EXHIBIT B

FuturesOnline

Looking to create a Web-based futures trading platform more flexible and powerful than anything else available, LFG, one of America's leading futures clearing firms, built a solution that uses the Internet as a medium for the transmission of orders and the receipt of fill information from futures exchanges. Utilizing the Microsoft® Windows® DNA platform enabled LFG to bring its service to market quickly, and has helped ensure that the site is reliable, scalable, and cost-effectively manageable as well.

Solution Overview

Company Profile
FuturesOnline provides a Web-based platform for trading futures contracts. Since its inception in 1998, the company has grown to the point that it now clears over $100 million in futures contracts every day.

Situation
Legacy client/server software for trading futures contracts was difficult to upgrade, offered minimal risk management, and provided limited trading capabilities and account visibility.

Business Solution
The company replaced the client/server solution. Using Microsoft Visual InterDev as an integrated development system, they created a three-tier system based on the Microsoft Windows DNA platform, using Windows NT Server, Internet Information Server, and SQL Server 7.0.

Benefits
By switching to a Web-based trading platform, FuturesOnline is able to provide access to anyone with an account and an Internet connection. Using Visual InterDev, developers can rapidly deploy new features that improve the customer experience. Concentrating all business logic in the middle tier provides greatly improved risk management over the client/server based solution, and storing all data in a centralized SQL Server database enables complete visibility into trading positions, risk levels, and account history for all interested parties.

LFG, formerly known as Linnco Futures Group, is one of the world's largest futures commission merchants, maintaining memberships on all principal U.S. and some international exchanges. In December 1997, the company formed a new division, FuturesOnline, with the mission of building the best online trading platform for futures and cash foreign exchange.

Since time-to-market was a priority, the company decided to develop its solution on the Microsoft Windows DNA platform. Using the Microsoft Visual InterDev® Web development system, they implemented a three-tiered system running on Microsoft Windows NT® Server, Microsoft Internet Information Server and Microsoft SQL Server™ within nine months.

Today, FuturesOnline is used regularly by both individual traders and professional brokers who trade on behalf of their clients. Requiring only a Web browser and an Internet connection, FuturesOnline provides users with all the tools they need to trade efficiently, including the ability to place orders directly to the trading floor, the means to monitor working orders and positions in real time, and a host of complimentary features.

To date, FuturesOnline has grown to 50 employees and 2,500 unique end users. Trading volume has increased to the point that the company is now clearing over $100 million in futures contracts every day. Because of the architecture and platform decisions LFG made in the beginning, the company is well-positioned to accommodate future growth without getting distracted from its primary mission—providing the best online futures trading platform by offering an unequalled customer experience.

From the Pit to the TOPS

Unlike the NASDAQ stock market, where securities are traded electronically, orders to buy and sell futures contracts are actually executed by live brokers. Each futures product that an exchange offers has a specific area called a "pit" where the buying or selling of futures contracts for a particular product physically occurs. These "filling brokers" act as the representative of the person who initiated the order, trading verbally to buy and sell futures contracts. To ensure that the brokers are best serving the buyers and sellers that they represent, they are not allowed to bid (buy) or offer (sell) for a contract until they can do so at the best possible price.

The process for transmitting an order from a buyer/seller to the trading pit has traditionally involved as many as eight separate interactions, and required anywhere from 30 seconds to 30 minutes. To make this process more efficient, the Chicago Mercantile Exchange and the Chicago Board of Trade jointly introduced the Trade Order Process System (TOPS) in 1989. Using this system, brokers could place orders directly to the trading floor without having to call an order clerk.

However, TOPS terminals were extremely expensive for clearing firms to deploy since they required direct connections to the exchange routing network. Additionally, customers were still required to use an intermediary by calling a broker to send an order to the exchange floor.

In an effort to provide additional access, the exchanges created an Application Programming Interface (API) for TOPS so that clearing members could create their own front-end interfaces into the system. Using these custom solutions, brokers and individual customers without TOPS terminals could now place futures orders and monitor order flow. At the same time that firms were creating their own front-end systems, major exchanges were developing systems which interfaced with TOPS and routed orders directly to the filling broker, eliminating two additional middlemen—the deck holder and the trading floor clerk—from the process.

Building on LEO

LFG, like many other members of the futures exchanges, created its own client/server front-end system which connected to TOPS. Called Linnco Electronic Order, or LEO, the system was deployed in 1993 and is now one of the most popular order entry systems, having

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Glenn Swanson

Chief Operating Officer
FuturesOnline

been licensed and re-branded for use by several other firms. While LEO was more economical than deploying TOPS terminals on every desktop, the system was still far from ideal. Although LEO provided access to the exchange, it required deploying a fat client on every brokers' desktop, which made distributing a new version of LEO a significant project. As a result, new features were not a high priority since the cost of deploying this functionality on a regular basis was prohibitive.

