



Inland Revenue
Te Tari Taake

Inland Revenue

Build Pack : Transaction Data Services (TDS) History Bulk File Feed

Date: 2018/04/12
Version: v1.00

UNCLASSIFIED

Contents

1 Overview.....	4
1.1 Solution overview.....	4
1.2 Intended audience.....	5
1.3 Related documents.....	5
2 Solution design	7
2.1 Overview.....	7
2.2 Transfer mechanisms.....	8
2.2.1 Connectivity for bulk file feed	8
2.3 File structure	8
2.3.1 Multiple ZIP files	8
2.3.2 ZIP file structure and control file content.....	9
2.3.3 2.3.3 File Structure	10
2.4 File Content.....	12
2.4.1 Sample Agent file.....	12
2.4.2 Sample Customer file	14
2.5 Content of Software Intermediation link file.....	14
2.6 Content of Intermediation link file	15
2.7 Content of Permissions file	16
2.8 Transfer of files – processing	17
2.9 File naming conventions.....	17
2.9.1 Name of control file listing zip files	17
2.9.2 ZIP files names	18
2.9.3 Tax agent files	18
2.9.4 Customer file(s)	19
2.9.5 Software Intermediation file	20
2.9.6 Intermediation file.....	20
2.10 Sample payloads and Schemas	21
3 Operational considerations	22
3.1 File transfer management	22
3.2 Disaster recovery and infrastructure failure	22
3.3 Certificate management	22
4 Use cases and process	23
4.1 Use case overview.....	23
4.1.1 Use Case SUC002 Provide Bulk Transaction History – a) initial or b) for new links	25
5 Appendix A—Glossary	29
6 Appendix B—Document history	33

Figures

Figure 1: Transaction Data Services overview	4
Figure 2: Onboarding and build pack structure for TDS Transition.....	5
Figure 3: History SFTP file	7
Figure 4: Connectivity and security.....	8
Figure 5: Zip Files plus Control file.....	9
Figure 6: Zip files and their structure and summary control file	10
Figure 7: File content	11
Figure 8 : Use case overview	23

Tables

Table 1: Related documents.....	6
Table 2 : History File Content.....	13
Table 3 : Naming of Control File	17
Table 4 : Naming of Zip files	18
Table 5 : Naming of Tax Agent files	19
Table 6 : Naming of Customer Files	19
Table 7 : Naming of Software Intermediation Files.....	20
Table 8 : Naming of Intermediation Files	21
Table 9: Use cases and their relevant documentation.....	24
Table 10 : SUC 002 - Provide Bulk Transaction History.....	28

Samples

Sample1: Sample agent file (shortened)	12
Sample 2: Sample Customer file (shortened)	14
Sample 3: Software Intermediation file	15
Sample 4: Sample Intermediation file	15
Sample 10: Permissions file	16

1 Overview

This document is provided to Software Providers to support the build and use of the Transaction Data Service (TDS) History Bulk File Feed. It also describes the relationship with other build packs, architecture of the technical solution, schemas (file formats) and endpoints; it also provides sample file content.

This document is part of the suite of build packs that software developers need for implementing interfaces between their software and Inland Revenue TDS.

1.1 Solution overview

Transaction Data Services (TDS) as a business service provides the following three technical services:

1. The *TDS Bulk File Feed* is an overnight file feed that pushes transaction data to Tax Agents or Customers via the Software Provider software they utilise. It is designed to cater for the high volumes of transactional data.
2. The *TDS Real Time Technical Service* is a set of web services for querying individual customers/accounts. It is intended for occasional use when the latest information is required, or information is not available from the Bulk File Feed (e.g. a new customer).
3. In addition, until transition to START and TDS has phased out all dependency on Tax Agent Web Service data, there will be a ***TDS History Bulk File Feed*** for data in Tax Agent Web Service format.

This is primarily a once only file feed that pushes historic transaction data to agents or parties via the Software Providers whose software they utilise. Since this history will not change the data will be sent once only. This facilitates transitioning of Tax Agent Web Service data previously provided to the equivalent data in START and in TDS format. Additionally also when new software intermediation links are made or new clients get linked to an agent, related history data will be sent once in the daily cycle.

All TDS services will provide data for only Account Types (tax types) in Inland Revenue's new system, START. See [Overview Build Pack](#) for details of which particular Account type data will be available through TDS.

This build pack focuses on the highlighted service in the diagram below:

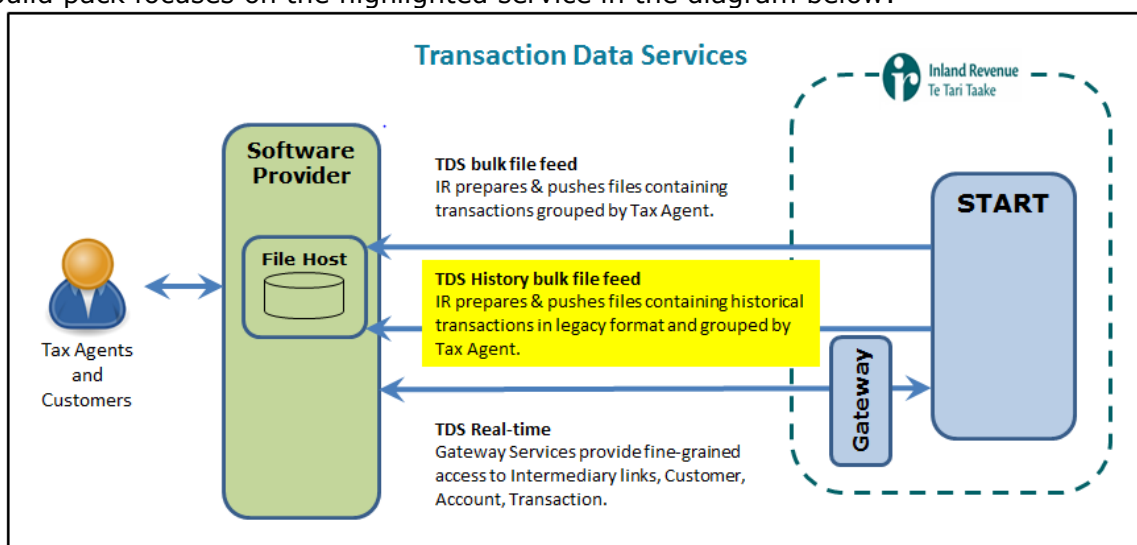


Figure 1: Transaction Data Services overview

1.2 Intended audience

This document is intended to be used by technical teams and development staff. The reader is assumed to have a reasonable level of technical knowledge in order to comprehend the information provided. A range of technical terms and abbreviations are used throughout this document, and while most of these will be understood by the intended readers, a glossary is provided in [Appendix A—Glossary](#).

1.3 Related documents

All Build Packs are available on the Inland Revenue BT GitHub website here:

<https://github.com/InlandRevenue/Gateway-Services/wiki>

The following diagram explains the relationships between the documents supporting the TDS solution:

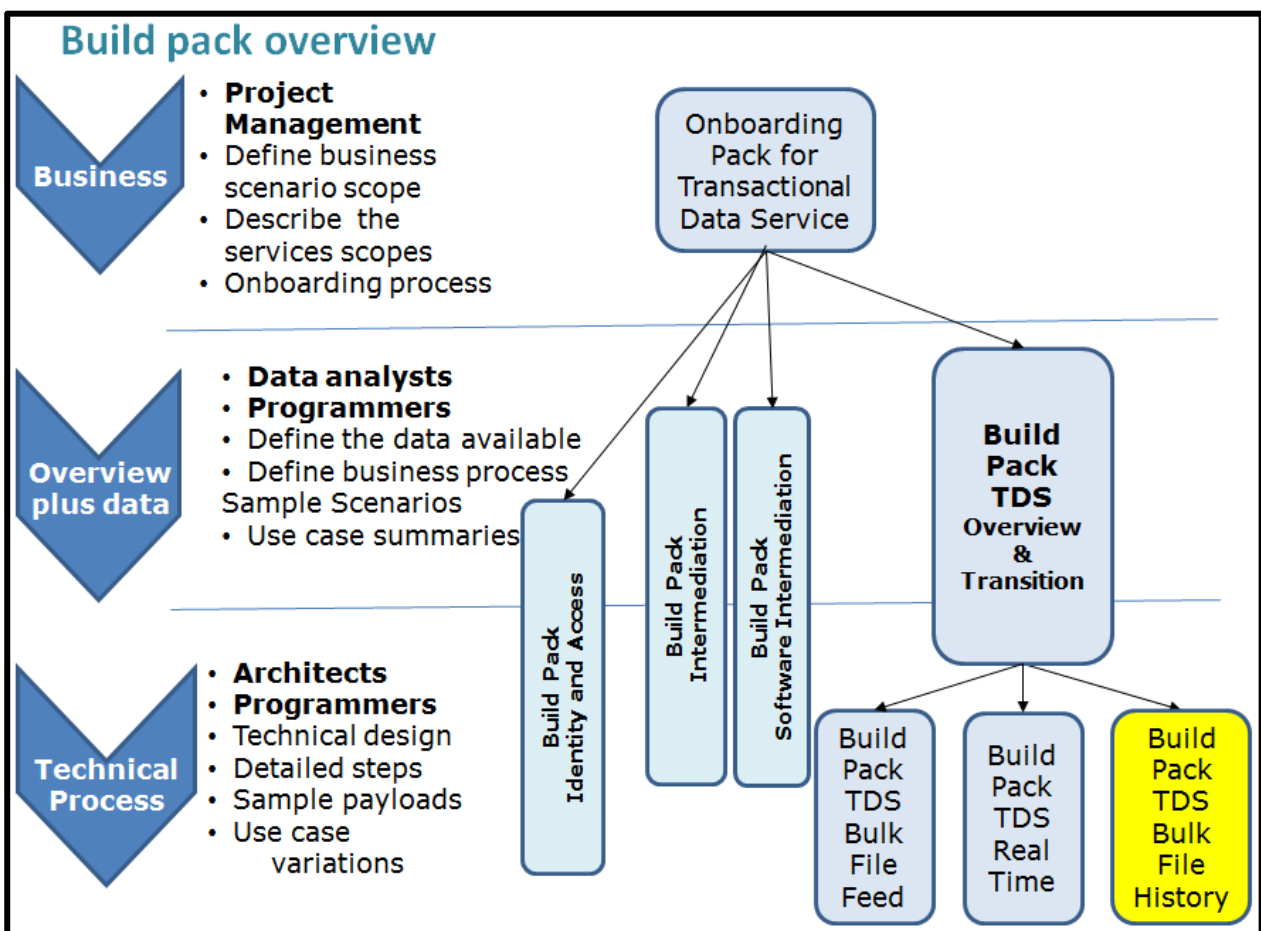


Figure 2: Onboarding and build pack structure for TDS Transition

Name	Description
TDS – Onboarding Pack	Provides the onboarding guide for consumers of the various TDS components. Gives details of prerequisites, setup requirements, testing, contact lists, etc. It is intended to get an organisation up and running using the TDS solution. This document will not be available at the link above; instead it will be sent to Software Providers when necessary. Preliminary onboarding information is included in the Overview and Transition document.
<u>TDS - Overview and Transition</u>	Describes the service components at a high level and provides an overview of the data available through TDS. Also contains information about how the component services that make up the TDS solution interact with each other. Note: At this stage there is an Overview and Transition document to support users of the existing Tax Agent Web Services. Some later variations of that document will not include Transition information.
<u>TDS Bulk File Feed</u>	Details the technical requirements and specifications, processes and sample payloads for the TDS Bulk File Service
<u>TDS Real Time Feed Build Pack</u>	Details the technical requirements and specifications, processes and sample payloads for the TDS Real Time Feed
TDS History Bulk File Build Pack	This document
<u>Identity and Access Build Pack</u>	Details the Authentication mechanisms used by Inland Revenue.
<u>Software Intermediation Build Pack</u>	Details the technical requirements and specifications for the linking of Tax Agents/Customers to Software Providers to enable these links to be used by the Bulk File Feed and Bulk file History Service.
<u>Intermediation Build Pack</u>	Details the technical requirements and specifications querying the links between Tax Agents and Clients to enable these links to be used by the TDS Real Time queries.

Table 1: Related documents

2 Solution design

2.1 Overview

The TDS Bulk File History Feed is provided to Software Providers as a one off feed of historical data. Historical data is defined as seven years of transactions which includes transactions converted from the old system (FIRST) into the new system (START) plus sufficient additional unconverted data to make up seven years. Details of the Account types and number of years converted from FIRST to START can be found in the [TDS Overview and Transition Build Pack](#). Once seven years data is included in START for that Account type the History File will no longer be provided.

The TDS Bulk File History Feed is based around a file transfer solution, where Inland Revenue will send (via SFTP) information to the Software Provider once only.

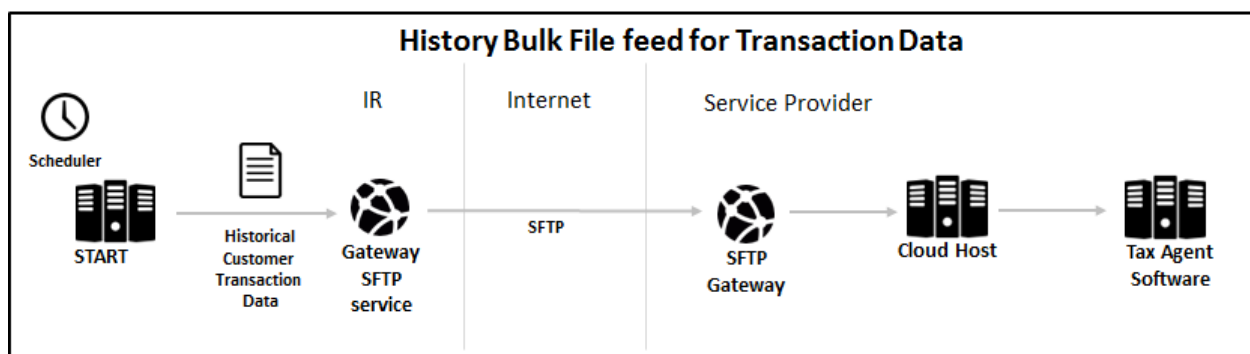


Figure 3: History SFTP file

The transfer will use the same SFTP path set up during onboarding for the TDS bulk file updates. The file is sent from START via a gateway SFTP service to the Software Provider SFTP gateway in a central cloud location from where it can be made available to their software applications and users.

Each subscribing Software Provider will receive a number of zipped files containing historical data relating to Tax Agents/Customers that use their software product.

To determine which customer information is sent in the initial History File to which Software Provider, a link needs to be established at Inland Revenue between the Tax Agent or Customer and the Software Provider – this link is established as part of the initial bulk linking - see use case PUC202 in [TDS Overview and Transition Build Pack](#). If this is not completed as part of the initial bulk linking the link can be maintained via the Software Intermediation Service for both the TDS bulk file feed and the initial History File purpose. This is a new web service that is being made available to support the [TDS Bulk File Feed](#) long term and this History feed for several years.

Additionally Software Providers will automatically receive history data when a new Tax Agent or Customer is linked through Software Intermediation and when a new Customer is linked to a Tax Agent currently receiving data through the Bulk File Feed. These files will be sent over the same SFTP channel when generated.

For the purposes of this document, it is assumed that these links are in place and the business context is understood; refer to the TDS overview build pack for the broader context.

2.2 Transfer mechanisms

2.2.1 Connectivity for bulk file feed

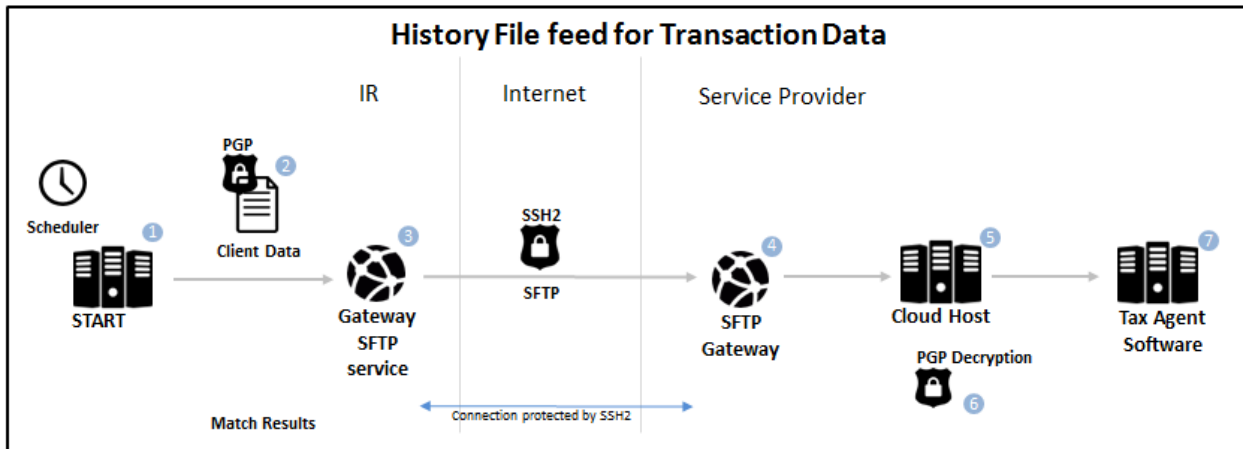


Figure 4: Connectivity and security

The numbers above show the sequence in the path the bulk update files travel as described in the rest of this document.

Software Providers will host an SFTP server that Inland Revenue will upload the History file to, along with the Bulk File. The same SFTP server, communications protocols, keys and standards applied for the TDS bulk file will also be used for TDS history transfers. The files will also be PGP signed and encrypted. Please refer to the [TDS Bulk File Build Pack](#) for more details.

2.3 File structure

The files sent via SFTP are zipped files as described below.

2.3.1 Multiple ZIP files

Information will be sent as one or more ZIP files containing customer information.

A control file will be sent containing a list as follows:

- The zip file(s)
- For each zip file a list of files inside it and how many transactions and periods are included

The control file serves various purposes:

- It needs to be used to know when the zip files received are equal to the intended list in the control file.
- Some Software Providers might use it to validate that all intended files in the zip files are present, other Software Providers might just rely on the PGP signing to ensure that.

The size of each ZIP file will be limited to 100 million transactions to optimise file transmission performance including retry overhead in case of failure. Client or Customer data will not be split between multiple files. It is possible for agents to be spread across multiple files.

Zip files are individually PGP signed and encrypted, allowing verification that content was received and unmodified.

The individual zip files and control files are separately and potentially concurrently transferred and no sequence can be assumed, please see section "2.8 Transfer of files – processing" on processing these files.

