

**The
Secure Data
Solution**[®]

Protected by U.S. Patent 7,293,179;
European Patent 1669872;
and others pending

**Secure Off-Site
Tape Transfer**

© 2009 by SecureAgent Software. All rights reserved.

Printed in the United States of America

IDG 9487, IDG 9489, Secure Tape Unit, Secure Remote Data Storage, Secure Tape Controller, Secure Library Controller, Virtual Tape Checker, and SA SAN are trademarks; and Secure Data Solution, SecureAgent, IDG 9480, IDG 9481, and IDG 9485 are registered trademarks of SecureAgent Software and may be used only by permission. All other product names and services are trademarks or service marks of their respective companies or organizations.

U.S. Patent number 7,293,179; European Patent 1669872; and others pending protect the Secure Data Solution.

SecureAgent Software
2448 East 81st Street, Suite 2000
Tulsa OK 74137-4271 USA
Voice: 1.918.971.1600
Fax: 1.918.971.1623
www.secureagent.com

Mission-critical backup data stored and transported in cleartext presents a real vulnerability and organizations can no longer ignore this threat to their information assets.

–Jon Oltsikⁱ

There's not much comfort in knowing that the last line of defense for your financial well-being may be a guy ... driving a panel truck.

Editorial, *Philadelphia Inquirer*ⁱⁱ

INCREASING NUMBERS OF COMPANIES ARE IN THE SPOTLIGHT of negative news, because backup tapes containing customer information are lost or stolen while being transported to off-site storage facilities.

When tapes disappear, employees and customers are rightly concerned that personal data may fall into the wrong hands.

Tape loss threatens privacy

Tape loss isn't something that can be ignored. In addition to the potential problems such loss creates for the individuals' privacy, the companies involved may find themselves legally liable, out of compliance with governmental regulations, and suffering from loss of customer confidence. Sooner or later, tape loss becomes public knowledge.

Consider these news reports:

The online chronology of data breaches maintained by the Privacy Rights Clearinghouse (www.privacyrights.org/ar/ChronDataBreaches.htm) reported on (Jan. 19, 2007) that 26 IRS computer tapes containing taxpayers' names, addresses, Social Security numbers, bank account numbers, or employer information were reported missing after being delivered to the Kansas City (MO) City Hall. The loss had gone unnoticed for approximately six months.

The Charleston, WV *Daily Mail* (Oct. 23, 2007) reported that a computer tape containing personal information, including names, addresses, and Social Security numbers of about 200,000 members of three West Virginia health

insurance programs was missing, apparently having slipped out of a package that came unglued while in transit with a third-party shipper.

According to *The Columbus [Ohio] Dispatch* (July 11, 2007), a backup tape stolen from a state intern's car contained personal information (including Social Security numbers) on over a million individuals. The State of Ohio has offered one year of identity-theft protection to those affected, and over 58,000 have enrolled so far, at a cost to the State in excess of \$540,000.

The Nanaimo, British Columbia *News Bulletin* reported (June 14, 2007) that backup tapes containing the personal and financial records of about 120,000 members of a local credit union had been stolen from a locked courier truck.

For many, tapes are still viable

If tapes pose such a risk, why not just go to disk-based backup and get rid of tapes altogether?

As companies consider moving to more technically sophisticated methods of secure off-site storage, they are still ob-

ligated to ensure the security of data backed up using current technology.

For many companies, disk-based backup systems represent a cost that's not economically justifiable at the present, particularly considering how much they've already spent on their present tape systems.

In surveying companies that were considering replacing their tape systems with disk-based ones, Enterprise Strategy Group, Inc. found that many of those who responded were concerned with the ability of disk-based solutions to support long-term requirements for off-site data protection.ⁱⁱⁱ

The main reason given by those who wouldn't consider replacing tape with disk is the lack of media portability associated with tape alternatives based on disks. Simply put, tapes are easier to transport and store.

Standard tape transfer process leaves companies vulnerable

Fig. 1 below shows how the standard tape-to-storage process leaves you vulnerable. Even if you control the tapes completely at both ends of the process, there's still a zone of vulnerability while they are in transit.

