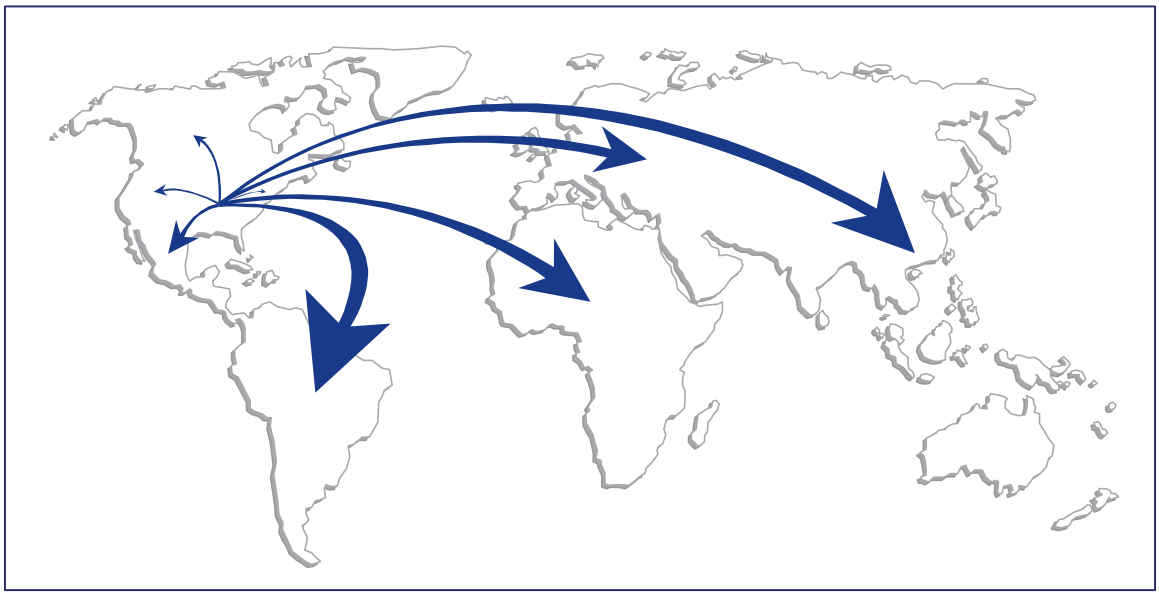
FOLIO CREATION

API GUIDE



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FOLIO CREATION API GUIDE

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1 Introduction

1.1 Business Purpose

UniTeller Financial Services establishes an agreement with a Correspondent Remittance Company to conduct business operations. The agreement provides the Correspondent with an expanded network for the payment of its money transfers. Subsequently, a requirement is set for system integration, which allows the Correspondent's system to seamlessly communicate with UniTeller's system. Thus, the business purpose is to expand the Correspondent's payment network.

1.2 Purpose

The purpose of this document is to introduce UniTeller's Folio Creation Application Programming Interface (API) for the integration of Correspondent institutions. This is a technical document, and in conjunction with the UniTeller API Reference, a complete specification. It should allow any organization with the requisite programming knowledge to adapt its systems to seamlessly integrate into UniTeller's Money Transfer System.

1.3 Implementation Overview

When a Correspondent integrates with UniTeller they unlock access to a network of payment locations of their choice. Integration is achieved by creating a client-based connection to the exposed APIs, which interact with the UniTeller Money Transfer System. There are many ways to achieve this sort of integration and this section will introduce the protocols that UniTeller can readily implement with a Correspondent.

1.3.1 Protocols for Networking and Security

There are a number of ways to transmit data securely across the internet. UniTeller is in a position to support a few different protocols. The type of protocol chosen for communication purposes should be compatible with the type of system integration that will be implemented between the Correspondent and UniTeller. For example, if system integration is achieved through Web Services, a VPN tunnel or SSL encryption would be the type of communication security protocol to implement. Conversely, communication security for file transfers can be implemented by using the Secure FTP protocol, or with a point-to-point VPN tunnel over the internet. Here is a quick summary of the different means UniTeller supports:

- Point-to-point, hardware-based VPN tunnel
- Secure FTP (SFTP)
- HTTPS/SSL encryption
- UniTeller Financial Switch (an appliance dedicated to data security and system monitoring that is seamlessly integrated into the Correspondent's network)

Note: these protocols are meant to be implemented over the Correspondent's established ISP connection(s)

1.3.2 Protocols for System Integration

There are two general approaches that UniTeller implements for system integration: Web Services; and File Transfer. UniTeller's preference is generally Web Service for real-time processing. But in addition to the real-time processing capability, there is also support for file transfer mechanisms to achieve integration. After analysis and discussion, both institutions will determine which approach is best for the partnership.

