Swedish Medical Center embraces the leading edge with a first-class data center built with help from IBM.

Swedish Medical Center (www.swedish.org) is one such healthcare provider. Founded in 1910 with just $10,000, a renovated apartment building and 24 beds, Swedish Medical Center is now one of the largest, most comprehensive nonprofit healthcare providers in the Pacific Northwest region. Based in Seattle, Washington, it has four campuses—First Hill, Providence, Ballard and Issaquah—that include multiple specialty clinics, a new community-based emergency room, a network of 12 primary-care clinics, a home-care services program, and affiliations with suburban hospitals and physician groups. In addition, Swedish Medical Center is a regional referral center and provides specialized treatment in cardiac care, oncology, orthopedics, high-risk obstetrics, neurological care, sleep medicine, pediatrics, and organ transplantation. The hospital also conducts clinical research.

“\[I would never have wanted to attempt this type of project without IBM and their leadership.\]”

—Janice Newell, CIO, Swedish Medical Center
“We have distinguished ourselves by delivering extremely high-quality healthcare. Our doctors have earned great reputations,” says Janice Newell, CIO for Swedish Medical Center.

For Swedish Medical Center, the leading edge is a critical place to be—not for the prestige, but to continue offering the most innovative healthcare available. To keep its positive momentum going, Swedish Medical Center had launched a US$120 million clinical information system. As part of the initiative, the healthcare provider was transitioning from paper-based medical records to electronic records to improve the quality of care and help minimize errors as well as help improve day-to-day operational support for medical staff members.

**Performing surgery on an outdated IT environment**

But as Swedish Medical Center embraced its new initiatives, its senior managers quickly realized that the current IT environment could no longer keep up with the evolving technological requirements.

“We had to get ourselves to a data center that was capable of supporting our delivery of care with technology,” says Newell. “Our data center was wholly inadequate.”

The hospital’s IT operations and data center had reached maximum capacity. The data center also needed to upgrade its power capabilities to support new applications, which in turn would increase its cooling requirements. In addition, the overall physical IT environment for housing support personnel was constrained. The hospital clearly needed a solution that could extend its existing IT environment and infrastructure and provide the flexibility needed to meet the demands of an ever-evolving organization.

Not only was Swedish Medical Center’s data center insufficient, but it also needed to be relocated to make way for the expansion of several other buildings on campus. The new data center had to be designed, constructed and brought online in less than 12 months—and schedule slippage was not an option.

**Building a robust data center from the ground up**

Swedish Medical Center turned to the IBM Global Services team to determine how to achieve the hospital’s overall technical goals and begin the process of building a world-class data center. Initially, IBM helped Swedish Medical Center establish a statement of requirements and provided a schematic design to outline the data center’s specific design points. IBM then evaluated the levels of data redundancy that were needed to avoid any single points of failure.
Swedish Medical Center and IBM also collaborated on facility size requirements to help ensure that the new data center was designed to be flexible and scalable enough to accommodate future opportunities and growth. IBM was then able to complete the design and construction of the new data center. As the general contractor for the build out, IBM assumed complete responsibility for all aspects of the construction project and specified, procured and installed all the necessary equipment to support all data center functions and operations.

After the IBM team completed construction, it tested and commissioned the facility to ensure that it was functioning properly. IBM also managed the relocation of approximately 500 servers and numerous computers and storage devices to the new facility. The relocation was accomplished with detailed planning and scheduling. Each specific application and its associated server/storage were mapped to successfully bring the application back online. The relocation was choreographed in weekend move waves to help reduce any effect on Swedish Medical Center operations.

The result was a data center that could meet Swedish Medical Center’s current and future requirements—and one that was constructed within the hospital’s aggressive timeline.

“IBM’s strict project management processes and dedication—such as the running of crews almost 24x7—helped keep the project on its critical timeline,” says Steve Horsley, director of IT infrastructure for Swedish Medical Center.

“I can truly say IBM led to our success.”
—Steve Horsley, director of IT infrastructure, Swedish Medical Center

Today, Swedish Medical Center has a data center it truly can rely on. Designed to minimize the chances of downtime, the new data center incorporates dual power sources all the way back to the main building power plant. Each server cabinet includes dual power distribution units fed by separate remote power panels, which are in turn fed by dual power distribution units supported by dual uninterruptible power supply (UPS) modules with separate battery systems. The electrical system is then backed up by a redundant building generator plant. The cooling system is also redundant and features a chilled water solution supported by water source feeds from two sides of the data center and redundant air-conditioning units.

In addition, IBM provided and installed a dual-path cabling system throughout the facility. The system, which incorporates dual-fiber runs to every cabinet and copper runs where needed, is coupled with Swedish Medical Center’s redundant network core to help create a highly available communications network.

At 6,000 square feet, the new data center is nearly twice the size of the old data center. It incorporates seismic supports and a number of security features, including a dry pipe preaction sprinkler system and an FM200 fire suppression system. The facility also includes a new state-of-the-art network operations center (NOC) that IBM designed and built. The NOC features custom ergonomic furniture and a 10.8’ x 9’ sectional screen for monitoring IT operations.

To allow for future growth, the main infrastructure was sized to accommodate the installation of additional UPS and cooling systems as needed. And because Swedish Medical Center’s management team requested that IBM ensure that upgrades and maintenance would not affect ongoing IT operations, the hospital should experience no outages when it expands its systems.

“It’s just night and day from where we were,” Newell says.
Collaborating with IBM—facing a healthier future
With the new data center in place, Swedish Medical Center can now move forward on other key business objectives. The completion of the NOC and the IT improvements will enhance the quality and speed of medical services as well as provide noticeable financial savings. Plus, the inclusion of environmental status alerts on power and cooling along with enhanced security monitoring will help Swedish Medical Center monitor its IT operations more closely around the clock, every day. The new data center allows Swedish Medical Center to:

- **Focus on core competencies**
- **Sustain high levels of redundancy and increased capacity using dual-fed connectivity**
- **Provide future growth capacity for the new operations**
- **Accommodate existing and future UPS systems and air-conditioning requirements.**

“I would never have wanted to attempt this type of project without IBM and their leadership,” says Newell.

Horsley agrees. “I can truly say IBM led to our success.”

**For more information**
To learn more about IBM’s data center solutions, contact your IBM representative or visit:

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