

Measuring The Health Of Your Trading Infrastructure

FISD RTTRT

1st June 2011

Rob Lane, Markets Manager

Electronic Trading



DISCLAIMER

- This presentation is provided for information purposes only. Nothing herein should be construed as legal or other professional advice or be relied upon as such. Nothing contained in herein should be construed as a representation or warranty.
- Interactive DataSM and the Interactive Data logo are service marks of Interactive Data Corporation, and registered service marks in Australia, European Community, Germany, Japan, Korea, New Zealand, Switzerland, and Taiwan. Pricing, evaluations and reference data are provided in the U.S. through Interactive Data Pricing and Reference Data, Inc. and internationally through Interactive Data (Europe) Ltd. And Interactive Data (Australia) Pty Ltd.
- Other products, services, or company names mentioned herein are the property of, and may be the service mark or trademark of, their respective owners.

© Interactive Data Ltd

20 May 2010

Interactive Data

Electronic Trading

Market Data

Direct (raw & normalised)
and consolidated
enterprise-wide market
data solutions

Trading Infrastructure

Ultra-low latency global
trading connectivity


Hosting & Management

Fully hosted & managed services for the trading community

Consultancy ■ Knowledge ■ Transparency ■ Independent

Electronic Trading

Market challenges

- Accessing global low latency data
- Managing access and connectivity to global markets
 - Cost of infrastructure
 - Geographical
 - Multi Asset
 - Technical Decisions
 - Software and/ or Hardware
- Regulation
 - Dodd Frank
 - MiFD2  MIF3 !!
- Reducing Total Cost of Ownership (TCO)

Interactive Data

Measuring The Health Of Your Trading Infrastructure

**“You can’t
improve what you
don’t measure.”**



Interactive Data

Measuring The Health Of Your Trading Infrastructure

- Measuring infrastructure operational performance and latency
- Demand for 'transparency' is growing
 - Liquidity Sources
 - Data & Software Vendors
 - Sell & Buy side
- Already part of the proposition!
 - Support Clients
 - Assist & Improve your performance
 - Client visibility
- Needs to be across the trading 'stac'

Interactive Data



Measuring The Health Of Your Trading Infrastructure

**Donovan Ransome, Head
of eTrading & Market Data**

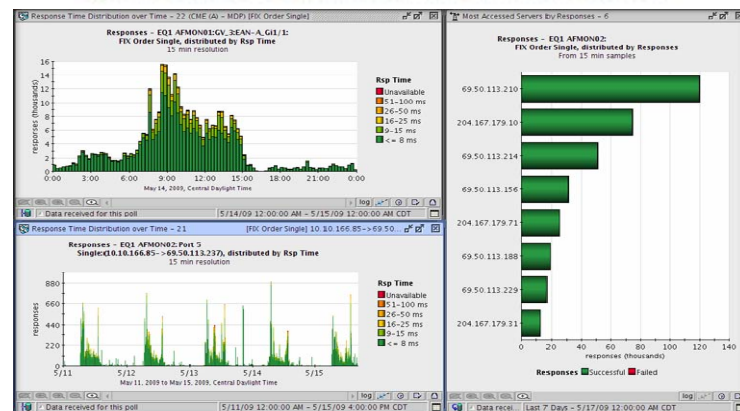
	<u>Description</u>	<u>Reason</u>
Application	<ul style="list-style-type: none">• State & Connectivity• Fault tolerance• Business process• Logs• Latency• Resource utilisation	<ul style="list-style-type: none">• Application behavior• Latency correlation with business logic
OS and Server	<ul style="list-style-type: none">• Memory, CPU, Disk• Network• Buffers & queues• Logs & State	<ul style="list-style-type: none">• Utilisation within expected parameters• Resource availability• Capacity planning
Messaging & Data	<ul style="list-style-type: none">• Latency• Integrity• Rates• Volumes• Errors & re-requests	<ul style="list-style-type: none">• Capacity Thresholds• Latency correlation with market events• Capacity planning
Network	<ul style="list-style-type: none">• Device & circuit status• Device logs• Buffers & queues• Bandwidth• Packet Loss/ Out discards• Microbursts• Latency	<ul style="list-style-type: none">• Utilisation within expected parameters• Resource availability• Capacity planning
Environment	<ul style="list-style-type: none">• Temperature & Humidity• Power & Voltage• Vibration• Access	<ul style="list-style-type: none">• Infrastructure failure warnings

Interactive Data

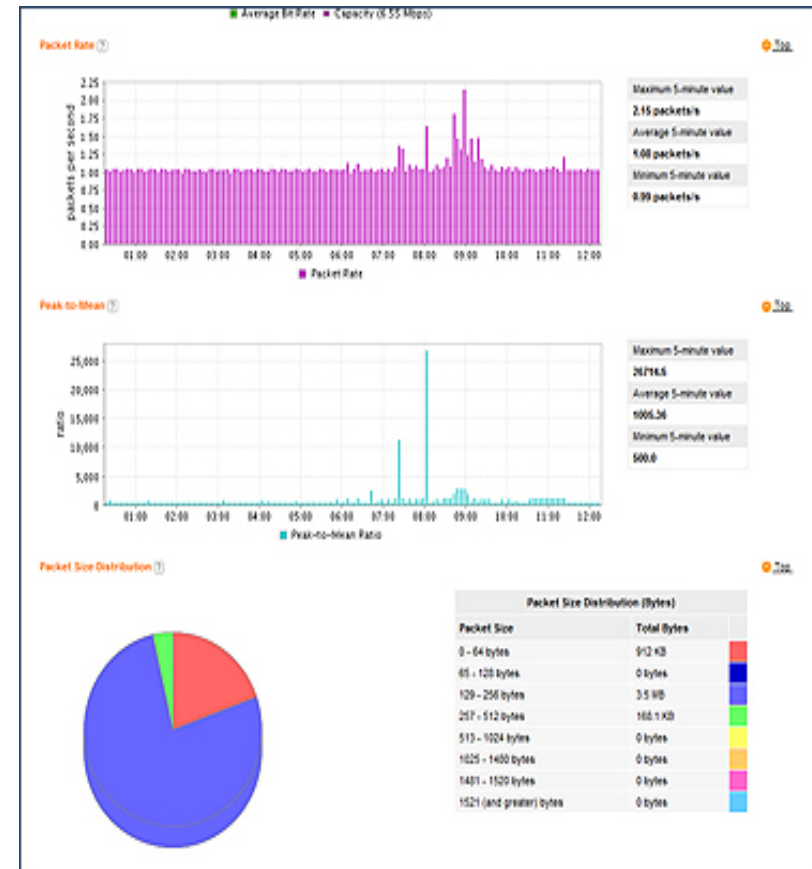
Helping to achieve transparency across the stack



