Payment Data Model for Version 2.0 of the openFinance API Framework

Version 1.0

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[1] The openFinance Taskforce brings together participants of the Berlin Group with additional European banks (ASPSPs), banking associations, payment associations, payment schemes and interbank processors.

Contents

1 Introduction

1.1 Background on Payment Requirements in the openFinance API

The NextGenPSD2 API in version 1.3.x has been driven by core PSD2 implementations, cp. [XS2A-IG]. Some of the running change requests intend now to extend the functional scope of the API when transforming the regulatory driven NextGenpPSD2 API into the openFinance API by extending the API by new services and extended functionality of existing services.

A major banking item for review is the payment data modelling. The usage of the model within all European jurisdictions have shown that ASPSP online channels offer a deeper structured data model to support the different domestic payment types and banking business use cases then expected at first place. Hence, a new payment data model needs to be agreed to yield a uniform payment data model. Further requirements are stemming from cross-border payments which need some further enhancements of the model.

In addition, further extension requirements are introduced by new extended payment related-services as described in [oFA-IG-EPIS] or [oFA-IG-RTP] or the further need also to use the same APIs for corporates, i.e. to support also multi bulk payments defined in JSON.

The following detailed proposal for a payment structure is based on the payment model approach confirmed by the openFinance Taskforce. It is taking into account the structured data types as they have been already used for domestic AIS or PIS functionality and develops the full payment data model in analogy. This model is differentiating single credit transfers, bulk transfers and multi bulk transfers, following the decision of the openFinance TF.

Please note that the model describes the full payment potential, which does not mean that every ASPSP has to support these functions for any or all of their products.

On first level of the data descriptions, the data elements which do not need to be supported are marked by "n.a.". These data elements might be opened as "optional" data elements by ASPSPs or communities of ASPSPs or for generally defined payment products.

For second level definitions, the data model foresees minimal and maximal data types, e.g. Account Reference and Account Reference1. The data type with the suffix 1 is the minimum data type, the data type with suffix 2 is always the maximum data type, i.e. the full model set/repository of the model. The first model then can refer to the minimum data type, where ASPSPs or communities of ASPSP might open up also the maximum data types. As an example the Account Reference1 is the minimum data set supported for SCT to initiate a payment with e.g. referencing the debtor account by an IBAN, the Account Reference type will also allow proxy information as account reference. The aim with this differentiation is to simplify documentation of payment data models supported by ASPSPs. On this general level, this cannot be fully exhaustive, more information might be provided by Discovery APIs, which are planned to be standardized in addition.

1.2 Document Structure

This document first introduces the different payment types to be supported in Chapter 2. The data type definitions which are needed are then defined in Chapter 3.

1.3 Document History

Version	Date	Changes
0.9	2021-06-14	Draft for public market consultation.
1.0	2021-09-24	Final Version 1.0, market consultation feedback added, full SDD modelling added

2 Payments

For core payment products in the European market, this document is defining JSON structures, which will be supported by all ASPSPs

- offering the corresponding payment products to their customers

- providing JSON based payment endpoints, cp [XS2A-IG],

- and will have migrated to version 2.x of the API Framework.

At the same time, the ASPSP may offer in addition more extensive JSON structures for the same payment products since they might offer these extensions also in their online banking system.

- Use of central Berlin Group JSON
  schemes for initiation of standard payments
  e.g. in the context of e-commerce.

- Use of specific ASPSP defined JSON
  scheme for initiating specific payment
  transactions or for specific local
  markets.
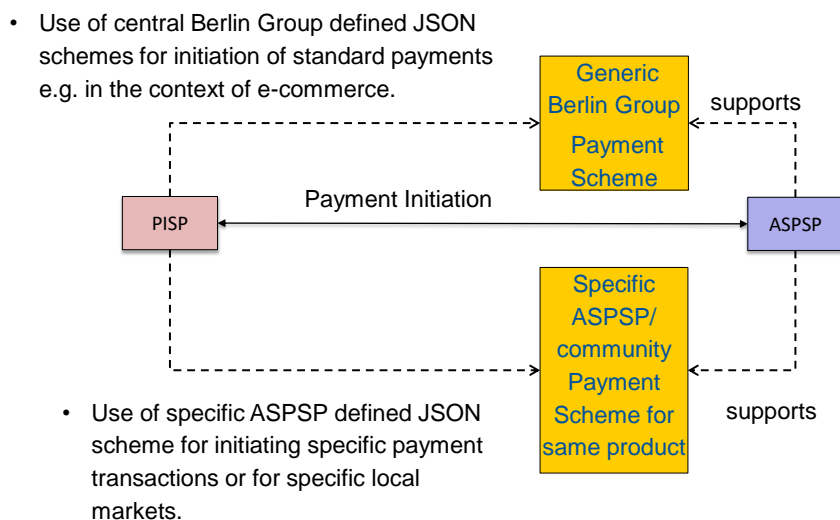
In addition, the specifications [oFA-IG-EPIS] for Extended Payment Initiation Services as well as [oFA-IG-RTP] for Request-to-Pay Services will mandate the support of more data elements within the openFinance API context, which is already reflected in the subsequent chapters.

2.1 Single Credit Transfers for Core PIS, RTP and EPIS

The following describes the data model to be used under /v2/payments/{credit-transfer-product}, /v1/{extended-payment-ser-vices}/{credit-transfer-product} and /v1/requests-for-payments/{credit-transfer-product} for certain standard products.

