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Technical Design Paper

Standardized Data Reporting

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This Concept Paper has been developed through the Technical Design Taskforce of the Investment Company Institute's Standardized Data Reporting Working Group.

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Revision History

Date	By	Version	Description
07/29/2005	Paul Bucaoto	1.0	First Draft
08/01/2005	Paul Bucaoto	1.1	Minor verbiage and formatting modifications
08/16/2005	Paul Bucaoto	1.2	Changes after 8/9/2005 meeting • Added section on Naming Conventions and Terminology • Added section on Working Assumptions • Added Business Usage Flow in Proposed Enhancement section • Added Second Phase Option for https protocol • Data Request Types modified • Added RR/Branch/Firm fields to request • Added SDR Response Number • Modified Transaction Source on Response • Made Security Issue ID the highest level sort criteria • Modified Layouts and Schemas accordingly
08/19/2005	Paul Bucaoto	1.3	Changes from pre-8/19 review. Initial verbiage and formatting modifications
09/06/2005	Paul Bucaoto	2.0	Changes after 8/26 conference call • Added numbering on Business Usage flowchart • Renamed/redefined retail account to investor omnibus account • Renamed/redefined Customer Account Number to Investor Omnibus Account Number • Clarified protocols for input/output on Systems Processing Flow • Provided preliminary examples/definitions for participant directed transactions vs. non-participant directed transactions • Transaction Source – Participant renamed "Includes Non-Participant Transactions" to correspond to a space = No default selection • Moved transaction definitions to Includes Non-Participant Transactions field • Removed Recurring Indicator/Frequency Indicator on Response • Added Correction Indicator on Response to send corrected information • Added Partial Acknowledgment on Response to identify partial/piecemeal information and final information file • Clarified that fund account number will not include fund number, which can be derived from Security Issue ID • Added service provider in definition of intermediary • Added Agent for Intermediary field • Added Transaction ID field to Response record layouts • Updated Issues/Best Practices List • Modified Layouts and Schemas accordingly • Other verbiage and formatting changes
09/20/2005	Paul Bucaoto	2.1	• Redesigned Record Layouts. Removed Sub-Header and Sub-Trailer records in Layouts, and combined information into Detail and Main Trailer records • Added Issue regarding transmission schedule • Renamed Agent for Intermediary as "Underlying Intermediary" • Fixed typos on flowcharts, changed all references to Investor Omnibus Account; changed all references to Intermediary • Made notation on use of from date in combination with recurring indicator

			• Changed "0" value in Final Response Indicator to be combined Final/Full response. Added notation to clarify usage • Added notation in Correction Indicator to clarify usage. Moved correction indicator field to F41 (Main Header in Response) to apply to the higher level response data instead of individual detail data. • Modified Layouts and Schemas accordingly • Other verbiage and formatting changes • Minor typographical corrections
10/20/2005	Paul Bucaoto	3.0	• Underlying Intermediary field changed to alpha/numeric format • Added value of "Intermediary Cannot Differentiate" to Transaction Source field • Added "Search Parameter on Request Not Supported" to initial list of reject codes, as well as expanded Reject Codes for specific fields • Added value of "Both Summary and Detail" to Response Type in Header record to support Super Omnibus Accounts that contain plans, investor omnibus accounts, as well as individual accounts • Added description of NSCC processing that modifies the trailer record being sent to the fund to include the number of accepted and rejected summary/detail records. This will allow the fund to know whether they received a complete set of data for their data request • Modified Trailer Record format to add four new fields for Accepted/ Rejected Summary/Detail Records (also created sequence 02 in trailer) • Added validation to RR Number to be required when Request Type = Rep Level • Provided reference to SDR Sample Scenarios document in "Examples" section • Other typographical and verbiage corrections
11/22/2005	Paul Bucaoto	4.0	• Modified record layouts (see file layout revisions below) • Created Acknowledgment Record (B42) and process. Incorporated Acknowledgment process to flowchart illustrations and descriptions • Changed reference to participant-directed activity to first-tier data. First-tier data will include general participant-directed activity plus other critical transaction types • Clarified NSCC reject process (i.e., rejects will only be sent to intermediary, but trailer records containing number of accepted/rejected will be sent to Fund) • Revised transmission schedule to include Saturdays, and to run multi-batch • Clarified use of Underlying Intermediary in Header Record (i.e., for use when detail records for a specific Plan/Investor Omnibus Account is provided) File Layout Revisions • Expanded fixed record length to 130 bytes • Added Acknowledgment record as record type B42. Modified other record type numbers to be sequential following the B42 • Added Reject record as record type B43. Modified other record types to be sequential following the B43 • Record type F40 changed from 3 physical records to 2 • Moved Plan ID/Investor Omnibus Account Number, Omnibus Account Indicator, and SSN/TIN fields to record #1 of F40 • Renamed "Includes Non-Participant Transactions" to "Includes Second-Tier Transactions" • Outlined algorithm for SDR Control Number and Response Number • Moved Threshold Amount, Transaction Type, and Fund/SERV Control

				Number fields to record #2 of F40
				• Record type B41 (SDR Header) changed from 2 physical records to 1
				• Moved SDR Response Number to record #1, position 21 of B41
				• Made SDR Response Number required
				• Shifted other fields forward in record #1, position 21
				• Moved Fund/SERV Control Number field to record #1 of B41
				• Detail Record type (formerly B42, now B44) changed from 3 physical records to 2
				• Moved Transaction ID and Contra Security Issue ID to record #1 of Detail Record
				• Moved Plan Name and Customer Name to record #2 of Detail Record
				• Summary Record Type (formerly B43, now B45) changed from 2 physical records to 1
				• Added Underlying Intermediary field to Summary Record to specify the second-tier intermediary on the Summary Response
				• Moved Number of Shares in Plan/Investor Omnibus Account and EOD Dollar Balance fields to record #1 of Summary Record
				• Trailer Record Type (formerly B44, now B46) changed form 2 physical records to 1
				• Moved NSCC "accepted/rejected" trailer records to record #1 of Trailer Record
11/28/2005	Paul Bucaoto	4.1		• Made Anticipated Acknowledgment Response Date optional in B42
				• Corrections on Reject Record (B43)
				• Added List of Record Types
12/05/2005	Paul Bucaoto	4.2		• Removed "Transaction Source-Rep" field
				• Removed "Transaction Source-Plan" field
				• Added Acknowledgment Indicator to Acknowledgment record
				• Added "Dollar Value of All Participant/Shareholder Buys" field to Summary record
				• Added "Dollar Value of Directed Participant/Shareholder Directed Buys" field to Summary record
				• Added "Dollar Value of All Participant/Shareholder Sells" field to Summary record
				• Added "Dollar Value of Directed Participant/Shareholder Directed Sells" field to Summary record
				• Added "Dollar Value of All Participant/Shareholder Exchanges (Intra Fund Buy-Side)" field to Summary record
				• Added "Dollar Value of Directed Participant/Shareholder Directed Exchanges (Intra Fund Buy-Side)" field to Summary record
				• Added "Dollar Value of All Participant/Shareholder Exchanges (Intra Fund Sell-Side)" field to Summary record
				• Added "Dollar Value of Participant/Shareholder Directed Exchanges (Intra Fund Sell-Side)" field to Summary record
				• Removed "Number of Participants in Plan/Shareholders in Investor Omnibus Account" field
				• Updated Issues and Closed Issues list
12/20/2005	Paul Bucaoto	4.3		• Added "Transaction Category" field in Detail record
				• Removed 05 = Transfer in Transaction Type fields
				• Closed three remaining issues, and added two others.
01/11/2006	Paul Bucaoto	4.4		• Updated Intermediary definition to include insurance company and TPA. Also, provided clarification from an NSCC perspective.
				• Removed "Plan/Investor Omnibus Account" value to Transaction Source field.

			• Added "Intermediary Cannot Differentiate" value to Transaction Source field on record layouts.
			• Added "Underlying Intermediary Indicator" field to describe the type of identifier being used.
			• Modified "Background and Objectives" to include "enable funds to ensure that their market timing policies are being followed."
			• Added footnote to reference SDR Rule as the source for the definition of "shareholder."
			• Changed record layouts to 140 bytes to accommodate "Underlying Intermediary Indicator" field in record #1 of Request Record.
01/20/2006	Paul Bucaoto	4.5	• Added "Intermediary Reject" as a Response Type.
			• Expanded on description for Plan.
			• List of Transaction Categories added for review.
			• Clarified use and description of SDR Control Number and SDR Response Number algorithm.
02/09/2006	Paul Bucaoto	5.0	• Minor clean-up changes to the record layouts for Underlying Intermediary Indicator field.
			• Saturday schedule listed as 9 am and 12 noon.
			• Record Type 45 changed to avoid confusion with Networking record type (YE Tax Reporting). Record types 45 and 46 changed to record types 46 and 47, respectively.
			• Process for Reminders added to concept. Added Reminder record layout (N48).
			• CUSIP field name changed to Security Issue ID.
			• System Code field name changed to Originator Type. Included F=Fund, I=Intermediary, U=Underlying Intermediary.
			• Added "Ex-NSCC Request Indicator" to Response Header to immediately identify responses provided for requests made outside of NSCC. This field will affect SDR Control Number validation and Reminder process.
			• Specified field descriptions for reject codes as NSCC or Intermediary in Reject record.
			• Changed references from directed and non-directed to "Category 1" and "Category 2", respectively.
			• Added Social Code to Summary Record.
			• Removed "Service Provider Assigned" and "TPA Assigned" values from Underlying Intermediary Indicator. Changed "Universal Number" to "Universal Identifier."
			• Added comment to Transaction Type. Space means that the query is for all available transactions, which would include transfers.
			• Removed "Response will not be provided" from Acknowledgment Indicator. Changed "Response will be Provided by Secondary Intermediary to "Request will be Forwarded to Underlying Intermediary."
			• Added Underlying Intermediary Indicator to Acknowledgment Record.
			• Added "Transfer" to Transaction Type field in Detail Record.
			• Renamed Transaction Category to "Transaction Code."
			• Created new field of Transaction Category in Detail Record. Values will be "Category 1" and "Category 2."
			• Added "Rollover," "Return of Excess Distribution," and "Rebalance" values to Transaction Codes.
			• Combined transaction codes into one list.
			• Made "Dollar Amount" and "Price" optional for Transfers (i.e., Transaction Type=03 (Transfer) or when Transaction Code=7 or 52.
			• Removed 99=Other from Transaction Code.
			• Changed Transaction Source values to "Participant/Shareholder," "Plan/Administrator," "Rep," and "Intermediary Cannot Differentiate."

			• Added comment to Summary Record that Dollar Values do not include Transfers, which are not recorded with a price or value. • Added three reject codes.
02/14/06	Paul Bucaoto	5.1	• Expanded on Input/Output File Structure based on discussions with NSCC Internal IT. • Changed Record Type enumeration. • Added layouts for Grand Total Trailer. • Minor verbiage changes on Visio diagrams. • Made distinction between "Guidelines for Search Criteria and Sorting" vs. "NSCC Sorting."
03/06/06	Paul Bucaoto	6.0	• Minor comments and changes. • FINAL VERSION.

Table of Contents

I. Background and Objectives

Frequent trading in mutual funds may have harmful effects on the management company, its portfolio and its long-term investors. Frequent trading may dilute the value of the fund shares, disrupt the management of a fund's portfolio, raise fund transaction costs, affect the fund's liquidity, and result in unwanted taxable capital gains for the remaining shareholders. Funds employ various strategies to detect and deter frequent trading including assessing a fee on redemptions made a short time after the purchase of the shares has occurred and surveillance to ensure compliance with funds market timing policies.

Mutual funds shares that are purchased by investors through broker-dealers, banks, insurance companies, and retirement plan administrators ("intermediaries") may be combined with other investors' fund shares and registered in the name of the intermediary in a single omnibus account. In order for the funds to monitor the shareholder account for frequent trading, and appropriately evaluate and potentially assess any applicable redemption fees, the funds must be able to identify the investors and their respective trading activity within the omnibus account.

On May 23, 2005 SEC Rule 22c-2 went into effect with a compliance date of October 16, 2006. Rule 22c-2 requires funds to enter into written agreements with their intermediaries, under which the intermediaries must, upon request, provide funds with certain shareholder identity and trading information for those positions representing the omnibus account assets. This requirement will enable funds to ensure that their market-timing policies are being followed, monitor the frequency of trading, and determine whether redemption fees are being properly assessed, if applicable.

The objective of this enhancement is to create a standard, automated facility for funds to request and retrieve shareholder trading information from intermediaries.

II. Scope

This enhancement initiative will:
- Identify acceptable data requests that funds can make to intermediaries.

- Identify a process for sending the data from intermediaries to funds.

- Identify all data fields necessary to comply with Rule 22c-2.

- Identify the combination of data that must be provided on each request.

- Identify data report structure.

- Propose data files and data message formats.

- Determine the business rules and usage of the data fields.

III. Current Processing

Today, a majority of intermediaries do not send omnibus shareholder and shareholder trading information to the funds. Funds are therefore unable to adequately enforce their policies to monitor or deter frequent trading and market timing within omnibus accounts.

Other intermediaries transmit to fund companies, information that identifies shareholders and their trading activity within the funds. These files are sent in a variety of methods and frequencies, including daily or upon request, hard-copy reports, and electronically through non-standardized or non-centralized methods such as proprietary system links. The data within these files is similar to the data that is being identified for this project.

IV.   Naming Conventions and Terminology

To assist in understanding the various entities involved with this project, the following terms are defined. The descriptions below serve as functional definitions in the context of this paper, and should not be construed as the legal or technical definitions for the terms.

SDR
Standard Data Reporting (SDR) is an automated facility for funds to request and receive shareholder trading information from intermediaries through DTCC. SDR provides both file formats and an NSCC-facilitated reporting mechanism between funds and intermediaries of trade transactions for a specific date(s). Aggregate transaction detail for a period of time, as a whole, is not supported by SDR e.g., rolled up transaction totals for a period of time.

Intermediary
The intermediary is the company or institution from which the fund is directly requesting data. On a retirement account, the intermediary is typically the recordkeeper. The intermediary may also be a broker/dealer, trust company, clearing firm, insurance company, third party administrator, or service provider. From an NSCC perspective, the intermediary will be the NSCC participant to which the 22c-2 request will be directed. **To be consistent with the naming conventions used by NSCC, intermediaries will be referred to in the record layouts as a "Firm" and will use an originator code of "B".**

Omnibus Account
This account held at the fund represents assets for multiple investors. The assets are registered in the name of the intermediary or custodian at the fund. Examples would include one retirement plan, one trust, or multiple retail shareholder account assets held in one account at the fund. An omnibus account may be identified using a fund account number or intermediary identification number (BIN), both of which are cross-referenced to each other.