While the style of this guide is geared towards implementation teams that will use Web Services for system integration, Correspondents wishing to implement through file transfers must also use this document to understand the following:

- a general overview of the business process for each operation type (e.g. TX creation and payment, cancellation)
- the different inputs and outputs
- data set information for each input and output available through this API
- the standards for the different data fields (e.g. currency code convention, field length, mandatory or not)
- the general response codes and their descriptions that will be returned in the event of success or failure

2 Business Process

In this section, a Correspondent can gain insight into the flow of control for the relevant business operations. UniTeller contemplates the flow for transaction creation and payment, cancellation, information modification, complaints and action needed requirements. A transaction with a normal life cycle will only go through the first process of creation and payment. Occasionally, however, transactions require changes, or there are incidents affecting a transaction's status. For this reason, UniTeller makes available other processes for integrated Correspondents. Independent of the type of implementation, a Correspondent can expect notifications when events occur in the UniTeller system, such as payments, information requests, etc.

2.1 Transaction Creation and Payment

This section exemplifies the life cycle for sending a remittance transaction to UniTeller and its payment at an authorized UniTeller payment location.

1. The sender of a money transfer transaction (also referred to as the "remitter") goes to a Correspondent's agent or branch location.

2. The Correspondent captures the details of the transaction, dispenses a receipt specifying the folio number of the transaction and collects cash from the remitter.

3. Then the Correspondent performs compliance checks and other validations in their system, prior to forwarding the details of the transaction to UniTeller.

4. The Correspondent transmits the transaction to UniTeller through the established mechanism and using the protocol in this API guide.

5. UniTeller processes the request and immediately makes available a confirmation that the transaction creation request was received.

6. The receiver of the money transfer transaction (also referred as the "beneficiary") arrives at the authorized UniTeller paying location to collect their money transfer.

7. The beneficiary gives the folio number of the transaction and an accepted proof of identity to the teller to retrieve the details of the money transfer and verify the beneficiary's identity

8. Once the beneficiary's identity is verified the paying agent requests and receives payment authorization from the system.

9. A payment receipt is printed for the beneficiary, signed and the cash is dispensed.

10. UniTeller returns payment notification to the Correspondent.

11. The Correspondent confirms the reception of the payment notification.

2.2 Cancellation

This section exemplifies the business process for the cancellation of a remittance transaction.

1. Remitter calls the Correspondent's customer service center to request a refund or transaction has expired as per Correspondent's standards.

2. The customer service representative of the Correspondent executes a cancellation before authorizing the refund.

3. The Correspondent transmits the cancellation request to UniTeller through the established mechanism and using the protocol in this API guide.

4. UniTeller receives the cancellation request and changes the status of the transaction to make it cancelled.

5. UniTeller returns a response to the Correspondent system indicating the change has taken effect.

6. The Correspondent system processes the response and marks the transaction as cancelled.

7. The customer service representative initiates the Correspondent's process of refund to the remitter.

Note: transactions can only be cancelled if they are not already paid.

2.3 Information Modify

This section exemplifies the business process for information modification on the remittance transaction.

1. Remitter calls the Correspondent's customer service center to request a modification of beneficiary information because the beneficiary was turned away for an incomplete name or similar issue.

2. The customer service representative edits the details of the transaction in Correspondent's system.

3. The Correspondent transmits the information modify request to UniTeller through the established mechanism and using the protocol in this API guide.

4. UniTeller receives the information modify request and proceeds to apply the change.

5. UniTeller returns a response to the Correspondent system indicating the change has taken effect.

6. The Correspondent system processes the response that allows it to finalize the operation in their system.

7. Then the beneficiary is able to return to collect the money transfer since the correct details of the transaction are now available.

2.4 Complaints/Action Needed

This section exemplifies the business process for complaints and action needed notifications from UniTeller.

1. Paying Agent informs UniTeller that the beneficiary is unreachable because the beneficiary's phone number is incorrect.
2. UniTeller generates a notification item for the Correspondent.
3. The Correspondent picks up the notification and determines that it is an ACTION NEEDED notification.
4. The Correspondent's customer service staff acts on the notification by correcting the information with information modify operation.
5. Paying Agent uses the new information to contact the beneficiary.

3 API Reference

3.1 Introduction

This section describes the complete protocol for system integration with UniTeller, irrespective of the implementation type. It provides the details of parameters of various operations available in the API, which are for universal use in any implementation.