Since clearing firms are responsible for making good on trades they conduct on behalf of clients, they need to manage the exposure of each account holder. Futures contracts are leveraged investments, meaning that a small change in price can cause proportionately larger gains or losses to the trader. Therefore, clearing firms need to ensure that clients have enough extra funds in their account to cover any losses before granting them direct access to the trading floor.

Traditionally, LFG accomplished this by requiring large minimum balances in order to open and maintain a futures trading account with this type of access. The only other pre-execution form of risk management was that LEO limited the size of each order ticket according to the equity in an account. However, there was no mechanism to keep an individual from placing any number of orders in a row, other than having someone manually monitor customer activity.

While this decreased the firm's exposure, it limited the company's customer base to those few individuals that could maintain the minimum balance, and still left the firm exposed to unnecessary risk. If LFG could find a better way to manage risk, it could lower the initial balance requirements and grow its customer base.

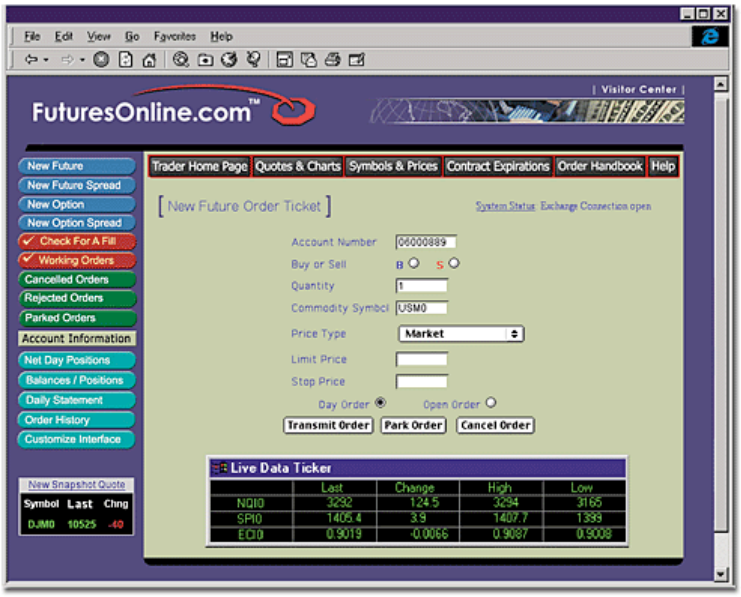
Another major limitation of LEO was that trading activity and history was not easily accessible to all stakeholders. For example, if a trade was placed from one desktop running a LEO client, it could not be accessed by another desktop. This meant that brokers using LEO could not monitor client activity or alter an order placed directly by a client.

Comprehensive Environment in a Box

Following the example set by E-Trade in the equities market, LFG formed FuturesOnline to develop a similar solution for the futures trading market. Using a three-tiered architecture would enable the firm to provide a rich, Web-based interface that was easily maintained and would provide clients with immediate access to new features as fast as they could be developed. The middle tier would provide extensive risk management, and the data services tier would provide a centralized data store which could be drawn upon to keep all users informed.

LFG decided to build their new system using Microsoft Windows NT Server, Internet Information Server, and SQL Server. "Once we decided to develop an online trading application,

FuturesOnline provides the ability to send orders for futures contracts directly to the trading floor of the futures exchange. All that a user needs is a trading account and an Internet connection.



"The competitive price and ease of management of SQL Server allow us to meet the demands of a continually expanding user population and increasing number of hits, without increasing our IT staff or sacrificing performance. The level of performance it provides has allowed us to do some incredible things, such as de-duping our production database every five minutes in the middle of a trading day because we were getting duplicate data from an exchange."

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FuturesOnline

we knew that being early to market was critical," recalls Glenn Swanson, Chief Operating Officer for FuturesOnline. "To accomplish this, we needed a rapid development tool, a full-featured database, and an infrastructure that would support the growth we anticipated. Windows DNA provided us with one-stop shopping—a comprehensive environment in a box."

FuturesOnline used Visual InterDev to develop the Web-services tier of the platform. "It provided us with a centralized development environment," indicates Swanson. "Developers are able connect to the server, download the pages to work on, make changes, view those changes in the Web browser, and save the files back to the server all from within InterDev. This reduces development times, allowing us to bring new online trading concepts and service offerings to market quickly. Once we develop a unique concept, we can prototype, test, and deploy in a matter of days. We can also maintain the application with a smaller development staff."

In creating the site, LFG relied heavily on Active Server Pages (ASP). "We needed our site to be fast and efficient, so we used ASP. Since it supports VB Script, which is specifically designed for creating interactive Web applications, we can make creative, highly customized enhancements in response to user demands.

