the end of a calendar day

2) fractions of second in time format
Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed. |
| TxInfAndSts.**AcctSvcrRef** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the status report. | Specifies a character string with a maximum length of 35 characters. |
| TxInfAndSts.**ClrSysRef** - Reference that is assigned by the account servicing institution and sent to the account owner to unambiguously identify the transaction. | Specifies a character string with a maximum length of 35 characters. |
| TxInfAndSts.**ExctnConf** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the confirmation. | Specifies a hexadecimal string.

NOTE: This pattern is not the original ISO20022 specification. |
| TxInfAndSts.**SplmtryData** - Additional information that cannot be captured in the structured elements and/or any other specific block. | Additional information that cannot be captured in the structured fields and/or any other specific block. |
| TxInfAndSts.**PrcgDt** - Date/time at which the instruction was processed by the specified party. | Specifies the reason for the status. |

ISO 20022 Field	Description
SplmtryData - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**OrgnlBizQry** - OriginalBusinessQuery1	
OrgnlGrpInfAndSts - OriginalGroupHeader22	
TxInfAndSts.**OrgnlGrpInf** - OriginalGroupInformation29	
TxInfAndSts.**ChrgsInf** - NOTE: Unsure on description.	Seemingly a generic schema for charges, with an amount, agent, and type.
TxInfAndSts.**FctvIntrBkSttlmDt** - StatusReasonChoice	Specifies the reason for the status.
TxInfAndSts.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
TxInfAndSts.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
TxInfAndSts.**OrgnlTxRef** - OriginalTransactionReference42	

Supported HTTP Responses

HTTP Error Code	Description and Common Causes

HTTP Error Code	Description and Common Causes
400 Bad Request	**Description**: The server could not understand the request due to invalid syntax. This response indicates that the request was malformed or contained invalid parameters. **Common Causes**: Missing required fields, invalid field values, or incorrect request format.
401 Unauthorized	**Description**: The client must authenticate itself to get the requested response. This response indicates that the request lacks valid authentication credentials. **Common Causes**: Missing or invalid authentication token.
403 Forbidden	**Description**: The client does not have access rights to the content. This response indicates that the server understood the request but refuses to authorize it. **Common Causes**: Insufficient permissions to access the resource.
404 Not Found	**Description**: The server can not find the requested resource. This response indicates that the specified resource does not exist. **Common Causes**: Incorrect resource identifier or the resource has been deleted.
405 Method Not Allowed	**Description**: The request method is known by the server but is not supported by the target resource. This response indicates that the HTTP method used is not allowed for the endpoint. **Common Causes**: Using an unsupported HTTP method (e.g., POST instead of PUT).
406 Not Acceptable	**Description**: The server cannot produce a response matching the list of acceptable values defined in the request's proactive content negotiation headers. This response indicates that the server cannot generate a response that is acceptable according to the Accept headers sent in the request. **Common Causes**: Unsupported media type or format specified in the Accept header.
501 Not Implemented	**Description**: The server does not support the functionality required to fulfill the request. This response indicates that the server does not recognize the request method or lacks the ability to fulfill the request. **Common Causes**: The requested functionality is not implemented on the server.
503 Service Unavailable	**Description**: The server is not ready to handle the request. This response indicates that the server is temporarily unable to handle the request due to maintenance or overload. **Common Causes**: Server maintenance, temporary overload, or server downtime.

Common Error Payload

All error responses return a common payload structure that includes a specific message. The payload typically contains the following fields:

- **errorCode**: A code representing the specific error.
- **errorDescription**: A description of the error.
- **extensionList**: An optional list of key-value pairs providing additional information about the error.

This common error payload helps clients understand the nature of the error and take appropriate actions.

7.10 POST /fxTransfers

Context

(DFSP -> FXP)

This message is initiated by a DFSP who is requesting to transfer funds in another currency. The message is sent to the foreign exchange provider who provided the conversion terms. This message is an acknowledgement that the terms of the conversion are accepted, and is thus an instruction to proceed with the conversion.

The source amount and currency are defined here
`CdtTrfTxInf.UndrlygCstmrCdtTrf.InstdAmt.ActiveOrHistoricCurrencyAndAmount` and here
`CdtTrfTxInf.UndrlygCstmrCdtTrf.InstdAmt.Ccy`, and the target amount and currency are defined
`CdtTrfTxInf.IntrBkSttlmAmt.ActiveCurrencyAndAmount` and here
`CdtTrfTxInf.IntrBkSttlmAmt.Ccy`.

This message includes can be seen as an agreement to the terms that have previously been set up and established in the fxQuotes resource. The
`CdtTrfTxInf.UndrlygCstmrCdtTrf.VrfctnOfTerms.Sh256Sgntr` field is a reference to the ILPv4 cryptographic condition of those terms.

The `GrpHdr.PmtInstrXpryDtTm` specifies the expiry of the this transfer message. It is the responsibility of the HUB to enforce this expiry. The status of which a DFSP can query by making a `GET /fxTransfers/{ID}` request.

The currency conversion is dependent on a transfer (the determiningTransferId) and is specified in the `CdtTrfTxInf.PmtId.EndToEndId` field.

