Inland Revenue
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TDS Transition Overview

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1 Introduction

This document provides guidance about how you can transition from using the current Transaction Data Service (TDS) SFTP Bulk File and/or the TDS Simple Object Access Protocol (SOAP) Real-Time service to the new TDS Representational State Transfer (REST) Application Programming Interface (API).

This document contains uses case that provide an overview of the new TDS REST API, as well as applicable business rules, assumptions, and exclusions.

2 Audience

This is a transition document intended for use by Digital Service Providers (DSPs) already using the TDS SFTP Bulk file or SOAP Real-Time service.

3 Assumptions

This document assumes the following.

- You are using the existing TDS SOAP Real-Time service or SFTP Bulk File.
- You understand the permitted uses of TDS financial information.
- You understand the types of roles within your system that can access this information.
- You are set up as a software intermediary.
- You are linked to Customers in START to enable your Users to use the TDS REST API.
- You understand terminology such as Customer, Client List, and Software Intermediary.

4 Exclusions

In this document we call out the necessity of storing in your system the financial information received via the TDS REST API and updating this information on a regular basis.

However, we do not provide guidance on how you should store the information or how you should perform the updates within your system. For DSPs that are transitioning from using the SFTP Bulk File, you should already have a process in place to store and update the information. This may need to be changed after moving to the TDS REST API.

5 Source of Truth

The IR Simplified Tax and Revenue Technology (START) system is regarded as the source of truth. That is, the financial information residing in START is the correct version.

If the financial information in your system differs from the financial information held in START, the financial information in your system needs to be updated to match START.

6 Key Differences

6.1 Bulk file SFTP vs TDS Data Reconciliation (Batch)

The existing TDS bulk-file service provides transaction information to DSPs for all customers linked to the Software Intermediary. This is then used by existing bulk-file users to maintain transaction information for customers based on the transaction changes detected by Inland Revenue. Transaction changes are supplied as both daily and as a weekly file.

The new real-time Data reconciliation service is built around two APIs (TDS Summary, TDS Transaction). These will replace the existing asynchronous and SFTP bulk-file service.

The new TDS Summary will provide a summary response that can be compared against your data to identify variations based on account or period balances or transaction counts. Inland Revenue expects that the TDS Transaction is only called for the customer, account, and periods with identified variation.

Where a client list has delinked and relinked; or newly linked to a Software Intermediary, Inland Revenue will support retrieval of all transactions for each client linked to the client list, including historical transactions.

6.2 TDS SOAP Real-Time vs TDS REST Real-Time

The existing SOAP real-time service gives Intermediaries or Customers access to transaction data. It caters for real-time queries that as the name suggests, are synchronous transactions giving a real time reply of the actual data as held in the START platform.

The new TDS REST real-time services are designed to operate in a similar manner to the existing TDS SOAP real-time services with the advantage of improved performance. It will continue to support Intermediaries and Customers synchronous access to information START platform.

You would still support your users access to data in a targeted manner when required as before.

A key change for the User is that they can no longer search using a Client List ID.

7 Recommendations for your Transition

Continue to use the current TDS SOAP Service and bulk file update, ensuring that the financial information you hold is as up to date as possible.

