StreamDF

Case Study

Data aggregation challenge & solution for

International Asset Manager

 - First Reports in 3 weeks

 - Duration 9 months

Client objectives

Build a Product Control function

1. Develop "official" daily P&L and risk reporting

   a. Reconciled to books and records

   b. Agreed between Front Office and Finance

2. Develop a data model and supporting technology to provide data "as-a-service" to satisfy the broader need for consistent data across all business functions

Project scope

Set up Product Control function with daily processes and reporting

Phase 1: Focus is on Bond Prop, Customer Facilitation and Structured Products businesses. This included front-to-back operational processes from initial trade execution in the front office through to downstream Risk, Finance & Operations daily process (including documentation) which can operate on an ongoing basis
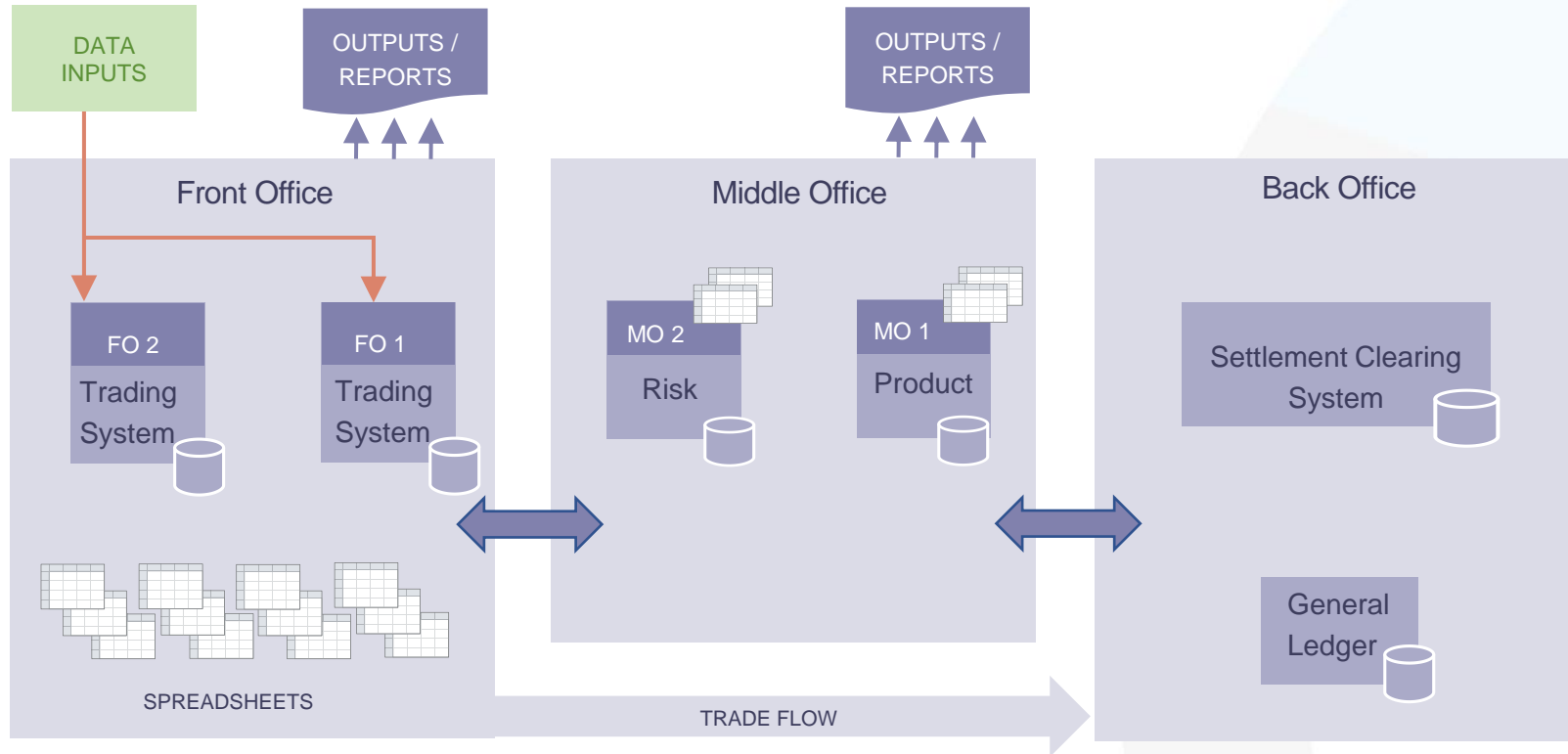
Phase 2: Replicated the above process across all other portfolios and business lines. This included automation of all existing FO positions and P&L reports