Here is an example of the message:

```
{
"GrpHdr":{
    "MsgId":"01JBVM1BW4J0RJZSQ539QB9TKT",
    "CreDtTm":"2024-11-04T12:57:44.580Z",
    "NbOfTxs":"1",
    "SttlmInf":{"SttlmMtd":"CLRG"},
    "PmtInstrXpryDtTm":"2024-11-04T12:58:44.579Z"},
"CdtTrfTxInf":{
    "PmtId":{"TxId":"01JBVM16V1ZXP2DM34BQT40NWA",
             "EndToEndId":"01JBVM13SQYP507JB1DYBZVCMF"},
    "Dbtr":{"FinInstnId":{"Othr":{"Id":"payer-dfsp"}}},
    "UndrlygCstmrCdtTrf":{
            "Dbtr":{"Id":{"OrgId":{"Othr":{"Id":"payer-dfsp"}}}},
            "DbtrAgt":{"FinInstnId":{"Othr":{"Id":"payer-dfsp"}}},
            "Cdtr":{"Id":{"OrgId":{"Othr":{"Id":"fxp"}}}},
            "CdtrAgt":{"FinInstnId":{"Othr":{"Id":"fxp"}}},
            "InstdAmt":{"Ccy":"ZMW",
                "ActiveOrHistoricCurrencyAndAmount":"21"}},
    "Cdtr":{"FinInstnId":{"Othr":{"Id":"fxp"}}},
    "IntrBkSttlmAmt":{"Ccy":"MWK",
```

```
                "ActiveCurrencyAndAmount":"1080"},
      "VrfctnOfTerms":{"Sh256Sgntr":"KVHFmdTD6A..."}}
  }
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details
   This section specifies the header requirements for the API are specified.
2. Required Fields
   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields
   This section specifies which fields can optionally be included in the message. (Some of these fields may
   be required for a specific scheme as defined in the Scheme Rules for that scheme.)
4. Unsupported Fields
   This section specified which fields are actively not supported. The functionality specifying data in these
   fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.
5. Supported HTTP Responses
   This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an *
asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.

Name	Description
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - GroupHeader.	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - Message Identification	Specifies a character string with a maximum length of 35 characters.

ISO 20022 Field	Description
* **CreDtTm** - Creation Date and Time	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
* **NbOfTxs** - Number of Transactions	Specifies a numeric string with a maximum length of 15 digits.
* **SttlmInf** - Settlement Information	Specifies the details on how the settlement of the original transaction(s) between the instructing agent and the instructed agent was completed.
* **SttlmMtd** - SettlementMethodCode	Specifies the method used to settle the credit transfer instruction. INDA: Indirect Account INGA: Indirect Agent COVE: Cover CLRG: Clearing

ISO 20022 Field	Description
* **PmtInstrXpryDtTm** - Payment Instruction Expiry Date and Time	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
* **CdtTrfTxInf** - CreditTransferTransactionInformation.	Set of elements providing information specific to the individual credit transfer(s).
* **PmtId** - PaymentIdentification	Set of elements used to reference a payment instruction.

ISO 20022 Field	Description
* **TxId** - TransactionIdentification (FSPIOP equivalent: quoteId in quote request, transferId in transfer request)	Definition: Unique identification, as assigned by the first instructing agent, to unambiguously identify the transaction that is passed on, unchanged, throughout the entire interbank chain.

Usage: The transaction identification can be used for reconciliation, tracking or to link tasks relating to the transaction on the interbank level.

Usage: The instructing agent has to make sure that the transaction identification is unique for a preagreed period.

This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema. |
* **IntrBkSttlmAmt** - InterbankSettlementAmount	Amount of money moved between the instructing agent and the instructed agent.
* **ActiveCurrencyAndAmount**	
* **Ccy** - Currency	Identification of the currency in which the account is held.
* **Dbtr** - Debtor	Party that owes an amount of money to the (ultimate) creditor.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **Cdtr** - Creditor	Party to which an amount of money is due.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **UndrlygCstmrCdtTrf** - Underlying Customer Credit Transfer	TBD
* **Dbtr** - Party that owes an amount of money to the (ultimate) creditor.	Specifies the identification of a person or an organisation.
* **Id** - Identification	Unique and unambiguous identification of a party.

ISO 20022 Field	Description
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - Person	Unique and unambiguous identification of a person, for example a passport.
* **Cdtr** - Party to which an amount of money is due.	Specifies the identification of a person or an organisation.
* **Id** - Identification	Unique and unambiguous identification of a party.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - Person	Unique and unambiguous identification of a person, for example a passport.
* **DbtrAgt** - Financial institution servicing an account for the debtor.	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **CdtrAgt** - Financial institution servicing an account for the creditor.	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **InstdAmt** - InstructedAmount	Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party.
* **ActiveOrHistoricCurrencyAndAmount** - Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party.	Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party.
* **Ccy** - Currency	Identification of the currency in which the account is held.
* **VrfctnOfTerms** - VerificationOfTerms	Set of elements used to provide information on the underlying terms of the transaction.

ISO 20022 Field	Description
{or * **IlpV4PrepPacket** - Interledger Protocol packet (ILPv4) containing Cryptographically signed terms	Interledger Protocol packet (ILPv4) containing Cryptographically signed terms
or} * **Sh256Sgntr** - SHA-256 signature of the terms	Specifies a hexadecimal string. NOTE: This pattern is not the original ISO20022 specification.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description
CdtTrfTxInf.PmtId.**InstrId** - InstructionIdentification (FSPIOP equivalent: transactionRequestId)	Definition: Unique identification, as assigned by an instructing party for an instructed party, to unambiguously identify the instruction. Usage: The instruction identification is a point to point reference that can be used between the instructing party and the instructed party to refer to the individual instruction. It can be included in several messages related to the instruction. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.

ISO 20022 Field	Description
CdtTrfTxInf.PmtId.**EndToEndId** - EndToEndIdentification (FSPIOP equivalent: transactionId)	Definition: Unique identification, as assigned by the initiating party, to unambiguously identify the transaction. This identification is passed on, unchanged, throughout the entire end-to-end chain. Usage: The end-to-end identification can be used for reconciliation or to link tasks relating to the transaction. It can be included in several messages related to the transaction. Usage: In case there are technical limitations to pass on multiple references, the end-to-end identification must be passed on throughout the entire end-to-end chain. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
CdtTrfTxInf.PmtId.**UETR** - UETR	Universally unique identifier to provide an end-to-end reference of a payment transaction.
CdtTrfTxInf.PmtId.**ClrSysRef** - ClearingSystemReference	Unique reference, as assigned by a clearing system, to unambiguously identify the instruction.
CdtTrfTxInf.Dbtr.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.Dbtr.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.Dbtr.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.

ISO 20022 Field	Description
CdtTrfTxInf.Dbtr.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.Dbtr.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.Dbtr.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Dbtr.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.Cdtr.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.Cdtr.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.Cdtr.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.Cdtr.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.Cdtr.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.Cdtr.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Cdtr.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.**PstlAdr** - Postal Address	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.**CtryOfRes** - Country of Residence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Dbtr.**CtctDtls** - Contact Details	Set of elements used to indicate how to contact the party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.**PstlAdr** - Postal Address	Information that locates and identifies a specific address, as defined by postal services.

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.**CtryOfRes** - Country of Residence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
CdtTrfTxInf.UndrlygCstmrCdtTrf.Cdtr.**CtctDtls** - Contact Details	Set of elements used to indicate how to contact the party.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.**PmtTpInf** - PaymentTypeInformation	Set of elements used to further specify the type of transaction.
CdtTrfTxInf.**DbtrAcct** - DebtorAccount	Account used to process a payment.
CdtTrfTxInf.**DbtrAgt** - DebtorAgent	Financial institution servicing an account for the debtor.
CdtTrfTxInf.**CdtrAgt** - CreditorAgent	Financial institution servicing an account for the creditor.
CdtTrfTxInf.**CdtrAcct** - CreditorAccount	Account to which a credit entry is made.
CdtTrfTxInf.**InstrForCdtrAgt** - InstructionForCreditorAgent	Set of elements used to provide information on the remittance advice.
CdtTrfTxInf.**Purp** - Purpose	Underlying reason for the payment transaction.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**BtchBookg** - BatchBookingIndicator	
GrpHdr.**CtrlSum** - DecimalNumber	
GrpHdr.**TtlIntrBkSttlmAmt** - ActiveCurrencyAndAmount	A number of monetary units specified in an active currency where the unit of currency is explicit and compliant with ISO 4217.

ISO 20022 Field	Description
GrpHdr.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
GrpHdr.SttlmInf.**SttlmAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**ClrSys** - ClearingSystemIdentification3Choice	
GrpHdr.SttlmInf.**InstgRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**InstgRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**InstdRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**InstdRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**ThrdRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**ThrdRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.**PmtTpInf** - PaymentTypeInformation	Provides further details of the type of payment.
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.

ISO 20022 Field	Description
CdtTrfTxInf.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
CdtTrfTxInf.**SttlmPrty** - Priority3Code	
CdtTrfTxInf.**SttlmTmIndctn** - SettlementDateTimeIndication1	
CdtTrfTxInf.**SttlmTmReq** - SettlementTimeRequest2	
CdtTrfTxInf.**PrvsInstgAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**PrvsInstgAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**PrvsInstgAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt1Acct** - CashAccount	Provides the details to identify an account.

ISO 20022 Field	Description
CdtTrfTxInf.**IntrmyAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**IntrmyAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**UltmtDbtr** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.Dbtr.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.Dbtr.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.DbtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.DbtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**DbtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.CdtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.CdtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**CdtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.Cdtr.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.Cdtr.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**UltmtCdtr** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.

ISO 20022 Field	Description
CdtTrfTxInf.**InstrForNxtAgt** - InstructionForNextAgent	Further information related to the processing of the payment instruction, provided by the initiating party, and intended for the next agent in the payment chain.
CdtTrfTxInf.**RmtInf** - RemittanceInformation2	
CdtTrfTxInf.**UndrlygAllcn** - TransactionAllocation1	
CdtTrfTxInf.UndrlygCstmrCdtTrf.**UltmtDbtr** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**InitgPty** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**DbtrAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.UndrlygCstmrCdtTrf.DbtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**DbtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**PrvsInstgAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.

ISO 20022 Field	Description
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**IntrmyAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.UndrlygCstmrCdtTrf.CdtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**CdtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**CdtrAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**UltmtCdtr** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**InstrForCdtrAgt** - InstructionForCreditorAgent	Further information related to the processing of the payment instruction, provided by the initiating party, and intended for the creditor agent.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**InstrForNxtAgt** - InstructionForNextAgent	Further information related to the processing of the payment instruction, provided by the initiating party, and intended for the next agent in the payment chain.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**Tax** - TaxData	Details about tax paid, or to be paid, to the government in accordance with the law, including pre-defined parameters such as thresholds and type of account.
CdtTrfTxInf.UndrlygCstmrCdtTrf.**RmtInf** - RemittanceInformation22	

ISO 20022 Field	Description
CdtTrfTxInf.**SplmtryData** - SupplementaryData	Additional information that cannot be captured in the structured fields and/or any other specific block.
SplmtryData - SupplementaryData	Additional information that cannot be captured in the structured fields and/or any other specific block.

7.11 PUT /fxTransfers/{ID}

Financial Institution to Financial Institution Payment Status Report - pacs.002.001.15

Context

(FXP -> DFSP)

This message is a response to the `POST \fxTransfers` call initiated by the DFSP who is requesting to proceed with the conversion terms presented in the `PUT \fxquotes`. It is the FXP's responsibility to check that the clearing amounts align with the agreed conversion terms, and if all requirements are met, use this message to lock-in the agreed terms. Once the hub receives this acceptance message, the conversion can no-longer timeout. Final completion of the conversion will only occur once the dependent transfer is committed.

The cryptographic ILP fulfillment provided in the `TxInfAndSts.ExctnConf` field, is released by the FXP as an indication to the HUB that the terms have been met.

Here is an example of the message:

