
WHY CHOICE MATTERS FOR MAINFRAME CUSTOMERS

AN OPENMAINFRAME.ORG POSITION PAPER

The recent news that the US Department of Justice is investigating the IBM mainframe market has resulted in numerous stories and blog posts both for and against the investigation. However, many of the arguments have not addressed the most important question: what do mainframe customers want?

This paper addresses the key issues that impact the users of mainframe technology and why the resolution of these issues is critically important to mainframe customers.

THE MAINFRAME MARKET

Is the IBM mainframe in its own distinct market or is it part of a larger market that includes “distributed servers”¹? To some degree, this question is not particularly relevant to what customers care about. A better way to look at this question is to use an application-centric point of view to determine the market. After all, customers are more concerned about reliably running applications and accessing data than they are about a particular classification of computer hardware. Using an application-centric point of view, we could simply define the mainframe market as computers that are capable of running “traditional mainframe applications.” Traditional mainframe applications, in this case, are customized and proprietary applications first developed years ago when large organizations standardized around the IBM mainframe. These traditional mainframe applications were designed to run on top of IBM’s then existing mainframe operating systems — such as OS/360, MVS, TPF and VSE — as well as newer operating systems that are backwards compatible with earlier versions — such as z/OS and z/VSE. More importantly, these are typically applications written using COBOL, PL/1 or mainframe assembler language and which leverage IBM’s interfaces, protocols and system software including CICS and IMS.

Using our definition of “traditional mainframe applications,” the question, then, is what platforms are available to run these types of applications? The answer is simple. Currently there is only one platform available from one vendor that is legally able to run traditional mainframe applications. That platform is the System z mainframe product family from IBM.

Linux on the mainframe is not relevant to this particular discussion since Linux is not able to run traditional mainframe applications. The same is true for Java on the mainframe. While these are interesting alternative application environments that run on mainframe hardware, having the ability to run Linux or Java does not address the needs of a customer who must run traditional mainframe applications.

¹ For the purposes of this document, we define a “distributed server” as a server computer that uses non-mainframe central processors (e.g. servers using Intel, AMD, Power, SPARC processors) and runs Linux, UNIX or Windows as the server operating system.

It is important to note that IBM has not always been the only vendor of platforms capable of running traditional mainframe applications. In the past, Amdahl, Hitachi and others sold IBM plug-compatible mainframes. Other vendors such as Platform Solutions and Fundamental Software built software emulators that allowed traditional mainframe applications to run on non-mainframe platforms such as the servers sold by Sequent and T3 Technologies. The key point to be made here is that in the past, these alternative platforms existed and were viable because IBM licensed its mainframe system software for use on these alternative platforms. However, IBM has terminated all licensing of its system software for use on alternative platforms and only sells its software for use on its own mainframe hardware. As a result, all alternative platforms are no longer viable and customers are left with only one platform choice for running traditional mainframe applications. This point is the central issue not only for competition authorities, but even more importantly for mainframe customers. IBM isn't just dominant in the mainframe market; it is the only supplier of systems capable of running mainframe applications. In other words, IBM has a 100% monopoly in the market for platforms that can run traditional mainframe applications.

THE VALUE OF TRADITIONAL MAINFRAME APPLICATIONS

Mainframe customers already know the value of their mainframe applications and data to their own organizations. IBM states that the total value of all mainframe applications is estimated to be \$5 trillion dollars and mainframe applications and data are often described as the most valuable IT assets that the world's largest organizations own. A large majority of the world's corporate and government data are stored on IBM mainframes. Mainframe applications process more transactions than any other computing platform. And again, when we refer to mainframes in this case, we are talking about computers running IBM's traditional mainframe system software, not mainframes running Linux or Java.

Given the value of these applications and data, it is even more essential that total control over this market should not rest in the hands of one company.