Phase 3: Handover to Client BAU

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Before

No shared understanding of the business leading to growth limitations

1. Delayed: Monthly P&L available >10 days after month-end

2. Inconsistencies: FO spreadsheets with different P&L calculations

3. Poor quality: No independent validation or reconciliation to official systems of record

4. Operationally weak: Unsynchronised manual processes for data collation - prone to errors

5. Friction: Problematic & time consuming reconciliations across Risk, Finance and FO

6. Disparate sources: 5 independent systems

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Existing Architecture

DATA INPUTS

OUTPUTS / REPORTS

OUTPUTS / REPORTS

Front Office

Middle Office

Back Office

FO 2
Trading System

FO 1
Trading System

MO 2
Risk

MO 1
Product

Settlement Clearing System

General Ledger

SPREADSHEETS

TRADE FLOW

Data in Functional Siloes
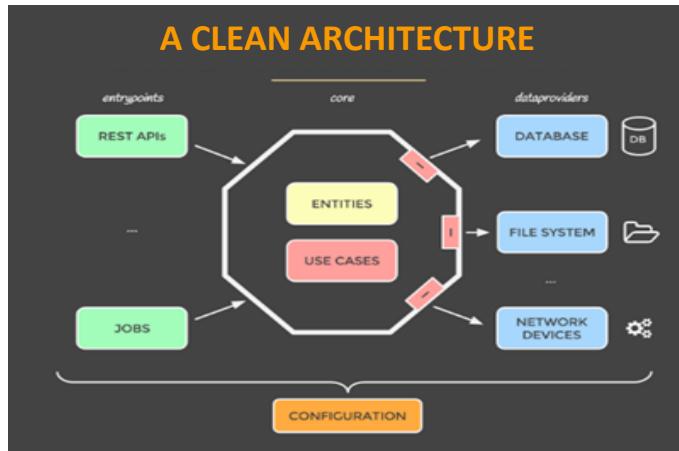
✗ Multiple disparate copies

✗ Inconsistent aggregations

✗ No cross enterprise transparency

✗ Multiple disparate systems

Business Impact

✗ Spiralling costs
  ▪ Reconciliations
  ▪ Tactical projects

✗ Long lead times

✗ Regulatory pressures

The challenge

Easy in theory – Difficult in practice

A fully cleaned and verified data warehouse was required but the lead times were considered too long, with expensive projects that did not justify the outlay.

It is quite easy to put down on paper a "clean" architecture with consistent sourcing of data and straight through processing. It is far more difficult to achieve in practice.

What makes it difficult are multiple existing systems and business processes across different functions (Ops, Risk Finance & FO), often with complex business logic.
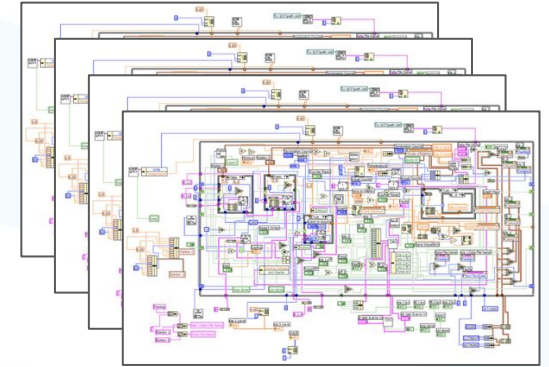
For our client, this consisted of 5 disparate systems and 35 independent spreadsheets all with completely different approaches to P&L calculation.

