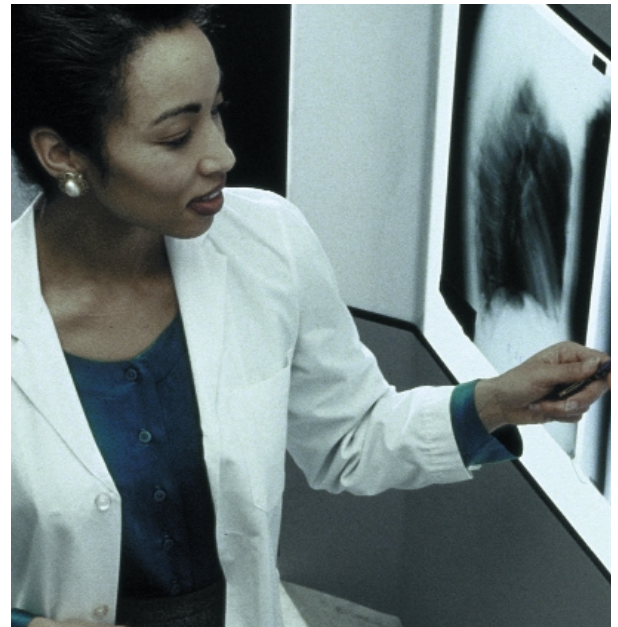


Success story:

HP technology helps Genesis Health System achieve its mission of providing compassionate, quality care



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A mission of care

In 1869, the predecessors of Genesis Health System founded the first community hospital west of the Mississippi. Today, this not-for-profit healthcare organization serves a 10-county, bi-state region of the Quad Cities metropolitan area and the surrounding communities of Iowa and Illinois. However, when it comes to clinical capabilities, groundbreaking research and financial performance, Genesis Health System far exceeds its geographical limits — earning recognition as one of the nation’s top 100 health systems and achieving medical firsts in the nation and even the world.

Genesis Health System consists of 22 care providers, including three hospitals, a skilled nursing facility, long-term care, assisted living, laboratories, urgent care, home health, outpatient clinics, group practices and more. The single factor that unites this diverse group of components is the mission of Genesis Health System — which is so core to the organization that it is written on the back of every employee’s badge: “Provide compassionate, quality care to all those in need.”

To support this mission, Genesis Health System relies on information technology solutions from HP and its partner Cerner Corporation.

Creating a seamless experience

According to Dean Hiles, Director of Information Technology at Genesis, the organization faces two key challenges in meeting its goals: first, trying to maintain a budget when reimbursement is down and medical liability is up and second, constantly addressing the healthcare worker shortage.

Hiles explains, “We are trying to implement systems that make our workforce more efficient and provide better care for our patients. We’re really working toward a seamless experience. Our goal is to make it so that when a person enters our health system at any point, we know that they’ve been here and what they experienced — so we don’t have to ask the same questions again and again.”

From an IT standpoint, creating a seamless experience means integrating multiple applications into a single system. And that is a very big job.

“System integration is a major challenge for us, but that’s our goal,” says Hiles. “We have multiple applications that are difficult to integrate and we started with our acute care facilities, but it will take another three to five years to complete.”

Genesis Health System began its marathon integration project in 1999 when it implemented the *Cerner Millennium*[®] architecture. Hiles explains, “The major building block in our strategy for the seamless experience is to use Cerner as our clinical data repository. We also have applications from other vendors, but ultimately we want to be able to bring them into Cerner.”

Hiles explains why Genesis chose Cerner. “As we started looking for a different solution when our previous one was end of life, we wanted something that would take us into the future. The Cerner patient-centric single database for all patient information appealed to us. Overall, we’re very satisfied. We think that Cerner has the right vision.”

Three-legged stool

To implement its new solution, Genesis chose an HP-based solution for its server platform. “We look at it as a three-legged stool,” quips Hiles. “We have Genesis, HP and Cerner all working together to make it happen.”

Genesis runs its Cerner implementation on HP AlphaServer systems and the HP OpenVMS operating system. According to Joe Murray, Principal Technician on the Cerner implementation, Genesis chose HP based on a recommendation from Cerner.

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Hiles adds, “If Cerner is our application of choice for providing and documenting our care, we have to make sure that it’s available and reliable. That’s where HP comes in — to make these applications available to all of our caregivers 24 hours a day, 7 days a week.”

In addition to availability and reliability, security is a high priority issue at any healthcare enterprise — and a driver for a single-platform architecture. HP OpenVMS AlphaServer systems are very secure by design. Hiles, who heads the Genesis security team, explains, “The more applications and functions that we can get on one platform, the easier it will be for us to control access.”

