



Market Insight Report Reprint

Coverage Initiation: Model9 puts data at the center of mainframe-to-cloud integration

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Startup Model9 has come up with what it claims is a new approach to mission-critical systems modernization: cloud data management for the mainframe, starting with backup and archiving, and then moving toward direct read-write access to mainframe data for analytics and AI.

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Introduction

Startup Model9 has come up with what it claims is a new approach to mission-critical systems modernization: cloud data management for the mainframe. It migrates data from proprietary tapes directly to cloud or on-premises object or block storage, enabling it to be used with cloud applications. The VC-backed startup believes that this is a crucial step in accelerating cloud migration projects, and that it helps unlock current and historical mainframe data so that it can be used by cloud-native business intelligence and analytics tools. Partnerships are in place with AWS, IBM and Microsoft Azure. The most recent release of the Model9 Cloud Data Manager promises automated writing and reading of data sets to and from the cloud without involving any physical or virtual tape libraries.

THE TAKE

Mainframes still run the world, or at least much of the mission-critical portions of it. IBM points out that 92 of the world's top 100 banks rely on them. Mainframes are still the repositories of some 70% of business data globally, but extracting that data to today's modern tools and IT environments is often an unmet or expensive challenge. Model9 has differentiated itself by developing a software-only method of extracting and loading mainframe data to any cloud or any on-prem storage through a standard TCP/IP protocol. The question is: How many Model9 users will embrace the opportunity to venture past the low-hanging fruit of backup, archive and recovery on AWS S3 and equivalents, toward the more complex area of both-way direct data transfer. Ultimately, that's where the more interesting opportunities are – opening historical business data and even real-time data (such as ATM transactions) to modern cloud tools for business intelligence, analytics, AI and machine learning. Model9 must position itself as a tool for long-term use with long-term value, rather than a transitory migration utility.

Context

Venture capital investors aren't typically interested in mature markets like mainframe technologies, but they have backed Tel-Aviv-based Model9. The company was founded in 2016 by CEO Gil Peleg, a former IBMer with two decades of mainframe experience in the US and Israel, and the author of eight IBM Redbooks on z/OS integration. Peleg also worked at Moshe Yanai's two high-performance storage array ventures, XIV (acquired by IBM in 2007) and Infinidat. Model9 started out by working through IBM's AlphaZone accelerator deep immersion program for mainframe ecosystem developers, gathered seed funding in 2017, and released its first products in 2019, focusing on backup and archive. In February 2020, the company raised \$9m in series A funding from Intel Capital, Stage One Ventures, North First Ventures and GlenRock Israel.

Model9 is also putting its money where its mouth is, having bought an IBM z15 mainframe in August, sourced from mainframe MSP Maintec. It will use the mainframe for ongoing development and testing. The company says it tripled its headcount and number of customers during the pandemic (although it doesn't say from what base) and is expanding globally, with new staff locations in Australia, Japan and South Africa.

Modernization

Organizations should use a data-first approach to mainframe modernization, argues Model9. That entails saving backup and archival data directly to the cloud while continuing to use current mainframe applications. The data can then be converted into an open systems format and accessed by modern tools. The approach is somewhere between the usual 'mainframe-plus-cloud' augmentation strategy (where mainframe data tends to remain siloed) and the complex, expensive, time-consuming and risky task of refactoring and re-architecting mainframe applications.

The company suggests starting with archival data that is used infrequently, but the target will eventually be all data. Some customers, for instance, are moving DB2 data onto the cloud and into the Snowflake data warehouse. In the process, on-prem storage capacity is freed up, and reliance on tape and virtual tape libraries is reduced or eliminated altogether. The mainframe can still access the data when needed, but it's likely to be used much more in the cloud. Further slicing and transformation into new formats takes place in the cloud, and application refactoring can then be carried out when ready, if at all. This puts Model9 in the more cloud-centric ELT (extract, load and transform) school rather than in traditional ETL, under which the data must be transformed before it can be loaded, a process that puts heavy CPU-processing overhead onto the mainframe.