If lost data can't be interpreted, it's useless to thieves

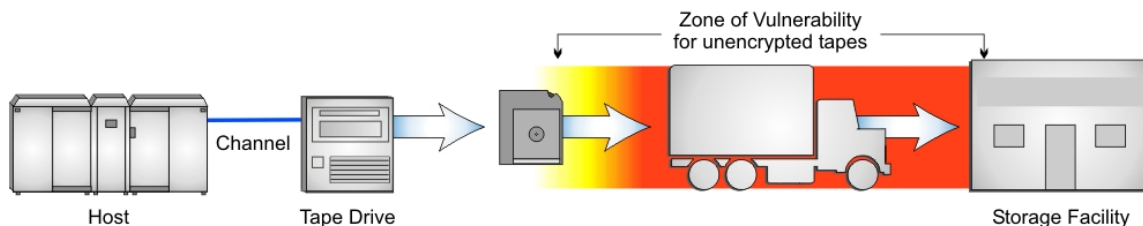
In each of the news stories mentioned previously, the real problem wasn't the lost or stolen tapes, but the unencrypted data on them. If a tape is stolen, but the data on it was encrypted, the information is not accessible. The only monetary loss to the data's owner would be the cost of a physical tape.

And yet, surveys^{iv} have shown that only 7% of companies responding said that they always encrypt data when it's backed up to tape. *By contrast, 60% said they never do so.* Over 50% of companies with revenues over \$1 billion never encrypt their backup data.

The Secure Data Solution™

To address concerns regarding tape loss and the exposure of private information, SecureAgent Software developed the Secure Data Solution™ to provide an easy-to-install, easy-to-use way of securing tapes and cost effectively moving to an advanced data backup and security system in the future. The Company has provided state-of-the-art data center management solutions to some of the world's largest companies for nearly twenty years.

Fig. 1 Standard tape-to-storage process leaves you vulnerable



The patent-pending Secure Data Solution integrates hardware and software to provide automated, encrypted backup and off-site archiving of critical business data. By encrypting and protecting sensitive data that companies currently write to traditional physical tapes, it helps address challenges introduced by the proliferation of federal regulations, including Sarbanes-Oxley and HIPPA. Though widely accepted, the use of physical tapes is being called into question on an industry-wide basis. Recent history indicates such tapes have become increasingly vulnerable to negligence, motivated insiders, and theft. In addition to protecting the data on these tapes, the Secure Data Solution can eliminate the need for physical tapes altogether.

The Secure Data Solution assures that the appropriate tape data sets are maintained and available at a remote site. The data is available to be restored to a mainframe at the remote site, or can be recalled to the original site for restoration. The data is encrypted so that only authorized persons have access to it.

A number of functions make the Secure Data Solution unlike any other offering in the industry. It is uniquely positioned as an outboard hardware and software solution that can integrate with common onboard tape management packages—making it the only virtual tape encryption tool that can integrate seamlessly with CA-1, RMM, TLMS, and other common tape management tools.

Conserving resources & costs

This integration process doesn't increase CPU utilization or use host resources to encrypt data, conserving both costs and resources. The Secure Data Solution in-

tegrates with—and enhances the efficiency of—existing tape operations by reducing the number of operators needed to handle tape mounts or retrievals and off-site storage.

By automatically moving appropriate virtual tape images to off-site facilities, the Secure Data Solution speeds up processing time and dramatically reduces errors—allowing operators to quickly and easily recover archival data in the event of a disaster. All data is stored using SecureAgent's industry-proven, advanced encryption technology, and our patented, centralized key-management strategy currently in use by some of the world's largest companies.

How Secure Data Solution works

Depending on the number of backup tapes your company generates, the Secure Data Solution offers three possible applications.

In all cases, the Secure Data Solution compresses and encrypts the data that is to be written to tape and completely removes the possibility of human error or malice.

Multiple applications

We designed the Secure Data Solution to accommodate your needs, whether you generate a large number of backup tapes or only a few, and whether the tapes are physically transported to an off-site storage facility or the data is first transmitted there electronically and written to tape or disk after it's received.

High-volume, networked application

Companies generating a large number of backup tapes that are stored at an off-site

storage facility can profit from the Secure Data Solution's high-volume, off-site configurations.

The Secure Data Solution first compresses and encrypts the data to be backed up, which is then transmitted over a network to the off-site storage facility. Once it's received, the data can be stored on a disk array or written to physical tapes. In the case of a disk array, the Secure Data Solution first writes the data to an interim storage component and then to a fibre channel-attached disk array, as shown in Fig. 2.

