

## ***SmartAnalyzer*<sup>®</sup> for HSM – Facing Up to the Challenges**

In today's complex and volatile business environment, every IT organization faces myriad operational challenges to maintain maximum business readiness – including the requirement of maintaining maximum availability and recoverability of the company's data.

### **Identifying the Challenges**

The task of maintaining data availability and recoverability is extremely complex due to the enormous number of data sets, processes and facilities involved.

All data centers provide backup for contingency purposes. There is no “right” way to implement backup, nor is there one universal solution. Rather, a number of backup methodologies are implemented by most installations, using multiple software (and sometimes also hardware) facilities.

In a typical data center, tens of thousands of data sets are used each day. These data sets are controlled via multiple data management products and facilities, such as HSM (DFSMSHsm), DFSMS, and CA-1. Software-controlled data set backup is performed using multiple products and utilities. The results are often *missing* backups, *unusable* backups, *non-standard* backups, and backups taken in a *non-optimal* way.

### **What Is *SmartAnalyzer*?**

**SmartAnalyzer** is a powerful software product specifically designed to address the issue of onsite application data backup and migration.

**SmartAnalyzer** provides comprehensive auditing capabilities for data centers employing the HSM disk management product. **SmartAnalyzer** identifies problems and inefficiencies in the way your business data is managed via HSM.

**SmartAnalyzer** supports all HSM environments, regardless of the level of DFSMS data policy implementation, the level of ABARS implementation, local backup standards and methodologies used.

**SmartAnalyzer** requires minimal information to be supplied by the user. The Online interface is menu-driven and features a fill-in-the-blanks approach to defining requirements.

## ***SmartAnalyzer* Benefits**

- Reduces the organization's financial exposure.
- Minimizes interruption of mission-critical business applications.
- Reduces the backup window.
- Saves hardware, time and costs.

## ***SmartAnalyzer* Strategies**

**SmartAnalyzer** applies the following five key strategies to improve the reliability of the current backup procedures:

- **Detect Missing Backups**

Often there are important or even crucial application data sets which are not backed up by HSM, or which are backed up at a wrong point-in-time (PIT). In case of software or hardware failure, the absence of proper backups may cause valuable time to be lost and, in extreme cases, even impact your business.

Sample exposures: Active data set not backed up at all; Data set is updated multiple times with no backup in between.

- **Detect Unusable Backups and Migrated Data Sets**

Sometimes existing backup/migrated data sets and volumes contain invalid data which is actually unusable when recovery is required.

Sample exposures: Tape backup/migration volume already scratched; Backup taken while data set was updated.

- **Detect Non-Standard Backups**

Jobs often contain steps to back up data in a non-standard manner, causing resources to be wasted, and valuable time to be lost during recovery.

Sample exposures: Backup for data set taken via general copy program (e.g., IEBGENER); Backup taken bypassing DFSMS-defined backup policy.

- **Detect Conflicting Backup/Migration Policies And Statuses**

Backup/migration policies defined to the local data management products, or backup/migration statuses maintained in the local data management products, are sometimes not identical, causing data to be lost.

Sample exposures: Differing expiration dates for a backup/migration file (volume) in HSM and in the Tape Management system; Improper status of a migrated data set in the System Catalog.

- **Detect Excessive Backups and Migrations**

More backups and migrations than actually required are often performed, causing resources to be wasted. Eliminating unnecessary backups/migrations can drastically reduce system resource consumption, backup window time and space management window time.

Sample points: Excessive backup performed for data which does not change; Migrating the same data sets in and out frequently (“Migration Trashing”).

## **Hardware and Software Requirements**

*SmartAnalyzer* executes on all processors capable of running under supported versions of z/OS and OS/390; DFSMSHsm running under z/OS or OS/390.