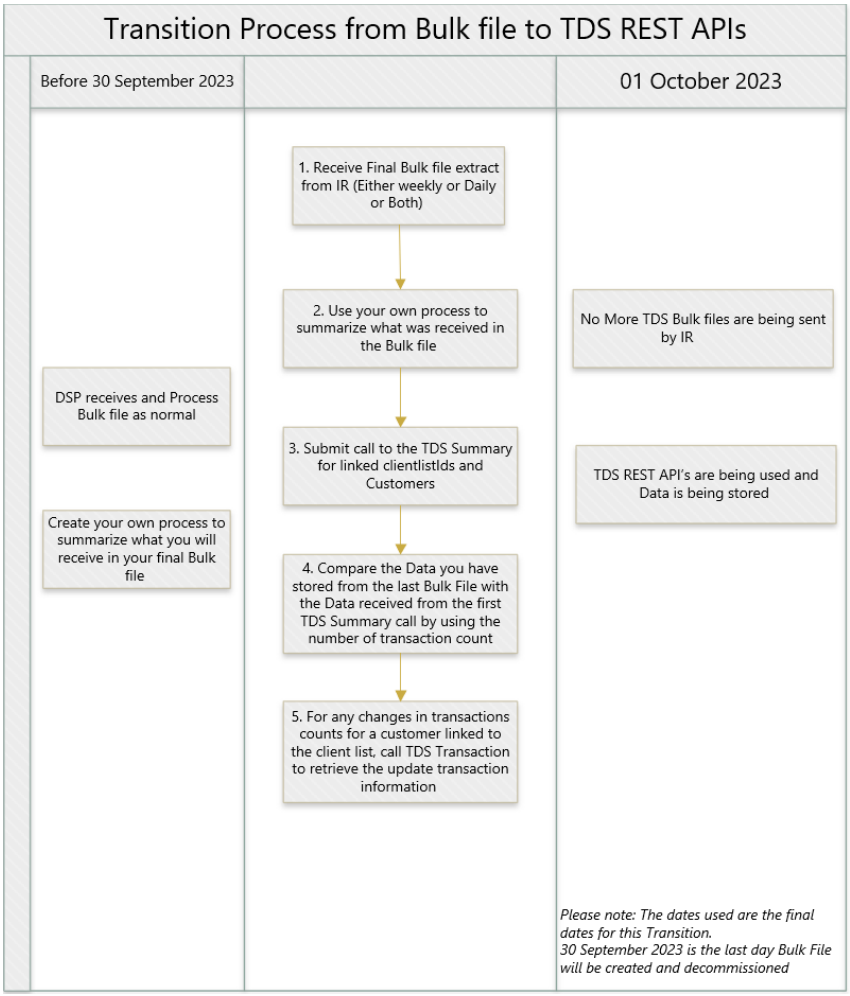
You could time your transition to the TDS REST API's as close as possible to the last time you used the bulk file. For example, if you receive a bulk file weekly, and move to the new TDS REST API the next day. Or you could use the new TDS REST API immediately after receiving the last bulk file.

The closer the timing between the bulk file update and using the new TDS REST API, the less likely there will be differences that you need to contend with on the first night of running the TDS REST API.

You will need to build a process that summarises all the existing data from your last Bulk file feed. This will allow you to run a comparison when you use the REST API for the first time.

The following diagram provides an overview of the transition process.

Note: that you must have completed your transition process before 01 October 2023.



8 Software Intermediation

You may need to implement the Software Intermediation service, depending on how you've implemented TDS.

You can read more about Software Intermediation on GitHub at this URL.

Gateway_Services-Access/Service - Software Intermediation at master · InlandRevenue/Gateway_Services-Access · GitHub

9 High Level Overview of the TDS REST API

The TDS REST API has two primary methods of use. The following table summarises the two primary methods of use at a high level.

Primary Method of Use	Description
DSP receives and updates transaction information	The TDS REST API allows the DSP to perform the following tasks: • Determine if the START batch jobs have completed and therefore the latest TDS Summary is available. • Determine if there are any new or updated transactions for a filing period by submitting a request using either the Client List ID OR Account ID OR the Customer ID. • Request the details of new or updated transactions if there is a difference between the DSP's current transaction count in their SYSTEM and the transaction count in START. **Note**: We define the term System in the use case model in this document.
User retrieves financial information	This allows a User to search for financial information held in START. **Note**: We define the term User in the use case model in this document.

10 Other Implementations Using TDS REST API

if you are a DSP that receives and updates transaction information, while it's entirely possible for you to bypass the expected use of TDS Summary and TDS Transactions (Batch) and rely solely on the TDS Financials and TDS Transactions (Real Time) to store and update your User's financial information. However, IR strongly discourages you from taking this approach.

11 Excessive Use

IR monitors the number of transactions per day, from each DSP.

IR will take the following steps if we detect excessive use.

- Contact you to request that you resolve the excessive number of requests.
- If this doesn't resolve the issue, we will trim the number of concurrent connections and the number of connections per hour.
- If there is still an issue (that is, you continue to send an excessive number of requests), IR will regard this as a violation of our Terms of Service.

12 Receive and Update Transaction Information

12.1 Introduction

This section describes how you can receive and update the transaction information in your System using TDS Summary and TDS Transaction (Batch).

It also provides more details about the START batch jobs and best practices for using TDS Summary and TDS Transaction (Batch).

This section references the uses cases from the *Receive and Update Transaction Information* use case model. It also includes an overall Business Process Mapping Notation (BPMN) diagram to show the interaction between your System and START.

12.2 Differences in how you Update Transactions

IR previously pushed the transaction information to your system via the SFTP bulk file service. IR generated the file, and you retrieved this file via the IR STFP server. Your system imported the file, and stored the data contained in the file.

