

Hitachi Storage Solutions at Work **South**

Carolina Law Enforcement Division and the South

Carolina Crime Center

Industry

Government **Solution**

Hitachi Thunder 9570VTM high-end modular storage system HDS-NetApp® Enterprise NAS Gateway
Network Appliance (NetApp) SnapRestore software Hitachi Resource Manager™ utility package

It's a fact of life: crime is a high-growth industry. And high-tech crime, in particular, is on the rise.

As more people go online for work and entertainment, criminal operations follow in their wake, and those high-tech criminal operations produce large amounts of data. The job of the South Carolina Computer Crime Center is to find digital evidence of such criminal activity by searching through what

often amounts to massive stores of data on personal computers and servers seized from suspects.

**South Carolina
Computer**

Crime Center

Slashes

Forensic

Search Times

capabilities of high importance to the Center is performing deep searches to recover e-mail and deleted file evidence.

Caseloads and Data Volumes

Swelling

Because the Computer Crime Center has responsibility for the forensic examination of evidence collected during the investigation of a computer crime in South Carolina, fast and completely secure data access is of utmost importance.

Because the Computer Crime Center has responsibility for the forensic examination of evidence collected during the investigation of a computer crime in South Carolina, fast and completely secure data access is of utmost importance.

A significant element of the Computer Crime Center's recovery process is performing complex searches through rapidly growing volumes of data. When a seized personal computer or server is brought in to the Center, the forensic experts set off scripts that automate the process of searching for keywords and recovering folders, recycle-bin files, and other types of files that suspects can delete.

At any given time, the Computer Crime Center may be working on as many as 120 cases. For each of those cases, as few as four to five computers or as many as 100 may have been seized and all must be examined as part of the forensic recovery process.

Cooperative Law Enforcement

Effort Recovers and Analyzes

Digital Evidence

The South Carolina Computer Crime Center is a cooperative effort between the South Carolina Law Enforcement Division (SLED), the United States Secret Service, and the FBI. Since its inception in December 2002, the mission of the Computer Crime Center has been to provide high-quality manpower and technical assistance to law enforcement agencies and to perform investigations for the state of South Carolina.

The Computer Crime Center brings together investigators and forensic experts to recover and analyze evidence in high-technology criminal cases related to credit card fraud, pornography, and corporate security. One of the

Single "Image" Represents Entire

Hard Drive

"The way evidence is processed is probably not a way with which most people are familiar," explained Amanda Simmons, Special Agent, SLED. "When we take a suspect's computer, we image and encapsulate his drive." Every sector of a hard drive is thereby compressed into one immense file.

The file types or data types sought differ based on the type of case. "If it's pornography, we're looking for

pictures and movies,” said Walker Johnson, an Information Resource Consultant for the Computer Crime Center. “If it’s check fraud or counterfeiting, we’re looking for a combination of pictures or documents. A lot of times we’re looking for e-mail.”

Evidence is often buried in text, and “it’s buried out in unallocated space,” Johnson continued, “where e-mails have been deleted, but they’re not really gone. We can go in and look for those. And searching for that kind of thing is processor-intensive.” The Com the tim imaged meet st IDE har Digital trays an tion sys Center the man over the The Com the tim imaged meet st IDE har Digital trays an tion sys Center the man over the The Com the tim imaged meet st IDE har Digital trays an tion sys Center the man over the The Com the tim imaged meet st IDE har Digital trays an tion sys Center the man over the

Compute Initiates S Solution

Compute Initiates S Solution

With da the Com of a diff files larg
With da the Com of a diff files larg

“The Hita investigat to more q

The incre rapidly are where

so the Com scalable Center’s

“The Hita investigat to more q

The incre rapidly are where

so the Com scalable Center’s

d,ce es nce.

s on gation ast

“The Hita investigat to more q

The incre rapidly are where

so the Com scalable Center’s

“The Hita investigat to more q

The incre rapidly are where

so the Com scalable Center’s

Further would p possibl able so Crime C Data Sy Channe (DNS). B high-en HDS-Ne solution search t infrastru

Further would p possibl able so Crime C Data Sy Channe (DNS). B high-en HDS-Ne solution search t infrastru

Further would p possibl able so Crime C Data Sy Channe (DNS). B high-en HDS-Ne solution search t infrastru

Further would p possibl able so Crime C Data Sy Channe (DNS). B high-en HDS-Ne solution search t infrastru

Further would p possibl able so Crime C Data Sy Channe (DNS). B high-en HDS-Ne solution search t infrastru

DNS Pre ing the that the require tem], du and his ance fo

DNS Pre ing the that the require tem], du and his ance fo

DNS Pre ing the that the require tem], du and his ance fo

DNS Pre ing the that the require tem], du and his ance fo

crime computer volume electronic records and delete.

