



## Inside Market Data Inside Reference Data

Five separately bookable days in New York

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Tutors

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# Market data, reference data & trading technology

New York 23–27 April / 22–26 October 2012

Day  
**1** Introduction to the financial  
markets and market data

Day  
**4** Thomson Reuters Enterprise  
Platform, RMDS, Data Feeds and  
System Management

Day  
**2** Cost control and data  
administration

Day  
**5** Low Latency market data and  
trading systems solutions

Day  
**3** Managing Reference Data

# Market data, reference data & trading technology



## About the course

Despite ongoing challenging business conditions banks and financial institutions continue to implement higher performing market and reference data systems.

Some organisations are focusing on improved market access and others are looking for overall price/performance value.

In this course attendees will gain key understandings of, amongst other things, the technical and administrative aspects of the market data arena and best practice in the management of reference data.

## Learning outcomes:

- Identifying alternative data sources and services
- Developing and executing cost management strategies
- Better understanding for cost allocation and finance methodologies
- Comparing the product offerings delivered by the key vendors
- Maintaining reporting on business unit market data inventories and product utilisation
- Strengthening your vendor knowledge to better understand end user requirements
- Exposure to the latest technical developments as used by the Finance Industry

## Who should attend?

This course will be of value to all those working in the areas of market data and reference data in financial institutions plus associated vendors, exchanges and consultants. It is of particular relevance to those executives within the following areas:

**Market Data Services, Client Data Services, Reference Data Strategy, Market Data Commercial, Market Data Management, IT Infrastructure, Data Administration, Investment Data Analysis, IT Administration, Product Management**

## Course Tutors:

**John Best**  
Principal Consultant, KSS  
Training Ltd

**Colin Wright**  
Training Consultant and  
Partner  
KSS Training Ltd

**Ed Ventura**  
President and CEO, Ventura  
Management Associates LLC



**Day 1 Introduction to the financial markets and market data**

1

This one day course unit is designed to provide a broad overview and introduction to the market data business, its systems and vendors.

- 0915 **Housekeeping and introductions**
- 0930 **FISD and the financial information associate certification process**
- 0945 **The markets**
  - Evolution of capital markets and securities trading
  - The role of financial markets today
  - The trade life cycle
- 1015 **Participants in the financial markets**
  - Buy side / sell side / exchanges / IDB's / lesser regulated trading venues
- 1045 **Market oversight and regulation**
  - The roles and responsibilities of governments, Bank for International Settlement (BIS), central banks, regulators
- 1115 Morning Break
- 1130 **The internal functions of financial market institutions**
- 1145 **Summary of major asset classes**
  - Equities, fixed income, short term money markets, FX, commodities, futures and options
- 1215 **Market data in job functions in consumer firms**
- 1230 **Overview of products and vendors**
  - Exchanges
  - Data aggregators
  - Software and technology suppliers
  - Market share between major vendors
- 1300 Lunch
- 1345 **Market data sources**
  - Contributed data
  - Vendor generated data
  - Exchange data
  - Data over the internet
- 1415 **Types of market data**
  - What do we mean by market data? — Fundamental data
  - History and other time series data — Valuations data
  - Credit ratings data — Indices
  - News and commentary — Messaging
  - Other reference data
- 1500 Afternoon break
- 1515 **The challenges of standards: ISO, SWIFT, FIX**
- 1530 **Methods of delivery and display**
  - Terminals and workstations: using market data in excel
  - Datafeeds, databases, platforms
- 1600 **Vendors**
  - Thomson Reuters, Bloomberg, Interactive Data, Six Telekurs, Standard & Poor's, Dow Jones, FactSet, Market
  - Exchanges and MTFs: NYSE, LSE, DBG, BATS, Chi-X
  - Regional niche players
  - Specialist players
- 1625 **Users and uses of market data**
  - Human use of data — Local applications
  - Shared applications — Algorithmic-based applications
- 1640 **Commercial frameworks for distribution and use of market data**
  - Example commercial frameworks: Bloomberg, Reuters Business Principles and the RGA
  - Unit of count — Datafeed licensing
  - Contracts, compliance and audits
  - Data usage reporting and inventory management
  - DACS, DART — MDM, FITS, INFOmatch
- 1700 Afternoon break 2
- 1715 **Industry issues and challenges**
  - The US markets and RegNMS
  - The European Union and MiFID
  - Challenges in Asia
- 1800 **FISD/FIA sample exam questions**
  - Test and review
- 1830 End of day one

**Day 2 Cost control and data administration**

2

Market data costs can be some of the largest items on the budget for financial institutions. This course unit provides a comprehensive breakdown of the costs, their origins and techniques for managing them. Included are examples from real world market data cost management exercises.

