

ONE TICK®

Accelerating Quant Research and Trading



OneTick & R Handling High & Low Frequency Data Historical & Real-Time

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6 Minute Crash Course



What is OneTick?

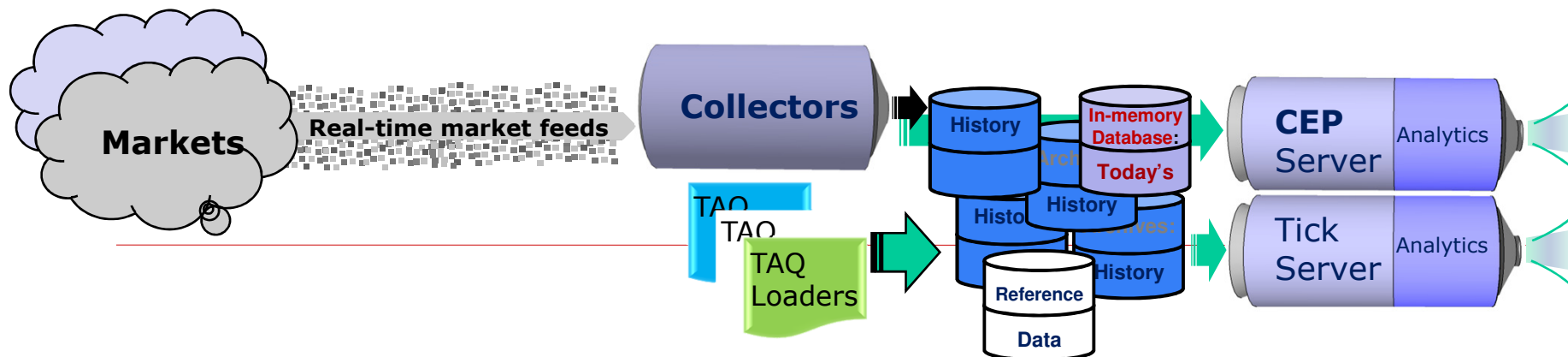
ONETICK time series database & analytics

Tick data management and super fast analytics for Finance.
Capture, store, retrieve and analyze real-time and historical tick data for **any asset class**, **any size & period** of time, **any granularity**

ONETICK CEP real-time analytics

Low latency **Complex Event Processing** seamlessly integrating the analysis of real-time streaming and historical market data

ONETICK reference data file - Smooth time series data with Corporate actions, symbol name changes and more





Who is using OneTick and why?

Our clients:

- ☐ Hedge Funds & Proprietary Trading Firms
- ☐ Market Makers
- ☐ Large Asset Managers
- ☐ Banks & Brokers
- ☐ Marketplaces / Exchanges
- ☐ Technology & Information Providers
- ☐ Universities

