News

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Intro and welcome

Steve Baker
vice president
Sony Tape Storage Solutions Division
steve.baker@am.sony.com

This issue of our quarterly AIT Forum newsletter highlights applications developed for AIT solutions.

Look for articles on the following:

- AIT libraries at the data center
- Email management incorporating AIT
- AIT backup appliances for Macintosh
- Instrumentation recorders featuring AIT

You'll also find a spotlight on AIT Forum founding member Compaq and our regular feature of AIT in the news.

We think you'll find the newsletter easy to use. It is online in PDF format on our Forum Web site, www.aittape.com. Read the newsletter online or download it at your convenience.

We welcome your suggestions to make this newsletter the best information tool possible. Contact our editor with your comments and ideas through marty@bitsprings.com.

Happy reading, and thanks for your interest in AIT.

Storage trends

Steve Baker
vice president
Sony Tape Storage Solutions Division
steve.baker@am.sony.com

Regardless of the state of the market, storage certainly is a hot topic in today's corporations. Analysts and end users both see a move to automation, a rich and fertile area for the storage industry.

Through its tape market activity and end user discussions, Sony is focusing on automation. Users told Sony they want to migrate capacities upward to match increased server capacities and performance. They're using tape in archival and nearline storage applications, and new tape array products are helping shrink their backup windows. In fact, a number of users believe that the backup window problem has been solved and that their next step is to incorporate automated tape recovery in their data restore operations.

The growth of NAS and SAN are moving us from a server-centric to a network-centric environment. Linked to this movement is a growth in the use of rack-mount storage and a trend to low-profile, slim-line servers. Sony's AIT-1 autoloader solutions serve this market well. New applications in the home network market can leverage data storage products like Sony's TiVo. NAS also offers a $6.7 billion opportunity as part of the file server market.

Booming trends in the audio-visual market, including digital cameras and camcorder products, are expected to produce 700 petabytes of data per year, and likely dwarf data production in the traditional IT market. Movies will be produced and distributed digitally. Concepts like the Shoah project will be extended to family genealogy preservation. Even broadband and new cell phone applications will contribute to storage growth.

By focusing on their core competencies and working with partners to bring solutions to market, Sony will extend their storage focus to include automation and audio-visual data storage solutions. With Sony holding 90 percent of the digital media market share, opportunities in digital and media asset management will be explored. Sony wants to extend their audio-visual expertise around core devices and will be talking with Forum members about the kinds of solutions they can develop together.

Contents

AIT success story—Spectra Logic and AIT at iNNERHOST

iNNERHOST (www.innerhost.com) is a Web hosting company with a carrier-class data center in Miami, Florida. Steve Collins, vice president of Data Center Operations said the Miami data center backs up 10 terabytes (TB) daily, in addition to weekly and monthly backups.

iNNERHOST has projected a 100 percent growth rate in the next year, to 20 TB daily. The technical staff at iNNERHOST, which is available 24 hours a day, seven days a week, 52 weeks a year, is expected to grow also. "Today, we employ 125 people," said Collins. "By the end of 2001, we will have 250 people on the payroll." To accommodate this growth, iNNERHOST plans to open a second data center this summer.

iNNERHOST determined that a tape library would help them double their size if it could:

- Back up a center with more than 1,000 servers.
- Be Microsoft compatible with Windows 2000 and Windows NT.
- Restore quickly.
- Be cost effective.

iNNERHOST bought a Spectra 64000 library from Spectra Logic (www.spectralogic.com) with 16 AIT-2 drives and four Fibre Channel Quad Interface Processors (F-QIPs).

The current growth rate of 20 percent per month at iNNERHOST far exceeds their projected 100 percent growth rate to 20 TB daily in the next year. "We are likely to achieve that 20 TB daily target within five months," Collins said. And the Spectra 64000 will keep pace because it can be upgraded by adding four additional F-QIPs and 16 more drives. iNNERHOST's current library capacity is 32 TB, but the company is planning an imminent upgrade to 64 TB.

Using their Spectra 64000 library's four F-QIPs and the library's Shared Library Services (SLS), iNNERHOST will be able to create eight virtual libraries. Collins said iNNERHOST plans to begin testing SLS in the third quarter of 2001.

Although iNNERHOST considered a DLT-based library prior to its Spectra 64000 library purchase, the three deciding factors for selecting the Spectra 64000 library were its cost, the Fibre Channel interface (F-QIP), and its scalability.

Since putting the Spectra 64000 library into operation, the company's been pleased by the library's performance. "We are impressed with the speed of the backups," Collins said. "We are experiencing full backups of 560 servers in five hours. That's incredible."

AIT applications

There's no shortage of applications developed for AIT solutions. Here are just a few.

OTG's EmailXtender™ eliminates email chaos

Email data management is an urgent, high-stakes challenge for all kinds of organizations. EmailXtender from OTG Software (www.otg.com) ends email chaos.

