The Art of Pediatric IT
Making IT Count Where It Matters

Art—sculptures, drawings, paintings, and more—from children of all different backgrounds and walks of life fill a long, elevated walkway spanning two of the primary hospital facilities for Texas Children’s Hospital in Houston, Texas. Walking the entire stretch is an awe-inspiring experience, one that is given additional meaning when accompanied by David S. Finn, the vice president and chief information officer at Texas Children’s Hospital. Finn and his team of 230 IT professionals have been hard at work at the art of pediatric IT since his arrival five years ago, and the portrait they’re creating elicits a favorable response.

Prescribing IT for rapid growth
In the words of Finn, Texas Children’s Hospital is much more than just a hospital network; it is an Integrated Delivery System consisting of the first pediatric health plan in the country, a primary care managed service with 44 physician practices with more than one million patient visits annually, the primary pediatric training site for the Baylor College of Medicine, and more. And since its founding nearly 70 years ago, Texas Children's Hospital has garnered greater and greater recognition for delivering some of the highest quality pediatric care, education, and research in the world.

Not one to sit on its laurels and bask in its past and current success, Texas Children’s Hospital is in a mode of rapid expansion of facilities and patient care and services, including a new women’s hospital, an urban pediatric hospital, and a research center focused on neurological research in pediatrics. Finn and his Information Services (IS) team are demonstrating that IT is the right prescription for helping to facilitate this rapid growth while ensuring continued quality of patient care and services.

A transformation in the role IT plays at Texas Children’s Hospital took place about three years ago, when biomedical engineering was integrated into the IS department and the IS team was broken into five business-oriented delivery organizations focused on technology infrastructure, business systems, clinical systems, research, and customer services. “We were among the first to engage biomedical engineering in IS, a strategic move since more and more of biomedical services live on the network,” Finn explains.

Mixing the right amalgam
As a member of the executive management team at Texas Children’s Hospital, Finn works closely with his peers to diagnose and prioritize key business objectives. He and his IS management team then collaborate to prescribe the most appropriate technology...
solutions for each. “The technology challenges in healthcare seem to be never ending, particularly in an academic medical center like Texas Children’s Hospital, where we have researchers, guest faculty, and visiting physicians,” Finn says. “Keeping data safe and confidential, maintaining the integrity of data, and then sustaining high availability are at the forefront of everything we do.”

As part of a more than $1.5 billion facility and IT transformation initiative, Finn and his team embarked on several critical projects over the past couple years: an automation of the security infrastructure, an enterprise-wide implementation of Epic software, and a next-generation Oracle PeopleSoft environment. An integral component to the amalgam for each project involves Symantec technology and services. “Symantec works with us to find solutions to our business problems, not someone’s down the street, not even another hospital’s down the street, but those that are unique to Texas Children’s Hospital,” Finn quips. “This is a big difference for us.”

Automating security and focusing on the endpoint
The security initiatives for Texas Children’s Hospital started about five years ago with a hardening of the perimeter. The IS team gave greater emphasis to security in 2002 following a catastrophic security event that caused various system outages and incurred huge expenditures in remediation. “From there we started looking for a way to control our information assets—hardware and software—as well as data. It was at this point that we chose to deploy Symantec AntiVirus Enterprise Edition,” Finn says.

In 2005, the need for greater visibility and insight into security issues and the ability to deal with them in a proactive manner resulted in the deployment of Symantec Enterprise Security Manager. “We knew we had problems, but we had no way of measuring them until we implemented the tool,” Finn explains. At the same time, Finn’s team elected to deploy Symantec DeepSight Threat Management Services for more proactive monitoring of threats.

Seeking a centralized view of security systems and data, Finn’s team added Symantec Security Information Manager in 2006. “Security Information Manager gives us the ability to take our monitoring and insight tools to the next level,” Finn notes. “We look at symptoms with Enterprise Security Manager and potential threats with DeepSight Threat Management Services, but Security Information Manager brings all of those issues together, whether it’s compliance on a server around password settings or viruses in our desktop environment.”

The results of these initiatives are producing tangible business value for Texas Children’s Hospital. These range from a more than 93 percent decrease in infected systems to a reduction in the time spent compiling audit reports and remediating security incidents by more than 19,000 hours each year.

“Our latest security project started at the beginning of 2008 and includes a focus on controlling endpoints and preventing data loss—specifically, the use of data and how it flows throughout the organization.” With the help of Vital Signs at Texas Children’s Hospital

David S. Finn, VP and CIO at Texas Children’s Hospital

> 1,580 board-certified, primary-care physicians, pediatric subspecialists, and pediatric surgical subspecialists and dentists
> Over 6,000-member nursing staff
> 44 primary care practices
> 5 community-based health centers
of Symantec Consulting Services and Symantec Residency Services, the IS team is in the midst of a multi-month project to upgrade its Symantec AntiVirus environment to Symantec Endpoint Protection 11.0.