If the data must be backed up to physical media at the off-site storage location, the Secure Data Solution offers the configuration shown in Fig. 3.

After receiving the data over a network, the Secure Data Solution first stores it in its IDG 9481™ interim storage component (to ensure throughput) and then passes the data to the IDG 9487™ tape controller for writing to a tape drive or an automated tape library. Both configurations assure you of total security and no transportation costs.

High-volume, non-networked application

For environments that generate a large number of tapes but are not networked to a remote storage facility, the Secure Data Solution can write the compressed and encrypted data directly to a fibre channel-attached tape drive, without ad-

Fig. 2 The Secure Data Solution—A high-volume, off-site configuration with output to disk

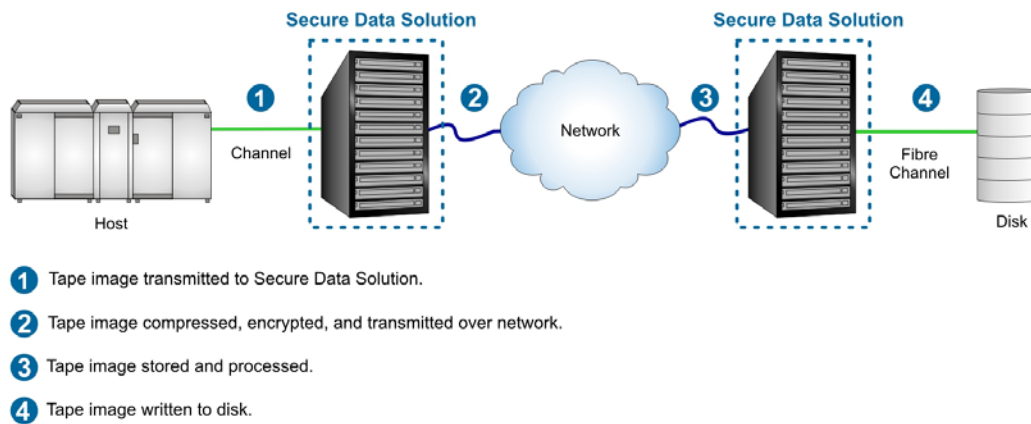
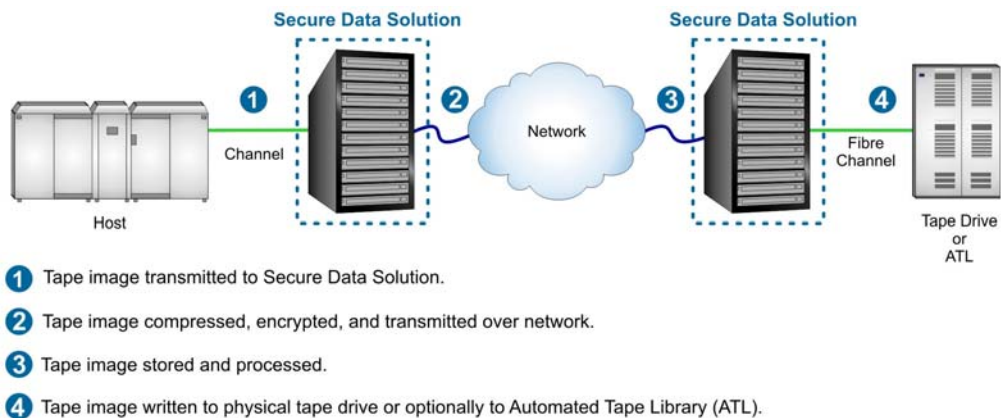
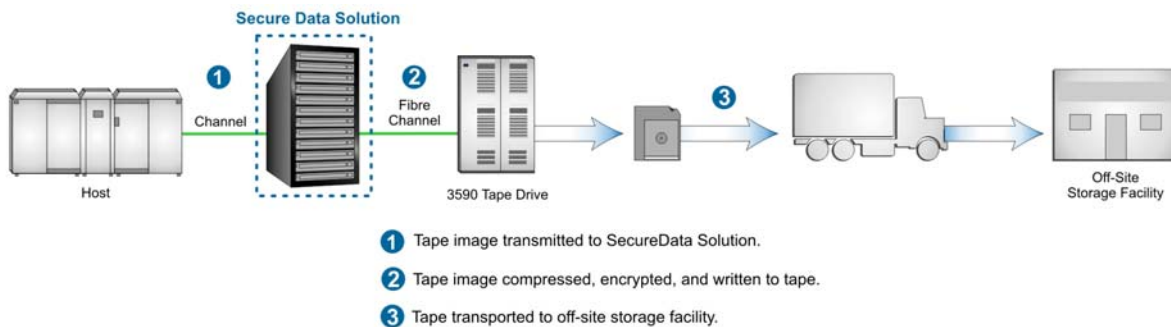