- 0900 Registration and coffee
- 0930 **Cost liabilities and components of market data**
  - Exchange & vendor fee liabilities
  - Summary of changing exchange policies
  - Vendor packaging options
  - Finding the true cost of market data
- 1030 **Reuters DACS and Bloomberg usage reports**
  - Interpreting the reports
  - What additional information is required?
- 1100 **The Thomson Reuters new pricing model**
  - Thomson Reuters objectives
  - Data usage models
  - Infrastructure models
  - Potential user exposure
- 1130 Morning Break
- 1145 **Market data management tools**
  - What additional information is useful for cost management?
  - Vendor comparison tools
  - Getting more detail than DACS and Bloomberg usage reports
- 1230 **Market data and inventory systems**
  - Example systems and outputs
  - Maintain reporting on business unit market data inventories and product utilisation
- 1330 Lunch
- 1430 **Evaluating strategies for cost control**
  - Identifying alternate data sources
  - Highlighting 2nd tier vendors
  - Can direct feeds be used to reduce costs?
  - Using delayed, snapshot and end of day data
- 1515 **Strategies to maintain savings**
  - User level reporting
  - Techniques for getting management support
- 1545 Afternoon Break
- 1600 **Market data control and cost saving case studies**
  - Examples from investment banks perspective
  - Savings realised by negotiation, data replacement and technology
  - Examples from the consultant's perspective
  - Case studies
  - Managing the consultant!
- 1645 **Course session workshop**
  - Delegate review of own market data cost control initiatives
- 1700 **Exercise: analysing a medium sized investment bank scenario**
  - Current usage profile
  - Identify opportunities
  - Drawing up a strategy
  - How to verify alternate vendors
  - Recommendations
  - Realistic savings analysis
- 1730 Questions and close
- 1745 End of day two

**Register Today!**

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**Day** Managing reference data

**3**

This unit of the reference data course provides a general understanding of the main attributes of an often overlooked, yet critical component of securities processing. The instructor will bring you through the major attributes and elements of reference data while describing its role as part of the product lifecycle. Attendees will be able to understand how reference data fits into their specific roles and position accountabilities.

**0900 Introduction**

- Tutor: background and experience
- Attendees
  - Description of roles and position accountabilities
- Course expectations
  - Description of agenda topic as they relate to the roles of attendees

**0930 What is reference data?**

- Definition
  - Interactive description and definition within the framework of reference data
- How it is used
  - Within the industry and between companies
  - Within the specific roles of attendees
- Why it is important
  - For the industry
  - How understanding it will make your life easier
- Lifecycle of data
  - Where reference data originates
  - Who develops it and why
- Where it fits within the trade cycle
  - The importance of reference data from issuance through settlement

**1030 The birth and growth of reference data**

- The genesis of reference data
  - From paper to iPhones
- How it continues to grow

**1100** Break

**1115 The sources of reference data**

- Creation through distribution
  - From term sheets into bytes
- The business model of distribution
  - Initial distribution; redistribution
- Ownership and management concerns
  - Defining your needs
- Vendors
  - Interactive Data; Bloomberg; Reuters; etc.
- Licensing, Consumption, redistribution and ownership
  - Discussion of who owns the data along with redistribution and consumption licensing
- Indices
  - Why they are important and how to use them
  - How they are created
  - The rights of utilisation

**1300** Lunch

**1400 Managing reference data**

- Identifiers: what they are & what a mess it is
  - CUSIPS, ISINs, RICs, etc.
  - How we got into the mess we're in
  - The evolution of the identifier
  - Why they're considered reference data
- Securities master file
  - What it is
  - Why it should be broadly viewed
  - Why to develop one
  - Discussion of attributes that are required
  - How to use it
  - Reconciliation practices and reporting
- Data standards and data quality
  - "Golden copies"
    - The concept explained and discussion of its value
    - "Single version of the truth"
      - Why the concept may not work; and why it may
  - Multiple suppliers
    - Pragmatic view of contracting with multiple suppliers
  - Reference data cleansing
    - Things to look for and how to discern the truth

**1515** Break

**1530 Corporate actions**

- What they are
  - Notifications; reorganizations; capital changes; and so on
- How major companies handle them

**1600 Counterparty data**

- Corporate hierarchies
  - Subsidiaries, affiliates
- Issue versus issuer
  - The two sides to every security