- The general data type of attributes need sometimes to be restricted further, since the related product is not supporting the full data structure. This leads to an [n] in the Type definition requires a further instantiation of the data type by the payment product, which is then indicated in the related column, e.g. by using "Optional[1]" for stating: Optional Usage of this attribute of Type Payment Identification1, where Payment Identification is the full data structure. If there is no instantiation number provided in the product column, then the full data structure applies.
- The notation [a..b] in an entry only applies to arrays and says how many array entries are supported (minimum and maximum). The notation "Optional [1..1]" is following OpenAPI definition for JSON formats and translates into [0..1] for XML format defini-tions.
- The notation "n.a." ("not applicable") allows ASPSPs or communities of ASPSPs to make this data element optional in their implementations of the related product in further refinements.
- The notation, e.g. "Optional[1]" for an data element with type definition "Type[1]" allows ASPSP or communities of ASPSPs to extend the data model by using all related data type definitions type[n] with a broader scope, e.g. change the entry to "Op-tional[2]" for the paymentIdentification.
- On all levels, where an element xxxCode and xxxProprietary is offered, only one of the attribute is usable. This will be reflected in OpenAPI files by using the "{Or" and "Or}" in cases where exactly one of the Elements is to be included in the message and "{Or – Optional" and "Or – Optional}" in case where at most one of the elements is to be included in the message.
- For all SEPA payment schemes, it is noted that party name fields have a maximum length of 70 characters, even if the below data dictionary allows 140 characters technically, due to ISO20022 definitions, which might be used for non-SEPA payment schemes. Due to this inconsistence, ASPSP might either reject messages, where the related party name fields use more than 70 characters, or automatically shorten the related party name fields to 70 characters respectively.

Data Element	Type	SCT Core	SCT inst Core	Target2 Core	Cross-bor-der CT Core	RTP SCT	EPIS SCT
paymentIdentification	Payment Identifi-cation[n]	Optional[1]	Optional[1]	Optional[1]	n.a.	Optional	Optional
instructionPriority	Priority Code	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Data Element	Type	SCT Core	SCT inst Core	Target2 Core	Cross-bor-der CT Core	RTP SCT	EPIS SCT
serviceLevelCode	Service Level Code	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
localInstrumentCode	External Local In-strument Code	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
localInstrumentProprietary	Max35Text	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
categoryPurposeCode	Category Pur-pose Code	n.a.	n.a.	n.a.	n.a.	optional	optional
categoryPurposeProprietary	Max35Text	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
chargeBearer	Charge Bearer	n.a.	n.a.	optional	Cond.[2]	n.a.	n.a.
debtorAccount	Account Refer-ence[n]	Mand [1][3]	Mand[1][3]	Mand[1][3]	Mand[1][3]	Optional[4]	Mand[3]
chargesAccount	Account Refer-ence[n]	n.a.	n.a.	n.a.	Optional[3]	n.a.	n.a.
debtor	Party Descrip-tion[n]	n.a.	n.a.	n.a.	n.a.	Optional	Optional
ultimateDebtor	Party Descrip-tion[n]	n.a.	n.a.	n.a.	n.a.	Optional[1]	Optional[1]
instructedAmount	Amount	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory
currencyOfTransfer	Currency Code	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
exchangeRateInformation	Payment Ex-change Rate	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
intermediaryAgent1	Agent Descrip-tion[n]	n.a.	n.a.	n.a.	Optional[1]	n.a.	n.a.
intermediaryAgent2	Agent Descrip-tion[n]	n.a.	n.a.	n.a.	Condi-tional[1]	n.a.	n.a.
creditorAccount	Account Refer-ence[n]	Manda-tory[1]	Manda-tory[1]	Manda-tory[1]	Manda-tory[1]	Manda-tory[1]	Manda-tory[1]

[2] This field might be mandated by ASPSPs generally or depending of default usage definitions of the ASPSP.

[3] ASPSPs might change the condition on the debtor account for SEPA payments to optional as one way to fulfil the requirement according to item 36 of the EBA Opinion of June 2020

[4] Either debtor account or debtor entry shall be provided.

Data Element	Type	SCT Core	SCT inst Core	Target2 Core	Cross-bor-der CT Core	RTP SCT	EPIS SCT
creditorAgent	Agent Description[n]	Optional[1]	Optional[1]	Optional[1]	Conditional[1][5]	Optional[1]	Optional[1]
creditor	Party Description[n]	Mandatory[1]	Mandatory[1]	Mandatory[1]	Mandatory[1]	Mandatory	Mandatory
ultimateCreditor	Party Description[n]	Optional[1]	Optional[3]	Optional[1]	Optional[2]	Optional	Optional
purposeCode	Purpose Code	n.a.	n.a.	n.a.	n.a.	Optional	Optional
purposeProprietary	Max35 Text	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
remittanceInformation Unstructured	Array of Max140Text	Optional [1..1]	Optional [1..1]	Optional [1..1]	Optional [1..1]	Optional [1..1]	Optional [1..1]
remittanceInformation Structured	Array of Remittance	n.a.	n.a.	n.a.	n.a.	Optional [1..1]	Optional [1..1]
requestedExecution Date	ISODate	n.a.	n.a.	n.a.	n.a.	Optional	Optional
requestedExecution DateTime	ISODateTime	n.a.	n.a.	n.a.	n.a.	(only if SCT INST)	(only if SCT inst)
regulatory Reporting	Array of Regulatory Reporting	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
additionalRequestInfor-mation[6]	Additional Request Information	n.a.	n.a.	n.a.	n.a.	Optional	Optional

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[5] This field might be mandated by ASPSPs generally or depending of the creditor's address' country.
[6] Only applicable for request to pay services and extended payment services.

2.2 Repository for Single Credit Transfer and RTP

The following table describes the full payment data model as a repository for product definitions.