The new TDS REST API is designed so that you only need to download the transaction information if there are new transactions. You are responsible for initiating the download of the new transactions.

12.3 Best Practice for Updating Your Information

You will use TDS Summary along with TDS Transactions (Batch) to store and update the financial information you store on behalf of your users.

12.4 IR Batch Job Processing

From Monday to Friday, at 18:00, START begins running the batch jobs. These jobs update information such as payments and changes to Returns for all Customers, for all accounts and account types.

The latest TDS Summary financial information isn't available until the START batch jobs have completed.

There are two ways to check if the latest Transaction data is available.

- Use summaryGET to check if the end date and end time has changed to "today's" date for the Summary information.
- Use summaryPOST to check if there are changes to the transaction count for a filing period for an account.

Note that in both cases you can only call the Summary GET in the TDS REST API every 10 minutes.

12.5 Knowing When the Latest Transactions are Available

Use TDS Summary Status to know when the updated Transactions is available.

The response contains a start date and time and an end date and time that indicate when the last transaction updates were made.

The expectation is that the DSP will maintain state by recording the value for the last batch job. On the next business day, the DSP will compare the value with the last known recorded value. If there is a difference in the date/ time value, the DSP will know that transaction data is ready to be consumed.

12.6 Average Number of Times You Can Call TDS Summary Status

A call to TDS Summary GET should only be sent every 10-minutes on average.

You need to consult with IR if you want to call TDS Summary (GET) more frequently.

13 REST Paths and Associated Use Cases

The new TDS REST API uses paths to call a unit within the API. The path is made up of the HTTP verb and the URL path and combined with the base path.

The base path is: /gateway/tds/

The following table contains the primary method of use, the REST paths, the tag name used within the TDS REST API, and the associated use case name(s).

Tag	Primary Method of Use	Description	Use Case Name	Path
TDS Summary	DSP checks for new transactions and updates the financial information held in their System.	The DSP uses TDS Summary to determine if new transactions are available for a particular Customer, Client List, or Account.	Check if the START Batch Jobs Have Completed. Check for New Transaction.	/summary
TDS Transactions (Batch)	DSP retrieves and reconciles transaction information	If there are new or updated transactions identified from the Summary response, the DSP retrieves the transactions for one single filing period per account per and then updates this information.	Retrieve Transactions Update Transaction Information	/transactions/batch
TDS Financials	User retrieves financial information	The User retrieves financial information associated with a customer or account. This returns both active and reversed transactions	Retrieve Account Information	/financials

Tag	Primary Method of Use	Description	Use Case Name	Path
		from START. You can also update your System using this information.		
TDS Transactions (Real Time)	User retrieves transaction information	The User retrieves financial information about a transaction for a specific account and filing period. You can also update your System using this information.	Retrieve Transaction Information	/transactions/realtime

14 Use Case Model

The following diagrams shows the overall use cases involved in the new TDS process.

Note that this overall use case model shows two views.

- The *Retrieve and Update Transaction Information* use case model shows the use cases initiated by your process(es) to store and update the financial transaction information you hold in your System on behalf of your User.
- The *User Retrieves Financial Information* use case model shows the use cases initiated by the User.

14.1 Use Case Model – Receives and Updates Transaction Information

14.1.1 Primary Actor

The DSP Process is the primary actor for uses cases related to receiving and updating transaction information.

The DSP Process is a general reference to your internal process for storing and updating the financial information (the transactions) in your system. We do not define how this process works. For example, it may be an automated process within your System. However, we do provide a high-level overview using the goal within each use case.

