MODEL 9 BACKUP AND RECOVERY FOR z/OS

DATA SHEET

Model9 Backup and Recovery for z/OS is a next generation mainframe data management software product that provides backup, recovery, archive, space management, replication, data security and regulatory compliance across the data center and the cloud.

Using patented technology, Model9 performs standard mainframe data management functions while running on zIIP engines instead of CPs, utilizing open storage systems and the cloud instead of tape hardware (such as VTS, VTL, ATL) and consolidating multiple backup and tape management products into a single solution that dramatically reduces costs and provides a complete replacement of existing tape hardware, software and TCO model.

Model9 provides the mainframe system administrator and production support teams with an easy to use web user interface to define, control and manage the entire life cycle of your backup and recovery processes. Model9 provides the user with flexible set of options to set data management policies at a granular level, supporting the following data management functions:

- Data set backup and restore
- Full volume dump and restore
- Data set archive and recall
- z/OS UNIX file-level backup and restore
- Space management
- SMS compatibility
- SAF-based authorization
- Reports
- Encryption for data in motion and data at rest

HOW IT WORKS

The Model9 Agent is a Java application running on z/OS that performs various data management functions for the server. Agent processing is zIIP-eligible. The agent internally calls DFSMSdss to dump/restore volumes and data sets and securely transfers the data over TCP/IP directly to the server.

BENEFITS

Replace costly tape hardware
(VTS, VTL etc.) with any open storage system or cloud storage

Shorten backup window
by utilizing unlimited bandwidth, fast bare-metal recovery

Offload backup and space management processing to zIIPs, IFLs and open systems
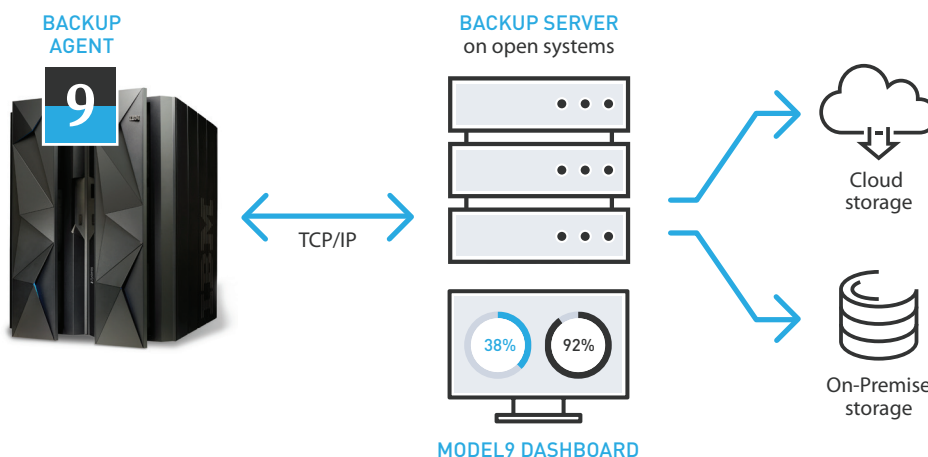
Ensure regulatory compliance
with automatic recovery tests, reports and notifications

Replace all existing tape backup software
(HSM, RMM, etc.) with a single, complete solution

Simplify daily operations
with modern, easy-to-use web UI, graphic reports and quick installation

BACKUP AGENT

BACKUP SERVER on open systems

TCP/IP

Cloud storage

On-Premise storage

MODEL9 DASHBOARD

38% 92%

MODEL 9

FLEXIBLE BACKUP STORAGE OPTIONS

The server supports any storage system for storing mainframe backups. Options include directly attached storage, NAS, SAN and cloud object storage. All data written by the server to the connected storage system is compressed and encrypted. The selected storage option replaces existing backup and archive storage.

Replication

For enhanced data protection, the server provides storage replication to multiple remote storage systems and to the cloud. Replication is performed over TCP/IP and is not limited by the distance between copies. Both synchronous and asynchronous replication modes are available.

USER INTERFACE

An easy to use web-based GUI is used to define the data management policy, monitor daily operations and restore data. Users access the user interface using their existing mainframe credentials. Authorization for all user actions is checked against the existing mainframe security software (such as RACF, CA-TSS or CA-ACF).