3.2 Organization

The following reference includes: the parameters of the API, additional notes, response codes, and response code conventions. The parameters are organized by operation, and each operation has input and output objects.

3.3 Folio Creation API

3.3.1 UTNetCreateTx

Input Object(s): CreateTxRequest
Output Object(s): CreateTxResponse

Description:
The UTNetCreateTx operation is what allows a Correspondent to transmit data to UniTeller for new transactions. If the Correspondent intends to have a beneficiary collect his or her money transfer at a UniTeller payment location, then it must successfully send the transaction before the beneficiary arrives to collect money.

3.3.1.1. Create Transaction Request Object

Object Name:	**CreateTxRequest**			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
Security Information				
machineId	Identifier of the process making the call to generate a transaction with UniTeller	String	Y	16
machinePassword	Password associated with the machineId, which should be automatically generated and changed by the Correspondent's system	String	Y	8-16
correspondentCode	Code for the Correspondent, from whom the transaction originates. This code is assigned by UniTeller to the folio generating Correspondent.	String	Y	16

Object Name:	**CreateTxRequest**			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
Transaction/Destination Information				
txIdentifier	Unique Identifier for the money transfer transaction. Correspondent generates a txIdentifier number according to the ranges that are provided by UniTeller. Beneficiaries can only use this Tx Identifier to collect their money transfer in cash. Example: 67070700000-67070899999.	String	Y	20
correspondentRefNumber	Reference number created by the correspondent for internal purposes. This number can only be used for internal purposes. If the correspondent does not have this internal Ref Number, the field should be populated with the txIdentifier.	String	Y	20
paymentAmount	Amount to be paid in payment currency to beneficiary. Valid example: 1999.99	String	Y	See section 3.5
paymentCurrency	Currency in which payment is required to be done. See section 3.5, “Currency Codes”. Example: MXN for Mex Pesos	String	Y	3*
paymentCountry	Destination country of the money transfer. See section 3.5, “Country Codes”. Example: MX for MEXICO	String	Y	2*
paymentType	Determines the mode of payment. 001 = CASH 003 = DIRECTED CASH 005 = CREDIT TO ACCT 007 = DELIVERY	String	Y	3*
paymentLocation	If payment type is: 001: inform package name 003: inform Paying Agent Code 005: inform Paying Agent Code 007: inform Paying Agent Code See section 3.5, “Package/Payer list”	String	Y	16
accountNumber	The account number of the beneficiary’s account. Only required if the Payment Type is 005.	String	C	30
accountType	One of the defined account types for the Account administrating institution. This field will only be used when the payment type is 005, and the payer requires a account type with the account number.	String	C	30

Object Name:	**CreateTxRequest**			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
	Condition: if account is type specific, this is mandatory.			
payingAgentBranchCode	The code, which identifies a specific branch at the Paying Agent. This field will only be used when the payment type is 005, and the payer requires a branch code with the account number. Condition: if Paying Agent accounts are branch specific, field is mandatory.	String	C	16
Source Information				
txAgentCode	Code of Correspondent's agent/branch location, where transaction was generated.	String	Y	16
txAgentState	State of the Correspondent's agent/branch location. See section 3.5, "State Codes"	String	Y	60
txOriginCountry	Country of the transaction's origin. See section 3.5, "Country Codes"	String	Y	2*
txOriginCurrency	Currency of the transaction's origin. See section 3.5, "Currency Codes"	String	Y	3*
txAmount	Transaction Amount collected by agent in Origin Currency, not including any fee.	String	Y	See section 3.5
txFee	Total fee charged to the remitter for sending the transaction.	String	Y	See section 3.5
txExchangeRate	Exchange rate used to convert Tx Amount to Payment Amount.	String	Y	See section 3.5
txCaptureMethod	Transaction captured by method: 001 = Point of Sale (e.g. verifone) 003 = Fax transmission 005 = GUI, Front-end application (e.g. computer based system) 007 = Telephone order 009 = Correspondent 099 = Other, if not one of the above	String	Y	3*
txCreationDateLocal	The local date/time at the creation location when the transaction was created.	String	Y	See section 3.5
Beneficiary Information				
beneRefNumber	Reference number that uniquely identifies the beneficiary in the correspondent's system.	String	Y	20
beneFirstName	First name of receiving person	String	Y	30
beneMidName	Middle name of receiving person	String	N	30
beneLastName	Last name of receiving person	String	Y	30
beneSecondLastName	Second last name of receiving person	String	N	30