```
{
"GrpHdr": {
    "MsgId":"01JBVM1CGC5A18XQVYYRF68FD1",
    "CreDtTm":"2024-11-04T12:57:45.228Z"},
"TxInfAndSts":{
    "ExctnConf":"ou1887jmG-l...",
    "PrcgDt":{"DtTm":"2024-11-04T12:57:45.213Z"},
    "TxSts":"RESV"}
}
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details

    This section specifies the header requirements for the API are specified.
2. Required Fields

    This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields

    This section specifies which fields can optionally be included in the message. (Some of these fields may

be required for a specific scheme as defined in the Scheme Rules for that scheme.)

4. Unsupported Fields

   This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.

5. Supported HTTP Responses

   This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an * asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).

Name	Description
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - Set of characteristics shared by all individual transactions included in the message.	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - MessageIdentification	Definition: Point to point reference, as assigned by the instructing party, and sent to the next party in the chain to unambiguously identify the message. Usage: The instructing party has to make sure that MessageIdentification is unique per instructed party for a pre-agreed period.
* **CreDtTm** - CreationDateTime	Date and time at which the message was created.
* **TxInfAndSts** - Information concerning the original transactions, to which the status report message refers.	Provides further details on the original transactions, to which the status report message refers.

ISO 20022 Field	Description
* **ExctnConf** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the confirmation.	Specifies a hexadecimal string. NOTE: This pattern is not the original ISO20022 specification.
* **PrcgDt** - Date/time at which the instruction was processed by the specified party.	Specifies the reason for the status.
{or * **Dt** - Date	Specified date.
or} * **DtTm** - DateTime	Specified date and time.

* **TxSts** - Specifies the status of the transaction.	Specifies the external payment transaction status code.
	
	For FSPIOP transfer state enumeration mappings:
	{
	"COMM": "COMMITED",
	"RESV": "RESERVED",
	"RECV": "RECEIVED",
	"ABOR": "ABORTED"
	}
	
	NOTE: enum enforcement is not apart of the ISO20022 specification, but is added here for FSPIOP mappings.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description
TxInfAndSts.**StsId** - Unique identification, as assigned by the original sending party, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**OrgnlInstrId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original instruction. (FSPIOP equivalent: transactionRequestId)
TxInfAndSts.**OrgnlEndToEndId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original end-to-end transaction. (FSPIOP equivalent: transactionId)

ISO 20022 Field	Description
TxInfAndSts.**OrgnlTxId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original transaction. (FSPIOP equivalent: quoteId)
TxInfAndSts.**OrgnlUETR** - Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.	Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.
TxInfAndSts.**StsRsnInf** - Information concerning the reason for the status.	Unsure on description.
TxInfAndSts.**AccptncDtTm** - Date and time at which the status was accepted.	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
TxInfAndSts.**AcctSvcrRef** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**ClrSysRef** - Reference that is assigned by the account servicing institution and sent to the account owner to unambiguously identify the transaction.	Specifies a character string with a maximum length of 35 characters.

ISO 20022 Field	Description
TxInfAndSts.**SplmtryData** - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.
SplmtryData - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**BtchBookg** - BatchBookingIndicator	
GrpHdr.**NbOfTxs** - MaxNumericText	Specifies a numeric string with a maximum length of 15 digits.
GrpHdr.**CtrlSum** - DecimalNumber	
GrpHdr.**TtlIntrBkSttlmAmt** - ActiveCurrencyAndAmount	A number of monetary units specified in an active currency where the unit of currency is explicit and compliant with ISO 4217.
GrpHdr.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
GrpHdr.**SttlmInf** - Specifies the details on how the settlement of the original transaction(s) between the	instructing agent and the instructed agent was completed.
GrpHdr.**PmtTpInf** - PaymentTypeInformation	Provides further details of the type of payment.
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf - CreditTransferTransaction62	

7.12 PUT /fxTransfers/{ID}/error

Financial Institution to Financial Institution Payment Status Report - pacs.002.001.15

Context

(FXP -> DFSP, FXP -> HUB, DFSP -> HUB, DFSP -> FXP, HUB -> DFSP)

This is triggered as a callback response to the POST /fxTransfers call when an error occurs. The message is generated by the entity who first encounter the error which can either be the DFSP, or the HUB. All other participants involved are informed by this message. The `TxInfAndSts.StsRsnInf.Rsn.Cd` contains the Mojaloop error code, which specified the source and cause of the error.

Here is an example of the message:

```
{
"GrpHdr": {
    "MsgId":"01JBVM1CGC5A18XQVYYRF68FD1",
    "CreDtTm":"2024-11-04T12:57:45.228Z"},
"TxInfAndSts":{"StsRsnInf":{"Rsn": {"Cd":"ErrorCode"}}}
}
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details
   This section specifies the header requirements for the API are specified.
2. Required Fields
   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields
   This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)
4. Unsupported Fields
   This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.
5. Supported HTTP Responses
   This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an * asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).

Name	Description
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.

Name	Description
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - Set of characteristics shared by all individual transactions included in the message.	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - MessageIdentification	Definition: Point to point reference, as assigned by the instructing party, and sent to the next party in the chain to unambiguously identify the message. Usage: The instructing party has to make sure that MessageIdentification is unique per instructed party for a pre-agreed period.
* **CreDtTm** - CreationDateTime	Date and time at which the message was created.
* **TxInfAndSts** - Information concerning the original transactions, to which the status report message refers.	Provides further details on the original transactions, to which the status report message refers.
* **StsRsnInf** - Information concerning the reason for the status.	Unsure on description.
* **Rsn** - Reason	Specifies the reason for the status report.
{or * **Cd** - Code	Reason for the status, as published in an external reason code list.
or} * **Prtry** - Proprietary	Reason for the status, in a proprietary form.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description
TxInfAndSts.StsRsnInf.**Orgtr** - Originator	Party that issues the status.
TxInfAndSts.StsRsnInf.**AddtlInf** - AdditionalInformation	Additional information about the status report.

ISO 20022 Field	Description
TxInfAndSts.**StsId** - Unique identification, as assigned by the original sending party, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**OrgnlInstrId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original instruction. (FSPIOP equivalent: transactionRequestId)
TxInfAndSts.**OrgnlEndToEndId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original end-to-end transaction. (FSPIOP equivalent: transactionId)
TxInfAndSts.**OrgnlTxId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original transaction. (FSPIOP equivalent: quoteId)
TxInfAndSts.**OrgnlUETR** - Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.	Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.

TxInfAndSts.**TxSts** - Specifies the status of the transaction.	Specifies the external payment transaction status code.
	
	For FSPIOP transfer state enumeration mappings:
	{
	"COMM": "COMMITED",
	"RESV": "RESERVED",
	"RECV": "RECEIVED",
	"ABOR": "ABORTED"
	}
	
	NOTE: enum enforcement is not apart of the ISO20022 specification, but is added here for FSPIOP mappings.

ISO 20022 Field	Description
TxInfAndSts.**AccptncDtTm** - Date and time at which the status was accepted.	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
TxInfAndSts.**AcctSvcrRef** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**ClrSysRef** - Reference that is assigned by the account servicing institution and sent to the account owner to unambiguously identify the transaction.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**ExctnConf** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the confirmation.	Specifies a hexadecimal string. NOTE: This pattern is not the original ISO20022 specification.
TxInfAndSts.**SplmtryData** - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.
TxInfAndSts.**PrcgDt** - Date/time at which the instruction was processed by the specified party.	Specifies the reason for the status.

ISO 20022 Field	Description
SplmtryData - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**OrgnlBizQry** - OriginalBusinessQuery1	
OrgnlGrpInfAndSts - OriginalGroupHeader22	
TxInfAndSts.**OrgnlGrpInf** - OriginalGroupInformation29	
TxInfAndSts.**ChrgsInf** - NOTE: Unsure on description.	Seemingly a generic schema for charges, with an amount, agent, and type.
TxInfAndSts.**FctvIntrBkSttlmDt** - StatusReasonChoice	Specifies the reason for the status.
TxInfAndSts.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
TxInfAndSts.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
TxInfAndSts.**OrgnlTxRef** - OriginalTransactionReference42	

7.13 PATCH /fxTransfers/{ID}

Financial Institution to Financial Institution Payment Status Report - pacs.002.001.15

Context

(HUB -> FXP)

This message use by the HUB to inform the foreign exchange provider participant in a cross currency transfer of the successful conclusion of the conversion. This message is only generated if the dependent transfer is committed in the hub.

Here is an example of the message:

```
{
"GrpHdr": {
    "MsgId":"01JBVM1CGC5A18XQVYYRF68FD1",
    "CreDtTm":"2024-11-04T12:57:45.228Z"},
"TxInfAndSts":{
    "PrcgDt":{
        "DtTm":"2024-11-04T12:57:45.213Z"},
    "TxSts":"COMM"}
}
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details
   This section specifies the header requirements for the API are specified.
2. Required Fields
   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields
   This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)
4. Unsupported Fields
   This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.
5. Supported HTTP Responses
   This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an *
asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.

Name	Description
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - Set of characteristics shared by all individual transactions included in the message.	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - MessageIdentification	Definition: Point to point reference, as assigned by the instructing party, and sent to the next party in the chain to unambiguously identify the message. Usage: The instructing party has to make sure that MessageIdentification is unique per instructed party for a pre-agreed period.
* **CreDtTm** - CreationDateTime	Date and time at which the message was created.
* **TxInfAndSts** - Information concerning the original transactions, to which the status report message refers.	Provides further details on the original transactions, to which the status report message refers.
* **PrcgDt** - Date/time at which the instruction was processed by the specified party.	Specifies the reason for the status.
{or * **Dt** - Date	Specified date.
or} * **DtTm** - DateTime	Specified date and time.

* **TxSts** - Specifies the status of the transaction.	Specifies the external payment transaction status code.
	
	For FSPIOP transfer state enumeration mappings:
	{
	"COMM": "COMMITED",
	"RESV": "RESERVED",
	"RECV": "RECEIVED",
	"ABOR": "ABORTED"
	}
	
	NOTE: enum enforcement is not apart of the ISO20022 specification, but is added here for FSPIOP mappings.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description

ISO 20022 Field	Description
TxInfAndSts.**StsId** - Unique identification, as assigned by the original sending party, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**OrgnlInstrId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original instruction. (FSPIOP equivalent: transactionRequestId)
TxInfAndSts.**OrgnlEndToEndId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original end-to-end transaction. (FSPIOP equivalent: transactionId)
TxInfAndSts.**OrgnlTxId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original transaction. (FSPIOP equivalent: quoteId)
TxInfAndSts.**OrgnlUETR** - Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.	Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.
TxInfAndSts.**StsRsnInf** - Information concerning the reason for the status.	Unsure on description.

ISO 20022 Field	Description
TxInfAndSts.**AccptncDtTm** - Date and time at which the status was accepted.	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
TxInfAndSts.**AcctSvcrRef** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**ClrSysRef** - Reference that is assigned by the account servicing institution and sent to the account owner to unambiguously identify the transaction.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**ExctnConf** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the confirmation.	Specifies a hexadecimal string. NOTE: This pattern is not the original ISO20022 specification.
TxInfAndSts.**SplmtryData** - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.
SplmtryData - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**OrgnlBizQry** - OriginalBusinessQuery1	
OrgnlGrpInfAndSts - OriginalGroupHeader22	
TxInfAndSts.**OrgnlGrpInf** - OriginalGroupInformation29	
TxInfAndSts.**ChrgsInf** - NOTE: Unsure on description.	Seemingly a generic schema for charges, with an amount, agent, and type.
TxInfAndSts.**FctvIntrBkSttlmDt** - StatusReasonChoice	Specifies the reason for the status.
TxInfAndSts.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
TxInfAndSts.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
TxInfAndSts.**OrgnlTxRef** - OriginalTransactionReference42	

7.14 POST /transfers

Financial Institution to Financial Institution Customer Credit Transfer - pacs.008.001.13

Context

(DFSP -> DFSP)

This message is initiated by a payer DFSP who is requesting to transfer funds. The message is sent to the payee DFSP who provided the transfer terms in the `PUT /quotes` message. This message is an acknowledgement that the terms of the transfer are accepted, and is thus an instruction to proceed with the transfer.

The transfer amount which is the clearing amount that the payee DFSP receives is defined in the `CdtTrfTxInf.IntrBkSttlmAmt.Ccy` and `CdtTrfTxInf.IntrBkSttlmAmt.ActiveCurrencyAndAmount`

fields. If this transfer includes currency conversion, then this amount an currency must correspond with the target amount and currency.

This message can be seen as an agreement to the terms that have previously been set up and established in the `PUT \quotes` message. The `CdtTrfTxInf.VrfctnOfTerms.IlpV4PrepPacket` field is the ILP packet containing the terms that have been agreed to.

The `GrpHdr.PmtInstrXpryDtTm` specifies the expiry of the this transfer message. It is the responsibility of the HUB to enforce this expiry. The status of which a DFSP can query by making a `GET /transfers/{ID}` request.