**1630 Customer data**

- Know your client
- Suitability
- AML

**1700 Recap of the day**

- Questions and answers

**1730** End of course

"Instructor was excellent and had deep knowledge of the business"

"Thank you. Superb knowledge exhibited by John"

"The excel stuff was a real eye opener"

"Great overview of the market data industry. Comprehensive materials presented and explained to attendees"

"Very good course trainer had very good real experience"

"It is a very good course to either increase or complete your knowledge in the market data challenges/industry. I would recommend this course to any market data employee"

**Day 4 Thomson Reuters Enterprise Platform, RMDS, Data Feeds and System Management**

This course unit provides a more detailed understanding of the Thomson Reuters Enterprise Platform and its predecessor RMDS, this whole day unit aims to provide a broad coverage of both the theory and practical experience.

0900	Registration & coffee
0915	<b>Introduction</b>
0930	<b>Introducing The Thomson Reuters Data Models and API</b> <ul style="list-style-type: none"> <li>Changing Data Models                     <ul style="list-style-type: none"> <li>Market Feed and SSL</li> <li>Open Message Model and RFA</li> </ul> </li> <li>Thomson Reuters Data Feeds</li> </ul>
1000	<b>Recap of Thomson Reuters Enterprise Platform and RMDS Architectures</b>
1015	<b>RMDS protocols and general configuration</b> <ul style="list-style-type: none"> <li>Client Protocols                     <ul style="list-style-type: none"> <li>IPC Communications, IPCROUTE File, RFA Configuration File</li> </ul> </li> <li>Backbone Parameters                     <ul style="list-style-type: none"> <li>RMDS Configuration Files, Configuration Management Strategies</li> </ul> </li> <li>Backbone Protocols                     <ul style="list-style-type: none"> <li>RRDP, RRRP, RRCF</li> </ul> </li> </ul>
1045	<b>An Introduction to Displaying Data Using Thomson Reuters Workstations</b> <ul style="list-style-type: none"> <li>An Guide to the Reuters workstation environments</li> <li>Open and Closed Components</li> </ul>
1100	Morning break
1115	<b>The Advanced Distribution Server (ADS) and P2PS</b> <ul style="list-style-type: none"> <li>P2PS Functionality</li> <li>P2PS Operation</li> <li>Starting and Stopping a P2PS</li> <li>Monitoring, Troubleshooting and Maintenance</li> <li>P2PS and DACS</li> <li>ADS Improvements and Enhancements</li> </ul>
1145	<b>Features of the Advanced Data Hub (ADH) and Source Distributor</b> <ul style="list-style-type: none"> <li>Example Feed Handler connectivity (RDF)</li> <li>Techniques for Configuring</li> <li>Load Balancing, Source Mirroring</li> <li>Source Distributor Monitoring, Troubleshooting and Maintenance</li> </ul>
1230	<b>Features of the Advanced Transformation Server and DTS</b> <ul style="list-style-type: none"> <li>Data Format Conversion</li> <li>Publishing New Data</li> <li>Data Access and Permissioning Challenges</li> </ul>
1300	Lunch break
1400	<b>Legacy and Recycled Products</b> <ul style="list-style-type: none"> <li>Enterprise License Server</li> <li>Data Dictionary Server</li> <li>Contributions Servers (OCS &amp; DCS)</li> <li>Broker Gateway</li> </ul>
1430	<b>The Data Access and Control System (DACs)</b> <ul style="list-style-type: none"> <li>Basic DACs</li> <li>Functionality, Components, Operation, Sample Reports</li> <li>Open DACs</li> <li>DACS on Demand</li> <li>DACS Web Server</li> </ul>
1500	Afternoon break
1515	<b>Extended Features of the Enterprise Platform</b> <ul style="list-style-type: none"> <li>Reference Data Handling</li> <li>Contributions</li> </ul>
1545	<b>What to Look for when doing "hands on" Platform Management</b> <ul style="list-style-type: none"> <li>General Maintenance and Administration Tasks</li> <li>Key Monitoring Utilities</li> <li>Troubleshooting Tips                     <ul style="list-style-type: none"> <li>Instrument &amp; feed failure, User data issues, Using Unix commands for Diagnostics, Using the P2PS Monitor</li> </ul> </li> </ul>
1615	<b>Performance Expectations and Tuning the Platforms</b> <ul style="list-style-type: none"> <li>RMDS</li> <li>Thomson Reuters Enterprise Platform</li> </ul>
1645	<b>Examples of 3rd Party data Feeds in the Thomson Reuters Enterprise Platform or RMDS</b> <p><b>Case Studies from Integration exercises using</b></p> <ul style="list-style-type: none"> <li>Bloomberg B-Pipe</li> <li>IDC Plus Feed</li> </ul>
1715	Q & A
1730	End of Course Unit