Fig. 3 The Secure Data Solution—A high-volume, off-site configuration with output to tape or ATL



ditional handling by the host, as shown in Fig. 4. The resulting tapes can then be transported to the off-site storage location. This configuration requires channel-attached devices that handle the compression and encryption, as well as control the writing of the tape images to the tape drives.

Fig. 4 The Secure Data Solution—A high-volume, non-networked configuration



SecureAgent key management

Even encrypted data may still be vulnerable if the keys are exposed, so SecureAgent's developers have used their extensive experience in encryption technology to solve key-management problems.

The SecureAgent key-management protocol is well established and used in data centers in many of the world's largest corporations, as well as numerous Fortune 500 companies.

Keys are random and assigned automatically when a security group is defined.

Since the keys are not written to the encrypted tapes, the data on those tapes remains completely secure.

The Secure Data Solution centralizes key creation and control, which can be performed remotely with total security as well.

Complying with regulations

The Secure Data Solution not only helps you end tape security problems before they occur, it also helps you ensure compliance with increasingly numerous and costly government requirements for data security by providing an audit trail

of tape accesses. Your corporate IT security personnel can use the audit trail to monitor tape processing and prove compliance.

Managing encryption keys without human error

Operators are sometimes careless in how they ensure access to the encryption key. Keys have been written on sticky notes, sent in e-mails, or shared with multiple employees. Sometimes keys are even written on the label of the encrypted tape!

But sticky notes get lost and e-mails get deleted. Over time, people tend to forget where keys are kept.

*Much that once was is lost
For none now live who remember it.
—J.R.R. Tolkien*

To prevent loss, keys are often left out for all to see, providing information access to anyone with the physical tapes.

The Secure Data Solution provides a key-management protocol that prevents key loss due to human factors.

Recovering data when it's needed

What about recovering data at some later time—weeks, months, or even years later? The data on your tapes may be safe, but if you can't recover it, it won't be of any use to you.

The Secure Data Solution provides assured tape restoration. Any particular tape can be restored from an identical emulated tape drive—with no time limit on effective restoration of data.

About SecureAgent Software

SecureAgent Software has been helping customers manage sensitive data for more than 20 years. Many of the largest companies across the United States and throughout Europe use SecureAgent products in mission-critical areas of their

daily operations. They play an integral role in secure remote console access, data backup and recovery, advanced automation, integrated tape management, and disaster recovery.

SecureAgent Software is playing a pioneering role in the implementation of role-based access controls, and is used extensively by both commercial customers and the governmental sector to comply with evolving regulatory guidance.

Among companies using SecureAgent Software are three of the four largest US banks, the two largest credit card processing companies, the nation's two largest communications companies, the world's largest stock exchange, the largest US airline, and the largest airline reservations companies in the US and Europe.

For additional information or to arrange an on-site trial, please contact:

SecureAgent Software
2448 East 81st Street, Suite 2000
Tulsa, OK 74137-4271
Voice: 918.971.1600 Fax: 918.971.1623
Toll-free: 888-746-7735
www.secureagent.com

ⁱ Oltsik, Jon, with John McKnight. *Information at Risk: The State of Backup Encryption* (Abstract). Milford, MA: Enterprise Strategy Group, 2005.

ⁱⁱ Editorial, *Philadelphia Inquirer*, June 15, 2005

ⁱⁱⁱ McKnight, John and Peter Garr. *Tape Replacement Realities* (Abstract). Milford, MA: Enterprise Strategy Group, 2005.

^{iv} Oltsik, Jon, with John McKnight. *Information at Risk: The State of Backup Encryption* (Abstract). Milford, MA: Enterprise Strategy Group, 2005