Data Element	Type	Condition	Description
paymentIdentification	Payment Identification	Optional	Set of elements used to reference a payment instruction.
paymentMethod	Credit Transfer Payment Method Code	Optional	Specifies the means of payment that will be used to move the amount of money. Usage: Only used for cross-border transactions. If no paymentMethod is explicitly stated, paymentMethod will be interpreted as "TRF" (Credit Transfer).
instructionPriority	Priority Code	Optional	Indicator of the urgency or order of importance that the instructing party would like the instructed party to apply to the processing of the instruction.
serviceLevelCode	Service Level Code	Optional	Agreement under which or rules under which the transaction should be processed, provided as a code.
localInstrumentCode	Local Instrument Code	{Or - Optional	Agreement under which or rules under which the transaction should be processed, provided in proprietary encoding.
localInstrumentProprietary	Max35Text	Or – Optional}	User community specific instrument, provided in proprietary encoding.
categoryPurposeCode	Category Purpose Code	{Or – Optional	Specifies the high level purpose of the instruction based on a set of pre-defined categories; provided as code.
categoryPurpose Proprietary	Max35Text	Or – Optional}	Specifies the high level purpose of the instruction based on a set of pre-defined categories; provided in proprietary encoding.
chargeBearer	Charge Bearer	Optional	Specifies which party/parties will bear the charges associated with the processing of the payment transaction.
debtorAccount	Account Reference	Optional	Unambiguous identification of the account of the debtor to which a debit entry will be made as a result of the transaction.
chargesAccount	Account Reference3	Optional	Account used to process charges associated with a transaction.
debtor	Party Description	Optional	Party that owes an amount of money to the (ultimate) creditor.
ultimateDebtor	Party Description	Optional	Ultimate party that owes an amount of money to the (ultimate) creditor. Restriction to the schema are applied depending on the product, see 2.1.
instructedAmount	Amount	Optional	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.

Data Element	Type	Condition	Description
currencyOfTransfer[7]	Currency Code	Optional	Specifies the currency of the to be transferred amount, which is different from the currency of the debtor's account.
exchangeRateInformation	Payment Exchange Rate	Optional	Set of elements used to provide details on the currency exchange rate and contract.
creditorAccount	Account Reference1	Optional	Unambiguous identification of the account of the creditor to which a credit entry will be posted as a result of the payment transaction.
creditorAgent	Agent Description	Optional	Financial institution servicing an account for the creditor.
creditor	Party Description	Optional	Party to which an amount of money is due.
ultimateCreditor	Party Description	Optional	Ultimate party to which an amount of money is due.
purposeCode	Purpose Code	Optional	Underlying reason for the payment transaction, provided as a code.
purposeProprietary	Max35Text	Optional	Underlying reason for the payment transaction, provided as proprietary encoding.
remittanceInformation Unstructured	Array of Max140Text	Optional	Information supplied to enable the matching/reconciliation of an entry with the items that the payment is intended to settle, such as commercial invoices in an accounts' receivable system, in an unstructured form.
remittanceInformation Structured	Array of Remittance	Optional	Information supplied to enable the matching/reconciliation of an entry with the items that the payment is intended to settle, such as commercial invoices in an accounts' receivable system, in a structured form.
requestedExecutionDate	ISODate	{Or -Optional	Date at which the initiating party requests the clearing agent to process the payment.
requestedExecutionDate Time	ISODateTime	Or – Optional}	Date and time at which the initiating party requests the clearing agent to process the payment.
regulatoryReporting	Array of Regulatory Reporting	Optional	Information needed due to regulatory and statutory requirements.
additionalRequest Information[8]	Additional Request Information	Optional	Request related information which is not directly linked to the payment transaction.

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[7] This is a data element to indicate a diverging interbank transaction currency.
[8] Only applicable for request to pay services and extended payment services.

2.3 Bulk Credit Transfers

The following table displays the data model to be used under /v2/bulk-payments/{credit-trans-fer-product}. Further restrictions on data attribute types, inherited from Section 2.1 might apply.

Data Element	Type	Condition	Description
paymentInformationId	Max35Text	mandatory	Unique identification as assigned by the sending party to unambiguously identify this bulk payment. This attribute may be used by ASPSPs or communities as an optional field.
paymentMethod	Credit Transfer Payment Method Code	Optional	Specifies the means of payment that will be used to move the amount of money. Usage: Only used for cross-border transactions. If no paymentMethod is explicitly indicated, paymentMethod will be interpreted as "TRF" (Credit Transfer).
batchBooking	Boolean	optional	If this element equals true, the PSU prefers only one booking entry. If this element equals false, the PSU prefers individual booking of all contained individual transactions. The ASPSP will follow this preference according to contracts agreed on with the PSU.
numberOfTransactions	Integer	Mandatory	Number of individual transactions contained in the related bulk.
controlSum	Max35Text	Mandatory	Total of all individual amounts included in the group, irrespective of currencies.
serviceLevelCode	Service Level Code	Optional	
chargeBearer	Charge Bearer	Optional	
categoryPurposeCode	Category Purpose Code	{Or – Optional	
categoryPurposePropri-etary	Max35Text	Or – Optional}	
localInstrumentCode	Local Instrument Code	{Or – Optional	
localInstrumentProprie-tary	Max35Text	Or – Optional}	
debtor	Party Description	Optional	
ultimateDebtor	Party Description	Optional	
debtorAccount (incl. type)	Account Reference	mandatory	
debtorAgent	Agent Description2	n.a.	