Monthly MIS required manual verification (not possible to do 100%) along with aggregation of often inconsistent numbers.

The options

OPTION A
New build to replace the existing legacy

Given the complexity, this is a daunting task which invariably defaults to a new greenfield architecture. This ignores existing nuances in favour of building completely new systems and processes.

A new build is expensive and time consuming

OPTION B
Adapt existing legacy systems

Modify and/or extend existing legacy systems and processes to realise the required functionality.

Re-configure systems to a new architecture

RISKS

Likely to overrun on budget and timescales and often "papers over" important business complexities. The "cut-over" from old to new is significantly harder than anticipated.

A big bang approach

RISKS

Requires an understanding of all the complexity embedded in the existing systems. Adapting the systems in a way they were not designed for, whilst running existing production processes.

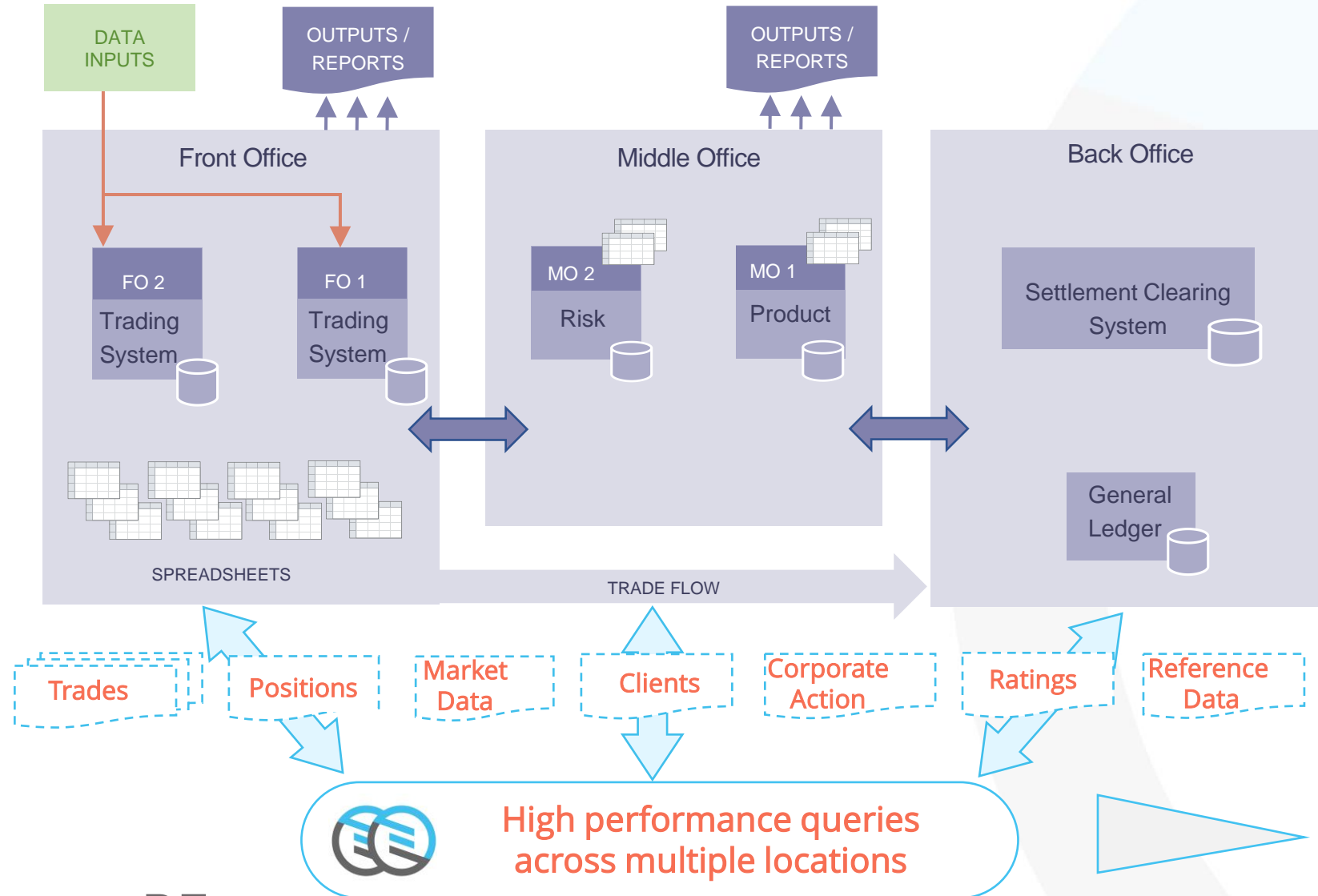Changing the tyres while the car is moving