14.1.2 System

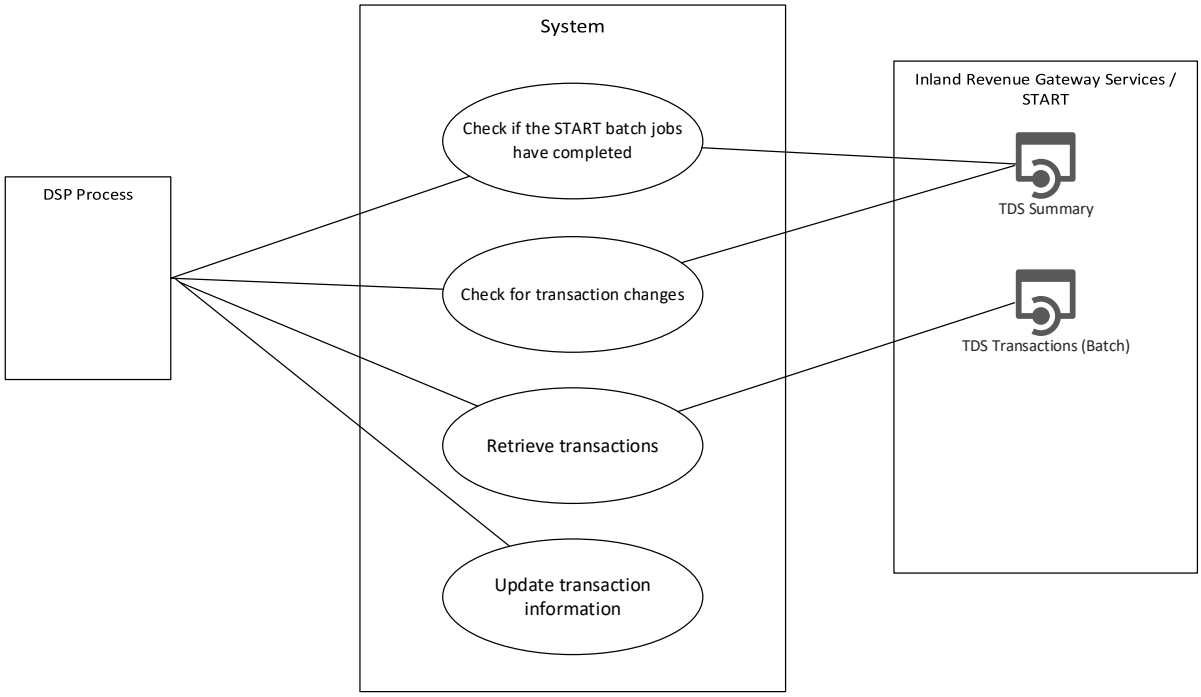
The System contains the uses cases initiated by the DSP Process that helps the DSP Process its goal(s).

14.1.3 Secondary Actor

The use cases show the secondary actor as Inland Revenue Gateway Services / START. The secondary actor contains the endpoints and resources called by the TDS REST API.

14.1.4 Use Case Model Diagram – Receives and Updates Transaction Information

The following diagram shows a high-level use case model for receiving and updating information in your System.



14.2 Use Case Model – User Retrieves Information

14.2.1 Primary Actor

The primary actor in this use case model is your User. The primary actor generalises roles such as Tax Agent, Bookkeeper, Payroll Intermediary and Customer.

Note that the User shows who initiates the use case in your System and does not infer any type of relationships between the types/roles of users. For example, the Tax Agent that represents several Customers that were linked on a Client List.

14.2.2 Secondary Actor

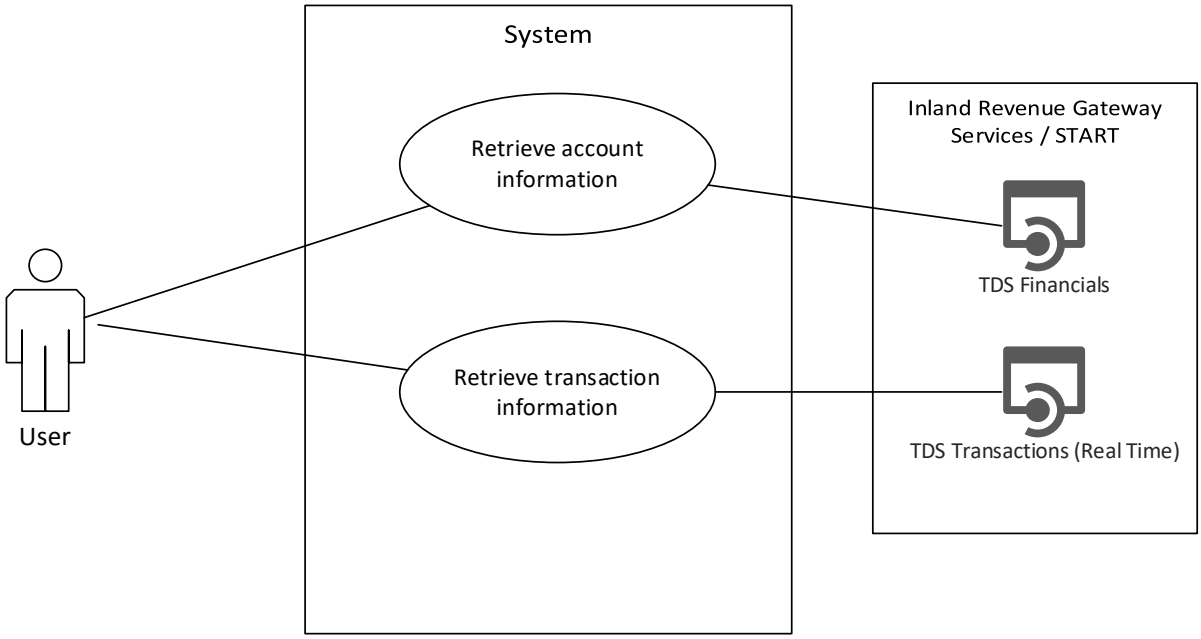
The use cases show the secondary actor as Inland Revenue Gateway Services / START. The secondary actor contains the endpoints and resources called by the TDS REST API.

