

Release Notes 4.5

# Document Status

status: Request for Comment (valid values are < Request for Comment, Preliminary Review, Public Review, Architectural Review, Final Review, Published, Deprecated)

# Release Notes Change Log

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| --- | --- | --- |
| CUFX Version | Date | Changes |
| 4.0 | 02/19/2018 | * Initial Publication, CUFX release 4.0. Includes all prior release documentation through 01/24/2014. |
| 4.0 | 03/07/2018 | * Removed duplicated element from Bill Payment Filter |
| 4.1 | 12/10/2018 | * Updated to release 4.1 |
| 4.2 | 03/05/2019 | * Updated to release 4.2 |
| 4.3 | 10/07/2019 | * Updated to release 4.3, renamed file removing version as proper version control is being used in Github. |
| 4.4 | 10/20/2020 | * Updated to release 4.4 |
| 4.5 | 04/02/2021 | * Updated to release 4.5 |

# Overview of Specification

CUFX Release Notes details changes made to word documents and schema definitions in support of the CUFX Standard.

# Table of Contents

[Document Status 1](#_Toc68101582)

[Release Notes Change Log 1](#_Toc68101583)

[Overview of Specification 1](#_Toc68101584)

[Table of Contents 1](#_Toc68101585)

[Document Conventions 1](#_Toc68101586)

[CUFX API and Documentation Support 2](#_Toc68101587)

[Release 4.0 Global Update Notes 2](#_Toc68101588)

[Release 4.4 Global Update Notes 3](#_Toc68101589)

[Specification document Change Log 3](#_Toc68101590)

[Schema documentation Change Log 3](#_Toc68101591)

[Change Requests 17](#_Toc68101592)

[Bibliography 18](#_Toc68101593)

# Document Conventions

List any document conventions such as what bold and italics mean and how the document is intended to be read.

Within this specification, the key words MUST, MUST NOT, REQUIRED, SHALL, SHALL NOT, SHOULD, SHOULD NOT, RECOMMENDED, MAY, and OPTIONAL are to be interpreted as described in W3 Working Group (W3C)]. However, for readability, these words do not appear in all uppercase letters in this specification.

At times, this specification recommends good practice for authors and user agents. These recommendations are not normative and conformance with this specification does not depend on their realization. These recommendations contain the expression we recommend ..., this specification recommends ..., or some similar wording.

All formatting in this document utilize Word Styles.

All Citations must utilize Word Citations to automatically show at the end of the document.

All updates after the initial creation must be performed using Tracking Changes turn on and Accepted by the Architecture committee.

# CUFX API and Documentation Support

CUFX is published to SwaggerHub at <https://app.swaggerhub.com/apis/dlacroix01/CUFX> . The latest default version will load automatically.

The purpose of this publication is to demonstrate the full range of CUFX messaging. Provide for complete documentation of the entire message structure and example usage.

Swaggerhub as a normal support feature also translates into several dozen of the most common and in demand client / server formats. This provides a technology specific version of the CUFX standard for essentially all platforms.

The CUFX Specification documents have been written to provide for limited examples of case usage but do not reflect the entirety of elements present in any given message. Please see the latest version of CUFX in Swaggerhub for the complete message and for superior documentation support.

# Release 4.0 Global Update Notes

CUFX Release 4.0 introduces a number modifications that significantly improves the standard and is not backward compatible with prior versions.

Messaging paradigm shift. Prior to CUFX 4.0 a Message Object would be sent and would expect the Object List to be returned or the error message. The response had to be interrogated to determine what was received. With CUFX 4.0, the Object Message that is sent is also expected to be the Object that is returned. Significant improvements have been made to the Message Context to fully support Success, Informational, Warnings and Error responses. End Points may continue to use the prior methods, but use of the Error.xsd is depreciated; all functionality has transitioned into MessageContext.xsd.

Date Range Filtering. A global update was applied across the standard to remove the pairs of date filter elements for any given range and replaced with a single Common.xsd definition DateRange complex type. This makes date range filtering completely uniform across the standard and associates the startDateTime and endDateTime together as an object set.

As example: elements transactionStartDateTime and transactionEndDateTime were replaced in the AccountFilter.xsd with transactionDateRange.

Microsoft Serialization Bug. We discovered the root cause of a serialization error impacting CUFX. A known Microsoft Serialization error from 2006 is present for single element complex types. It causes a naming error of the serialized constructs. If both endpoints are using a Microsoft compilation the error is consistent and does not present itself, the names are both wrong but pass data successfully. When one end point is not using a Microsoft compilation, the field names are in variance and fails. If both end points are using non-Microsoft compilation the serialization would be correct and match.

CUFX 4.0 has applied a global update across all list types throughout the standard. The CUFX list construct was consistently a single element complex type. For all occurrences we have applied an extension base of common:ListBase. ListBase provides pagination support and also resolves the Microsoft serialization error. No longer being a single element complex type, Microsoft compilation now generates the correct names. This will necessitate prior (Microsoft) implementations to remap to the correct serialized names.

# Release 4.4 Global Update Notes

CUFX Release 4.4 introduces a significant enhancement for complex Account identification and filter navigation. The foundational architectural design premise for account navigation is that the CUFX AccountId would be a unique value unto itself within a given institution, or that a composite unique key would be passed. With the direct support of several core system providers it was established that that later case is predominate. The AccountId is generally not a unique value unless in combination with several other values such as AccountType and AccountSubType. Hence passing a unique AccountId meant that the organization had to overload the element value making filtering implementation specific and forcing the endpoints to map overlay the accountId to unpack the value.

CUFX now fully recognizes this architectural paradigm while continuing to support the original architecture.

A global update was applied to provide the elements accountType and accountSubType in all objects that contained accountId.

A new filter list – AccountIdentificationList has been added to all account related filters so that AccountId, AccountType, and AccountSubType can be structured properly for discreet filtering of complex account keys, support filtering by the sub keys and also support inbound and outbound account filtering using the accountToFromIndicator.

