

ELECTRONIC TRADING

Twenty Years of CME Globex

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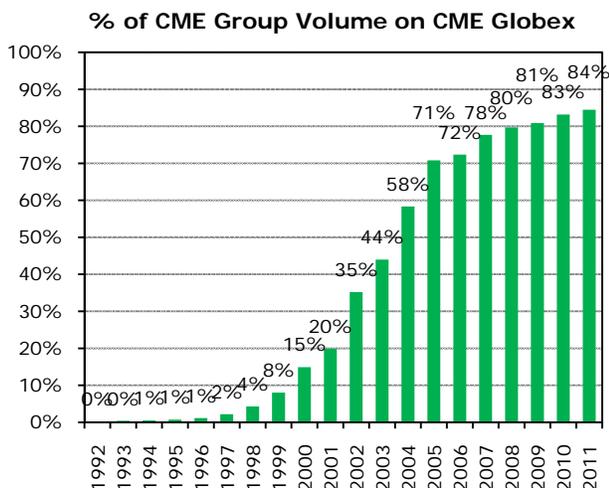
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Electronic trading systems have changed the face of the exchange-traded derivatives industry on a scale that was virtually unimaginable some twenty years ago. The advantages of electronic trading include ease of access from virtually anywhere worldwide almost 24 hours a day.

This increased participation generally has resulted in enhanced liquidity and soaring volumes. Let's take a retrospective of over twenty years of experience with the CME Globex electronic trading system.



After-Hours

Chicago Board of Trade (CBOT) introduced evening floor trading in the late 1980s to address international demand for Treasury futures in non-U.S. daylight trading hours. But the strain of trading into the night was more than many traders could handle.

Thus, the Globex concept was conceived by CME Group leadership in 1987 as a “low-impact” means of providing after-hours market coverage. Attention focused on the fact that the epicenter for interbank currency trading is in London where much trade is concluded while traders in Chicago are asleep. If currencies could be traded “on-the-box” during these hours, CME Group might see increased order flows.

It took until 1992 when the technologies could actually become operational in the context of currency products. Initial volumes were modest but interest was keen and the system grew steadily in popularity. While the system was initially sold as a

convenience for currency traders, CME Group leadership had a larger vision and believed that electronic trading could be made to serve as the main source of distribution for all of Exchange’s varied product lines.

Breakthrough Product

By the late 1990s, the U.S. stock market had been on an extended 15-year rally. As a result, the original S&P 500 futures contract had grown quite large in terms of notional value and was beginning to soar out of reach for many prospective traders. Thus, CME Group developed a smaller sized contract traded exclusively on CME Globex. E-mini S&P 500 futures were 1/5th the size of the standard S&P 500 futures contract and offered only on the CME Globex system.

Initially, the bulk of the trade was transacted by traders equipped with CME Globex systems situated at the periphery of the pit conducting arbitrage between the “biggs” and the E-minis. The E-mini S&P 500 contract was the “breakthrough” product for electronic trading at CME Group.

The appeal of electronic trading is linked to the convenience of immediate fill reports and the ability to trade on an equal footing with anyone in the world. Where once the E-minis followed the standard sized contracts, the situation is reversed and E-minis represent the main liquidity source.

Open Access Policy

The fundamental *raison d'être* of any exchange is simply to allocate access to the trading process. When trading is conducted in an open outcry environment, direct access is restricted by the physical confines of the pit. There are only so many traders who could be shoehorned into a pit and so memberships were sold to the highest bidder as a means of allocating access. But electronics allows exchanges vastly to expand direct access to the trading process.

Thus, the most important milestone in the history of the CME Globex system occurred in late 2000 when CME Group leadership implemented an “open access” policy. This meant that customers could trade directly on CME Globex provided that their clearing firm provided a financial guarantee for their

trading activities. Thus, customers were no longer required to route their orders through a broker via telephone.

Vast numbers of customers trade directly on Globex today, often through portals provided by their brokers or through commercially available Independent Software Vendors (ISVs) such as

Trading Technologies, Pat-systems and others. This open access policy generated large-volume advances and a migration from the pit to the box. CME Group has traditionally maintained a policy of “let the market decide” between routing their orders to the pit or to the screen. Many markets were offered on a “side-by-side” basis in both an open outcry and an electronic trading format.

Customers have indeed decided as the plurality of all CME Group volume is conducted on Globex today. Even after implementation of the open access policy, access is not unlimited. System demands are increasing exponentially given the widespread application of algorithmic execution technologies and black-box trading. CME Group manages “bandwidth” by throttling message traffic.

What next?

CME Globex currently is capable of processing in excess of 9 billion quotes per month with an estimated average response time of less than five milliseconds. The system is currently distributed with customer-managed connections to data hubs in London, Mexico City, Milan, New York, Paris, Singapore, São Paulo, Seoul and Kuala Lumpur.

Still, the potential for electronic trading has barely scratched the surface. Further advances in both distribution and system functionality may be anticipated.

We expect to place more hubs in the world’s developing trading centers. Options remain an electronic trading holdout to the extent that the human hand still provides added value that is difficult to replicate on the box given the almost infinite variety of option combinations that may be pursued. But the computer is catching up with the human hand and we expect to see options migrate to the screen in the future.

The availability of electronic trading technologies provides a boom to new product development, allowing futures to be traded in novel and inventive ways. Where once a new

product offered in a pit environment needed to attract significant outside customer flow almost immediately to support a handful of liquidity providers, electronic trading provides “cyber locals” the ability to make markets on an automated basis, essentially extending the “shelf life” of new products almost indefinitely and thereby promoting novel product developments.

Finally, end users are working just as diligently upon extending their electronic trading capabilities as the exchanges. While algorithmic and so-called high frequency trading (HFT) has become somewhat controversial in recent years, we believe that such functionality and activities serve to enhance liquidity on the system, which serves all market participants. Thus, we foresee increased demands on bandwidth as automated and algorithmic trading becomes the

<u>Notable Milestones in CME Globex History</u>	
1987	Globex concept approved for after-hours trading
1992	Currency and interest rate products launched on CME Globex
1995	Stock index products launched on CME Globex
1997	<ul style="list-style-type: none"> • E-mini S&P 500 futures launched • Monthly CME Globex volume exceeds 100,000 for first time
1999	Side-by-side Eurodollar trading introduced
2000	Open access policy implemented
2002	Average daily volume exceeds 1,000,000 for first time
2003	<ul style="list-style-type: none"> • Implied spread functionality introduced in Eurodollar futures • International access hubs activated
2004	<ul style="list-style-type: none"> • CME Globex volume exceeds pit volume for first time • Eurodollar options matching engine integrated with Globex
2006	NYMEX products listed on CME Globex
2007	<ul style="list-style-type: none"> • CBOT products listed on CME Globex after merger • CME Globex volume exceeds 1 billion
2008	CME Globex and BM&F’s electronic distribution network connected for routing electronic orders on both exchanges.
2009	Dubai Mercantile Exchange Oman Crude Oil futures launched on CME Globex
2010	CME Group’s Global Command Center (GCC) opens
2012	CME Group Co-Location Services launches, allowing for lowest latency connection possible

preferred methodology of institutional traders, supplementing and possibly even supplanting “point and click” trading.

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