Data Element	Type	Condition	Description
chargesAccount	Account Reference3	Optional	Account used to process charges associated with a transaction.
requestedExecutionDate	ISODate	{Or – optional	If contained, the payments contained in this bulk will be executed at the addressed date. This field may not be used together with the field requestedExecutionTime.
requestedExecution DateTime	ISO-DateTime	Or – optional}	If contained, the payments contained in this bulk will be executed at the addressed Date/Time. This field may not be used together with the field requestedExecutionDate.
creditTransfers	Array of Credit Transfer Bulk Entry	mandatory	The Credit Transfer Bulk Entry is a type which follows the JSON formats for the supported products for single payments, see Section 2.1, excluding the data elements • debtorAccount, • debtor • debtorAgent • requestedExecutionDate, • requestedExecutionDateTime. These data elements may not be contained in any bulk entry. In addition, the following entries will be allowed for every single entry, if not used already on bulk level: chargeBearer chargesAccount categoryPurposeCode categoryPurposeProprietary serviceLevelCode localInstrumentCode localInstrumentProprietary ultimateDebtor In addition, the attributes purposeCode remittanceInformationStructured are always available on entry level if supported by the related payment product.

Example

```
{"paymentInformationId": "bulk-payment 123",
 "batchBooking": true,
 "numberOfTransactions": 2,
 "controlSum": "12345.01",
 "debtorAccount": {"iban": "DE40100100103307118608"},
 "requestedExecutionDate": "2018-08-01",
 "creditTransfers":
```

```
[{JSON based payment initiation 1}, {JSON based payment initiation 2}]]
```

2.4 Multi Bulk Credit Transfers

Data model to be used under /v2/multi-bulk-payments/{credit-transfer-product}.

Data Element	Type	Condition	Description
messageId	Max35Text	mandatory	Unique identification as assigned by the sending party to unambiguously identify this bulk payment. This attribute may be used by ASPSPs or communities as an optional field.
creationDateTime	ISO-DateTime	Mandatory	
numberOfTransactions	Integer	Mandatory	Number of individual transactions contained in the related bulk.
controlSum	Max35Text	Mandatory	Total of all individual amounts included in the group, irrespective of currencies.
initiatingParty	Party Description1	Mandatory	Party that initiates the payment.
payments	Array of Credit Transfer Bulks	Mandatory	This is an array of credit transfer bulks, as defined in Section 2.3.

2.5 RTP Bulk

The following table displays the data model to be used under /v2/bulk-requests-for-payments/{credit-transfer-product}.

Data Element	Type	Condition	Description
paymentInformationId	Max35Text	Mandatory	Unique identification as assigned by the sending party to unambiguously identify this bulk. This attribute may be used by ASPSPs or communities as an optional field.
numberOfTransactions	Integer	Mandatory	Number of individual transactions contained in the related bulk.
controlSum	Max35Text	Mandatory	Total of all individual amounts included in the group, irrespective of currencies.
chargeBearer	Charge Bearer	Optional	
serviceLevelCode	Service Level Code	Optional	For SCT not used, only defined to support non SEPA RTP schemes
categoryPurposeCode	Category Purpose Code	{Or – Optional	
categoryPurposePropri-etary	Max35Text	Or – Optional}	For SCT not used, only defined to support non SEPA RTP schemes

Data Element	Type	Condition	Description
localInstrumentCode	Local Instrument Code	{Or – Optional	For SCT not used, only defined to support non SEPA RTP schemes
localInstrumentProprietary	Max35Text	Or – Optional}	For SCT not used, only defined to support non-SEPA RTP schemes
requestedExecutionDate	ISODate	Optional	
creditor	Party Description	Mandatory	
creditorAccount	Account Reference1	mandatory	
creditorAgent	Agent Description1	optional	
ultimateCreditor	Party Description	optional	
rtps	Array of RTP Bulk Entry	mandatory	The RTP Bulk Entry is a type which follows the JSON formats for the supported products for single payments, see Section 2.1, excluding the data elements • creditorAccount, • creditor • creditorAgent These data elements may not be contained in any bulk entry. In addition, the following entries will be forbidden for every single entry, if they are used already on bulk level: chargeBearer requestedExecutionDate ultimateCreditor categoryPurposeCode categoryPurposeProprietary serviceLevelCode localInstrumentCode localInstrumentProprietary In addition, the attributes purposeCode remittanceInformationStructured are always available on entry level if supported by the related payment product.

Example

```
{"paymentInformationId": "bulk-request-to-pay 123",
 "numberOfTransactions": 2,
 "controlSum": "12345.01",
 "creditor": {"name": "RTP beneficiary's name"}
 "creditorAccount": {"iban": "DE40100100103307118608"},
 "rtps":
```

```
[{JSON based RTP 1}, {JSON based RTP 2}]]
```

2.6 Single SEPA Direct Debits

The following table describes the full direct debit data model as a repository for product definitions. Currently, the model is intended to be only used for SEPA Direct Debits. However, some extension of the data model are made to enable adaptions for other schemas in a structured way.

Data Element	Type	Condition	Description
paymentIdentification	Payment Identification1	Optional	Set of elements used to reference a payment instruction.
requestedCollectionDate	ISO Date		
creditor	Party Description2	Optional	Party that owes an amount of money to the (ultimate) creditor.
creditorAccount	Account Reference2	Optional	Unambiguous identification of the account of the debtor to which a debit entry will be made as a result of the transaction.
creditorAgent	AgentDescription2	Optional	Only BIC allowed
creditorSchemeId	Party Description3	Optional	Id: Creditor-Identifier (CI) only allowed if not present on transaction level "schemeNamePropietary" : "SEPA"
serviceLevelCode	Service Level Code	Optional	Agreement under which or rules under which the transaction should be processed, provided as a code. **Remark:** SEPA Direct Debit (SDD) scheme requires "SEPA"
localInstrumentCode	Local Instrument Code	{Or - Optional	Agreement under which or rules under which the transaction should be processed, provided in proprietary encoding. **Remark:** Within the SDD scheme, only "CORE" or "B2B" are used
localInstrumentProprietary	Max35Text	Or – Optional}	**Remark:** Within the SDD scheme, usage of this element is not supported.
sequenceType	Sequence Type Code	Optional	**Remark:** For SDD, only "FNAL", "FRST", "OOFF" or "RCUR" is used
categoryPurposeCode	Category Purpose Code	Optional	Specifies the high level purpose of the instruction based on a set of pre-defined categories; provided as code.
instructedAmount	Amount	Optional	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.
chargeBearer	Charge Bearer	Optional	Specifies which party/parties will bear the charges associated with the processing of the payment transaction.