The EmailXtender near-line, centralized data storage and retrieval system automatically moves data off the email message server and into the storage system, capturing and indexing all incoming and outgoing emails. Archived messages remain fully accessible to end users via full-text search capabilities. EmailXtender eliminates message-size and mailbox-size restrictions and enables quick email restoration, especially useful after virus attacks. EmailXtender integrates with OTG's DiskXtender®, which virtualizes primary and secondary storage into an "infinite disk."

EmailXtender and DiskXtender take advantage of AIT automated tape libraries. AIT media provides the capacity needed for the increasing volumes of email and the increasing size of email attachments. The fast data access and transfer rates of AIT drives complement EmailXtender's near-line configuration to eliminate delay for users when they retrieve archived messages.

MaxOptix and Dantz automate storage for Mac users

Publishers, graphic artists, Web site authors, and digital media professionals are among the Mac users who now have multiple drive support to safeguard their massive files using MaxOptix StreamIT backup appliance (www.maxoptix.com) with Dantz Retrospect Backup software (www.dantz.com).

MaxOptix StreamIT appliance now provides Mac users with the cumulative bandwidth of up to five AIT-2 drives. The MaxOptix PowerStream RAID controller presents the five-drive array to the host as a single large volume. The StreamIT appliance is transparent under Retrospect, enabling current Retrospect users to integrate a tape array into their existing tape backup infrastructure. The StreamIT appliance tolerates any single failure point, enabling users to complete backup and restore operations even if a drive or media fails. The array supports a variety of configurations through a single Ultra-2 SCSI host or Fibre Channel.

AIT is key element of digital data recorders

AIT technology is gaining importance in scientific and engineering applications via its integration into high-speed, wide band digital data recorders like the SIR-1000 from Sony Precision Technology America. SIR-1000 uses AIT to collect multi-channel analog and digital data, and digital video.

Tape continues to be one of the most volumetric efficient methods to store large quantities of data. For instrumentation recording, modern tape recorders support large channel count data acquisition systems in tightly integrated and compact platforms. Integrating AIT tape into a digital data recorder was new to the industry and has received high marks from reviewers and end users for its high-speed, accuracy, and dependability in recording and

playing back a variety of data. Analog data is a natural, but the SIR-1000 also records and plays back tachometer pulses, time code signals, and voice channels for verbal annotations.

The SIR-1000 uses the same AIT cassette and transport as the Sony SDX-300 streaming tape drive used to backup and restore computer data. The intuitive user interface is like that of a cassette recorder. AIT's Memory in Cassette (MIC) stores the tape's table of contents containing information on the type of recording (analog or digital), recording speed, start date and time.

With AIT, users can upload recorded data to a computer for post analysis, freeing the SIR-1000 for its next assignment. The compact size of the SIR-1000, about the same as a consumer VCR, gives it flexibility to fit in a variety of application scenarios.

The accuracy and dependability of the SIR-1000 is demonstrated across a wide variety of verticals. It has flown in the nose radome of an F16, where it saw temperatures as low as –40° centigrade, high levels of shock and vibration, and exposure to a near vacuum. You'll also find them on submarines and tanks, and inside torpedoes. Instrumentation recorders are also used in remote sensing research, automotive road simulation, aerospace vibration tests, marine geophysical recording, automotive acoustics testing, and telemetry recording.

For more information on AIT instrumentation recorders, visit Sony Precision at www.sonypt.com.

Web site update

Visit our Web site at www.aittape.com for the latest on AIT. Over the last few months, the Web site gained comparative and competitive info, six new press releases, and technology and success story presentations.

AIT connectivity

Brian Nghiem
testing & applications engineering manager
Sony Tape Storage Solutions Division
brian.nghiem@am.sony.com

AIT continues to grow in compatibility and connectivity. AIT-1 and AIT-2 library drives are out-of-the-box compatible with Sun Solaris, IBM AIX, Linux, SCO UNIX, SGI, and HP UX v 11.x. For the latest connectivity information, visit www.aittape.com or www.storagebysony.com/OEM/categories/categorymain.asp?id=8 and look under the individual drive information.

AIT measures up

Have you wondered how AIT compares with other midrange tape technologies, but never had the time to analyze the facts yourself? Well, take a look at "A Comparative Analysis of Tape Technologies for Mid-Range Systems and Server Applications" on www.aittape.com. This white paper highlights the requirements of digital applications and describes the essential tape technology characteristics needed to satisfy these needs in mid-range systems and servers.

The conclusions confirm what AIT Forum members already know:

> "Inherent data density, access, data transfer performance, as well as reliability and durability characteristics, ideally position helical-scan tape technology to satisfy the current and future demands of backup and restore, image storage and retrieval, and other emerging removable data storage applications . . . All of these factors contribute to a cost of ownership advantage that lowers the cost of doing business . . .

> Sony is committed to maintaining technology leadership with new and enhanced AIT products. With AIT (organizations) have the highest capacity,

most reliable and cost effective solutions available which address real-world constraints of space and power, as well as minimize the cost of ownership of the total solution."