The road to system integration began in 1999 when Genesis deployed three Cerner applications — lab, radiology and pharmacy — on an AlphaServer GS60 system, gradually expanding the server with more processors and memory to meet the demand for more capacity. In mid-2001, Genesis purchased an additional AlphaServer GS80 system in order to do a Cerner upgrade and add Cerner’s charting application.

As clinicians used the system more and more, the AlphaServer GS80 system approached the top end of its capacity, so the IT team split the environment across two nodes and implemented an OpenVMS cluster solution demanding extreme high availability. This adaptability is possible because of the clustering capabilities of OpenVMS. “To us, the biggest benefit of OpenVMS is clustering,” says Murray.

From painless management to disaster tolerance

The Cerner implementation on OpenVMS AlphaServer systems is just part of the HP presence at Genesis. The organization runs Cerner through Citrix, which runs on HP ProLiant DL380 and 360 dual processor servers. In total, there are close to 250 HP servers in production running a variety of operating systems, including NT4, Windows®, Tru64 UNIX® and Linux.

While managing such a diverse set of servers could be a headache, an HP management product called Insight Management 7 makes it painless. “Insight Management 7 is really slick,” comments Murray. “It helps us manage and monitor the performance of all of our servers and push down driver updates — without having to visit each server on a case-by-case basis.”

Enterprise-wide storage is another major advantage of HP. Hiles elaborates, “The StorageWorks Enterprise Virtual Array (EVA) storage area network has worked extremely well for us. In the past, we had to buy storage for every server we purchased. Now we don’t have to.”

The HP storage area network also supports the organization’s upcoming rollout of a disaster tolerant solution, which is planned for implementation on a second AlphaServer 1280 system. Because of the OpenVMS capabilities for disaster tolerant solutions and wide area clustering, Genesis will be able to create a second data center two and a half miles from the present data center site. Hiles explains, “We already have our own fiber between two of our major facilities, so we’ll be distributing some of the servers between the two. Again, our close working relationship with HP and Cerner will make that happen.”

Shared support, shared vision

Genesis finds compatibility between servers, operating systems and storage very important. Hiles explains, “HP’s single vendor strategy makes a very difficult job simpler. The fewer contacts we have to make to support our data center and applications the better. That’s why 98% of our servers are from HP.”

Commenting on service, Murray says, “We have over 100 applications that we serve up here. The support we receive from Cerner and HP is top notch. The local HP techs have been wonderful to work with — they have bailed us out on several occasions.”

What’s on the horizon for Genesis? According to Hiles, “We see future implementations of other Cerner products as we move forward. Each year we grow our Intel®-based ProLiant server farm significantly. Our EVA central storage strategy for our medical imaging system — which happens to not be Cerner but coexists on the HP storage system — is another huge initiative for us. We’re constantly growing, and both Cerner and HP are part of that.”

Maintaining a steadfast focus on care, Genesis Health System has invested significantly in the technology to support that mission. HP — with its compatible offering of servers, operating systems, storage and service — looks forward to working with Genesis Health System as it continues to advance the state of healthcare.

Adaptive enterprise solution overview: Meet ever-changing needs and growing demand

Challenge

- Improve efficiency by creating a seamless patient experience throughout the continuum of care
- Boost productivity of the clinical workforce to help address healthcare worker shortage
- Create a single, patient-centric data repository

Solution

Implement *Cerner Millennium* architecture running HP OpenVMS clusters on HP AlphaServer systems with an enterprise-wide HP storage area network

Results

- High availability, reliability and security
- Integration of multiple applications into a single system
- Adaptability and scalability to meet future needs
- Central storage solution that eliminates the need for storage on every server

At a glance

- **Name:** Genesis Health System
- **Headquarters:** Davenport, Iowa
- **Formed:** 1994
- **URL:** www.genesishealth.com
- **Products/services:** Genesis Health System and its affiliates offer a full continuum of care including preventive, primary, acute and tertiary hospital care; home health and nursing home care; and hospice, rehabilitation and long-term care. Genesis is committed to minimizing healthcare costs, enhancing the range and quality of services offered, and improving access to care for those in need. The system brings together more than 675 licensed beds, 600 physicians, 5000 staff members and hundreds of volunteers to serve the community.

Technology highlights

- **Hardware:** a total of 250 ProLiant and AlphaServer systems. For the Cerner implementation: one AlphaServer GS1280 for production one GS60 and one GS80 for non-production and production failover additional GS1280 planned for disaster tolerance.
- **Operating systems:** HP OpenVMS, HP Tru64 UNIX, Windows, Linux
- **Software:** Cerner PathNet (Lab), RadNet (Radiology), PharmNet (Pharmacy), PowerChart (electronic charting) and EMPI (central repository) running on Cerner Millennium
- **Storage:** HP StorageWorks EVA and ESA systems in a storage area network
- **Services:** Gold Support from HP Global Services

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