Managed Account Rebalancing System

Scalable Wealth Management Technology

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About SoftPak

Who we are

Formally established in 1994, SoftPak Financial Systems is a software consulting firm specializing in the development of analytical tools, web-enabled solutions and database applications for the asset management industry. As a privately owned company, we have a staff of 38 professionals that have the industry insight and technical expertise to successfully define, develop and deliver the most challenging of software projects.

What we do

Our professionals have a wide range of investment and technical expertise that allows SoftPak to deliver customized solutions to meet the unique needs of the financial industry. Our extensive experience within this niche enables us to overcome the challenges of accessing and delivering information throughout any investment organization. Our areas of expertise include:

- Design, optimization and management of databases
- Development and integration of analytical tools
- Building multi-tier, multi-platform financial applications
- Object-oriented analysis, design and development

Partial Client List

American Express – Citigroup – Deutsche Bank – Gartmore Investment Management plc
OFI Private Investments – Putnam Investments - Regent Atlantic Capital
State Street Global Advisors

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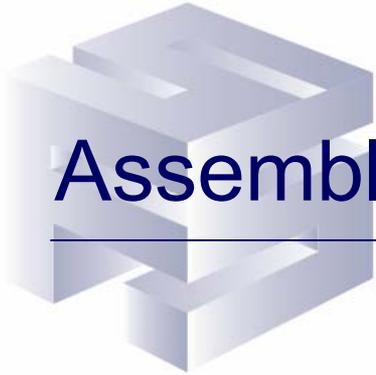
Portfolio Manufacturing: Defined

Any system that provides portfolio-level security and/or asset category selection based upon client portfolio preferences and investment data.

Client Portfolio Preferences

- Risk Tolerance
- Tax Management
- Restrictions
- Liquidity
- Legacy Positions

Investment Data

- Account – Tax Lot Holdings
- Benchmarks/Models
- Buy/Sell Lists
- Prices
- Expected Returns - Alphas
- Risk Models
- Industry/Sector/Asset classifications

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Assembling the Shop Floor

When building an effective portfolio manufacturing process, factors to consider include:

- Methodology: Rule vs. Risk
- Data Integrity
- Technology
- Build vs. Buy

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Methodology: Rule vs. Risk

Rule-based: Applies accounting logic and tax filters

Pros: simplified rebalancing

Cons: risk control is an 'after thought' which may lead to unintended bets and greater volatility

Risk-based: Applies modern portfolio theory

Pros: controls tradeoff of risk, return, transaction cost and taxes – understand sources of risk

Cons: requires greater skill set and an elevation of understanding

Does it matter?

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Risk: Consider this…

• Regardless of the investment style, every asset manager needs to understand the risks one takes to generate returns and one must be able to communicate that understanding to others.

• Once manufactured, portfolios evolve through day to day changes in asset values and client directed mandates…leading to unintended bets that may impact performance.

• Risk analysis or 'decomposition' exposes these bets which, in turn, transforms implicit assumptions into explicit decisions.

• Risk-based portfolio manufacturing has a straightforward return profile – what you put into it is what you get out of it.

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Data Integrity

Portfolio manufacturing involves the use of client portfolio and investment related data. Without proper data integrity checks, the manufacturing process will be flawed.

- Stale/missing pricing information
- Missing or unrecognized security identifiers between enterprise systems
- Historical trading information to address wash sale rule
- Missing cost basis information for taxable portfolios
- Using reliable sources of risk

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Technology: A Key Success Factor

Without applying the right technology, the manufacturing of heterogeneous portfolios is a labor intensive process. So what's the right technology?

• Scalability – Apply the manufacturing process to one or one hundred thousand portfolios

• Connectivity – Seamlessly connect and move data through the manufacturing process; across all enterprise systems

• Automation – Provide for an unattended manufacturing and quality control process

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Technology: A Key Success Factor (cont.)

• Portability – Allow for the manufacturing process to be initiated regardless of the location

• Security – Provide for proper access and security controls

• Ease of Use – Provide for an intuitive user interface that allows one to focus on the results and not the manufacturing process

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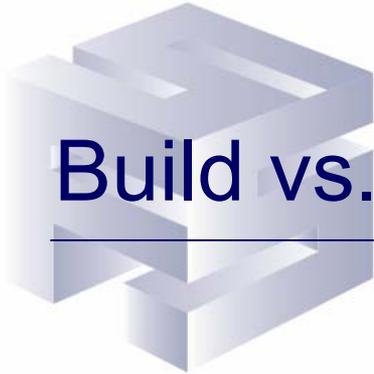
Build vs. Buy

While a number of asset management firms have successfully built internal portfolio manufacturing systems, there are a number of commercially available solutions in the marketplace today.

What to consider…

Build

- Internal resources available?
- Timeline to implement?
- Use of outdated technologies?
- Is this your core competency?

Buy

- Risk vs. Rule (or Both)
- Open vs. Closed
- License fees
- Established client base

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Managed Account Rebalancing System (MARS)

Developed in partnership with Northfield Information Services, MARS is a highly scalable client server application that allows any firm with fiduciary responsibilities to implement a scalable portfolio manufacturing process; essentially automating and streamlining the process of running risk analytics, rule-based rebalancing and mean variance optimization across a very large number of accounts.

