

TAP GROUP

EMC Disk Library for mainframe helps a transportation company eliminate mainframe tape systems for improved data performance and robust disaster recovery strategies



ESSENTIALS

Challenge

- To support all workload needs—backup, replication, and HSM data recalls, as well as disaster recovery strategies and historic data retention requirements

Solutions

- Two EMC Disk Library systems for mainframe (DLM120)
- EMC Assessment Services

Key benefits

- Minimizes HSM recall waiting periods from minutes per recall to only seconds
- Delivers high levels of reliability and capacity while eliminating the inherent physical challenges of tape-based systems
- Minimizes disruption to services
- Protects and supports mission-critical applications and data
- Replicates all data for disaster recovery needs; provides easy DR testing and failover to the DR site
- Transparent to mainframe applications
- Meets operating and compliance requirements
- EMC Tape Analysis and Assessment services denotes precise data replication requirements and benefits of virtual tape environments

BUSINESS OVERVIEW

TAP Group is Portugal's market-leading, transportation company and owner of TAP Portugal, Portugal's largest airline and the country's flag carrier. TAP flies over 10 million passengers per year to 97 destinations in Europe, Africa, and North and South America.

The Group's Information Technology division, Megasis, is charged with implementing technology infrastructure and solutions to ensure performance of mission-critical data for flight services, maintenance, and related business requirements. Inadequate IT performance could lead to operating inefficiencies, or worse, disruption to crucial services. Data and application downtime is unacceptable, and could result in delays to business operations. Consequently, the division takes great care in making technology choices.

To ensure high performance, TAP Group employs IBM mainframe computers to process and store vital applications and data. While it was satisfied with its mainframe systems, the IT division was far less pleased with its mainframe backup and replication solutions. Historically, the company had relied on two Robotic Library IBM TS3585 tape systems located at its data centers to support a number of workloads including backup, HSM migration, and limited data replication which resulted in only a partial disaster recovery capability. In addition, the company was experiencing a number of mechanical problems with the physical tape infrastructure.

IT recognized the inherent weaknesses of its tape systems, and since the contract for those systems was coming to an end, TAP Group's IT management embarked on a mission to eliminate tape by moving to a Virtual Tape Library (VTL). They believed that VTL could support all of the Group's workload needs—backup, replication, and HSM data recalls, as well as disaster recovery strategies and historic data retention requirements. Subsequently, the company has eliminated its tape system and replaced it with EMC® Disk Library for mainframe, a single VTL solution that supports all mainframe loads.

THE CHALLENGE: OVERCOMING MAINFRAME TAPE SHORTCOMINGS

Victor Vieira, TAP IT Mainframe Systems manager, explains that the company's legacy tape solution had a wide range of shortcomings. "Our mainframes support mission-critical business processes like aircraft maintenance repair and overhaul, flight operations, and SAP ERP—as well as many others—and those applications and data are vital to sales and marketing, cargo, airport, and crew applications. Should application data managed by HSM be unavailable at any time, maintenance, purchasing, crew scheduling, and other critical business services could be affected," says Vieira. "But our physical tape libraries and drives—the infrastructure that supports backup and replication, disaster recovery, data access, and archiving of historic information—were giving us problems."

Vieira points out that mechanical issues were causing tapes to get stuck in drives. This led to worries regarding backup accuracies. Vieira faced other challenges: lack of speedy data accessibility and performance were minimizing service productivity. “Access by our service personnel to data stored on tape and which is used to answer important queries and HSM data recalls could take up to three minutes to get a response,” Vieira explains. “Many minutes of waiting time slowed efficiency.” And because the Group’s tape systems had limited data capacity, only critical data was being replicated. Consequently, the Group had issues with its DR strategies. “Our tape solution could only replicate our HSM data rather than all of our data. This meant that we really didn’t have a DR capability. The lack of capacity also meant that the tape system was not able to archive all of our historic data even though we had a data archiving requirement of between five and 10 years, depending on the data.”

Flexibility was also a challenge. “Our tape infrastructure provided little flexibility,” Vieira notes. “With tape drives and the fact that they are directly connected to specific mainframes, if you need more drives, you must expedite a re-configuration, which is a manual process and therefore expensive and time consuming.”

Vieira searched for other solutions to replace its tape systems that would better meet the company’s needs. “We wanted to eliminate tape and knew that a virtual tape solution would meet our specific requirements,” he says. “But we also needed a system that would work transparently with our unique mainframe environment. We use two different versions of IBM’s job entry system, JES2 and JES3. A new virtual tape solution would have to work transparently with these, as well as meet our workload needs.”