And you don't need to take our word for it. Additional technical white papers and a variety of end-user application case studies are available through the AIT Forum Web site, www.aittape.com.

Member spotlight

Compaq, AIT Forum founding member

Founding member Compaq Computer Corporation (www.compaq.com) chose AIT for its home and enterprise customers, continuing its promise to its customers:

- Compaq AIT drive quality and reliability are held to the highest expectations of the Compaq ProLiant and AlphaServer customer.

- Compaq commits to a migration path with the AIT family of products and customer requirements.

"We are committed to AIT as our premier mid-range technology and will deliver a migration path to allow our customers to take advantage of AIT's innovations in delivering higher capacity and performance," said Rusty Smith, director of Nearline Storage for Compaq Computer Corporation's Enterprise Storage Group. "We will also continue to integrate AIT devices into automation solutions and to make the technology available through our worldwide distribution channel."

Compaq AIT tape products include 35GB and 50GB native capacity tape drive systems backing up AlphaServer and ProLiant servers. These provide a natural migration path for DDS users who need higher capacity and faster performance. Other AIT solutions include the SSL2020 AIT Tape Library for rackmount or tabletop configurations, and the TA1000 AIT Tape Array for performance applications.

Compaq's AIT solutions are also partnered in applications like hot plug tape, giving users the ability to mix primary and secondary storage on the same SCSI bus, and DR tape, a one tape disaster recovery utility for stand-alone drives and autoloaders. Check the April 2001 and November 2000 issues of the AIT Forum newsletter for details.

AIT Forum meeting highlights

Marty Foltyn
president
BitSprings Systems
marty@bitsprings.com

Representatives from 25 companies attending the 8th AIT Forum meeting in Denver, Colorado in May 2001 were treated to updates and presentations on AIT technology and trends.

AIT marketing update

Forum member Sony updated the status of the AIT technology and reported that AIT business continues its strong growth and message to the marketplace emphasizing technology benefits and extended roadmap. With the launch of AIT-3, AIT will have three distinct formats and six media types, with AIT-3 fully read-write compatible with AIT-1 and AIT-2.

A Spring 2001 media-analyst tour brought the AIT message to over 25 press and analysts, resulting in positive feedback and coverage. Sony hosted a group of analysts and editors in Tokyo as well, who met with senior Sony executives and toured the facilities in Japan.

"AIT continues to be a smart choice" is the message conveyed to readers of channel publications including CTR, CRN, and Smart Partner; IT publications including E Week; and publications for government, legal, medical, and financial applications.

Marketing activities for AIT include an AIT-1 marketing campaign highlighting the additional features and functionality

available in a DDS-to-AIT transition. AIT-3 and AIT-2 WORM will be launched in Fall 2001. The WORM drive will read both WORM and standard AIT-2 media, and will be a separate drive model number from the current AIT-2 models.

System integration business model presentation

Tim Smith of Sony's Systems Integration Group highlighted their offering of end-to-end solutions for planning, designing, project management, installation, and support services. Services include feature definition, project and program management and support, system architecture, and integration.

Over 250 full time system integrators are now in San Jose and have completed over 400 projects in 8 countries. Clients range from large multinational corporations to small start-ups. Recent projects have included archiving footage for ESPN, repurposing content for a client server newsroom center, and designing electronic systems on cruise ships.

Medium Auxiliary Memory (MAM) Working Group update

Marshall Barton of Relay presented an update on the Medium Auxiliary Memory (MAM) Working Group. The group has welcomed multiple drive technology suppliers as new participants, including HP and Quantum.

Compaq, VERITAS, Dantz Development, and Sony led efforts to complete a baseline specification, which presents a single implementation of MAM for both hardware and software. The MAM Working Group plans to complete the final version of the specification this year. Implementation will then pass to the individual hardware and software companies who will build specific partnerships and solutions.

AIT in the news

Have you heard the latest about AIT?

National Underwriter sees AIT as "the future"

In its June 18, 2001 issue, National Underwriter magazine featured an article by Ara C. Trembly titled "Tape-Based Storage: It's Cheap, It's Fast, It Holds A Lot Of Data" (p. 37). The article compares DLT, LTO, and AIT, and presents AIT as the future of data storage. Not only that, the article quotes the AIT Tape Forum Web site on the features and benefits of AIT.

TapeWare provides entry-level backup

TapeWare software supports AIT technology and targets the entry-level backup market. TapeWare software works in an environment of one to eight servers with data distributed across the network. TapeWare can be located on any supported platform and it supports devices regardless of their location. Applications including Microsoft Exchange Server, SQL Server, and Cluster Servers are supported via agents.

NovaStor's TapeCopy migrates data to AIT for NAS appliances

NovaStor's TapeCopy can migrate data written in other technologies to AIT. TapeCopy's new version supports mixed media libraries and the use of autoloaders and libraries as data migrators. Functionality enables tape images to be written directly to a file and facilitates storing of tape images on NAS appliances. NovaStor welcomes testers of its next release.