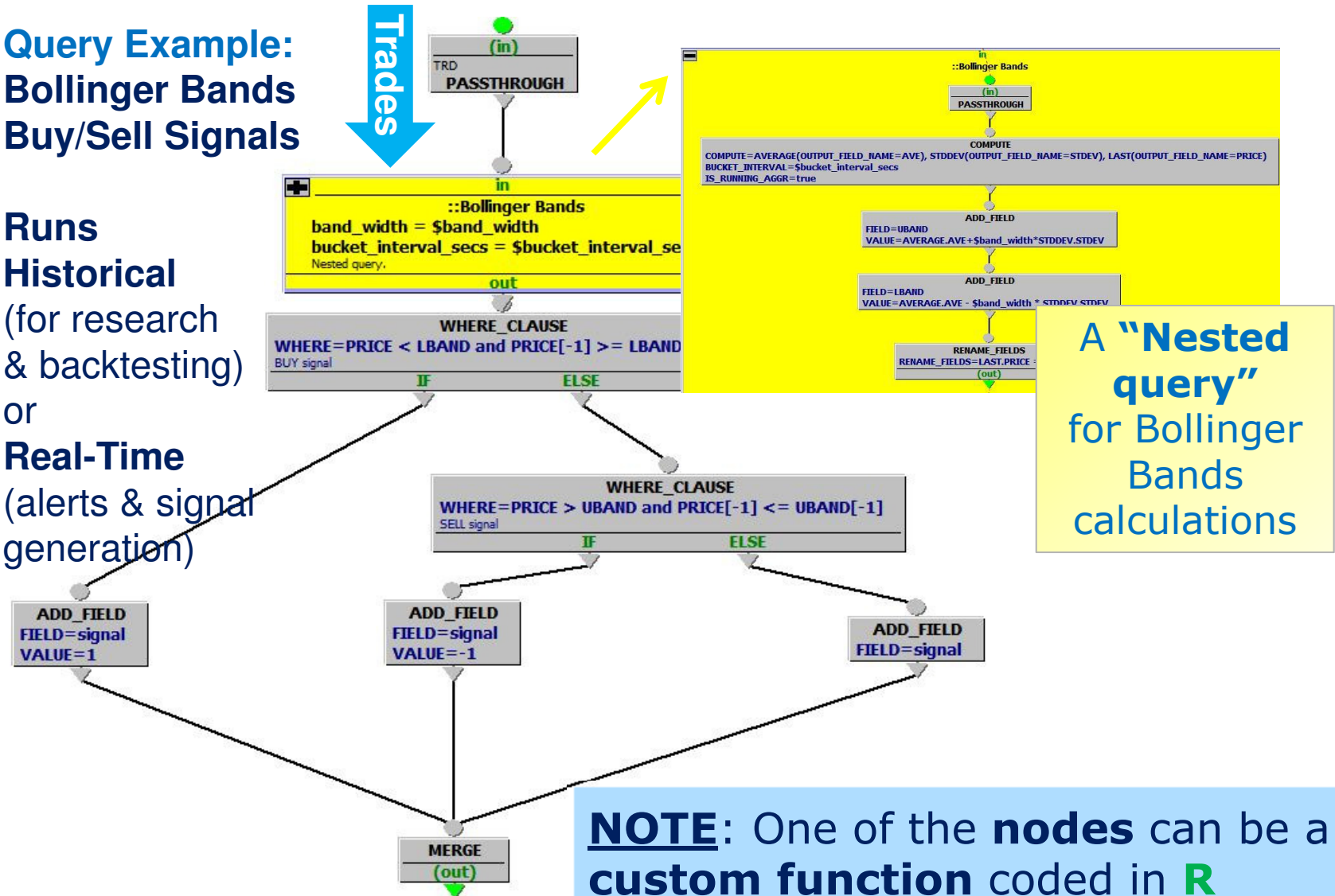
Business Cases:

- ☐ Backtesting & Quantitative Research
 - ☐ High frequency trading signal generation
 - ☐ Pre- & Post- Trade TCA
 - ☐ Venue Analysis
 - ☐ Backbone for Charting / Time and Sales
 - ☐ Compliance & Regulatory Reporting
 - ☐ Risk & Portfolio Analytics
 - ☐ Generic time series analysis
-

OneTick GUI: Query Language

Query Example:
Bollinger Bands
Buy/Sell Signals

Runs
Historical
(for research
& backtesting)
or
Real-Time
(alerts & signal
generation)