By expanding the architectural paradigm to support a non-unique AccountId CUFX is now positioned to better support core adoption of the standard.

# Specification document Change Log

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| --- | --- | --- |
| Version | Date | Changes |
| 3.0 | 01/24/2014 | * Initial Publication, 3.0 Specifications released for comment. |
| 3.0 | 02/20/2014 | * CUFXBillpayModelandServicesVer3\_0 specification - Added |
| 3.0 | 05/09/2014 | * CUFXConfigurationDataModelandServicesVer3\_0 - Update * CUFXSecurityServicesVer3\_0 - Update * CUFXCardDataModelandServicesVer3\_0 - Update * CUFXTransfersandPaymentsServicesVer3\_0 - Update * CUFXBillpayModelandServicesVer3\_0 - Update * CUFXHoldDataModelandServicesVer3\_0 - Added |
| 3.0 | 05/30/2014 | * CUFXBillpayModelandServicesVer3\_0 specification - Updated |
| 3.0 | 08/01/2014 | * CUFXBillpayModelandServicesVer3\_0 specification - Updated |
| 3.1 | 07/17/2015 | * All Specifications updated to release 3.1 version. |
| 3.2 | 05/11/2016 | * All Specifications updated to release 3.2 version. |
| 3.3 | 04/24/2017 | * All Specifications updated to release 3.3 version. |
| 4.0 | 02/19/2017 | * All Specifications updated to release 4.0 version. * Global update applied to JSON examples. * CUFXActivityDataModelandServiceVer4\_0 – Added * CUFXValidationDataModelandServicesVer4\_0 – Updated. |
| 4.1 | 12/10/2018 | * Updated to release 4.1 |
| 4.2 | 03/05/2019 | * Updated to release 4.2 |
| 4.3 | 10/18/2019 | * Updated to release 4.3 |
| 4.4 | 10/14/2020 | * Updated to release 4.4 |
| 4.5 | 04/09/2021 | * Updated to release 4.5 |
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# Schema documentation Change Log