14.2.3 System

The System contains the uses cases initiated by your User and helps the User achieve their goal(s).

14.2.4 Use Case Model Diagram – User Searches for Financial Information

The following diagram shows the how your User can retrieve financial information related to a Customer.



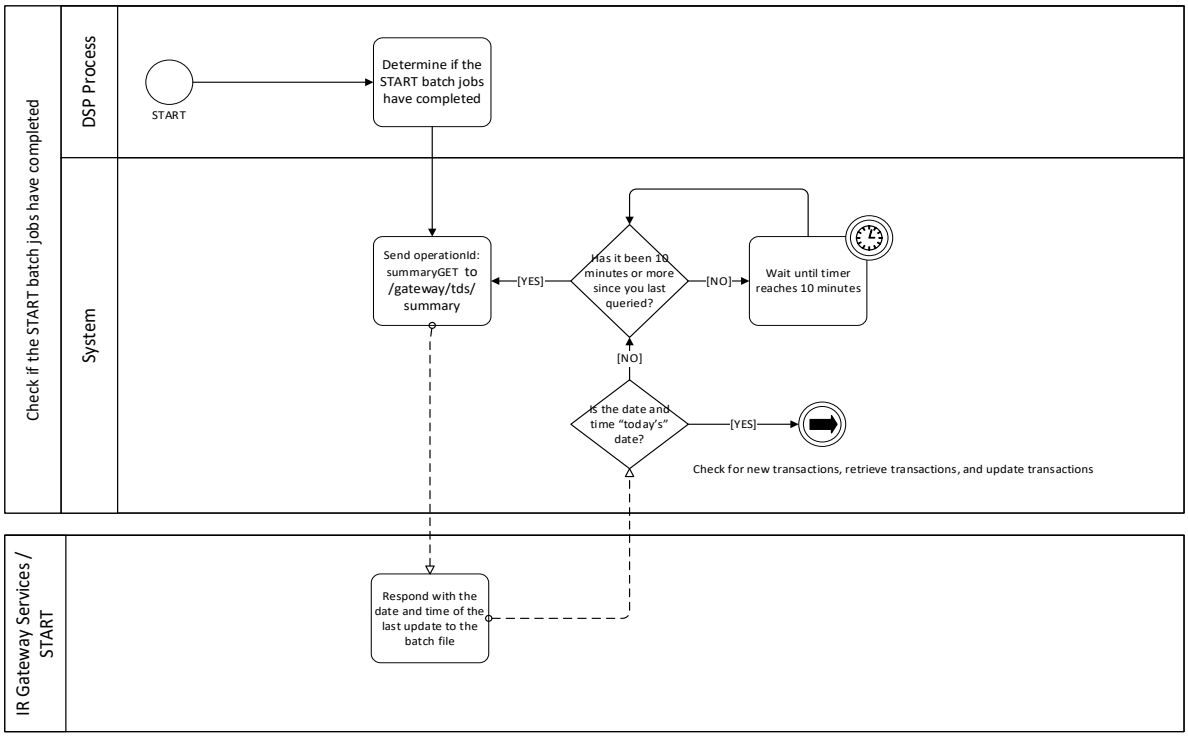
15 BPMN Process Overview

The following BPMN diagrams shows an overview of the two methods you can use to retrieve and update the transaction information.

The DSP Process primary actor is a generic reference to whatever process you use in your System to initiate and complete the tasks.