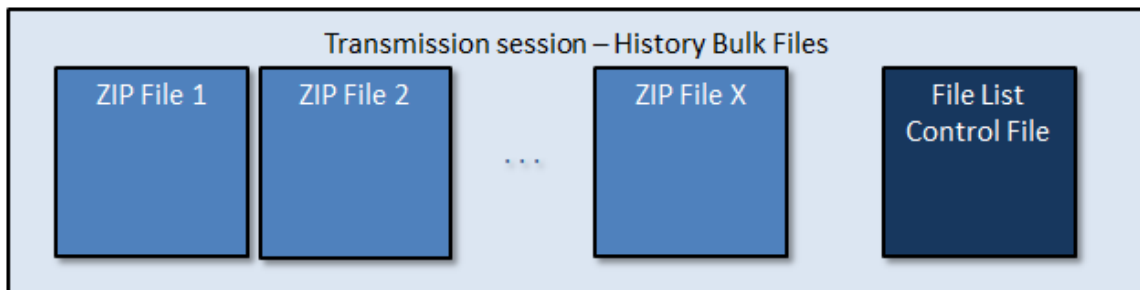


Figure 5: Zip Files plus Control file

2.3.2 ZIP file structure and control file content

Each ZIP file will contain Tax Agent files and/or Customer files. The last zip file in a set will also contain a Software Intermediation link listing file. This file lists all the Tax Agents with a Software Intermediary link to the Software Provider. It also lists the Clients per Agent.

Each Zip file will be PGP signed using the Inland Revenue key and PGP encrypted using the Software Providers Public PGP key.

There will be one Tax Agent file with the data for all the customers linked to the given Tax Agent. To optimise performance (of encryption processing) the above files with Tax Agent information will be split across more than one file when they go beyond 100,000 transaction level elements.

All Customer data linked to a Software Provider directly, not via a Tax Agent, will be put into one Customer file for that Software Provider. That file will have a root Customers element representing the list of all customers directly linked to the Software Provider. This file will be split into multiple files whenever it exceeds 100,000 transaction level elements, but any individual Customer's data will be in only one file.

All the above will initially go into one zip file, but be split across multiple zip files whenever the total size exceeds 100 million (100,000,000) transactions.

Even in such a scenario the data for a specific customer (or tax agent client) will still not be split across multiple zip files.

Along with each set of ZIP files a control file will also be present that will contain a list of zip files and the files within the ZIP file(s). This control file will also reflect the number of transactions and periods contained in each file.

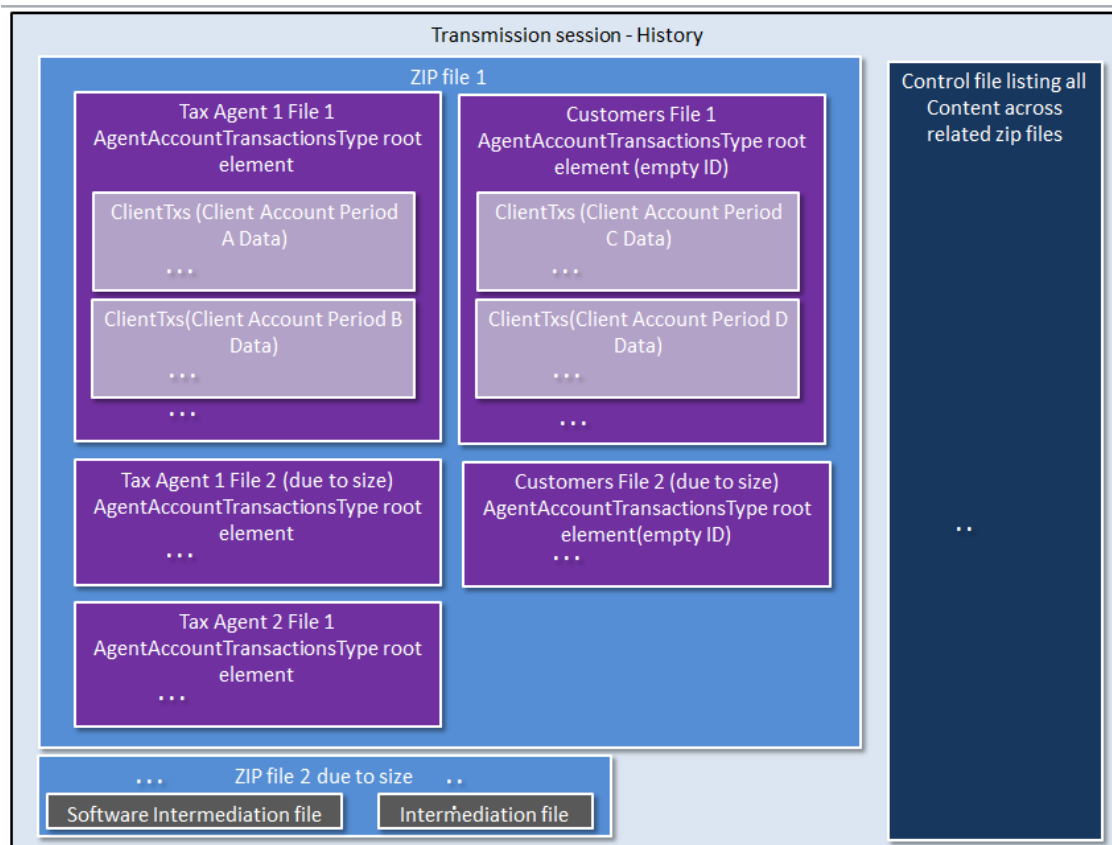


Figure 6: Zip files and their structure and summary control file

2.3.3 File Structure

Where the Software Provider linked user is a Tax Agent or other intermediary, the file(s) provided for that Tax Agent will contain data for one or more Clients of that Tax Agent/intermediary.

Where the Software Provider linked user is not a Tax Agent or intermediary but a direct Customer, there will be a single file containing all this data across all Customers. When this file becomes larger than 100,000 transaction level elements then it will be split across multiple files.

Within both file types – Tax Agent or direct customers, there is a root element called AgentAccountTransactionsType and then for each Customer a ClientTx element; inside that a TaxPeriodTx element per period. There is no grouping element per Account. Where a history transaction has an equivalent transaction in the new START operational system it will have a nested newTxId element (See [TDS Overview and Transition Data Conversion Scenarios](#) spreadsheet for a conversion example):

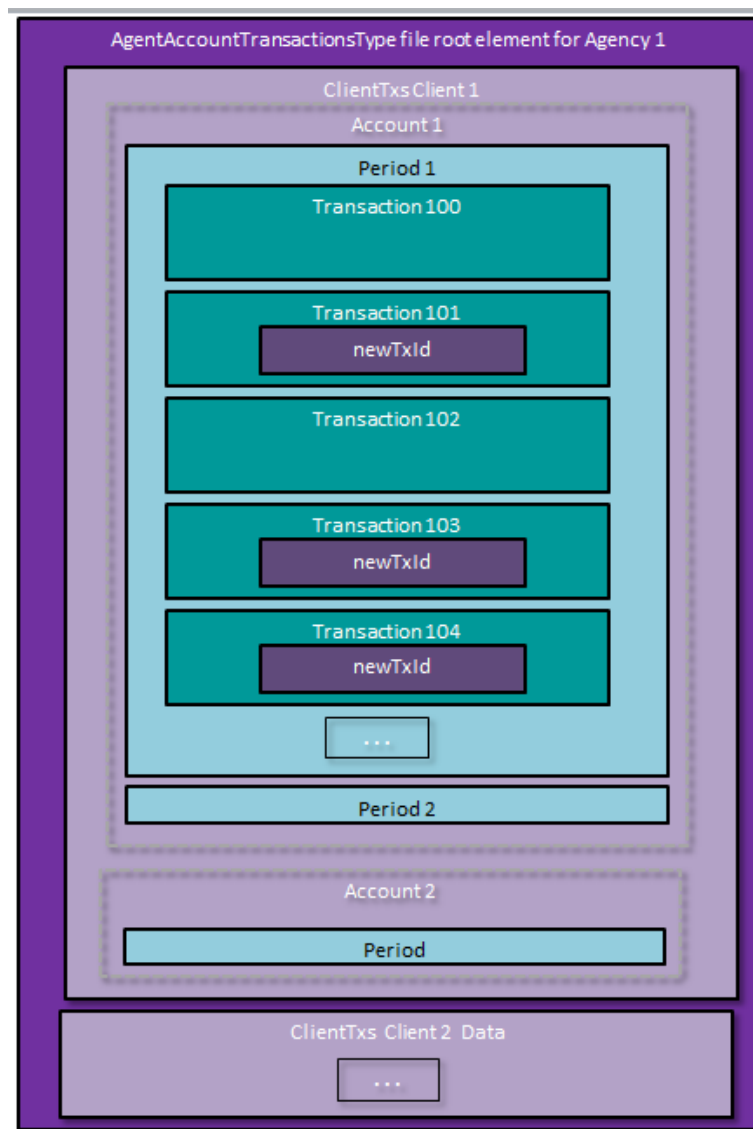


Figure 7: File content

Inside the customer section will be **NO** subsections for Accounts (tax types). Data for customers will be grouped by period, sorted by tax type.

