

# Consolidated Audit Trail

Customer and Account Information System  
(CAIS)

CAIS Transformed Identifiers Creation and File  
Submissions Webinar

---

5/5/21

# Agenda

---

- Quick Recap of Related Topic
  - CAIS Reporting
  - Overview of High-Level Architecture
  - Entitlements
  - CAIS Environments
- Transformed Identifiers and File Submission
  - CCID Alternative – Transformed Identifiers
  - Creating Transformed Identifiers & Examples
  - CAIS Paired Files Structure
  - Customer Record ID
  - JSON Examples
- Questions and Answers

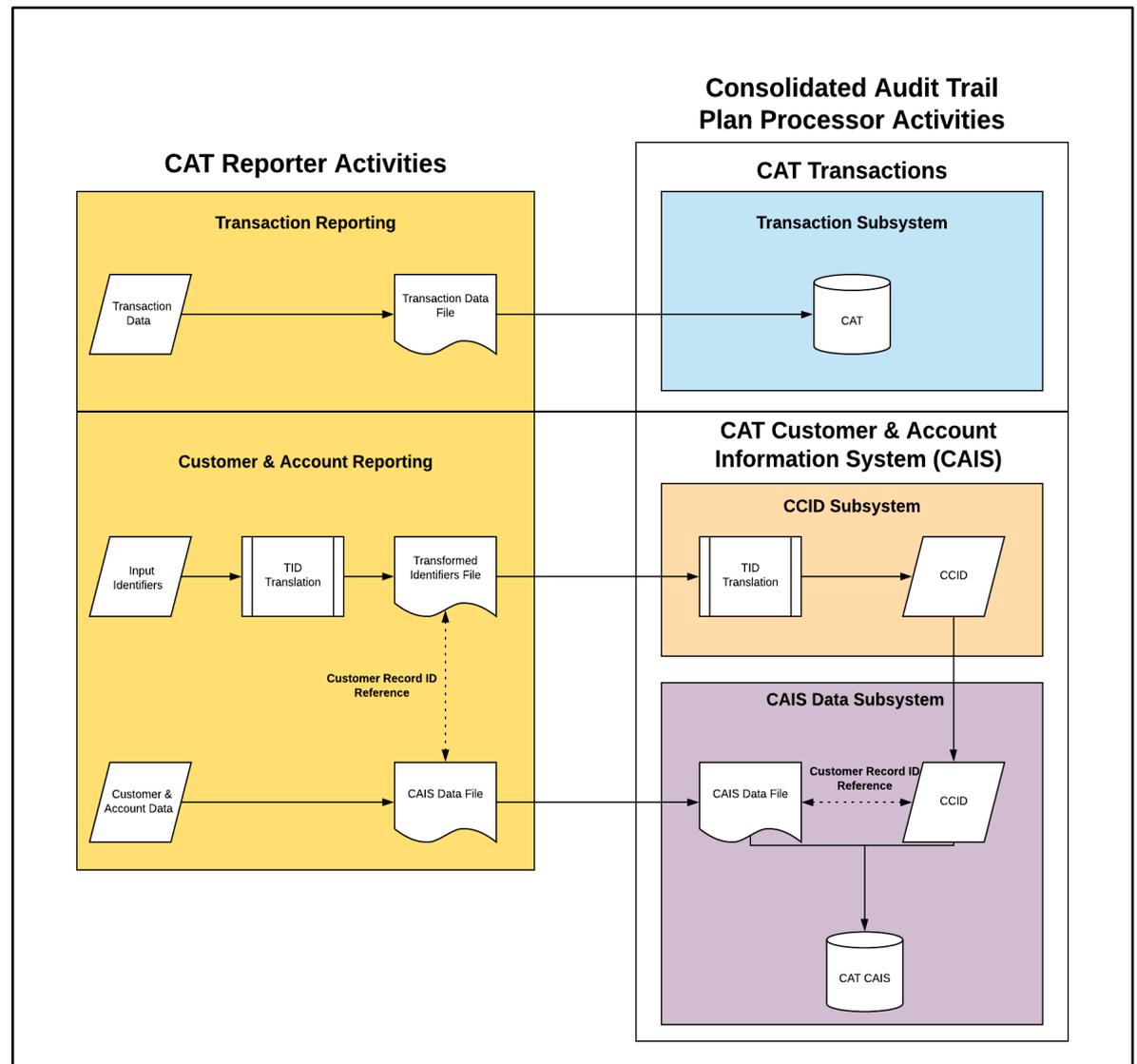
# CAIS Reporting

---

- CAIS Reporting Options
  - Machine-to-machine – two SFTP sites – one for Data file, one for Transformed Identifiers file
  - Manual file uploads via CAIS Reporter Portal
  - Manual entry via CAIS Reporter Portal
- File-based reporting in JSON structure only
- CAIS uses CRD, not IMID, to identify Reporters
- When submitting a new or updated Account, all Account information and all CAT Customers associated to that account, with all the CAT Customer information, must be included
- Transformation of identifiers is required per the CCID Alternative relief
- File level and record level validation will be performed
- PII data submitted by Reporters **will not be** viewable by the Reporter after submission to CAIS