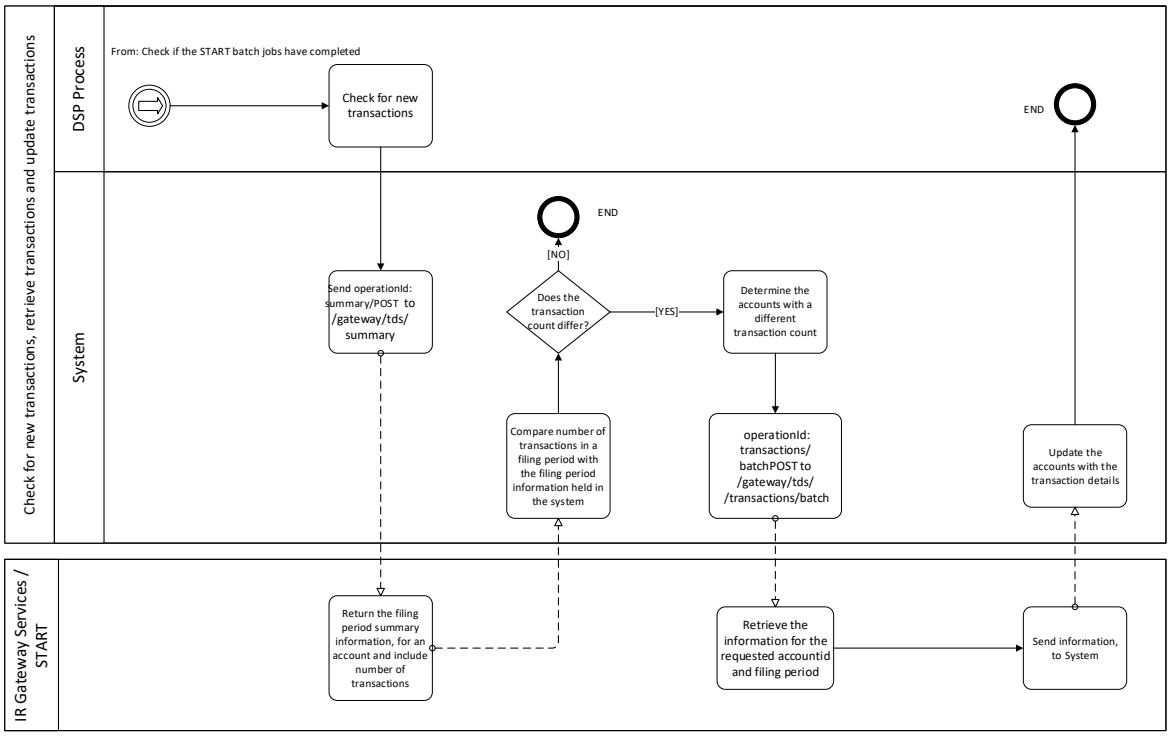
15.1 Use GET to Check if the START Batch Jobs Have Completed

The following diagram shows how you can use GET.



15.2 Use POST to Check for New Transactions, Retrieve Transactions and Update Transactions

The following diagram shows how you can use POST.



15.3 Use Case: Check if the START Batch Jobs Have Completed

15.3.1 Overview

The *Check if the START Batch Jobs Have Completed* use case contains the steps to check if the START batch jobs have completed and that the latest TDS transaction information is ready to be consumed.

15.3.2 REST Path

Send operationId: summaryGET to /gateway/tds/summary

15.3.3 Primary Actor

DSP Process

15.3.4 Trigger

The DSP Process needs to check if the latest transaction information is available.

15.3.5 Goal

The goal of the use case is to determine if there is the latest transaction information is available.

15.3.6 Preconditions

None.

15.3.7 Post Condition

TDS Summary Status returns the following information.

- Start Date.
- Start Time.
- End Date.
- End Time.

15.3.8 Main Flow

Step	Description
1	The DSP Process initiates a request to TDS Summary Status. Result: The System sends a Summary GET operation to the path /gateway/tds/summary in the TDS REST API.
2	START evaluates the GET operation sent by the System. START checks the request type. Result: The Start Date, Start Time and End Date and End Time is sent to the System If the GET request is properly formatted.

Step	Description
	If there is an error, the use case ends.
3	The DSP Process checks the End Date and End Time. Result: If the End Date and Time are for “today’s” date, then the latest Transaction data is available. Go to Check for Transaction Changes. If there are no changes the use case ends.

15.4 Use Case: Check for Transaction Changes

15.4.1 Overview

The *Check for Transaction Changes* use case contains the steps to check if there is a difference between the transaction count held in START and the transaction count held in your System.

Note: The POST request can request information for all Customers OR all Client Lists OR all Accounts. REST Path:

Send operationId: summaryPOST to /gateway/tds/summary

15.4.2 Primary Actor

DSP Process

15.4.3 Trigger

The DSP Process needs to check if the transaction count has changed for a filing period.

