CRESTCO'S DOUBLE PLAY

U.K. financial settlements leader upgrades from 16 to 32 processors with NonStop ServerNet Cluster architecture

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WHEN IT COMES TO FAST AND accurate settlement of financial transactions, London-based CRESTCo is the expert. The company—which settles U.K., Irish, and international securities through its CREST settlement system, and money market instruments via the U.K. Central Money Markets Office—has relied on HP NonStop servers for many years to handle its mission-critical applications. On average, the organization processes 350,000 transactions per day, with a total daily value of US$740 billion.

CRESTCo's settlement services are in ever-increasing demand. Regardless of whether world markets move up or down, the CREST system must settle the transactions—and the trend toward consolidation in the financial services industry means even greater movement on global stock markets. To retain its competitive advantage, CRESTCo must always have sufficient processing capacity to meet sudden rises in transaction volume.

Mike Taylor, chief operating officer at CRESTCo, clarified the company's strategic need to achieve set performance standards. "In addition to our responsibilities to the U.K. economy, CRESTCo has an alliance with the Depository Trust Company, a subsidiary of the Depository Trust & Clearing Corporation in the United States. As American companies trade stocks in U.K. companies, these trades are settled through CRESTCo. It is therefore of paramount importance that CRESTCo is operating with spare capacity in order to cope with any sudden peaks in demand, whether in London or worldwide."

CRESTCo recently adopted HP NonStop ServerNet Cluster technology to enhance its robust, scalable NonStop server environment. This move has enabled the company to double its transaction processing capacity from 16 to 32 CPUs, with an easy upgrade path to accommodate future volume growth and business expansion. The cluster architecture minimizes the complexity that is inherent in

multinode applications and has no negative impact on performance. The application runs as a single-system image. As processing needs rise, the architecture can be easily expanded.

COO Taylor fully supports the adoption of the ServerNet Cluster technology at CRESTCo. "The clustering architecture means that we have increased performance without adding any complexity to the management of the application," he noted. "The management overhead has been kept to an absolute minimum."

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A COMPELLING PROOF OF CONCEPT

HP partner Sionet International was engaged to help CRESTCo achieve higher throughput from its existing CREST application with the lowest possible risk. According to John Geater, lead performance consultant at Sionet, the decision to move to clustering was straightforward. "Basically, each element of the cluster is a NonStop system," he explained. "As transactions rise, you can simply plug in new modules, without the need to retest the application on a new hardware platform. Clustering is an excellent approach to avoiding risk and significantly improving scalability."

Working closely with Sionet, HP proved in a comprehensive benchmark that its NonStop ServerNet Cluster technology would scale to meet CRESTCo's rigorous requirements. The six-month project involved a team of 55 from HP and Sionet, plus nine people from CRESTCo. The 128-processor benchmark demonstrated the ability of the NonStop platform and

NonStop Remote Database Facility (NonStop RDF) software to support the processing of 1 million transactions per day—75 percent of them in a three-hour window.

The NonStop RDF portion of the solution included both Network RDF and RDF Lockstep. Network RDF, a networked backup copy of CRESTCo's transaction database, ensured that every transaction was backed up in real time to a remote secondary site. RDF Lockstep is an additional facility developed by HP to guarantee that updated transaction data at the primary site is safely stored at the remote backup site before the transaction is completed. This guarantees the integrity of the remote database, even if there is a power failure or system outage at any point in the processing of the transaction.

Hugh Malcolm, a consultant at HP EMEA, oversaw the benchmark. "This project proved conclusively that the NonStop platform can support CRESTCo's needs well into the future," he stated. "The benchmark had to confirm that the combined application and platform

could scale dramatically from today's volumes up to 400 percent. I'm very pleased to say that this was successfully achieved."

CRESTCo's benchmark project leader, Andy Atkins, was particularly impressed by the scalability of the NonStop system. "The benchmark proved conclusively that there is no performance degradation using the NonStop ServerNet Cluster architecture, and also that it is linearly scalable," he explained. "Only a fraction of the capacity of the cluster switches was used during the benchmark, even when the nodes were working at over 90 percent utilization."

Martin Hills, chief information officer at CRESTCo, summarized the benefits of the company's enhanced NonStop system environment: "The performance from NonStop systems has always been outstanding, even more so since we have moved to the NonStop ServerNet Cluster architecture. We have doubled our transaction processing capacity in a robust, resilient environment in order to support millions of high-value transactions. The only technology I would trust for our current and future business needs is the HP NonStop server." ◆