Here is an example of the message:

```json
{
"GrpHdr":{
    "MsgId":"01JBVM1D2MR6D4WBWWYY3ZHGMM",
    "CreDtTm":"2024-11-04T12:57:45.812Z",
    "NbOfTxs":"1",
    "SttlmInf":{"SttlmMtd":"CLRG"},
    "PmtInstrXpryDtTm":"2024-11-04T12:58:45.810Z"},
"CdtTrfTxInf":{
    "PmtId":{"TxId":"01JBVM13SQYP507JB1DYBZVCMF"},
    "ChrgBr":"CRED",
    "Cdtr":{"Id":{"PrvtId":{"Othr":{"SchmeNm":{"Prtry":"MSISDN"},
                                    "Id":"16665551002"}}}},
    "Dbtr":{"Id":{"PrvtId":{"Othr":{"SchmeNm":{"Prtry":"MSISDN"},
                                    "Id":"16135551001"}}},
            "Name":"Joe Blogs"},
    "CdtrAgt":{"FinInstnId":{"Othr":{"Id":"payee-dfsp"}}},
    "DbtrAgt":{"FinInstnId":{"Othr":{"Id":"payer-dfsp"}}},
    "IntrBkSttlmAmt":{"Ccy":"MWK",
            "ActiveCurrencyAndAmount":"1080"},
    "VrfctnOfTerms":{"IlpV4PrepPacket":"DIICzQAAAAAAaX..."}}
}
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details
   This section specifies the header requirements for the API are specified.
2. Required Fields
   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields
   This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)
4. Unsupported Fields
   This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.

5. Supported HTTP Responses

This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an * asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.

Name	Description
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - Group Header	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - Message Identification	Specifies a character string with a maximum length of 35 characters.

ISO 20022 Field	Description
* **CreDtTm** - Creation Date and Time	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
* **NbOfTxs** - Number of Transactions	Specifies a numeric string with a maximum length of 15 digits.
* **SttlmInf** - Settlement Information	Specifies the details on how the settlement of the original transaction(s) between the instructing agent and the instructed agent was completed.
* **SttlmMtd** - SettlementMethodCode	Specifies the method used to settle the credit transfer instruction. INDA: Indirect Account INGA: Indirect Agent COVE: Cover CLRG: Clearing

ISO 20022 Field	Description
* **PmtInstrXpryDtTm** - Payment Instruction Expiry Date and Time	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
* **CdtTrfTxInf** - Credit Transfer Transaction Information	Set of elements providing information specific to the individual credit transfer(s).
* **PmtId** - PaymentIdentification	Set of elements used to reference a payment instruction.

ISO 20022 Field	Description
* **TxId** - TransactionIdentification (FSPIOP equivalent: quoteId in quote request, transferId in transfer request)	Definition: Unique identification, as assigned by the first instructing agent, to unambiguously identify the transaction that is passed on, unchanged, throughout the entire interbank chain. Usage: The transaction identification can be used for reconciliation, tracking or to link tasks relating to the transaction on the interbank level. Usage: The instructing agent has to make sure that the transaction identification is unique for a preagreed period. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
* **IntrBkSttlmAmt** - InterbankSettlementAmount	Amount of money moved between the instructing agent and the instructed agent.
* **ActiveCurrencyAndAmount**	
* **Ccy** - Currency	Identification of the currency in which the account is held.
* **ChrgBr** - ChargeBearerTypeCode	Specifies which party(ies) will pay charges due for processing of the instruction. DEBT: BorneByDebtor All transaction charges are to be borne by the debtor. CRED: BorneByCreditor All transaction charges are to be borne by the creditor. SHAR: Shared In a credit transfer context, means that transaction charges on the sender side are to be borne by the debtor, transaction charges on the receiver side are to be borne by the creditor. In a direct debit context, means that transaction charges on the sender side are to be borne by the creditor, transaction charges on the receiver
* **Dbtr** - Debtor	Party that owes an amount of money to the (ultimate) creditor.

ISO 20022 Field	Description
* **Id** - Identification	Unique and unambiguous identification of a party.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - Person	Unique and unambiguous identification of a person, for example a passport.
* **DbtrAgt** - DebtorAgent	Financial institution servicing an account for the debtor.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **CdtrAgt** - CreditorAgent	Financial institution servicing an account for the creditor.
* **FinInstnId** - FinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
* **Cdtr** - Creditor	Party to which an amount of money is due.
* **Id** - Identification	Unique and unambiguous identification of a party.
{or * **OrgId** - Organisation	Unique and unambiguous way to identify an organisation.
or} * **PrvtId** - Person	Unique and unambiguous identification of a person, for example a passport.
* **VrfctnOfTerms** - CryptographicLockChoice	Cryptographically signed terms
{or * **IlpV4PrepPacket** - Interledger Protocol packet (ILPv4) containing Cryptographically signed terms	Interledger Protocol packet (ILPv4) containing Cryptographically signed terms
or} * **Sh256Sgntr** - SHA-256 signature of the terms	Specifies a hexadecimal string. NOTE: This pattern is not the original ISO20022 specification.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description

ISO 20022 Field	Description
CdtTrfTxInf.PmtId.**InstrId** - InstructionIdentification (FSPIOP equivalent: transactionRequestId)	Definition: Unique identification, as assigned by an instructing party for an instructed party, to unambiguously identify the instruction. Usage: The instruction identification is a point to point reference that can be used between the instructing party and the instructed party to refer to the individual instruction. It can be included in several messages related to the instruction. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
CdtTrfTxInf.PmtId.**EndToEndId** - EndToEndIdentification (FSPIOP equivalent: transactionId)	Definition: Unique identification, as assigned by the initiating party, to unambiguously identify the transaction. This identification is passed on, unchanged, throughout the entire end-to-end chain. Usage: The end-to-end identification can be used for reconciliation or to link tasks relating to the transaction. It can be included in several messages related to the transaction. Usage: In case there are technical limitations to pass on multiple references, the end-to-end identification must be passed on throughout the entire end-to-end chain. This field has been changed from the original ISO20022 `Max35Text`` schema to a ULIDIdentifier schema.
CdtTrfTxInf.PmtId.**UETR** - UETR	Universally unique identifier to provide an end-to-end reference of a payment transaction.
CdtTrfTxInf.PmtId.**ClrSysRef** - ClearingSystemReference	Unique reference, as assigned by a clearing system, to unambiguously identify the instruction.
CdtTrfTxInf.Dbtr.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
CdtTrfTxInf.Dbtr.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
CdtTrfTxInf.Dbtr.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Dbtr.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.

ISO 20022 Field	Description
CdtTrfTxInf.Dbtr.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Dbtr.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
CdtTrfTxInf.Dbtr.**PstlAdr** - Postal Address	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.Dbtr.**CtryOfRes** - Country of Residence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
CdtTrfTxInf.Dbtr.**CtctDtls** - Contact Details	Set of elements used to indicate how to contact the party.
CdtTrfTxInf.DbtrAgt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.DbtrAgt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.DbtrAgt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.DbtrAgt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.DbtrAgt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.DbtrAgt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.DbtrAgt.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.CdtrAgt.FinInstnId.**BICFI** - BICFI	Code allocated to a financial institution by the ISO 9362 Registration Authority as described in ISO 9362 "Banking - Banking telecommunication messages - Business identifier code (BIC)"
CdtTrfTxInf.CdtrAgt.FinInstnId.**ClrSysMmbId** - ClearingSystemMemberIdentification	Information used to identify a member within a clearing system
CdtTrfTxInf.CdtrAgt.FinInstnId.**LEI** - LEI	Legal entity identifier of the financial institution.
CdtTrfTxInf.CdtrAgt.FinInstnId.**Nm** - Name	Name by which an agent is known and which is usually used to identify that agent
CdtTrfTxInf.CdtrAgt.FinInstnId.**PstlAdr** - PostalAddress	Information that locates and identifies a specific address, as defined by postal services.

ISO 20022 Field	Description
CdtTrfTxInf.CdtrAgt.FinInstnId.**Othr** - Other	Unique identification of an agent, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.CdtrAgt.**BrnchId** - BranchIdentification	Identifies a specific branch of a financial institution.
CdtTrfTxInf.Cdtr.Id.OrgId.**AnyBIC** - AnyBIC	Business identification code of the organisation.
CdtTrfTxInf.Cdtr.Id.OrgId.**LEI** - LEI	Legal entity identification as an alternate identification for a party.
CdtTrfTxInf.Cdtr.Id.OrgId.**Othr** - Other	Unique identification of an organisation, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Cdtr.Id.PrvtId.**DtAndPlcOfBirth** - DateAndPlaceOfBirth	Date and place of birth of a person.
CdtTrfTxInf.Cdtr.Id.PrvtId.**Othr** - Other	Unique identification of a person, as assigned by an institution, using an identification scheme.
CdtTrfTxInf.Cdtr.**Nm** - Name	Name by which a party is known and which is usually used to identify that party.
CdtTrfTxInf.Cdtr.**PstlAdr** - Postal Address	Information that locates and identifies a specific address, as defined by postal services.
CdtTrfTxInf.Cdtr.**CtryOfRes** - Country of Residence	Country in which a person resides (the place of a person's home). In the case of a company, it is the country from which the affairs of that company are directed.
CdtTrfTxInf.Cdtr.**CtctDtls** - Contact Details	Set of elements used to indicate how to contact the party.
CdtTrfTxInf.**PmtTpInf** - PaymentTypeInformation	Set of elements used to further specify the type of transaction.
CdtTrfTxInf.**UndrlygCstmrCdtTrf** - Underlying Customer Credit Transfer	TBD
CdtTrfTxInf.**InstdAmt** - InstructedAmount	Amount of money to be moved between the debtor and creditor, before deduction of charges, expressed in the currency as ordered by the initiating party.
CdtTrfTxInf.**XchgRate** - ExchangeRate	Factor used to convert an amount from one currency into another. This reflects the price at which one currency was bought with another currency.
CdtTrfTxInf.**ChrgsInf** - ChargesInformation	Provides information on the charges to be paid by the charge bearer(s) related to the payment transaction.
CdtTrfTxInf.**DbtrAcct** - DebtorAccount	Unambiguous identification of the account of the debtor to which a debit entry will be made as a result of the transaction.

ISO 20022 Field	Description
CdtTrfTxInf.**CdtrAcct** - CreditorAccount	Unambiguous identification of the account of the creditor to which a credit entry will be posted as a result of the payment transaction.
CdtTrfTxInf.**InstrForCdtrAgt** - InstructionForCreditorAgent	Set of elements used to provide information on the remittance advice.
CdtTrfTxInf.**InstrForNxtAgt** - InstructionForNextAgent	Set of elements used to provide information on the remittance advice.
CdtTrfTxInf.**Purp** - Purpose	Underlying reason for the payment transaction.
CdtTrfTxInf.**RgltryRptg** - RegulatoryReporting	Information needed due to regulatory and statutory requirements.
CdtTrfTxInf.**Tax** - Tax	Provides details on the tax.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**BtchBookg** - BatchBookingIndicator	
GrpHdr.**CtrlSum** - DecimalNumber	
GrpHdr.**TtlIntrBkSttlmAmt** - ActiveCurrencyAndAmount	A number of monetary units specified in an active currency where the unit of currency is explicit and compliant with ISO 4217.
GrpHdr.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
GrpHdr.SttlmInf.**SttlmAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**ClrSys** - ClearingSystemIdentification3Choice	
GrpHdr.SttlmInf.**InstgRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**InstgRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**InstdRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.

ISO 20022 Field	Description
GrpHdr.SttlmInf.**InstdRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.SttlmInf.**ThrdRmbrsmntAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.SttlmInf.**ThrdRmbrsmntAgtAcct** - CashAccount	Provides the details to identify an account.
GrpHdr.**PmtTpInf** - PaymentTypeInformation	Provides further details of the type of payment.
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
CdtTrfTxInf.**SttlmPrty** - Priority3Code	
CdtTrfTxInf.**SttlmTmIndctn** - SettlementDateTimeIndication1	
CdtTrfTxInf.**SttlmTmReq** - SettlementTimeRequest2	

ISO 20022 Field	Description
CdtTrfTxInf.**AccptncDtTm** - A particular point in the progression of time defined by a mandatory	date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
CdtTrfTxInf.**PoolgAdjstmntDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
CdtTrfTxInf.ChrgsInf.Agt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.ChrgsInf.Agt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**MndtRltdInf** - CreditTransferMandateData1	
CdtTrfTxInf.**PrvsInstgAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**PrvsInstgAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**PrvsInstgAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**PrvsInstgAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.

ISO 20022 Field	Description
CdtTrfTxInf.**PrvsInstgAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt1** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt1Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**IntrmyAgt2** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt2Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**IntrmyAgt3** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
CdtTrfTxInf.**IntrmyAgt3Acct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**UltmtDbtr** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.**InitgPty** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.DbtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.DbtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**DbtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.CdtrAgt.FinInstnId.PstlAdr.**CareOf** - MaxText	Specifies a character string with a maximum length of 140 characters.
CdtTrfTxInf.CdtrAgt.FinInstnId.PstlAdr.**UnitNb** - MaxText	Specifies a character string with a maximum length of 16 characters.
CdtTrfTxInf.**CdtrAgtAcct** - CashAccount	Provides the details to identify an account.
CdtTrfTxInf.**UltmtCdtr** - PartyIdentification	Specifies the identification of a person or an organisation.
CdtTrfTxInf.**RltdRmtInf** - RemittanceLocation8	
CdtTrfTxInf.**RmtInf** - RemittanceInformation22	
CdtTrfTxInf.**SplmtryData** - SupplementaryData	Additional information that cannot be captured in the structured fields and/or any other specific block.

ISO 20022 Field	Description
SplmtryData - SupplementaryData	Additional information that cannot be captured in the structured fields and/or any other specific block.

7.15 PUT /transfers/{ID}

Financial Institution to Financial Institution Payment Status Report - pacs.002.001.15

Context

(DFSP -> DFSP, DFSP -> HUB, HUB -> DFSP)

This message is a response to the `POST \transfers` call initiated by the DFSP who is requesting to proceed with the transfer terms presented in the `PUT \quotes`. It is the payee DFSPs responsibility to check that the clearing amounts align with the agreed transfer terms, and if all requirements are met, this message is used to lock-in the agreed terms. Once the hub receives this acceptance message, the transfer can no-longer timeout and will be committed. If this transfer is a dependent transfer in a currency conversion, then that currency conversion will be committed at the same time as this transfer.

The cryptographic ILP fulfillment provided in the `TxInfAndSts.ExctnConf` field, is released by the payee DFSP as an indication to the HUB that the terms have been met.

Here is an example of the message:

```
{
"GrpHdr": {
    "MsgId":"01JBVM1CGC5A18XQVYYRF68FD1",
    "CreDtTm":"2024-11-04T12:57:45.228Z"},
"TxInfAndSts":{
    "ExctnConf":"ou1887jmG-l...",
    "PrcgDt":{
        "DtTm":"2024-11-04T12:57:45.213Z"},
    "TxSts":"RESV"}
}
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details
   This section specifies the header requirements for the API are specified.
2. Required Fields
   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields
   This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)
4. Unsupported Fields
   This section specified which fields are actively not supported. The functionality specifying data in these

fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.

5. Supported HTTP Responses

This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an *
asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.

Name	Description
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - Set of characteristics shared by all individual transactions included in the message.	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - MessageIdentification	Definition: Point to point reference, as assigned by the instructing party, and sent to the next party in the chain to unambiguously identify the message. Usage: The instructing party has to make sure that MessageIdentification is unique per instructed party for a pre-agreed period.
* **CreDtTm** - CreationDateTime	Date and time at which the message was created.
* **TxInfAndSts** - Information concerning the original transactions, to which the status report message refers.	Provides further details on the original transactions, to which the status report message refers.
* **ExctnConf** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the confirmation.	Specifies a hexadecimal string. NOTE: This pattern is not the original ISO20022 specification.
* **PrcgDt** - Date/time at which the instruction was processed by the specified party.	Specifies the reason for the status.

ISO 20022 Field	Description
{or * **Dt** - Date	Specified date.
or} * **DtTm** - DateTime	Specified date and time.

* **TxSts** - Specifies the status of the transaction.	Specifies the external payment transaction status code.
	
	For FSPIOP transfer state enumeration mappings:
	{
	"COMM": "COMMITED",
	"RESV": "RESERVED",
	"RECV": "RECEIVED",
	"ABOR": "ABORTED"
	}
	
	NOTE: enum enforcement is not apart of the ISO20022 specification, but is added here for FSPIOP mappings.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description
TxInfAndSts.**StsId** - Unique identification, as assigned by the original sending party, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**OrgnlInstrId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original instruction. (FSPIOP equivalent: transactionRequestId)
TxInfAndSts.**OrgnlEndToEndId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original end-to-end transaction. (FSPIOP equivalent: transactionId)
TxInfAndSts.**OrgnlTxId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original transaction. (FSPIOP equivalent: quoteId)
TxInfAndSts.**OrgnlUETR** - Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.	Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.

ISO 20022 Field	Description
TxInfAndSts.**StsRsnInf** - Information concerning the reason for the status.	Unsure on description.
TxInfAndSts.**AccptncDtTm** - Date and time at which the status was accepted.	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
TxInfAndSts.**AcctSvcrRef** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**ClrSysRef** - Reference that is assigned by the account servicing institution and sent to the account owner to unambiguously identify the transaction.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**SplmtryData** - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.
SplmtryData - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**BtchBookg** - BatchBookingIndicator	
GrpHdr.**NbOfTxs** - MaxNumericText	Specifies a numeric string with a maximum length of 15 digits.
GrpHdr.**CtrlSum** - DecimalNumber	
GrpHdr.**TtlIntrBkSttlmAmt** - ActiveCurrencyAndAmount	A number of monetary units specified in an active currency where the unit of currency is explicit and compliant with ISO 4217.
GrpHdr.**IntrBkSttlmDt** - ISODate	A particular point in the progression of time in a calendar year expressed in the YYYY-MM-DD format. This representation is defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601.
GrpHdr.**SttlmInf** - Specifies the details on how the settlement of the original transaction(s) between the	instructing agent and the instructed agent was completed.
GrpHdr.**PmtTpInf** - PaymentTypeInformation	Provides further details of the type of payment.
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.

