



Implementing Market Value Reconciliation: Confirming Data Quality

Abstract

“In God we trust: all others must bring data”

As the financial industry operates with a wide variety of service providers (Exchanges, Broker-dealers, market data providers & custodians to name a few) to satisfy the needs of buy side firms, the exchange of timely data flows between these organizations become more sophisticated and complex. The complexity is further exacerbated when a consolidated single view of the portfolio has to be presented to clients by aggregating information from different service providers. How do we ensure that data is being enriched, mapped and correctly processed in a timely fashion? Billions (in terms of market value) of transactions are processed every day. What controls and processes are in place to confirm what the investor sees is actually what the investor owns?

A client in the business of aggregating information and providing portfolio management solutions (Performance measurement, Compliance monitoring & Client reporting) approached Meradia to help define a process to confirm the transactional data quality received from various custodians and market data vendors. Meradia with its deep experience in accounting & performance management domain helped define, develop and implement a market value reconciliation process that matched transactions and identified breaks.

Background

Though capital market businesses have performed transaction processing for a long period of time, the ability to accurately map them in the book of records has always been a daunting task. A significant amount of time is spent by the Operations team to manually assign and classify transactions. This could be either due to inefficient business rules and/or complex data patterns. With the proliferation of exotic instruments and new business models, transaction complexity is on the rise. A continuous monitoring approach is required to ensure that data has been processed correctly and more importantly in a timely manner.

A portfolio management solutions provider had obtained a significant number of requests from its large client that the information represented on client reports is inaccurate. The solutions provider immediately realized that data quality was the issue. But how to go about correcting this. How can a process be set up so that these issues do not arise in the future or at least identified pro-actively rather than its clients discovering them? With such a challenging task ahead, the firm chose Meradia to help analyze the existing system, propose a solution design and implement a market value reconciliation model that would solve current problems and identify potential issues in the future. Meradia's accounting and performance domain expertise coupled with strong data analytical skills came to the forefront to design and implement a robust model with a quick turn-around time.



EXECUTIVE SUMMARY

Meradia was retained to act as a subject matter expert for performance calculations while researching, testing and implementing changes to TXN mappings and formalizing the daily execution of the financial reconciliation process.

CHALLENGES

- High Volume driven environment that necessitated efficient recon processes
- Several client business models
- Multiple custodians for a single client giving rise to complex business scenarios

Benefits

- Accurate information on client accounts
- Dollar value of non-reconciled transactions by category providing insight
- Pro-active approach in identifying breaks and resolving them
- Parameter driven that provides “One model – Multiple client” executions



ABOUT MERADIA

Meradia Group is a professional services firm that helps companies in the financial sector maximize operational efficiency and manage change. Meradia has been leading and executing all types of strategic initiatives since 1997 with an emphasis on data quality, automation and cost-control.

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Analysis & Solution Design

The client's application received accounting transactions from several custodians and mapped them to transaction data stores. The data was also enriched with necessary business logic to make it ready for performance computations.

As in any reconciliation model development, the most important aspect is to identify both sides of the reconciliation legs. Meradia knew that market value reconciliation on accounting transactions requires an in-depth knowledge of various transactions types (Corporate Actions, Income, Foreign Exchange, Reinvestments, Sweeps, etc.) and its relation to performance. Tapping into its huge expertise, Meradia started working with product managers & Operations folks to understand the current business problem and build a reconciliation model.

A robust reconciliation model was designed and implemented to identify matching accounting transactions. Some of the salient features include:

- a) Agile and Incremental: A core base of SQL logic was gradually expanded, enhanced and optimized in response to analyst needs. Some ideas worked well, others did not. Meradia had to make changes and add features quickly, without introducing bugs.
- b) Configurability: Parameter driven to suit client specific business models .
- c) Flexibility: Ability to run for single accounts, or groups of accounts. Able to run for any date range, including results grouped by day.
- d) Intelligent Reasoning: Classify non-reconciling accounts to known reasons/categories.

Meradia recognized that significant value can be added if root causes of remaining breaks can be ascertained. A quick analysis of the data model and mapping procedures laid the foundation for the investigational process.

The root causes identified can be broadly classified into the following categories:

1. Incorrect transaction Mappings
2. Orphaned Transactions – Transactions missing the other side/leg
3. Delayed Posting – Transactions coming late
4. Corporate Actions – Transactions not matching due to effect of mergers, splits, etc.