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| --- | --- | --- |
| Version | Date | Changes |
| 3.0 | 01/24/2014 | * Initial Publication, 3.0 schemas released for comment. |
| 3.0 | 01/28/2014 | * Updates applied for BillPayee, BillPayeeFilter, BillPaymentFilter, BillPaymentMessage, BillPaymentOccurence, BillPaymentRecurring. |
| 3.0 | 05/09/2014 | * The following xsds were removed & consolidated * BillPaymentMessage >> BillPaymentOccurrenceMessage or BillPaymentReoccurringMessage * RemoteDepositPostRequest >> RemoteDeposit * RemoteDepositPostRequestMessage >> RemoteDepositMessage * RemoteDepositPostResponse >> RemoteDeposit * RemoteDepositRequest >> RemoteDeposit * RemoteDepositRequestMessage >> RemoteDepositMessage * RemoteDepositResponse >>RemoteDeposit * New: * RemoteDeposit, RemoteDepositFilter, RemoteDepositMessage |
| 3.0 | 11/06/2014 | * Added elements to wire transfer for international handling. Moved elements to common and adjusted references for greater consistency. * Account.xsd - Added externalAccountIBANCode and externalAccountBankCode, Corrected Address reference to use Common.xsd instead of Contact.xsd * Common.xsd - Moved isoCountryCodeType from Contact to Common to match address reference move. Moved Address Complex type from Contact to Common, and updated address reference in Contact. * Added exchangeRate to Money and PersonName. * Loan.xsd - Removed minimumBalance from Loan xsd, field is carried into loan from account.xsd extension and was duplicated. * Location.xsd - Corrected Address reference from contact.xsd to common.xsd * LocationFilter.xsd - Corrected Address reference from contact to common and removed Contact reference as no longer needed. * Transaction.xsd - Updated merchantCategoryCode from integer to string to prevent loss of significant leading zeros * Party.xsd - Corrected Address reference to use Common.xsd instead of Contact.xsd * Wire.xsd - Added Common and Contact reference for contact:Address and common: Person name, Added elements: disclosuresConsented, beneficiaryName, beneficiaryAddress; * Corrected address reference to use common, removed Contact reference as no longer needed. * WireFilter.xsd - Added account.xsd reference, external IBAN, Bank code, account and routing for filtering. |
| 3.1 | 07/17/2015 | * Attention. Release 3.1 is a breaking change release. There are a small number of renamed type definitions and structural changes. These were made to resolve duplicate type definitions and circular reference conditions. * All objects advanced to version 3.1 * AccessProfile - Richer Transaction filter. * AccessProfileMessage - New XSD * Account - Added noteList to account object, referenced from Common. * AccountFilter - AccountFilter - added element includeNotesFlag * Application - Updated description for loan and deposit in ProductDetail and Added min/max to productAppliedFor * BillpaymentFilter - Removed BillPaymentOccurrence.xsd and BillPaymentRecurring.xsd unneeded references. * Deposit - Agent description in Deposit talks about a loan. Description Corrected. Add DepositStatus - string enumeration add substatus - string. Updated Agent type to reference from definition in common xsd. Added depositAccountStatus with enumerations, and depositAccountSubStatus. Added DepositAccountStatusList * Deposit Filter - Added depositAccountStatusList * Deposit funding - Added enumeration 'DebitCard' to SourceOfFunds type. Corrected credit and debit card enumerations removing the space. * FundsTransferCommonBase - New XSD to contain common elements between occurrence and reccuring base. * FundsTransferFilterBase - Realigned references to use FundsTransferCommonBase to resolve circular references. * FundsTransferOccurrenceBase - Moved BatchId, BatchIdList, OccurrenceStatus and OccurrenceStatisList into FundsTransferCommonBase to resolve circular references. * Moved common elements to fundsTransferCommonBase to resolve circular references. * FundsTransferRecurringBase - Moved reference for recurringStatus to FundsTransferCommonBase. Moved common elements to fundsTransferCommonBase to resolve circular references. * Loan - add LoanStatus and substatus elements. Enumerate Active, closed. Substatus - string. Updated agent to use common.xsd definition. added LoanAccountStatus, loanAccountSubStatus, and LoanAccountStatusList * LoanFilter - add LoanStatus, added includeNotesFlag to match changes. Update to include accountFilter as an extension base all elements were removed as duplicate save loanCategoryList. * Added loanAccountStatusList * MessageContext - Updated user field description. * NotesFilter - NEW XSD. * NotesMessage - NEW XSD * Party - Added noteList to Party object. * Party Association. - Removed Agent object and agentQualifier types from Relationship & PartyAssociation to Common * Changed Authority reference in loan to use Common. * PartyFilter - added element includeNotesFlag. * ProductServiceRquest - ProductServiceRequest.xsd – renamed type=Status to type=ProductServiceStatus. * ProductServiceRquestFilter - ProductServiceRequestFilter.xsd – renamed type=StatusList to type=ProductServiceStatusList * RegisteredDeviceFilter - Removed incorrect registereddevice type definition and corrected RegisteredDeviceFilter sequence. * Relationship - Add notes. Updated documentation description. Added RelationshipStatus and RelationshipStatusList. NoteList inhereted from account. * Relationshipfilter - Added includeNotesFlag, relationshipStatusList * RelationshipMessage - New XSD * RemoteDeposit.xsd - RemoteDeposit.xsd – renamed type=Status to type=RemoteDepositStatus, Type Action renamed RemoteDepositAction, Type ActionList renamed RemotDepositActionList. * RemoteDepositFilter.xsd - RemoteDepositFilter.xsd – renamed type=StatusList to type=RemoteDepositStatusList, Renamed ActionList to RemoteDepositActionList * SimpleValidationRequest - Corrected minor documentation spelling error * SystemStatus - New XSD * SystemStatusFilter - Updated documentation 'transaction' to 'status' * SystemStatusMessage - Respell misspellings of occurrence. * Transaction - added TransactionStatus type and TransactionStatusList. Updated status within transaction to reference TransactionStatus type. Added type for TransactionCategoryList, TransactionSourceList. * TransactionFilter - New XSD * TransactionMessage - New XSD * TransferOccurrence - Add toCard and fromCard elements. * TransferRecurring.xsd - TransferRecurring.xsd – made schema reference name to upper case. Switched from schemaLocation=fundsTransferRecurringBase.xsd to schemaLocation=FundsTransferRecurringBase.xsd |