Object Name:	**CreateTxRequest**			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
beneAddress1	First line of address of receiving person	String	Y	60
beneAddress2	Second line of address of receiving person	String	N	60
beneCity	City of receiving person	String	Y	60
beneState	State of receiving person. See section 3.5, “State Codes”. Example: “OAXACA”	String	Y	60
beneCountry	Country of receiving person. . See section 3.5, “Country Codes”. Example: MX for MEXICO	String	Y	2*
benePostalCode	Postal code/zip code of receiving person	String	Y	20
benePhone	Phone number of receiving person.	String	Y	20
beneBirthDate	Birth date of receiving person	String	N	See section 3.5
beneIdentificationType	Identification type of beneficiary if known. See section 3.5, “Identification Types”	String	N	60
beneIdentificationNumber	Identification Number of beneficiary if known.	String	N	30
beneEmail	Email address of the beneficiary	String	N	60
Sender Information				
senderRefNumber	Reference number that uniquely identifies the sender in the correspondent system.	String	Y	20
senderFirstName	First name of sending person	String	Y	30
senderMidName	Middle name of sending person	String	N	30
senderLastName	Last name of sending person	String	Y	30
senderSecondLastName	Second last name of sending person	String	N	30
senderAddress1	Address field for sending person	String	Y	60
senderAddress2	Address field for sending person	String	N	60
SenderCity	City field for sending person	String	Y	60
SenderState	State field for sending person. See section 3.5, “State Codes”	String	Y	60
senderPostalCode	Postal Code field for sending person	String	Y	10
SenderPhone	Phone number field for sending person. See section 3.5, “US telephone number format”	String	Y	20
senderBirthDate	Birth date of sending person	String	N	See section 3.5
senderIdentificationType	Identification type field for sending person. See section 3.5, “Identification Types”	String	N	30

Object Name:	CreateTxRequest			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
senderIdentificationNumber	Identification Number field for sending person	String	N	20
senderEmail	Email address of the sending person	String	N	60
Other Information				
reserved1	Field reserved for future use.	String	N	256
reserved2	Field reserved for future use.	String	N	256
reserved3	Field reserved for future use.	String	N	256

3.3.1.2. Create Transaction Response Object

Object name:	CreateTxResponse			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
responseCode	Response code – see response code section of document (00000000 is success)	String	Y	8*
responseString	String describing the response code / error	String	N	256
txIdentifier	Identifier for the money transfer transaction.	String	Y	20
correspondentRefNumber	Reference Number used by correspondent. For internal purposes only.	String	Y	20
processingDateEST	Date and time when UTLR received transaction from the Correspondent. This will be Eastern Standard Time.	String	Y	See section 3.5
reserved1	Reserved Field for future use.	String	N	256
reserved2	Reserved Field for future use.	String	N	256
reserved3	Reserved Field for future use.	String	N	256

Notes:

- When sending beneficiary information to UniTeller, keep in mind that the information transmitted with the transaction will be matched against the photo ID presented to the Paying Agent by the beneficiary. Should there be a significant difference between the information recorded on the transaction, and what the beneficiary presents on his ID, the beneficiary will be refused payment.
- It is important to send beneRefNumber and senderRefNumber to uniquely identify sender and beneficiary in correspondent's system. In case the combination of sender and beneficiary is identified by a single number in the correspondent's system, please send same reference number in both fields.

3.3.2 UTNetCancelTx

Input Objects: CancelTxRequest
Output Objects: CancelTxResponse

Description:
The UTNetCancelTx operation allows the Correspondent to cancel a transaction at UniTeller. Executing this operation changes the status of the transaction. A beneficiary that attempts to collect a transaction that has been cancelled will be turned away.

3.3.2.1. Cancel Transaction Request Object

Object name:	**CancelTxRequest**			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
machineId	Unique Identifier for a machine/process of the Correspondent	String	Y	16
machinePassword	Password associated with the machineId	String	Y	8-16
correspondentCode	Code assigned by UniTeller to the Correspondent	String	Y	16
txIdentifier	Identifier for the money transfer transaction.	String	Y	20
correspondentRefNumber	Reference Number used by correspondent. For internal purposes only.	String	Y	20
operator	Identifier of the user/agent that executed the cancellation request	String	Y	16
txCancelType	Type/reason of cancellation: 001= Refund 003= Expired 005= Error – Need replacement 099= Other	String	Y	3*
processingDateLocal	The date/time at the location where the transaction cancellation request is generated	String	Y	See section 3.5
cancellationFee	Fee charged to the client for the cancellation	String	Y	See section 3.5
reserved1	Reserved Field for future use.	String	N	256
reserved2	Reserved Field for future use.	String	N	256
reserved3	Reserved Field for future use.	String	N	256