Data Element	Type	Condition	Description
directDebitTransaction	Direct Debit Transaction	Optional	Provides information specific to the direct debit mandate.
ultimateCreditor	Party Description1	Optional	Ultimate party that owes an amount of money to the (ultimate) creditor.
debtorAgent	Agent Description1	Optional	Financial institution servicing an account for the creditor. **Remark:** Within the SDD scheme only subelement "bicfi" of "financialInstitutionId" is used.
debtor	Party Description	Optional	Party to which an amount of money is due. **Remark:** Within the SDD scheme only subelements "name" and "postalAddress" are used. Usage of "postalAddress" is further restricted to "country" and at most two entries in "adressLines".
debtorAccount	Account Reference2	Optional	Unambiguous identification of the account of the creditor to which a credit entry will be posted as a result of the payment transaction.
ultimateDebtor	Party Description1	Optional	Ultimate party to which an amount of money is due. **Remark:** Within the SDD scheme only subelement "name" is restricted to 70 characters.
purposeCode	Purpose Code	Optional	Underlying reason for the payment transaction, provided as a code.
remittanceInformation Unstructured	Array of Max140Text	Optional	**Remark:** Within the SDD scheme not more than one item is included in the array.
remittanceInformation Structured	Array of Remittance	Optional	Information supplied to enable the matching/reconciliation of an entry with the items that the payment is intended to settle, such as commercial invoices in an accounts' receivable system, in a structured form.

2.7 SEPA Direct Debit Bulk

The following table displays the data model to be used under /v2/bulk-payments/sepa-direct-debits .

Data Element	Type	Condition	Description
paymentInformationId	Max35Text	mandatory	Unique identification as assigned by the sending party to unambiguously identify this bulk payment. This attribute may be used by ASPSPs or communities as an optional field.

Data Element	Type	Condition	Description
batchBooking	Boolean	optional	If this element equals true, the PSU prefers only one booking entry. If this element equals false, the PSU prefers individual booking of all contained individual transactions. The ASPSP will follow this preference according to contracts agreed on with the PSU.
numberOfTransactions	Integer	Mandatory	Number of individual transactions contained in the related bulk.
controlSum	Max35Text	Mandatory	Total of all individual amounts included in the group, irrespective of currencies.
serviceLevelCode	Service Level Code	Optional	Remark: SDD scheme requires "SEPA"
localInstrumentCode	Local Instrument Code	{Or – Optional	Agreement under which or rules under which the transaction should be processed, provided in proprietary encoding. Remark: Within the SDD scheme, only "CORE" or "B2B" is used
localInstrumentProprietary	Max35Text	Or – Optional}	**Remark:** Within the SDD scheme, usage of this element is not supported.
sequenceType	Sequence Type Code	Optional	**Remark:** For SDD, only "FNAL", "FRST", "OOFF" or "RCUR" is used
categoryPurposeCode	Category Purpose Code	Optional	
requestedCollectionDate	ISODate	Mandatory	
creditor	Party Description2	Optional	**Remark:** Within the SDD scheme, only subelements "name" and "postalAddress" are supported.
creditorAccount (incl. type)	Account Reference2	mandatory	**Remark:** Within the SDD scheme, subelement "iban" is mandatory and apart from "iban" only "currency" supported.
creditorAgent	Agent Description2	optional	**Remark:** Within the SDD scheme, only subelement "bicfi" is supported.
ultimateCreditor	Party Description1	optional	
chargeBearer	Charge Bearer	optional	**Remark:** Within the SDD scheme, only value "SLEV" is supported.
creditorSchemeId	Party Description3	Optional	**Remark:** Within the SDD the following requirements apply: PrivateID Other Id: Creditor-Identifier (CI) "schemeNamePropietary" : "SEPA"
directDebits	Array of Direct Debit Bulk Entry	mandatory	Direct Debit Bulk Entry is a type which follows the JSON formats for the supported products for single payments, see Section 2.1, excluding the data elements - creditorAccount, - creditor - icreditorAgent - requestedCollectionDate, These data elements may not be contained in any bulk entry.

Data Element	Type	Condition	Description
			In addition, the following entries will only be allowed for every single entry, if not used already on bulk level: chargeBearer categoryPurposeCode categoryPurposeProprietary serviceLevelCode localInstrumentCode localInstrumentProprietary sequenceType ultimateCreditor In addition, the attributes purposeCode remittanceInformationStructured are always available on entry level if supported by the related payment product.

Example

```
{"paymentInformationId": "bulk-direct-debit 123",
 "batchBooking": true,
 "numberOfTransactions": 2,
 "controlSum": "12345.01",
 "creditorAccount": {"iban": "DE40100100103307118608"},
 "requestedCollectionDate": "2018-08-01",
 "directDebits":
  [{JSON based direct debit 1}, {JSON based direct debit 2}]]}
```

2.8 SEPA Direct Debit Multi Bulk

Data model to be used under /v2/multi-bulk-payments/sepa-direct-debits .