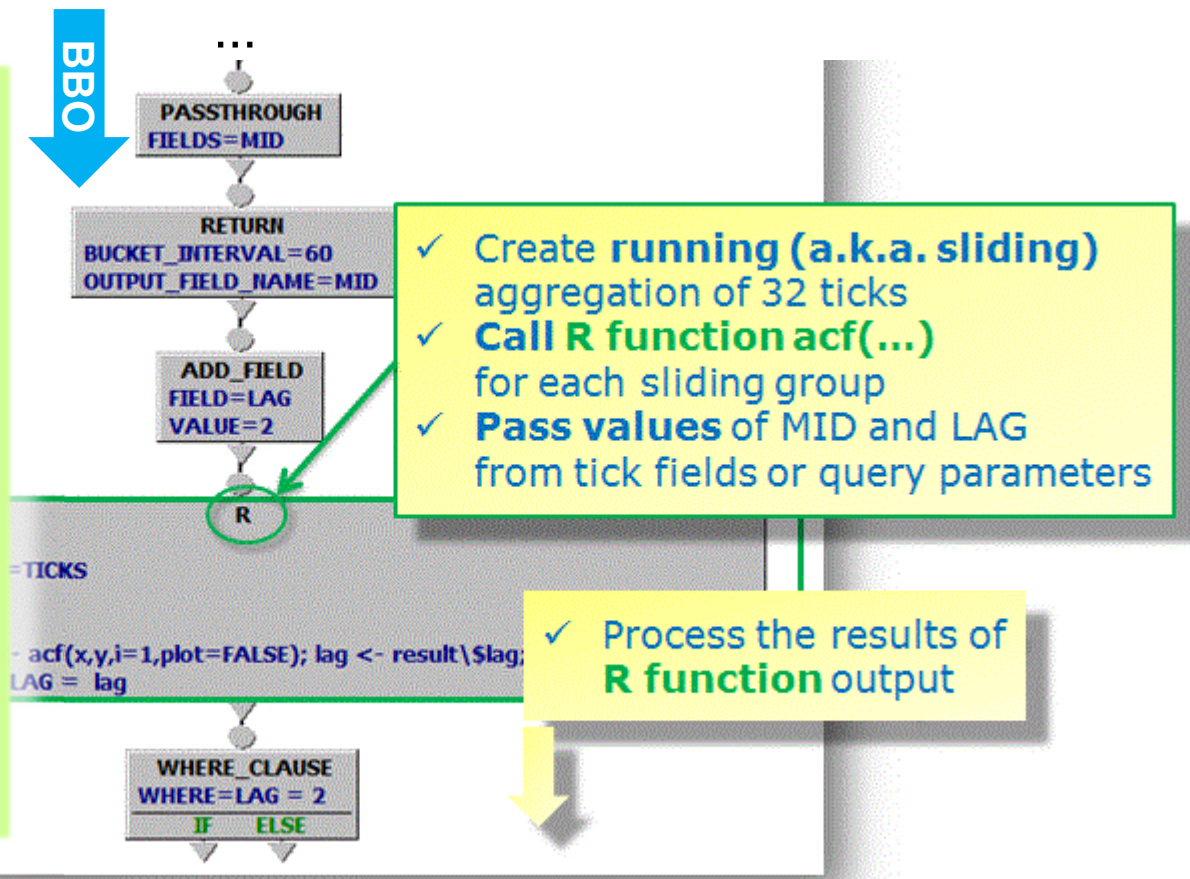
NOTE: One of the **nodes** can be a **custom function** coded in **R** or **C++**, **C#**, **Java**, **Python**, **Perl**

High Frequency Time Series? **Yes.**

- ✓ Tick data with milli-, micro-, nano-second granularity
- ✓ Trades, prices, orders, executions & any other time series
- ✓ Aggregate, filter, adjust, join, compute in OneTick
- ✓ Mix OneTick analytics **with R code as needed (see below)**
- ✓ Historical & Real Time continuous queries

Some facts:

- Processing rate – more than **6 million ticks/second/core**
- Ability to capture, store & analyze all ticks globally (currently over **7 billion ticks/day**)
- Linux, Windows, etc 64 or 32 bit
- Multi-threaded processing



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OneTick R Event Processor Parameters

BUCKET_INTERVAL	32	secs/ticks
BUCKET_INTERVAL_UNITS	TICKS	
OUTPUT_INTERVAL		seconds
OUTPUT_INTERVAL_UNITS	SECONDS	
IS_RUNNING_AGGR	true	
BUCKET_TIME	BUCKET_END	
BUCKET_END_CRITERIA		
BUCKET_END_PER_GROUP	false	
BOUNDARY_TICK_BUCKET	NEW	
ALL_FIELDS_FOR_SLIDING	false	
PARTIAL_BUCKET_HANDLING	AS_SEPARATE_BUCKET	

Generic OneTick bucket aggregation parameters

R_INITIALIZER		Expression in R
INPUT	x=MID,y=LAG	Mapping from tick
R_CALCULATOR	result <- acf(x,y,i=1,plot=FALSE); lag <- result\$lag;corr<-result\$acf	Expression in R
OUTPUT	MID_AC = corr, LAG = lag	Mapping from R
R_ENTERING_TICK_HANDLER		For running
R_LEAVING_TICK_HANDLER		For running
ONE_TICK_PER_RESULT	false	true/false
MACRO_PREFIX	\$	
GROUP_BY		

R in-process call parameters

Low Frequency Time Series? **Fine.**

- ✓ Load & store time series for unlimited range of dates
- ✓ Enrich daily prices with corporate actions and more
- ✓ Aggregate, filter, adjust and **return results back to R**

Sample Data in OneTick GUI charts: Disney PRICE and DAILY VOLUME since 1968





STOP BY OUR STAND FOR A LIVE DEMO!

THANK YOU

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