3.3.2.2. Cancel Transaction Response Object

Object name:	**CancelTxResponse**			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
responseCode	Response code – see response code section of document	String	Y	8
responseString	String describing response code/error	String	N	256
txIdentifier	Identifier for the money transfer transaction.	String	Y	20
correspondentRefNumber	Reference Number used by correspondent. For internal purposes only.	String	Y	20

Object name:	CancelTxResponse			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
processingDateEST	Date and time when UTLR received cancellation request from the Correspondent	String	Y	See section 3.5
reserved1	Reserved Field for future use.	String	N	256
reserved2	Reserved Field for future use.	String	N	256
reserved3	Reserved Field for future use.	String	N	256

Notes:

- Generally, the cancellation operation is a synchronous operation in UniTeller's system, except for a few directed cash payment cases when it is asynchronous. Those exceptions will be conveyed to correspondent on case-by-case basis.

3.3.3 UTNetInfoModify

Input object: InfoModifyRequest
Output object: InfoModifyResponse

Description:
The UTNetInfoModify operation allows the Correspondent to modify certain details of a transaction that previously may have been incorrect or incomplete. This is an important operation because beneficiaries will be rejected payment if they present inconsistent information during the collection of a money transfer.

3.3.3.1. Information Modify Request Object

Object name:	InfoModifyRequest			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
Security Information				
machineId	Unique Identifier for a machine/process of Correspondent	String	Y	16
machinePassword	Password associated with the machineId	String	Y	8-16
correspondentCode	Code assigned by UniTeller to the Correspondent	String	Y	16
Transaction Information				
txIdentifier	Identifier for the money transfer transaction.	String	Y	20
correspondentRefNumber	Reference Number used by correspondent. For internal purposes only.	String	Y	2
Beneficiary Information				
beneFirstName	First name of receiving person	String	N	30
beneMidName	Middle name of receiving person	String	N	30
beneLastName	Last name of receiving person	String	N	30
beneSecondLastName	Second last name of receiving person	String	N	30
beneAddress1	First line of address of receiving person	String	N	60

Object name:	InfoModifyRequest			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
beneAddress2	Second line of address of receiving person	String	N	60
beneCity	City of receiving person	String	N	60
beneState	State of receiving person	String	N	60
benePostalCode	Postal code/zip code of receiving person	String	N	30
benePhone	Phone number of receiving person	String	N	20
beneBirthDate	Birth date of receiving person	String	N	See section 3.5
beneIdentificationType	Id type of beneficiary if known. See section 3.5, "Identification Types"	String	N	60
beneIdentificationNumber	Id Number of beneficiary if known.	String	N	30
beneEmail	Email address of the beneficiary	String	N	60
Account Information				
accountNumber	The account number of the beneficiary's account.	String	N	30
accountType	One of the defined account types for the Account administrating institution. Required only if the Paying Agent requires type.	String	C	30
payingAgentBranchCode	The code which identifies a specific branch at the Paying Agent. Condition: if Paying Agent accounts are branch specific, field is mandatory.	String	C	16
Other Information				
infoModifyFee	Fee charged to the remitter for the Info Modify operation	String	Y	See section 3.5
infoModifyReason	Reason for the info modify requirement 001=Customer Request 003=Teller Error 005=System Error 007=Incorrect Information 099=Other	String	Y	3*
processingDateLocal	The date/time at the location where the transaction cancellation request is generated	String	Y	See section 3.5
operator	Identifier of the user/agent that executed the cancellation request	String	Y	16
reserved1	Reserved Field for future use.	String	N	256
reserved2	Reserved Field for future use.	String	N	256
reserved3	Reserved Field for future use.	String	N	256

3.3.3.2. Information Modify Response Object

Object name:	InfoModifyResponse			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
responseCode	Response code – see response code section of document	String	Y	8

Object name:	InfoModifyResponse			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
responseString	String describing response code	String	N	256
txIdentifier	Identifier for the money transfer transaction.	String	Y	20
correspondentRefNumber	Reference Number used by correspondent. For internal purposes only.	String	Y	20
processingDateEST	Date and time when UTLR received cancellation request from the Correspondent	String	Y	See section 3.5
reserved1	Reserved Field for future use.	String	N	256
reserved2	Reserved Field for future use.	String	N	256
reserved3	Reserved Field for future use.	String	N	256

Notes:

- All but the security, fee and reason information fields are mandatory. The remaining fields should only be filled if they must change.
- A empty/null field in InfoModifyRequest will leave the original information without modification
- For deleting information for a non-mandatory field like beneMidName, please use constant "NULL"
- If the transaction amount, payer, or destination country must change, then a new transaction must be created to replace the incorrect one.
- This operation is only valid on UNPAID transactions. In other words, if the transaction has already been paid, the UTNetInfoModify operation will result in rejection.