| 3.2 | 05/11/2016 | * All objects advanced to version 3.2 * Account.xsd - Added chargeOffAmount,chargeOffDate, accountEscheatDate, accountEscheatAmount. * loan.xsd - Updated noteList element to unique name accountNoteList, loanNoteList * Application.xsd - Added applicationDate. * ApplicationFilter.xsd - Added applicationStartDateTime, applicationEndDateTime * Loan.xsd - updated description originationDate to include 'funded', added funded date. Added lastPaymentDate, * lastPaymentAmount. * Meta.xsd / transaction.xsd - Swapped description of tranID and tranType; removed minBalance from checkSaveMeta as it's already defined in base Account. * Party.xsd - Added deathDate, ethnicity, and race, * Relationship.xsd added dateRelationshipEnded * Transaction.xsd - Added transactionFeeList, Removed unused namespace references. |
| 3.3 | 04/24/2017 | * Global update to version 3.3 * Account.xsd - Added elements cashAdvanceAvailableBalance, cashAdvanceBalance, cashAdvanceLimit. Updates to descriptions. * Application.xsd - Added applicationNoteList and applied format document. * Card.xsd - Added enumeration HomeEquity to CardType. * Common - Added FrequencyType common definition for general usage and replacement throughout standard. Added enum InvestmentCompany to AgentQualifer. Added notedId to Note complexType. Added enum AtMaturity for IntervalFrequencyType. Corrected enumeration value EventTrigger. * Contact.xsd - Added contactPersonName with minOccurs zero * CredentialGroup.xsd - Added mail and email to DeliveryChannel enums, updated and reordered. * CreditReport.xsd - Added customData and Common reference. * Deposit.xsd - Added element annualPercentageYield. * Document. xsd - new status indicator added. * DocumentFilter.xsd - Added elements documentCreationStartDateTime and documentCreationEndDateTime. * Error.xsd - added 404 error code, and error type enumeration of 0 for success. * FundsTransferRecurringBase.xsd - Added elements scheduledEndDateTime, nextScheduledDateTime. * Hold.xsd - Added CustomData to Hold item; renamed HoldDraft to be consistent with naming convention. Added optional start/end check numbers. * Investment.xsd - New specification. * InvestmentFilter.xsd - New specification. * InvestmentMessage.xsd - New specification. * InvestmentHolding.xsd - New specification. * InvestmentHoldingFilter.xsd - New specification. * InvestmentHoldingMessage.xsd - New specification. * Loan.xsd - rename customData to loanCustomData to resolve duplicate element conflict with element in account.xsd. Updates applied to description fields. * MessageContext.xsd - Added element cufxVersion, Added processorSessionId to track the session identifier with the processor. * Notes - minor redesign to enhance ability to navigate note messages. * NotesFilter - minor redesign to enhance ability to navigate note messages. * NotesMessage - New specification, designed to enhance ability to navigate note messages. * Party - Updated Party complextype description to include Credit Union Member for greater clarity. * Preference.xsd - Added preferenceFrequency, removed 'fell' language replaced with 'is' for EAlertSubType * RemoteDeposit.xsd - Added remoteDepositNoteList. Added dates for submittal/modifed. New status elements. Additional rmDeposit status added. Added action to RemoteDeposit object. * RemoteDepositFilter.xsd - Added PartyIdList. Corrected missing closing node. Modified comment text. Removed extra closing node. Added party name reference. * RemoteDepositMessage.xsd - Corrected omission of remoteDepositFilter. * Transaction.xsd - Added postedActualTransactionBalance and postedAvailableTransactionBalance. Added Kiosk, InterestRefund, and Withholding to source enum list. * TransactionFilter.xsd - Updated description text on datetime elements. |
| 3.3 | 09/07/2017 | * CUFX.cs - removed InvestmentAccount InvestmentAccountFilter, and InvestmentAccountMessage classes that were included by a build error. |
| 4.0 | 02/19/2018 | * Global Microsoft bug fix to single element complex types, Added ListBase, restructured for pagination elements. * AccessProfile - Moved IPAddress definition to common adding reference * DateRange Global update, replaced start/end date element pairs with dateRange of similar name. Added Common.xsd ref as needed. Added additional daterange elements where needed. * Account - Added AccountList definition, added descriptions to status enums, added matured to investment status * Account, AccountFilter - AccountStatus resturctured to support extention. AccountStatus and Account Sub status reorganized in to pairs for filtering. Added account status to accountBase; accountStatusList to AccountFilter, Added additional status enums, add accountSubStatus and accountSubStatusList to account / accountFilter. added MICR number to account filter list * Account, Deposit, DepositFilter, Investment, Loan, Loan Filter - Restructed AccountStatus to choice of Deposit,Loan, and Investment. Consolidated to Acccount.xsd. * Account, FundsTransferOccurrenceBase, FundsTransferRecurringBase - added definition for AccountBase. changed transfer occurrences to reference AccountBase. Changed Account to extend AccountBase * Account, PartyFilter - Added AccountAccountTypeList for filtering pairs. * Account, Transaction - added escrow amount to transaction; added type Matured to invest * Activity, ActivityFilter, Activity Message - New XSD definition * Application - Split out simple type Role for consistency. No functional change. * Application, SimpleValidationRequestFilter. - Added AppplicantID simpletype, ApplicantIdList, reference to SimpleValidationRequest * ApplicationFilter - Global update to DateRange documentation to remove duplicated text. * Bill, BillFilter - added bill status and date payment made. * Bill, BillPaymentRecurring - Added new Bill status enum; removed nextDebitDateTime - intent is duplicated in FundsTransferRecurringBase * BillFilter, BillPayeeFilter, CardFilter, ContactFilter, Credential Group Filter, FeeScheduleFilter, FundsTransferFilterBase, HoldFilter, MicroDepositFundingFilter, NotesFilter, OverDraftPrioirtyListFilter, PartyFilter, PermissionListFilter, PreferenceFilter, ProductionServiceRequestFilter, RegisteredDeviceFilter, Relationship - Global update: Add accountStatusList to all filters where accountIDList present. * BillPayee - date/amounts fields added to Payee, removed nextPaymentAmount * BillPayeeFilter - Added billPayeeIdList to Filter. Updated billPayeeGlobalIdList description, Added payeeAddedDateRange and payeeUpdatedDateRange, Change minOccurs to zero for isElectronic, updated date filter descriptions, Updated the descriptions on recurringToAccountList, recurringStatusList * BillpaymentFilter, FundsTransferRecurringBase - Added recurringFromAccountList, recurringToAccountList, recurringStatusList, date range filters for all FundsTransferReccurringBase dates to filter. * BillPaymentRecurring - Added bill-Id to recurring bill payment. Added missing defintion for recurring list type, Updated description of nextDebitDateTime. * Card - Added cardAddress to support passing fields directly when reference is not available. * Card, CardFilter, Common, ConFiguration, Contact - Updated comments and descriptions. * CardFilter - Added activation, expiration, and blocked DateRange filters. * Common - Added address lines 4 through 