Data Element	Type	Condition	Description
messageId	Max35Text	mandatory	Unique identification as assigned by the sending party to unambiguously identify this bulk payment. This attribute may be used by ASPSPs or communities as an optional field.
creationDateTime	ISO-DateTime	mandatory	
numberOfTransactions	Integer	Mandatory	Number of individual transactions contained in the related bulk.
controlSum	Max35Text	Mandatory	Total of all individual amounts included in the group, irrespective of currencies.

Data Element	Type	Condition	Description
initiatingParty	Party De-scription1	Mandatory	Party that initiates the payment.
directDebitBulks	Array of Direct Debit Bulks	Mandatory	This is an array of direct Debit bulks, as de-fined in Section 2.6.

3 Complex Payment Data Structures

The following data structures are defined for payments.

3.1 Payment Identification

Attribute	Type	Condition	Description
instructionId	Max35Text	Optional	Unique identification as assigned by an instructing party for an instructed party to unambiguously identify the instruction.
endToEndId	Max35Text	Optional	
uetr	UUID	Optional	Universally unique identifier to provide an end-to-end reference of a payment transaction. It is recommended to use time-based version (version 1) and variant 8,9,a or b of the UUID as defined in [RFC4122] for UUID fields such as uetr.

3.2 Payment Identification1

Attribute	Type	Condition	Description
endToEndId	Max35Text	Optional	Unique identification assigned by the initiating party to unambiguously identify the transaction. This identification is passed on, unchanged, throughout the entire end-to-end chain

3.3 Party Description

Attribute	Type	Condition	Description
name	Max140Text	Optional	Name of the party.
postal address	Postal Address	Optional	Postal Address of the party.

Attribute	Type	Condition	Description
identification	Party Identification	Optional	Identification of the party.
additional-PartyInformation	Additional Party Information	Optional	Only supported in extended services for creditor related parties, if at all. **NOTE:** This information will be neither put to the related interbank payment nor to account reports/statements and might only be used to display related information to the PSU during potential authorisation processes.

3.4 Party Description1

Attribute	Type	Condition	Description
name	Max140Text	Optional	Name of the party.

3.5 Party Description2

Attribute	Type	Condition	Description
name	Max140Text	Optional	Name of the party.
postal address	Postal Address	Optional	Postal Address of the party.

3.6 Party Description3

Attribute	Type	Condition	Description
identification	Party Identification1	Optional	Identification of the party.

3.7 Party Description4

Attribute	Type	Condition	Description
name	Max140Text	Optional	Name of the party.
identification	Party Identification1	Optional	Identification of the party.

3.8 Postal Address

Attribute	Type	Condition	Description
addressLines	Array of Max140Text	{Or - Optional	At most seven entries are permitted. May only be used, if none of the structured address elements "streetName", "buildingNumber", "postcode" or "townName" is used. **Remark:** For SEPA transactions this is further restricted to a maximum of 2 entries.
streetName	Max70Text	Or – Optional}	Elements may only be used, if Element "addressLines" is not used.
building-Number	Max16Text		
postCode	Max16Text		
townName	Max35Text		
country	Country Code	Optional	

3.9 Party Identification

Attribute	Type	Condition	Description
organisa-tionId	Organisa-tion Identifi-cation	Optional	An entry provided by an external ISO code list
privateId	Private Iden-tification	Optional	A scheme name defined in a proprietary way.

Note: Only one of the entries is allowed.

3.10 Party Identification1

Attribute	Type	Condition	Description
privateId	Private Iden-tification	Optional	A scheme name defined in a proprietary way.

3.11 Organisation Identification

Attribute	Type	Condition	Description
anyBIC	BIC	Optional	A code allocated to a business entity or to a financial institution by a Registra-tion Authority under an international identification scheme.
lei	LEI	Optional	Legal Entity Identifier.
others	Array of Other Identi-fication	Optional	Unique identification of an organisation, as assigned by an institution, using an identification scheme.

Note: Only one of the entries is used.

3.12 Private Identification

Attribute	Type	Condition	Description
others	Array of Other Identi-fication	Mandatory	Unique identification of a person, as as-signed by an institution, using an identi-fication scheme.

3.13 Other Identification

Attribute	Type	Condition	Description
identification	Max35Text	Mandatory	Unique and unambiguous identification of a person, an organisation or account, depending on the context.
schemeName Code	Account Identifica-tion Type Code	{Or - Optional	An entry provided by an external ISO code list
schemeName Proprietary	Max35Text	Or – Optional}	A scheme name defined in a proprietary way.
issuer	Max35Text	Optional	Issuer of the identification

3.14 Additional Party Information

Attribute	Type	Condition	Description
tradeName	Max70Text	Optional	Trade name of the related party. For dis-play to the PSU only.
merchantCat-egoryCode	Merchant Category Code	Optional	Merchant Category Code as assigned by ISO:
merchant Logo	String	n.a.	Base 64 coded graphic. Reserved for future extensions.

