



## TeamHealth

### Multi-layered data protection solution protects mission-critical GE Centricity Business environment

As the nation's largest provider of hospital-based clinical and administrative staffing services, TeamHealth brings over 27 years of experience serving the needs of more than 600 hospital clients and physician groups throughout the U.S. This physician-led, patient-focused organization represents a highly qualified pool of healthcare professionals offering expertise in a wide range of areas including emergency and hospital medicine; teleradiology services; military hospital staffing; Locum Tenens; after-hours pediatrics; medical call center services; and reimbursement, coding, and collections services.

Committed to quality, efficiency, and exceptional patient care, TeamHealth relies on cutting-edge, healthcare IT solutions to help effectively and cost-efficiently support both the clinical and business sides of its operations. Almost three years ago, TeamHealth deployed a state-of-the-art, multi-layered enterprise data protection and disaster recovery solution to replace a cumbersome and disruptive manual backup-to-tape process. Designed expressly for integration with the company's existing GE Healthcare Centricity Business application, this advanced data protection solution now provides the company with significantly enhanced, non-disruptive data protection capabilities that simplify backup and recovery and provide better support for regulatory compliance.

The result of a collaborative partnership between GE Healthcare, EMC Corporation, and Intelligent Systems Services (ISS Inc.), this offering brings together the automated, centralized backup and recovery capabilities of EMC® NetWorker® technology with ISS Inc.'s successful reputation for delivering dynamic, rock-solid data protection and storage solutions to GE Healthcare customers.

“By working with EMC to embed their advanced backup and data protection technology and ISS for their layered data protection model and 24x7 support, we have been able to create an advanced, highly reliable data protection environment that is unique to the market,” says Brian Mitchell, director of Technology Sales for the Americas, GE Healthcare Integrated IT Solutions. “Through this joint solution we can add value to our healthcare solutions and help our customers meet more of their needs.”

#### **Multiple layers are the foundation for a failure-resistant data protection model**

The goal of the GE Centricity Business data protection solution is to safeguard TeamHealth's financial and administrative data on many different levels. This is accomplished through a ground-breaking, layered data protection model.

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The first data protection layer encompasses the local storage level. It provides a “first response” approach for rapid recovery in as little as 10 minutes. At this level, a second copy of the GE Centricity Business production environment is made every night and stored on local storage at the main data center in Knoxville, TN. In addition, incremental journal replications are performed every hour during the day. Both processes are facilitated using ISS Command Center technology which controls the cloning functions on the company’s SAN devices, allowing non-disruptive replication and rapid recovery of storage. ISS Command Center functionality also helps protect TeamHealth’s GE Centricity Business environment against faults caused by such issues as disk, controller, host adaptor, and cable failures, as well as data corruption triggered by the operating system, human error, and other causes.

“When you’re managing a complex system representing hundreds of millions of dollars in data, having a rock-solid data protection solution backed by comprehensive support brings considerable peace of mind. In the nearly three years since its deployment, we have been running virtually non-stop, which is critical in a 24x7 environment like ours.”

**Dennis Beskie, Vice President of IT Operations**

At the second layer, local backup occurs. This is accomplished when ISS Command Center sends a signal to the EMC NetWorker server to make a copy of TeamHealth’s GE Centricity Business production clone which is then non-disruptively backed up to local storage. Command Center also works with EMC NetWorker GUI-based recovery capabilities to enable users to easily search for and quickly restore files and directories.

“Before we implemented this solution, if we had to find and restore a file it could literally take hours just to locate it,” says Dennis Beskie, vice president of IT Operations for TeamHealth. “With this solution, the process is almost instantaneous. We can restore anything from a file created several months ago to something created within the last few minutes.”

“We have worked with other vendors and homegrown solutions over the years, and we have found EMC NetWorker to be the most versatile and best-performing backup product available,” says Alex Gorbachev, president of ISS Inc. “It has a very good design, it’s stable, and it’s robust. When features are set to function a certain way, you can expect that they will.”

Disk-to-tape backups also are performed nightly using EMC NetWorker and reside for three months within robotic libraries at the main data center in Knoxville, TN, as well as the disaster recovery site in Alcoa, TN. Tape-to-tape copies also are produced using the ISS Tape Operator tool which integrates with EMC NetWorker. This tool takes the complexity out of the process and enables TeamHealth to easily make and then store tape copies at a third-party site to comply with both internal and regulatory offsite data policies.