10 for International handling. Added DateRange complex type for filtering, Added DividendOnly enum to Authority. Added listbase to CustomData. Additional interval frequencies. - Removed duplicate enumerations annually, yearly, SemiAnnually and SinglePayment from FrequencyType. Updated description for startDateTime and endDateTime. * Common, Configuration, MessageContext. - Updated CufxVersion, moved to common, Reference to Configuration and Message Context. Updated ServiceName enums. * Common, FeeSchedule, FundsTransferRecurringBase, InvestmentHolding - Removed and normalized common:IntervalFrequencyType into common:FrequencyType * Common, Party, Rating - Moved simpleType Gender definition to Common, Reference to Party and Ratings. * Configuration - Added ServiceTimeZoneUTCOffset, in containment endPointTimeZoneUTOffset * ConfigurationFilter, ConfigurationMessage. - New ConfigurationFilter and ConfigurationMessage * Contact - added 'Other' as address type as catch all, Replaced point xs:group with complexType, Split out AddressType to SimpleType for consistency from Contact Address, Split out simpletypes EmailType and PhoneType for consistency. * Deposit, Deposit Filter - Removed depositAccountStatus and depositAccountStatusList in favor of normalized Account status elements and lists. * DepositFilter - maturityDateRange maxOccurs set to unbounded * DepositFilter, DocumentFilter, FundsTransferFilterBase - Updated descriptions. * FeeSchedule - Split out simpletype FeeCategory for standards consistency. No functional change. * FundsTransferCommonBase - Added element definition recurringId to correct generation issue. 1 element is required. * FundsTransferFilterBase - Added recurringStatusList to filter. * FundsTransferOccurrenceBase - added accountValidation as occurrenctType option, Added occurrenceType, Added optional elements (routing, micr, account type) * FundsTransferOccurrenceBase, FundsTransferRecurringBase - renamed elements; added Routing, MICR, Type to recurring transfer base. * FundsTransferRecurringBase - Added finalAmount element * FundsTransferRecurringBase - Removed type, micr, and accountId from recurringBase * Investment - Removed investmentAccountStatus and investmentAccountStatus in favor of normalized Account status elements and lists. * InvestmentFilter - Corrected element name investmentFilter to investmentHoldingFilter to match naming convention. * Loan - CreditLimitIncreaseRequestList - added min max occurs to elements. Added list base. * Loan - Removed redundant sequence tag pairs, reformated document. * Loan, LoanFilter - Removed loanAccountStatus, loanAccountSubStatus, loanAccountStatusList in favor of normalized Account status elements and lists. * LoanDisbursement - Added common:ListBase to LoanDisbursementList * LoanDisbursementFilter - New XSD. * LoanDisbursement, LoanDisbursementFilter, LoanDisbursementMessage - Added Loan Disbusrsement Filter, updated LoanDisbursement and LoanDisbursementMessage * Location - changed additionalDataList to customData for consistency, added LocationIdList * Location, LocationFilter - Normalized for consistency,removed duplicate element definitions. added simple types to location and reference to filter. * LocationFilter - Replaced locationId with locationIdList, type with locationTypeList, added servicesList, and isLocationOpen. * MessageContext - Added error list and message list, enabling full message response behavior. Copied Substitution, SubstitutionList from Error.xsd, Replaced numeric StatusCode enumerations with matching text descriptions, Restructure of MessageResponse, removed error reference. Restructured enums for statusType and statusCode. Changed unbounded user to userList, Added UserList complextype for consistency. * Meta - added lastStatementBalance to loan/CC, Documentation updates, payment frequency added to LOC, add loan elements, added apr to credit cards, Added APR to LOC type; added apy to investment, added currentDueAmount to loan types, added fields to locMeta, added interestDue to CC meta, added interestDue to crdCard meta, Added overdraft protection enabled boolean, added pastDueAmount to loan types, additional elements for loan and credit card, apy replaced with annualPercentageYield, interest rate documentation updates, fields added to check.save meta, interest rate added to check meta, remove currentDueAmount from loan type meta, Removed interestCalculationType, removed prePayment penalty items. Statement and last transaction dates added, update to LOC & CC meta. * MicroDepositFundingFilter - Corrected capitalization of elements microDepositFundingList, microDepositIdList * OverDraftPriorityList - Restructured for consistency to use overdraftPriorityAccountList in place of unbounded overdraftPriorityAccount. * Party - Added partyDateCreated, partyDateModified, partyDateDeleted. Removed local FrequencyType definition, referenced to common. Renamed Irs to TaxInformation, replaced with TaxInformationList. Replaced restriction base to string for TaxId. Restructured IdDocumentType for consistency. Moved imbedded simpletype defintions from the complex type. Split out simpletype BackupWithholdingExemptionReason for consistency. Updated additional reference to common:FrequencyType * PartyFilter, Common - expanded partyFilter * PermissionList - Restructured element actor defintion to be consistent with the standard, no material change. * PermissionList , PermissionListFilter - Restructured types resource and resources to be consistent with standard. No material change. * Preference - Added M2Mtransfers and P2Ptransfers enabled preference types, Added PaperStatement enum, comment change for EStatement enum. Documentation update for enum PaperStatement. * ProductOffering - Removed conflicted Meta.xsd xmlns definition. * ProductOfferingFilter - added interestRateEffective and interestRateExpiration DateRange filters. * QuestionList - Added common:ListBase to QuestionList * Relationship - added isHolder, isBeneficiary, isPayee, isGuarantor, isCollateralGrantor, isSafeDepositBoxUser. * Securemessage SecuremessageFilter - Added BodyContainsList and reference. * SimpleValidationRequest, SimpleValidationRequestFilter - Added simpleValidationStatusList * SimpleValidationRequestFilter - New XSD. * SimpleValidationRequest, SimpleValidationRequestFilter, SimpleValidationRequestMessage- Added SimpleValidationRequestFilter, added simpleValidationStatus, validationSubmittedDateTime, Added enum InProcess to simpleValidation status * Transaction - removed memoPosted & branch * Transaction - Restructure of Transaction into complexytype matching standards organization of list types. * Transaction, Meta - new source type and item added to history; next payment/date added to loan meta types * WireFilter - Replaced MicrAccountNumber and RoutingNumber with toAccountMicrAccountNumber, fromAccountMicrAccountNumber, toAccountRoutingNumber, and fromAccountRoutingNumber |