Super Omnibus Account
A super omnibus account is an account, held at the fund, containing assets of more than one intermediary omnibus account and potentially assets of individual shareholder accounts held by the intermediary. The intermediary accounts within the super omnibus account may include a plan level retirement account containing multiple participants, or an omnibus retail/trust/institutional account containing multiple shareholders. A super omnibus account may be identified using a fund account number or intermediary identification number (BIN), both of which are cross-referenced to each other.

Plan
A plan is a qualified retirement plan, including 401(k), 403(b), etc. or defined benefit plan, and contains multiple plan participants. A plan may be identified using a Plan ID. A plan may also be identified using a fund account number or a BIN, when a fund account corresponds to a single plan. For some intermediaries, the Plan ID may be the same as the BIN.

Plans will be of two types, those with participant investment direction and those without participant direction. In a plan with participant direction (such as 401(k) or 403(b)), the underlying participant will be the "shareholder" or "client" for purposes of this paper. In a plan without participant direction (such as a

Pension Plan or Defined Benefit Plan), the plan will be equivalent to the "shareholder" or "client" since the plan or its agent has the investment discretion.

Investor Omnibus Account

Investor omnibus accounts are retail accounts, IRAs, and other tax-deferred accounts, all of which are contained within a single account and represent multiple shareholders. The investor omnibus account may be identified using the investor omnibus account number, fund account number, or BIN when a fund account corresponds to a single investor omnibus account. For some intermediaries, the investor omnibus account number may be the same as the BIN.

Participant/Shareholder

These are the individual investors, which are also known as participants in a retirement account or shareholders in an omnibus or individual retail account. These terms are used interchangeably throughout this paper. Participants/Shareholders may be identified using an SSN or TIN.

The term "shareholder" is defined in the final Rule 22c-2 as "includes a beneficial owner of securities held in nominee name, a participant in a participant directed employee benefit plan, and a holder of interests in a master-feeder fund or an insurance company separate account organized as a unit investment trust. The term does not include a fund that relies on section 12(d)(1)(G) of the Act to invest in other funds in the same fund group. These funds often are used as conduits, allowing a shareholder to invest in multiple funds in the complex through a single fund. Although shareholders in the conduit fund may engage in abusive trading strategies, a conduit fund itself would appear to have little incentive to engage in such strategies because they may adversely affect another fund in the same complex. The definition of "shareholder" also excludes a section 529 account or the holder of an interest in such an account. The loss of tax benefits that a holder would incur as a result of changing investments more than once a year makes it unlikely that the holder would use a section 529 account for short-term trading."[1]

V.   Working Assumptions

Summary Data

It is recommended that only summary data be passed first for super omnibus accounts, which are comprised of multiple plans, trusts and/or investor omnibus accounts. This summary data will provide sufficient information to help the funds identify specific plans where trading is occurring frequently. The fund would then be able to request data at a plan/trust level and obtain detailed information about the underlying participants/shareholders. The same will apply to the investor omnibus accounts.

Detail Data

On super omnibus accounts that contain individual shareholder accounts along with multiple plans and investor omnibus accounts, the intermediary will provide detail information for the individual shareholders. In this situation, the response for the super omnibus account will contain both summary and detail data. Also, data requests at a plan or investor omnibus account level will always result in detail data. Lastly, when specific shareholder level information (e.g., SSN) is provided by the fund on an inquiry request, the intermediaries will provide detailed trading information for that shareholder to the fund.

Account Identifiers

Depending on the account setup, there may be several levels of data that can be retrieved, e.g., data at a super omnibus level, plan or investor omnibus account level, and individual shareholder level. The

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[1] See SEC Rule Filing on *Mutual Fund Redemption Fees,* 17 CFR Part 270 [Release No. IC-26782; File N. S7-11-04], RIN 3235-AJ17.

account identifiers tell the intermediary how to find the account and shareholder in question, and will determine the level of data that can be returned to the fund.

The identifiers include the fund account number, intermediary account number, plan ID, investor omnibus account number, and SSN/TIN. The identifiers will be used in the following manner:

- Super omnibus accounts will be identified only by fund/intermediary account number.
- Plan accounts will be identified only by fund/intermediary account number or by plan ID.
- Investor omnibus accounts will be identified only by fund/intermediary account number or by investor omnibus account number.
- Participants or shareholders will be identified only by SSN/TIN.

At a minimum, the intermediary or fund account number is required on a data request, but all account identifiers may be provided. When multiple fields are provided, the intermediary will identify the lowest level identifier and provide only that particular level's data.

For example, if a fund account number is provided and represents a super omnibus account number, and a Plan ID is also provided, then the Plan ID will be used. Only the participant level transactions for that particular Plan ID will be provided.

Another example is if a fund account number is provided and represents a Plan, and an SSN representing a participant is also provided, then the SSN will be used. Only the activity for that single participant will be provided.

Shareholder Recordkeeping
Intermediaries that provide shareholder level recordkeeping services often maintain and categorize participant level data based on the source of money (e.g., employee contribution, exchanges, loans, etc.). Transactions will be identified on the recordkeeping system according to the fund and source of money. For example, in a defined contribution plan where a shareholder, who has an outstanding loan, receives a company match, and makes contributions on a periodic basis via payroll deduction, the intermediary will record the following transactions per fund per contribution:

Credit – employee contribution, fund 1 -	$xx.00
Credit – employer match, fund 1 -	$xx.00
Credit – loan repayment – principal, fund 1 -	$xx.00
Credit – loan repayment – interest, fund 1 -	$xx.00
Debit – loan repayment – loan fund -	$xx.00

If these were the only shareholder transactions in the fund on a given day, the fund would see a trade for the aggregate of employee contribution, employer match and loan repayment (principal and interest). Where intermediaries net all trades (buy/sell, adjustments, etc.) from all participants into an omnibus account (which is commonly the case), aggregating the transaction types into a meaningful transaction to the fund will be performed based on the above noted definitions of the transaction types.

When requesting detailed data at a participant/shareholder level, it is also important to note the following about shareholder recording systems in the retirement arena:

- Most recordkeeping systems are built to offer an open investment platform and therefore do not differentiate between fund families. An exchange within a fund family will be recorded in the same manner as an exchange between un-related fund families.

- Transaction types can be both positive and negative. For example an employee contribution, which is commonly a credit to a participant, may also be processed as a negative, as in a situation where a prior period contribution was posted for an incorrect amount. The error is often corrected by posting a negative contribution to offset the prior contribution, thereby bringing the shareholder's account in balance.

- Adjustment transactions generally are difficult to classify as to whether they have been directed by the plan, rep, or shareholder since they are usually the result of an error at various levels (plan, intermediary or a combination of the two). Adjustment transactions generally have a unique transaction type that can be a debit or credit transaction.

- Recordkeeping systems do not generally differentiate if a transaction is initiated at the direction of an advisor.

- Transactions involving an automatic rebalancing of the account directed by an advisor or a systematic model will generally appear as a directed or category 1 transaction (see below).

- Exchanges can be from one to many funds, and are often transmitted to the funds as a buy and a sell as opposed to an exchange.

Category 1 and Category 2 Transactions
Data retrieved by the intermediary and returned to the fund is assumed to be classified as "Category 1" transaction data, unless otherwise specified. Category 1 transaction data will include transactions that are commonly considered to be participant/shareholder directed activity, and where investors may have sufficient control to perform market timing. A partial list of Category 1 transactions is shown below. This working assumption will help to reduce the amount of data that is retrieved and transmitted through the system.

When other data is needed, the fund may specify the data by using several other fields. The fund may request to retrieve certain combinations of Category 1 and Category 2 transaction data.

The initial list of transactions to consider and classify as Category 1 and Category 2 transaction types is shown below. A more extensive list of transaction types with their definitions is provided in the User Guide document, which may be found on NSCC's website, http://funds.dtcc.com.

Category 1 Buys:	**Category 2 Buys:**
Exchange in	Employee contribution
Transfers in	Employer contribution
Balance Reallocation-Buy	Additional contribution
	Loan repayment – principal
	Loan repayment – interest
	Forfeitures reallocated
	Adjustments
	Conversion balance transfer
	Non-discrimination refund

Category 1 Sells:	**Category 2 Sells:**
Exchange out	In-service distribution
Transfers out	Installment distribution

Balance Reallocation-Sell   Termination distribution
                                      Hardship withdrawals
                                      Lump sum distribution
                                      Adjustments
                                      Fees
                                      Forfeiture
                                      Conversion balance transfer

VI.   Proposed Enhancement

Enhancements to support the Rule 22c-2 will require that data at a shareholder or participant level be sent to the fund. The fund would then be able to determine whether frequent trading and market-timing is occurring for a particular shareholder.

The enhancement will define the systematic process and required standard data file(s) to request and transmit data for a specific date(s). Data on the shareholder's trading activity may be sent by the intermediary to the fund on an ad-hoc or daily scheduled basis. Regularly scheduled files (e.g., ongoing daily files) should be requested manually by the fund from the intermediary. The response files from the intermediary, whether they are as a result of a request done manually or through NSCC, may be sent through SDR.

This enhancement will also allow intermediaries to send information to funds at intervals agreed upon by both parties. This scheduled transmission of information will be initiated by a manual or verbal request.

Business Usage and Flow
The business process and interaction between the funds and intermediaries will vary based on the situation. Funds are expected to provide all the necessary information for the intermediaries to retrieve the underlying shareholder's information. This will result in detailed data being returned by the intermediary to the fund.

However, in cases where a super omnibus account is involved, the data fields that are provided by the fund in an ad-hoc inquiry request may not be detailed enough, and a comprehensive data response may produce a prohibitive amount of data. To avoid having to process this large amount of data for super omnibus accounts, "**Summary**" data will instead be provided.

The fund will be provided with high-level data regarding the plans or investor omnibus accounts that are combined into the super omnibus account. The fund will then be able to use the additional data from the Summary to send a more specific inquiry request (e.g., using a plan ID to limit the inquiry to the shareholders in that particular plan.)

Various types of requests will also be available that would make the inquiry request more specific. For example, an inquiry request may be sent for a particular rep/advisor or for a particular Fund/SERV control number. Data fields within the inquiry request file or message may also be used to provide additional parameters that the intermediaries will use as they run queries against their database.

In between a data request being submitted by the fund, and a data response being submitted by the intermediary, an **Acknowledgment Record** will also be sent by the intermediary. The acknowledgment record will provide an immediate response back to the fund and may indicate the approximate length of time that the intermediary will take to generate a data response back to the fund.

Below are examples of some of the expected business processes that may occur as funds submit requests to the intermediaries. **The first flowchart will illustrate all the detailed steps including rejects. The subsequent flowcharts will not show all the details, but the steps in the process will also apply**.

SDR Business Usage and Flow for Super Omnibus Accounts

Fund	NSCC	Firm

Step 1 for Super Omnibus Accounts

1. Data Request on Super Omnibus Account (Only Fund Account Number or Firm Account Number is provided)
2. NSCC Processing and Transmission
4. Intermediary Processing
5. Accept/Reject
3. Accept/Reject
A. Correct the File and Re-process
6. Prepare Acknowledgment File
10. Summary Data Response for Plans / Summary Data Response for Investor Omnibus Accounts / Detail Data Response for Individual Shareholders
B. Rejects from Intermediary
C. Correct the File and Re-Process
9. Acknowledgment Response
7. NSCC Processing and Transmission
11. Prepare Data Response File
12. Summary and Detail Responses for Super Omnibus Accounts
8. Accept/Reject
D. Correct the File and Re-Process

Super Omnibus Account Data Request
1. A fund is requesting data and provides only the fund account number or intermediary account number (BIN) as the account identifier. Other required data is provided. Additional optional data may be used to refine the query.
2. The fund transmits to NSCC. NSCC receives and processes the information from the fund.
3. NSCC may reject or accept the information.
   A. If NSCC rejects, then it returns reject records on the next output transmission cycle to the fund. The fund may correct and reprocess the file. Go to Step #1.
4. NSCC transmits accepted information to the intermediary. The intermediary receives and processes the file.
5. The intermediary may do some initial validation and may immediately reject the file, or accept and continue to process the file.

B. If the intermediary rejects, then it transmits reject records on the next input cycle to NSCC. NSCC runs the typical processing and validation on the file and forwards the reject to the fund. The fund may correct and reprocess the file. Go to Step #1.

6. The intermediary continues to process accepted request information. As a first response in the process, the intermediary prepares an Acknowledgment file. At the same time, the intermediary continues to process the request (see step #10).

7. The intermediary transmits a data file to NSCC. NSCC receives and processes the information.

8. The file goes through the typical NSCC processing and validation.

C. If NSCC rejects, then it returns reject records on the next output transmission cycle to the intermediary. The intermediary must correct and reprocess the file. Go to Step #6.

9. NSCC transmits the accepted Acknowledgment to the fund. The fund receives and processes the information.

10. The intermediary continues to process the data request from the fund. At any time, the intermediary may reject the request (go to B). As the intermediary continues to process the information, the intermediary determines that the account is a super omnibus account.

- The intermediary identifies the plan IDs and investor omnibus account numbers within the super omnibus account and prepares only the corresponding **Summary** data.
- The intermediary may also identify individual shareholder accounts within the super omnibus account and prepares the corresponding **Detail** data.

11. The intermediary prepares all the summary and detail data in one file to NSCC. Follow step #7 and #8 in transmitting data to NSCC.

D. If NSCC rejects, then it returns reject records on the next output transmission cycle to the intermediary. The intermediary must correct and reprocess the file. Go to Step #11.

12. NSCC transmits accepted response information (i.e., summary and detail data) to the fund.

NSCC will modify the trailer record being sent to the fund to include the number of accepted and rejected summary/detail records. This will allow the fund to know whether they received a complete set of data for their data request.

Fund processes information, and may determine that it will need detail information for plan(s) and investor omnibus account(s) identified in the summary data.

Acknowledgments from the Intermediaries to the Fund will be required for each NSCC SDR Request submitted through the system. NSCC will send a "Reminder" to both the Fund and Intermediary for Requests with SDR Control Numbers that have not been acted upon with an Acknowledgment record or a Reject record.

