

The Tokyo International Financial Futures Exchange

Customer Success

PRIMEPOWER guarantees fast product development and mission critical system support for International Futures trading

Business: Financial Futures Exchange

Products: PRIMEPOWER 600, 400, 200

Solution: Dealing system, Clearing system

Application: SynfinityCLUSTER*, Interstage, Systemwalker, Oracle9i Database Enterprise Edition

Requirements

- Fast development of new financial derivative products in a timescale acceptable to the market.
- Guaranteed high levels of reliability due to mission critical nature of business
- Must be a “standard” system that can develop business in a global market

Results

- The “One Year” required previously in new product development has reduced dramatically
- PRIMEPOWER excels in reliability
- Introducing identical trading system as the core European exchange



Kunio Takahashi
Systems Section Head
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The Tokyo International Financial
Futures Exchange

“I believe Fujitsu’s PRIMEPOWER was the most suitable platform choice for building a trading system using a mission critical LIFFE CONNECT™ in Japan.”

The Tokyo Financial Futures Exchange (TIFFE) was established, as a membership based corporation, to provide financial futures transactions required for a financial futures market. When its longstanding mainframe-based system required renovation, an “open system” approach was undertaken. A “package system” was adopted to speed up new product development at a timing required by the market. Thus, a server with good reliability was chosen which happened to be Fujitsu’s PRIMEPOWER. Kunio Takahashi

the system manager of TIFFE has noted that “We consider that Fujitsu’s PRIMEPOWER was our optimum choice for building a trading system using a mission critical LIFFE CONNECT™ which was our absolute requirement.”

Installation Background

Realizing a new product development environment to match market change

“Futures Trading” may not be familiar. It is to agree to buy or sell a specific volume of a product at a predetermined price on a specific future date. Products traded in TIFFE are financial products (such as interest rates and currencies.)

The Tokyo International Financial Futures Exchange (TIFFE) was established in 1989. This was when currencies and interest rates were fluctuating greatly due to strong yen and deregulation of interest rate following the Plaza Agreement. Financial futures transaction was developed as a risk hedging technique to avoid or mitigate such fluctuation, and financial derivatives products prevailed in a dramatic speed.

TIFFE can be broadly divided into two functions. One it to provide financial futures trading infrastructure, while the other is to provide clearing services. Traditionally these businesses had been executed on a mainframe, but now TIFFE wanted to consider a fresh system renovation.

Given this background, Mr. Takahashi looks back saying, “When trying to introduce new products to the market, the time required under the old system was too excessive. Time is directly linked to cost, and we desperately required a platform on which new product could be developed quickly at a low cost.”



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Introduction Highlights

High evaluation of Fujitsu for developing its in-house processor

TIFFE commenced its study for a new system in year 2000 and requested a proposal to each vendor. As a result, Fujitsu's PRIMEPOWER was adopted as the core of the system which was a joint proposal from Fujitsu and LIFFE (The London International Financial Futures Exchange). This was to pursue an application that supports global transactions and an excellent reliability that PRIMEPOWER provides.



Entrance to The Tokyo International Financial Futures Exchange

“Financial Futures operation is completely dependent on the system i.e. when the system is down the business will stop and no trading can take place. It is a very “mission

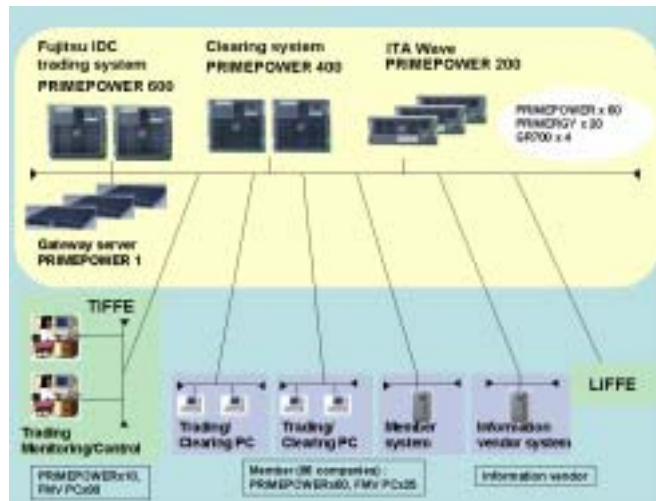
critical” system. A system failure cannot be permitted during business hours.” Says Takahashi.

