

#### Objective

Spectrum Health wanted a modular approach to designing and building a next-generation data center that would conserve power, cooling and space resources. They also needed to gain flexibility and cost-efficiency to grow.

#### Approach

Build a state-of-the-art modular data center that can sustain the needs of a growing healthcare business now and into the future.

#### IT Matters

- Decreases IT and facility maintenance efforts
- Reduces power usage by 27%
- Provides 99.999% uptime in the data center
- Capitalized on current and future trends in the IT and healthcare industry

#### Business Matters

- Improves patient care and outcomes through higher reliability and service availability
- Builds a solid foundation for growth and anytime, anywhere data access
- Reduces operating costs by 25% compared to traditional data center facility
- Forecast savings of \$10M over 10 years compared to older technologies

# Spectrum Health adopts next-generation, modular data center

Leading healthcare provider saves millions, achieves capital-efficient growth



Spectrum Health wanted to expand its IT infrastructure while controlling power and cooling costs. In order to grow sustainably, Spectrum Health selected the HPE Flexible Data Center, a completely modular approach that helps keep the continuously growing business responsive to the patients it serves.

#### **Providing a continuum of care among facilities, with IT to back it up**

A \$4 billion business with 20,800 employees, Spectrum Health has 11 hospitals, 960 advanced practice providers and employed physicians in 173 sites across Western Michigan, and a health plan with over 540,000 insured lives. The company represents a broad continuum of healthcare services, from providing healthcare insurance as well as access and delivery of services within hospital environments, ambulatory medical centers, long term acute care facilities, and physicians' offices.

“Our goal is to provide a technology environment to support our business needs in a way that allows us to constantly improve services and grow, without business disruption. HPE is the trusted partner that’s helping us accomplish this goal.”

— Scott Dresen, Vice President of Information Services, Spectrum Health

In the healthcare industry, technology has become pivotal to providing outstanding patient care. Healthcare practitioners need information, whenever and wherever they are, at the spur of the moment. From electronic medical records to image analysis, technology plays an ever-critical role, and Spectrum Health strives to ensure that the health information travels with every patient across the healthcare continuum, through hospital environments to medical centers and physician offices. Technology is necessary because every decision relies on data—the patient’s historical record, as well as what he or she might go through in the future. As a highly regulated industry, healthcare providers have to double down on all aspects of regulatory compliance, confidentiality and data security.

“Information technology is pivotal to clinical care,” says Scott Dresen, vice president of Information Services for Spectrum Health. “Our mission is to improve the health of the communities we serve. Ultimately, everything we do, the information technology we select, and all the decisions we make have an impact on our community.”

For Spectrum Health, however, traditional technologies were becoming a limitation. As a company growing quickly, with IT integration complexities from acquisitions, the traditional mode of doing things had become restrictive and highly expensive. “We were outgrowing our existing IT facilities in ways we had not

originally anticipated. We had enough physical space, but power, cooling, and the need for more storage were outpacing our capabilities and becoming too expensive,” says Dresen.

## **Reconsidering the data center**

These are a few of the reasons why the data center approach, especially at forward-thinking organizations such as Spectrum Health, is changing. Organizations are eager to reduce capital expenditures, operating expenses, and the time spent in planning and construction. Yet they also want to retain flexibility for expansion and take advantage of the latest trends in the IT industry.

Spectrum Health is innovating new ways of thinking about data centers. Among the options evaluated, they chose the Hewlett Packard Enterprise (HPE) Flexible Data Center (FDC), a completely modular approach to designing and building data centers that helps keep the continuously growing business as healthy as the patients it serves. A trusted, long-standing organizational relationship with HPE was another factor in the choice. Dresen initially expected to reduce operating costs on the new facility, but his expectations were exceeded by additional benefits HPE Flexible DC offered.

“We started out by conducting a total-cost-of-ownership model,” says Mike Ensley, manager of Information Services operations for Spectrum Health. “The HPE Flexible

DC solution aligned closely with what we wanted to accomplish in terms of cost and grow-on-demand flexibility. Better still, we're forecasting it will save us \$10 million over the ten-year life of the data center—or approximately 30%—compared to older technologies.”

## **Sustainable in every way**

Spectrum Health has been an early adopter of innovations. For example, electronic medical records with a view toward holistic patient health care—and always have been—a primary focus. With that in mind, and wishing for sustainability leadership, Spectrum Health already has several LEED-qualified facilities, so energy efficiency was also a key consideration.