Dynamic dashboard with infrastructure operations metrics.



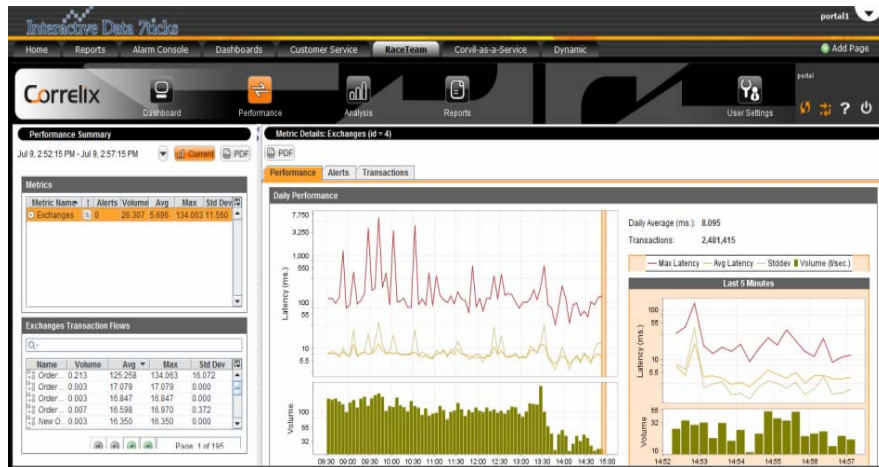
FIX message analysis



Packet analysis is part of the network performance management service.

Interactive Data

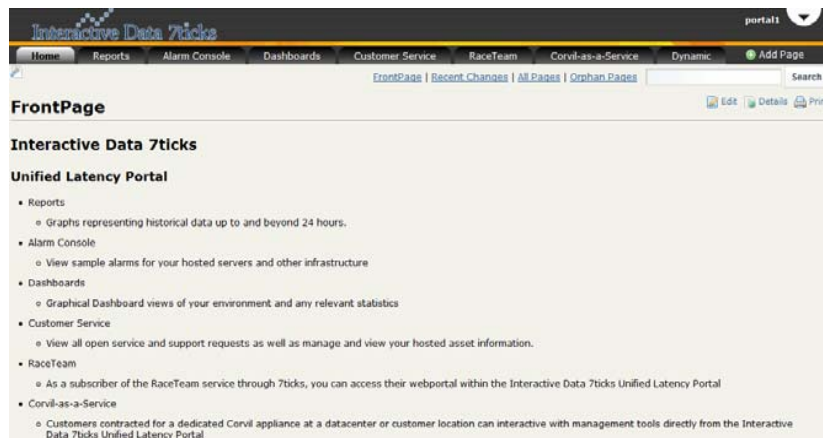
Helping to achieve transparency across the stack



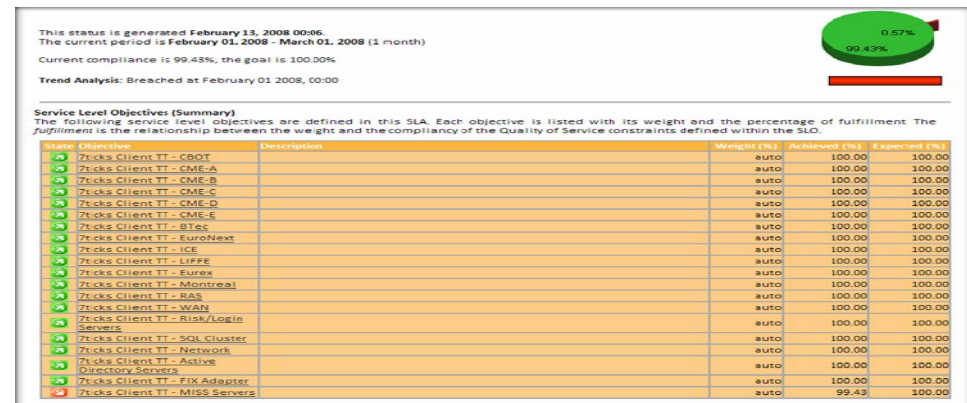
Technical Operations Metrics



Multi-tier Infrastructure Performance & Monitoring (Micro-burst detection)



Enhancement & project tracking



Interactive Data

Measuring The Health Of Your Trading Infrastructure

- More than just Latency
- How can you be competitive
- Need for Real Time Tools
- SEC, FSA, CTFC and other pushing for 'transparency'
- Industry standards i.e. FIX helping
- Important to Interactive Data