# High Level Architecture

- Separation of CAIS and Transaction Reporting System
- Transformed Identifier transformation to CCID – Can't be reverse engineered
- No Sensitive Identifiers (SSNs/ITINs) are sent to CAIS or stored in CAIS
- CAT Customer data, Account data, and Identifiers and Related Account Information are sent as paired files into separate systems
- No PII ever returned to Reporters



# Access and Entitlement

---

- Reporter Authentication -- No new authentication required if established for Transaction or LTID reporting
- Account Administrator -- No new Account Administrator required if established for Transaction or LTID reporting
- Entitlements
  - Entitlements for Transaction reporting and CAIS reporting may be different
  - No separate entitlements for reporting Customer, Account, or Identifiers data, as a single submission must contain all three
  - Certification requirements for Customer data reporting to CAIS are under consideration
- Information Security
  - [Security of CAT Data Webinar](#) available at [catnmsplan.com](http://catnmsplan.com) site
  - Leverages authentication and entitlement controls of Transaction reporting and LTID phase
  - FDIDs mask account numbers and Relationship or Entity IDs
  - Plan Processor assigned CCIDs cannot be reverse engineered back to sensitive identifiers
  - SFTP reporting utilizes only private lines and data encrypted in transit and at rest
  - Web-based reporting data encrypted in transit and at rest

# Three CAIS Environments

Environment	Functionality	Data	Purpose
Production	Full production functionality.	All data submitted to the Production environment by Industry Members.	Provision of production data as required by the CAT NMS plan.
Production Mirror	Full production-equivalent functionality.	All data submitted to the Production Mirror environment by Industry Members.	Allows for the submission of data to a production-equivalent environment. This may be used to test code enhancements or corrections prior to providing such data to the production environment.
Industry Test	Functionality that is currently in the development and testing phase and has not yet been released to production.	All data submitted to the Industry Test environment by Industry Members.	User testing of new functionality.

- Beginning January 2022, Industry Test environment will be available with full Customer and Account Phase functionality
- Production Mirror will remain with LTID Phase functionality for any additional testing against current release functionality

# CCID Alternative – Transformed Identifiers (TIDs)

---

On March 17, 2020, the SEC approved the CCID Alternative set forth in the Participant’s Exemptive Relief Request related to Customer and Account Information.

The CCID Alternative allows the Plan Processor to generate a CCID using a two step transformation process that avoids having SSNs/ITINs reported to or stored in the CAT.\*

**Step One:** CAT Reporters transform the SSN/ITIN or other Input Identifier to an interim value as per the instructions of the Plan Processor. This transformed value (Transformed Identifier or TID), and not the original identifier, is submitted to the CAT CCID Subsystem.

**Step Two:** The CAT CCID Subsystem performs a second transformation to create the globally unique CCID for each Customer that is unknown to, and not shared with, the original CAT Reporter.

\*The same process will be applied to Legal Entity and Foreign identifiers provided to CAIS.

# Creating Transformed Identifiers (TIDs)

---

- CAIS Submitters must first transform their sensitive identifiers to create Transformed Identifiers (TIDs) prior to submitting data into CAIS. Tax Identifiers provide the basis for establishing a unique CCID for both natural persons and legal entities.
- Social Security Number and Individual Taxpayer Identification Number are considered Sensitive Identifiers and, pursuant to the CCID Alternative, are never transmitted to CAT. Rather, the hashed TID is submitted to CAT by the CAT Reporter.
- Employer Identification Number (EIN) for a Legal Entity is not exempted from reporting by the CCID Alternative. CAT Reporters will be required to report the EIN to CAT in two ways
  - (1) as a TID, and
  - (2) the actual EIN as plain text (as required by the Plan)
- For non-U.S. (foreign) account holders, eligible foreign identifiers include National Registration or Tax Identifier, Country of Domicile and Passport Number, Permanent Resident Identifier, or LEI. Foreign identifiers should be converted to TIDs (per the specification), and the TID submitted to CAT.
- For submissions posted to SFTP or uploaded to CAIS using the CAIS Reporter Portal, the CAT Reporter or Submitter must transform the identifier to the TID. For submissions using the Manual Submission in the CAIS Reporter Portal, a browser-based hashing algorithm will be provided to assist in the creation of the TID.

