

## USING MODEL9 BACKUP AND RECOVERY FOR z/OS WITH AMAZON WEB SERVICES



### OVERVIEW

Our patented technology connects the mainframe directly over TCP/IP to cloud storage and allows you to supplement or completely eliminate the need for virtual tape libraries and physical tapes. With Model9, you can take advantage of any Amazon Cloud Storage product from affordable long-term Amazon **Glacier** storage to highly durable, scalable, geographically dispersed and flexible low-cost **Amazon Simple Storage Service (S3)** object storage. Amazon **Elastic Block Store (EBS)** and **Elastic File System (EFS)** are also supported.

Model9 Backup and Recovery for z/OS performs backup, restore, archive (migrate) and automatic recall for all z/OS data sets and volume types, including z/OS UNIX file-level backup and restore, space management and stand-alone restore. Model9 consolidates the functionality of multiple backup and tape management products into a single solution that dramatically reduces costs and provides either added capabilities such as write once protected copies, or a complete replacement of existing backup and tape management software. It can coexist side-by-side legacy backup and tape management products for simplified migration.

### KEY FEATURES



**Create secured backup copies**  
directly to Amazon cloud storage



**Recover and restore data quickly**  
directly from Amazon cloud storage



**Cut costs by 50% or more**  
by reducing backup and archive MSU consumption, consolidating software licenses and using affordable cloud storage



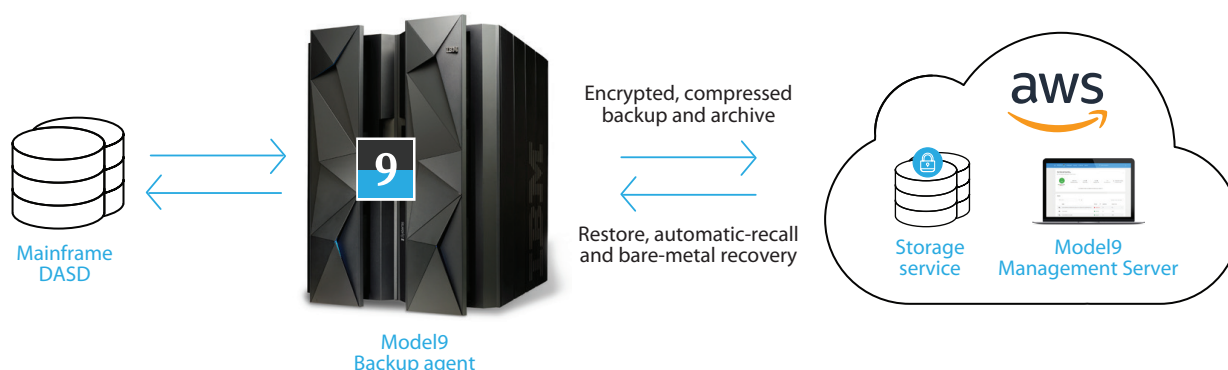
**Replace costly virtual tape hardware**  
(VTS, VTL etc.) with affordable cloud storage



**Improve RPO**  
with multiple, consistent recovery points, without having to expand existing DASD capacity

## HOW IT WORKS

The Backup Agent is a zIIP-eligible Java application running on z/OS. It uses standard z/OS data management services, such as using DFDSS as the underlying data mover, updating system catalog, full compliance with existing SMS policy and relying on RACF authorization controls (or other SAF-compliant security products). When available, the Backup Agent utilizes the zEDC and CryptoExpress cards for compression and encryption. If the cards are not available, compression and encryption are performed on zIIP engines.



## USE CASES

### Backup and disaster recovery directly from the cloud

Consolidate legacy backup (such as IBM DFHSM, CA-Disk, FDR/ABR), tape management (IBM RMM, CA-1, CA-TLMS, BMC Control-M/Tape), encryption and reporting software products into a single modern backup solution. Store backups directly in Amazon cloud storage, including **S3, EBS and EFS**. The cloud is directly accessible from your mainframe, no additional hardware, disk or tape emulation layers is required.

In disaster recovery situations, a stand-alone restore program is IPLed, over the network, directly from the Model9 management 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 backup agent to be running in z/OS.

### Archive to cold storage in the cloud

To maximize your benefit of cloud economics, cold storage tiers such as Amazon **Glacier** are supported. Model9 supports data set archive (migrate) directly to cloud storage and provides an automatic recall function transparent to TSO/E and batch applications. The automatic recall functions is integrated seamlessly with the system catalog and data sets appear as migrated to cloud.

Archiving data sets directly to the cloud can help reduce costs by reducing VTL storage capacity and throughput licenses, while maintaining durable data copies that are available for retrieval directly from the cloud, including in DR situations.

### Cyber threat protection and business resumption

Model9 provides an industry-first solution for mainframe cyber threat protection and business resumption, enabling z/OS customers to create highly secured, off-platform backup copies in **Amazon Glacier Vault Lock** – all at minimal cost.

Amazon Glacier Vault Lock allows you to easily deploy and enforce compliance controls for individual Amazon Glacier vaults with a vault lock policy. You can specify controls such as “write once read many” (WORM) in a vault lock policy and lock the policy from future edits. Once locked, the policy can no longer be changed.