WHY CHOICE MATTERS

Many mainframe customers have traditional mainframe applications that have been built over decades and these applications play a critical role for the customer. Some customers are not troubled by the fact that there is only one mainframe vendor and feel that the premium price they pay for IBM mainframe solutions is worth the money. However, others have voiced concern over excessive mainframe costs or the lack of competitive mainframe solutions to address their specific needs. Still other customers have gradually moved away from the mainframe platform but retain a need for mainframes for some remaining critical applications. Migrating mainframe applications to lower cost open platforms seems like it would be a logical solution to address these needs. However many of these applications are so closely linked to IBM's system software and interfaces that it is very difficult and risky from a technical perspective — and certainly not economically feasible — to move them to other platforms. So, without the ability to run traditional IBM mainframe applications on alternative mainframe platforms and without the ability to move these applications to other non-mainframe platforms, customers have no choice but to use IBM's mainframes.

One only needs to look at the pricing structure for IBM's mainframe software to understand that IBM is well aware of its lock on the mainframe market and openly takes advantage of customers who need to run traditional mainframe applications. If you are a customer running traditional

mainframe applications, the total cost for hardware and software charged to you by IBM is substantially higher than if you are running a Linux or Java workload on the very same piece of hardware. For Linux and Java workloads, your total mainframe hardware and software costs are closer to the costs for other equivalent platforms that are able to host Linux or Java applications. For example, if you need to buy one mainframe processor to run traditional mainframe applications, the cost of a new “general purpose” mainframe processor would be \$1,450,000. If you bought the same processor in order to run a Java workload you would pay \$125,000 based on IBM’s zAAP specialty processor pricing scheme — a more than 10x differential for using the same processor and processing power. In order to compete with other vendors for Linux/Java workloads, IBM needs to price its offerings in a way to make them attractive vs. other vendors’ offerings. However, since IBM has no competition in the traditional mainframe application market, it can exploit its own customers knowing that these customers have no other way to run their traditional mainframe applications.

IBM’S MARKET?

IBM has argued that it has invested billions in creating its mainframe product portfolio and therefore should be allowed to exclusively use these products any way that it chooses. IBM has also argued that it should not be forced to license its operating systems software, patents, interface information and other intellectual property related to its mainframe platform to other parties under any terms. IBM has built this market and it is IBM’s to own and control.

There are two major flaws with these arguments.

First, many customers were originally attracted to the mainframe platform because there was a robust ecosystem of providers selling a variety of solutions that met virtually any customer need. Decades ago, the world’s largest businesses and governments relied on IBM’s open licensing practices at the time to standardize on the IBM mainframe for their traditional mainframe applications. However, over the last decade, IBM has taken steps to eliminate other mainframe solution providers with the result that today it is the only vendor of platforms capable of running traditional mainframe applications. As mentioned earlier, with no other alternative in the market, IBM has taken advantage of the situation and charges above-market prices to customers who have no choice but to use IBM’s solutions for running their traditional mainframe applications.

Second, it is illegal in the United States, Europe and elsewhere for dominant vendors to tie the sale of products in an anticompetitive way. Currently, IBM only sells its mainframe system software for use on its own mainframe hardware, thereby using a technique called “tying” to block other vendors from being in the market. As a result, IBM is the only vendor able to sell a system that can run traditional mainframe applications. IBM got into trouble with regulators in both the United States and Europe for similar conduct in the last century and agreed to stop such tying practices. However, once the threat from the DoJ had passed and the time limit for the EU Undertaking had expired, IBM suddenly began tying its operating systems software to IBM hardware.

In other words, IBM is not only claiming it owns the mainframe market and can do whatever it wants – IBM is defying the rule of law.

WHAT WOULD AN OPEN MAINFRAME MARKET LOOK LIKE?