**Standardizing as part of the cure for Epic and Oracle PeopleSoft projects**

The solution involving Epic software, which was initiated two years ago and will be completed this spring, is the largest software implementation ever undertaken at Texas Children’s Hospital. High availability and disaster recovery are not only at the core of the Epic software initiative but the next-generation Oracle PeopleSoft project, which was started in early 2007 and completed in December 2007. “Veritas Storage Foundation Cluster File System and Veritas Cluster Server allow us to move high availability from a single data center to multiple data centers across our campus,” Finn explains. “Only Symantec was able to provide a cross-network solution that met our high availability requirements.”

In addition to the high availability components for both projects, Symantec is also providing the storage management and backup-and-restore pieces with Veritas NetBackup and Veritas Storage Foundation—and Symantec Consulting Services is playing an important implementation role. “In the design of these two solutions, we’ve had to rely on our partners, whether HP for the Oracle PeopleSoft initiative or IBM for the Epic implementation, but the glue that holds all those structures together is Symantec Consulting Services and Symantec Residency Services.”

**Integrating Biomedical Services onto the Network**

Biomedical engineering involves the combination of the design and problem-solving skills of engineering with the medical and biological sciences to help improve patient healthcare and quality of life. Biomedical services include a range of diagnostic devices and imaging equipment (MRI, EEG, etc.), smart pumps, ventilators, medical imaging, image processing, physiological signal processing, 3-D modeling, among others.

Historically, biomedical services either resided within the facilities department or as stand-alone department. “As more and more of biomedical devices reside on the network and have an operating system, it made sense to bring them into the IT organization,” notes Rick Bryant, director of infrastructure technology solutions at Texas Children’s Hospital. “However, introducing biomedical services onto the network creates a number of new storage, endpoint security, and high availability challenges.” The biggest challenge facing Texas Children’s Hospital is a proliferation in wireless biomedical devices and the associated security requirements—privacy of patient information, compliance with HIPAA, and so forth.
Services,” Finn explains. “We’ve needed the expertise of the consultants to complement our hardware partners; it has been as if the Symantec team has been a part of the Texas Children’s Hospital team.”

In the case of Veritas NetBackup, Texas Children’s Hospital decided to standardize backups and restore across its data center environment with the Epic and Oracle PeopleSoft implementations. “We already had NetBackup for our [Microsoft] Windows servers, and its addition to our UNIX systems allows us to double our backup volume without adding any additional IT administrators,” says Rick Bryant, director of infrastructure technology solutions at Texas Children’s Hospital. This translates to a labor cost avoidance of more than $1.5 million over a three-year period—from 2006 to 2008.

Both the Epic and Oracle PeopleSoft projects are expected to produce tangible results for Texas Children’s Hospital. Improved backup-and-restore efficiencies for the Oracle PeopleSoft environment could produce another $500,000 in labor savings over three years. Higher availability of Oracle PeopleSoft modules translates to more than $7.2 million in projected labor productivity gains over three years. And the ability to failover nodes from one to another and then donate processors during peak utilization will allow Texas Children’s Hospital to avoid several million dollars in hardware acquisition costs for both projects.

### Building PC and server images

Server and workstation deployments can be a bane for many IT organizations, sapping valuable time and resources that need to be utilized elsewhere. “Over the years we’ve struggled with deployment of both workstations and data center servers, and being able to do rapid deployment has saved us significant time and effort and allowed us to put the applications in the hands of users much faster—all without adding people,” Finn says.

For building and rebuilding workstations and servers, the Texas Children’s Hospital team relies on Symantec Ghost Solution Suite. The amount of time spent building and rebuilding workstations and systems was cut by 88 percent with Symantec Ghost Solution Suite, equaling more than $3 million in labor productivity savings.

For its data center servers, the Texas Children’s Hospital team uses Altiris Rapid Deployment Pack in conjunction with HP Workload Manager. “Our service level for a server deployment, from the time it hit our docks to get it onto the shelf, was two weeks several years ago,” Finn explains. “Now, with the combination of Rapid Deployment Pack and Workload Manager, we’ve slashed this to a little more than two days.” And when the data is compiled, this adds up to nearly $270,000 in labor productivity gains.

### Finding the right IT cure

Finn and his team of IS professionals are in the business of helping Texas Children’s Hospital fulfill its mission to enhance the health and well-being of children locally, nationally, and internationally. The art of pediatric IT is not for the faint-hearted, and other healthcare organizations will do well to heed their example of embracing technology challenges and leveraging technology solutions that address enterprise-wide requirements.

Finn concludes, “Measuring the value of our different IT initiatives is not always easy and the full complement of value probably cannot be articulated. What I can say is that we’ve made this a better place. If you have a child in a bed at Texas Children’s Hospital, you feel better, more confident, and that’s a tangible value.”

—David S. Finn, Vice President and Chief Information Officer, Texas Children’s Hospital

**Prescribing Symantec as an IT Cure at Texas Children’s Hospital**

- Symantec Enterprise Security Manager
- Symantec Security Information Manager
- Symantec DeepSight Threat Management Services
- Symantec Ghost Solution Suite
- Symantec Residency Services
- Symantec Consulting Services
- Symantec Education Services
- Symantec Business Critical Services
- Veritas Storage Foundation HA
- Veritas Storage Foundation Cluster File System
- Veritas Cluster Server
- Veritas NetBackup
- Altiris Rapid Deployment Pack