The choice

Option A had been attempted unsuccessfully so Option B was selected with the flexibility and performance of **Stream**DF making this approach possible.

Importantly we decided <u>NOT</u> to simply automate existing spreadsheets nor are we papering over the complexity. Instead, using our high performance data processing engine, we built a series of components & services to replicate the existing business logic and flows to:

- Provide full look-through to the existing systems
- Re-order data into services
- Retain existing complex functionality
- Create discrete data domains that separates out Data Provision, Calculations and Reporting
- Provide a framework for a controlled migration of business processes for short term objectives and future requirements

No change to existing architecture

Front Office

DATA INPUTS

OUTPUTS / REPORTS

FO 2 — Trading System

FO 1 — Trading System

SPREADSHEETS

Middle Office

OUTPUTS / REPORTS

MO 2 — Risk

MO 1 — Product

Back Office

Settlement Clearing System

General Ledger

TRADE FLOW

Trades • Positions • Market Data • Clients • Corporate Action • Ratings • Reference Data

High performance queries across multiple locations

Access to Data in Functional Siloes

- ☑ **Decrease in** multiple disparate copies
- ☑ **No more** inconsistent aggregations
- ☑ **Full** cross enterprise transparency
- ☑ Multiple disparate systems

Business Impact

- ☑ **Reduced** spiralling costs
  - ▪ **Reduced need for** reconciliations
  - ▪ Tactical projects ☑
- ☑ **Short** lead times
- ☑ **Reduced** regulatory pressures

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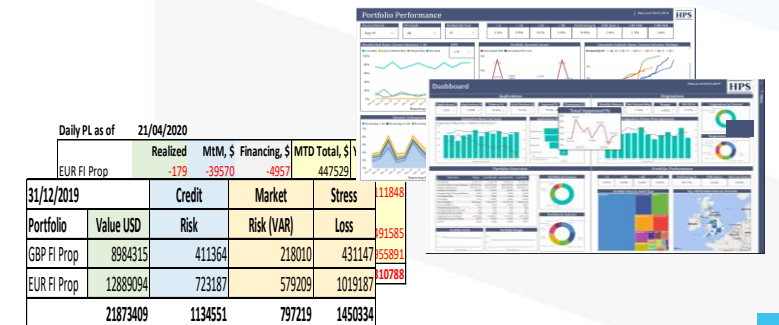
The end goal

- P&L independently verified

- P&L fully aligned between Front Office, Finance and Risk

- No inconsistencies in results hence no disagreements, _even on bonus discussions_

- Front Office and Finance fully aligned with Risk Management giving an accurate view of forward looking risk as well as backward looking business performance

- All available daily using the same information for monthly MIS and annual Financial Statements

This sounds straightforward but many organisations have spent significant sums of money to achieve this aim, often without success !!

High Performance Data Technology

StreamDF Prime Benefits

Major opportunity for cost reduction

Leverage existing infrastructure

Incremental implementation and early benefits

Live views for reporting and analysis

Transparency with full audit

Scalable and extensible

Enables agile business models

Enhanced automation

High Performance Data Technology

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For further information, please feel free to contact us

Stephen Taylor

Chief Executive Officer

Stephen.taylor@streamdf.com

www.streamdf.com