Nomura Securities Chose Fujitsu's "PRIMEPOWER" To Secure The Performance and Reliability of Their UNIX® based Trading Systems

Today, with interest rates being kept so low, corporations and individuals alike face the task of making the best use of their assets. Securities transactions through online trading over the Internet are now gaining in popularity as a means of asset utilization accessible to everybody. As well as seeing high value in putting transactions online, securities companies are also adopting a systematic approach to business. Both measures have a direct impact on improved quality of service.

Nomura Securities Co., Ltd., the largest securities company in Japan, has a better than average record of early development and deployment of such systems. Within their group, the Nomura Research Institute, Ltd. (NRI), plays an active role in their ability as an early adopter. In particular their pioneering and progressive approach to the introduction of advanced security transaction systems and related business is highly regarded in this industry sector.

Nomura Securities has also taken another step in securing the reliability of its system. That of effectively processing the ever-growing volume of securities transactions. To do so, the company took the traditional and standard approach of enhancing its computer hardware performance to both increase its processing power and secure higher reliability in its UNIX® environment. The server that met and was chosen for Nomura’s requirements was a PRIMEPOWER server from Fujitsu Ltd.

Faster Information Transfers Cause Dynamic Price Movements; The Challenge is How to Deal with Growing Workloads

Naohiro Sako, Manager, Equity Planning Office, Nomura Securities, (in charge of stock transaction information systems)

Securities trading is a market active with eager players including many personal investors. A good example is Nomura’s online trading service aimed directly at such private investors. It saw its millionth account opened on June 26, 2002 and the number of accounts is still growing.

Trade is becoming all the more active in the market, as securities dealing is more accessible thanks to substantial advancements in online trading services, in addition to home trading.
Naohiro Sako, Manager, of the Equity Planning Office at Nomura Securities and in-charge of such equity products, commented on the trend: "Systems now hold a key position in all the aspects of securities trading whether they are online or not. As stability and processing performance of a system directly influences transactions, it is not too much to say that it is the system that is carrying out the business."

In the past, computers installed at a securities company simply worked as terminals connected to a system at a stock exchange. Orders were input one by one each time they were accepted. For a time this practice contemptuously met the needs of business. But now, stock transactions are widely pursued by an ever-increasing number of investors. Plus related information is being transferred at higher rates in proportion to the growth of Internet use. The result is larger fluctuations in prices. This in turn means that trade in the market becomes even brisker. Such a climate, is compelling securities companies to handle an ever increasing volume of transactions with ever more complicated content.

Mr. Sako also said that Nomura traders are handling more cases of “split orders.” What were previously large orders are now being split into smaller volumes for separate buying during the trading day. The result has been an indispensable need for higher performance servers.

**System Performance is Vital**

Mr. Sako explained the day-to-day operation: "Leveraging computer systems is essential not only in dealing but also in the day-to-day operations of a trader. For example, there may be a client who requests to be informed of the status of his contracts that day immediately after closing. With manual operation, the large volume of contracts and the complexity of transaction content make it virtually impossible to provide an on-time client report. The only way to address this issue is by reports prepared automatically by the system for each client."

Almost every service offered to clients by today’s securities companies depends on systems. These include transaction status report summaries as well as a range of information services in addition to handling buy and sell orders. Mr. Sako also said, "Securities companies are requested to fulfill value-added services, such as information provision, while coping with ever more complex
transactions. In each case, ’immediate action’ is a must; and processing power is a key factor for stable operation of the system.”

If a transaction management server is unable to handling traffic, there will be a lengthy time lag from data input by the trader to the moment the deal is actually done. In the meantime, that stock might undergo a price change. In practice, an instruction on trade is issued from a system in a brokerage house to the system at the stock exchange through a network. If too many orders are generated, there will be a delay due to unprocessed data waiting in the pipeline. A reliable server in the brokerage house is necessary to avoid such potentially detrimental delays.

Mr. Sako further commented: "Currently, clients can directly give sell or buy orders online. Therefore, the performance and reliability of their system is what makes securities companies reliable."

**Fujitsu’s "PRIMEPOWER": Only Solution for Nomura Securities’ Sophisticated Needs**

The system requirements Nomura Securities imposes on itself are severe, making the company upgrading its securities trading system from time to time. Mr. Sako continued, “Basically we don’t make sweeping changes to programs. New functions and features are added, but the core component is inherited.”

Yet, there is an approach we can take to enhance the processing efficiency of version upgrades of programs. Emphasizing the measures taken by Nomura Securities, Mr. Sako further explained, "We have been tackling the issue of processing efficiency by leveraging hardware performance. In line with this policy, programs are designed to be as simple as possible. This approach means that hardware performance can be reflected in the processing speed of programs, and simple programs are more reliable."

