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Why some banks still lean on mainframes

By Penny Crosman | September 28, 2020

Many companies, including banks, are still buying and maintaining mainframes despite a global shift to the cloud.

IBM is seeing an increase in mainframe sales. And a recent survey conducted by IDC found that people who keep and modernize their mainframes are happier with system performance than those that have switched to cloud computing.

The financial services industry has always been among the heaviest users of mainframes, and the cloud-versus-mainframe decision remains a matter of debate.

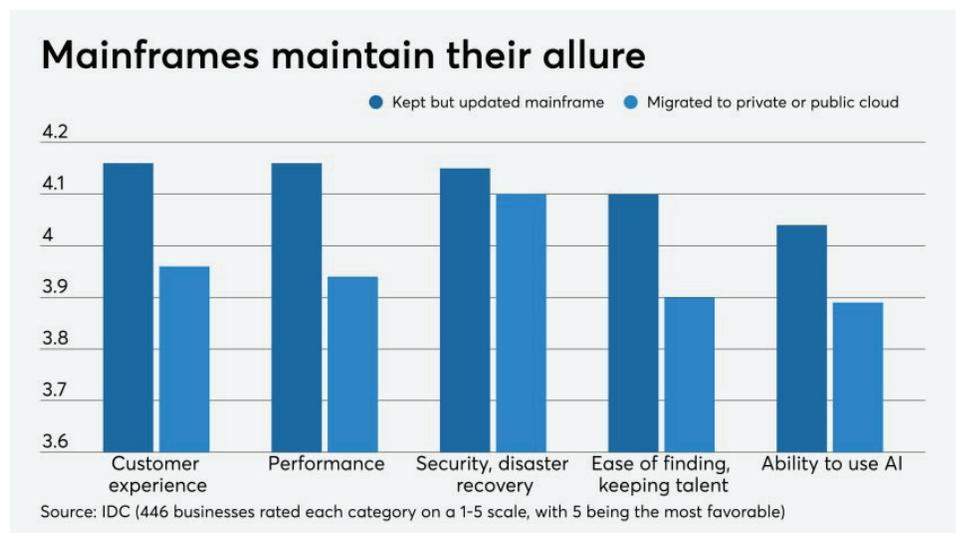
The case for mainframes

At IBM, the primary purveyor of mainframes, sales of its System Z mainframe have been a bright spot. In the second quarter, revenue from IBM Z sales rose 69% from the a quarter earlier. And sales growth was strong before that.

“We’re probably averaging 100 to 200 new deployments every year,” said Jim Reed, program director for IBM Data & AI on IBM Z.

But when Reed and IBM speak of mainframes, they aren’t necessarily speaking of the refrigerator-sized boxes of old. IBM can now run its mainframe operating systems across an array of x86-like servers.

“Those newer boxes are standard size,” Reed said. “They fit into existing data-center racks. Now companies of



different sizes can move up to this quality of service that they couldn’t before.”

Though the new mainframe technology might look like any other set of server blades, it’s still distinct, Reed said.

“What’s inside is a different architecture that’s really designed for scalability and reliability,” he said. “Security is foremost now because of the implementation of pervasive encryption, which means that all the data that resides in the box or interacts with other systems is fully encrypted along the whole path. Studies show that something like 96% of data breaches are on unencrypted data.”

TD Bank, for one, is an IBM mainframe customer that hasn’t had a data breach in a decade, Reed said.

“The perception of mainframes is they’re this old system in the back of the data center that only a certain number of people in the organization that have protectors in their shirt pocket understand how to operate,” said Jeff Winter, chief marketing officer at Rocket Software.

“The truth is very far from that,” Winter added. “While the cloud is terrific for companies of certain sizes or certain applications like HR systems, for other companies, like banks or insurance companies doing high-scale volume transactions, there’s nothing better, in terms of reliability and scalability.”

In the IDC study, researchers queried 446 companies that were mainframe users. Half had “re-platformed” to a set

of x86 servers either in-house or in a public cloud, the other half had “modernized” by continuing to use their mainframe and existing applications and investing in software to make them more accessible and more flexible. About a fifth of the respondents work in financial institutions.

IDC found that modernizers rated their platform’s performance “very good,” giving it a score of 4.15, while replatformers said it was “decent,” or a 3.84 score. Modernizers rated the customer experience achieved with their updated platform as “very good,” at 4.16, while replatformers said it was just on the edge of good, at 3.96.

“From the IT perspective, staying on your platform and modernizing allows for more innovation,” Winter said. “That improves the ability to do machine learning and artificial intelligence, and to leverage open source technologies.”

When a company wants to run a program that requires a lot of computing power, like an AI model, upgrading a mainframe platform is a better bet, Winter said.

He said the IBM z15 mainframe

rolled out last year does about 6 billion transactions a day.

“The machines themselves are very, very modern,” he said.

The case against mainframes

One downside of mainframes is that the programming languages used for older machines, such as COBOL, are unpopular. It’s difficult to get young developers interested in learning those languages and working on such software.

In a dramatic case in point, in April, New Jersey Gov. Phil Murphy put out a call for volunteers who knew how to code COBOL to handle COVID-19 relief programs because many of the state’s systems still run on older mainframes.

Reed said today’s mainframes don’t use these older languages.

“Mainframes now support virtually every application programming interface and programming language and can be built on that way so that you don’t have to go back to learning COBOL and some of these ancient things,” he said.

Modern mainframes can process programs written in Python, Java and C++, Winter said.

Still, banks are starting, little by little, to do their core processing in the cloud, for the cost and flexibility advantages of cloud computing.

The latest example of this kind of move is Live Oak Bank in Wilmington, N.C., which decided to migrate its core computing to a system from Finxact that runs on Amazon Web Services.

“We don’t have a power plant on our property here on our bank campus to deliver power,” said Huntley Garriott, the \$8.2 billion-asset bank’s president. “Why would we have mainframe computers to deliver data storage?”

“The mainframe was a reliable servant for 50 years, so I’m not going to diminish what it accomplished,” said Frank Sanchez, founder and CEO of Finxact.

“But for anybody that’s tracking technology and where the investments are being spent and where the compute power is being generated, that horse has left the barn,” Sanchez added. “Cloud computing is pervasive. It’s across all industries. I think that’s irreversible at this point. You make whatever arguments you want, the evidence in the marketplace is proving otherwise.”