CUSTOMER SUCCESS

Dongguan Taiping People’s Hospital
Eliminating Maintenance Windows and Achieving Five-Nines Availability with Symantec Solutions

Several years ago, Dongguan Taiping People’s Hospital experienced an episode of unplanned downtime that lasted three days. To prevent such an event from happening again, and to eliminate planned downtime for system maintenance, the hospital deployed a high availability solution from Symantec. The solution has eliminated planned downtime and provided 99.999 percent availability. It has also reduced server and storage management requirements. Now the hospital is preparing to deploy a data protection solution from Symantec.

Healthcare depends on IT

For healthcare providers, availability of IT systems is crucial. “Like any hospital, we cannot afford any downtime for our computer systems,” says Zhang Xiaoyang, CIO of Dongguan Taiping People’s Hospital. “If our core systems went down, hospital staff would have to register patients manually, and physicians would lose access to medical records. It would be a disaster.”

Dongguan Taiping People’s Hospital is a state-owned hospital located in Dongguan, an industrial city in southern China. The hospital treats 5,000 patients a day, and it develops software for use by other medical facilities in the region.

“We develop software that supports patient care and software for medical management,” Zhang says. “Six other hospitals use our software, and 11 more have expressed interest. Through our facilities and technology, we support medical services for all 15 million residents of Dongguan.” To eliminate interruptions in patient care by maximizing availability of these systems, the hospital turned to Symantec™.

Looking to eliminate maintenance windows

Dongguan Taiping People’s Hospital developed its hospital information system (HIS) and picture archiving and communication system (PACS) in-house. Both are supported by Microsoft SQL Server databases, and they reside on a pair of EMC storage area networks (SANs). Several years ago, the HIS system failed and was offline for three days. “That was completely unacceptable,” Zhang says. “We can’t afford to have it happen again.”

Why Symantec?

· Offers five-nines availability
· Ends need for maintenance windows
· Reduces IT time spent on server and storage management
· Integrates with backup and disaster recovery solution

ORGANIZATION PROFILE
Website: www.dgtpyy.com
Industry: Healthcare
Headquarters: Humen Town, Dongguan, Guangdong, China
Employees: 1,740

SYMANTEC SOLUTIONS
High Availability
Storage Management
Disaster Recovery
Data Protection
The hospital began using snapshotting and auto-recovery functionality in SQL Server to bring its HIS and PACS solutions back online in the event of a failure. “We also started scheduling planned downtime about once a year so that we had a window during which we could fix problems or perform maintenance,” Zhang says.

Although the maintenance windows happened only once a year, they lasted four to six hours at a time, and the hospital wanted to eliminate them altogether. It began evaluating solutions from EMC, EISOO, and Symantec.

“The EMC solution works only for storage management, and the EISOO solution is designed for Microsoft Exchange Server backups,” Zhang says. “Veritas Storage Foundation is a total solution. Symantec staff came to the hospital and worked with us to determine our needs. Most important, Symantec provides excellent technical support. These are the advantages that led us to choose the Symantec solution.”

**Achieving five-nines availability**

Dongguan Taiping People’s Hospital deployed Veritas Storage Foundation™ HA from Symantec, which includes Veritas™ Cluster Server. It set up two two-node, active-active clusters; one runs the HIS system, and the other runs the PACS solution. Together, the systems store a total of 20 terabytes of data on the EMC SANs, although the hospital plans eventually to deploy Huawei storage for the PACS system.

Veritas Storage Foundation enables the IT team to provision and reallocate storage without bringing the SANs offline. “Our technical target in using Veritas Storage Foundation is to be able to make storage allocation changes without taking our applications offline,” Zhang says. “We have reached that target.”

Meanwhile, Veritas Cluster Server monitors the hospital’s HIS and PACS systems. If it detects possible risks to the availability of either application, it fails over to the other server in the cluster. The hospital has tested failover twice using the Fire Drill tool included in Veritas Cluster Server. “Fire Drill enabled us to figure out how to most efficiently set up failover for our clusters,” Zhang says. “In our second test, failover happened in less than a minute.”

The clustered systems have experienced no unplanned downtime in the five months since deployment of Veritas Storage Foundation and Veritas Cluster Server. “Our core data has reached our target of 99.999 percent availability,” Zhang says. “In addition to failover in the event of unplanned downtime, we will avoid any planned downtime in the future because we can move services to the other node in the cluster, or the other storage array, when we need to perform maintenance.”

**SOLUTIONS AT A GLANCE**

**Key Challenges**
- Minimize unplanned downtime for core IT systems
- Eliminate planned downtime
- Achieve disaster recovery

**Symantec Products**
- Veritas Storage Foundation™ HA 6.0 from Symantec with
  - Veritas™ Cluster Server 6.0
  - Veritas™ Operations Manager
  - Symantec NetBackup™ 7.5

**Symantec Services**
- Symantec Basic Maintenance Services

**Technology Environment**
- Server platform: Windows Server 2008 running on HP and IBM servers
- Applications: Home-grown HIS and PACS solutions
- Databases: Microsoft SQL Server
- Storage: EMC

**BUSINESS RESULTS AND TECHNICAL BENEFITS**

**Availability**
- 99.999% availability for HIS and PACS systems
- No planned downtime for maintenance
- Less than 1 minute to failover
- Projected 94% reduction in RTO through replication (15 minutes vs. 4 hours previously)

**Operational efficiency**
- 1.5 FTEs reclaimed on server and storage administration tasks
- Reduced spending on storage capacity

“The Symantec solutions are working very well. For a busy hospital such as ours, these solutions bring peace of mind.”

Zhang Xiaoyang
CIO
Dongguan Taiping People’s Hospital
Reclaiming 1.5 FTEs for more value-added activities

By enabling IT staff to dynamically grow or shrink storage volumes, Veritas Storage Foundation has also reduced the hospital’s spending on storage capacity. “We have increased the efficiency of storage utilization with Storage Foundation,” Zhang says. “We haven’t calculated an exact cost savings, but we are definitely saving money on buying new storage capacity.”

Perhaps most important, the Symantec solutions have increased productivity and effectiveness of the IT staff. “We use the Veritas Operations Manager console to manage applications, servers, and storage for both our HIS and PACS clusters,” Zhang says. “This greatly improves the efficiency of our day-to-day operations and reduces the number of people who need to monitor our systems. At the same time, when we have an issue, our Symantec solutions save our IT staff from running from one place to another to troubleshoot.”

Overall, Zhang says, “we have reduced storage and server administration time by about one and a half full-time equivalent (FTE) positions. Now our IT staff has a lot more time to dedicate to more value-added projects.”

Reducing RTO by 94 percent

Soon the hospital will further improve business continuity by deploying Symantec NetBackup™ and opening a disaster recovery data center four kilometers away from its primary data center. It will use NetBackup Auto Image Replication (AIR) and Replication Director to replicate snapshots of its core systems to the secondary site.

“Because the total solution is from Symantec, our backup solution will integrate well into our clustered environment,” Zhang says. “Our recovery time objective (RTO) will be 15 minutes. This is 94 percent lower than the 4-hour RTO we had when we were using SQL Server’s recovery feature.”

The hospital, which was recently awarded a “three excellencies” rating by Guangdong province, is already achieving the benefits of better availability. “We have Symantec Basic Maintenance Services for Storage Foundation and Veritas Cluster Server, but we have not had any problems that require support,” Zhang says. “The Symantec solutions are working very well, keeping our IT systems operating continuously. For a busy hospital such as ours, these solutions bring peace of mind.”

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