- Automates routine tasks across multiple accounts
- Provides for scalability and ease of use (templates)
- Supports alpha based optimization
- Has powerful tax efficient optimization capabilities
- Supports Overlay Management
- Creates customized reports viewable in a variety of formats
- Provides connectivity to Oracle, Sybase, SQL Server and DB2

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Batch Management

The single biggest idea behind MARS is rebalancing a very large number of portfolios by grouping portfolios with similar characteristics in batches. Users can create batches that have up to 10,000 portfolios in it. Those batches can then be manipulated and rebalanced as a group to save time. MARS has many features that make it easy to work with batches:

- Rich filter schemes to create batches
- Set parameters for the entire batch
- Individual accounts can be customized
- Utilities makes it easy to create batches

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Tax Efficient Optimization

By leveraging Northfield's Open Optimizer, MARS allows users to fully implement and leverage tax efficiency for their clients. Whether rebalancing client accounts due to changes to the model/benchmark or fulfilling a client directed mandate, users can efficiently perform tasks such as:

- Gain/Loss Harvesting
- Gifting Securities
- Raise/Invest Cash
- Minimizing taxes through what-if simulations

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Overlay Account Manager

The Overlay Account Manager allows users to create and rebalance overlay accounts. These accounts, as well as Composite Models, can be maintained and updated in the MARS database.

- Create and maintain Overlay Accounts
- Create and maintain Composite Models
- Rebalance Overlay Accounts
- Separate trades by the sub-accounts

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Risk based or Rule based

You don't have to choose between risk based or rule based rebalancing – MARS uses Northfield's Open Optimizer technology – any structured risk model can be used with this rebalancing method.

Furthermore, MARS has a built in rule based rebalancing engine that allows users to enter rules and criteria to buy and sell positions. MARS is the only fully integrated open software solution that offers both methodologies and is specifically designed for the Managed Account Industry.

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Easy to Use Templates

MARS provides several templates that simplify many routine rebalancing tasks. Users can use these templates as is, or modify the default settings. Here are a few examples of the available templates:

- Raise Cash
- Invest Cash
- Harvest Gains – Gift Securities
- Harvest Losses
- Clone a Model
- Substitute Security
- Buy or Sell Only
- Set Restrictions
- Remove Restrictions

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Customized Reporting

The reporting component of MARS can be used to produce a variety of content-rich results. This is possible because all the input and output data is available directly from the database. MARS comes pre-loaded with twenty of the most commonly requested data reports.

- **Aggregate Reports**: The data can be aggregated by accounts or by securities

- **Composite Reports**: MARS can generate a report that contains a combination of text and graphics

- **Custom Reports**: Users can customize existing reports or add new reports

MARS also provides a choice of formats, all the reports can be viewed and saved in several different formats – these include PDF, HTML, XLS, CSV, XML.

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Trade Reports and Overrides

MARS allows you to override trades completely or partially. Trades can be overridden for one or more securities; this can be done for a single or multiple accounts – or for an entire batch.

MARS comes with a set of rich trading reports, including:

- Trades detailed by account
- Trades detailed by share lot
- Block Trades Report
- Post-trade override portfolio characteristics

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Trade File Creation

MARS works with the industry's leading trade order management systems. Users have the capability to generate trade files in a variety of output formats, upload trades directly to any trade order management system or FTP the trade file to a remote server. Sample formats include:

- Checkfree APL
- Advent
- Charles Schwab
- Fidelity
- TD Waterhouse
- Centerpiece
- Charles River
- MacGregor – MFTP
- Client Defined

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Database Connectivity

- **Input and Output**: MARS provides direct connectivity to Oracle, Sybase, DB2 and SQL Server databases; the user does not need to create separate flat files as inputs for the Open Optimizer. MARS retrieves all the input *directly* from the database and passes it on to the Open Optimizer engine. Similarly, MARS takes all the output files of the Open Optimizer and loads it all back to the database; from where trades can be exported to your trade order management system.

- **Accounting Systems**: MARS loads data directly from most major third party accounting systems into MARS schema – users perform risk analytics and portfolio rebalancing directly with MARS schema.

- **Data Manipulation:** Data loading and data maintenance utilities allow users insert, delete and update all the data in their enterprise database of choice.

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System Requirements

- SoftPak's Managed Account Rebalancing Systems (MARS) is a two-tier client/server application.

- SoftPak will install the MARS schema in the client's corporate database of choice. MARS supports any relational technology; including Oracle, Sybase and SQL Server. The MARS schema holds the snapshot of all the data used by the application and its supporting utilities

- While the MARS server database could be on any software or hardware platform, we recommend that client's allocate 1GB of free disk space for every 1000 accounts processed.

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System Requirements (cont.)

- The MARS client is a Windows based application, developed in Visual C++ and Borland C+. It will run on any PC that supports Windows 2000 or Windows XP operating systems. SoftPak recommends a PC with a minimum of 128 MB memory, P III or P IV processor and 1GB of free disk space for every 1000 accounts processed.

- The MARS client uses the native libraries provided by the database vendors to communicate with the server; as such the database client software is required on the clients. The MARS client uses the server only as a data repository; to retrieve and load data. All processing is done locally on the client and the results are loaded back to the database server.

- SoftPak imposes no restriction on the number of concurrent users on MARS server database, but the database vendor may have licensing restrictions. All communications between the MARS client and server database is done via TCP/IP or HTTP protocols.

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Installation

We can have your system up and running in a week. Here's how we do it.

1. We install the MARS schema into your corporate database server. MARS supports Oracle, Sybase, DB2 and SQL Server.

2. We load your holdings data into the MARS database server using MARS utilities and stored procedures.

3. We install MARS client software on user desktops and then they're ready to communicate with the MARS database server and begin rebalancing client portfolios.

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Benefits and Summary

- **Time Saving** – MARS allows you to do in hours what may take days

- **Easy to Use** – MARS has an easy to use windows-based interface with drop down menus and user-friendly tools

- **Easy Installation** – MARS can be installed and up and running in as little as a week

- **Scalable** – MARS is an open system that can accommodate tens of thousands of portfolios

- **Compatible** – MARS is compatible with all major databases and servers

- **Flexible** – MARS can be used with any open system – either rule based or risk based

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