"We also make strong use of dynamic SQL. Because one ASP page can open several recordsets, we can present data to users in the format that provides the greatest benefit. For example, with one mouse click a user can determine all open positions and calculate the trades that would be needed to "go flat", meaning that they close all open positions in a very rapid manner."

Improved Risk Management and Better Access

In order to solve the risk management issue, FuturesOnline designed the business logic tier to provide extensive risk management functionality. Before an order is transmitted to its final destination, it passes through a risk management module that ensures the trading account has sufficient excess margin (excess funds) to cover the downside risk associated with the trade. It also looks at the client's other open positions, ensuring that the new trade won't increase the client's overall exposure past acceptable limits. In addition to minimizing the firm's exposure across its traditional customer base, this improved risk management means that FuturesOnline can now serve a new tier of individual clients by permitting a lower minimum account balance, and without compromising the integrity of the firm.

The system's extensive risk management functionality is made possible by its centralized database, which is based on Microsoft SQL Server 7.0. Since all user information, trading activity, and history is represented in a single database, the system can provide maximum access and keep all parties completely informed. For example, if an individual investor places an order in the morning from his home computer, later in the day that same user can call his broker and have him modify the order on his behalf. Similarly, a number of brokers could be granted permissions to work as a team and manage trades for a common group of clients. Brokers can instantly run a report that lists every customer account with the corresponding gain/loss for the day, enabling them to take immediate action if a client is incurring large losses.

FuturesOnline managers can also enter orders and monitor customer activities by using the "Broker Management" component of the system. Since all data is centralized, they have the ability to assess the overall exposure to any commodity, instantly alter margins for any commodity or trading account, or disable any account from entering any new positions.

"The competitive price and ease of management of SQL Server allow us to meet the demands of a continually expanding user population and increasing number of hits, without increasing our IT staff or sacrificing performance," states Swanson. "Its dynamic configuration allows our database to meet the fluctuating demands we place on our applications. The level of performance it provides has allowed us to do some incredible things, such as de-duping our production database every five minutes in the middle of a trading day because we were getting duplicate data from an exchange."

Scalability and Reliability

Like online equity exchanges, futures clearing firms have zero tolerance for downtime during a trading day.

"Since a majority of our customers are day traders, they often execute over 100 trades per day," explains Swanson. "When trading futures, the inability to trade for even a few minutes could have significant financial consequences. If we couldn't

"If we couldn't keep our systems up 100% of the time, we would lose customers in a hurry. Fortunately, for us server downtime has not been a concern. The platform has been very stable and we have therefore been able to provide our users with a reliable, consistent Web site."

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Chief Operating Officer
FuturesOnline

Database Information

Version Used: Microsoft SQL Server 7.0
Size of Total Database: 4 GB
Size of Largest Database: 2.5 GB
Total Concurrent Users: 700-800
Total Users: 2385
Transactions Processed per Second: 20

For more information

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Microsoft Software Used
Microsoft Internet Information Server
Microsoft SQL Server
Microsoft Visual InterDev
Microsoft Windows NT Server

keep our systems up 100% of the time, we would lose customers in a hurry. Fortunately, for us server downtime has not been a concern. The platform has been very stable and we have therefore been able to provide our users with a reliable, consistent Web site. Similarly, we currently have no scalability concerns. As the application grows in response to our user population, the existing architecture will allow us to scale up without an additional software investment."

System Management

In addition to providing a unique user experience for both clients and company management, the application has proven to be easy for the company's technical staff to manage.

"Microsoft server products have simplified administration and management by centralizing all of the tools necessary to monitor our environment," states Swanson. "The similarity of the products in the suite allows knowledge transfer more quickly than would be possible with a variety of tools from different vendors. We are able to manage an increasingly complex environment with minimal complexity in administrative and management tasks. This allows us to leverage our existing investment in IT staff, thus reducing cost of ownership. As our client base continues to grow, we can accommodate the influx of Web traffic and continually enhance our service offerings without increasing our IT staff."

Moving Ahead With Microsoft

"We will continue to maintain and administer our application and environment with Microsoft technologies," says Swanson. "The talent pool of Microsoft Certified Professionals provides assurance that we will be able to continue enhancing and supporting the application even in the event of staff turnover, which translates into continued high returns on our initial investment. Had we chosen other vendors or technologies, we would not have been able to rely on technical certifications as an assurance that our staff possesses a certain skill set.

"With Windows DNA, we can offer our clients a reliable, secure Web site. It has enabled us to anticipate and respond to trends in the online trading industry with innovative service offerings and enhancements to our application without technology integration or deployment delays."

Extensive risk management functionality minimizes a firm's financial exposure by enabling management to view net gain/loss for all accounts in a single screen.