3.15 Account Reference

Attribute	Type	Condition	Description
iban	IBAN	Conditional	
bban	BBAN	Conditional	This data element is used for payment accounts which have no IBAN.
pan	Max35Text	Conditional	Primary Account Number (PAN) of a card, can be tokenised by the ASPSP due to PCI DSS requirements.
maskedPan	Max35Text	Conditional	Primary Account Number (PAN) of a card in a masked form.
msisdn	Max35Text	Conditional	An alias to access a payment account via a registered mobile phone number.
other	Other Identi-fication	Conditional	An alias with a proprietary coding
typeCode	Cash Ac-count Type	{Or - Optional	
typeProprie-tary	Max35Text	Or – Optional}	
currency	Currency Code	Optional	ISO 4217 Alpha 3 currency code
name	Max70Text	Optional	Name of the account
proxy	Proxy Ac-count Identi-fcation	Conditional	

3.16 Account Reference1

Attribute	Type	Condition	Description
iban	IBAN	Conditional	

Attribute	Type	Condition	Description
bban	BBAN	Conditional	This data element is used for payment accounts which have no IBAN.
pan	Max35Text	Conditional	Primary Account Number (PAN) of a card, can be tokenised by the ASPSP due to PCI DSS requirements.
maskedPan	Max35Text	Conditional	Primary Account Number (PAN) of a card in a masked form.
currency	Currency Code	Optional	ISO 4217 Alpha 3 currency code

3.17 Account Reference2

Attribute	Type	Condition	Description
iban	IBAN	Mandatory	
currency	Currency Code	Optional	ISO 4217 Alpha 3 currency code

3.18 Account Reference3

Attribute	Type	Condition	Description
iban	IBAN	Conditional	
bban	BBAN	Conditional	This data element is used for payment accounts which have no IBAN.
other	Other Identification	Conditional	An alias with a proprietary coding
currency	Currency Code	optional	ISO 4217 Alpha 3 currency code

3.19 Proxy Account Identification

Attribute	Type	Condition	Description
typeCode	Account Identficiation Code	{Or - optional	
typeProprietary	Max35Text	Or – optional}	
identification	Max2048Text	mandatory	

3.20 Agent Description

Attribute	Type	Condition	Description
financialInstitutionId	Financial Institution Identification	mandatory	
branchIdentificationId	Max35Text	Optional	Unique and unambiguous identification of a branch of a financial institution.
branchIdentificationName	Max140Text	Optional	Name by which an agent is known and which is usually used to identify that agent.

3.21 Agent Description1

Attribute	Type	Condition	Description
financialInstitutionId	Financial Institution Identification	mandatory	

3.22 Agent Description2

Attribute	Type	Condition	Description
financialInstitution Id	Financial Institution Identification1	mandatory	

3.23 Financial Institution Identification

Attribute	Type	Condition	Description
bicfi	BICFI	optional	Code allocated to a financial institution.
clearingSystemMemberId	Clearing System Member Identification	optional	Information used to identify a member within a clearing system.
Name	Max140Text	optional	Name of the financial institution
postalAddress	Postal Address	Optional	Postal Address of the financial institution.
other	Other Identification	Optional	Unique identification of an organisation, as assigned by an institution, using an identification scheme.

3.24 Financial Institution Identification1

Attribute	Type	Condition	Description
bicfi	BICFI	Mandatory	Code allocated to a financial institution.

3.25 Clearing System Member Identification

Attribute	Type	Condition	Description
memberId	Max35Text	Optional	Identification of a member of a clearing system.
clearingSystem-IdentficiationCode	Clearing System Identification Code	{Or - Optional	Identification of a clearing system, in a coded form as published in an external list.
clearingSystemIdentificationProprietary	Max35Text	Or – Optional}	Identification code for a clearing system, that has not yet been identified in the list of clearing systems.

3.26 Remittance

The remittance type will be re-defined to be able to support more complex requirements. This is not downwards compatible.

Attribute	Type	Condition	Description
referredDocumentInformation	Array of Referred Document Information	Optional	Set of elements used to identify the documents referred to in the remittance information.
creditorReferenceInformation	Creditor Reference Information	Optional	Reference information provided by the creditor to allow the identification of the underlying documents.
additionalRemittanceInformation	Array of Max140Text	Optional	Additional information to be displayed to the PSU e.g. within authorisation processes. This will not be used in related interbank payments.

3.27 Creditor Reference Information

Attribute	Type	Condi-tion	Description
reference	Max35Text	Manda-tory	The actual reference.
reference-TypeCode	Creditor Reference Type Code	{Or - Op-tional	Type of the reference, provided as code.
reference-TypeProprie-tary	Max35Text	Or – Op-tional}	Type of the reference, provided in proprietary en-coding.
referenceIs-suer	Max35Text	Optional	Issuer of the reference.

3.28 Creditor Reference Type Code

This code set is equivalent to the ISO 20022 definition DocumentType3Code:

Type	Description
RADM	Document is a remittance advice sent separately from the cur-rent transaction.
RPIN	Document is a linked payment instruction to which the current payment instruction is related, for example, in a cover sce-nario.
FXDR	Document is a pre-agreed or pre-arranged foreign exchange transaction to which the payment transaction refers.
DISP	Document is a dispatch advice.
PUOR	Document is a purchase order.
SCOR	Document is a structured communication reference provided by the creditor to identify the referred transaction.

3.29 Referred Document Information

Attribute	Type	Condi-tion	Description
typeCode	Referred Document Type Code	{Or - Optional	Specifies the type of referred document, provided as code.
typeProprie-tary	Max35Text	Or – Optional}	Specifies the type of referred document, provided in proprietary encoding.
typeIssuer	Max35Text	Optional	Issuer of the document type.
number	Max35Text	Optional	Unique and unambiguous identification of the referred document.
relatedDate	ISO Date	Optional	Date associated with the referred document.

3.30 Referred Document Type Code

This code set is equivalent to the ISO 20022 definition DocumentType6Code:

Type	Description
MSIN	Document is an invoice claiming payment for the supply of metered services, for example gas or electricity supplied to a fixed meter
CNFA	Document is a credit note for the final amount settled for a commercial transaction.
DNFA	Document is a debit note for the final amount settled for a commercial transaction.
CINV	Document is an invoice.
CREN	Document is a credit note.
DEBN	Document is a debit note.
HIRI	Document is an invoice for the hiring of human resources or renting goods or equipment.
SBIN	Document is an invoice issued by the debtor.