**Day 5 Low latency market data and trading systems solutions**

The trading world continues to evolve rapidly to the point where much of the traded volumes we see today are initiated and undertaken by computer systems using data derived directly from primary sources. This course section looks into the new technical innovations that form the low-latency data distribution and processing environment. Additionally technology assisted trading and data publication systems are reviewed, and the future trends both from a business and technology viewpoint are investigated.

0900	Registration and coffee
0930	<b>Review &amp; recap of days one and two</b> <ul style="list-style-type: none"> <li>Diagram of the trading structures of an investment bank</li> <li>Inter-linkage of it systems in the financial markets</li> <li>Reuters project Eikon and Elektra</li> </ul>
1000	<b>Changing trading models and electronic trading venues</b> <ul style="list-style-type: none"> <li>Examples from the FX market                     <ul style="list-style-type: none"> <li>EBS and Reuters</li> <li>Other liquidity pools and netting systems</li> </ul> </li> <li>Examples from the equities markets                     <ul style="list-style-type: none"> <li>Direct access exchange trading systems</li> <li>MTF's</li> <li>Dark pools</li> <li>OTC equities trading</li> </ul> </li> </ul>
1100	Morning break
1130	<b>Low latency market data platforms</b> <ul style="list-style-type: none"> <li>Drivers and technologies explained</li> <li>Example platform architectures</li> <li>RMDS6, 29West, Caplin, NYSE Technologies, IBM and others explained</li> </ul>
1200	<b>Complex event stream processing</b> <ul style="list-style-type: none"> <li>System principles</li> <li>Applications and usage examples:                     <ul style="list-style-type: none"> <li>Data cleaning</li> <li>Pricing systems</li> <li>Order routing systems</li> </ul> </li> </ul>
1245	<b>Combined pricing and reference data systems</b> <ul style="list-style-type: none"> <li>The challenges of managing large real time market data systems                     <ul style="list-style-type: none"> <li>Example: WestLB</li> </ul> </li> </ul>
1300	Lunch
1400	<b>Internal publishing and external distribution of real time data for trading and pricing</b> <ul style="list-style-type: none"> <li>The challenges of using and publishing real time data</li> <li>The real costs of machine usage of market data</li> <li>Derived data and redistribution definitions</li> </ul>
1430	<b>Fixed income trading systems</b> <ul style="list-style-type: none"> <li>Overview of fixed income trading venues</li> <li>Publishing and contributions systems - a summary</li> <li>Interfacing to the Bloomberg Trading Systems via MPF</li> <li>Case study: Emerging Markets Bonds Desk                     <ul style="list-style-type: none"> <li>Business drivers</li> <li>Data structures in Bloomberg</li> <li>Review of main message types</li> <li>Working with the Bloomberg test system</li> <li>Overall infrastructure review</li> </ul> </li> </ul>
1515	Afternoon break
1530	<b>Algo-trading review</b> <ul style="list-style-type: none"> <li>Algo trading objectives</li> <li>Market trends and asset class migration</li> <li>Different types of algo-trading                     <ul style="list-style-type: none"> <li>From programme to Stat-Arb algo trading</li> </ul> </li> </ul>
1600	<b>An algo-trading case study: arbitrage across two continents</b> <ul style="list-style-type: none"> <li>Business drivers</li> <li>Overall design</li> <li>Technical compones</li> <li>Latency priorities</li> </ul>
1630	<b>New directions and trends in IT for financial markets</b> <ul style="list-style-type: none"> <li>Private grid &amp; cloud systems</li> <li>Hosting initiatives</li> <li>Web 2                     <ul style="list-style-type: none"> <li>Example implementations</li> </ul> </li> </ul>
1700	Questions and close
1730	End of day three





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Five separately  
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London ■ 19–23 March / 29 October–2 November 2012

- |       |   |
|-------|---|
| Day 1 | Introduction to the financial markets and market data                       |
| Day 2 | Cost control and data administration  |
| Day 3 | Managing reference data   |
| Day 4 | Thomson Reuters Enterprise Platform, RMDS, Data Feeds and System Management |
| Day 5 | Low latency market data and trading systems solutions                       |

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