

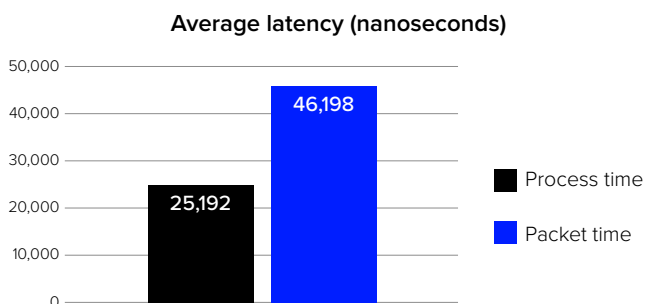
# REFINITIV® REAL-TIME – DIRECT

Low-latency, direct connections to leading exchanges

The Refinitiv Real-Time – Direct feed platform is optimised for the increased data volumes generated by today's exchanges and networks, as well as for the lower latency requirements and increased compute power of the latest hardware. Our experience in content management, direct feeds and market data distribution means our customers get the most comprehensive direct exchange data – at very low latency.

## Fast – predictable

Refinitiv® Real-Time – Direct delivers impressive latency performance with very low jitter for available venues – 99.99% of updates below 50 microseconds ingress to egress. The graph below shows the average latency within the process and transport time steps.



## Consistent – full data normalisation

Refinitiv Real-Time – Direct market logic and symbology are fully aligned with Refinitiv industry-standard market data. Real-Time – Direct is plug and play with other Real-Time feeds, Tick History, and Machine Readable News.

Our data is further enriched intraday in near real time, with corporate actions, derived fields, exchange corrections and other reference data, provided by Refinitiv's worldwide teams of content specialists.

## Extensive – full order book data

We use the Refinitiv Open Message Model (OMM) to bring context and depth that is unavailable in any other direct exchange solution. Depending on the feed source, we provide as many price points as the exchange offers.

## Flexible – platform integration

Our direct feed is seamlessly integrated with Refinitiv's Real-Time Delivery System and Refinitiv's Real-Time latest performance APIs. Your application can either access directly or via the delivery platform, to benefit from the platform entitlements and standardised failover or recovery.

## International coverage

Refinitiv is the world leader in distributing high-quality exchange and ECN data. Our development teams are aggressively expanding the Real-Time – Direct feed catalogue. For a list of supported venues, contact your Refinitiv Account Manager.

### Easy – fully managed service

For Refinitiv Real-Time – Direct, Refinitiv provides, plans and maintains software, hardware and capacity – and monitors each server remotely, 24/7. Our Real-Time – Direct feeds come with a global market data support team that offers real-time operations monitoring, service, technical and content support, and ongoing change management. This team manages Refinitiv Real-Time – Direct feeds 24x7x365 and leverages our global network of quality assurance, business analysts and developments teams to expedite service management issues to resolution.

### Deployed – your own connectivity

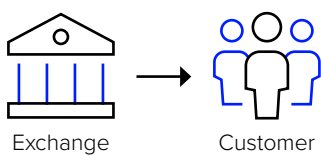
At your premises, because your contract is directly with the exchange, you have full control of the commercial data licenses and connectivity requirements. Refinitiv provides the hardware and software, remotely maintained 24/7.

Robust technology supports the direct feeds:

- DELL EMC PowerEdge R640 – 2 x Intel Xeon Gold 6148 – 192GB Ě
- O/S Linux RH 7.6
- Solarflare Flareon Ultra SFN8542-PLUS

If you cannot devote resources to managing deployed direct feeds, inquire about our hosted option.

### Direct customer managed



### Refinitiv Real-Time – Direct OPRA

This US options market data feed covers the entirety of US options real-time data, delivered in a low latency, sub-millisecond platform. The feed contains US options data from the Securities Industry Automation Corporation (SIAC) and is the largest (by volume and instruments) real-time market data set in the world. The feed uses Celoxica proprietary FPGA code, mapped using Refinitiv data models and Refinitiv Instrument Code (RIC) structures through the Refinitiv FMS system. This is offered only through Refinitiv hosting platforms.

### Refinitiv Machine Readable News

Connect your Real-Time – Direct feed to Refinitiv Machine Readable News. This is the only programmatic news service powered by Reuters. Common uses include event-based trading based on economic releases and exclusive mergers and acquisitions (M&A) newsbreaks, quantitative investment using sentiment and buzz metrics, and intraday trading and market surveillance based on raw news and associated metadata. Discover the different formats, including:

- Real-time news
- News analytics
- MarketPsych indices
- Headlines direct
- Economic indicators

### Additional Real-Time Latency Solutions

- Full Tick
- Optimised
- Tick History Data

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Refinitiv, an LSEG (London Stock Exchange Group) business, is one of the world's largest providers of financial markets data and infrastructure. With \$6.25 billion in revenue, over 40,000 customers and 400,000 end users across 190 countries, Refinitiv is powering participants across the global financial marketplace. We provide information, insights and technology that enable customers to execute critical investing, trading and risk decisions with confidence. By combining a unique open platform with best-in-class data and expertise, we connect people to choice and opportunity – driving performance, innovation and growth for our customers and partners.