CdtTrfTxInf - CreditTransferTransaction64

7.16 PUT /transfers/{ID}/error

Financial Institution to Financial Institution Payment Status Report - pacs.002.001.15

Context

(DFSP -> DFSP, DFSP -> HUB, HUB -> DFSP)

This is triggered as a callback response to the POST /transfers call when an error occurs. The message is generated by the entity who first encounter the error which can either be the DFSP, or the HUB. All other participants involved are informed by this message. The `TxInfAndSts.StsRsnInf.Rsn.Cd` contains the Mojaloop error code, which specified the source and cause of the error.

Here is an example of the message:

```
{
"GrpHdr": {
    "MsgId":"01JBVM1CGC5A18XQVYYRF68FD1",
    "CreDtTm":"2024-11-04T12:57:45.228Z"},
"TxInfAndSts":{"StsRsnInf":{"Rsn": {"Cd":"ErrorCode"}}}
}
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details

   This section specifies the header requirements for the API are specified.
2. Required Fields

   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields

   This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)
4. Unsupported Fields

   This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.
5. Supported HTTP Responses

   This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an *
asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.

Name	Description
* Date *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* FSPIOP-Source *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description

ISO 20022 Field	Description
* **GrpHdr** - Set of characteristics shared by all individual transactions included in the message.	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - MessageIdentification	Definition: Point to point reference, as assigned by the instructing party, and sent to the next party in the chain to unambiguously identify the message. Usage: The instructing party has to make sure that MessageIdentification is unique per instructed party for a pre-agreed period.
* **CreDtTm** - CreationDateTime	Date and time at which the message was created.
* **TxInfAndSts** - Information concerning the original transactions, to which the status report message refers.	Provides further details on the original transactions, to which the status report message refers.
* **StsRsnInf** - Information concerning the reason for the status.	Unsure on description.
* **Rsn** - Reason	Specifies the reason for the status report.
{or * **Cd** - Code	Reason for the status, as published in an external reason code list.
or} * **Prtry** - Proprietary	Reason for the status, in a proprietary form.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description
TxInfAndSts.StsRsnInf.**Orgtr** - Originator	Party that issues the status.
TxInfAndSts.StsRsnInf.**AddtlInf** - AdditionalInformation	Additional information about the status report.
TxInfAndSts.**StsId** - Unique identification, as assigned by the original sending party, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**OrgnlInstrId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original instruction. (FSPIOP equivalent: transactionRequestId)

ISO 20022 Field	Description
TxInfAndSts.**OrgnlEndToEndId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original end-to-end transaction. (FSPIOP equivalent: transactionId)
TxInfAndSts.**OrgnlTxId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original transaction. (FSPIOP equivalent: quoteId)
TxInfAndSts.**OrgnlUETR** - Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.	Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.

TxInfAndSts.**TxSts** - Specifies the status of the transaction.	Specifies the external payment transaction status code.
	
	For FSPIOP transfer state enumeration mappings:
	{
	"COMM": "COMMITED",
	"RESV": "RESERVED",
	"RECV": "RECEIVED",
	"ABOR": "ABORTED"
	}
	
	NOTE: enum enforcement is not apart of the ISO20022 specification, but is added here for FSPIOP mappings.

ISO 20022 **Field**	**Description**
TxInfAndSts.**AccptncDtTm** - Date and time at which the status was accepted.	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
TxInfAndSts.**AcctSvcrRef** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**ClrSysRef** - Reference that is assigned by the account servicing institution and sent to the account owner to unambiguously identify the transaction.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**ExctnConf** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the confirmation.	Specifies a hexadecimal string. NOTE: This pattern is not the original ISO20022 specification.
TxInfAndSts.**SplmtryData** - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.
TxInfAndSts.**PrcgDt** - Date/time at which the instruction was processed by the specified party.	Specifies the reason for the status.

ISO 20022 Field	Description
SplmtryData - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**OrgnlBizQry** - OriginalBusinessQuery1	
OrgnlGrpInfAndSts - OriginalGroupHeader22	
TxInfAndSts.**OrgnlGrpInf** - OriginalGroupInformation29	
TxInfAndSts.**ChrgsInf** - NOTE: Unsure on description.	Seemingly a generic schema for charges, with an amount, agent, and type.
TxInfAndSts.**FctvIntrBkSttlmDt** - StatusReasonChoice	Specifies the reason for the status.
TxInfAndSts.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
TxInfAndSts.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
TxInfAndSts.**OrgnlTxRef** - OriginalTransactionReference42	

7.17 PATCH /transfers/{ID}

Financial Institution to Financial Institution Payment Status Report - pacs.002.001.15

Context

(HUB -> DFSP)

This message use by the HUB to inform a payee DFSP participant of the successful conclusion of a transfer. This message is only generated if the payee DFSP response with a Reserved status when providing the fulfillment in the `PUT \transfers` message.

Here is an example of the message:

