Learn About SQL Server Disaster Recovery from Vas Srinivasan of Sonasoft.com

by Brad M. McGehee

Disaster recovery is an important topic to DBAs. In this interview with Dr. Vas Srinivasan, Vice President of Marketing of Sonasoft.com, makers of SonaSafe for SQL Server*, you will learn about the importance of SQL Server backups and disaster recovery.*

Tell us a little about Sonasoft, and what its mission is.

Sonasoft's vision is to be the number one supplier of Backup/Recovery solutions for small and medium-sized enterprises employing Microsoft Server products. Sonasoft, Inc. revolutionized the backup and recovery process for Microsoft Exchange and SQL Servers with its groundbreaking SonaSafe^{tm} Point-Click Recovery^{tm} solutions. Designed to simplify, automate, and eliminate human error in the backup and recovery process, SonaSafe solutions also centralize the management of multiple servers, and cost-effectively provide a turn-key disaster recovery strategy for companies of all sizes.

Can you explain some of the major potential disaster scenarios that companies that use SQL Server face today?

In business, a computer disaster equals an event that halts the normal operation of day-to-day business activities. A disastrous event can involve system malfunction, operational errors, virus attacks, acts of nature, accidents, or sabotage. The result of such a disaster is that business stops--orders cease to be placed, accounting activities freeze, data is unavailable, electronic communications halt, and the company has no access to decision-critical information. All of these events cost companies revenue and may result in unrecoverable damage.

Regardless of the cause, fast and effective recovery of customer's SQL database environment is essential. Customers must be able to quickly implement their recovery plan--which must be tested and well-documented before problems occur.

What are the consequences of companies who do not have a disaster recovery plan in place?

Companies that do not have a proper disaster plan pay dearly through lost productivity and financial loss. As corporate data continues to grow exponentially, so too does its value. Loosing access to critical data for even an hour can cost a company millions of

dollars. The Meta Group reports that the down-time cost for each company in the Energy Industry is $2.8 million/hour; in the Telecom Industry $2.0 million/hour; and for Financial Institutions, $1.4 million/hour. The National Archives & Records Administration reported that 93% of the companies that lost their data center for 10 days or more filled for bankruptcy within one year of the disaster.

What are the biggest mistakes DBAs and/or their companies, make when it comes to protecting their data?

The biggest mistake typically made by people are thinking that since they're taking backups, they're assured of recovery in case of a disaster or system crash. Based on statistical data, 30-40% of the data stored on tape can never be recovered. Also, most of the tools available today focus on backup, not on recovery. So it is imperative that DBAs give enough thought about not only on backup, but also on recovery.

Can you offer any best practices for DBAs to protect their SQL Server data?

Depending on the criticality of the databases, and the needs of a particular organization, it is always a good idea to take more frequent backups. We've published a couple of white papers on best practices to protect SQL Server data, and these white papers are available for download on Sonasoft's website.

In general, how can companies protect their data? Can you explain some of the most common options, and provide the pros and cons of each?

First of all, companies have to decide how critical their data is. Organizations also have to determine their Recovery Time Objective (RTO) and Recovery Point Objective (RPO).

RTO defines the tolerable maximum length of time that a business process can be unavailable, while RPO defines how much work in progress can be lost.

Also, companies have to decide whether to go for a tape backup or a disk-to-disk backup, or a combination of both. Tapes are the traditional way of doing backup, but when it comes to recovery, they're not very reliable. Disk-to-disk backup is fast, reliable, and the data can be recovered immediately. The best approach will be to back up the data to disk regularly and archive it to tape every week, every month, or every three months based on the criticality of the data.

When a company creates a disaster recovery plan, what features should it include?

The best way to prepare for a disaster is to avoid the disaster. Therefore, look for any potential problems you can find, and correct them. You should address those issues that you can solve and which will provide benefit. Regardless of the cause, fast and effective recovery of your IT environment is essential. You must be able to quickly implement your recovery plan--which must be tested and well documented before problems occur.

Developing a disaster recovery plan for your systems in general, and databases in particular, is tedious and time consuming. If you can automate the entire process through configurable templates, then the entire process can be completed within a

short period of time, saving time and resources. Also, one should focus not only on backup, but also on recovery. When a disaster occurs, it can take hours, if not days, depending on the complexity of the situation, to have all your systems and databases up and running. Users should look for applications that will help them to recover to the point of failure, or to a point in time quickly without the need to write any script or code.