# Transformed Identifier Requirements

---

- Input Identifiers used to generate a TID must be input in the exact valid format for SSN/ITIN and EIN values – that is, 999-99-9999 for SSN or ITIN, and 99-9999999 for EIN – to a SHA-256 hashing algorithm.
- The 32 byte output from the SHA-256 hashing algorithm must then be represented as a 64 byte hexadecimal value – the TID – which is then reported to CAIS. This TID is **case-insensitive** for uniqueness in CAIS.
- Only TIDs resulting from valid ranges for assignment of an SSN, ITIN, or EIN will be accepted.
- For SSN and ITIN, this means:
  - No values having an Area Number (first three digits) of 000 nor 666
  - No values having a Group Number (middle two digits) of 00
  - No values having a Serial Number (last four digits) of 0000
  - No values having all the same digit, such as 111-11-1111 or 999-99-9999
  - No value of 123-45-6789
- For EIN, the value must have a valid Prefix (first two digits), as noted by the Internal Revenue Service.
- No range validation will occur for TIDs generated from Foreign Identifiers

# TID Submission

---

- In addition to submitting the hashed TID value in the TIDs file, the following additional attributes must be included:
  - TID Type – noting the type of original identifier used to generate the TID. Values include EIN, FOREIGN, and SSN/ITIN.
  - Foreign TID Type – when the TID Type is FOREIGN, the firm must also report what type of foreign identifier was used. Values include LEI, NATIONALID, PASSPORT, and PERMANENT.
  - Foreign TID Country Code – when the TID Type is FOREIGN and the Foreign TID Type is not LEI, the firm must also report the country that issued the identifier in ISO 3166-1 alpha-2 form. For example – CA for Canada, FR for France, MX for Mexico.

# TID Examples

---

## ➤ Example 1 – Social Security Number or ITIN

- A CAT Reporter determines they have a CAT Customer with an SSN/ITIN of **999-99-9999**
- The CAT Reporter hashes the identifier using the SHA-256 algorithm and obtains the TID of **1438887c12c566c8f87325380e06517bfb2e46e4de7e07fc6f004ea5bb21945d**
- The CAT Reporter reports this TID to CAIS in the TIDs file in place of the SSN/ITIN with a tidType of "SSN/ITIN"

## ➤ Example 2 – EIN

- A CAT Reporter determines they have a CAT Customer with an EIN of **09-9999999**
- The CAT Reporter hashes the identifier using the SHA-256 algorithm and obtains the TID of **38ee758318a012fe6c0bc57159760ce4e293fe4983e9f8a6ac91b2e35b0df1b3**
- The CAT Reporter reports this TID to CAIS in the TIDs file in place of the EIN with a tidType of "EIN" – but also includes the plain-text EIN of **09-9999999** to CAIS in the CAIS Data file along with the full CAT Customer data

# TID Examples, cont.

---

## ➤ Example 3 – Legal Entity Identifier (LEI)

- A CAT Reporter determines they have a foreign CAT Customer with an LEI of **6OPSRG40NL8BFNP4Z33**
- The CAT Reporter hashes the identifier using the SHA-256 algorithm and obtains the TID of **87fbb10a56dbf3d5fdb45a68253742b049df1d9f1e708ce45df25206a3ae983d**
- The CAT Reporter reports this TID to CAIS in the TIDs file in place of the LEI with a tidType of "FOREIGN" and foreignTIDType of "LEI" – but also includes the plain-text LEI of **6OPSRG40NL8BFNP4Z33** to CAIS in the CAIS Data file along with the full CAT Customer data

## ➤ Example 4 – National Identifier

- A CAT Reporter determines they have a foreign CAT Customer with a National Identifier from Germany of **123456**
- The CAT Reporter hashes the identifier using the SHA-256 algorithm and obtains the TID of **8bb0cf6eb9b17d0f7d22b456f121257dc1254e1f01665370476383ea776df414**
- The CAT Reporter reports this TID to CAIS in place of the National Identifier with a tidType of "FOREIGN" a foreignTIDType of "NATIONAL" and a foreignTIDCountryCd of "DE".