Type	Description
CMCN	Document is an agreement between the parties, stipulating the terms and conditions of the delivery of goods or services.
SOAC	Document is a statement of the transactions posted to the debtor's account at the supplier.
DISP	Document is a dispatch advice.
BOLD	Document is a shipping notice.
VCHR	Document is an electronic payment document.
AROI	Document is a payment that applies to a specific source document.
TSUT	Document is a transaction identifier as assigned by the Trade Services Utility
PUOR	Document is a purchase order.

3.31 Regulatory Reporting

Attribute	Type	Condition	Description
debitCreditReportingIndicator	Regulatory Reporting Type Code	Optional	Identifies whether the regulatory reporting information applies to the debit side, to the credit side or to both debit and credit sides of the transaction.
detailsCode	Max35Text	Optional	Specifies the nature, purpose, and reason for the transaction to be reported for regulatory and statutory requirements in a coded form.
detailsInformation	Array of Max35Text	Optional	Additional details that cater for specific domestic regulatory requirements.

3.32 Regulatory Reporting Type Code

Type	Description
CRED	Regulatory information applies to the credit side.
DEBT	Regulatory information applies to the debit side.
BOTH	Regulatory information applies to both credit and debit sides.

3.33 Payment Exchange Rate

Attribute	Type	Condition	Description
unitCurrency	Currency Code	Optional	Currency in which the rate of exchange is expressed in a currency exchange. In the example 1EUR = xxxCUR, the unit currency is EUR.
exchangeRate	String	Optional	Factor used to convert an amount from one currency into another. This reflects the price at which one currency was bought with another currency.
contractId	Max35Text	Optional	Unique identification to unambiguously identify the foreign exchange contract.
rateType	Exchange Rate Type Code	Optional	Specifies the type used to complete the currency exchange.\n\nOnly SPOT, SALE and AGRD is allowed.

3.34 Exchange Rate Type Code

This code set is equivalent to the ISO 20022 definition ExchangeRateType1Code:

Type	Description
SPOT	Exchange rate applied is the spot rate.
SALE	Exchange rate applied is the market rate at the time of the sale.
AGRD	Exchange rate applied is the rate agreed between the parties.

3.35 Priority Code

This code set is equivalent to the ISO 20022 definition Priority2Code:

Type	Description
HIGH	Priority level is high.
NORM	Priority level is normal.

3.36 Credit Transfer Payment Method Code

This code set corresponds to ISO 20022 PaymentMethod3Code:

Type	Description
TRF	Credit Transfer
CHK	Cheque
TRA	Transfer Advice **Remark:** Currently **not** supported by the openFinance payment data model. The code "TRA" is only mentioned for completeness as it is defined in ISO20022.

3.37 Additional Request Information

Attribute	Type	Condition	Description
paymentConditions	Payment Conditions	optional	Conditions for the execution of the payment.

Attribute	Type	Condition	Description
creationDateTime	ISO-DateTime	optional	creationDateTime of the originator
requestedExpiry DateTime	ISO-DateTime	mandatory	Date and Time at which this request expires.
originatorPspId	Financial Institution Identification	Optional	Originator payment service provider in case of indirect participation regarding a related API Access Scheme or bilateral contract
receiverPspId	Financial Institution Identification	Conditional	Receiving payment service provider as defined by an API Access Scheme or bilateral contracts in case of not addressing the receiving institution directly. It is mandatory in case where the technical API Provider is not the receiver as such.

3.38 Payment Conditions

Attribute	Type	Condition	Description
amountModifica-tionAllowed	Boolean	optional	Indicates if the debtor is allowed to pay a different amount then the requested amount.
earlyPaymentAl-lowed	Boolean	optional	Indicates if the debtor is allowed to pay before the requested execution date.

3.39 Direct Debit Transaction (Mandate Information)

Attribute	Type	Condition	Description
mandateRelatedIn-formation	Mandate Related Information	Mandatory	
creditorSchemeId	Party Description3	Optional	**SDD:** Identification = Creditor-Identifier (CI) "schemeNamePropietary" : "SEPA"

3.40 Mandate Related Information

Attribute	Type	Condition	Description
mandateId	Max35Text	Mandatory	
dateOfSignature	ISO Date	Mandatory	
amendmentInfor-mationDetails	Amendment Information Details	Optional	
electronicSignature	Max1025Text	Optional	Only used for e-mandates

3.41 Amendment Information Details

Attribute	Type	Condition	Description
originalMandateId	Max35Text	Optional	Mandatory of change occur in "Mandate Identification" otherwise not to be used.
originalCreditor-SchemeId	Party Description4	Optional	Mandatory of change occur in "Creditor Scheme Identification" otherwise not to be used.
originalDebtorAc-count	Account Reference 4	Optional	Mandatory of change occur in "Debtor Account" otherwise not to be used.
originalDebtorAgent	Agent De-scription2	Optional	If changes occur in debtor agent and SMNDA is not used in "originalDebt-orAccount"

3.42 Other ISO-related basic Types

In addition to the codes already listed in [XS2A-IG], the following codes and definitions are used from ISO 20022:

- **Account Identification Type Code:** ExternalProxyAccountType1Code
- **Sequence Type Code**: SequenceType3Code
- **External Local Instrument Code:** ExternalLocalInstrument1Code
- **Category Purpose Code**: ExternalCategoryPurpose1Code
- **Clearing System Identification Code**: ExternalClearingSystemIdentification1Code

4 References

[XS2A-IG]   NextGenPSD2 XS2A Framework, Implementation Guidelines, The Berlin Group
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[RFC4122]   P. Leach, M. Mealling, R. Salz, "A Universally Unique IDentifier (UUID) URN
                Namespace", July 2005, https://tools.ietf.org/html/rfc4122