Reminders will be sent for a period of 10 business days. After this timeframe, the SDR Control Numbers will be deleted from the system.

```
┌─────────────────────────────────────────────────────────────────────────────┐
│ SDR Business Usage and Flow                                                   │
├───────────┬───────────────────┬───────────────────┬───────────────────────┤
│           │      Fund         │      NSCC         │        Firm           │
```
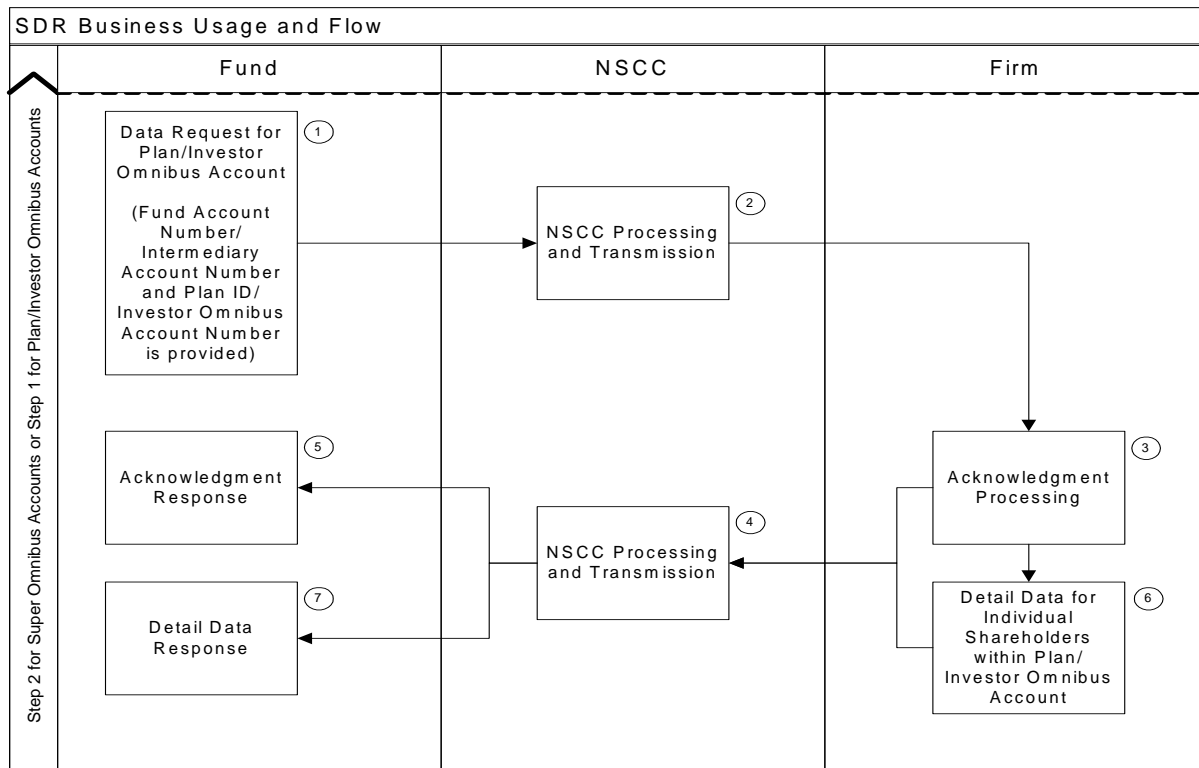

Subsequent Request After Summary Data is Returned by Intermediary – or –
Plan/Investor Omnibus Account Data Request

1. The fund sends additional requests to retrieve detail data for the plan(s)/investor omnibus
    account(s). Separate requests are submitted for each plan or investor omnibus account. This type of
    request may also be used for separate and unrelated requests of data at a plan/investor omnibus
    account level.
    •   The fund uses the fund account number/BIN and the plan ID or investor omnibus account
        number as the account identifiers. The fund provides plan ID to identify a plan, or the investor
        omnibus account number to identify the investor omnibus account.
2. The fund transmits to NSCC. NSCC receives and processes the information from the fund. NSCC
    may reject or accept the information.
    •   NSCC returns rejects to the fund.
    •   NSCC transmits accepted information to the intermediary.
3. The intermediary receives and processes the file.
    •   The intermediary may do some initial validation and may immediately reject the file or
        continue to process the file.
    •   The intermediary returns rejects to NSCC.
    •   The intermediary continues to process accepted information. As a first step in responding to
        the fund, an Acknowledgment file is prepared by the intermediary. At the same time, the
        intermediary begins to retrieve the necessary information to respond to the request (see step
        #6).
4. The intermediary transmits to NSCC. NSCC receives and processes the information..
5. NSCC transmits valid acknowledgments to the fund. The fund receives and processes the
    acknowledgment response.
6. The intermediary processes the request from the fund.
    •   The intermediary determines that the lowest level account identifier is the plan ID/investor
        omnibus account number.

- The intermediary retrieves and prepares detailed shareholder information for the plan/investor omnibus account.
- Follow step #4 for the intermediary transmitting data to NSCC.

7. NSCC transmits valid detail information to the fund.

NSCC will modify the trailer record being sent to the fund to include the number of accepted and rejected summary/detail records. This will allow the fund to know whether they received a complete set of data for their data request.

Fund processes information, and may determine that it will need to track a particular shareholder or rep.

Acknowledgments from the Intermediaries to the Fund will be required for each NSCC SDR Request submitted through the system. NSCC will send a "Reminder" to both the Fund and Intermediary for Requests with SDR Control Numbers that have not been acted upon with an Acknowledgment record or a Reject record.

Reminders will be sent for a period of 10 business days. After this timeframe, the SDR Control Numbers will be deleted from the system.

SDR Business Usage and Flow

Shareholder or Rep Data Request

Fund	NSCC	Firm
Shareholder or Rep Data Request (1)	NSCC Processing and Transmission (2)	
		Acknowledgment Processing (3)
Acknowledgment Response (5)	NSCC Processing and Transmission (4)	
Detail Data (7)		Detail Data for a Specific Shareholder - or - for all related activity for a Rep (6)

Shareholder Data Request

1. The fund is requesting data at a shareholder level. This particular example is for request marked as recurring to allow the fund to monitor the shareholder's ongoing trading activity.
   - The fund uses the fund account number/BIN, plan ID or investor omnibus account number (optional), and a specific SSN/TIN.
2. NSCC receives and processes the information. Validation process occurs.
3. NSCC routes to the intermediary. As a first step, an acknowledgment file is prepared.
4. The intermediary transmits to NSCC, which receives and processes the information.
5. NSCC transmits to the fund. The fund processes the acknowledgment file.
6. Concurrent with step #4, the intermediary begins to retrieve the response information.

- The intermediary determines that the lowest level account identifier is the SSN/TIN and will provide only the trading activity for that particular SSN/TIN.
- The request is marked as recurring, which means that daily trading activity will be sent on an ongoing basis until the request is stopped.
- The intermediary retrieves and prepares detail shareholder information each day.
- Follow step #4 for the intermediary transmitting data to NSCC.

7. The intermediary transmits detail information to NSCC each day. NSCC passes to the fund each day.

NSCC will modify the trailer record being sent to the fund to include the number of accepted and rejected summary/detail records. This will allow the fund to know whether they received a complete set of data for their data request.

- The fund processes information and monitors the shareholders activity for a period of time.
- At some point determined by the fund, it will send a request to stop the original recurring request.

Acknowledgments from the Intermediaries to the Fund will be required for each NSCC SDR Request submitted through the system. NSCC will send a "Reminder" to both the Fund and Intermediary for Requests with SDR Control Numbers that have not been acted upon with an Acknowledgment record or a Reject record.

Reminders will be sent for a period of 10 business days. After this timeframe, the SDR Control Numbers will be deleted from the system.

Rep Data Request
1. The fund is requesting data at a Rep level. This request is marked as recurring to allow the fund to monitor the Rep's ongoing trading activity.
   - The fund uses the fund account number/BIN, plan ID or investor omnibus account number, and the Registered Representative (RR) number, RR branch, and RR intermediary.
2. NSCC receives and processes the information. Validation process occurs.
3. NSCC routes to the intermediary. As a first step, an acknowledgment file is prepared.
4. The intermediary transmits to NSCC, which receives and processes the information.
5. NSCC transmits to the fund. The fund processes the acknowledgment file.
6. Concurrent with step #4, the intermediary begins to retrieve the response information.
   - The intermediary determines that the lowest level account identifier is the plan ID/investor omnibus account number, 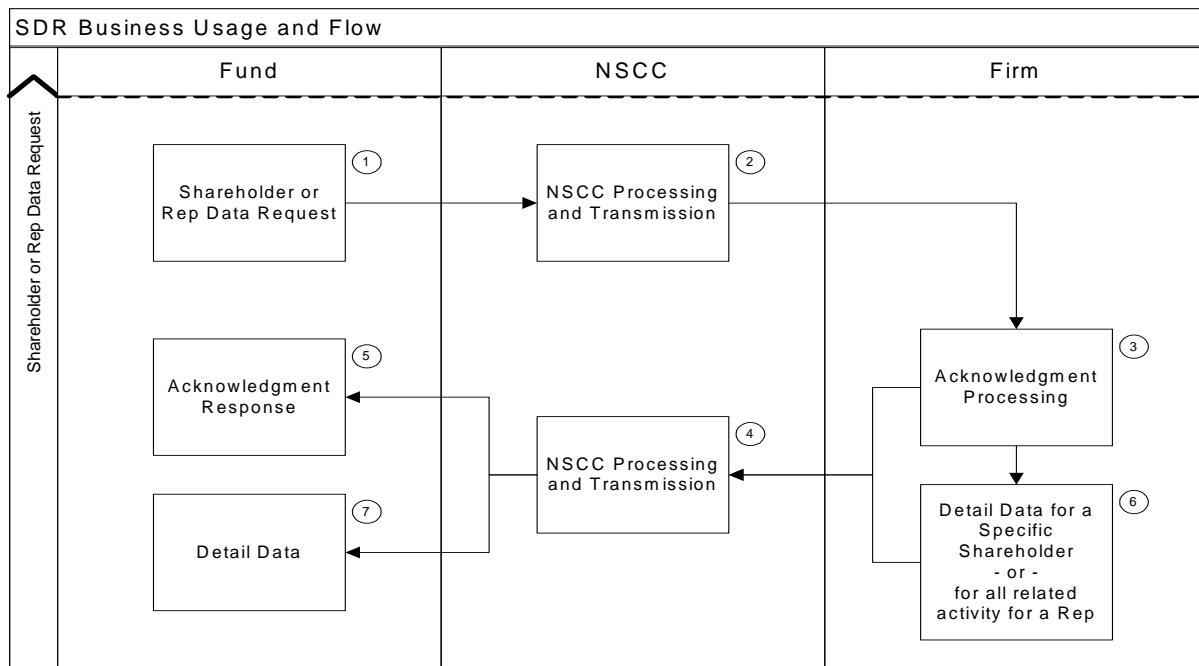but the RR information is provided. This means that only the trading activity within the plan that is associated with the particular RR will be provided to the fund.
   - The intermediary retrieves and prepares detail shareholder information related to a RR each day.
   - Since the request is marked as recurring, daily trading activity will be sent on an ongoing basis until the request is stopped.
   - Follow step #4 for the intermediary transmitting data to NSCC.
7. The intermediary transmits detail information to NSCC each day. NSCC passes to the fund each day.

NSCC will modify the trailer record being sent to the fund to include the number of accepted and rejected summary/detail records. This will allow the fund to know whether they received a complete set of data for their data request.

- The fund processes information and monitors the Rep's related activity for a period of time.
- At some point determined by the fund, it will send a request to stop the original recurring request.

Note that the previously described request types may also be made for historical information.

Acknowledgments from the Intermediaries to the Fund will be required for each NSCC SDR Request submitted through the system. NSCC will send a "Reminder" to both the Fund and Intermediary for Requests with SDR Control Numbers that have not been acted upon with an Acknowledgment record or a Reject record.

Reminders will be sent for a period of 10 business days. After this timeframe, the SDR Control Numbers will be deleted from the system.

Other Request Types or Using Other Search Parameters on a Request
The fund will be allowed to use the various request types, such as fund account number level, plan level, rep level, or Fund/SERV Control Number.

The request types will be used as the initial indication of the inquiry request, but the data that is actually provided on the request will be the ultimate driver of the type or level of the request. For example, a fund account level request that also contains SSN info will result in shareholder level information rather than fund account level information.

Other data fields may also be provided by the fund and will be used by the intermediary as additional search parameters. For example, since Category 1 transaction information is the assumed default search parameter, funds may use the "Includes Category 2 Transactions" field to indicate that it is requesting both Category 1 and Category 2 transactions. Other search parameters include from/to dates, transaction types, and threshold amounts.

Systems Processing Flow
Two different interfaces will be used to support this enhancement. In the first phase of implementing the full SDR functionality, http(s) protocols will be used for input of XML messages for fund data requests only, and ftp/ndm will be used for input and output of flat files. For the first phase, output files (e.g., NSCC-accepted data requests from funds going to intermediaries, shareholder trading data and reject records) will not be provided through the http(s) facility, and will only go out as flat files on mainframe. **A potential second phase would develop functionality to allow limited-sized XML output messages through the http(s) facility.**

The transmission of ftp input files is proposed to be done three times every Monday through Friday, at 9 a.m., 12 noon, and 3 p.m. ET. Output will be sent from NSCC by 10 a.m., 1 p.m., and 4 p.m. ET, Monday through Friday for the respective input files. Processing on Saturday will also be available, and will occur at 9/10 a.m., 12/1 p.m., **2/3 p.m.** (input/output). This will be subject to change based on the needs established during pilot testing, and by NSCC systems infrastructure.

The http(s) facility's availability hours are contingent on the Fund/SPEED hours of operation. Currently, it is available daily from 2 am to midnight ET, but with exceptions for maintenance. Submission of data request messages through the http(s) facility will also be subject to the mainframe processing schedule for routing through NSCC.

The flowchart below shows the process for both http(s) and ftp/ndm.

