

Total Tec Case Study: MD OnLine

"With Compaq, we receive global service from one vendor, and work with a single Compaq solutions integrator, Total Tec Systems, on further design and implementation as our growth requires."

Michael Lu, *chairman and founder, MD OnLine*

Compaq ENSA manages storage for data-intensive eBusiness applications

The Internet-enabled enterprise relies on mission-critical environments that demand the highest levels of availability, reliability, performance, and scalability.

Applications that run in these environments, NonStop eBusiness applications, must be continuously available to the enterprise without interruption.

Compaq's Enterprise Network Storage Architecture (ENSA) satisfies NonStop eBusiness performance requirements with distributed pools of highly available, flexible, and centrally managed storage.

Compaq Storage Area Networks (SAN) and other technologies provide a powerful, flexible framework for deploying and managing enterprise-wide storage resources.

The customer can manage and access storage, modify storage configurations easily, and allocate storage dynamically and automatically to distributed, heterogeneous application servers as needed.

Compaq ENSA offers a broad range of data protection methods that drastically reduce the time it takes to protect data from loss.

These methods also simplify and speed up backup and restore of critical data.

Compaq ENSA offers unprecedented levels of investment protection by providing clearly defined, evolutionary upgrade paths to future technologies, across a number of popular operating system platforms.

For more information about Compaq ENSA, contact us at **800.634.2588**.

MD OnLine provides sophisticated diagnostic information on the Internet, rapidly and efficiently, to health-care professionals, academics and patients -- accessible to virtually anyone who needs comparative consultations.

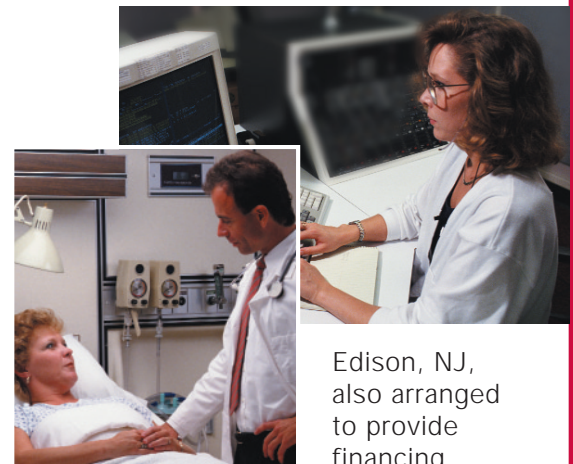
To achieve this level of usability, the company assembled an experienced and renowned group of medical experts, a unique, graphics-based medical image search engine and a valid database of diagnostic information. It also lined up technology experts who could turn this treasure trove of information into a reliable, 24x7 reality.

"We hit the jackpot with Compaq," says Michael Lu, chairman and founder of MD Online. "We greatly benefit from the technical superiority of the Compaq Enterprise Network Storage Architecture (ENSA) and their StorageWorks products. Now Compaq is a major stockholder and permanent technology partner in our firm."

"And Total Tec offers a solution that gives us a foundation for our planned growth, and also provides true investment protection with an open-systems architecture."

Total Tec: Diagnosing the technology requirements

Lu praises Total Tec Systems, Inc., a highly-regarded Compaq Enterprise Certified Solutions Integrator, for architecting and implementing all facets of his business and technical requirements. Total Tec, based in



Edison, NJ, also arranged to provide financing

through Compaq Financial Services.

From the very outset, Total Tec's senior storage architects worked directly with MD OnLine to articulate their requirements. Before collaborating with Total Tec however, MD OnLine first considered purchasing EMC storage devices in conjunction with servers from Sun Microsystems.

Total Tec consultants showed MD OnLine deficiencies in several key areas in the EMC/Sun solution. It apparently didn't have the requisite scalability to support their ongoing storage requirements, which Lu estimates could reach 30 terabytes in one year. He also wanted to purchase both computers and storage devices from a single vendor. Enter Total Tec.



The success of our solution and strength of our customer relationship is evident in the MDOL web site reference above.

"We originally got a call about MD OnLine from Compaq, so our Total Tec consulting team set up a meeting with them and Compaq's Custom Systems Group (CSG)," explains Total Tec sales rep Chris DiFraia, who has been with the project since its inception.

"Getting everyone together like that was great because we were able to present all of our products and services," said DiFraia from Total Tec's Boston office. "That turned into four or five more meetings with the customer and CSG where we were able to consider a couple of different environments."

"The biggest challenge we overcame was that we were able to make everything in this enterprise network talk together and act as one very large 64 bit Oracle database"

This is Total Tec's strength. To support MD Online's unique data-storage requirements, Total Tec engineered and implemented a *StorageWorks* SAN attached to Compaq ProLiant DL380 servers running a Microsoft Windows NT operating system. Compaq *AlphaServer* ES40 systems drove an Oracle Database on Compaq *Tru64* UNIX. This SAN consists of a switched fabric, Fibre Channel, *StorageWorks* Enterprise Storage Array 12000 system, with two 16-port fibre switches.

"We architected a configuration taking advantage of Compaq's ENSA (Enterprise Network Storage Architecture) platform," says DiFraia. "All of Total Tec's

key people along with Compaq, Oracle, and Veritas, met with MD Online, in Atlanta, to discuss our solution."

The system that was agreed upon is highly scalable and easy to maintain. MD OnLine can easily allocate storage resources to any system necessary using the centralized *StorageWorks* Command Console. For automated backup procedures, system

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administrators use *StorageWorks* tape libraries running Veritas software. And to help recover data in the event of a disaster, MD OnLine plans to implement Compaq's *SANworks* Data Replication Manager software,

a disaster-tolerant and workload-migration solution, that allows system administrators to copy data in real time to a remote location.

These robust technical capabilities delivered by a seasoned integrator and solution provider ensures that MD OnLine will continue to fulfill its mission in the years ahead. *"With Compaq, we receive service at all corners of the globe from one vendor; build our infrastructure with a broad, state-of-the-art and standards-based line of products; and work with a single Compaq solutions integrator, Total Tec, on further design and implementation as our growth requires,"* Lu says.

Total Tec recommends the ENSA *StorageWorks* solutions because it's ideal for rapidly growing companies with unpredictable storage requirements. *"The future is in storage-area networks,"* says Frank Law, president of Total Tec. *"Compaq leads the field with its StorageWorks systems and SANworks software."*

Founded in 1976, Total Tec is one of the nation's premier Enterprise Solutions Integrators focused on providing comprehensive IT solutions to Fortune 1000 firms. Whether it's e-business, business intelligence or other mission critical application, Total Tec helps clients take control of rapidly growing information and data availability needs.

Total Tec Systems is headquartered in Edison, NJ. It hosts the largest Information Technology integration facility on the east coast. Regional Sales offices are located throughout the eastern and southern United States.

For more information about our ENSA SAN solutions for data intensive, e-business applications, and high availability clustered Oracle solutions contact us at 800.634.2588.

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