

Customer Success

Ingram Entertainment Inc.

Key Highlights

Industry: Media/Entertainment Distribution

Location: La Vergne, TN

Business Profile: Leading national distributor of entertainment hardware and software

IT Environment

- > IBM eServer z890 Series mainframe
- > Legacy IBM Tape and Virtual Tape Server (VTS) Infrastructure
- > FICON channel connectivity
- > Managed disaster recovery (DR) services

Backup Software

- > IBM Data Facility Data-Set Services (DFDSS) for mainframe environment
- > CA ARCserve for open systems environment

Challenges

- > Aging tape infrastructure unable to meet backup and recovery requirements
- > Frequent tape failures
- > Costly overhead of tape: maintenance, offsite storage, media and shipping fees

The Solution

- > 2 Data Domain systems, one at the production site and one at the DR site for mainframe environment
- > 3 Luminex Channel Gateways, two at the production site and one at the DR site for mainframe environment
- > Data Domain Replicator software
- > Data Domain VTL software option
- > 2 additional Data Domain systems for protection of Microsoft Exchange and SQL servers in open systems environment.

Business Benefits

- > Lowered costs and improved recovery window by moving to a self-managed DR plan from a third-party disaster recovery service
- > Reduced costs for tape-related expenses
- > Reduced data storage and network bandwidth requirements.
- > Simplified business recovery plan for the mainframe and open systems

Competitive Challengers

Replicated IBM tape and VTS solution

Improved ROI and Reliability for Mainframe Data Protection

Ingram Entertainment Inc. is the leading national distributor of home entertainment products, including DVDs, video game hardware and software, audiobooks, and accessories. Ingram Entertainment has 15 locations across the U.S. and services over 10,000 retail accounts, including video specialty stores, electronics and video game stores, Internet retailers, drugstores, and supermarkets.



Reliable, cost-effective protection for the mainframe system is critical to business continuity at Ingram Entertainment. With an aging physical tape infrastructure that is both costly to maintain and prone to error, the mainframe administration team knew it needed a fresh approach to backup and recovery operations. Implementing a combined Data Domain and Luminex solution has provided Ingram Entertainment with a unified gateway and disk-based deduplication storage platform. Additionally, by utilizing Data Domain technology for WAN-based replication, Ingram Entertainment has instituted a simplified and cohesive disaster recovery (DR) and business recovery strategy for both its mainframe and open systems environments.

Customer Challenges

Until recently, Ingram Entertainment protected its IBM z890 mainframe system with an older physical tape infrastructure comprised of an IBM 3494 tape library and VTS, along with 3490 and 3590E tape drives. Not only was this infrastructure costly to maintain, it also presented a number of backup and recovery challenges that needed to be addressed.

The mainframe system is essential to business operations at Ingram Entertainment, making constant availability a top requirement. However, relying on tape for backup and recovery was proving to be both inefficient and prone to error. The mainframe administration team frequently experienced problems with the tape drives and had to perform tape reruns, a time-consuming and frustrating task. Daily, sometimes hourly, file recoveries were problematic and required valuable time from IS associates. Most importantly, the team did not have full confidence they could recover all critical data in the event of disaster or system-level issue.

According to Tim Demonbreum, Mainframe Systems Administrator at Ingram Entertainment, "Tape was the biggest barrier to an effective disaster recovery solution. We were always questioning if we had all the tapes or whether something had fallen through the cracks. Vaulting physical tapes for DR just isn't a fun thing to do."

After factoring in the ongoing costs associated with supporting the tape

infrastructure, which included tape media, offsite storage and shipping fees, Ingram Entertainment knew that it was time to reassess its approach to backup and recovery. As part of this reassessment, Ingram Entertainment also decided to discontinue using its outsourced provider for DR services and cut costs by setting up its own self-managed DR site in Iowa. However, to make this feasible, the team needed a cost-effective and iron-clad strategy to copy the critical mainframe data offsite, and improve its time-to-recovery window.

Data Domain and Luminex Solution

After exploring a number of different alternatives, Ingram Entertainment made the decision to implement three Luminex Channel Gateways and two Data Domain deduplication storage systems configured as VTLs—one of the combined solutions for its primary La Vergne data center and the second "mirrored" solution at its offsite DR facility located in Iowa.

Luminex provides channel gateway software that emulates mainframe tape drives. The Luminex solution resides on a separate Solaris server that sits between the mainframe and the Data Domain system. When the Luminex gateway receives a tape volume from the mainframe, it streams the data straight to the Data Domain system, leveraging the compression benefits of inline deduplication storage. In addition, Luminex provides data stream intelligence to help maximize compression rates of the backup data.

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“The ability to replicate has solved so many of our problems. Before, we were always worrying if we had all of our tape media accounted for. Now, every single virtual tape we create is automatically replicated to our DR site. There’s no way that we can miss something. Not many solutions can do that.”

Tim Demonbreum
Mainframe Systems Administrator
Ingram Entertainment, Inc.

Ingram Entertainment took the opportunity to further enhance the performance of its new implementation by replacing its former ESCON connectivity with FICON. With the Luminex channel gateway in place, the mainframe system at the production site is now backed up to a Data Domain system. The data is then replicated via a WAN to a second Data Domain unit at the DR site in Iowa, where another channel gateway and mainframe system also resides.

Having evaluated and selected the Data Domain and Luminex solution for the mainframe system, Ingram Entertainment also made the decision to implement Data Domain deduplication storage within its open systems environment. These systems now protect the local backups of key Microsoft Exchange and SQL servers. Similar to its mainframe solution, Ingram Entertainment is replicating backups from a Data Domain system at its production site to an offsite Data Domain unit at its DR facility. With the new backup and recovery strategy in place, Ingram Entertainment has the assurance that there is no single point of failure. If the production site were ever to go down, recovery from the virtual tape backups can begin immediately from any given point in time.

Business Benefits

Using Data Domain and Luminex in tandem has enabled Ingram Entertainment to successfully meet its DR goals, delivering continuous availability and a considerably improved recovery window. In addition, the combined solution has also made it possible for the organization to manage its DR plan in-house, which is a significant yearly cost savings.

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By ridding itself of tape handling and administration, Ingram Entertainment has also reaped significant cost savings in terms of tape media costs, offsite storage services and shipping fees, staff tape management time, as well as growing service costs for the tape infrastructure.

“Not handling tape anymore is a very nice thing,” continued Demonbreum. “With the replication capabilities that we now have, all of the tasks we had to do before, such as sending physical tapes offsite for DR, have gone away. We now have an error-free environment.”

Additionally, Ingram Entertainment has been able to reduce its physical storage requirements by switching to Data Domain. Demonbreum cites more than 14 TB of backup data which has been compressed to about 1.6 TB on the Data Domain system, which is nearly a 90% savings in utilized disk space.

“The IBM tape system was a hefty piece of equipment. Comparatively we’re currently storing our backups on the Data Domain system which takes up only a very small, three rack unit footprint,” noted Demonbreum.

Finally, by being able to leverage Data Domain for both mainframe and open systems, Ingram Entertainment has achieved a simplified and unified business recovery process.