SDR Data Request and Response

Fund
- XML Input for Data Request
- Mainframe Input for Data Request
- Mainframe Output of Acknowledgment
- Mainframe Output of Data Response

NSCC
- Fund/SPEED Process and Conversion
- DataTrak/ Autoroute
- Datatrak/ Autoroute

Firm
- Mainframe Output
- Acknowledgment Processing
- Mainframe Input for Acknowledgment
- Data Retrieval
- Mainframe Input for Data Response

Process Flow using ftp (batch) on data request input/output and response input/output
1. Fund sends a data request to NSCC during the acceptable input timeframe.
2. NSCC does a preliminary validation, which will result in accepted or rejected records.
3. NSCC stages the records to the appropriate destination and output files.
4. At the appropriate output time, NSCC sends rejects back to the fund and accepted records to the intermediaries. (Other records may also be sent to the intermediaries and funds as part of the output file.)
5. The intermediary will take the data request records and may run some preliminary validation, which will result in accepted or rejected records.
6. If intermediary rejects, then the reject record will be submitted to NSCC during the input timeframe. NSCC will pass back to the fund in the output file.
7. If intermediary accepts, then it will process the request. The first step is for the intermediary to prepare and submit an Acknowledgment to NSCC during the appropriate input timeframe. NSCC will pass to the fund in the output file.
8. The process to retrieve the data may take some time and may result in a reject or a response with data.
9. The intermediary will send reject records or data response record to NSCC.
10. NSCC does a preliminary validation, which will result in accepted or rejected records.
11. At the appropriate output time, NSCC sends rejects back to the intermediary and accepted data records to the funds. (Other records may also be sent to the intermediaries and funds as part of the output file.)

NSCC will modify the trailer record being sent to the fund to include the number of accepted and rejected summary/detail records. This will allow the fund to know whether they received a complete set of data for their data request.

12. NSCC will send Reminders each day for a period of 10 processing days as long as an SDR Request Control Number has not been acted upon with an Acknowledgment or Reject record. After 10 processing days, the Reminders will no longer be sent. Acknowledgment, Reject, and Response records may still be sent even after the Reminders are discontinued.

Process Flow using http(s) on data request input, ftp (batch) on data request output, and ftp (batch) on data response input/output
1. Fund sends a data request to NSCC.
2. NSCC does a preliminary validation.
3. To complete http(s) session, NSCC responds with acknowledgment or reject (if the request does not pass validation.)
4. NSCC converts the XML file into a flat file.
5. NSCC sends the file into Datatrak/Autoroute.
6. NSCC stages the records to the appropriate destination and output files.
7. At the appropriate output time, NSCC sends the data request records to the intermediaries. (Data records and intermediary reject records may also be sent to the funds as part of the output file.)
8. The intermediary will take the data request records and may run some preliminary validation, which will result in accepted or rejected records.
9. If intermediary rejects, then the reject record will be submitted to NSCC during the input timeframe. NSCC will pass back to the fund in the output file.
10. If intermediary accepts, then it will process the request. The first step is for the intermediary to prepare and submit an Acknowledgment to NSCC during the appropriate input timeframe. NSCC will pass to the fund in the output file.
11. The process to retrieve the data may take some time and may result in a reject or a response with data.
12. The intermediary will send reject records or data response record to NSCC.
13. NSCC does a preliminary validation, which will result in accepted or rejected records.
14. At the appropriate output time, NSCC sends rejects back to the intermediary and accepted data records to the funds. (Other records may also be sent to the intermediaries and funds as part of the output file.)

    NSCC will modify the trailer record being sent to the fund to include the number of accepted and rejected summary/detail records. This will allow the fund to know whether they received a complete set of data for their data request.

15. NSCC will send Reminders each day for a period of 10 processing days as long as an SDR Request Control Number has not been acted upon with an Acknowledgment or Reject record. After 10 processing days, the Reminders will no longer be sent. Acknowledgment, Reject, and Response records may still be sent even after the Reminders are discontinued.

Process Flow using https(s) on both data request input/output and response input/output – **Potential Second Phase**
1. Fund sends a data request to NSCC.
2. NSCC does a preliminary validation.
3. To complete http(s) session, NSCC responds with acknowledgment or reject (if the request does not pass validation.)
4. NSCC passes accepted requests to Intermediary, which may run some preliminary validation.
5. Intermediary must complete the http(s) session by acknowledging or rejecting the request.
6. If Intermediary rejects, then NSCC will create an http(s) session with the fund and pass the Intermediary reject.

7. If intermediary accepts, then it will process the request. The process to retrieve the data may take some time and may result in a reject or a response with data.
8. If intermediary ultimately rejects after attempting to process as described in #7, then it will send a reject message to NSCC. Go to #6.
9. If intermediary accepts, and the data can be passed through the http(s) process, then the intermediary will send the data to NSCC.
10. NSCC does a preliminary validation on the data message.
11. To complete http(s) session, NSCC responds with acknowledgment or reject (if the data message does not pass validation.)
12. NSCC will create an http(s) session with the fund and pass the data message.
13. NSCC will send Reminders each day for a period of 10 processing days as long as an SDR Request Control Number has not been acted upon with an Acknowledgment or Reject record. After 10 processing days, the Reminders will no longer be sent. Acknowledgment, Reject, and Response records may still be sent even after the Reminders are discontinued.

SDR Inquiry Request Data (Sent by Funds to Intermediaries)
Data on the shareholder's trading activity may be sent by the intermediary to the fund on a regularly (daily) scheduled basis. Regularly scheduled files will be coordinated between the intermediary and fund, and may be sent through the facility being created at NSCC.

This enhancement concept also proposes to allow the funds to request data at an ad-hoc basis from the intermediary. The inquiry request data described below will be included in the SDR Data Request file (F20) or the SDR Request XML message (SDR.xsd). The file and XML message are provided later in this paper.

Various types of requests have been defined and will be used through NSCC.

Data Request Types
1. Fund Account Level
2. Plan Level
3. Investor Omnibus Account Level
4. Fund/SERV Control Number Request
5. Rep Level
6. Stop Recurring

The format for the fund request input file/message will be the same, but different data will be necessary based on the requests. The request types will indicate which additional data field will be used to refine the queries that the intermediary will run on their database to extract data. Additional search criteria may also be included such as threshold amount, Security Issue ID, and transaction type.

The data that may be found on the request include:

Inquiry Request Data Definitions

Data Elements	Definitions/Comments
SDR Control Number	**Algorithm = ppppyjjjnnnnnnn** pppp = Fund's Participant Number y = Last digit of year jjj = Julian Date nnnnnnn = Unique sequential number assigned by fund
Request Type	Required. Identifies the request or response type with the corresponding

	data. 01 = Fund Account Level 02 = Plan Level 03 = Investor Omnibus Account Level 04 = Fund/SERV Control Number Request 05 = Rep Level 06 = Stop Recurring
Fund Number	4 N. Required. Requesting Fund's NSCC Participant Number.
Firm Number	4 N. Required. Target Intermediary's or Firm's NSCC Participant Number.
Underlying Firm	4 A/N. Optional. The Firm Number field above may be a first-tier Intermediary and the Underlying Firm would then be the second-tier intermediary; OR – The Firm Number may be a Service Provider's NSCC Participant Number, and the Underlying Firm would be the first or second-tier intermediary's ID number (that is using a service provider for the purpose of supporting the SDR functionality.) The underlying firm's number may be the NSCC member or DSO number, the OTC symbol, or the "BTRK Number," see Underlying Firm Indicator.
Underlying Firm Indicator	Optional/Conditional. Required when Underlying Firm is provided. May be used to qualify the underlying Firm identifier that is being used in the field above. 01 = NSCC Number 02 = OTC Symbol 03 = BTRK Number (Bank, Trust, Recordkeeper Number)
Security Issue ID	9 A/N. Required. Requesting fund's Security Issue ID number. Will be used to retrieve data for a specific Security Issue ID.
Recurring Indicator	Optional. May be used to request **daily** data to be sent on an ongoing basis. 0 = No 1 = Yes **"No" or a space** means a one-time request. "Yes" means daily data is to be sent indefinitely until a "Stop Recurring" request type is sent. Note that the "From Date" should be the current date; however, the intermediary will process the request as a recurring request beginning on the date that it receives the request.

The account identifiers tell the intermediary how to find the account in question. The identifiers include fund account number, firm account number, plan ID, investor omnibus account number, and SSN/TIN.

At least the firm or fund account number is required but all account identifiers may be provided. When multiple fields are provided, the Intermediary should identify the lowest level identifier and provide only that particular level's data.

For example, If a fund account number is provided and represents a super omnibus account number, and a Plan ID is also provided, then the Plan ID within that particular position will be used. Only the participant level transactions for that particular Plan ID will be provided.

Another example is when a fund account number is provided and represents a Plan, and an SSN representing a participant is also provided, then the SSN will be used. Only the activity for that single participant within the designated plan will be provided.

The identifiers will be used in the following manner.

- *Super omnibus accounts will be identified only by fund/firm account number.*
- *Plan accounts will be identified only by fund/firm account number or by plan ID.*
- *Investor Omnibus Accounts will be identified only by fund/firm account number or by investor omnibus account number.*
- *Participants or shareholders will be identified only by SSN/TIN.*

Fund Account Number	20 A/N. Optional/Conditional. Required if Firm Account Number is not provided. Refers to the account number that is set up by the fund. Fund account numbers should provide only the core account number, and should not include the fund number. The fund number should be derived from the Security Issue ID, similar to the numbers used on Fund/SERV.
Firm Account Number (e.g., BIN)	20 A/N. Optional/Conditional. Required if Fund Account Number is not provided. Refers to the account number that is set up by the intermediary.
Plan ID **Should be provided to go to a Plan Level.**	20 A/N. Optional. May be used to retrieve data only for a specific plan. Defined as the retirement Plan's ID as assigned by the recordkeeper.
Investor Omnibus Account Number **Should be provided to go to an Investor Omnibus Account Level.**	20 A/N. Optional. May be used to retrieve data only for a specific investor omnibus account.
SSN/TIN **Should be provided to go to a specific Participant Level.**	9 N. Optional. Defines the social security number or tax identification number of the underlying shareholder.
From Date	mm/dd/ccyy. Required. Current date or earlier date parameter for requested data. Defined as the NAV date. Should be current date for recurring request. Post-dated requests are not allowed; however, NSCC will not validate the date field. See also Recurring Indicator.
To Date	mm/dd/ccyy. Optional. Later date parameter for requested data. Defined as the NAV date.

Transaction Type	Optional. May be used to retrieve data only for a specific transaction type. Defines the transaction that the underlying shareholder has requested on the account. The transaction types will be limited to: 01 = Buy 02 = Sell
	Transactions are assumed to be Category 1 transaction types as defined earlier in this paper, unless otherwise specified. See "Category 1 and Category 2 Transactions" in Section V for examples of the respective transactions.
	Space means that the query is for all available transactions, which would include transfers.
Threshold Amount	99,999,999,999,999.99. Optional. May be used to retrieve data only with a minimum net money amount.
	Generally defined as gross but recordkeepers may only be storing net amounts.
Includes Category 2 Transactions (Y/N)	Optional. May be used to retrieve both Category 1 and Category 2 data.
	"0" is requesting the Category 1 transactions only (default) and "1" is requesting all transactions (i.e., both Category 1 and Category 2 transactions.
	0 = No 1 = Yes
	Category 2 transactions may only be retrieved **along with Category 1** transactions. **Category 2 transactions cannot be requested separately.**
	SPACE will be considered 0 = No. If YES, then Category 2 transactions will <u>also</u> be provided by the intermediary (i.e., along with Category 1 transactions).
Registered Representative (RR) Number	9 A/N. Optional/Conditional. Required when Request Type is 5 = Rep Level.
	Refers to the Registered Rep's number. Equivalent to the number that would be sent via Fund/SERV.
RR Branch	9 A/N. Optional. Branch ID to which the RR is associated.
RR Firm (Not Clearing/Correspondent Relationship)	8 A/N. Optional. The ID number of dealer to which the RR is associated. This field should not be used for the correspondent in a clearing firm relationship. Should not be used if the same as Firm Number, see above.
Fund/SERV Control Number	15 A/N. Optional. May be used to retrieve data only for a specific Fund/SERV Control Number.
Original SDR Control Number	Optional. May be used for a stop of a recurring request. May also be used in the future on situations where original SDR control number is needed.
	Algorithm = ppppyjjjnnnnnnn
	pppp = Fund's Participant Number y = Last digit of year jjj = Julian Date nnnnnnn = Unique sequential number assigned by fund

SDR Acknowledgment Data

The initial response from the Intermediary to the fund will be an Acknowledgment. The acknowledgment will be a proactive indication from the Intermediary that it has received the request from the fund, and will be considered the point on which Intermediary response time to requests will be based. The Acknowledgment may also be used by the Intermediary to indicate the approximate amount of time that it will take to generate a data response back to the fund. It contains a number of fields that are specific to the record and are described below.

Data Elements	Definitions/Comments
Anticipated Response Date	mmddccyy. Optional. Provides the date in which the Intermediary anticipates that the response data will be provided to the fund.
Anticipated Response File Frequency	Optional. Indicates whether the Intermediary will provide the data response in a single complete file or in multiple partial files, if it can be determined. 0 = Full Response 1 = Partial Response
Acknowledgment Indicator	Required. 0 = Response will be Provided 1 = Request will be Forwarded to the Underlying Firm
Underlying Firm	4 A/N. Optional. Provides the Underlying Intermediary that may be involved in providing requested data.
Underlying Firm Indicator	Optional/Conditional. Required when Underlying Firm is provided. May be used to qualify the underlying Firm identifier that is being used in the field above. 01 = NSCC Number 02 = OTC Symbol 03 = BTRK Number (Bank, Trust, Recordkeeper Number)

SDR Response Data (Sent by Intermediaries to Funds)

It is important to note that there are various levels that can be identified in certain account types such as super omnibus accounts. For example, a super omnibus account, identified by a fund account number or BIN (fund account level), may contain assets from multiple retirement plans (plan level), and in turn, each plan contains multiple participants or underlying shareholders (participant level).

Due to this complexity, the activity and corresponding amount of data in these accounts may be significantly more than in regular omnibus accounts. In order to control the volume of data that could potentially be extracted and sent to the fund for these super omnibus accounts, it will be important to request data at an appropriate level.

When a request is submitted against a super omnibus account, it is expected that summary data will be returned by the intermediary to the fund for plans or investor omnibus accounts that are contained within the super omnibus account. Detailed information may also be sent for individual shareholder accounts that are a part of the super omnibus account.

The summary data will provide sufficient information to help the funds identify specific plans or investor omnibus accounts where trading is occurring frequently. The fund would then be able to request data at a

plan level or investor omnibus account level, and obtain detailed information about the underlying participants/shareholders.

The grid below, **Response Data Definitions**, shows data that may be sent by the intermediary to the fund. Files sent on a regular daily schedule will be coordinated between the intermediary and fund, and may be sent through the facility being created at NSCC. Ad-hoc requests, including recurring daily requests, will be supported using the SDR Data Request file or schema.

The data listed below will be required to provide details on the shareholder's trading activity. It may be used at a plan/investor omnibus account level or for a specific participant/shareholder.