The Model9 Cloud Data Manager for Mainframe Version 2 was released in March, and is available to early-access customers. As with previous versions, it consists of a Java-based mainframe backup agent (eligible to be run on the mainframe's ZIIP integrated information processor accelerator) that handles low-level mainframe I/O operations and a Linux-based server on the cloud side. S3 interfaces are supported directly from z/OS. The new version points to where the company is heading – most notably with Cloud Data Sets, enabling the writing and reading of data sets directly to and from the cloud, with no need to convert tape-oriented applications in advance. Tape storage operations are automatically redirected to the cloud, with no changes to JCL and no interim disk space on DASD required. Customers can end any reliance on physical tape hardware, virtual tape libraries and associated tape management software. The new version also supports the conversion of DB2 image copies into standard formats for cloud-based analytics and other applications. Output formats include JSON, CSV, binary and compressed formats. Additionally, there is access to lower-cost cloud storage services intended for infrequent access, such as AWS Glacier and Azure Archive Blob Storage.

Partners and customers

Cloud partnerships are in place with AWS and Microsoft Azure, but supported platforms are broader than that, including Google Cloud Platform, the IBM Cloud and the Oracle Cloud; object storage interfaces from Hitachi, IBM, EMC (Elastic Cloud Storage) and NetApp; traditional NAS, SAN and DASD arrays; and software platforms from Cohesity (backup), Minio (object storage) and Red Hat. Model9 says its global footprint of customers covers the core mainframe sectors such as banking, healthcare, transportation and government. Aside from migration, the aim is to cut mainframe data management costs; increase the utility of mainframe data, using advanced analytics tools and platforms available on the cloud; leverage cloud economics for storage; and simplify daily operations.

Competition

Model9 is up against the giant mainframe and database incumbents: IBM, BMC, EMC, Broadcom/CA and Oracle. The legacy backup tools it can eliminate include IBM DFHSM, FDR/ABR and CA-Disk, as well as tape management tools such as IBM-RMM, BMC ControlM/Tape and CA-1/CA-TLMS. IBM has been modernizing its own data management tools. The Unified Management Server for z/OS consolidates the separate IMS and DB2 tools with data streams and APIs. Tools like IBM Data Virtualization Manager for z/OS provide access to nonrelational mainframe data sources through modern APIs. IBM Cloud Pak for Data extends this to relational resources, and runs on the mainframe and on Red Hat OpenShift, on-premises, or in the cloud. However, IBM hasn't made the elimination of tape and virtual tape libraries one of its priorities, as Model9 has.

Qlik moved into the data integration category more seriously with its 2018-19 acquisitions of Podium Data and Attunity. Its change-data capture streaming tool, for instance, enables the replication of near real-time mainframe data into the cloud, making it available to applications and analytics tools. Rocket Software has z/Direct (acquired from Progress Software in 2012, originally developed by Neon Systems as ShadowDirect), which leaves the data on the mainframe and provides SQL access to mainframe data via open interfaces. LZLabs has rewritten various mainframe subsystems to run in the cloud, and claims mainframe applications can be re-platformed without code changes or even recompilation.

Although they could be viewed as in the same business, VC-backed storage and data management companies such as Cohesity, Datastax, PureVast, Rubrik and WekaIO typically have little or no native mainframe expertise. Meanwhile, cloud companies are increasingly interested in encouraging mainframe users to refactor and then move their applications to the cloud. AWS works with migration products and services specialists such as Micro Focus, Modern Systems, TSRI and Infosys. Google acquired mainframe migration consultancy Cornerstone Technology in February 2020, which is focused on mainframe migrations to Google Cloud Platform and microservices.

SWOT Analysis

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| <p>STRENGTHS</p> <p>Model9 can consolidate multiple mainframe backup and tape management products into one, saving money and providing access to cloud storage services. It can be used alongside legacy backup or to replace it.</p> | <p>WEAKNESSES</p> <p>Should we view the company's technology as a transient migration utility or as a strategic data management tool with broader functionality? Some of the more advanced capabilities to support the latter are only just being released.</p> |
| <p>OPPORTUNITIES</p> <p>Attitudes to mainframe modernization have evolved. Lift-and-shift is painful, expensive and risky. Mainframes can be partly offloaded to achieve operational savings, but still left in place as part of a long-term hybrid cloud strategy.</p> | <p>THREATS</p> <p>IBM and the traditional mainframe players are catching up and their leverage over customers is strong. There's no future for a completely closed mainframe that can't work with more modern resources such as cloud.</p> |

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