# Creating CAIS Data Files

---

Transformed Identifier Files and CAIS Data Files must be submitted as paired files

File Name	Description
Transformed Identifiers (sent to CCID Subsystem)	<ul style="list-style-type: none"><li>• Customer identification – Taxable identifiers (SSN, ITIN, EIN, Foreign) are hashed by Reporters to create a Translated Identifier (TID)<ul style="list-style-type: none"><li>• For SFTP and Web-based files, Reporter responsible for hashing</li><li>• For Web-based data entry, a browser-based hashing algorithm will be provided to assist in the creation of the TID by reporters</li></ul></li><li>• <b>Customer Record ID</b> pointer provides link between Transformed Identifiers entry and CAIS Data entry for Customer; Customer Data and Transformed Identifier never in same file together</li></ul>
CAIS Data (sent to CAIS Data Subsystem)	<ul style="list-style-type: none"><li>• Account details<ul style="list-style-type: none"><li>• FDID in place of Account Number</li><li>• LTID data</li><li>• Customer and Account Types</li><li>• Address</li></ul></li><li>• Association of Customer to Account by use of <b>Customer Record ID</b> pointer</li><li>• Customer details – Natural Person and Legal Entity<ul style="list-style-type: none"><li>• Underlying customer detail – Name, YOB, etc.</li><li>• Other plain text identifiers – EIN, LEI</li></ul></li></ul>

# Paired File Requirements

---

- A single submission to CAT CAIS must be comprised of a paired Data file and Transformed Identifiers file, even if record counts are zero for both files.
- The base file names for the Data and Transformed Identifiers files must use identical name values for the CAT Submitter ID, CAT Reporter CRD, File Generation Date, optional Group, and File Number, to be identified as paired.
- The file names will use different File Kind values
  - The Data file will use CAIS
  - The Transformed Identifiers file will use TIDS
- For example, a paired file may be named as
  - 88888\_1234567\_20210430\_CAIS\_000123.json.bz2 (Data File)
  - 88888\_1234567\_20210430\_TIDS\_000123.json.bz2 (Identifiers File)
- Paired files must be submitted via the same mechanism – that is, both must be
  - Posted to the separate SFTP endpoints; OR
  - Uploaded through the CAIS Reporter Portal; OR
  - Generated through Manual Submission within the CAIS Reporter Portal
- Failure to post the paired file of a submission within 60 minutes of posting the first file will result in rejection of the file

# Customer Record ID

---

- The Customer Record ID is the means to tie FDIDs to CAT Customers within the Data file, and CAT Customers to Transformed Identifiers between the Data and TID files.
- The Customer Record ID is also used in the Feedback and Inconsistency files to reference the CAT Customer having a rejection or inconsistency without including PII in the feedback.
- The next revision to the CAT CAIS Technical Specification – publishing Friday, May 7<sup>th</sup> – will allow for the ability to report the same CAT Customer multiple times, with different Customer Record ID values, in a single submission. There are additional data requirements for data consistency – such as all versions having the same Year of Birth or same EIN – in the revision.

# JSON Examples

- The following is a subset of fields for an example of an account with multiple associated CAT Customers, and what is reported in the Data and TIDS files

## Data File

### FDID Record

```
"fdidRecordID": 500,  
"firmDesignatedID": "EZAccount123",  
"fdidCustomerList": [  
  {"customerRecordID": 1,  
   "role": "TRDHOLDER",  
   "roleStartDate": 20190101  
  },  
  {"customerRecordID": 25,  
   "role": "AUTHREP",  
   "roleStartDate": 20200401  
  } ]
```

### Customer Records

```
"naturalPersonCustomerList": [  
  {"customerRecordID": 1,  
   "firstName": "John",  
   "lastName": "Doe",  
   "yearOfBirth": "1980 "  
  },  
  {"customerRecordID": 25,  
   "firstName": "Alexander",  
   "lastName": "Smythe",  
   "yearOfBirth": "1975"  
  } ]
```

## TIDS File

### Transformed Identifiers Records

```
"tidRecordList": [  
  {"customerRecordID": 1,  
   "tidType": "FOREIGN",  
   "foreignTIDType": "NATIONAL",  
   "foreignTIDCountryCd": "DE",  
   "tidValue":  
    "8bb0cf6eb9b17d0f7d22b456f121257dc1254e1f0166  
    5370476383ea776df414"  
  },  
  {"customerRecordID": 25,  
   "tidType": "SSN/ITIN",  
   "tidValue":  
    "1438887c12c566c8f87325380e06517bfb2e46e4de7e  
    07fc6f004ea5bb21945d"  
  } ]
```

# FINRA CAT Helpdesk

---

Questions may be directed to the FINRA CAT Helpdesk at 888-696-3348 or [help@finracat.com](mailto:help@finracat.com)

# How to Ask a Question during Today's Call

---

- **For participants using computer audio:**
  - Click the "Raise Hand" button at the bottom of the participants window.
  - A visual prompt will indicate that your line has been unmuted.
- **For participants using phone audio:**
  - Enter \*9 on your phone keypad.
  - An audio prompt will indicate that your line has been unmuted.