3.3.4 UTNetGetNotification

Input Objects: NotificationRequest
Output Objects: NotificationResponse

Description:
UTNetGetNotification is the operation used by the Correspondent to pick up notifications posted by UniTeller. For example, a Correspondent would receive notification of payment once the beneficiary collects the money transfer. The notification would then allow the Correspondent to change the status of the transaction, which would in turn synchronize both systems. This operation would also be used to report complaints and action needed items that require the Correspondent's intervention.

3.3.4.1. Notification Request Object

Object name:	NotificationRequest			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
machineId	Unique Identifier for a machine/process of Correspondent	String	Y	16
machinePassword	Password associated with the machineId	String	Y	8-16
correspondentCode	Code assigned by UniTeller to the Correspondent	String	Y	16

Object name:	NotificationRequest			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
notificationCount	Number of Notification Items Correspondent wishes to receive in one call	String	Y	0< x<= 10
reserved1	Reserved Field for future use.	String	N	256
reserved2	Reserved Field for future use.	String	N	256
reserved3	Reserved Field for future use.	String	N	256

3.3.4.2. Notification Response Object

Object name:	NotificationResponse			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
responseCode	Response code – see response code section of document	String	Y	8
responseString	String describing response code	String	N	256
notificationData	Array of NotificationItem. These Items contain notification data on transactions.	Array	Y	
reserved1	Reserved Field for future use.	String	N	256
reserved2	Reserved Field for future use.	String	N	256
reserved3	Reserved Field for future use.	String	N	256

3.3.4.3. Notification Item Object

Object name:	NotificationItem			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
notificationRefNumber	Number that permits the Correspondent and UniTeller to identify the notification	String	Y	20
description	Description of transaction notification	String	N	256
txIdentifier	Identifier for the money transfer transaction.	String	Y	20
correspondentRefNumber	Reference Number used by correspondent. For internal purposes only.	String	Y	20
notificationType	Notification type: 002=PAYMENT 004=REVERSAL 006= ACTION NEEDED MESSAGE 008=OFAC HOLD 010=OFAC UNHOLD 012=BSA HOLD 014=BSA UNHOLD 016=INFORMATIONAL MESSAGE 018=TX CANCELLED	String	Y	3*

Object name:	NotificationItem			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
payingAgent	Identifier of the paying agent which has executed the operation. Condition: will be returned if notification type = 002	String	C	16
payingAgentBranchCode	Identifier of the paying agent branch which has executed the operation. Condition: will be returned if notification type = 002	String	C	16
payingAgentOperator	Identifier/name of the user of the branch who has executed the operation. Condition: will be returned if notification type = 002	String	C	60
beneIdentificationType	Type of photo ID used for verification of beneficiary address and other details for payment. Will only be informed if the Payment Type was cash-based.	String	N	60
beneIdentificationNumber	Number displayed on the photo ID. Will only be informed if the Payment Type was cash-based.	String	N	30
paymentLocalTime	Local date and time at the location of payment. Special note: this field will also be used to return local Time Stamp for other notification types.	String	N	See section 3.5
reasonForReversal	Exact string stating reasons for reversal.	String	N	60
reversalLocalTime	Local date and time at the location of reversal	String	N	See section 3.5
messageText	Text corresponding to notification message	String	Y	1024
reserved1	Reserved Field for future use.	String	N	256
reserved2	Reserved Field for future use.	String	N	256
reserved3	Reserved Field for future use.	String	N	256

3.3.5 UTNetNotificationConfirm

Input Objects: NotificationConfirmRequest
Output Objects: NotificationConfirmResponse

Description:
The UTNetNotificationConfirm operation allows the Correspondent system to confirm that notifications have been received and processed. Notifications will not be deleted in UniTeller's system until they are confirmed through this operation.

