

# TIBCO FTL™

## EXTREME LOW-LATENCY MESSAGING

### AT A GLANCE

TIBCO FTL™ is a high-speed messaging software solution that provides applications with extremely low latency processing. Built on TIBCO's 20 plus years of messaging software experience, TIBCO FTL is the industry's first messaging solution to break the microsecond latency barrier.

### BENEFITS

- Intra-host communication provided with shared memory transport with average application latency as low as 384 nanoseconds\*
- Inter-host communication provided with Remote Direct Memory Access (RDMA), such as InfiniBand and 10 Gigabit Ethernet, TCP and reliable multicast transports with average application latency as low as 3.1 microseconds.\*
- Independent transport bindings to access multiple subscribers across a variety of transports with a single message publish.
- Architects and administrators can prioritize requirements around throughput and latency to customize the performance trade-off involved.
- Centralized metadata and transport management provide transparent transport utilization and increased application flexibility.
- Both structured and unstructured data are supported without any significant latency penalty.
- First class API support for C, .NET and Java.
- Data distribution is based on content for great flexibility and application stability.
- Native integration into existing TIBCO Rendezvous® deployments is easy and seamless.

### THE NEXT STEP IN EXTREME LOW LATENCY

High-speed, ultra low-latency communication just isn't enough anymore. When it comes to low latency, milliseconds are simply not fast enough.

To achieve a competitive edge in a demanding business environment (such as the financial services industry), a business needs real-time information provided with as little delay as possible. To meet these requirements many organizations are seizing every opportunity to eliminate as much latency from end-to-end processing as possible.

Specialized network equipment, high-end server systems, custom offloads, and co-located servers are all being used to reduce application latency.

The data distribution layer – the messaging middleware – has until now been a very small piece of the overall latency equation.

However, with new system designs utilizing multi-core processors, Non-Uniform Memory Architecture (NUMA), InfiniBand, and 10 Gigabit Ethernet, using the right solution for data distribution and messaging is increasingly important in achieving the goal of extreme low latency.

### INTRODUCING TIBCO FTL

TIBCO FTL, designed from the ground up to address the increasing demands of high-performance computing, is the most recent addition to TIBCO's strong messaging portfolio. Unlike other offerings, TIBCO FTL has been built with the latest technology in mind and designed to provide the flexibility needed to leverage new technology designs as they are developed. TIBCO FTL is highly optimized software that no longer requires application developers to understand how data distribution occurs.

System administrators will have the ability to define how data distribution happens, so developers can focus on writing high-performance application code.

# Attributes & Capabilities

## Extreme Low Latency

TIBCO FTL™ takes the next step in extreme low-latency messaging by offering sub-microsecond intra-host communication and inter-host communication at single-digit microsecond latency. Performance benchmarks have shown average application latencies of 384 nanoseconds for intra-host communication using shared memory transport and 3.1 microseconds using RDMA transport over InfiniBand. \*

## Content-Based Addressing

TIBCO FTL delivers increased flexibility by providing native content-based addressing. With this, applications are no longer bound to a topic namespace, which can become rigid and inflexible over time. Content-based subscriptions deliver more flexibility by enabling developers to distribute data based on the content itself and to filter data at the subscription level.

## Powerful Metadata Management

Without sacrificing performance, TIBCO FTL offers full self-describing data and centralized “out-of-band” metadata management for simplified application development and cross-platform messaging.

## Ease of Integration

With TIBCO Rendezvous® integration and first class API support for C, .NET and Java, TIBCO FTL provides several integration options to leverage existing IT investments.

## Choice of Transports

Architects or administrators can choose from a variety of underlying transports at run-time – including shared memory, RDMA, TCP, and reliable multicast transports – depending upon messaging requirements.

## A Proven Communications Backbone

When it comes to providing extreme low latency, the code paths become highly critical and optimization can have massive consequences to application stability and design. Developed from the ground up to take full advantage of today’s technologies, TIBCO FTL draws on TIBCO’s more than 20 years of industry-leading experience in mission-critical, high-performance messaging.

### PLATFORMS, LANGUAGES AND TRANSPORTS

- Platforms: Windows 7, Server 2008 (x86-64); RH 5, SUSE 11 (x86-64)
- Languages: C, .NET, Java
- Transports: Shared Memory, RDMA (InfiniBand, 10GbE), TCP, Reliable Multicast

\* Performance metrics based on testing conducted by TIBCO in March, 2011. For more details regarding performance benchmarks please visit <http://www.tibco.com/ftl>

### About Company

TIBCO Software Inc. (NASDAQ: TIBX) is a provider of infrastructure software for companies to use on-premise or as part of cloud computing environments. Whether it’s optimizing claims, processing trades, cross-selling products based on real-time customer behavior, or averting a crisis before it happens, TIBCO provides companies the two-second advantage™ – the ability to capture the right information at the right time and act on it preemptively for a competitive advantage. More than 4,000 customers worldwide rely on TIBCO to manage information, decisions, processes and applications in real time. Learn more at [www.tibco.com](http://www.tibco.com).

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