# America's *first all-electronic* options exchange chooses a *trusted* solution

In a perfect world, a business would be able to create its IT environment from ground zero, without having to consider any existing systems or environment. Having just such freedom to select any platform in the industry, The International Securities Exchange (ISE) has chosen the *Compaq® OpenVMS™* operating system to run its breakthrough operation.

ISE is making history as the first all-electronic options exchange in the United States — and as the first exchange to be approved by the Securities and Exchange Commission in 26 years. Manhattan-based ISE is also a new customer to the *OpenVMS* OS, the trusted solution of financial and commodity exchanges worldwide.

## Wall Street's latest brainchild

ISE is the result of collaboration among some of the best minds on Wall Street, and the answer to a single question: How would it be possible to lower the costs involved in trading equity options?

Gary Katz, ISE Sr. VP of Marketing and Business Development, explains, "We believed that a totally electronic options market would be the answer because it would have a much lower cost basis than a floor-based model. In looking for an IT solution, we focused first on software. The experience that Compaq had in terms of exchange exposure is second to none. And no software developer in the world has had more experience with an options market than Sweden-based OM Technology, which has successfully created options markets in over 10 countries — all of them on *OpenVMS*."

According to Danny Friel, CIO of ISE, "An electronic exchange is viable only while it is up and running. *OpenVMS* provides the availability, scalability, and rock-solid reliability demanded by our business. You can build similar strengths into other environments — but only with major investments of time, technology, and money."

## Single point of accountability

ISE's solution includes industry-leading 64-bit *Compaq AlphaServer™* systems running multi-site *OpenVMS* clusters, fault-tolerant *Compaq Reliable Transaction Router (RTR)* software for exceptional transaction integrity, *Compaq ProLiant®* servers, and Compaq desktops.

Seeking a partner that would help them deploy the solution faster, with less risk, and more confidence, ISE chose to work with Compaq's industry-leading professional services and support organization. *Compaq Network and Systems Integration Services* experts assisted with network design.

*"In selecting a solution to run our business, we picked Compaq and Sweden-based OM Technology. Our selection was based on their proven track record that can address our need for capacity headroom to respond immediately to fast and changing markets, absolute 24 x 365 reliability, and the ever-present pressure to do so in the most cost-effective manner."*

*David Krell*
*President and CEO*
*International Securities Exchange*

**COMPAQ**
**Better answers**

To dramatically reduce installation time on-site, the *Compaq Value-Added Implementation Service* built the system and pre-staged it in Compaq facilities. And to ensure business continuity, Compaq Customer Services is providing premier Gold Support — 24 x 7 service with an under 2-hour response time.

The benefit of such a wide range of hardware, software, and services is "one-stop shopping" with a single point of accountability.

The Compaq solution will enable ISE to maintain the unprecedented processing speeds and sustained high performance required by its operation. As a result, ISE will be able to offer a significantly higher level of efficiency and faster trading for their constituents than traditional floor-based exchanges.

Katz says, "We wanted software that had the ability to keep track of orders that had been placed into the system — and to at no point lose an order. OM Technology's solution was designed with *Compaq's RTR* embedded into the software — so that it would never lose an order. Also, our software requirements were much more extensive than the software OM provided to its European exchanges."

## Looking for pure speed

Katz continues, "We've spent a significant amount of effort defining our business requirements — and OM has spent 50,000 man hours of development to build the application we required. Our choice of the OpenVMS architecture allowed OM to make use of all the technology they've used for the last 15 years. We looked at other platforms, but they would have required porting and wrappers, which would have slowed things down. We were looking for pure speed.

"Existing options exchange systems can handle 60 bids or offers per second. We needed one that could handle 16,000 per second. The delta was enormous. It's not the trading volume that's so complicated, it's the enormous number of quotes generated in the U.S. options market that adds all that traffic to the system," explains Katz.

"Today, the hardware is only now reaching a point where it can handle the type of traffic that we're going to see in the U.S. We plan on using Compaq's 64-bit *Alpha* 21264 chip (EV6) — currently the world's fastest processor. That was a critical element in our business plan. We will have two hot sites with primary and backup machines at both sites, making full use of OpenVMS clustering from a failover point of view."

"Because we have an all-electronic rather than floor-based model, we can offer customers lower costs, greater efficiency, and faster turnaround. In a floor-based system, sending in an order to an options market generally takes 10 seconds to five minutes. We're looking for all orders to be handled in less than .7 seconds round trip."

## Scaling for the future

ISE will begin trading in the first quarter of 2000, listing options on 600 of the most widely owned and popular stocks. "While we will initially trade options, we want to be able to easily branch into other traded products. Another one of the pluses of *OpenVMS Alpha* is scalability. For us to double the number of products we trade, we just have to add more systems," comments Katz.

Friel adds, "From the point of price/performance, hardware performance, and reliability, there was no question that for a high-availability marketplace, going with *OpenVMS* was the right decision."

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## For more information
TOLL-FREE PHONE: **1-800-344-4825** WEB SITE: **www.compaq.com/openvms**