THE SOLUTION: EMC DISK LIBRARY FOR MAINFRAME ELIMINATES TAPE

To overcome these challenges, TAP embarked on a comprehensive search for a virtual tape solution that would eliminate its reliance on traditional tape infrastructure. Vieira notes the reasons why they chose EMC.

“We looked at other vendors, but they were recommending solutions that still involved tape and we wanted to get away from tape,” Vieira notes. “Following presentations from all vendors, we recognized that the EMC® Disk Library for mainframe focused precisely on what we required.”

Vieira also explains that the EMC Assessment Services reinforced their decision to purchase Disk Library for mainframe. “EMC was the only company to provide us with a tape analysis and assessment service. The other vendors didn’t do that. This EMC evaluation process was excellent and allowed us to define our exact replication requirements.” The EMC Assessment Service helped Vieira develop a business case that convinced TAP management to purchase EMC DLm120 systems. “Our top management always looks for value for money. The EMC analysis helped us convince management that DLm120 was the right solution for us.”

TAP’s subsequent purchase of EMC DLm120 has addressed the many pain points that the company had been experiencing with its legacy tape backup and replication systems. “DLm120 provides many drives, many access points, and is very fast on HSM data recall,” says Vieira. “It is able to replicate all of our data, not just HSM data, which also means that we could implement a comprehensive DR strategy. Recommendations from EMC demonstrated that DLm120 would be much more stable than tape—and that’s exactly the case.”

MINIMIZING RECALL WAITING TIMES FOR EFFICIENCY AND COST SAVINGS

TAP now supports its vital business applications and data with a single EMC Disk Library for mainframe infrastructure. “With DLm120, we have had huge performance gains in CPU usage,” Vieira says. “Today response times to HSM data, as well as other critical information, takes seconds rather than minutes. Data recall times today using DLm take a total of only seconds a day compared to the two to three minutes that they used to take with our tape systems. This means our service personnel are much more efficient in answering queries, while costs have also been driven down.” By enabling TAP to replicate all data across both of its mainframe data centers, the company’s DLm120 infrastructure also secures mission-critical applications and

datasets to ensure 24/7, always available data access and security. This minimizes disruption to the airline's maintenance, crew scheduling, and other critical operations helping TAP to keep flying.

"DLm120 is transparent to our mainframe systems and supports our workload requirements with a single device to reliably meet all of our replication needs," Vieira states. "DLm120 compresses and replicates all of our 150 TB of data on an automatic continuing basis. At any time we can switch between sites and access the same data, knowing that it has been accurately replicated. Accurate data redundancy and continual access supports our critical operating needs."

SUPPORTING VITAL DR STRATEGIES BY ELIMINATING TAPE

The DLm120 system's replication capabilities, as well as its large data storage capacities, have also allowed TAP to implement a comprehensive DR strategy. "The tape solution wasn't made to meet disaster recovery requirements because it didn't have the capacity to replicate all of our data. DLm120 replication accuracy and large data storage capacities mean that we now have a complete DR capability." Vieira also explains that EMC DLm120 meets DR testing requirements. "In our previous tape environment, DR testing was challenging. The DLm120 solution allows comprehensive testing because we now have full replication of all of our data."

Large data capacities and reliable replication capabilities also allow TAP to archive vital historic data for instant access. "Our DLm120 enables us to meet our five to 10 year historic data archiving requirement," Vieira notes. "Today, we have a stable solution to ensure that all of our data is held accurately and reliably. We no longer have to worry that problems with tape infrastructure and its small capacity will inhibit our ability to reliably store critical data."

"By working closely with EMC, who also configured the DLm120 systems, implementation of the solution only took one month, even though we had five to 10 years of data to migrate. This included the migration of all data held on tape, as well as the replication of all current and historic data held on our mainframes, to the EMC DLm120 infrastructure. The write rate was very, very quick."

TAPE VERSUS TAPELESS EQUALS PEACE OF MIND

Vieira strongly recommends the EMC DLm120 to other companies that desire to replace mainframe tape backup systems with virtual tape replication solutions. "I recommend EMC Disk Library for mainframe because it works so well," says Vieira. "Our tapeless replication environment gives us peace of mind because it does its job as EMC said it would. For instance, during a recent power failure, the EMC DLm120 proved its reliability. It came up by itself. It is excellent."

"We are pleased that we have moved away from a tape environment and now rely on the EMC DLm120," Vieira concludes. "We feel very good about the redundancy that it provides. Some of our critical data now only resides on a DLm120 infrastructure. This illustrates the confidence that we have in it."

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