For fun, let's say that a company has an unlimited budget for disaster recovery. What would such a disaster recovery plan look like?

Unlimited budget does not guarantee total protection. In fact, in today's environment, even the most profitable company with lots of cash will think twice before spending money on unnecessary or redundant projects or tools. As explained before, RTO and RPO will determine the type of plan and systems that need to be put in place. Companies should have a clear understanding of their requirements, and then design/implement a disaster recovery and business continuity plan.

Before jumping on to implementing a plan or an application, it is imperative that users properly think through all the different scenarios and the impact a particular disaster will have on their business. With proper planning, even companies with highly mission critical data and information can implement a plan within a reasonable budget. Of course, what is reasonable is always subjective.

Many companies have a very small budget, and can't afford expensive backup or disaster recovery options. For those companies, what do you suggest?

Every company, big or small, should have a disaster recovery plan. Nothing should be left to chance. Having said that, many companies are forced to work with a small IT budget and backup/recovery is typically not considered as part of that at all. But it will be a terrible mistake to ignore it. These companies should start on a small scale, protecting mission critical data and information. They should execute a step-by-step process which won't cost very much, but will end up protecting crucial data completely over a period of time. This way the company will be able to absorb the cost more easily.

Tell us how SonaSafe for SQL Server is designed to fit into the needs of a company running SQL Server. What are its features and how is it better than some of the alternatives?

Unlike most of the other backup solutions, Sonasoft's software is designed for disk-to-disk backup, it is application specific, and leverages lots of the great capabilities of SQL server. Sonasoft's SonaSafe application automates the entire backup through configurable templates. When a crash occurs, due to system malfunction, user error, or due to any other reason, one can recover to the point-of-failure, or to a point-in-time, with just point and click.

Some of the key features are:

- Automated backup and point-click recovery
- Ability to recover to the point of failure or to a point in time with just one-click
- Ability to create a backup plan(s) for entire Server or instance or just a single

database
- Compression reduces storage costs by up to 85%
- Intelligent standby functionality for SQL server
- No distance limitation, can be anywhere
- Affordable and more reliable than log shipping
- Ability to manage multiple servers through a management console
- Automated policy-based purging capability
- Excellent alert functionality
- Web-based, can be accessed from anywhere in the world

Can you provide any real-life examples of how SonaSafe for SQL Server is being used?

Absolutely. One great example is a company called Marketron. Marketron International is a leading provider of broadcast management solutions for the radio, TV, and cable industries. Marketron was looking for a disaster recovery solution that could provide both backup and recovery services at their production data center facility, as well as replication of data to their remote DR facility. They needed a solution that was not only simple to use and cost effective, but also safe and reliable to protect valuable data.

Marketron uses a number of Microsoft Standard Edition SQL Servers. As Marketron scaled up, its SQL deployment of customer data, using standard backup software and manual log-shipping practices, became cumbersome, time-consuming, and costly.

Sonasoft provided a simple solution, which was easy to use and quick to deploy. Also, SonSafe enabled Marketron to centrally manage all the servers and reliably update the remote standby servers. Marketron was looking at various solutions, but the cost was prohibitively high. Sonasoft offered a solution which not only provided superior value, but at one fourth of the cost.

Using SonaSafe, the customer is automatically updating the remote standby servers every 15 minutes. Efficient compression provided by SonaSafe, reduced storage requirements by almost 85%. The customer is currently backing up 22 primary SQL servers in the San Francisco Bay area, and 22 Standby servers are getting updated every 15 minutes in Salt Lake City, Utah.

The size of the transactional backup frequently reaches over 1 GB in size, even after compression, but SonaSafe efficiently restores the data on the standby server. When a system crashes, Marketron is able to recover it immediately to the point of failure without any data loss. Also, when a primary server goes down, the standby server can take over immediately and the whole operation can continue without any downtime.

Can you recommend any specific sources where DBAs can learn more about disaster recovery?

Microsoft provides lots of information about disaster recovery on its website. SQL-Server-Performance.com has a number of good articles on backup/recovery and disaster recovery. Also, there are other SQL-specific sites which provide useful information. There are also a number sites and journals/magazines that provide information about disaster recovery in general.

Is there anything else you would like to add?

Backup/Recovery and Disaster Recovery should be taken seriously by businesses of all sizes. In many organizations, it is pushed to the bottom of IT to-do list. If you don't have a proper disaster recovery plan today, start immediately in a small way and expand it over time.