- All Customers linked to the Tax Agent will be included in the Tax Agent file. All Customers linked directly to the Software Provider will be included in the Customer file.
- All Accounts linked for that Tax Agent will be included.
- All periods in the last seven years for each of these Accounts will be included. Where there is a corresponding transaction in START the START Transaction Id will be included. Transactions that exist only in START and not in the history archives will not be included but are available through the main TDS bulk file feed (See [TDS Overview Build Pack](#) for more on data available in START.)

The structure of the data is fundamentally the same as for the previous Tax Agent Web Service feed in order to facilitate matching. Please refer to the [TDS Overview Build Pack](#) section 2.9 "Data conversion from Tax Agent Web Service to START".

2.4 File Content

2.4.1 Sample Agent file

This picture is a shortened extract of what files can contain; please see the sample files below for the full context. Please note the shortened sample here is indicative only.

```
<?xml version="1.0"?>
- <AgentAccountTransactionsType RetrievedDate="2018-02-23T13:39:41.85" agentIrdNumber="100837366"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  - <ClientTxns xmlns="urn:nz.govt.ird.eservices.types.account.transaction:0-6" clientIrdNumber="011264190">
    - <taxPeriodTxns migrationDate="20170206" lastTxId="11264190000009" periodBalanceAmount="0.00"
      periodEndDate="20110831" taxType="GST">
      <TxDetails amount="50.00" effDate="20111018" procDate="20111019" txType="0255" id="11264190000001"/>
      <TxDetails amount="0.00" effDate="20110928" procDate="20111102" txType="0570" id="11264190000002"/>
      <TxDetails amount="147610.82" effDate="20110901" procDate="20111117" txType="0060"
        id="11264190000003"/>
      <TxDetails amount="0.00" effDate="20111117" procDate="20111117" txType="0220" id="11264190000004"/>
      <TxDetails amount="0.00" effDate="20111018" procDate="20111123" txType="0256" id="11264190000005"/>
      <TxDetails amount="0.00" effDate="20111123" procDate="20111123" txType="0220" id="11264190000006"/>
      <TxDetails amount="125.41" effDate="20111117" procDate="20111123" txType="0230" id="11264190000007"/>
      <TxDetails amount="123569.71" effDate="20111028" procDate="20111123" txType="0570"
        id="11264190000008"/>
      <TxDetails amount="169.74" effDate="20111123" procDate="20111123" txType="0230" id="11264190000009"/>
    </taxPeriodTxns>
    - <taxPeriodTxns migrationDate="20170206" lastTxId="11264190000007" periodBalanceAmount="0.00"
      periodEndDate="20160630" taxType="GST">
      - <TxDetails amount="50.00" effDate="20160817" procDate="20160818" txType="0255" id="11264190000001">
        <newTxId>1359975488</newTxId>
      </TxDetails>
      - <TxDetails amount="0.00" effDate="20160728" procDate="20160912" txType="0380" id="11264190000002">
        <newTxId>617583680</newTxId>
      </TxDetails>
      - <TxDetails amount="0.00" effDate="20160628" procDate="20160912" txType="0570" id="11264190000003">
        <newTxId>1536136256</newTxId>
      </TxDetails>
      - <TxDetails amount="410497.50" effDate="20160701" procDate="20160919" txType="0060"
        id="11264190000004">
        <newTxId>823104576</newTxId>
      </TxDetails>
      <TxDetails amount="0.00" effDate="20160919" procDate="20160919" txType="0220" id="11264190000005"/>
      - <TxDetails amount="81872.15" effDate="20160728" procDate="20161014" txType="0570" id="11264190000006">
        <newTxId>1292866624</newTxId>
      </TxDetails>
      <TxDetails amount="69.03" effDate="20160919" procDate="20161014" txType="0230" id="11264190000007"/>
    </taxPeriodTxns>
    - <taxPeriodTxns migrationDate="20170206" lastTxId="11264190000003" periodBalanceAmount="-307326.17"
      periodEndDate="20161130" taxType="GST">
      - <TxDetails amount="0.00" effDate="20160828" procDate="20170130" txType="0570" id="11264190000001">
        <newTxId>1032819776</newTxId>
      </TxDetails>
      - <TxDetails amount="0.00" effDate="20160928" procDate="20170130" txType="0570" id="11264190000002">
        <newTxId>1938789440</newTxId>
      </TxDetails>
      - <TxDetails amount="0.00" effDate="20161128" procDate="20170130" txType="0570" id="11264190000003">
        <newTxId>999265344</newTxId>
      </TxDetails>
    </taxPeriodTxns>
    <taxPeriodTxns migrationDate="20170206" periodBalanceAmount="0.00" periodEndDate="20161231" taxType="GST"/>
  </ClientTxns>
</AgentAccountTransactionsType>
```

Sample1: Sample agent file (shortened)

Attribute Name	History Message Element	Description	Example Value
RetrieveDate	AgentAccountTransactionType	Timestamp data extract started in standard XML xsd:dateTime format	{2018-02-23T13:39:41.85}

Attribute Name	History Message Element	Description	Example Value
agentIrdNumber	AgentAccountTransactionType	Tax Agent Inland Revenue D number identified from the username in the Request. For Customer files this will be empty.	{170000919} {}
clientIrdNumber	ClientTx	Client Inland Revenue D number.	{485611622}
taxType	taxPeriodTx	Code indicating the Tax Type. See related content in TDS Overview and Transition Build Pack (Appendix on Tax Agent Web Service transaction types)	{INC}
periodEndDate	taxPeriodTx	Tax period end date.	{20100331}
periodStartDate	taxPeriodTx	Tax period start date.	{20090401}
periodBalanceAmount	taxPeriodTx	Tax type and period ending balance amount.	{100.00}
lastTxId	taxPeriodTx	Unique transactions identifier of the last transaction available.	{128329381290593821}
migrationDate	taxPeriodTx	When the account type was moved into the Inland Revenue Inland Revenue operational system and the history feed ends i.e. there will be no more transactions added to the History File.	{20160415}
id	TxDetails	Unique transaction identifier.	{128329381290593821}
txType	TxDetails	Transaction Type. See related content in TDS Overview and Transition build pack	{0000}
procDate	TxDetails	Process Date.	{20101101}
effDate	TxDetails	Effective Date.	{20090801}
amount	TxDetails	Transaction Amount.	{26.00}
newTxID	TxDetails	This is the Transaction ID in the new system to which this transaction has been converted. Note In some cases (like old closed periods, or zero amounts, or superseded transactions) there will be no equivalent transactions created during migration and therefore no newTxID present here.	{1133073280}

Table 2 : History File Content

Notes: The history service includes transfer transactions and any TAWS transactions, but additional metadata like transfer related status codes or linked accounts or bank accounts are not included and since this file will be a full dump of transaction for a set of periods there is no need for continuation IDs or incremental flags.

2.4.2 Sample Customer file

```
<?xml version="1.0"?>
- <AgentAccountTransactionsType agentIrdNumber="" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema" RetrieveDate="2018-01-17T10:31:11.67">
  - <ClientTxns xmlns="urn:nz.govt.ird.eservices.types.account.transaction:0-6" clientIrdNumber="987230304">
    - <taxPeriodTxns migrationDate="20180416" periodBalanceAmount="0.00" periodEndDate="20150930" taxType="AIL"
      lastTxId="83230304000002">
      <TxDetails amount="-412.48" effDate="20151019" procDate="20151020" txType="0380" id="83230304000001"/>
      <TxDetails amount="412.48" effDate="20151001" procDate="20151216" txType="0060" id="83230304000002"/>
    </taxPeriodTxns>
    - <taxPeriodTxns migrationDate="20180416" periodBalanceAmount="0.00" periodEndDate="20160331" taxType="AIL"
      lastTxId="83230304000005">
      <TxDetails amount="-413.62" effDate="20160426" procDate="20160427" txType="0380" id="83230304000001"/>
      <TxDetails amount="412.48" effDate="20160401" procDate="20160609" txType="0060" id="83230304000002"/>
      <TxDetails amount="0.62" effDate="20160609" procDate="20160609" txType="0220" id="83230304000003"/>
      <TxDetails amount="-0.52" effDate="20160609" procDate="20160609" txType="0570" id="83230304000004"/>
      <TxDetails amount="1.04" effDate="20160609" procDate="20160609" txType="0570" id="83230304000005"/>
    </taxPeriodTxns>
    - <taxPeriodTxns migrationDate="20180416" periodBalanceAmount="0.00" periodEndDate="20160930" taxType="AIL"
      lastTxId="83230304000006">
      <TxDetails amount="-412.48" effDate="20161031" procDate="20161101" txType="0380" id="83230304000001"/>
      <TxDetails amount="412.48" effDate="20161001" procDate="20161129" txType="0060" id="83230304000002"/>
      <TxDetails amount="1.05" effDate="20161129" procDate="20161129" txType="0220" id="83230304000003"/>
      <TxDetails amount="4.12" effDate="20161021" procDate="20161129" txType="0260" id="83230304000004"/>
      <TxDetails amount="16.66" effDate="20161028" procDate="20161129" txType="0260" id="83230304000005"/>
      <TxDetails amount="-21.83" effDate="20170927" procDate="20170927" txType="0670" id="83230304000006"/>
    </taxPeriodTxns>
    - <taxPeriodTxns migrationDate="20180416" periodBalanceAmount="0.00" periodEndDate="20170331" taxType="AIL"
      lastTxId="83230304000005">
      <TxDetails amount="-412.48" effDate="20170421" procDate="20170424" txType="0380" id="83230304000001"/>
      <TxDetails amount="412.48" effDate="20170401" procDate="20170928" txType="0060" id="83230304000002"/>
      <TxDetails amount="0.09" effDate="20170928" procDate="20170928" txType="0220" id="83230304000003"/>
      <TxDetails amount="4.12" effDate="20170421" procDate="20170928" txType="0260" id="83230304000004"/>
      <TxDetails amount="-4.21" effDate="20170928" procDate="20170928" txType="0670" id="83230304000005"/>
    </taxPeriodTxns>
    - <taxPeriodTxns migrationDate="20180416" periodBalanceAmount="-412.48" periodEndDate="20170930" taxType="AIL"
      lastTxId="83230304000001">
      <TxDetails amount="-412.48" effDate="20171114" procDate="20171115" txType="0380" id="83230304000001"/>
    </taxPeriodTxns>
  </ClientTxns>
</AgentAccountTransactionsType>
```

Sample 2: Sample Customer file (shortened)

Note: For customer files the agentIrdNumber is empty. This sample has no matching new Transaction IDs, but it typically would.

