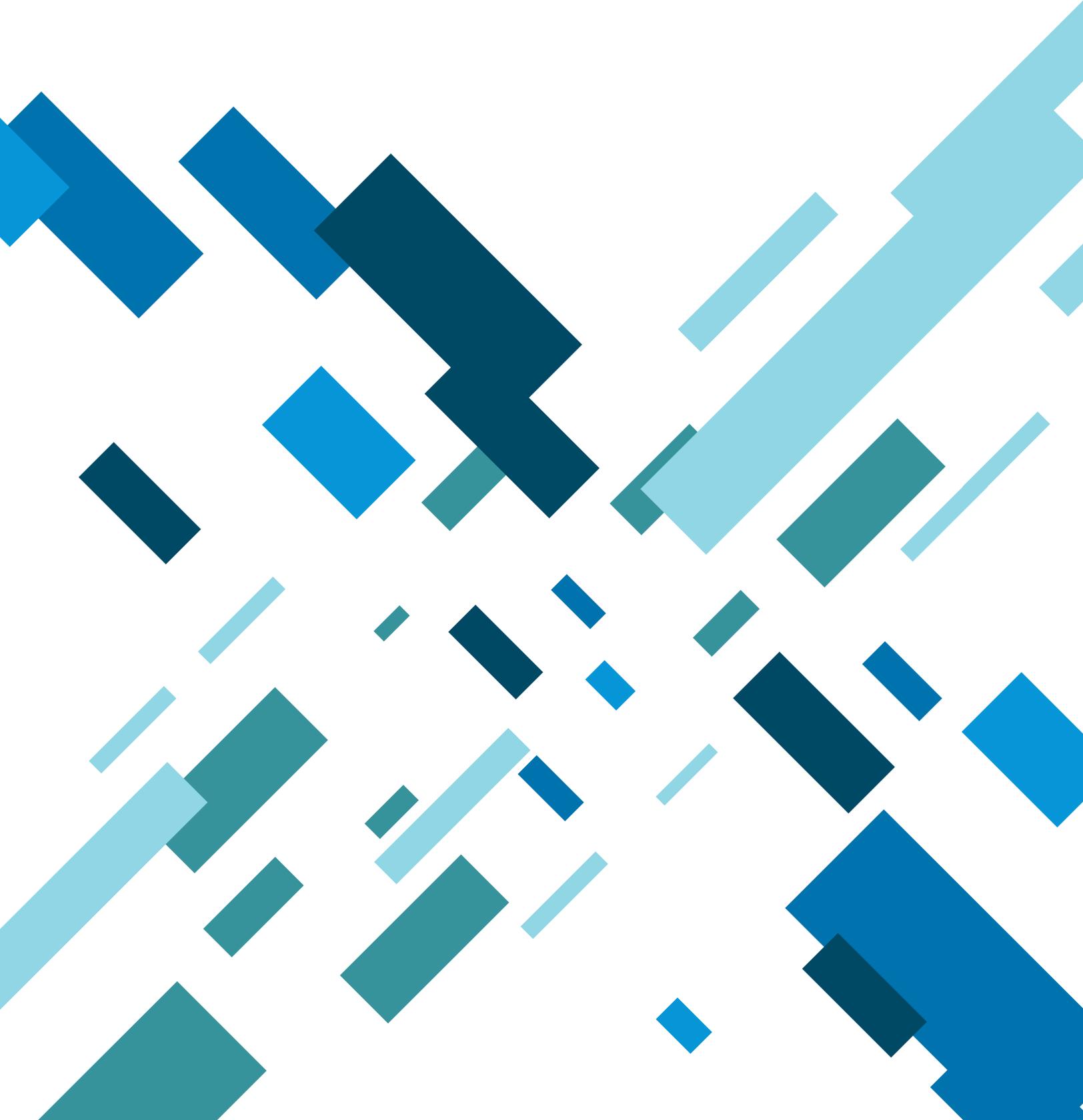




**TRADING
TECHNOLOGIES**

TT[®] PREMIUM SERVICES FAQ



What is TT Reserved?

TT Reserved is a private server that customers may procure to run a single component of the TT platform. That server (along with the software component) is only for the use of said customer.

What components of the TT platform may run on TT Reserved?

TT Reserved may run a single instance of TT software. It may run a single order-routing component for a single exchange, it may run a single instance of Autospreader[®], or it may run a single instance of Algo Server. It may not run an order-routing component along with Autospreader on the same server. If users want that capability, we offer TT Prime which runs on a TT Reserved server.