Users may browse backup versions and list details of backed up data sets and volumes. Instant search allows less experienced users to quickly locate data sets, whether on-premise or in the cloud, and easily restore them. Detailed reports and graphs help you solve problems faster and simplify monitoring of daily data management processes.
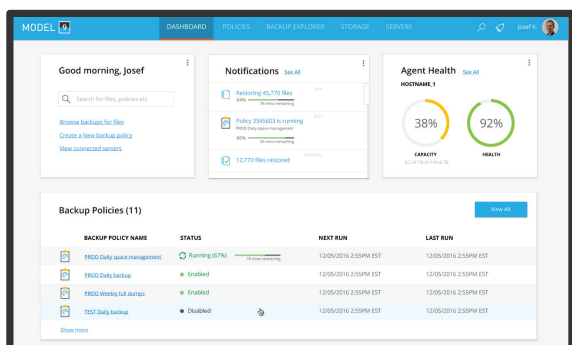
Dashboard provides a quick overview of backup operations
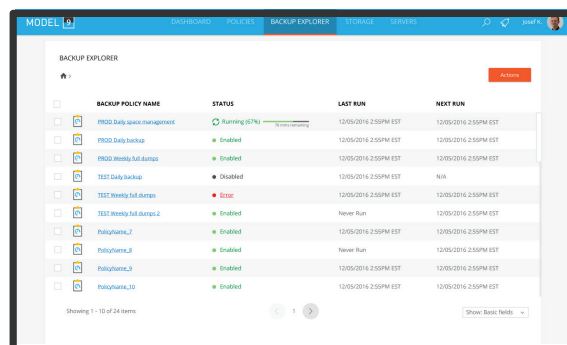
Easily find and fix backup errors using reports
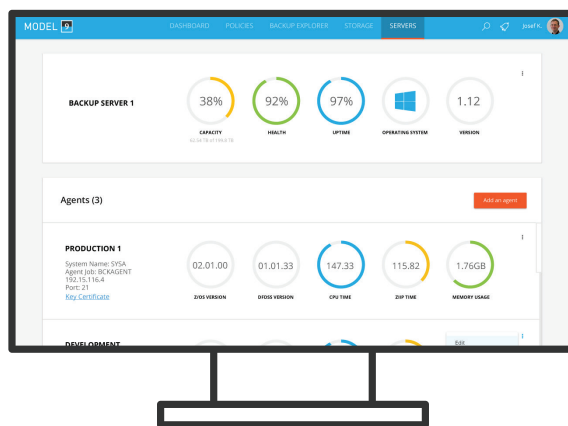
End-to-end monitoring of backup environment

USE CASES

Reducing backup costs with tape and virtual tape replacement

Model9 provides a complete replacement of existing tape hardware and software, without changing existing daily operations and data management processes.

Reduce backup costs by:
• Offloading backups and space management processing to zIIPs, IFLs and open systems
• Replacing physical and virtual tape hardware (such as VTS, VTL and ATL) with any storage system or cloud storage
• Consolidating existing backup, tape management, encryption and reporting software products to a single
  software solution

Backup and archive to the cloud

Cloud storage can be used as the primary server storage. The server supports storing data backups and archives and directly restoring and recalling data from cloud object storage. All data is encrypted before being moved to the cloud. All leading cloud providers are supported including Microsoft Azure, Amazon S3 and Glacier, Google Cloud Storage and more.

Cloud storage may be configured as a second storage tier. Data is first written to on-premise storage to provide the best performance. Later, according to a predefined policy, cold data is archived in the cloud. Data is indexed and organized for fast retrieval to on-premise storage or directly to the mainframe.

In addition, cloud storage is supported as the target for storage replication. All data written to the server storage, whether on-premise or in the cloud, may be replicated to a second copy in the cloud. Multiple cloud storage targets for replication are supported.

z/OS UNIX file-level backup and restore

Model9 supports z/OS UNIX file-level incremental backup and restore, which saves backup space and shortens backup window by only backing up changed files in the z/OS UNIX file system, in contrast to backing up the complete HFS/ZFS data set every time a UNIX file is changed. During restore, only the specific UNIX file is restored directly to the UNIX file system, without having to restore the whole HFS/ZFS data set first.