| 4.0 | 03/07/2018 | * BillPayment Filter - Removed duplicated recurringStatusList element resulting from extension base cross over. |
| 4.1 | 12/10/2018 | * Global - Global removal of choice constructs to eliminate cross language serialization issues. * New Specifications sets: App, Category, Field, FinancialInstitution, NetworkNode, ProductServiceEnrollment, User * AccessProfile - Added missing minOccurrs, maxOccurs, and updated descriptions.Updated descriptions. * AccessProfileFilter - Added userId, depricated fiUserId in Actor. Added ActorList to accessprofile and filter. * Account - Add enum Other to AccountType * Account, Activity, ActivityFilter, Answer, App, Appication, Collateral, Configuration, Deposit, DepositFunding, FundsTransferRecurringBase, Investment, MessageContext, Party, PartyAssociation, PermissionList, productServiceRequest - Global update applied for minOccurs 0 maxOccurs 1. Xsd had 1 or more elements corrected to be consistent with the standard definition. * Activity - Added enum OnHold to ActivityStatus, set activityShortDescription to minOccurs 0 * Application - Added enums to ApplicationStatus for Suspended, Pending, Cancelled, and Other. added applicationStatusDateTime to Application. added applicationModifiedDateTime to application. Added investment to ProductDetail. Removed pending enum. added minOccurs , maxOccures to productAppliedForList * Artifact, ArtifactFilter - Added accountId, AccountIdlist, partyId, partyIdList to facilitate search and retrieval by these keys. * Artifact, transaction - Added ArtifactUrI, transactionArtifactURI and TransactionArtificatId for referencing and or uri support for documents and images. * BillFilter - Added billStatusList to Filter * BillPaymentReccurringMessage - Add BillPaymentReccurringMessage as correction to BillPaymentReoccurringMessage, Corrected spelling error in xsd name * Card - Updated CardStatus enums, Added suspended status and suspendedDateTime. Removed suspendDateTime, added cardStatusDateTime, cardStatusReason. Deprecated blockedDateTime and blockedreason. Added cardstatusList * Card, CardFilter - Added cardstatusList to card, cardfilter. * Category, Common, Configuration, FinancialInstitution, Party, PartyFilter - Opened up Environment field in common as a string rather than an enumeration. Updated comment in Configuration. * Added fiOrganizationType to show how FI is organized. For example NotForProfit or Corporation. * Added partyStatus and partyStatusComment to Party & PartyFilter. This field is open string as it is defined by the implementations. * Deprecated partyDateCreated/Modified in preference for partyDateTimeCreated/Modified for more accuracy. * Added userid of who created or modified the party. * Updatec comments for date to datetime change. * Added isCategoryActive flag for for Category. * Common - Moved type Environment to common from messageContext, changed FiId to FinancialInstitutionId, Updated TimeZoneUTCOffset pattern to be more efficient. Same net result. * common, configuration - Update descriptions in configuration lists for apps and networknodes.Added TimeZoneName * Common, Configuration, ConfigurationFilter - Extensive Configuration updates, Added FinancialInstitution service. Moved currency support, accept language lists and TimeZoneUTCOffset to common. * common, configuration, ConfigurationFilter, NetworkNode, NetworkNodeFilter - Added higher level networkId to Network Node. Eventually there will be a stand alone Network service. Added ability to filter configurations based on configuration Name Environment and Status. * Common, Configuration, FinancialInstitution - Updated types to LanguageList and CurrencyList to be more generic * Common, MessageContext, NetworkNode - Moved networknodeid to common, applied reference by to networknode, and messagecontext. * Configuration - Added configurationDescription, environment to configuration. Min occurs corrections from 1 to 0. Documentation updates. Added custom data to Service, Method and MethodDependency; MethodId to Method, methodDependencyId to MethodDependency. Updated ServiceName enums. * Added MethodId, MethodIdList, MethodDependencyId, MethodDependencyIdList. * Configuration - Added ConfigurationAppIdList. Added reference to App for Appid. Expanded Fi to FinancialInstitution for clarity. corrected service list, updated documentation for method:uri, added customData to configurationNetworkNodeAddress, Added status and status comment fields to configuration. Fix several places where fields were 0 to unbounded (when they were not lists) to 0 to 1, Corrected type name from ConfigurationFinancialInstitutionList to FinancialInstitutionList, removed simpleType ServiceTimeZoneUTCOffset, Added ConfigurationId, ConfigurationIdList, and custom data. * Configuration, Configuration Filter - Added ConfigurationId, ConfigurationIdList, and custom data. Change networkNode references to networkNodeAddress. Add filters for networkNodeAddress in configuration and reorganize filter for stuff just added for app and network nodes addresses. Add base objects instead of repeating fields or using the id for app and network node address in configuration. Added configurationCreatedDateTime, configurationCreatedBy, configurationLastUpdatedDateTime, configurationLastUpdatedBy and related filters. * ConfigurationFilter - Changed configurationFiVendorList to configurationFiVendorIdList. Added methodIdList and methodDependencyIdList. Expanded fi to FinancialInstitution for clarity in type names. * Contact - Corrected spelling error in desc, added contactPointDescription, corrected / improved documentation. * CredentialGroup - Corrected documentation spelling error, added credentialSubType, and CredentialType enumeration of other, Added Reference to User. Added documentation to FiUserId. Added userId to CredentialGroup. Updated documentation. Changed UserType to UserIDType , UserIDTypeList to better align with the usage. * CredentialGroup, ISOCountryCodeType, ISOCountryCodeType-v2006 - Replace all NMToken types with string * CredentialGroupFilter - Added Reference to User. Added userIdList, and usertypeList. * CreditReport, CreditReportFilter - Updated description, Removed non standard quotations causing parsing issues from report type description. * CreditReportRequest - Corrected applicantList to reference application:ApplicantList. Removed imbedded definition. Corrected reportTypeList to use proper list complextype ReportTypeList * Document - Changed element signedWithIpAddress to use type common:IpAddress * FeeSchedule - Added feeEffectiveDateRange * FeeSchedule, FeeScheduleFilter - Added feeIdList, feeTypeList, feeEffectiveDateRange. * FundsTransferOccurrenceBase, FundsTransferRecurringBase - Added Ocurrence / Recurring detail amount detail lists. * MessageContext - Added configurationid to messageContext, Added sendingNetworkNodeId and receivingNetworkNodeId, Moved Id definitions to common added reference. Add reference to xsd User, App, Moved