```
{
"GrpHdr": {
    "MsgId":"01JBVM1CGC5A18XQVYYRF68FD1",
    "CreDtTm":"2024-11-04T12:57:45.228Z"},
"TxInfAndSts":{
    "PrcgDt":{"DtTm":"2024-11-04T12:57:45.213Z"},
    "TxSts":"COMM"}
}
```

Message Details

The details on how to compose and make this API are covered in the following sections:

1. Header Details

   This section specifies the header requirements for the API are specified.
2. Required Fields

   This section specifies which fields are required in order to meet the message validating requirements.
3. Optional Fields

   This section specifies which fields can optionally be included in the message. (Some of these fields may be required for a specific scheme as defined in the Scheme Rules for that scheme.)
4. Unsupported Fields

   This section specified which fields are actively not supported. The functionality specifying data in these fields are not compatible with a Mojaloop scheme, and will fail message validation if provided.
5. Supported HTTP Responses

   This section details which http responses can re returned and are required to be supported.

Header Details

The API message header should contain the following details. Required headers are specified with an * asterisks.

Name	Description
Content-Length *integer* (header)	The `Content-Length` header field indicates the anticipated size of the payload body. Only sent if there is a body.**Note:** The API supports a maximum size of 5242880 bytes (5 Megabytes).
* **Type** *string* (path)	The type of the party identifier. For example, `MSISDN`, `PERSONAL_ID`.

Name	Description
* **ID** *string* (path)	The identifier value.
* **Content-Type** *string* (header)	The `Content-Type` header indicates the specific version of the API used to send the payload body.
* **Date** *string* (header)	The `Date` header field indicates the date when the request was sent.
X-Forwarded-For *string* (header)	The `X-Forwarded-For` header field is an unofficially accepted standard used for informational purposes of the originating client IP address, as a request might pass multiple proxies, firewalls, and so on. Multiple `X-Forwarded-For` values should be expected and supported by implementers of the API.**Note:** An alternative to `X-Forwarded-For` is defined in RFC 7239. However, to this point RFC 7239 is less-used and supported than `X-Forwarded-For`.
* **FSPIOP-Source** *string* (header)	The `FSPIOP-Source` header field is a non-HTTP standard field used by the API for identifying the sender of the HTTP request. The field should be set by the original sender of the request. Required for routing and signature verification (see header field `FSPIOP-Signature`).
FSPIOP-Destination *string* (header)	The `FSPIOP-Destination` header field is a non-HTTP standard field used by the API for HTTP header based routing of requests and responses to the destination. The field must be set by the original sender of the request if the destination is known (valid for all services except GET /parties) so that any entities between the client and the server do not need to parse the payload for routing purposes. If the destination is not known (valid for service GET /parties), the field should be left empty.
FSPIOP-Encryption *string* (header)	The `FSPIOP-Encryption` header field is a non-HTTP standard field used by the API for applying end-to-end encryption of the request.
FSPIOP-Signature *string* (header)	The `FSPIOP-Signature` header field is a non-HTTP standard field used by the API for applying an end-to-end request signature.
FSPIOP-URI *string* (header)	The `FSPIOP-URI` header field is a non-HTTP standard field used by the API for signature verification, should contain the service URI. Required if signature verification is used, for more information, see the API Signature document.
FSPIOP-HTTP-Method *string* (header)	The `FSPIOP-HTTP-Method` header field is a non-HTTP standard field used by the API for signature verification, should contain the service HTTP method. Required if signature verification is used, for more information, see the API Signature document.

Required Fields

Here are the required fields that are needed by the switch to operate.

ISO 20022 Field	Description
* **GrpHdr** - Set of characteristics shared by all individual transactions included in the message.	Set of characteristics shared by all individual transactions included in the message.
* **MsgId** - MessageIdentification	Definition: Point to point reference, as assigned by the instructing party, and sent to the next party in the chain to unambiguously identify the message. Usage: The instructing party has to make sure that MessageIdentification is unique per instructed party for a pre-agreed period.
* **CreDtTm** - CreationDateTime	Date and time at which the message was created.
* **TxInfAndSts** - Information concerning the original transactions, to which the status report message refers.	Provides further details on the original transactions, to which the status report message refers.
* **PrcgDt** - Date/time at which the instruction was processed by the specified party.	Specifies the reason for the status.
{or * **Dt** - Date	Specified date.
or} * **DtTm** - DateTime	Specified date and time.

* **TxSts** - Specifies the status of the transaction.	Specifies the external payment transaction status code.
	
	For FSPIOP transfer state enumeration mappings:
	{
	"COMM": "COMMITED",
	"RESV": "RESERVED",
	"RECV": "RECEIVED",
	"ABOR": "ABORTED"
	}
	
	NOTE: enum enforcement is not apart of the ISO20022 specification, but is added here for FSPIOP mappings.

Optional Fields

Here is a list of all the optional fields. Some of these fields when specified require other fields to be defined and cannot be specified in isolation. An asterisk * indicates a required field in the table to illustrate these requirements. For more information please refer to the ISO 20022 specification.

ISO 20022 Field	Description

ISO 20022 Field	Description
TxInfAndSts.**StsId** - Unique identification, as assigned by the original sending party, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**OrgnlInstrId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original instruction. (FSPIOP equivalent: transactionRequestId)
TxInfAndSts.**OrgnlEndToEndId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original end-to-end transaction. (FSPIOP equivalent: transactionId)
TxInfAndSts.**OrgnlTxId** - Unique identification, as assigned by the original sending party, to	unambiguously identify the original transaction. (FSPIOP equivalent: quoteId)
TxInfAndSts.**OrgnlUETR** - Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.	Unique end-to-end transaction reference, as assigned by the original sending party, to unambiguously identify the original transaction.
TxInfAndSts.**StsRsnInf** - Information concerning the reason for the status.	Unsure on description.

ISO 20022 Field	Description
TxInfAndSts.**AccptncDtTm** - Date and time at which the status was accepted.	A particular point in the progression of time defined by a mandatory date and a mandatory time component, expressed in either UTC time format (YYYY-MM-DDThh:mm:ss.sssZ), local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm), or local time format (YYYY-MM-DDThh:mm:ss.sss). These representations are defined in "XML Schema Part 2: Datatypes Second Edition - W3C Recommendation 28 October 2004" which is aligned with ISO 8601. Note on the time format: 1) beginning / end of calendar day 00:00:00 = the beginning of a calendar day 24:00:00 = the end of a calendar day 2) fractions of second in time format Decimal fractions of seconds may be included. In this case, the involved parties shall agree on the maximum number of digits that are allowed.
TxInfAndSts.**AcctSvcrRef** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the status report.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**ClrSysRef** - Reference that is assigned by the account servicing institution and sent to the account owner to unambiguously identify the transaction.	Specifies a character string with a maximum length of 35 characters.
TxInfAndSts.**ExctnConf** - Unique reference, as assigned by the account servicing institution, to unambiguously identify the confirmation.	Specifies a hexadecimal string. NOTE: This pattern is not the original ISO20022 specification.
TxInfAndSts.**SplmtryData** - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.
SplmtryData - Additional information that cannot be captured in the structured elements and/or any other specific block.	Additional information that cannot be captured in the structured fields and/or any other specific block.

Unsupported Fields

Mojaloop is an end-to-end messaging system where messages are signed at each end by the participating organisation. This is imperative to maintain non-repudiation. The following field therefore are unsupported and if provided will reject the message, as these violate this end-to-end message support.

ISO 20022 Field	Description
GrpHdr.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
GrpHdr.**OrgnlBizQry** - OriginalBusinessQuery1	
OrgnlGrpInfAndSts - OriginalGroupHeader22	
TxInfAndSts.**OrgnlGrpInf** - OriginalGroupInformation29	
TxInfAndSts.**ChrgsInf** - NOTE: Unsure on description.	Seemingly a generic schema for charges, with an amount, agent, and type.
TxInfAndSts.**FctvIntrBkSttlmDt** - StatusReasonChoice	Specifies the reason for the status.
TxInfAndSts.**InstgAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
TxInfAndSts.**InstdAgt** - BranchAndFinancialInstitutionIdentification	Unique and unambiguous identification of a financial institution or a branch of a financial institution.
TxInfAndSts.**OrgnlTxRef** - OriginalTransactionReference42	

8. Appendix A: Payment Identifier Type Codes

8.1 FSPIOP Identifier types

Code	Description
MSISDN	An MSISDN (Mobile Station International Subscriber Directory Number, that is, the phone number) is used as reference to a participant. The MSISDN identifier should be in international format according to the ITU-T E.164 standard. Optionally, the MSISDN may be prefixed by a single plus sign, indicating the international prefix.
EMAIL	An email is used as reference to a participant. The format of the email should be according to the informational RFC 3696.

Code	Description
PERSONAL_ID	A personal identifier is used as reference to a participant. Examples of personal identification are passport number, birth certificate number, and national registration number. The identifier number is added in the PartyIdentifier element. The personal identifier type is added in the PartySubIdOrType element.
BUSINESS	A specific Business (for example, an organization or a company) is used as reference to a participant. The BUSINESS identifier can be in any format. To make a transaction connected to a specific username or bill number in a Business, the PartySubIdOrType element should be used.
DEVICE	A specific device (for example, a POS or ATM) ID connected to a specific business or organization is used as reference to a Party. For referencing a specific device under a specific business or organization, use the PartySubIdOrType element.
ACCOUNT_ID	A bank account number or FSP account ID should be used as reference to a participant. The ACCOUNT_ID identifier can be in any format, as formats can greatly differ depending on country and FSP.
IBAN	A bank account number or FSP account ID is used as reference to a participant. The IBAN identifier can consist of up to 34 alphanumeric characters and should be entered without whitespace.
ALIAS	alias is used as reference to a participant. The alias should be created in the FSP as an alternative reference to an account owner. Another example of an alias is a username in the FSP system. The ALIAS identifier can be in any format. It is also possible to use the PartySubIdOrType element for identifying an account under an Alias defined by the PartyIdentifier.

8.2 Personal Identifier Code Table

These type are not yet supported.

Code	Description
ARNU	AlienRegistrationNumber
CCPT	PassportNumber
CUST	CustomerIdentificationNumber
DRLC	DriversLicenseNumber
EMPL	EmployeeIdentificationNumber
NIDN	NationalIdentityNumber
SOSE	SocialSecurityNumber
TELE	TelephoneNumber
TXID	TaxIdentificationNumber
POID	PersonCommercialIdentification

8.3 Organisation Identifier Code Table

These type are not yet supported.

Code	Description
BANK	BankPartyIdentification
CBID	CentralBankIdentificationNumber
CHID	ClearingIdentificationNumber
CINC	CertificateOfIncorporationNumber
COID	CountryIdentificationCode
CUST	CustomerNumber
DUNS	DataUniversalNumberingSystem
EMPL	EmployerIdentificationNumber
GS1G	GS1GLNIdentifier
SREN	SIREN
SRET	SIRET
TXID	TaxIdentificationNumber
BDID	BusinessDomainIdentifier
BOID	BusinessOtherIdentification