Naturally the immediate priority was reliability. “As a prerequisite, we had in mind a proven overseas package for our trading system, and we eventually selected LIFFE CONNECT™ which runs on a Solaris Operation Environment. It is important to feel security with a highly reliable Japanese manufactured product and I personally thought that Fujitsu would be secure enough as they produce everything starting from processors. We are convinced that if the trading system is built using the mission critical LIFFE CONNECT™ then the Fujitsu PRIMEPOWER is the optimum choice.”

Fujitsu is the only vendor manufacturing its own SPARC processors and provides a full support system covering all over Japan. This was the very point TIFFE highly evaluated.

System Summary

Clustered servers to further improve reliability



New system basically consists of the “trading system” and the “clearing system”.

The trading system is where members buy and sell financial futures products.

TIFFE adopted the LIFFE CONNECT™ from LIFFE as its trading system. LIFFE CONNECT™ can now be regarded as a global standard as it has been introduced in exchanges in London, Brussels, and Paris etc. but these exchanges were the pioneer users then. A two PRIMEPOWER 600 servers cluster (SynfinityCLUSTER) making each server redundant improves the reliability. TIFFE has also installed a client application on its member's client terminals to emphasize speed.

A clearing system calculates the settlement and margins for the traded financial futures products. As the value of the financial products fluctuates daily, the system calculates any profit or loss on the products and provides a balance account (Mark-to-Market) and manages the margins (cash and securities required to guarantee that debt).

Web technology was adopted for the clearing system. This was constructed on a base of Fujitsu's Interstage middleware product. Members are therefore able to operate the system from their web browser. High reliability was strengthened here by clustering the PRIMEPOWER400 servers using SynfinityCLUSTER.*

In addition a PRIMEPOWER200 was introduced to run ITA Wave (The quotation information system).

The total system consisting of 60 x PRIMEPOWER servers, 4 x ETERNUS GR700 storage units, and 20 x PRIMERGY servers was installed in Fujitsu IDC's Tokyo system center. For administrative purposes 10 x PRIMEPOWER and 80 x Fujitsu FMV PCs were also installed in TIFFE.

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Future View

Expanding innovative and strategic product line through the cutting-edge system

Stability is essential for a safe “open system” operation. This system is not a 24-hour system but provides a file for the next day to the trading system and clearing system from the master file. Unless this process is fully completed the service at 7:30 in the morning cannot be provided.



This is why Systemwalker monitors the overnight operation. In case an error is detected, a warning is sent to the monitoring center. This will be handled by a full-time system engineer to ensure smooth operation.

Mr. Takahashi’s comments, “We did need the courage to decide on switching over from mainframe to open system but we fully trusted Fujitsu to construct the system and things went well without major problems.” indicate that the system’s reliability is highly valued.

The new system launched on 28th April 2003, and on 9th May the Yen interest rate swap futures (Swapnote™) was listed. Until then, nearly a year was required in listing new products. Now the process has dramatically shortened.

Mr. Takahashi speaks with great enthusiasm of the future, “ We will continue to develop advanced and strategic new products in response to customer and market needs.”

Fujitsu PRIMEPOWER is strongly supporting these challenges of TIFFE.

Note: *SynfinityCLUSTER is also known in Japan as SafeCLUSTER. In addition Fujitsu’s latest cluster product PRIMECLUSTER, consists of a combination of SynfinityCLUSTER technology and Siemens Reliant cluster technology.

Company Information

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