*Note: This grid does not provide data elements for summary data. A separate list of data is provided for the Summary, which is described in **Section X, under SDR Summary (25).***

Response Data Definitions

Data Elements	Definitions/Comments
This is the high level data that identifies the request from the fund (SDR Control Number) and the account to which the data belongs. For retirement accounts, multiple plans and/or participants may exist under a single account.	
SDR Control Number	Required. **This is the control number assigned by the fund, see SDR Control Number in Request Data Definitions.** **Or, this is the same as the SDR Response Number, see below, for a response provided against a request made outside of NSCC.**
SDR Response Number	Required. **Algorithm = ppppyjjjnnnnnnn** pppp = Firm's Participant Number y = Last digit of year jjj = Julian Date nnnnnnn = Unique sequential number assigned by firm Used to identify the SDR response, either to an SDR request via NSCC or a request done ex-NSCC.
Response Type	Required. Immediately identifies the level of data. 01= Summary Level 02 = Detail Level 03 = Both Summary and Detail The record layout field will also include the following to identify acknowledgments and rejects. 04 = Acknowledgment 05 = Firm Reject
Fund Number	4 N. Required. Fund's NSCC Participant Number.
Firm Number	4 N. Required. Intermediary's NSCC Participant Number.
Underlying Firm	4 A/N. Optional. The Firm Number field above may be a first-tier Intermediary and the

	Underlying Firm would then be the second-tier intermediary; OR – The Firm Number may be a Service Provider's NSCC Participant Number, and the Underlying Firm would be the first or second-tier intermediary's ID number (that is using a service provider for the purpose of supporting the SDR functionality.) The underlying Firm's number may be the NSCC member or DSO number, the OTC symbol, or the "BTRK Number," see Underlying Firm Indicator.
Underlying Firm Indicator	Optional/Conditional. Required when Underlying Firm is provided. May be used to qualify the underlying firm identifier that is being used in the field above. 01 = NSCC Number 02 = OTC Symbol 03 = BTRK Number (Bank, Trust, Recordkeeper Number)
Fund Account Number	20 A/N. Optional/Conditional. Required if Firm Account Number is not provided. Refers to the account number that is set up by the fund.
Firm Account Number (e.g., BIN)	20 A/N. Optional/Conditional. Required if Fund Account Number is not provided. Refers to the account number that is set up by the intermediary.
Security Issue ID (From/Sell Side on Exchange)	9 A/N. Required.
Partial Response Indicator	Optional. Used to identify whether the file provides complete information for a data request. 0 = Full Response/Final Response 1 = Partial Response Space will be considered 0 = Full Response. 0 = Full/Final Response means the file is a full response to a request, or the last of multiple files that have been previously sent. The multiple files will come when intermediaries respond to a request with large data, and choose to break up the data into multiple files. 1 = Partial Response means there will be additional files to come. May be used for a recurring file. Note that recurring requests will not be followed by a "final response" because the intermediary will simply stop sending the data. The intermediary will not be able to know that a file is final before the transmission of current recurring data response.

This is the detail/transaction data, which will be generally sorted at the high level account (e.g., Plan ID), then at the participant level (e.g., SSN/TIN), then Trade Date (if multiple is requested), and finally by transaction type. This record will be repeated for each of the sort criteria, e.g., Plan ID, when more than one plan exists for the fund account.

Regardless of the request type, the sort on the data sent to the fund should be the same so that the same file layouts may be used.

Plan ID	20 A/N. Optional/Conditional. Required if Investor Omnibus Account Number is not provided. Plan's ID as assigned by the recordkeeper.
Plan Name	35 A/N. Optional. Retirement Plan's Name.
Investor Omnibus Account Number	20 A/N. Optional/Conditional. Required if Plan ID is not provided. This is the account number for the investor omnibus account, as assigned by the Intermediary.
SSN/TIN	9 N. Required. Defines the social security number or tax identification number of the underlying shareholder.
SSN/TIN Indicator	Required with SSN/TIN. This indicator is equivalent to the indicator found on Fund/SERV. The values include: 1 = TIN 2 = SSN 3 = Investor's TIN
Customer Name	35 A/N. Optional. The customer name refers to the SSN/TIN that is provided.
NAV Date	mm/dd/ccyy. Required. Date of NAV pricing for the transaction.
Contra Security Issue ID (To/Buy Side on Exchange)	9 A/N. Required only on Exchanges.
Transaction Type	Required. Defines the transaction that the underlying shareholder has requested on the account. The transaction types will be limited to: 01 = Buy 02 = Sell 03 = Exchange (Intra-Fund Buy Side) 04 = Exchange (Intra-Fund Sell Side) 05 = Transfer Transactions are assumed to be Category 1 transaction types as defined earlier in this paper, unless otherwise specified. See "Category 1 and Category 2 Transactions" in Section V for examples of the respective transactions.
Transaction Code	Optional. Used to indicate detailed/specific transaction codes that fall under the respective Transaction Types. **See list in Record Layouts.**
Trade Net Amount Due	99,999,999,999,999.99. Required. The net amount that was settled for the trade.
Trade Share Amount	9,999,999,999.9999. Required.
Price on Trade	999,999.999999. Required. Defined as the price applied to the particular trade.
STR Fee Amount	999,999.99. Optional. Defines the fee paid on a transaction. Will indicate whether or not fees are being assessed by the recordkeeper/intermediary.
CDSC Amount	999,999.99. Optional. Defines the CDSC paid on a transaction.
Transaction ID	20 A/N. Optional. E.g., Record-keeper transaction/reference ID number.
RR Number	9 A/N. Optional. Registered rep's number. Equivalent to number that would be sent via Fund/SERV.
RR Branch	9 A/N. Optional. Branch ID to which the RR is associated.
RR Firm (Not Clearing/Correspondent Relationship)	8 A/N. Optional. The ID number of dealer to which the RR is associated. This field should not be used for the correspondent in a clearing firm relationship. Should not be used if the same as Firm Number, see above.
Agent for Firm Number	4 A/N. Optional. The introducing firm or correspondent if a clearing relationship exists.

	This firm is the middle level firm between the intermediary and the RR Firm. For example, on a super omnibus account, XYZ Firm controls the super omnibus account and processes for AZ123 Clearing (who is the Agent for Firm). The agent for firm then clears for the RR firm (e.g., ABC Advisors).
Transaction Category	Required. Indicates whether the transaction is Category 1 or Category 2. See User Guide for list and definitions of transactions, and their category classification. 1 = Category 1 2 = Category 2
Transaction Source	Optional. Defines the source that directed the transaction. 0 = Participant/Shareholder 1 = Plan/Administrator 2 = Rep 3 = Firm Cannot Differentiate
Correction Indicator	0 = Regular File 1 = Correction File May be used to correct data that was previously sent. The correction indicator applies to the response for a particular SDR request, identified by a control number and ideally "SDR Response Number" for a particular date (e.g., for historical or recurring). The records contained within this Main Header should replace and overwrite the original records. Space will be considered 0 = Regular File.

Reject Records/Exception Processing

NSCC may reject records that do not comply to the record layouts, the schemas, and the syntax and validation rules contained within these specification documents. NSCC will create the necessary reject codes relating to the data fields and rules. The codes will be provided to users during the systems design phase.

Intermediaries may also reject the data requests from the funds for various reasons. The following are the initial set of reject reasons that have been identified and will be used in the system.

1. Control Number Not Found
2. Plan ID/Firm Account Missing/Invalid/Not Found
3. SSN/TIN Invalid/Not Found
4. Invalid Request Type for Account
5. Account is Non-Omnibus (Single Shareholder)
6. Named Firm Does Not Have Information
7. Search Parameter on Request Not Supported

NSCC Sorting

NSCC will not require nor validate any particular sorting order on the input files submitted to NSCC. However, NSCC will sort the output to the recipients based on the following criteria.

1. Recipient Number

2. Recipient Type
3. Security Issue ID
4. SDR Control Number
5. Record Type within a group (i.e., within a header and trailer group)

Guidelines for Search Criteria and Data Sorting
The criteria and sorting order that will be used by the intermediary in performing the search on their systems will be the following. This same order should be used to submit the information to NSCC. **This is only a guideline and will not be enforced by NSCC. See above, for NSCC Sorting.**

1. **Fund/Security Issue ID**

2. **Account Identifier –** The lowest level account identified from the following fields will be used.

    - Fund Account Number or Firm Account Number
    - Plan ID or Investor Omnibus Account Number
    - SSN/TIN

For example, if a fund account number is provided and represents a super omnibus account number, and a Plan ID is also provided, then the Plan ID within the position will be used. Only the participant level transactions for that Plan ID will be provided.

Another example is when a fund account number is provided and represents a Plan, and an SSN representing a participant is also provided. In this example, the SSN within the Plan will be used and only the activity for the single participant will be provided.

3. **Trade Date**

4. **Transaction Type**

The query on the intermediary's systems should result in Summary data or Detail data sorted with the following sample structure:

– **Firm/Fund/Security Issue ID**
    – Super Omnibus Fund Account Number/Plan ID or Investor Omnibus Account Number
        – **SSN/TIN (Shareholder 1)**
            – <u>Trade Date 1</u>
                – Trans Type (Buy)
                – Trans Type (Sell)
                – …
            – <u>Trade Date 2</u>
                – Trans Type (Buy)
                – Trans Type (Sell)
                – …
        – **SSN/TIN (Shareholder 2)**
            – <u>Trade Date 1</u>
                – Trans Type (Buy)
                – Trans Type (Sell)
                – …
            – <u>Trade Date 2</u>
                – Trans Type (Buy)

– Trans Type (Sell)
– …

VII.   **List of SDR File Record Types**

Below is a listing of SDR Record Types:

Record Type	**Submitted By**
Record Type 20 = SDR Request	Fund (F)
Record Type 21 = SDR Header	Firm (F), Underlying Firm (U)
Record Type 22 = SDR Acknowledgment	Firm (F), Underlying Firm (U)
Record Type 23 = SDR Reject	Firm (F), Underlying Firm (U)
Record Type 24 = SDR Detail	Firm (F), Underlying Firm (U)
Record Type 25 = SDR Summary	Firm (F), Underlying Firm (U)
Record Type 27 = SDR Trailer	Firm (F), Underlying Firm (U)
Record Type 28 = SDR Reminder	NSCC (N)
Record Type 29 = SDR Grand Total Trailer	F, U, and F

Other records that will be used for the SDR process include:

Record Type	**Submitted By**
Datatrak Header	All
Datatrak Trailer	All
Autoroute Header	All
NSCC Output Header	NSCC

VIII.   **SDR Request Data File Structure**

Provided below are the standard format and structure for the **SDR Request** Input/Output Data file. The examples include Input from the Fund to NSCC, Output from NSCC to the Intermediary, and Output from NSCC to the Fund. Output may include Reminders to both Fund and Intermediary.

Record Structure for Request Record (Input)

The following is the standard format and structure for the SDR Request Input Data file that is sent from the Fund to NSCC.

Datatrak Header	**Datatrak Header**
Record type '20' Sequence number '01'	**Request 1**
Record type '20' Sequence number '02' (optional)	
Record type '20' Sequence number '01'	**Request 2**
Record type '20' Sequence number '01'	**Request 3**
Record type '20' Sequence number '01'	**Request n-1**
Record type '20' Sequence number '01'	**Request n**
Record type '29'	**Grand Total Trailer**
Datatrak Trailer	**Datatrak Trailer**

Record Structure for Request (Output to Firm)
The following is the standard format and structure for the SDR Request Output Data file that is sent from the NSCC to Firm.

Autoroute Header	**Autoroute Header**
NSCC Output Header	**NSCC Output Header**
Record type '20' Sequence number '01'	**Request 1**
Record type '20' Sequence number '02' (optional)	
Record type '20' Sequence number '01'	**Request 2**
Record type '20' Sequence number '01'	**Request n-1**
Record type '20' Sequence number '01'	**Request n**
Record type N'28'	**Reminder 1**
Record type N'28'	**Reminder n**
Record type '29'	**Grand Total Trailer**

Record Structure for Request (Output to Fund)
The following is the standard format and structure for the SDR Request Output Data file that is sent from the NSCC to the Fund.

Autoroute Header	**Autoroute Header**
NSCC Output Header	**NSCC Output Header**
NSCC Reject of Record type '20' Sequence number '01'	**NSCC Reject 1**
NSCC Reject of Record type '20' Sequence number '02' (optional)	
NSCC Reject of Record type '20' Sequence number '01'	**NSCC Reject n**
Record type N'28'	**Reminder 1**
Record type N'28'	**Reminder n**
Record type '29'	**Grand Total Trailer**

IX.   SDR Response Data File Structure
The standard format and structure of the SDR Response Data file may be used through NSCC or through other means of communication between funds and intermediaries.

The SDR Data "Response" (Acknowledgment, Firm Reject, Detail, Summary) Input/Output file on mainframe will have **"groups"** of records that contain a header, detail records, and a trailer. Each group represents an account at the fund for a particular Intermediary within a particular Security Issue ID. Each detail represents transactions for a specific shareholder/participant (SSN) within a specific plan/investor omnibus account (if applicable).

Summary records apply to super omnibus accounts and may be used within the header/trailer group instead of detail records. Each summary record represents a single plan or investor omnibus account within the super omnibus account. This record will contain summary level information that will help the funds identify specific plans or investor omnibus accounts where trading is occurring frequently.

The Input file may contain a variety of records including Acknowledgment, Firm Rejects, Details, and Summaries, and are placed in to groups that are identified through a separate Application Header and Trailer. The Output file to the Fund will contain these records that have not been rejected by NSCC. The Output file to the Firm will contain any of these records that have been rejected by NSCC.