As broadband Internet connectivity is now widely offered and clients have also enhanced the transfer speeds of their own networks, traffic can increase instantly across such wideband networks. Users expect servers to have high performance to manage increased traffic. In addition, a considerably higher level of availability, such as continuous operation on a 24 x 7 real-time basis, is essential for servers providing information to overseas markets.

Given these factors, Nomura Securities carried out replacement of servers in order to enhance the performance and reliability of its system. PRIMEPOWER was chosen to bolster the stock transaction system now being operated in Nomura Securities. The open system PRIMEPOWER server running the Solaris™ Operating Environment offered high availability and unbeatable performance. The PRIMEPOWER is configured with a number of 64-bit CPUs and thereby can achieve the performance of a combination of multiple servers working together. In fact, PRIMEPOWER was well known for its excellent ability as it has set world records in a variety of standard tests from some of the world’s most respected benchmarks.

In terms of reliability, Fujitsu has also exhaustively applied technologies and know-how obtained through its long history of “mission critical” mainframe development. As a result, PRIMEPOWER
can achieve 99.999 percent availability by its adoption of features such as a system monitoring function, redundant configurations of CPUs and other key components, hot-swap functions and clustering technology.

**PRIMEPOWER Enables Flexible Operation and Management**

Mr. Sako pointed out: "In many companies including mine, as computerization is pursued for handling business and information, we purchase more and more servers without realizing it. Moreover, when computer upgrading is planned, higher performance becomes a must for those servers. To answer this need, companies may try to distribute transactions, but this in turn, becomes another cause of the increase in server numbers. The greater the number of servers, the more complicated their operation and management becomes. We also see a higher chance of problems in these servers. Plus, if the servers do have problems, there is a corresponding increase in difficulty when taking the necessary steps for resolution. So, when considering the overall reliability of a system, the fewer servers the better."

Nomura Securities intended to make management and operation more efficient by enhancing the processing power of their servers as well as reducing their number through introducing higher-performance machines. As a result, Fujitsu PRIMEPOWER became the machine of choice.

Looking back over the system enhancement decision-making process, Mr. Sako continued: "We have had several types of server in operation, including Fujitsu's machine. But among them, Fujitsu servers were highly appraised in our evaluations of performance, reliability and actual achievement. Accordingly, on this occasion, we told Fujitsu of our requirements."

In addition to performance excellence, Mr. Sako and his team highly appraised PRIMEPOWER in terms of scalability. He said: "As we cannot predict the momentum of increase in transactions, it is important to keep enough performance headroom in the server. But, in order to customarily allow for such levels of margin, we have to frequently beef up the capability of servers, in preparation for transaction increases. With PRIMEPOWER having a feature for implementing additional CPUs we can easily expand system performance to respond to such transaction increases."

Nomura Securities chose the PRIMEPOWER 850, which supports up to a 16-CPU configuration and can enhance the processing power of the whole system easily and at lower cost, without the need for machine replacement, even as transactions grow.

Focused on reliability and availability, the features PRIMEPOWER offers become obvious. Mr. Sako said: The PRIMEPOWER greatly appealed to us, because it can be easily set up in a clustered configuration. This is usually difficult due to complexities in setting. Specifically, because the clustering configuration can be implemented by installing two or more PRIMEPOWERs, we can reduce the transaction load through distributed processing, resulting in improved reliability. It also offers a fail-over function, so that in the event of a problem, we can take the necessary measures to smoothly recover the system without halting its operation."

Looking forward, Sako talked about future plans: "Nomura Securities now use PRIMEPOWER for its securities trading system. We are going to expand the scope of its application as we consider
plans to integrate several servers.” Indeed, a single PRIMEPOWER has the capability to integrate two or more systems into a single server while enhancing performance. PRIMEPOWER undoubtedly promises efficient investment in systems by way of operation and facilities management as well as future replacement. Therefore, it is highly expected that Nomura Securities will further advance its systems, using the support offered by PRIMEPOWER's higher performance, flexibility, ease of expansion, and user-friendly operation and management. Overall PRIMEPOWER will surely contribute to expanding business as well as building up trust from clients of Nomura Securities.

About Nomura Securities Co., Ltd.

Nomura Group is a leading financial services group in Japan and has worldwide operations, providing a wide range of value-added financial services and competitive products.

These include brokerage, trading, underwriting, M & A financial advisory services, merchant banking, and development and management of investment trusts and investment advisory services to diversified clients such as individuals, corporations, financial institutions, governments and governmental agencies. Nomura Group is headquartered in Tokyo and has offices in 28 countries overseas, and Nomura Securities Co., Ltd. has 128 branch offices including a head office in Japan.

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