Disaster recovery

The server and storage may be located at a remote site and function as an in-house vault backup for disaster recovery situations. In bare-metal recovery situations, a stand-alone restore program is IPLed, over network, directly from the server (Using the HMC "Load from removable media or server" action). The stand-alone restore program is used to restore volumes • and data sets without requiring the agent to be running in z/OS.
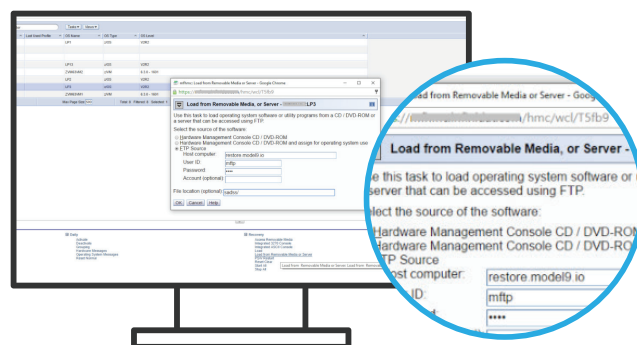
Using the HMC to IPL a restore program from the backup server
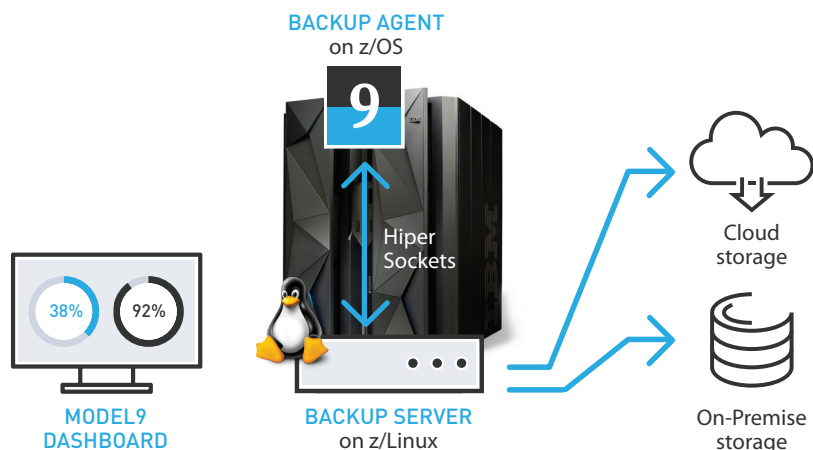
Automatic recovery tests

Model9 automatically tests the data management infrastructure and verifies that all backups are recoverable and all archived data is instantly available. Backups and archives are tested according to a predefined policy or randomly to ensure successful restores. A detailed report is sent to the storage administrator after every test. The report provides a record of the test and alerts in case of restore failures. This saves the need to periodically perform manual recovery tests.

Running the server under Linux on z

When running the server under Linux on z, the server and agent communicate over HiperSockets. With HiperSockets, data is transferred in memory and never leaves the mainframe host. Using high speed HiperSockets as the communication link enables shortening the backup window. Since the data does not leave the mainframe host, encryption for data in motion may not required and may free additional CPU resources. TCP/IP processing in z/OS for sending data over HiperSockets is zIIP-eligible.

Running the server under Linux on z provides the flexibility to use any storage system, including MF DASD, SAN, NAS and cloud storage.

BACKUP AGENT on z/OS
9
Hiper Sockets
Cloud storage

MODEL9 DASHBOARD
38%   92%

BACKUP SERVER on z/Linux
On-Premise storage

SYSTEM REQUIREMENTS

Backup server
The backup server supports running on both distributed systems and on Linux on z.

Distributed systems
Minimum recommended hardware:
• 2 x dual-core CPUs
• 4 GB memory
• 10 GbE network adapter

Supported operating systems (may run under VM):
• Windows server
• Linux server

Linux on z
Minimum recommended hardware:
• 2 IFLs
• 4 GB memory
• 10 GbE OSA

Supported operating systems (may run under z/VM):
• Ubuntu server
• Red Hat Enterprise Linux
• SUSE Linux Enterprise Server

Backup agent
Minimum recommended hardware:
• 2 CPs, 1 zIIP
• 4 GB memory
• 10 GbE OSA

Additional supported hardware:
• zEDC Express
• Crypto Express

Operating system prerequisites:
• z/OS V1R13 and up
• Java 8 31-bit

GENERAL AVAILABILITY FEATURES

• Data set backup and restore
• Full volume dump and restore
• z/OS UNIX backup and recovery
• SMS-based backup policy

• Bare-metal recovery
• Encryption for data in-motion and at rest
• Data compression
• Web-based UI