15.4.4 Goal

The goal of the use case is to determine if there are new transactions associated with a filing period.

15.4.5 Preconditions

None.

15.4.6 Post Condition

TDS Summary returns the following information.

- Customer ID
- Account ID.
- Account forecasted balance.
- The filing period date.
- The filing period forecasted date.
- The filing period transaction count.
- The last filing period activity date.

15.4.7 Main Flow

Step	Description
1	The DSP Process initiates a request to TDS Summary. Result: The System sends a Summary POST operation to the path /gateway/tds/summary in the TDS REST API.

Step	Description
2	START evaluates the POST operation sent by the System. START checks that the DSPs' Software Intermediary link is correct. START checks the request type. Result: If the POST request if properly formatted and the Software Intermediary link is correct, the requested information is sent to the System. Go to step 3. If the Software Intermediary link is incorrect, or the request is incorrectly formatted, an error message is returned. The use case ends.
3	The DSP Process compares an account's filing period transaction count returned from START with the transaction count held in the System. Result: If the transaction count is different then go to the use case Retrieve Transactions. If there are no changes the use case ends.

15.5 Use Case: Retrieve Transactions

15.5.1 Overview

The Retrieve Transactions use case contains the steps to retrieve the new or updated transactions held in START.

15.5.2 REST Path

Send operationId: transactions/batchPOST to /gateway/tds/transactions/batch

15.5.3 Primary Actor

DSP Process

15.5.4 Trigger

The transaction count returned using TDS Summary differs from the transaction count in the System.

15.5.5 Goal

The goal of the use case is to retrieve the new or updated transactions associated with the relevant account and filing periods.

15.5.6 Preconditions

The use case *Check for Transaction Changes* was used to retrieve the following information from START.

- Account ID.
- Account forecasted balance.
- The filing period date.
- The filing period forecasted date.
- The filing period transaction count.
- The last filing period activity date.

15.5.7 Post Condition

TDS Transaction (Batch) returns the Penalty and Interest information held in START for a specific account type and filing period.

The following information is returned.

- Due date.
- The penalty amount.
- The forecasted penalty amount.
- The interest amount.
- The forecasted interest amount.
- Any other forecasted amount.

- The credit amount.
- The relevant transaction ID.
- The transaction type.
- The posted date.
- Effective date.
- Amounts for the effective date.
- Any linked transaction ID.

15.5.8 Main Flow

Step	Description
1	The DSP Process initiates the goal of retrieving the new transactions. Result: The System sends a POST operation to the path /gateway/tds/transactions/batch in the TDS REST API.
2	START evaluates the POST operation sent by the System. START checks that the DSPs' Software Intermediary ID is correct. START checks the request type. Result: If the POST request is properly formatted and the Software Intermediary link is correct, the new transaction details are sent to the System. Go to step 3. If the Software Intermediary link is incorrect or the message is incorrectly formatted, or the account ID is incorrect, an error message is returned. The use case ends.
3	Go to the *Update Transaction Information* use case.

15.6 Use Case: Update Transaction Information

15.6.1 Overview

The Update Transaction Information use case contains the steps to update the Customer and Client List data contained in the System.

15.6.2 Primary Actor

DSP Process

15.6.3 Trigger

The retrieved transaction information for an account differs from the transaction information held in START.

15.6.4 Goal

The goal of the use case is to update the transaction information in the System.

15.6.5 Preconditions

The use case *Retrieve Transactions* was used to retrieve the following information.

- Due date.
- The penalty amount.
- The forecasted penalty amount.
- The interest amount.
- The forecasted interest amount.
- Any other forecasted amounts.
- The credit amounts.
- The relevant transaction ID.
- The transaction type.
- The posted date.
- Effective date.
- Amounts for the effective date.
- Any linked transaction ID.

15.6.6 Post Condition

The TDS transaction information has been updated in the System.

15.6.7 Main Flow

Step	Description
1	The DSP Process initiates the goal of updating the transaction information for accounts in the System that are different to START.

Step	Description
	Result: The System uses the transaction data received via the Retrieve Transactions use case.
2	The DSP Process locates the transactions that have been identified as new or update and updates the transactions stored in the System. Result: The account and filing period information is updated with new transactions.
3	The use case ends.

16 User Retrieves Financial Information

16.1 Introduction

This section describes how your Users can retrieve the relevant financial information using TDS Financial and TDS Transaction (Real Time).