Center since five been to

events, usually email, all computer, live.” on-

ography, and electronic document mail.”

on, leted, and end of

Crime The Computer Crime Center was finding that the time required to electronically search an imaged hard drive was up to 24 hours. To meet storage needs, the Center was using 176

Center Sees Dramatic Performance Benefits and Reduced Costs

IDE hard drives, many of them 80GB Western

With the help of Hitachi Data Systems Global Digital drives that were resident in IDE drive

Solution Services, the Center made a rapid trays and could be removed from examina-

transition that incorporated the Thunder tion systems to analysis systems. The Crime

9570V system. Almost immediately, the Center now needed to find a way to simplify

investigators were able to begin working on the management of data immediately and

multiple cases, and the team experienced over the long term.

dramatic performance benefits, with search times reduced from 24 hours down to a maxi- **Computer Crime**

Center mum of one to two hours. **Initiates Search for Scalable** Johnson reported, “This new

solution speeds **Solution**

up our process dramatically. We're able to do more processing and we still have significant With data volumes and search times swelling,

time savings. It's such a powerful capability the Computer Crime Center initiated a search

that we have purchased over 20 high-end of a different kind. To accommodate evidence

workstations to use with it and we're still not files larger than 50GB and more than 21 users,

taking advantage of the speed and the power **“The Hitachi Data Systems storage**

solution allows investigators to more quickly to work access on

forensic multiple images cases of at evidence. once and The

increase in productivity allows investigators to rapidly are where

solve they computer belong—behind crimes and bars.” ensure

criminals —Lt. Chip South Johnson, Carolina Supervisory Computer Special Crime Center Agent, the

Computer Crime Center needed a highly that it can provide in terms of the I/O opera- scalable storage solution to leverage the

tions it is capable of.” And, a connection to Center’s investment in existing infrastructure. the Secret Service ECSAP lab allows Electronic

Further, the Center sought a solution that would provide fault tolerance and the highest possible availability. After reviewing the available solutions on the market, the Computer Crime Center chose one presented by Hitachi Crimes Special Agents to take advantage of the solution. “Along with the workstations, it makes an excellent digital evidence analysis platform,” said United States Secret Service Special Agent Jeff Boothe.

Data Systems and its Hitachi TrueNorth™

NetApp SnapRestore software allows virtually Channel partner Data Network Solutions instant single-command data restoration, and (DNS). Based on the Hitachi Thunder 9570V™ the Hitachi Resource Manager™ utility pack- high-end modular storage system and an age greatly simplifies the administrators’ HDS-NetApp® Enterprise NAS Gateway, the ability to manage the overall system. Further, solution consolidated storage, improved as Amanda Simmons explained, “When we search times, and increased return on existing bought this system, we bought it with the infrastructure investment.

thought of growing. It’s upgradable to more

DNS President Fred Reavis said, “After analyzing the Center’s storage demands, we felt that the best solution to fulfill their storage

than five additional terabytes, and we’ll probably supersede that by year’s end or by the middle of next year.”

requirements was the Thunder 9570V [system].

With a lower overall cost of ownership, dramatically improved productivity, and room and history of continually delivering performance to handle future growth, the Computer Crime Center for demanding applications.”

Center looks forward to even greater success in solving digital crimes and making the world of computing safer for everyone.

Partner Spotlight



Hitachi Data Systems Corporation

Corporate Headquarters 750 Central Expressway Santa Clara, California 95050-2627 U.S.A. Phone: 1

408 970 1000 www.hds.com info@hds.com

Asia Pacific and Latin America 750 Central Expressway Santa Clara, California 95050-2627 U.S.A.
Phone: 1 408 970 1000 info@hds.com

Europe Headquarters Sefton Park Stoke Poges Buckinghamshire SL2 4HD United Kingdom Phone: +
44 (0)1753 618000 info.eu@hds.com

Hitachi Data Systems is registered with the U.S. Patent and Trademark Office as a trademark and service mark of Hitachi, Ltd. The Hitachi Data Systems logotype is a trademark and service mark of Hitachi, Ltd. Thunder 9570V, TrueNorth, and Resource Manager are trademarks of Hitachi Data Systems Corporation. All other product and company names are, or may be, trademarks or service marks of their respective owners. Notice: This document is for informational purposes only, and does not set forth any warranty, express or implied, concerning any equipment or service offered or to be offered by Hitachi Data Systems. This document describes some capabilities that are conditioned on a maintenance contract with Hitachi Data Systems being in effect, and that may be configuration-dependent, and features that may not be currently available. Contact your local Hitachi Data Systems sales office for information on feature and product availability. Hitachi Data Systems sells and licenses its products subject to certain terms and conditions, including limited warranties. To see a copy of these terms and conditions prior to purchase or license, please go to http://www.hds.com/products_services/support/warranty.html or call your local sales representative to obtain a printed copy. If you purchase or license the product, you are deemed to have accepted these terms and conditions. ©2004, Hitachi Data Systems Corporation. All Rights Reserved. DISK-495-00 July 2004