Remote data replication for the OpenVMS environment comprises the third layer of data protection and is facilitated nightly through the ISS Instant DR Replication (IDRR) solution which can work over cost-efficient, low-bandwidth connections. IDRR interfaces with EMC NetWorker to replicate local backup of TeamHealth’s GE Centricity Business production environment to the company’s disaster recovery site in Alcoa, TN. Decoupling the entire IDRR process completely from production and replicating data from the local backup ensures that if a system goes down due to corruption, it will not be replicated to the remote site.

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Providing a means of reducing hours off the disaster recovery process, the ISS Instant Disaster Recovery Upload (IDRU) solution is used to securely upload and safely store the metadata necessary to quickly recover IDRR data. Daily uploads of the EMC NetWorker server's internal databases and resource files are transmitted using high-level encryption over the Internet to a vaulted ISS server. In the event of a disaster, metadata can be quickly and safely downloaded from the ISS Web Portal via a secure channel to facilitate a quick rebuild of the NetWorker server at TeamHealth's disaster recovery site or an alternate hot site, if required.

### **Proactive support and a streamlined migration that saved millions of dollars in downtime**

Rapid identification and resolution of potential issues and problems; help with upgrades; and monthly recovery testing, integrity checking, and validation for both the EMC NetWorker server and disaster recovery sites, are all provided by ISS as part of this complete data protection solution. Many of these support services are facilitated remotely via the ISS Web Portal which, in addition to housing vital recovery metadata, also retains event data from all EMC and ISS components involved in the solution.

"We have an early warning system in place and we use remote technology to get on site and fix problems, address any issues, or do proactive administration," says Gorbachev. "For example, if there is a new version of something that needs to be installed, we'll do the update and test it internally to make sure it's operating correctly before we roll it out."

"We appreciate having ISS looking out for us 24x7, and that extra support on the backups is something ISS does very well," says Beskie. "Also, auditors love the fact that we perform monthly restores. We get audited several times a year to ensure we're in compliance with government regulations like Sarbanes-Oxley, and we're subjected to internal financial and security audits as well, so it helps to be able show them that integrity checking is something we do on a regular basis."

Supported by ISS's team of experts, a migration was recently done within 24 hours when TeamHealth purchased and installed a new server. Mimicking a full-scale disaster recovery event, the existing server with about 650 gigabytes of data was replicated online from Ft. Lauderdale, FL (the location of the company's previous data center) to the new AlphaServer in Knoxville, TN. The backup data was then reconstituted within three hours into the live system, and the live system was brought online with testing and validation completing the process.

"If we had to physically move the system from Florida to Tennessee it would have taken a minimum of three to four days and would have cost the company millions of dollars in downtime," says Beskie. "We couldn't have asked for a better migration. We took the system down on Friday night and by Saturday night we were working again. Everything was seamless."

"What ISS and TeamHealth have accomplished using EMC NetWorker is very unique, and nothing in this business compares," adds Mitchell. "It's unlikely we could find many, if any, data center migrations that went so quickly, smoothly, and easily as the move from Florida to Tennessee."

### **Collaborative efforts lead to a proven and cost-efficient solution**

Until now, searching for and finding a comprehensive, cost-effective healthcare IT solution for data protection and disaster recovery was a challenging endeavor. Faced with a lack of choices, companies often developed their own in-house solutions. However, these solutions tended to be limited in scope and did not provide the coverage to fully

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protect data on all levels. The solutions also often fell short in supporting streamlined audits and made compliance with internal and governmental policies and regulations more complex than necessary.

The collaborative efforts of EMC, GE Healthcare, and ISS have resulted in a proven and cost-efficient solution so effective that it is now being offered by GE Healthcare to other Centricity Business customers as a standardized offering. Due to the solution's success, it will soon be extended to support enhanced data protection and disaster recovery capabilities for other GE Healthcare applications in such areas as Electronic Medical Record, Radiology, and Practice Management.

“When you're managing a complex system and responsible for the hundreds of millions of dollars of data residing within it, having a bullet-proof data protection solution backed by comprehensive support brings considerable peace of mind,” says Beskie. “In the nearly three years since its deployment, we have been running virtually non-stop, which is critical in a 24x7 environment like ours.”



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