3.3.5.1. Notification Confirm Request Object

Object name:	NotificationConfirmRequest			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**

Object name:	NotificationConfirmRequest			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
machineId	Unique Identifier for a machine/process of Correspondent	String	Y	16
machinePassword	Password associated with the machineId	String	Y	8-16
correspondentCode	Code assigned by UniTeller to the Correspondent	String	Y	16
txIdentifier	Identifier for the money transfer transaction.	String	Y	20
correspondentRefNumber	Reference Number used by correspondent. For internal use only.	String	Y	20
notificationRefNumber	Number that permits the Correspondent and UniTeller to identify the notification	String	Y	20
reserved1	The unsigned amount that was deposited, withdrawn or adjusted.	String	N	256
reserved2	Reserved Field for future use.	String	N	256
reserved3	Reserved Field for future use.	String	N	256

3.3.5.2. Notification Confirm Response Object

Object name:	NotificationConfirmResponse			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
responseCode	Response code – see response code section of document	String	Y	8
reserved1	Reserved Field for future use.	String	N	256
reserved2	Reserved Field for future use.	String	N	256
reserved3	Reserved Field for future use.	String	N	256

3.4 Security API

3.4.1 UTNetChangePassword

Input Objects: SecurityPasswordRequest
Output Objects: SecurityPasswordResponse

Description:
The Folio Creation API is supported by a user authentication framework. Any request made by the Correspondent must contain its *correspondentCode*, *machineId*, and *machinePassword*. Without these fields, or without valid values, all system requests through this API will be rejected. Furthermore, passwords expire for these users on a regular basis. Thus, UniTeller facilitates the renewal of the password through the Change Password operation, which the Correspondent should trigger if it receives the response code indicating "password re-initialization required."

3.4.1.1. Change Password Request Object

Object name:	**SecurityPasswordRequest**			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
companyId	CompanyId is the same as the Correspondent Code from the Folio Creation API. This value is assigned by UniTeller to the Correspondent.	String	Y	16
machineId	Unique Identifier for a machine of Facilitating Institution	String	Y	16
oldPassword	Current password, which needs to be changed.	String	Y	16
newPassword	New password, which needs to be set (at least 8 character length).	String	Y	8-16
organizationId	Identifier of the organization to which the request belongs	String	N	16
branchId	Identifier of the branch to which the request belongs	String	N	16
reserved1	Reserved Field for future use	String	N	256
reserved2	Reserved Field for future use	String	N	256
reserved3	Reserved Field for future use	String	N	256

3.4.1.2. Change Password Response Object

Object name:	**SecurityPasswordResponse**			
Parameter	**Description**	**Type**	**Mandatory**	**Len/Format**
responseCode	Success/failure code	String	Y	8*
reserved1	Reserved Field for future use	String	N	256
reserved2	Reserved Field for future use	String	N	256
reserved3	Reserved Field for future use	String	N	256

Notes:

- The password expires at regular intervals, at which point it must be changed. When the password expires, any request may be returned with a response code indicating the need for a change of password. The client program at this point will be required to change the password using the Change Password Method.
- It is essential that any client program implementation encrypt the *machineId* and password before it is stored. In addition, the client program implementation should contain an algorithm to generate a new password when the password expires.
- The password's minimum required length is 8 characters.

3.5 Additional Notes

Here are some additional notes to elaborate a few considerations that are critical for a successful integration:

- **Amount format:** Payment and transaction amounts should be given with a 12 digit limit and 2 decimal max. Examples: 1000 or 1999.99 are valid amounts
- **ASCII characters:** the UniTeller system expects ASCII characters in all string fields.
- **Country Codes:** fields requiring a "country code" depend on a pre-defined list. Please refer to UniTeller API Reference.
- **Currency Codes:** fields requiring a "currency code" depend on a pre-defined list. Please refer to UniTeller API Reference.
- **Dates format** is MMDDYYYY. Format with time is as follows: MMDDYYYYHH24MISS (24-hr format). The short form is expected for parameters such as birth dates. The long form that includes time should be used for parameters such as processing date local. Examples: beneBirthDate is '10251980' or processingDateLocal is '10252006153211'.
- **Foreign exchange rate format:** can be sent with up to 12 digits and 6 decimal points if necessary. Example: 10.5007
- **Package/Payer list:** a list of Package names and Payer Codes are included in the UniTeller API Reference.
- **State Codes:** fields requiring a "state code" depend on a pre-defined list. Please refer to UniTeller API Reference.
- The **length** field for a parameter specifies how long the string can be, or its range. If the field's input is '8-16', this means that the string must be at least 8 characters long and at most 16. When only one number is specified in the length field (e.g. '30'), this is the maximum allowable number of characters and will permit 0-max number of characters. Note, however, that a mandatory parameter must never be empty and should apply the standard as agreed between the UniTeller and the Correspondent. When an asterisk '*' modifies the length field, it means that the specified string requires that exact number of characters. For example, '3*' requires 3 characters for the parameter's data and not 0, 1, or 2 characters.
- The **mandatory** field for each of the parameters below specifies whether the parameter itself is mandatory or not in its implementation for successful operations. Options: 'Y' means Yes, 'N' means No, 'C' means Conditional. A "conditional" field includes the dependency in its description.
- **US telephone number format:** phone numbers that are for US customers are expected to be 10 digits long, and without non-numeric characters (e.g. *2124561111*)