The following is the standard format and structure for the SDR Response Input Data file that is sent from the Firm to the Fund. **In the initial phase of the enhancement, responses will only be sent from an Intermediary/Firm or Underlying Firm to the Fund. Responses cannot be sent from Firm to Firm.**

Record Structure for Detail Information Only (Input)

Record type '21' Sequence number '01'   **Header Group**
    Record type '24' Sequence number '01'   **Detail 1**
    Record type '24' Sequence number '01'   **Detail 2**
    Record type '24' Sequence number '01'   **Detail n-1**
    Record type '24' Sequence number '01'   **Detail n**
Record type '27' Sequence number '01'   **Trailer Group**

Record Structure for Summary Information Only (Input)

Record type '21' Sequence number '01'   **Header Group**
    Record type '25' Sequence number '01'   **Summary 1**
    Record type '25' Sequence number '01'   **Summary 2**
    Record type '25' Sequence number '01'   **Summary 3**
    Record type '25' Sequence number '01'   **Summary n-1**
    Record type '25' Sequence number '01'   **Summary n**
Record type '27' Sequence number '01'   **Trailer Group**

Record Structure for Both Detail and Summary Information (Input)

Record type '21' Sequence number '01'   **Header Group**
    Record type '24' Sequence number '01'   **Detail 1**
    Record type '24' Sequence number '01'   **Detail 2**
    Record type '24' Sequence number '01'   **Detail n-1**
    Record type '24' Sequence number '01'   **Detail n**
    Record type '25' Sequence number '01'   **Summary 1**
    Record type '25' Sequence number '01'   **Summary 2**
    Record type '25' Sequence number '01'   **Summary 3**
    Record type '25' Sequence number '01'   **Summary n-1**
    Record type '25' Sequence number '01'   **Summary n**
Record type '27' Sequence number '01'   **Trailer Group**

Record Structure for a Variety of Responses (Input)

Datatrak Header   **Datatrak Header**

Record type '21' Sequence number '01'   **Header Group 1**
    Record type '22' Sequence number '01'   **Acknowledgment 1**
Record type '27' Sequence number '01'   **Trailer Group 1**

Record type '21' Sequence number '01'   **Header Group 2**
    Record type '22' Sequence number '01'   **Acknowledgment 2**
Record type '27' Sequence number '01'   **Trailer Group 2**

Record type '21' Sequence number '01'   **Header Group 3**
    Record type '23' Sequence number '01'   **Firm Reject 1**
Record type '27' Sequence number '01'   **Trailer Group 3**

Record type '21' Sequence number '01'   **Header Group 4**
    Record type '24' Sequence number '01'   **Detail 1**
    Record type '24' Sequence number '01'   **Detail 2**
    Record type '24' Sequence number '01'   **Detail n-1**
    Record type '24' Sequence number '01'   **Detail n**
Record type '27' Sequence number '01'   **Trailer Group 4**

Record type '21' Sequence number '01'   **Header Group 5**

Record type '25' Sequence number '01'	**Summary 1**
Record type '25' Sequence number '01'	**Summary 2**
Record type '25' Sequence number '01'	**Summary 3**
Record type '25' Sequence number '01'	**Summary n-1**
Record type '25' Sequence number '01'	**Summary n**
Record type '27' Sequence number '01'	**Trailer Group 5**

Record type '21' Sequence number '01'	**Header Group 6**
Record type '24' Sequence number '01'	**Detail 1**
Record type '24' Sequence number '01'	**Detail 2**
Record type '24' Sequence number '01'	**Detail n-1**
Record type '24' Sequence number '01'	**Detail n**
Record type '25' Sequence number '01'	**Summary 1**
Record type '25' Sequence number '01'	**Summary 2**
Record type '25' Sequence number '01'	**Summary 3**
Record type '25' Sequence number '01'	**Summary n-1**
Record type '25' Sequence number '01'	**Summary n**
Record type '27' Sequence number '01'	**Trailer Group 6**

| Record type '29' | **Grand Total Trailer** |

| Datatrak Trailer | **Datatrak Trailer** |

Record Structure for a Variety of Responses (Output to Fund)

The following is the standard format and structure for the SDR "Response" (Acknowledgment, Firm Reject, Detail, Summary) Output Data file that is sent from the NSCC to the Fund.

| Autoroute Header | **Autoroute Header** |
| NSCC Output Header | **NSCC Output Header** |

Record type '21' Sequence number '01'	**Header Group 1**
Record type '22' Sequence number '01'	**Acknowledgment 1**
Record type '27' Sequence number '01'	**Trailer Group 1**

Record type '21' Sequence number '01'	**Header Group 2**
Record type '22' Sequence number '01'	**Acknowledgment 2**
Record type '27' Sequence number '01'	**Trailer Group 2**

Record type '21' Sequence number '01'	**Header Group 3**
Record type '23' Sequence number '01'	**Firm Reject 1**
Record type '27' Sequence number '01'	**Trailer Group 3**

Record type '21' Sequence number '01'	**Header Group 4**
Record type '24' Sequence number '01'	**Detail 1**
Record type '24' Sequence number '01'	**Detail 2**
Record type '24' Sequence number '01'	**Detail n-1**
Record type '24' Sequence number '01'	**Detail n**
Record type '27' Sequence number '01'	**Trailer Group 4**

Record type '21' Sequence number '01'	**Header Group 5**
Record type '25' Sequence number '01'	**Summary 1**
Record type '25' Sequence number '01'	**Summary 2**
Record type '25' Sequence number '01'	**Summary 3**

```
        Record type '25'  Sequence number '01'                    Summary n-1
        Record type '25'  Sequence number '01'                    Summary n
Record type '27'  Sequence number '01'                    Trailer Group 5

Record type '21'  Sequence number '01'                    Header Group 6
    Record type '24'  Sequence number '01'                    Detail 1
    Record type '24'  Sequence number '01'                    Detail 2
    Record type '24'  Sequence number '01'                    Detail n-1
    Record type '24'  Sequence number '01'                    Detail n
    Record type '25'  Sequence number '01'                    Summary 1
    Record type '25'  Sequence number '01'                    Summary 2
    Record type '25'  Sequence number '01'                    Summary 3
    Record type '25'  Sequence number '01'                    Summary n-1
    Record type '25'  Sequence number '01'                    Summary n
Record type '27'  Sequence number '01'                    Trailer Group 6

Record type '29'                                  Grand Total Trailer
```

Record Structure for a Variety of Responses (Output to Firm)

The following is the standard format and structure for the SDR "Response" (Acknowledgment, Firm Reject, Detail, Summary) Output Data file that is sent from the NSCC to the Firm.

```
Autoroute Header                                  Autoroute Header
NSCC Output Header                                NSCC Output Header

NSCC Reject of Record type '21'  Sequence number '01'        Header Group 1
    NSCC Reject of Record type '22'  Sequence number '01'          Acknowledgment 1
NSCC Reject of Record type '27'  Sequence number '01'        Trailer Group 1

NSCC Reject of Record type '21'  Sequence number '01'        Header Group 2
        NSCC Reject of Record type '22'  Sequence number '01'      Acknowledgment 2
NSCC Reject of Record type '27'  Sequence number '01'        Trailer Group 2

NSCC Reject of Record type '21'  Sequence number '01'        Header Group 3
    NSCC Reject ofRecord type '23'  Sequence number '01'          Firm Reject 1
NSCC Reject of Record type '27'  Sequence number '01'        Trailer Group 3

NSCC Reject of Record type '21'  Sequence number '01'        Header Group 4
        NSCC Reject of Record type '24'  Sequence number '01'        Detail 1
        NSCC Reject of Record type '24'  Sequence number '01'        Detail 2
        NSCC Reject of Record type '24'  Sequence number '01'        Detail n-1
        NSCC Reject of Record type '24'  Sequence number '01'        Detail n
NSCC Reject of Record type '27'  Sequence number '01'        Trailer Group 4

NSCC Reject of Record type '21'  Sequence number '01'        Header Group 5
        NSCC Reject of Record type '24'  Sequence number '01'        Detail 1
        NSCC Reject of Record type '24'  Sequence number '01'        Detail 2
        NSCC Reject of Record type '24'  Sequence number '01'        Detail n-1
        NSCC Reject of Record type '24'  Sequence number '01'        Detail n
NSCC Reject of Record type '27'  Sequence number '01'        Trailer Group 5

NSCC Reject of Record type '21'  Sequence number '01'        Header Group 6
    NSCC Reject of Record type '24'  Sequence number '01'        Detail 1
```

NSCC Reject of Record type '24' Sequence number '01'   **Detail 2**
NSCC Reject of Record type '24' Sequence number '01'   **Detail n-1**
NSCC Reject of Record type '24' Sequence number '01'   **Detail n**
NSCC Reject of Record type '25' Sequence number '01'   **Summary 1**
NSCC Reject of Record type '25' Sequence number '01'   **Summary 2**
NSCC Reject of Record type '25' Sequence number '01'   **Summary 3**
NSCC Reject of Record type '25' Sequence number '01'   **Summary n-1**
NSCC Reject of Record type '25' Sequence number '01'   **Summary n**
NSCC Reject of Record type '27' Sequence number '01'   **Trailer Group 6**

Record type '29'   **Grand Total Trailer**

1. An error in format within the Header or Trailer will result in an NSCC reject for all records from the header to the trailer (including header and trailer).

2. Trailers may be used by Participants to validate the number of records; **however, NSCC will NOT reject "group" records if the respective trailer information does not match the actual records submitted. NSCC will only reject for invalid format and syntax.**

3. **NSCC will modify the trailer record being sent to the fund to include the number of accepted and rejected summary/detail records. This will allow the fund to know whether they received a complete set of data for their data request.**

X.   SDR Mainframe Record Layouts

REQUEST RECORDS

SDR Request Record (F 20)
Input From Fund To NSCC
Output From NSCC To Firm

- Request Input will be submitted with a Datatrak Header and Trailer.
- Request records do not have an application header or trailer record.
- Only Response records (Acknowledgment, Detail, Summary, and Reject records) use the application header (record type 21) and trailer (record type 27) records.

Record 1 of 2
(Required)

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Originator Type	1	1	1	A/N	F = Fund	R
Record Type	2	3	2	A/N	20 = SDR Request	R
Sequence Number	4	5	2	A/N	01	R
SDR Control Number	6	20	15	A/N	ppppyjjjnnnnnnn pppp = Fund's Participant Number y = Last digit of year jjj = Julian Date nnnnnnn = Unique sequential number assigned by fund	R
SDR Request Type	21	22	2	A/N	01 = Fund Account Level 02 = Plan Level 03 = Investor Omnibus Account Level 04 = Fund/SERV Control Number Request 05 = Rep Level 06 = Stop Recurring	R
Firm Number	23	26	4	N		R
Underlying Firm	27	30	4	A/N		O
Underlying Firm Indicator	31	32	2	A/N	Required when Underlying Firm is provided. 01 = NSCC Number 02 = OTC Symbol 03 = BTRK Number	OC

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Fund Number	33	36	4	N		R
Fund Account Number	37	56	20	A/N	Required if Firm Account Number is not provided.	OC
Firm Account Number	57	76	20	A/N	Required if Fund Account Number is not provided.	OC
From Date	77	84	8	N	mm/dd/ccyy	R
Security Issue ID	85	93	9	A/N		R
Plan ID/Investor Omnibus Account Number	94	113	20	A/N		O
Omnibus Account Indicator	114	114	1	A/N	Required if Plan ID/Investor Omnibus Account Number is provided. 0 = Plan ID 1 = Investor Omnibus Account	OC
SSN/TIN	115	123	9	A/N		O
Filler	124	131	8	A/N		R

NSCC Reject indicator	132	132	1	A/N	Input: Space
					Output:
					  0 = Accepted by NSCC
					  1 = Rejected by NSCC
						C

Filler/Reject Code 1	133	134	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 2	135	136	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 3	137	138	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 4	139	140	2	A/N	Input: Space Output: Reject Code	C

SDR Request Record (F 20)
Input From Fund To NSCC
Output From NSCC To Firm

Record 2 of 2
(Optional)

Field Name	Start	End	Len	Type	Description	Opt/ Req.

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Originator Type	1	1	1	A/N	F = Fund	R
Record Type	2	3	2	A/N	20 = SDR Request	R
Sequence Number	4	5	2	A/N	02	R
Recurring Indicator	6	6	1	A/N	0 = No 1 = Yes	O
To Date	7	14	8	N	mm/dd/ccyy	O
Includes Category 2 Transactions?	15	15	1	A/N	0 = No 1 = Yes	O
RR Number	16	24	9	A/N	Required if SDR Request Type is 05 = Rep Level.	OC
RR Branch	25	33	9	A/N		O
RR Firm	34	41	8	A/N		O
Original SDR Control Number **Used to stop a recurring request.**	42	56	15	A/N		O
Threshold Amount	57	65	9	N	999,999,999	O
Transaction Type	66	67	2	A/N	01 = Buy 02 = Sell Space means that the request is for all transactions, which may include transfers.	O
Fund/SERV Control Number **Should be provided for a F/S Control Number request.**	68	82	15	A/N		O
Filler	83	140	58	A/N		R

RESPONSE RECORDS

SDR Header (B 21)
Input From Firm To NSCC
Output From NSCC To Fund

Record 1 of 1
(Required)

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Originator Type	1	1	1	A/N	I = Firm U = Underlying Firm	R
Record Type	2	3	2	A/N	21 = SDR Header	R
Sequence Number	4	5	2	A/N	01	R
SDR Control Number	6	20	15	A/N	The SDR Control Number submitted by the fund OR – The SDR Response Number for a response provided for a response against a request made outside of NSCC.	R
SDR Response Number	21	35	15	A/N	ppppyjjjnnnnnnn pppp = Participant Number y = Last digit of year jjj = Julian Date nnnnnnn = Unique sequential number assigned by the response submitter.	R
Response Type	36	37	2	A/N	01 = Summary Level 02 = Detail Level 03 = Both Summary and Detail 04 = Acknowledgment 05 = Firm Reject	R
Partial Response Indicator	38	38	1	A/N	0 = Full/Final Response 1 = Partial Response	R
Firm Number	39	42	4	N		R
Underlying Firm	43	46	4	A/N		O

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Underlying Firm Indicator	47	48	2	A/N	Required when Underlying Firm is provided. 01 = NSCC Number 02 = OTC Symbol 03 = BTRK Number	OC
Fund Number	49	52	4	N		R
Fund Account Number	53	72	20	A/N	Required if Firm Account Number is not provided.	OC
Firm Account Number	73	92	20	A/N	Required if Fund Account Number is not provided.	OC
Security Issue ID	93	101	9	A/N		R
Correction Indicator	102	102	1	A/N	0 = Regular 1 = Correction	O
Fund/SERV Control Number	103	117	15	A/N		O
Filler	118	131	14	A/N		R

NSCC Reject indicator	132	132	1	A/N	Input: Space
					Output:
					  0 = Accepted by NSCC
					  1 = Rejected by NSCC
						C

Filler/Reject Code 1	133	134	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 2	135	136	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 3	137	138	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 4	139	140	2	A/N	Input: Space Output: Reject Code	C

SDR Acknowledgment (B 22)
Input From Firm To NSCC
Output From NSCC To Fund

Record 1 of 1
(Required)

This Acknowledgment record will be submitted within the Header and Trailer. The Acknowledgment will be the first response from the Firm to the Fund for a specific SDR Request.

NSCC will not validate the proper sequence for submitting the Acknowledgment and SDR Detail Response records.