Please see the table above for description of the content.

2.5 Content of Software Intermediation link file

The last zip file will also contain the Software Intermediation link file. This file summarises

- Which Tax Agents are linked to this Software Provider at the time the file was generated, reflected in the timestamp in the filename.
- Which Customers Accounts are linked directly to this Software Provider

Sample file:

HISTORY_PROVIDER_1500011035_0_201803111812129963_NZD_SOFTWARE_INTERMEDIATIO
N.xml


```
<?xml version="1.0"?>
- <SoftwareIntermediationSummary RetrievedDate="2018-03-11T18:10:12.363"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <CustomerLink AccountType="GST" IDType="IRD" ID="123041507"/>
  <CustomerLink AccountType="AIL" IDType="IRD" ID="123068629"/>
  <CustomerLink AccountType="DWT" IDType="IRD" ID="123085299"/>
  <CustomerLink AccountType="IPS" IDType="IRD" ID="123088883"/>
  <AgentLink IDType="IRD" ID="123085299"/>
  <AgentLink IDType="IRD" ID="123105028"/>
</SoftwareIntermediationSummary>
```

Sample 3: Software Intermediation file

2.6 Content of Intermediation link file

The last zip file will also contain the Intermediation link file. This file summarises:

- Which Customer Accounts are linked to each of the Client Lists of each of the Tax Agents that are linked to the Software Provider at the time of the timestamp reflected in the filename.

Samples file:

HISTORY_PROVIDER_1500011035_0_201803111812129963_NZD_INTERMEDIATION.xml

```
<?xml version="1.0"?>
- <IntermediationSummary RetrievedDate="2018-03-11T18:10:12.363"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  - <AgencyLinks IDType="IRD" ID="123085299">
    - <ClientList IDType="IRD" ID="123085299">
      <Link IDType="IRD" ID="123041028" AccountType="AIP"/>
      <Link IDType="IRD" ID="123074475" AccountType="FBT"/>
      <Link IDType="IRD" ID="123088883" AccountType="NRT"/>
      <Link IDType="IRD" ID="123090365" AccountType="RLT"/>
      <Link IDType="IRD" ID="123092139" AccountType="GST"/>
    </ClientList>
    - <ClientList IDType="IRD" ID="123085302">
      <Link IDType="IRD" ID="123051157" AccountType="RLT"/>
    </ClientList>
  </AgencyLinks>
  - <AgencyLinks IDType="IRD" ID="123105028">
    - <ClientList IDType="IRD" ID="123105028">
      <Link IDType="IRD" ID="123024052" AccountType="IPS"/>
      <Link IDType="IRD" ID="123025148" AccountType="GST"/>
      <Link IDType="IRD" ID="123041028" AccountType="DWT"/>
      <Link IDType="IRD" ID="123051106" AccountType="FBT"/>
      <Link IDType="IRD" ID="123065883" AccountType="GMD"/>
      <Link IDType="IRD" ID="123068629" AccountType="AIL"/>
      <Link IDType="IRD" ID="123088522" AccountType="GST"/>
      <Link IDType="IRD" ID="123088883" AccountType="DWT"/>
      <Link IDType="IRD" ID="501782255" AccountType="GST"/>
    </ClientList>
  </AgencyLinks>
</IntermediationSummary>
```

Sample 4: Sample Intermediation file

2.7 Content of Permissions file

The last zip file will also contain the permissions file. This file summarises:

- The names of the myIR logons associated with linked Tax Agents and the subset of client lists visible to each of those
- The names of the myIR logons associated with linked Customer Accounts and the subset of Customer Accounts visible to each of those

Inland Revenue is only providing this file for a short period to facilitate Software providers transitioning to their own user and permission management systems.

Sample file:

DAILY_PROVIDER_1500011035_0_201803111812129963_NZD_PERMISSION.xml

```
<?xml version="1.0"?>
- <PermissionSummary RetrievedDate="2018-03-11T18:10:12.363"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  - <Agent IDType="IRD" ID="123085299">
    - <ClientList IDType="IRD" ID="123085299">
      <LogonAccess AccountID="123-090-365-RLT002" AccountType="RLT" AccountPermission="VIEW"
        myIRLogon="BTOD_ADMIN"/>
      <LogonAccess AccountID="123-074-475-FBT004" AccountType="FBT" AccountPermission="VIEW"
        myIRLogon="BTOD_ADMIN"/>
      <LogonAccess AccountID="123-092-139-GST003" AccountType="GST" AccountPermission="VIEW"
        myIRLogon="BTOD_ADMIN"/>
      <LogonAccess AccountID="123-088-883-NRT008" AccountType="NRT" AccountPermission="VIEW"
        myIRLogon="BTOD_ADMIN"/>
    </ClientList>
    - <ClientList IDType="IRD" ID="123085302">
      <LogonAccess AccountID="123-051-157-RLT004" AccountType="RLT" AccountPermission="VIEW"
        myIRLogon="BTOD_ADMIN"/>
    </ClientList>
  </Agent>
  - <Customer IDType="IRD" ID="123068629">
    - <Account IDType="IRD" ID="123068629">
      <LogonAccess AccountID="123-068-629-AIL002" AccountType="AIL" AccountPermission="VIEW"
        myIRLogon="number2"/>
    </Account>
  </Customer>
  - <Customer IDType="IRD" ID="123085299">
    - <Account IDType="IRD" ID="123085299">
      <LogonAccess AccountID="123-074-475-FBT004" AccountType="FBT" AccountPermission="VIEW"
        myIRLogon="BTOD_ADMIN"/>
      <LogonAccess AccountID="123-085-299-DWT006" AccountType="DWT" AccountPermission="VIEW"
        myIRLogon="BTOD_ADMIN"/>
      <LogonAccess AccountID="123-051-157-RLT004" AccountType="RLT" AccountPermission="VIEW"
        myIRLogon="BTOD_ADMIN"/>
      <LogonAccess AccountID="123-092-139-GST003" AccountType="GST" AccountPermission="VIEW"
        myIRLogon="BTOD_ADMIN"/>
      <LogonAccess AccountID="123-088-883-NRT008" AccountType="NRT" AccountPermission="VIEW"
        myIRLogon="BTOD_ADMIN"/>
      <LogonAccess AccountID="123-090-365-RLT002" AccountType="RLT" AccountPermission="VIEW"
        myIRLogon="BTOD_ADMIN"/>
    </Account>
  </Customer>
  - <Customer IDType="IRD" ID="123088883">
    - <Account IDType="IRD" ID="123088883">
      <LogonAccess AccountID="123-088-883-IPS007" AccountType="IPS" AccountPermission="VIEW"
        myIRLogon="number2"/>
    </Account>
  </Customer>
</PermissionSummary>
```

Sample 10: Permissions file

2.8 Transfer of files – processing

The following is expected to happen on the site of the Software Provider SFTP endpoint/server. This process for history bulk files is the same as the process for TDS bulk files (non-history).

1. Receive control file to help calculate processing
2. Receive one or multiple zip files from Inland Revenue
3. Validate file list in the control file matches the list of zip files received, if not, escalate to Inland Revenue support.
4. Process each zip file:
 - a. Decrypt zip file using agreed PGP key
 - b. Verify zip file signature using agreed PGP key – if signature does not match then request Inland Revenue D to resend
 - c. For each file in the zip
 - i. Process content of the file
 - ii. Make content available to relevant data stores for users

2.9 File naming conventions

2.9.1 Name of control file listing zip files

Format:

HISTORY_PROVIDER_<software_platform_id>_<filesequence>_<timestamp>_<environment>_CONTROL.xml

For example: HISTORY_PROVIDER_1500011034_1_201710100921548813_NZT_CONTROL.xml

Part	Format	Possible values
HISTORY	Constant	HISTORY
PROVIDER	Constant - Internal ID Registration Type for Software Intermediary software version.	PROVIDER
<software_platform_id>	ID allocated to Software Platform by Inland Revenue during the onboarding process	Numeric 10 digit, should remain constant for a given Software Platform
<file sequence>	Next number after zip file count	1 2 3 ...
<timestamp>	Time file was created <u>yyyyMMddHHmmssffff</u>	e.g. <u>201710100921548813</u>
<environment>	Inland Revenue environment Three letters	Production: PRD Partner testing: XZS XZT IRD testing: NZT, NZD

Table 3 : Naming of Control File

2.9.2 ZIP files names

This pattern is almost the same as for the control files which is defined above.