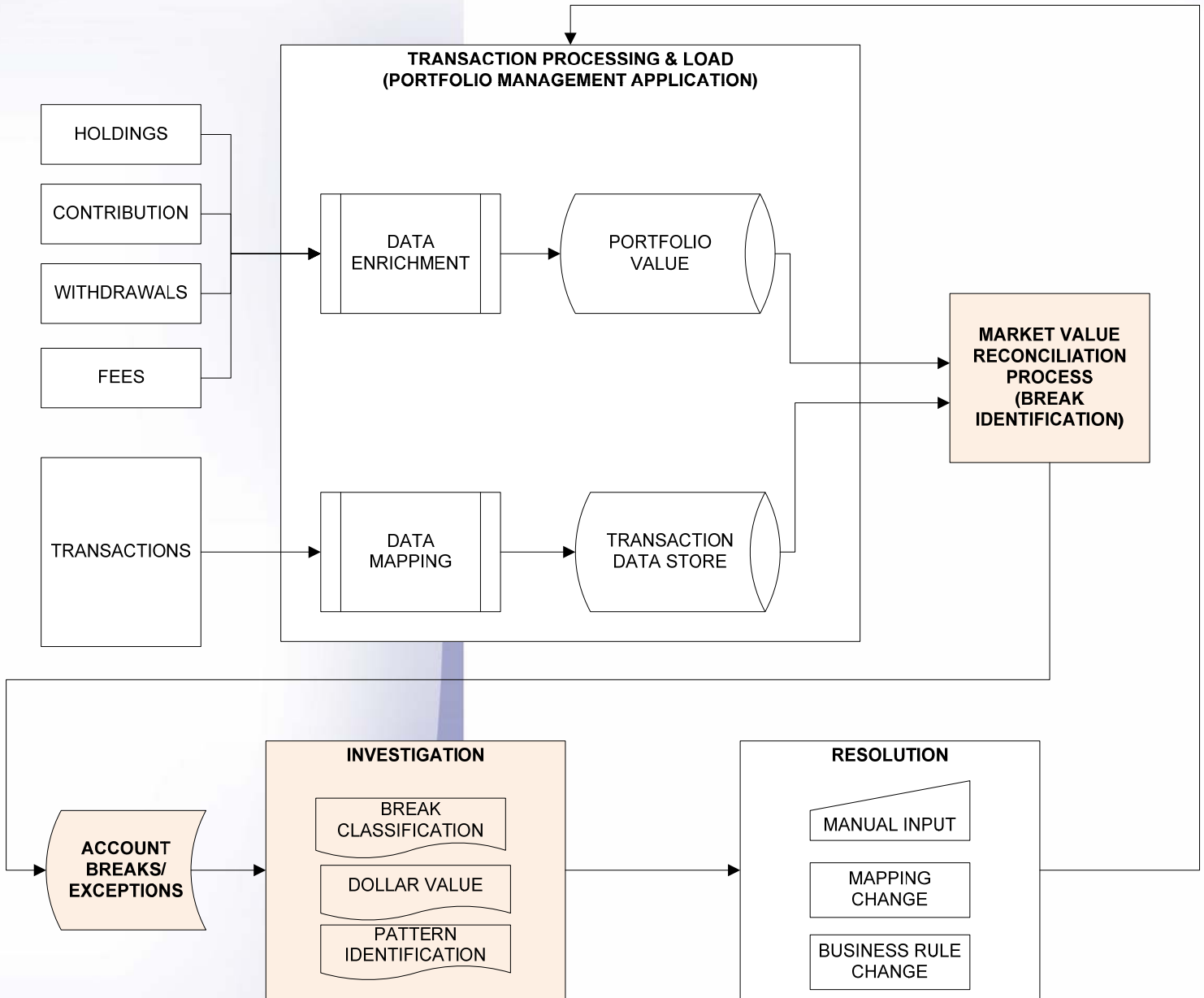
Once causes were identified, transactions with similar issues across the entire universe have to be found. Manual investigation of each account was time consuming and inefficient. Meradia's technical skills along with domain expertise paved the way to develop SQL queries and identify similar patterns. In some business scenarios, these queries helped to identify breaking transactions worth millions of dollars. Development highlights include:

- a) Agile and Incremental: A core base of SQL logic was gradually expanded, enhanced and optimized in response to analyst needs. Some ideas worked well, others did not. Meradia had to make daily changes and add features quickly, without introducing bugs.
- b) Flexible: Able to run in batch, or interactively.
- c) Stable: Final SQL versions were many hundreds of lines long, but ran reliably in less than one minute, even for the largest data sets.

To close the loop, Meradia coordinated with Operations team and development team (as the scenario required) to fix the issues.



Market Value Reconciliation – Context Diagram



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