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Originator Type	1	1	1	A/N	I = Firm U = Underlying Firm	R
Record Type	2	3	2	A/N	22 = SDR Acknowledgment	R
Sequence Number	4	5	2	A/N	01	R
Acknowledgment Indicator	6	6	1	A/N	0 = Response will be Provided 1 = Request will be Forwarded to the Underlying Firm	R
Anticipated Response Date	7	14	8	A/N	Mmddccyy	O
Anticipated Response File Frequency	15	15	1	A/N	0 = Full Response 1 = Partial Response	O
Underlying Firm	16	19	4	A/N		O
Underlying Firm Indicator	20	21	2	A/N	Required when Underlying Firm is provided. 01 = NSCC Number 02 = OTC Symbol 03 = BTRK Number	OC
Filler	22	131	110	A/N		R

NSCC Reject indicator	132	132	1	A/N	Input: Space
					Output:
					  0 = Accepted by NSCC
					  1 = Rejected by NSCC
						C

Filler/Reject Code 1	133	134	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 2	135	136	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 3	137	138	2	A/N	Input: Space Output: Reject Code	C

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Filler/Reject Code 4	139	140	2	A/N	Input: Space Output: Reject Code	C

SDR Reject (B 23)
Input From Firm To NSCC
Output From NSCC To Fund

Record 1 of 1
(Required)

The Reject record will be submitted within the Header and Trailer.

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Originator Type	1	1	1	A/N	I = Firm U = Underlying Firm	R
Record Type	2	3	2	A/N	23 = SDR Reject	R
Sequence Number	4	5	2	A/N	01	R

Firm Reject indicator	6	6	1	A/N	Input: Space
					Output:
					  1 = Rejected by Firm
					  2 = Rejected by Firm with
					      Multiple Rejects
						R

Firm Reject Code 1	7	8	2	A/N		R
Firm Reject Code 2	9	10	2	A/N		O
Firm Reject Code 3	11	12	2	A/N		O
Firm Reject Code 4	13	14	2	A/N		O
Filler	15	131	117	A/N		R

NSCC Reject indicator	132	132	1	A/N	Input: Space
					Output:
					  0 = Accepted by NSCC
					  1 = Rejected by NSCC
						C

Filler/ NSCC Reject Code 1	133	134	2	A/N	Input: Space Output: Reject Code	C
Filler/ NSCC Reject Code 2	135	136	2	A/N	Input: Space Output: Reject Code	C
Filler/ NSCC Reject Code 3	137	138	2	A/N	Input: Space Output: Reject Code	C
Filler/ NSCC Reject Code 4	139	140	2	A/N	Input: Space Output: Reject Code	C

SDR Detail (B 24)
Input From Firm To NSCC
Output From NSCC To Fund

(The Detail records represent the Shareholder SSN/TIN within a particular Plan ID or Investor Omnibus Account. The Detail may be repeated within the Header and Trailer records.)

Record 1 of 2
(Required)

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Originator Type	1	1	1	A/N	I = Firm U = Underlying Firm	R
Record Type	2	3	2	A/N	24 = SDR Detail	R
Sequence Number	4	5	2	A/N	01	R
Plan ID/Investor Omnibus Account Number	6	25	20	A/N		O
Omnibus Account Indicator	26	26	1	A/N	0 = Plan ID 1 = Investor Omnibus Account	O
SSN/TIN	27	35	9	A/N		R
SSN/TIN Indicator	36	36	1	A/N	1 = TIN 2 = SSN 3 = Investor's TIN	R
NAV Date	37	44	8	A/N	mm/dd/ccyy	R
Transaction Type Transfers are considered true transfers such as ACATS, Networking B52, and transfers in kind.	45	46	2	A/N	01 = Buy 02 = Sell 03 = Exchange (Intra-Fund Buy Side) 04 = Exchange (Intra-Fund Sell Side) 05 = Transfer	R

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Transaction Code Used to indicate detailed/specific transaction codes that fall under the respective Transaction Types.	47	48	2	A/N	01 – Employee Contribution 02 – Employer Contribution 03 – Additional Contribution 04 – Loan repayment-principal 05 – Loan repayment-interest 06 – Forfeiture 07 – Adjustments 08 – Fund Transfer 09 – Exchange 10 – Conversion Balance Transfer 11 – Non-discrimination refund 12 – Loan Distribution 13 – In-service distribution 14 – Installment Distribution 15 – Termination Distribution 16 – Hardship Distribution 17 – Lump Sum Distribution 18 – QDRO Distributions 19 – Required Minimum Distribution 20 – STRF Fee 21 – CDSC Fee 22 – Other Fees 23 – Rebalance 24 – Return of Excess Distribution 25 – Rollover 50 – Initial/Subsequent Purchase 51 – Sell/Redemption 52 – Physical Transfer of Shares 53 – Automated Investment Transaction	O
Transaction Category	49	49	1	A/N	1 = Category 1 2 = Category 2	R
Dollar Amount	50	65	16	N	Optional if Transaction Type = 05, or if Transaction Code = 7 or 52. 99,999,999,999,999.99	R
Share Amount	66	79	14	N	9,999,999,999.9999	R
Price	80	91	12	N	Optional if Transaction Type = 05, or if Transaction Code = 7 or 52. 999,999.999999	R

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Transaction ID	92	111	20	A/N		O
Contra Security Issue ID	112	120	9	A/N		O
Filler	121	131	11	A/N		R

NSCC Reject indicator	132	132	1	A/N	Input: Space
					Output:
					  0 = Accepted by NSCC
					  1 = Rejected by NSCC
						C

Filler/Reject Code 1	133	134	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 2	135	136	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 3	137	138	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 4	139	140	2	A/N	Input: Space Output: Reject Code	C

SDR Detail (B 24)
Input From Firm To NSCC
Output From NSCC To Fund

Record 2 of 2
(Optional)

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Originator Type	1	1	1	A/N	I = Firm U = Underlying Firm	R
Record Type	2	3	2	A/N	24 = SDR Detail	R
Sequence Number	4	5	2	A/N	02	R
STR Fee Amount	6	12	7	A/N	99,999.99	O
CDSC Amount	13	19	7	A/N	99,999.99	O
Transaction Source	20	20	1	A/N	0 = Participant/Shareholder 1 = Plan/Administrator 2 = Rep 3 = Firm Cannot Differentiate	O
RR Number	21	29	9	A/N		O
RR Branch	30	38	9	A/N		O

Field Name	Start	End	Len	Type	Description	Opt/ Req.
RR Firm	39	46	8	A/N		O
Agent For Firm	47	50	4	A/N		O
Plan Name	51	85	35	A/N		O
Customer Name	86	120	35	A/N		O
Filler	121	140	20	A/N		O

SDR Summary (B 25)
Input From Firm To NSCC
Output From NSCC To Fund

This Summary record will be submitted within the Header and Trailer. It replaces the Detail records as a response for each plan or investor omnibus account.

Dollar Values do not include Transfers, which are not recorded with a price or value.

Record 1 of 2
(Required)

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Originator Type	1	1	1	A/N	I = Firm U = Underlying Firm	R
Record Type	2	3	2	A/N	25 = SDR Summary	R
Sequence Number	4	5	2	A/N	01	R
Plan ID/Investor Omnibus Account Number	6	25	20	A/N	Required if Investor Omnibus Account Number is not provided.	R
Omnibus Account Indicator	26	26	1	A/N	0 = Plan ID 1 = Investor Omnibus Account	R
NAV Date	27	34	8	A/N	mm/dd/ccyy	R
Dollar Value of **All** Participant/ Shareholder Buys	35	50	16	N	99,999,999,999,999.99 Required if "Dollar Value of **Category 1** Participant/ Shareholder Buys" is not provided.	OC
Dollar Value of **All** Participant/ Shareholder Sells	51	66	16	N	99,999,999,999,999.99 Required if "Dollar Value of **Category 1** Participant/ Shareholder Sells" is not provided.	OC
Dollar Value of **Category 1** Participant/ Shareholder Buys	67	82	16	N	99,999,999,999,999.99 Required if "Dollar Value of **All** Participant/ Shareholder Buys" is not provided.	OC
Dollar Value of **Category 1** Participant/ Shareholder Sells	83	98	16	N	99,999,999,999,999.99 Required if "Dollar Value of **All** Participant/ Shareholder Sells" is not provided.	OC
Number of **Category 1** Participant/ Shareholder Buys	99	106	8	N	99,999,999	O
Number of **Category 1** Participant/ Shareholder Sells	107	114	8	N	99,999,999	O
Underlying Firm	115	118	4	A/N		O

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Underlying Firm Indicator	119	120	2	A/N	Required when Underlying Firm is provided. 01 = NSCC Number 02 = OTC Symbol 03 = BTRK Number	O
Social Code	121	122	2	A/N	See List of Social Codes on NSCC Website.	O
Filler	123	131	9	A/N		R

NSCC Reject indicator	132	132	1	A/N	Input: Space
					Output:
					  0 = Accepted by NSCC
					  1 = Rejected by NSCC
						C

Filler/Reject Code 1	133	134	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 2	135	136	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 3	137	138	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 4	139	140	2	A/N	Input: Space Output: Reject Code	C

SDR Summary (B 25)
Input From Firm To NSCC
Output From NSCC To Fund

Record 2 of 2
(Optional)

Field Name	Start	End	Len	Type	Description	Opt/ Req.
System Code	1	1	1	A/N	B = Firm	R
Record Type	2	3	2	A/N	25 = SDR Summary	R
Sequence Number	4	5	2	A/N	02	R
Dollar Value of **All** of Participant/ Shareholder Exchanges (Intra Fund Buy-Side)	6	21	16	N	99,999,999,999,999.99 Required if "Dollar Value of **Category 1** Participant/ Shareholder Exchanges (Intra Fund Buy-Side)" is not provided.	OC

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Dollar Value of **All** Participant/ Shareholder Exchanges (Intra Fund Sell-Side)	22	37	16	N	99,999,999,999,999.99 Required if "Dollar Value of **Category 1** Participant/ Shareholder Exchanges (Intra Fund Sell-Side)" is not provided.	OC
Dollar Value of **Category 1** of Participant/ Shareholder Exchanges (Intra Fund Buy-Side)	38	53	16	N	99,999,999,999,999.99 Required if "Dollar Value of **All** Participant/ Shareholder Exchanges (Intra Fund Buy-Side)" is not provided.	OC
Dollar Value of **Category 1** Participant/ Shareholder Exchanges (Intra Fund Sell-Side)	54	69	16	N	99,999,999,999,999.99 Required if "Dollar Value of **All** Participant/ Shareholder Exchanges (Intra Fund Buy-Side)" is not provided.	OC
Number of **Category 1** Participant/ Shareholder Exchanges (Intra Fund Buy-Side)	70	77	8	N	99,999,999	O
Number of **Category 1** Participant/ Shareholder Exchanges (Intra Fund Sell-Side)	78	85	8	N	99,999,999	O
Number of Shares in Plan/Investor Omnibus Account	86	99	14	N	9,999,999,999.9999	O
EOD Dollar Balance	100	115	16	N	99,999,999,999,999.99	O
Filler	116	131	16	A/N		R
NSCC Reject indicator	132	132	1	A/N	Input: Space Output: 0 = Accepted by NSCC 1 = Rejected by NSCC	C
Filler/Reject Code 1	133	134	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 2	135	136	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 3	137	138	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 4	139	140	2	A/N	Input: Space Output: Reject Code	C

SDR Trailer (B 27)
Input From Firm To NSCC
Output From NSCC To Fund

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Originator Type	1	1	1	A/N	I = Firm U = Underlying Firm	R
Record Type	2	3	2	A/N	27 = SDR Trailer	R
Sequence Number	4	5	2	A/N	01	R
SDR Control Number	6	20	15	A/N	Required if SDR Response Number is not provided.	OC
SDR Response Number	21	35	15	A/N	Required if SDR Control Number is not provided.	OC
Firm Number	36	39	4	N		R
Fund Number	40	43	4	N		R
Security Issue ID	44	52	9	A/N		R
Total Acknowledgment Items within this Group	53	53	1	N	(Total number of record type 22 with sequence 01. Zeroes Allowed.)	R
Total Reject Items within this Group	54	54	1	N	(Total number of record type 23 with sequence 01. Zeroes Allowed.)	R
Total Detail Items within this Group	55	63	9	N	999,999,999 (Total number of record type 24 with sequence 01. Zeroes Allowed.)	R
Total Summary Items within this Group	64	72	9	N	999,999,999 (Total number of record type 25 with sequence 01. Zeroes Allowed.)	R
Total Records within this Group	73	81	9	N	999,999,999 (Total number of **physical** records including headers and trailers.)	R
Total NSCC Accepted Input – Acknowledgment Items	82	82	1	N	Input: Space Output: Total number of NSCC accepted record type 22 with sequence 01. Zeroes Allowed.	R
Total NSCC Accepted Input – Reject Items	83	83	1	N	Input: Space Output: Total number of NSCC accepted record type 23 with sequence 01. Zeroes Allowed.	R

Field Name	Start	End	Len	Type	Description	Opt/ Req.
Total NSCC Accepted Input – Detail Items	84	92	9	N	999,999,999 Input: Space Output: Total number of NSCC-accepted record type 24 with sequence 01. Zeroes Allowed.	R
Total NSCC Accepted Input – Summary Items	93	101	9	N	999,999,999 Input: Space Output: Total number of NSCC-accepted record type 25 with sequence 01. Zeroes Allowed.	R
Total NSCC Rejected Input – Acknowledgment Items	102	102	1	N	Input: Space Output: Total number of NSCC rejected record type 22 with sequence 01. Zeroes Allowed.	R
Total NSCC Rejected Input – Reject Items	103	103	1	N	Input: Space Output: Total number of NSCC rejected record type 23 with sequence 01. Zeroes Allowed.	R
Total NSCC Rejected Input – Detail Items	104	112	9	N	999,999,999 Input: Space Output: Total number of NSCC-rejected record type 24 with sequence 01. Zeroes Allowed.	R
Total NSCC Rejected Input – Summary Items	113	121	9	N	999,999,999 Input: Space Output: Total number of NSCC-rejected record type 25 with sequence 01. Zeroes Allowed.	R
Filler	122	131	10	A/N		R
NSCC Reject indicator	132	132	1	A/N	Input: Space Output: 0 = Accepted by NSCC 1 = Rejected by NSCC	C
Filler/Reject Code 1	133	134	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 2	135	136	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 3	137	138	2	A/N	Input: Space Output: Reject Code	C
Filler/Reject Code 4	139	140	2	A/N	Input: Space Output: Reject Code	C

SDR Reminder (N28)
Output From NSCC To Fund and Firm

Record 1 of 1
(Required)

- Reminders will be sent to both fund and firm for SDR Control Numbers that have not been acted upon with an Acknowledgment or Reject record.
- Only Acknowledgment or Reject records can turn off Reminders. Detail or Summary records will not turn off Reminders.
- Reminders will be sent for a period of 10 processing days (including Saturday) beginning on the day after the original date in which the SDR Control Number is stored on the NSCC database.
- The first Reminder will be sent on the first business day after the submission date of the SDR Request.
- Reminders will be sent on the last cycle of the day (M-F, 4 p.m. ET; Sat, 3 p.m. ET).
- Reminders will be sent with the Autoroute Output file within the SDR Request record stream. Within this stream, Intermediaries will receive Request records plus Reminders, and Funds will receive NSCC Request Rejects plus Reminders.
- Acknowledgment, Reject, and Response records may still be sent even after the Reminders are discontinued.