Format:

<HISTORY_PROVIDER_<software_platform_id>_<file sequence>_<timestamp>_<environment>.zip

For example: HISTORY_PROVIDER_1500011034_0_201710100921548813_NZT.zip

Part	Format	Possible values
HISTORY	Constant	HISTORY
PROVIDER	Constant - Internal ID Registration Type for Software Intermediary software version.	PROVIDER
< software_platform_id>	ID allocated to Software Platform by Inland Revenue during the onboarding process	Numeric 10 digit, should remain constant for a given Software Platform
<file sequence>	Start with 0 for first zip file of day and increments if there are more than one	0 1 2 ...
<timestamp>	Time file was created <u>yyyyMMddHHmmssffff</u>	e.g. <u>201710100921548813</u>
<environment>	Inland Revenue environment Three letters	Production: PRD Partner testing: XZS XZT Internal IRD testing: NZT NZD

Table 4 : Naming of Zip files

The following two file types are embedded in the zip files:

2.9.3 Tax agent files

Format: HISTORY_AGENT_<agent_id>_<file sequence>_<timestamp>_<environment>.xml

For example: HISTORY_AGENT_IRD_000000000_0_201710111532239353_NZD.xml

Part	Format	Possible values
HISTORY	Constant	HISTORY
AGENT	Constant denoting this file is sent for all the customers data linked to a tax agent or other intermediary	AGENT_IRD Number

Part	Format	Possible values
<tax_agent_id>	ID allocated to tax agent by Inland Revenue	Numeric 9 digit
<file sequence>	Start with 0 for first zip file and increments if there are more than one	0 1 2 ...
<timestamp>	Time file was created yyyyMMddHHmmssffff	e.g. 201710100921548813
<environment>	Inland Revenue environment Three letters	Production: PRD Partner testing: XZS XZT Internal IRD testing: NZT, NZD

Table 5 : Naming of Tax Agent files

2.9.4 Customer file(s)

Format:

HISTORY_CUSTOMER_<file sequence>_<timestamp>_<environment>.xml

For example: HISTORY_CUSTOMER_0_201710111532239353_NZD.xml

Part	Format	Possible values
HISTORY<	Constant	HISTORY
CUSTOMER	Constant denoting this file is sent for all the customers data linked to a tax agent or other intermediary	CUSTOMER
<file sequence>	Start with 0 for first zip file and increments if there are more than one	0 1 2 ...
<timestamp>	Time file was created yyyyMMddHHmmssffff	e.g. 201710100921548813
<environment>	Inland Revenue environment Three letters	Production: PRD Partner testing: XZS XZT Internal IRD testing: NZT, NZD

Table 6 : Naming of Customer Files

2.9.5 Software Intermediation file

This pattern is almost the same as the pattern for the control and zip files - which is defined above.

Format:

HISTORY_PROVIDER_< software_platform _id>_<file sequence>_<timestamp>_<environment>_SOFTWARE INTERMEDIATION.xml

For example:

HISTORY_PROVIDER_1500011034_0_201710100921548813_NZD_INTERMEDIATION.xml

Part	Format	Possible values
HISTORY	Constant	HISTORY
PROVIDER	Constant	PROVIDER
< software_platform _id>	ID allocated to Software Platform by Inland Revenue during the onboarding process	Numeric 10 digit, should remain constant for a given Software Platform
<file sequence>	Start with 0 for first zip file of day and increments if there are more than one	0 1 2 ...
<timestamp>	Time file was created <u>yyyyMMddHHmmssffff</u>	e.g. <u>201710100921548813</u>
<environment>	Inland Revenue environment Three letters	Production: PRD Partner testing: XZS XZT Internal IRD testing: NZT NZD
SOFTWARE INTERMEDIATION	Constant	SOFTWARE INTERMEDIATION

Table 7 : Naming of Software Intermediation Files

2.9.6 Intermediation file

This pattern is almost the same as the pattern for the control and zip files - which is defined above.

Format:

HISTORY_PROVIDER_< software_platform _id>_<file sequence>_<timestamp>_<environment>_INTERMEDIATION.xml

For example:

HISTORY_PROVIDER_1500011034_0_201710100921548813_NZD_INTERMEDIATION.xml

Part	Format	Possible values
HISTORY	Constant	HISTORY
PROVIDER	Constant	PROVIDER
< software_platform_id >	ID allocated to Software Platform by Inland Revenue during the onboarding process	Numeric 10 digit, should remain constant for a given Software Platform
<file sequence>	Start with 0 for first zip file of day and increments if there are more than one	0 1 2 ...
<timestamp>	Time file was created <u>yyyyMMddHHmmssffff</u>	e.g. <u>201710100921548813</u>
<environment>	Inland Revenue environment Three letters	Production: PRD Partner testing: XZS XZT Internal IRD testing: NZT NZD
INTERMEDIATION	Constant	INTERMEDIATION

Table 8 : Naming of Intermediation Files

2.10 Sample payloads and Schemas

Please see the GitHub folder for latest schemas and samples.

[History Sample and Schemas](#)

There are also folders for older versions till deployed.

This initial one off file has no incoming requests.

3 Operational considerations

3.1 File transfer management

Please refer to section 2.7 Transfer of files - processing in [TDS Bulk File Feed Build Pack](#) for an explanation of validating that file transfers are complete.

3.2 Disaster recovery and infrastructure failure

In some potential rare scenarios, like infrastructure failure, where a Software Provider platform fails to receive or process data, or loses data, support departments can discuss and agree to address through ad hoc manually generated files from Inland Revenue support. These files will be sent over the same SFTP channel when generated. Contact the support department over channels agreed during the onboarding process, or the account manager.

3.3 Certificate management

Inland Revenue prefers all keys exchanged to expire after two years, at most 5. This ensures older cryptography combinations are phased out due to rotation. Please see section 2.2.1 on expectations for service provider keys provided to Inland Revenue in [TDS Bulk File Feed Build Pack](#).

4 Use cases and process

4.1 Use case overview

As described in the [TDS Overview Build Pack](#), Transaction Data Services provides data into an overall business process that is controlled by the accounting software and its user. The use cases therein are diverse (and therefore neither exhaustive nor meant to represent every combination of process that the Customer or Software Provider may execute) and described in broad terms in the overview build pack– the business/organisational use cases denoted below as yellow or blue.

The corresponding technical steps inside them to integrate with Inland Revenue are defined as systems use cases with corresponding numbers SUC<nnn> below. The grey ones are covered in other Build Packs as identified in the Table below. Below this diagram is a table explaining this more.

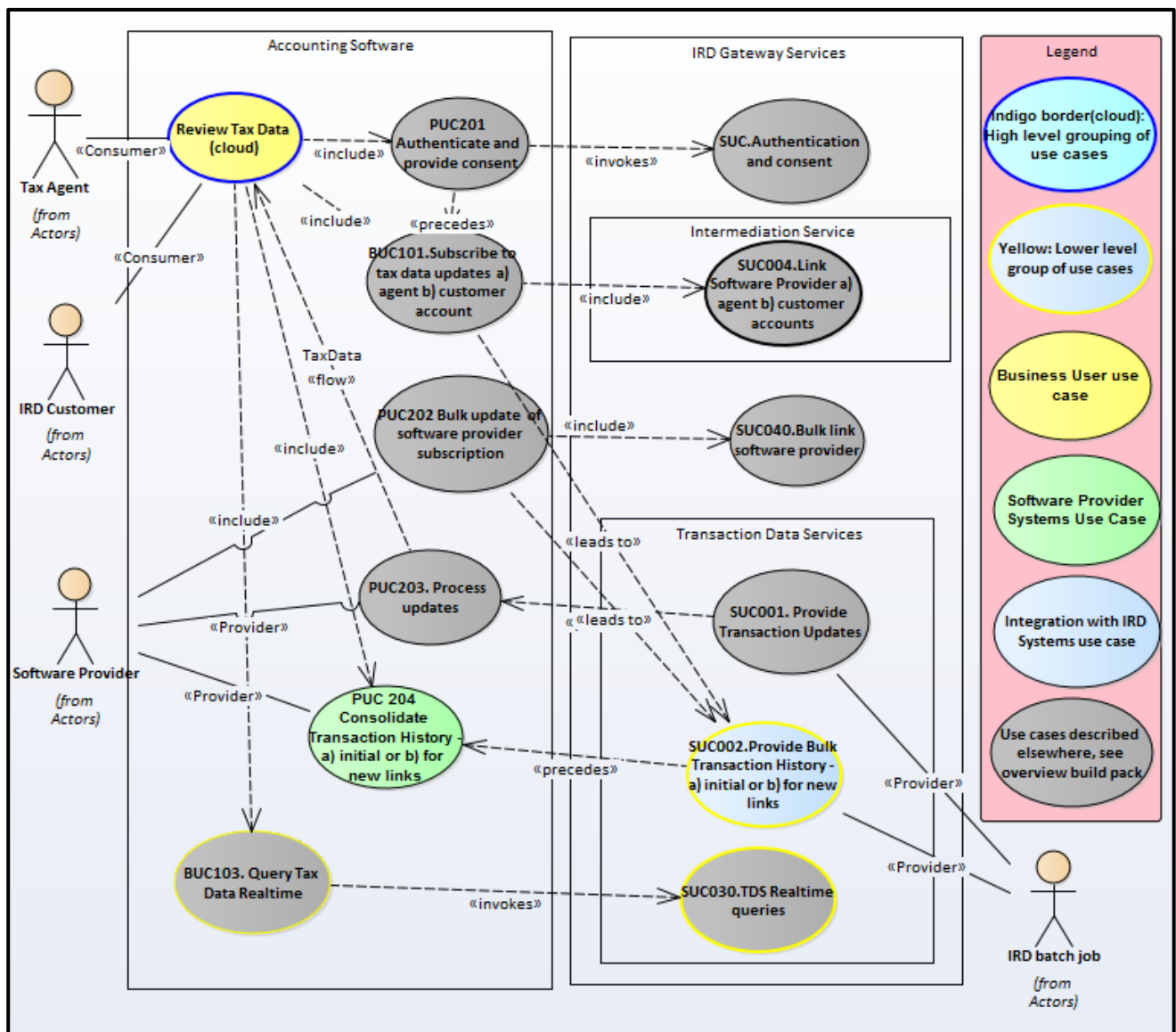


Figure 8 : Use case overview

Use cases have been classified into the following types:

(Note: High level use cases are broken down in the Build Pack concerned)

Use case Group	Description	Colour	Use Case	Build Pack
Tax Agent / Customer	Use cases specific to the Customer / Agent point of view	Yellow	BUC101 Subscribe to tax data updates a) Agent b) Customer Account	TDS Overview BP
			BUC103 Query Tax Data real-time	TDS Overview BP
Software Provider	Some systems use cases on the Software Provider side are not user driven and broader than the integration with Inland Revenue	Green	PUC201 Authentication and consent	TDS Overview BP
			PUC202 Bulk update of Software Provider subscription	TDS Overview BP
			PUC203 Process updates	TDS Overview BP
			PUC204 Consolidate Transaction History - a) initial or b) for new links	TDS Overview BP
Systems use cases	The corresponding technical steps inside the above use cases which are required to integrate with Inland Revenue	Blue	SUC Authentication and Consent	Identity and Access BP
			SUC004 Link Software Provider a) Agent b) Customer accounts	Software Intermediation BP
			SUC040 Bulk Link Software Provider to seed the Inland Revenue START system	TDS Overview BP, see PUC202
			SUC001 Provide Transaction Updates	TDS Bulk File Build Pack
			SUC002 Provide Bulk Transaction History - a) initial or b) for new links	This document
			SUC030 TDS real-time queries	TDS Real-time Build Pack

Table 9: Use cases and their relevant documentation

In the [TDS Overview Build Pack](#) sample process scenarios provide some organisational/business summary goal context.

4.1.1 Use Case SUC002 Provide Bulk Transaction History – a) initial or b) for new links

Use Case SUC 002 - Provide Bulk Transaction History – a) initial or b) for new links	
User/Actors	Inland Revenue Transaction Data Services
Secondary Actor	Software Provider software
Description	<p>The use case goal is to retrieve data linked to the Software Provider software, format and package it as described earlier in this document and send via SFTP to the Software Provider software central location. The data included here is for all periods in the last seven years for each of the Accounts that have equivalent data in the operational Inland Revenue START system.</p> <p>Note: This use case is for Tax Agents/Customers using Software Provider software where they already have Customer data from the Tax Agent Web Service system and where they have annotated or linked to this Tax Agent Web Service data. This use case facilitates replacing that Tax Agent Web Service data with new migrated TDS START data. The use case plugs possible gaps in the history for that period previously received and relates it to the new transaction IDs. This allows the Software Provider software and or Tax Agents to move the annotations or links from the Tax Agent Web Service data to the new TDS START data and use that as the point of reference going forward.</p>
Inland Revenue systems	START
SUC002 a)	Provide Transaction History – a) initial
Description	<p>This use case is for Software Providers and their users who already have Tax Agent Web Service data that needs to be mapped to and replaced with the new equivalents from the Inland Revenue START system. If Tax Agent Web Service data is not already in a Software Provider system for the given agent or customers then the TDS bulk feed will provide that data and this use case will be redundant.</p>
Pre-Conditions	<p>Software Provider software is onboarded and therefore authorised to communicate with TDS. (See the Onboarding section of the TDS Overview Build Pack TDS Onboarding Build Pack)</p> <p>A link/subscription has been established between the Software Provider and ALL their Tax Agents/Customers identifying which entities' tax data to send to the Software Provider and how to group it. (See the Software Intermediation Build Pack)</p>

Use Case SUC 002 - Provide Bulk Transaction History – a) initial or b) for new links	
	<p>Bulk Linking of all Tax Agents/Customers has been completed and verified – PUC202</p> <p>Data conversion to START is complete and Transaction IDs have been associated with FIRST transactions to ensure aggregated transactions can be tracked.</p>
Triggers	As part of the transition cutover to the new Inland Revenue START system for a set of Accounts, Inland Revenue starts the compilation of the History Bulk Files.
Constraints	It is assumed that the Software Provider has explicit consent from the Tax Agent or Customer to set up the links to receive their data through the Bulk File Feed and therefore the History Bulk File Feed.
Post-Conditions	The Transaction History data has been sent by Inland Revenue to the Software Provider software.
Use Case Scenarios	
1. Normal Flow	<p>Inland Revenue processing for Software Provider subscription generates PGP signed and encrypted ZIP files. This subscription link will cause a file with an initial full data set.</p> <ol style="list-style-type: none"> 1. Iterate through on-boarded Software Providers and their linked Customers as well as their linked Tax Agents and the clients linked to those Tax Agents: 2. Data is formatted as described above in this document and in the TDS Overview and Transition Build Pack 3. Data will be packaged in zip files as described above in this document 4. File(s) sent to Software Provider software central location via SFTP as described above in this document 5. This system use case ends <p>Software Provider use case PUC204 a) then completes at each Software Provider. The steps after the SFTP transfer completes depend on the Software Provider software. Once all the file content has been transferred the Software Provider will process the file content and makes it available to the software instances used by the users of the requesting organisation.</p>
2. Exception Flows	<ol style="list-style-type: none"> 1. If Inland Revenue is unable to connect to the Software Provider SFTP site the system will escalate for the Inland Revenue support team to contact the Software Provider and agree a plan to restore connectivity and reschedule transmission. 2. If SFTP transmission fails it escalates to the Inland Revenue support team to contact the Software Provider and agree a

Use Case SUC 002 - Provide Bulk Transaction History – a) initial or b) for new links	
	<p>plan to troubleshoot and restore reliable connectivity and reschedule transmission</p> <p>3. If all files are sent but during PUC204 b) processing thereof the Software Provider finds there are issues like file corruption they will contact Inland Revenue support over channels agreed during the onboarding process to agree a plan for troubleshooting and rescheduling transmission or requesting new manual files.</p>
3. Alternatives	No alternatives
PUC204 b)	Consolidate Transaction History – b) for new links
Description	<p>This use case will be called when a new Intermediation link is created (i.e. a new client added to an Agents List) or a new Software Intermediation link is added (i.e. a new Customer or Tax Agent is linked to the Software Provider to ensure the sending of a Bulk File). (These are use cases BUC101 and PUC202 which are explained in the TDS Overview and Transition document).</p>
Pre-Conditions	<p>Software Provider software is onboarded and therefore authorised to communicate with TDS. (See the Onboarding section of the TDS Overview Build Pack) A link/subscription has been established between the Software Provider and the relevant Tax Agent/Customer Account or a new Customer has been added to an Agents Client List. (See the TDS Overview and Transition Build Pack)</p>
Triggers	<p>Inland Revenue receives the new Software Intermediation Link Request or the addition of a new Client to a Tax Agent Client List.</p>
Constraints	<p>It is assumed that the Software Provider has explicit consent from the Tax Agent/Customer to receive their data.</p>
Post-Conditions	<p>The Transaction History data has been sent by Inland Revenue to the Software Provider software.</p>
Use Case Scenarios	
1. Normal Flow	<ol style="list-style-type: none"> 1. Request received for Software Intermediation Link or new Client for a Tax Agent. 2. Inland Revenue invokes "Prepare Historical TDS Bulk File facility" and produces file 3. Data is formatted as described above in this document and in the TDS Overview and Transition Build Pack

Use Case SUC 002 - Provide Bulk Transaction History – a) initial or b) for new links	
	<ol style="list-style-type: none"> 4. Data is packaged in zip files as described in this document 5. Files are added to the overnight batch run for that day. 6. File(s) sent to Software Provider software central location via SFTP as described in this document 7. System use case ends <p>Software Provider use case PUC204 b) then completes at the Software Provider (See the TDS Overview and Transition Build Pack). The steps after the SFTP transfer completes depend on the Software Provider software. Once all the file content has been transferred the Software Provider will process the file content and makes it available to the software instances used by the users of the requesting organisation</p>
2. Exception Flows	<ol style="list-style-type: none"> 1. If Inland Revenue is unable to connect to the Software Provider SFTP site the system will escalate for the Inland Revenue support team to contact the Software Provider and agree a plan to restore connectivity and reschedule transmission. 2. If SFTP transmission fails it escalates to the Inland Revenue support team to contact the Software Provider and agree a plan to troubleshoot and restore reliable connectivity and reschedule transmission 3. If all files are sent but during PUC204 b) processing thereof the Software Provider finds there are issues like file corruption they will contact Inland Revenue support over channels agreed during the onboarding process to agree a plan for troubleshooting and rescheduling transmission or requesting new manual files.
3. Alternatives	No alternatives