type Environment to common, Added sessionId, Moved User, UserList, User Type definition to User.xsd, StatusCode minOcurrs set to zero * NotesMessage >> Renamed NoteMessage - Renamed to NoteMessage to align with the original object definition of noteMessage. * Party - Removed listbase from Trust and estate, add trustType and estateType. For improved solution to MS issue. Types were not lists. Added parent child relationships financial institution and vendor for party association. Added a free form string field for organization sub type to drill down into the type of organization beyond it's taxable formation. Added partyDeletedBy, Added enum passport for improved localization support to type IndividualDocument * Party, PartyFilter - Add organizationTypeList, organizationSubTypeList and organizationNameList to party filter. Fixed invalid comment on organizationName, removed types PartyCreatedByList, PartyModifiedList, replaced with reference UserIdList. Changed PartyStatusComment to PartySubStatus, PartySubStatusList. * PermissionList - Corrected documentation spelling error, * PermissionListFilter - Added ProductIdList, Added ActorList deprecated actors. * ProductOffering - Corrected productId, productType, and productSubType to minOccurs 0. InterestRateList set to minOccurs=0 * ProductServiceRequest - Updated Description. * Securemessage - Replaced messageContext reference with User. Removed partId from SecureMessageUser as partyId is now included in the User extension base. Added allowReply boolean * SimpleValidationRequest - Fomatting update, no material change. * ValidationStatus - Replaced xmlns:xsd with xmlns:xs for consistency with the rest of standard. |
| 4.2 | 03/05/2019 | * \*\*\* Release 4.2 is a breaking fix release. \*\*\* Errors found in App, ArtifactFilter, and BillFilter required a breaking fix to align with the standard and prevent additional implementation difficulties going forward. * AccessProfile - added custom data to access profile complextype * ArtifactFilter - Corrected element capitalization error PartyIdList to partyIdList * App – replaced element parameterScope to parameterType in parameterTypeList * BillFilter - Removed duplicated billStatusList element. * Card -Added customData to Card object. * Card. Card Filter - Added cardTypeList to cardFilter * Common - Corrected max occurs on VendorIdList to unbounded. Added enumeration 4.2.0 to CufxVersion * InvestmentHolding - Added enums to holding type. * Meta -Added originalBalance to CheckSavingsMeta * Party - Added customData to TaxInformation complexType. * RemoteDeposit - added enums AmountMismatch and missing to type ImageValidationIssue. |
| 4.3 | 10/18/2019 | * Global – removed bit order marks all xsd files where present. * gitignore – initial definition. * CUFX/Generator/Generator.csproj - Cleanup of unnecessary definitions for generator tool. * CUFX/Schemas/Bill.xsd - BillStatus added Scheduled and Other as a enum value. Added otherBillStatus element to Bill. * CUFX/Schemas/Common.xsd – Changed isoCurrencyCodeType to minOccurs 0. Added to CoreRecordType enums Transaction. Added simple type AnnualPercentageRate as defined from meta.xsd. * CUFX/Schemas/Contact.xsd – Added preferenceOrder, otherAddressType, otherPhoneType, and otherEmailType elements * CUFX/Schemas/Document.xsd – updated documentation documentArtifactIdList. Added documentArtifactList to close gaps in navigating artifact elements. Affected by includeArtifactObjectFlag in the document filter. * CUFX/Schemas/DocumentFilter.xsd – Added includeArtifactObjectFlag Boolean to manage the object return size now that the full artifact object list is available in document. * CUFX/Schemas/MessageContext.xsd added referenceId and referenceIndex to correctly associate the status messaging response to the original input record. Corrected documentation spelling errors. * CUFX/Schemas/Meta.xsd – Referenced annualPercentageRate to common. * CUFX/Schemas/Notes.xsd – Added Activity and Transaction to namespace. Added activityId and transactionId to detailedNote to close a gap. * CUFX/Schemas/NotesFilter.xsd – Added activityIdList and transactionIdList to the filter. * CUFX/Schemas/Party.xsd – Added otherDocument element. * CUFX/Schemas/ProductOffering.xsd – Added annualPercentageRate. * CUFX/Schemas/RemoteDeposit.xsd – Added FeeSchedule to namespace. Updated documentation for amount. Added elements userEnteredAmount, immediatelyAvailableAmount, remoteDepositFeeList, businessDaysHeld. Added enums to RemoteDepositStatus of values: UnacceptableRisk, UnknownUser, InvalidAccount, and ConfirmationRequired. Added element imageValidationIssueOther. In ImageValidationIssue, deprecated CARMismatchFailed and added ImageQuality, Unknown, Other. Corrected documentation spelling errors in RemoteDepositActionList and RemoteDepositIdList. * CUFX/Schemas/SystemStatus.xsd – Added elements: systemDescription, isBusinessDay, nextBusinessDate, previousBusinessDate, postingDate, systemCutOffDateTime, systemStatusCustomData * CUFX/Schemas/Transaction.xsd – Added noteIdList. |
| 4.4 | 10/14/2020 | * Global update - removal of apostrophe from documentation. * AccessProfile - removed User.xsd from name space, UserId type reference to common. * Account - Deprecated type. Use accountType in accountBase. * Documented meta usage. * Added interestPostingFrequency, withholdingsInfoList, overDraftProtectionAccountId, overDraftProtectionAccountType, overDraftProtectionAccountSubType. * Added enums to accountType for Installment, CommercialLoan, CommercialLineOfCredit, GeneralLedger. OtherLoan. * DeprecatedAccountAccountTypeList and AccountAccountTypePair. * Added Type AccountIdentificationList, AccountIdentification, AccountSubType * Added enums ChargedOff, ChargeOffClosed to DepositAccountStatus * Account Filter - includeNotesFlag type to common:IncludeNotesFlag. Added accountIdentificationList * Activity - Added accountIdentificationList to RelatedToGroups * Application - Added customData to Application and Applicant. * Added ApplicationStatusList * ApplicationFilter - Added ApplicationStatusList to filter. * Artifact - Added accountType and accountSubType to Artifact. * ArtifactFilter - Added accountIdentificationList to filter. * Bill - Added accountType and accountSubType to Bill. * BillFilter - Added accountIdentificationList to filter. * BillPayee - Added accountType and accountSubType to BillPayee. * Added eBillEnrollmentStatus, and otherEBillEnrollmentStatus * Added EBillEnrollmentStatusList * BillPayeeFilter - Added accountIdentificationList, EBillEnrollmentStatusList to filter. * BillPaymentFilter.xsd - Added Account to Namespace. Added accountIdentificationList to filter. * BillPaymentOccurrence - Removed transaction namespace reference. Updated checkNumber to common type reference. * Card - Added accountType and accountSubType to Card. * CardFilter - Added accountIdentificationList to filter. * Collateral - Added CustomData to Collateral. Added