This sections references the uses cases from the *User Retrieves Financial Information* model.

16.2 Changes to how a User Searches for Financial Information

A key change for your Users is that they can no longer retrieve financial information using a Client List ID.

In the TDS SOAP service, the User could enter the Client List ID and START returned all Customers and the associated Accounts for the client list.

The TDS REST API only allows a User to search using a Customer ID or an Account ID.

16.3 Use Case: User Retrieves Account Information

16.3.1 Overview

The following use case is responsible for retrieving the account ID and account summaries associated with a Customer.

The User can enter the Customer ID and use optional filters in their search such as the account type, and the filing period (from and to date), which helps narrow their search for specific filing periods with outstanding balances.

If the User doesn't specify an account type, then all the associated account types are also returned.

The information returned using this search can be used to update information held in the System.

16.3.2 REST Path

Send operationId: financialsPOST to /gateway/tds/financials

16.3.3 Primary Actor

User

16.3.4 Trigger

The User wants to retrieve financial information for a Customer or Account.

16.3.5 Preconditions

- The User must be logged into the DSP's software.
- When interacting with this service, the User must logon to IR using their myIR logon.
- If the User is a Business Intermediary, they are eligible to view the Customer's information.

16.3.6 Post Condition

If the Customer ID is valid, then START returns the following information.

- Account IDs associated with the Customer ID.
- Account types associated with the Account IDs.
- Forecasted balance for each account and account type.

16.3.7 Main Flow

Step	Description
1	The User enters the Customer ID.

Step	Description
	Result: START begins validating the supplied information.
2	START checks if the Business Intermediary is linked to the Customer. START checks if the Customer ID is valid. Result: If the Business Intermediary link, or the Customer ID is invalid, or the message is incorrectly formatted, START returns an error message, and the use case ends.
3	If the User wants to retrieve the penalty and interest information associated with a filing period for a customer, then go to the use case *Search Transaction Information*. If the User doesn't want to take any further action, then the use case ends.

16.4 Use Case: Retrieve Transaction Information

16.4.1 Overview

The following use case is responsible for retrieving the transaction information associated with the filing period for the specific Account.

Your User searches using the Account ID and enters a filing period date. The User can narrow down their search range for a transaction by specifying when the transaction was posted.

START returns the penalty and interest information for an Account, along with the specific transaction ID and transaction types associated with each transaction.

16.4.2 REST Path

Send operationId: transactions/realtimePOST to /gateway/tds/ /transactions/realtime

16.4.3 Primary Actor

User

16.4.4 Trigger

Your User wants to find out the specific transaction ID along with the effective and posted dates associated with a paid amount for an account's filing period.

16.4.5 Preconditions

- The User must be logged into the DSP's software.
- When interacting with this service, the User must logon to IR using their myIR logon.
- If the User is a Business Intermediary, they are eligible to view the Customer's information.
- If the User doesn't know the Account ID, they have used the *Search for Account Information* use case to identity the relevant account ID for a Customer

16.4.6 Post Condition

If the Account ID are valid, then START returns following information for the specified filing period.

- The ID of the bill (that is, the invoice from IR) associated with the Account.
- The due date of the bill.
- The amount of tax owed.
- Any penalty amount applied to the filing period
- A forecasted penalty amount, if applicable.

- Any interest amount applied to the filing period.
- A forecasted interest amount, if applicable.
- Any other amount applied to the filing period.
- A forecasted other amount, if applicable.
- Any credit amount applied to the filing period.
- A forecasted credit amount, if applicable.
- The total forecasted balance for that period after all amounts are tallied.
- The transaction ID

The information can be stored in the System.

16.4.7 Main Flow

Step	Description
1	The User enters the Account ID, and a filing period date. Result: START begins validating the supplied information.
2	START checks if the Account ID is valid START checks if the Software Intermediary link is correct. START checks if the User is linked to the Customer ID if the User is a Business Intermediary. START checks the filing period is valid. Result: If the Account ID, the filing period is invalid, the request is incorrectly formatted then START returns an error message and the use case ends. If the Account ID, and the filing period is valid, along with the request, then START returns a summary of the penalty and interest information for the account and specific filing period, along with the related transaction information.
3	The use case ends.

17 Change Log

Date	Change description	Sections
21/04/2023 v1	First version of the document	
1/05/2023 v2	Section numbers added and page numbers corrected	All sections
15/05/2023 v3	Removed sentence: *By default, only the filing periods with updated or new transactions are included*	15.4 Use Case: Check for Transaction Changes