Does TT Reserved provide better performance?

TT monitors and load balances all of the servers in its SaaS delivery of the TT platform. There should be no performance improvement by using TT Reserved except for TT Prime.

Why would a customer want TT Reserved?

Some customers may request a dedicated environment, either because they're concerned about being impacted by other user's activity or because they see value in offering reserved instances to their customers.

What is TT Prime?

TT Prime is a premium version of our Autospreader offering. It combines the Autospreader and order routing components into a single process. TT Prime is deployed on a liquid-cooled server optimized for low latency trading in the co-located data center designated by the customer. Clients can choose between a dedicated or shared model at a lower monthly cost. The dedicated model is deployed on a private server (TT Reserved) and is not shared with users from other firms.

How is TT Prime different than a standard deployment of Autospreader?

A standard deployment of Autospreader does not include the order routing component on the same server. Autospreader sends orders to the shared order routing processes, each of which are deployed on their own servers. With TT Prime, these processes are not only deployed on the same server, they are compiled together into a single process.

What makes TT Prime faster than a normal deployment of Autospreader?

There are several things that make TT Prime faster than a standard deployment of Autospreader:

- ◇ Since order routing and the spreading engine are on the same server, there are no network hops when sending orders to or receiving fills from the exchange.
- ◇ Since these components are compiled into a single process, there is no inter-process communication latency. (This is a differentiator from 7.x Nirvana)
- ◇ Users of each TT Prime deployment only consume prices for the specific channels they require for the spreads they trade.
- ◇ Users of TT Prime do not share the machine resources with users from other firms. Company administrators can permission individual users at their firm to use a specific instance of TT Prime, giving them the ability to allow a specific group of users or even a single user to access an instance of TT Prime.

Isn't this the same concept as a "Nirvana" deployment of Autospreader in 7.x?

No, many of TT's 7.x customers deployed Autospreader on the same server as a TT Gateway. While this eliminated the network hops, it did not eliminate the inter-process communication. Additionally, the TT Autospreader has been re-built from the ground up with performance in mind. TT Prime is about 90% faster than a 7.x "Nirvana" deployment.

What are the benefits of reduced latency?

The reduced latency is in two separate areas of Autospreader logic—quoting logic and hedging logic. When the latency of the quoting logic is reduced, quoting towards the market should result in a higher queue position giving an order a better chance of getting filled. If the quoting is away from the market, reduced latency gives an order a better chance of not being picked off when the lean price is no longer there. Reduced latency of hedging logic gives hedge orders a better chance of getting filled at the desired price. It should result in less slippage over time.

It is difficult to quantify the results of using TT Prime, and much of that depends on the products that a trader is spreading. However, over time, reduced quoting and hedging latencies should result in better spread fills and reduced slippage.

How many order routing components may run on a single TT Prime instance?

TT Prime can be used to spread on a single or multiple exchanges, but only one of the exchange's order routing components run in-process. For example, on a TT Prime deployed in Aurora and the user is working a spread between CME and ICE. The CME child orders will be routed through the in-process order routing component. The ICE child orders will be routed through the shared order routing component in the Chicago data center.

Who are prospective users of TT Prime?

Any spread trader that is sensitive to latency is a potential user of TT Prime. While TT's standard deployment of Autospreader is much faster than in 7.x, if spreaders want to be as fast as possible, TT Prime gives them that capability.

How do customers get TT Reserved or TT Prime?

TT Reserved and TT Prime are sold at the company level. Customers interested in TT Reserved or TT Prime should contact their TT Sales Manager or Customer Success representative to initiate the ordering and deployment process. TT's onboarding team will configure and deploy each TT Reserved/TT Prime instance as requested by each customer.

How can individual users get TT Reserved or TT Prime?

If an individual user creates their own company, meaning they administer themselves as a user and receive bills directly from TT, they can order TT Reserved/TT Prime from their Sales Manager. Managed users can access TT Prime via a shared TT Prime Server or through their FCM, who would have to request access to TT Prime/TT Reserved.

How is the service maintained?

TT will provide routine maintenance and periodic system repairs, software upgrades and reconfigurations when determined to be necessary by TT.

Is there a hardware refresh policy?

No, TT will ensure performance of the software meets our standards. If there is a degradation in performance TT will investigate the source of the degradation and make any necessary changes.