CollateralType, CollteralSubType, collateralSubTypeDescriptionand accountIdentificationList * Added accountType, accountSubType and certificateNumber to SavingsCDCollateral. * Added type CollateralSubType, CollateralSubTypeList, CollateralType, CollateralTypeList * CollateralFilter - Added collateralTypeList, collateralSubTypeList, accountIdList, accountIdentificationList * Common - Added enum Relationship, Transfer, TransferOccurrence, TransferRecurring to coreRecordType * Added Xdays, Xmonths, Xmonths and Xmonths to FrequencyType * added type FrequencyDuration * Added 4.4.0 to CufxVersion * Added type MaturityDate, CheckNumber, AchStandardEntryClass, WithholdingFilingStatus, WithholdingType, WithholdingInfo, WithholdingsInfoList, AchPrenoteIndicator, UserId, IncludeNotesFlag * Configuration - removed User.xsd from name space, UserId type reference to common. * Contact - Added Preference to namespace. * Added contactDateTimeCreated, contactCreatedBy, contactDateTimeModified, contactModifiedBy, contactDateTimeDeleted, contactDeletedBy, preferenceSettingList, sms. * Added enum sms to ContactType. * ContactFilter - Added accountIdentificationList to filter. * CredentialGroup - Updated UserId to reference Common dataType. * CredentialGroupFilter - Added accountIdentificationList to filter. * Deposit - Standalone element Deposit marked as deprecated. * Added maturityTransferAmount, maturityTransferPercent, serviceChargeWaivedReason. * Added enum TransferAndRenew to MaturityPostCodeType * Added customData to depositParty. * Document - Added accountIdentificationList to Document * DocumentFilter - Added accountIdentificationList to Document * FeeSchedule - Added customData to Fee * Added accountType and accountSubType to RelatedTo * FeeScheduleFilter - Added accountIdentificationList to filter. * FinancialInstitution - removed User.xsd from name space, UserId type reference to common. * FundsTransferFilterBase - Added accountIdentificationList and includeNotesFlag to filter. * FundsTransferOccurrenceBase - Added achStandardEntryClass * FundsTransferRecurringBase - Added achStandardEntryClass * Hold - Added accountType and accountSubType to Hold. Updated startCheckNumber, endCheckNumber to use common type definition. * HoldFilter - Added accountIdentificationList, startCheckNumber, endCheckNumber to filter. * Investment - Added customData to InvestmentParty * InvestmentHolding - Added accountType, accountSubType and customData to InvestmentHolding * InvestmentHoldingFilter - Added accountIdentificationList to filter. * Loan - Documentation updates. Deprecation statementCode, statementGroup, statementDate * Added numberOfPaymentsRemaining, otherLoanAccountCategory. * added fromAccountType and fromAccountSubType to AutoPaymentOption. * Added paymentChangeDateTime, rateReviewDays, paymentReviewDays, rateChangeFrequencyType, rateChangeFrequencyDuration, paymentChangeFrequencyType, paymentChangeFrequencyDuration to LoanInterestRateDetail. * Updated maturityDate to use common MaturityDate. * Updated EcoaGroupType, added enum Deceased. * Added LoanAccountCategory enums Installment, Commercial, CommercialLineOfCredit, Mortgage, OtherLoan. * Added enum AmortizationTransfer to LoanPaymentMethodType * Added customData to LoanParty * LoanDisbursement - Added toAccountSubType to LoanDisbursementDepositToAccount * Meta - Updated maturityDate to use common MaturityDate. * compoundingFrequency marked as deprecated. * MicroDepositFunding - Added Account to Namespace. * Added sourceAccountType, sourceAccountSubType * MicroDepositFundingFilter - Added sourceAccountIdentificationList to filter * Note - Added accountType and accountSubType to ReferenceIdChoice * NotesFilter - Added accountIdentificationList to filter. * OverdraftPriorityList - Added accountType, accountSubType, and customData to OverdraftPriority * Added accountType, accountSubType to OverdraftPriorityAccount * OverdraftPriorityListFilter - Added accountIdentificationList to filter * Party - Removed user from namespace. * Changed UserId types to reference common. * Added nonresidentAlienCertificationtype, nonresidentAlienCertificationDateTime, nonresidentAlienLimitationOnBenefits, nonresidentAlienSpecialWithholdingStatus, nonresidentAlienSpecialWithholdingRate, withholdingsInfoList, taxIdExpirationDateTime, maritalStatus * Added type maritalStatus, NonresidentAlienSpecialWithholdingStatus, * PartyFilter - Deprecated accountAccountTypeList. * Added accountIdentificationList to Filter * PermissionList - Added customData to Permission * Preference - Added valueDataType, accountIdentificationList to Preference * Added enum NoSolicitation to PreferenceType * Added PreferenceSettingList and complex type PreferenceSetting * Added type DataType * PreferenceFilter - Added accountIdentificationList to filter * ProductServiceRequestFilter - Added accountIdentificationList to filter * RegisteredDevice - Added customData and accountIdentificationList to RegisteredDevice * RegisteredDeviceFilter - Added accountIdentificationList to filter * Relationship - Added relationshipCreatedBy, relationshipDateTimeModified, relationshipModifiedBy, relationshipDateTimeDeleted, relationshipDeletedBy, customData, accountIdentificationList. * Added noteList to RelationshipPartyList * RelationshipFilter - Added accountIdentificationList, includeNotesFlag to filter. * RemoteDeposit - Removed transaction namespace reference. Updated checkNumber to common type reference. * Added accountType and accountSubType to RemoteDeposit * RemoteDepositFilter - Added accountIdentificationList to filter * Transaction - Added accountType and accountSubType to Transaction * Updated checknumber to use common type definition. * Added entryMethod. * Updated documentation for TransactionSource. * Removed type defintion for CheckNumber, relocated to common. * TransactionFilter - Added accountIdentificationList to filter * TransferOccurrence - Added noteList, achPrenoteIndicator * TransferRecurring - Added noteList, achPrenoteIndicator * User - Removed UserId type reference and relocated to common. * Added reference to UserId to use common definition. |
| 4.5 | 04/09/2021 | * CredentialGroup - added support for Verifiable credentials, DID Validation and connection protocol for credential types. * Collateral - Added address to collateralBase |
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# Change Requests

For questions, comments or issues please respond to email: info@cufxstandards.com

Please provide the following information:

**Responding Organization:**

**Contact Name:**

**Contact Phone number:**

**Contact Email address:**

**Response Date**:

**Responding Organization tracking reference (if applicable):**

**Name of Specification or XSD member:**

**Issue or Observation:**

**Your expectation or recommendation to resolve:**

# Bibliography

W3C. (n.d.). *Key words for use in RFCs to Indicate Requirement Levels [RFC2119].* Retrieved Sept. 8th, 2011, from W3C.