Field Name	Start	End	Len	Type	Description
Originator Type	1	1	1	A/N	N = NSCC
Record Type	2	3	2	A/N	28 = SDR Reminder
Sequence Number	4	5	2	A/N	01
SDR Control Number	6	20	15	A/N	
Firm Number	21	24	4	A/N	
Underlying Firm	25	28	4	A/N	
Fund Number	29	32	4	A/N	
Security Issue ID	33	41	9	A/N	
Reminder Age	42	44	3	N	001-009 = Reminder Age in Business/Processing Days (including Saturday) 999 = Final Reminder. SDR Control Number will be deleted from database for purpose of Reminders.
Filler	45	140	96	A/N	

SDR Grand Total Trailer (29)
Input to NSCC/Output to Recipients

Record 1 of 1

Field Name	Start	End	Len	Type	Description
Originator Type	1	1	1	A/N	F = Fund I = Firm U = Underlying Firm
Record Type	2	3	2	A/N	29 = Grand Total Trailer
Sequence Number	4	5	2	A/N	01
Participant Number	6	9	4	A/N	Input: Submitter Output: Recipient
Total Number of All Physical Records within a File (Including Headers and Trailers)	10	19	10	N	9,999,999,999
Filler	20	140	121	A/N	

XI.   SDR XML Schema

XML schemas will be used for input of data request messages. Output will not be supported through the http(s) facility except for an NSCC "acknowledgment" response to complete the http(s) session. The NSCC acknowledgment message will be defined at a later time.

Below is a snippet of the data request message. It provides the data elements and structure of the message. Data types will be defined at a later time, but will conform to the mainframe record layout syntax and rules.

SDR Request Message (SDR.xsd)

```
<?xml version = "1.0" encoding = "UTF-8"?>
<!—Generated by Turbo XML 2.3.1.100. Conforms to w3c http://www.w3.org/2001/XMLSchema-
    ->
<xsd:schema xmlns = "SDR"
        targetNamespace = "SDR"
        xmlns:xsd = "http://www.w3.org/2001/XMLSchema"
        version = "SDR.xsd, rev 0.1 v 0.1, 29-July-2005">
        <xsd:annotation>
            <xsd:documentation>
            This is the revision 0.1 version 0.1 of the XML schema for the
            Standardized Data Reporting Request Message.
            </xsd:documentation>
        </xsd:annotation>
        <!—CONFIDENTIAL AND PROPRIETARY
        Copyright © 2005, 2006 The Depository Trust & Clearing Corporation.
        All rights reserved.→
<xsd:element name = "SDRReq">
    <xsd:complexType>
        <xsd:sequence>
            <xsd:element ref = "SDRCntrlNbr"/>
            <xsd:element ref = "SDRReqTyp"/>
            <xsd:element ref = "IntNbr"/>
            <xsd:element ref = "FundNbr"/>
            <xsd:element ref = "Security Issue ID"/>
            <xsd:choice minOccurs = "1" maxOccurs = "2">
                <xsd:element ref = "FundAcctNbr"/>
                <xsd:element ref = "IntAcctNbr"/>
            </xsd:choice>
            <xsd:choice minOccurs = "0" maxOccurs = "1">
                <xsd:element ref = "PlanID"/>
                <xsd:element ref = "InvOmnibusNbr"/>
            </xsd:choice>
            <xsd:element ref = "FromDt"/>
            <xsd:element ref = "UndIntNbr" minOccurs = "0"/>
            <xsd:element ref = "UndIntInd" minOccurs = "0"/>
            <xsd:element ref = "SSNTIN" minOccurs = "0"/>
            <xsd:element ref = "RecurInd" minOccurs = "0"/>
            <xsd:element ref = "ToDt" minOccurs = "0"/>
            <xsd:element ref = "InclCat2Trans" minOccurs = "0"/>
            <xsd:element ref = "RR" minOccurs = "0"/>
            <xsd:element ref = "RRBr" minOccurs = "0"/>
            <xsd:element ref = "RRFirm" minOccurs = "0"/>
            <xsd:element ref = "OrigSDRCntrlNbr" minOccurs = "0"/>
            <xsd:element ref = "ThreshldAmt" minOccurs = "0"/>
            <xsd:element ref = "TransTyp" minOccurs = "0"/>
            <xsd:element ref = "FSCntrlNbr" minOccurs = "0"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
```

XII. Examples

Examples of data requests and responses under different scenarios are provided in a separate document, entitled "Standardized Data Reporting User Guide."

XIII. Reject Codes

NSCC may reject records that do not comply to the record layouts and the validation rules contained within the layouts. Intermediaries may also reject the data requests from the funds for various reasons. The following are the initial set of reject reasons that have been identified and will be used in the system.

Reject Code	Description
01	Originator Type Missing or Invalid
02	Record Type Missing or Invalid
03	Sequence Number Missing or Invalid
04	SDR Control Number Missing or Invalid
05	SDR Request Type Missing or Invalid
06	Firm Number Missing or Invalid
07	Underlying Firm Missing or Invalid
08	Underlying Firm Indicator Missing or Invalid
09	Fund Number Missing or Invalid
10	Fund Account Number Missing or Invalid
11	Firm Account Number Missing or Invalid
12	From Date Missing or Invalid
13	Security Issue ID Missing or Invalid
14	Plan ID/Investor Omnibus Account Number Missing or Invalid
15	Omnibus Account Indicator Missing or Invalid
16	SSN/TIN Missing or Invalid
17	Recurring Indicator Invalid
18	To Date Invalid
19	Includes Category 2 Transactions Field Invalid
20	RR Number Missing or Invalid
21	RR Branch Missing or Invalid
22	RR Firm Missing or Invalid
23	Original SDR Control Number Missing or Invalid
24	Threshold Amount Invalid
25	Transaction Type Missing or Invalid
26	Fund/SERV Control Number Missing or Invalid
27	SDR Response Number Missing or Invalid
28	Response Type Missing or Invalid
29	Partial Response Indicator Missing or Invalid
30	Correction Indicator Invalid
31	SSN/TIN Missing or Invalid
32	SSN/TIN Indicator Missing or Invalid
33	NAV Date Missing or Invalid
34	Transaction Code Invalid
35	Transaction Category Missing or Invalid
36	Dollar Amount Missing or Invalid

37	Share Amount Missing or Invalid
38	Price Missing or Invalid
39	Transaction ID Invalid
40	Contra Security Issue ID Invalid
41	STR Fee Amount Invalid
42	CDSC Amount Invalid
43	Transaction Source Invalid
44	Agent For Firm Invalid
45	Plan Name Invalid
46	Customer Name Invalid
47	Dollar Value of All Participant/ Shareholder Buys Missing or Invalid
48	Dollar Value of All Participant/ Shareholder Sells Missing or Invalid
49	Dollar Value of Category 1 Participant/ Shareholder Buys Missing or Invalid
50	Dollar Value of Category 1 Participant/ Shareholder Sells Missing or Invalid
51	Number of Category 1 Participant/ Shareholder Buys Invalid
52	Number of Category 1 Participant/ Shareholder Sells Invalid
53	Social Code Missing or Invalid
54	Dollar Value of All of Participant/ Shareholder Exchanges (Intra Fund Buy-Side) Missing or Invalid
55	Dollar Value of All Participant/ Shareholder Exchanges (Intra Fund Sell-Side) Missing or Invalid
56	Dollar Value of Category 1 of Participant/ Shareholder Exchanges (Intra Fund Buy-Side) Missing or Invalid
57	Dollar Value of Category 1 Participant/ Shareholder Exchanges (Intra Fund Sell-Side) Missing or Invalid
58	Number of Category 1 Participant/ Shareholder Exchanges (Intra Fund Buy-Side) Invalid
59	Number of Category 1 Participant/ Shareholder Exchanges (Intra Fund Sell-Side) Invalid
60	Number of Shares in Plan/Investor Omnibus Account Invalid
61	EOD Dollar Balance Invalid
62	Total Detail Items Missing or Invalid
63	Total Summary Items Missing or Invalid
64	Total Records Missing or Invalid
65	Reject Indicator Missing or Invalid
66	Reject Code Invalid
67	Acknowledgment Indicator Missing or Invalid
68	Anticipated Response Date Invalid
69	Anticipated Response File Frequency Invalid
70	Record Missing
71	Date Range Not Supported
72	Recurring Request Not Supported
73	Invalid Request Type for Account
74	Named Firm Does Not Have Information
75	Information Previously Provided
76	Rep Level Request Not Supported
77	Transaction Type Search Not Supported
78	Fund/SERV Control Number Search Not Supported
79	Category 2 Transactions Not Supported

80	Threshold Amount Not Supported
81	Account is Non-Omnibus (Single Shareholder)
82	Underlying Firm Will Not Provide Information
83	Response Provided Outside of NSCC

XIV. Issues/Best Practices

XV. Closed Issues History Log

1. Volume restrictions? Process to control volume.
   (See #2 and #3. Limiting standard requests to Category 1 transactions, and limiting the date ranges will help to control volume. Volume Statistics are provided below.)

Monthly Trades	Client 1	Client 2	Client 3	Client 4
Participant Contributions	30 mil	11 mil	16 mil	750 K
Sells for Distributions	600 K	N/A	4 mil	100 K
Participant Directed Exchanges/Transfers	300 K	N/A	500 K	2 K

   Other statistics that were derived include:
   - For one service provider, there are 50 million participants. If you average 2 payrolls a month, 10 Security Issue IDs per participant, you get 1 billion participant contribution trades a month.
   - For one service provider, there were one billion trades in a month.
   - One plan had 30 million participant contribution trades a month, shown above.

2. Should standard data requests be limited to Participant directed transactions?
   (Working assumption is that data will be for Category 1 transactions unless otherwise specified.)

3. Should there be a standard practice on the range for from and to dates?
   (Best Practice Committee: Group discussed best practices for data requests, and it was determined that as a best practice, funds should limit the date range for data requests from financial intermediaries to 1-3 months for periodic historical requests, and up to 12 months for follow up data requests. Data requests for a period of longer than 12 months, while possible, should be limited and treated as a one-off request.)

4. Should retirement or regular omnibus accounts be included in response if there are multiple accounts?
   (Summary data will be provided for Plans and Investor Omnibus Accounts, along with detail data for individual shareholders on Super Omnibus Accounts.)

5. On super omnibus accounts, what info will be provided? Retirement, retail, or both?
   (Both. See #4.)

6. Clarify addition of Frequency Indicator.
   (Recurring Indicator was to be renamed to Frequency Indicator on the response; however, it was decided to remove the indicator because the information is already known by the fund. Recurring Indicator is needed and will remain in the request.)

7. Clarify Transaction Source on Response.
   (The three "transaction source" fields will be combined into one field. This field will describe each individual transaction detail, and can only be indicated as one type of transaction source.)

8. Retail Account renaming.
   (Group agreed to renaming to "Investor Omnibus Account.")

9. Underlying Intermediary field.
   (Group agreed to adding Intermediary field and its usage.)

10. Provide scenarios with record layout examples.
    (Examples provided on separate document.)

11. Walk through the process for correcting data. Should we use the SDR Response Number to correct specific files? If so, can we use the 130-byte layouts? What are the other options?
    (SDR Response Number was made required and may be used to identify the specific file to be corrected. 130-byte format was approved.)

12. Expand on Exception Processing and Reject Codes.
    (List of reject codes provided. Scenarios of exception processing will be reviewed and handled when they are brought up.)

13. Since we have changed references to directed and non-directed data (instead of participant-directed transaction), do we still need plan-directed and rep-directed transaction source?
    (Transactions will be categorized as "Directed" and "Non-Directed". Transaction source by plan field will be removed.)

    (Updated 02/06/206: Transactions will be classified as Category 1 and Category 2. Transaction Category field will be added. Transaction Source will contain shareholder, plan, rep, and cannot differentiate.)

14. Review and approve transmission schedules, see Section VI, under Systems Processing Flow, pp. 14-15.
    (The transmission schedule of 9 am, 12 noon, and 3pm are acceptable, but are subject to change.)

15. Are TPAs/Recordkeepers the source of the information?
    (The source of the information will be covered in the agreements with the funds.)

16. Categorize preliminary list of transactions provided on Section V, under Category 1 and Category 2 Transactions.
    (The list of transactions will be categorized by a Best Practices sub-group.)

17. Can this enhancement be made more accessible to non-Participants with the use of a DSO membership?
    (NSCC will review using the DSO membership for SDR functionality.)

18. Review and approve Acknowledgment and Reject record types. Are the fields acceptable? Should the Acknowledgment and Reject records be combined?
    (Acknowledgment Reject record types will be separate, and have been approved.)

19. Review the field for the Summary record, including descriptions (e.g., "Category 1" and "all"; refer to "plan/shareholder" or "plan").
(New fields on Summary record (i.e., Dollar Value of…, Number of ….) with "Category 1" and "all" have been approved.)

20. Transfers still need to be defined. Should transfers be considered equivalent to exchanges, which are categorized as buys and sells?
(Transfers were initially removed but were reinstated to identify transfers in kind.)

21. Do we still need values "2" and "3" under Transaction Source field?
(The transaction source for plan/investor omnibus directed will be removed. We will also add a value for "Intermediary Cannot Differentiate" to the record layouts.)

   (Updated 02/06/206: Transactions will be classified as Category 1 and Category 2. Transaction Category field will be added. Transaction Source will contain shareholder, plan, rep, and cannot differentiate.)

22. Review list of "Transaction Categories" for Detail record.
(Transaction Category has been renamed "Transaction Code." Valid codes have been reviewed and approved.)

23. What is the list of Underlying Intermediary Indicator values? What is the default?
(List of values approved.)