3.6 Response Codes

3.6.1 Folio Creation API

Operation Name	Code	Failure Type	Long Description
General	00000000	n/a	Success
UTNetCreateTx	11102001	Warning	Possible duplicate transaction. Generally, this code is returned when a partner did not receive the original response.
UTNetCreateTx, UTNetInfoModify	11102002	Warning	BSA Hold (flagged for further scrutiny)
UTNetCreateTx, UTNetInfoModify	11102003	Warning	OFAC Hold (flagged for further scrutiny)
UTNetCancelTx	11102004	Warning	Transaction already cancelled. Generally, this code is returned when a partner did not receive the original response.
UTNetCreateTx	11104001	Validation	Location of origin is invalid or not allowed
UTNetCreateTx	11104002	Validation	Payment attributes are invalid. Verify that valid Payment Country, Payment Currency, Payment Location and/or Payment Type are being transmitted.
UTNetCreateTx	11104003	Validation	TX already exists
UTNetCreateTx	11104004	Validation	Transaction amount is under or over a limit
UTNetCreateTx, UTNetInfoModify	11104005	Validation	Account number format is invalid
UTNetCancelTx, UTNetInfoModify	11104006	Validation	Transaction does not exist
UTNetCancelTx, UTNetInfoModify	11104007	Validation	Operation not allowed. Transaction is in PAID or other status.
UTNetNotificationConfirm	11104008	Validation	Notification Reference Number not found.
UTNetCreateTx, UTNetCancelTx, UTNetInfoModify, UTNetGetNotification, UTNetNotificationConfirm	11107001	Security Validation	Access temporarily suspended, contact UniTeller
General	19903001	Input Error	Mandatory field missing. Response string may contain the name of the missing field.
General	19903005	Input Error	Format/length error for a field. Response string may contain name of the field.
General	19903009	Input Error	Invalid input for the field. Response string may contain the name of the field.
General	19905001	Action Needed	Password has been re-initialized and must be changed before proceeding. This error will be returned when UniTeller detects that the correspondent's machinePassword has been re-initialized.
General	19906001	System Error	Server down for maintenance
General	19906002	System Error	System failure, contact Uniteller
General	19906003	System Error	Critical error, contact Uniteller
General	19906004	System Error	System unavailable

Operation Name	Code	Failure Type	Long Description
General	19906005	System Error	Network problem
General	19907002	Security Validation	Malicious Access
General	19907003	Security Validation	General authentication failure

Notes:

- General response codes can be returned during any operation defined in the Folio Creation API.
- Whenever UniTeller returns a warning, it means that the operation was actually completed. For example, if a correspondent application receives a warning during a UTNetCreateTx operation, it can be interpreted as having been successful. However, a BSA or OFAC warning would require action by the correspondent. If it is a "lost response" warning, it means that the transaction was entirely successful and the UniTeller system is informing the partner of such, through a warning since the operation had already been performed.
- The correspondent system should include in its response handling the ability to interpret unknown response codes.

3.6.2 Security API

Operation Name	Code	Failure Type	Long Description
UTNetChangePassword	00000000	n/a	Success
UTNetChangePassword	10103003	Insufficient Data	Mandatory input missing
UTNetChangePassword	10104002	Validation	New password not conforming to standards defined for password
UTNetChangePassword	10104005	Validation	Length of input does not lie in the required range
UTNetChangePassword	10105003	Action Needed	Invalid old password
UTNetChangePassword	10106003	System	System error
UTNetChangePassword	10108009	System	Password length should be between 8-16 characters
UTNetChangePassword	10108010	System	Invalid MachineID / password

3.7 Response Code Conventions

Error constants are assigned 8-digit numbers according to the following scheme.

- The first digit is a system identifier. "1" for UniTeller Switch (e.g. 10604011)

- The next two digits are the subsystem identifier e.g. Login (01), Folio Creation (11), General (99), 19907002.

Next two digits indicate error type according to the following scheme (e.g. 19907002).

  - 01 - Informational messages, which are not actual errors
  - 02- Warnings
  - 03- Input data is insufficient
  - 04- Message/user specific validation error
  - 05- Action needed
  - 06- System error;
  - 07- Security validation error
  - 08- Generic System Admin validation error

- The final three digits are used for subsystem specific errors, under error type (e.g. 10604011).