HPE Flexible DC, a modular, prefabricated solution comprised of several customizable components or quadrants that can be expanded as needed while conserving resources, met the need to do what is right for the environment and run the business more sustainably, too. Ensley anticipates a 25% reduction in power consumption with HPE Flexible Data Center when compared with traditional-style data centers. Much of this is due to the hot aisle containment in HPE's solution, translating into substantial savings. Space is another area for cost savings, because of Flexible DC's optimized modular approach, Spectrum Health can grow in smaller increments on an as-needed basis, which also results in a reduction in cooling and power expenses and eliminate unnecessary building footprint.

Adding to the advantages, the new data center runs with an impressive 1.23 Power Usage Effectiveness (PUE), compared to an industry average POE of 1.8<sup>1</sup>. And, because the mechanical and electrical systems are located outside the main data center, Spectrum Health has simplified maintenance. When maintenance must occur, it can be conducted outside the physical data center, without interfering with vital computing systems.

“The HPE Flexible DC has given us a great platform from a reliability standpoint. It's a proven system, not only from an energy efficiency stance, but also from a rock-solid continuous operations standpoint,” explains Rick Redetzke, vice president, facilities and real estate, Spectrum Health. “The ability to shut down electrical or mechanical equipment and still have our IT infrastructure run continuously is crucial.”

Reliability and protection of patient data were additional key concerns. With the HPE Flexible Data Center, Spectrum Health can ensure that critical applications such as electronic medical records, clinical records, claims management, financials, imaging, as well as confidential patient information, are secure. Availability is closing in on 99.999% uptime due to redundancies that reduce the likelihood of service outages.

“We can grow without ever shutting down services, and that's what IT is meant to do after all,” Dresen says. “We serve the needs of the business, continuously, helping people in a way that allows us to constantly improve services and grow, without business disruption. HPE is the trusted partner that's helping us accomplish this goal.”

Looking to the future, Spectrum Health is growing and developing its web- and mobile-based services to further engage people on the go within a healthcare delivery network that may include hospitals, outpatient facilities, and other offerings. HPE Flexible Data Center will be ready as these needs grow. It will also be ready as the company seeks to expand its business footprint. Three large hospitals have joined the network in just the last five years, and the expansion continues. HPE Flexible Data Center can easily be scaled to support that growth. Community physicians, too, are joining the network and adding data to the electronic medical record environment, increasing the need to expand data center services.

“The demands of our business environment continue to grow,” says Dresen. “But it won't be painful due to the way HPE has architected the HPE Flexible DC solution. We can achieve sustainability and efficiency gains and still meet our needs from an organizational and patient perspective.”

<sup>1</sup> Uptime Institute, <http://www.google.com/about/datacenters/efficiency/internal/> The average Power Usage Effectiveness (PUE) rating for data centers is 1.8, according to a survey of more than 500 data centers conducted by The Uptime Institute.

## Customer at a glance

### About Spectrum Health

For Spectrum Health, healthcare is more than just a mission statement and a way to make money. The company cares about the communities it serves and making peoples' lives more lasting and meaningful. Spectrum Health has also been at the forefront of helping people get affordable health insurance through its nationally recognized health plan, Priority Health.

### HPE services

- HPE Critical Facilities Services, Flexible Data Center
- Turner Construction (general contractor on the project)

## Diagnosing the future

Spectrum Health is also planning to build a highly virtualized public/private hybrid cloud. The private cloud is already underway to save resources, generate more value, and securely store more data. The company also has explored platform-as-a-service options. For Spectrum Health, the cloud will take shape as a hybrid model including internal and external, as well as public and private cloud environments that make IT management easier and take full advantage of all the models available.

“Everything we’re doing in IT is helping the patient or member from a wellness perspective,” says Patrick O’Hare, senior vice president and chief information officer of Spectrum Health. “We look at IT as an enabler to provide clinicians with the right information at the right time in the right setting so they can provide the best care. In many cases, it helps us look at a patient holistically regardless of the setting in which we’re providing them care. IT is the enabler allowing that to happen.”

IT is also putting Spectrum Health at the forefront of transparency in terms of accountability, quality and cost—all top priorities in the United States. Spectrum Health and Priority Health credit much of their ability to stay ahead of technology trends with a long-term relationship with HPE. “We’ve had a long-standing organizational relationship with HPE, and I think that’s our general overall thought regarding HPE—we both take a long-term view, and there’s a lot of trust and synergistic understanding that has been established over the years,” says O’Hare.



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