Security Lending

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1 Security Lending

Purpose of this exercise is to familiarize the trainees on Security Lending process and the relevance of FIX protocol in this process. The trainees will build a small application that will simulate a simple Security Lending transaction between a Lender (Custodian) and Borrower. The trainees will build an user interface to view and initiate the transaction They will then send the message in the appropriate format to a Message Queue. They will read any response messages and update the tables.

1.1 Introduction:

Securities Lending involves a transfer of securities (such as stock shares or bonds) to a borrower, who gives the lender collateral (which can be shares, bonds or cash). The borrower pays the lender a fee each month for the loan and is contractually obliged to return the securities on demand. In the U.S. primary security lenders include large institutional investors such as mutual funds, pension plans, insurance companies, and endowments; the main borrowers of securities include broker-dealers, hedge funds, and proprietary trading desks of broker-dealers.

The borrower may need the securities for a variety of reasons, such as to cover short positions, settle trades, or satisfy collateral requirements. The lender typically retains the right to recall their securities at any time.

In US, some of the big players in security Lending include State Street, JPMorgan Chase, BlackRock, Northern Trust and BNY Mellon.

Security Lending process overview is shown below. **Lender** motivations for lending securities can include:

- Offsetting the expenses of managing and administering an investment portfolio
- Maximizing overall portfolio performance
- Foreign investors employing dividend arbitrage to reduce effective tax rates on dividend income

Borrower motivations for borrowing securities can include:

- Covering short positions
- Hedging investment positions
- Arbitrage
- Gaining voting rights.

In most instances, security lending is transacted through an agent lender (often a custodial bank) who, for a negotiated fee, administers the lending program and often reinvests the collateral cash. The agent lender may be an independent entity, or an affiliate of the lender.

Lender (Supply) — Master SL Agreement — Borrower (Demand)
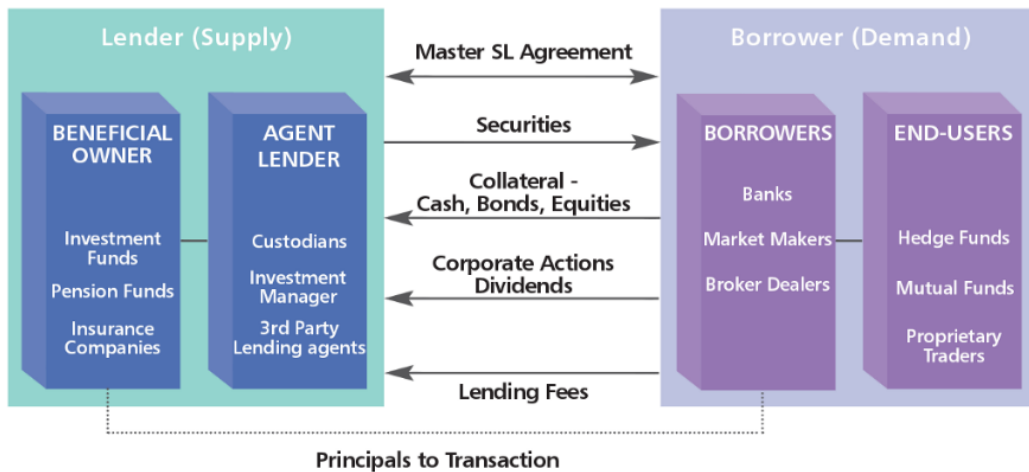
The Agent Lender (Custodian) typically acts as an intermediary between the lender (the owner of the securities) and the borrower (the investment company seeking to borrow the securities). For facilitating these transactions, the Custodian may use the FIX (Financial Information Exchange) protocol to communicate with other investment companies involved in the securities lending process.

As shown in the diagram above, there can be several transaction types – setting up the Master Security Lending Agreement, Lending of Securities, Collateral exchanges, Corporate Actions, Lending fees etc. We will look at a simple subset for our MVP (Minimum Viable Product).

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2 Scope of work

We have a simplified example of the communication flow between a Custodian and a Borrower using the FIX protocol in securities lending. The actual sequence may be more complex depending on the specific details of the transaction and the parties involved.

Sequence	Message	FIX message type	Roles involved and Activity
1	Request For Security	AF	**Custodian->Borrower: Request for Securities** The custodian requests securities from the borrower by sending a Request for Securities message (AF).
2	Collateral Inquiry	BB	**Borrower->Custodian: Collateral Inquiry** The borrower responds by sending a Collateral Inquiry message (BB) to request information about the collateral required to secure the loan.
3	Collateral Report	BA	**Custodian->Borrower: Collateral Report** The custodian responds with a Collateral Report message (BA) that provides information about the collateral required for the loan.
4	Trade Capture Report	AE	**Borrower->Custodian: Trade Capture Report** The borrower sends a Trade Capture Report message (AE) to report the details of the securities lending transaction.
5	Trade Confirmation	35=AK	**Custodian->Borrower: Trade Confirmation** The custodian confirms the details of the trade by sending a Trade Confirmation message (35=AK).
6	Security Status	f	**Borrower->Custodian: Security Status** The borrower reports the status of the securities loan by sending a Security Status message (f).

To demonstrate this sequence of workflows we will have the following components in this application:

2.1 Custodian application

2.1.1 User Interface

- Custodian will see active list of Securities Lending contracts, that borrowers have with Custodian.
- Custodian will have ability to raise the request for a Security against a Borrower
- Custodian will consider any offer from Borrower for Security and accept or reject

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2.1.2 Backend - Send and Receive messages.

- Upon submission of a request from the UI, the appropriate message (see table below) will be constructed by querying the database table, formatted and send as a Message to ActiveMQ.

- System will have ability to check for new messages from Borrower. Upon receipt, based on the FIX message type (see table for reference), the message will be decoded and the data will be updated in the table using Transaction identifier.

- Custodian will send AF, BA and AK messages.

2.2 Borrower application

2.2.1 User Interface

- Borrower will see list of Security Lending contracts entered into by Borrower with all Custodians.

- Borrower will be able to raise the request for Security Loan or accept any proposals

2.2.2 Send and Receive messages.

- Upon submission of a request from the UI, the appropriate message (see table below) will be constructed by querying the database table, formatted and send as a Message to ActiveMQ.

- System will have ability to check for new messages from Borrower. Upon receipt, based on the FIX message type (see table for reference), the message will be decoded and the data will be updated in the table using Transaction identifier.

- Borrower will send BB, AE and 'f' messages.

2.3 References

- FIX 4.4: Messages by MsgType – FIX Dictionary – Onix Solutions

- **SAMPLE MESSAGE**
  - New Order Single Message, where '^' is the delimiter.

    8=FIX.4.1^9=0235^35=D^34=10^43=N^49=VENDOR^50=CUSTOME^56=BROKER^52=19980930-09:25:58^1=XQCCFUND^11=10^21=1^55=EK^48=277461109^22=1^54=1^38=10000^40=2^44=76.750000^59=0^10=165

thank you

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