Data Migration Services for Mainframe Modernization

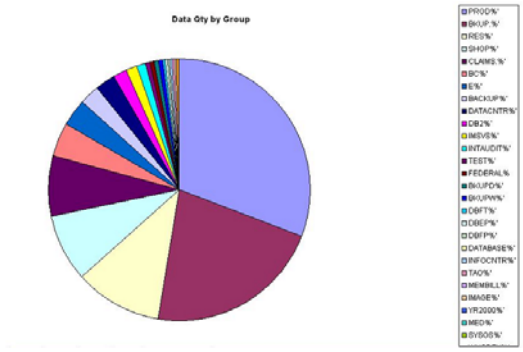
Many vendors such as HP/EDS, Micro Focus, Microsoft, Accenture, and CSC offer Mainframe Migration services which move mainframe applications to midrange platforms by either emulating the mainframe applications on the midrange or rewriting them using new technologies such as .Net or JEE.

Many such projects involve large amounts of legacy data on tape and other non-disk media. Generally the modernization vendors will migrate the active data, which consists of databases and VSAM, themselves.

However, the analysis and migration of tape archives has its own set of special problems, not the least of which is the fact they are often huge - in the order of tens or hundreds of terabytes. For this reason several vendors have approached Data Strategies to perform the analysis and migration to midrange platforms of data stored on tape and other archive.

Data Strategies analyses the System Catalog and the TMS data (database files or reports) to determine, with the help of the customer, which data is truly archive data that must be migrated. Data Strategies will then migrate the mainframe data from tapes by converting datasets to files which reside on the midrange platform or creating virtual tapes containers that can be read later by Data Strategies' utilities.

EBDCIC to ASCII or copybook directed data conversion can be performed if desired. Optional data compression can be applied often yielding dramatic storage savings.



All the metadata from the Catalog and TMS is preserved and is available so that the migrated archive can be accessed for compliance using attributes such as date of creation, creating job or application, date of last access, etc.

The DataArk Appliance

The ***DataArk Appliance*** is a Data Strategies' product specifically created to provide a long-term repository for mainframe tape data outside the mainframe environment.

The metadata from the mainframe OS Catalog and Tape Management System (TMS) is consolidated and moved into the ***DataArk Appliance Database***.

The mainframe data from tapes is "migrated" to the ***DataArk Appliance*** by creating virtual tapes that are stored in one of three optional data storage subsystems supported by the appliance, namely: NAS disk storage, high-density magnetic tapes, or the cloud.

While a storage appliance is not a new concept, placing the mainframe System Catalog, TMS database, and Virtual Tape storage management on the appliance device is new and provides complete mainframe tape storage virtualization to applications hosted on midrange platforms.

With the ***DataArk Appliance*** the connection between application and legacy tape data is raised to the level of the Virtual Tape (or Dataset) access protocol, thus allowing maximum flexibility with respect to storage implementation, optimization, security, and upgrading.

Migration of Tape Archives to the Cloud

Many vendors are now offering "cloud computing" services which allow a company to purchase machine cycles and storage *on demand.* One of the most prominent of these offerings is the *Amazon Elastic Compute Cloud (EC2)* (http://aws.amazon.com). One of the Amazon offerings, S3, allows to store data in a secure and replicated way.

Many software companies are offering their applications as pre-configured virtual images for running in the Amazon cloud. Micro Focus offers a cloud solution for Mainframe Migration (http://cloudservices.microfocus.com/main/default.aspx/MFECS/MFECS.html). In addition to the software platform, Micro Focus offers runtime monitoring as it is found in an IBM data center.

Data Strategies has created a cloud solution for archiving legacy tape data. This consists of a special file handler which translates Cobol file operations into Web service requests to the cloud and software component running on an instance of the Micro Focus Enterprise Server in the cloud which processes those requests against archive data stored in S3 on the cloud.

The legacy data is migrated originally to the cloud via the Data Strategies' Data Migration Service for Mainframe Modernization (DMSMM).

A cloud specific extension to the standard service is the ability to load the migrated data onto bulk devices such as disk or tape for use in the Amazon Import/Export service. This allows data to be sent to Amazon data centers on specified devices for bulk loading directly on their network thereby avoiding the cost of loading over the wire.

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