Table 10 : SUC 002 - Provide Bulk Transaction History

5 Appendix A—Glossary

Term	Meaning
Authentication	The process of verifying an identity claimed by or for a system entity. [RFC 2828]
Authorisation	A right or a permission that is granted to a system entity to access a system resource. [RFC 2828]
Build Pack	Details the technical requirements and specifications, processes and sample payloads for the specified activity
Business Processing	Processing by Inland Revenue systems in retrieving data and constructing the Payload (business information content) of a message.
Business Service	An integration interface (description) of the Solution which provides a set of business data and information in fulfilling the Service and is specified in this document. The Solution may offer more than one Business Service.
Confidential Information	Means, in relation to a party, any information (in any form whether written, electronic or otherwise): <ul style="list-style-type: none"> (a) relating to the business or operations of that party or its suppliers or customers; (b) disclosed by that party to the other party on the express basis that such information is confidential; or (c) which might reasonably be expected by that party to be confidential in nature;
Customer	A Customer is the party who is a tax payer or a participant in the social policy products that are operated by Inland Revenue. The Customer might be a person (an “individual”) or a non-individual entity such as a company, trust, society etc. Practically all of the service interactions with Inland Revenue are about a Customer (e.g. their returns, accounts, entitlements etc.) even though these interactions might be undertaken by an Intermediary such as a tax agent on their behalf.
Data integrity	The property that data has not been changed, destroyed, or lost in an unauthorized or accidental manner. [RFC 2828]
Digital certificate	A certificate document in the form of a digital data object (a data object used by a computer) to which is appended a computed digital signature value that depends on the data object. [RFC 2828]
Encryption	Cryptographic transformation of data (called “plaintext”) into a form (called “cipher text”) that conceals the data’s original meaning to prevent it from being known or used. If the transformation is reversible, the corresponding reversal process is called “decryption”, which is a transformation that

Term	Meaning
	restores encrypted data to its original state. [RFC 2828]
FIRST	Inland Revenue's old system which will still be in operation until 2021.
GWS	Gateway Services—the name for the suite of web services that Inland Revenue is providing.
HTML	Hypertext Markup Language.
HTTP	Hypertext Transfer Protocol is a networking protocol and is the foundation of data communication for the World Wide Web.
HTTPS	HTTP that uses SSL.
IAMS	Identity and Access Management—a logical component that performs authentication and authorisation. Physically it is a set of discrete hardware and software products, plug-ins and protocols. Usually implemented as separate External IAMS (XIAMS) and Internal IAMS.
IAS Build Pack	Identity and Access Build Pack
Intermediary	A party who interacts with Inland Revenue on behalf of a Customer. Inland Revenue's Customer is a Client of the Intermediary. There are several types of Intermediary including Tax Agents, PTSIs, PAYE Intermediaries etc.
Intermediation Service	The Intermediation Service is a new Gateway Service for creating and maintaining delegated access relationships between intermediaries and their clients. These relationships enable access by the intermediary to a resource (e.g. an account, correspondence etc.) that belongs to their client. There are several types of intermediaries such as Tax Agents, book keepers, PAYE Intermediaries.
IP	Internet Protocol—the principal communication protocol in the Internet protocol suite for relaying datagrams across networks.
MSH	Messaging Service Handler.
Mutual authentication	Mutual authentication refers to two parties authenticating each other at the same time, being a default mode of authentication in some protocols (e.g. SSH) and optional in other (TLS)
myIR	START's authenticated customer-facing portal - myIR.
NZISM	NZ Information Security Manual—the security standards and best practices for Government agencies. Maintained by the NZ Government Communications Security Bureau (GCSB).
NSP	Inland Revenue's New Services Platform—includes START, XIAMS, the Application Publishing Service and supporting infrastructure.

Term	Meaning
OAuth 2.0	OAuth 2.0 is an industry-standard protocol for authorization
Pattern	A constraint on data type values that require the string literal used in the data type's lexical space to match a specific pattern.
Payload	The business information content of the message and/or file(s) between Inland Revenue and a Business Partner.
Schemas	An XML schema defines the syntax of an XML document, in particular of a payload. The schema specifies what a valid payload (such as a GST return) must/can contain, as well as validating the payload.
Service	The exchange, as enabled by the Solution, of information, data and/or funds for the purpose of Clients' tax administration by Tax Agents.
Software Provider Software	<p>A Client Application is an operating instance of Software that is deployed in one or more sites. A number of deployment patterns are possible:</p> <ol style="list-style-type: none"> 1. A single cloud based instance with multiple tenants and online users, 2. An on premise instance (e.g. an organisation's payroll system) 3. A desktop application with an online user. <p>This is the computer software that contains interfaces to consume the services that Inland Revenue exposes. Software is developed and maintained by a Software Developer and subsequently deployed as one or more Client applications.</p>
SFTP	Secure File Transport Protocol. SFTP 3.0 is used.
SOAP	Simple Object Access Protocol (SOAP) is a protocol specification for exchanging structured information in the implementation of Web Services in computer networks.
Solution	The technology components, systems and interface specifications constituting the Tax Agent Web Services capability which enables integration and communication across the Gateway channel between Inland Revenue and Tax Agents for the purpose of providing the Service.
Software Developer	The developer of a Tax Agent software package and its Gateway Channel integration capability which forms part of the Solution.
Software Platform	<p>Software Provider or accounting software set up as registered software to call Inland Revenue Gateway Services like TDS and to receive TDS bulk SFTP feeds.</p> <p>Previously referred to as Software Intermediary</p>
Solution	The technology components, systems and interface specifications constituting the Tax Agent Web Services

Term	Meaning
	capability which enables integration and communication across the Gateway channel between Inland Revenue and Tax Agents for the purpose of providing the Service.
SSH	Secure Shell (SSH) is a cryptographic network protocol for operating network services securely over an unsecured network. Version 2.0 is used.
SSL	Secure Sockets Layer (SSL) is a cryptographic protocol that provides security for communications over networks such as the Internet.
START	Inland Revenue's new system which stands for Simplified Taxation and Revenue Technology
System	The parts of the Solution operated by a single Business Partner; typically this term means the Business Partner's MSH.
Tax Agent	A tax agent who is formally registered as such with Inland Revenue.
TDS	Transaction Data Services
TLS1.2	Transport Layer Security version 1.2—the protocol that is observed between adjacent servers for encrypting the data that they exchange. Prior versions of TLS and all versions of SSL have been compromised and are superseded by TLS1.2.
URL	Universal Resource Locator—also known as a 'web address'.
User	The user referred to in this document is the user of the software provider accounting or tax package. This user needs delegated permissions on Customer tax accounts (potentially via a tax agency or other intermediary) in order to use TDS. The web logon used in eServices needs to be used in making Inland Revenue queries. This web logon must be granted permission there to access Customer Accounts
WSDL	Web Services Description Language (WSDL) is an XML-based language that provides a model for describing Web Services.
XIAMS	External IAMS—an instance of IAMS that authenticates and authorises access by external parties, i.e. customers, trading partners etc. as opposed to internal parties such as staff.
XML	EXtensible Markup Language

6 Appendix B—Document history

Version	Date	Description
1.0	12 April 2018	<p>P1,2 Reformatted title and second page slightly to remove duplication of versioning information</p> <p>1.1 Solution Overview updated to remove ad hoc requests and expand on once off data.</p> <p>2.1 Rewritten to explain duration of History file and replacement of ad hoc requests with automated files created for new software intermediation links and new agent clients.</p> <p>Figures 3 and 4 replaced</p> <p>2.2.1 Most of the SFTP setup information removed and referred for to the TDS Bulk file build pack</p> <p>2.3.1 Clarification added on zip files not being sent sequentially if there are more than one</p> <p>2.3.2 Removed references to customer files as only Agent files are provided, history is not currently available to direct customers or bookkeepers</p> <p>Updated diagram for History zip files</p> <p>2.3.3 Updated diagram and descriptions for History data files</p> <p>2.3.4 Removed</p> <p>2.4 Moved sample diagram up to precede fields descriptions</p> <p>Updated sample and added RetrieveDate description</p> <p>Added clarification that newTxId might not be present for some records</p> <p>Added sample for Customer file</p> <p>2.5 + 2.6 Split intermediation files and provided samples</p> <p>2.8 Description for linking and bulk linking moved up to here from samples section</p> <p>2.8.3. Change to Possible values for Tax Agent ID</p> <p>2.8.5 Added Software Intermediation File Naming</p> <p>2.10 + 2.11 Merged schemas and sample sections, updated GitHub reference, removed embedded zip files, moved references to linking payloads to 2.8</p> <p>Renumbered tables and figures from p20 onwards</p>

		<p>to be sequential after content movement</p> <p>Some cosmetic changes such as indexing Samples</p> <p>New Section 3 – Operational Considerations</p> <p>Old 3.1 Amended Use case diagram to remove ad hoc History requests</p> <p>Update Table 9 to remove Use Case SUC020</p> <p>Old 3.1.1 Update SUC002 to remove adhoc History requests and remove PUC204 b)</p> <p>Old 3.1.2 Removed SUC020</p> <p>Glossary – added entries for clarification</p>
0.8	31 January 2018	<p>Cosmetic formatting changes</p> <p>Update for terminology such as Software Provider, distinction between Software Intermediation and Intermediation, Software Platform ID, Environments</p> <p>Update for Tables and Figures</p> <p>Update for Links to Github</p>
0.5	22 November 2017	Ready for external use
0.3	25 October 2017	Reworked draft for initial feedback
0.1	13 Oct 2017	Internal only