Vendors who have developed IBM mainframe-compatible solutions are asking IBM to license its mainframe operating systems software, as well as any intellectual property that IBM claims is necessary to run that software, for use on alternative platforms under fair, reasonable and non-discriminatory terms. These parties are not asking IBM to give away its intellectual property. Instead, they are calling for IBM to license any intellectual property, which IBM claims is necessary for running its monopoly operating systems software, in an open and competitive market. Companies such as T3 Technologies, who have had viable businesses in the past when IBM had an open licensing program, only want the ability to again be able to participate in the market. The open source Hercules technology has existed for years and allows traditional mainframe applications to run on Linux, UNIX, Mac and Windows platforms. However, without a system software license from IBM, customers cannot legally use Hercules to host mainframe applications on these alternative platforms.

Mainframe customers would be the biggest winners if the mainframe market were opened up. For example, with the Hercules technology, recently commercialized by TurboHercules, customers would be able to run traditional mainframe applications on lower-cost x86 and x64 servers instead of only being able to run those applications on an IBM mainframe. This innovation would allow customers to move and consolidate applications more freely, leveraging the skills and assets that best meet their needs. For example, customers could use lower-cost servers from a variety of vendors for lightweight mainframe applications, disaster recovery, development, testing and a multitude of other workload scenarios, while continuing to use IBM's hardware for high-end mainframe production workloads.

Would opening the market be detrimental to IBM? Not likely and, in fact, in a more open, competitive market it is likely that interest in the mainframe would increase. For example, student programmers who are interested in learning mainframe skills could run the open source Hercules technology on a laptop rather than having to use the services of a real mainframe. IBM would also benefit from high-margin software licensing fees across multiple platforms. In an open market, IBM, other mainframe solution providers and mainframe customers would all win.

Some have argued that given the health of the economy, now is not the time to try and regulate IBM's mainframe monopoly. However, given the pressure on IT budgets — especially those of public sector agencies who are some of the biggest users of IBM mainframes — there is no better time to open up the market to fair competition, which will ultimately result in lower costs for mainframe computing.

TIME FOR CUSTOMERS TO COME FORWARD

Despite the huge customer benefits that an open mainframe market would bring, many mainframe customers are lying low — perhaps hoping for a solution — yet discouraged with the progress to date to open up the mainframe market. For many, there is no desire to “rock the boat” with IBM when ultimately they need IBM's cooperation to run their mainframe applications.

However, imagine the billions of dollars that mainframe users could have saved over the last few decades if the mainframe market were truly open and competitive. Imagine the new innovative platform offerings that might have been offered to customers if multiple players were allowed to compete for business in the mainframe market.

It is time for mainframe users to stand up and let their voices be heard. This call is not about trying to kill the IBM mainframe. In fact, we feel exactly the opposite. We believe that the IBM mainframe is much too important to be controlled by only one company. We believe that an open market with a broad ecosystem of competitive offerings will help customers by lowering costs, encouraging innovation and expanding choice in the marketplace.

If you are a mainframe customer and believe in a mainframe market controlled by one company that can unilaterally dictate the terms of use and prices for mainframes, then sit tight and it is likely that nothing will change. However, if you want the benefits of an open market for mainframe solutions, then now is the time to contact your local regulatory authorities and make your voice heard. Without the voice of the customer, the current DOJ and European Union mainframe investigations may fail to proceed and action will not be taken. In fact, it is unlikely, based on past actions against IBM, that the opportunity to be heard will occur again for another generation.

If you are in the United States, you can reach the Department of Justice Antitrust Division at:

E-mail: antitrust.complaints@usdoj.gov
Mail: Citizen Complaint Center
Antitrust Division
950 Pennsylvania Ave., NW
Room 3322
Washington, DC 20530
Phone: 1-888-647-3258 (toll free in the U.S. and Canada) or 202-307-2040
Web: <http://www.usdoj.gov/atr/contact/newcase.htm>

If you are in Europe, you can reach Directorate General for Competition for the European Commission at:

E-mail: comp-greffe-antitrust@ec.europa.eu
Mail: European Commission
Directorate-General for Competition
For the attention of the Antitrust Registry
1049 Bruxelles/Brussel
BELGIQUE/BELGIË
Phone: Call the free phone number 00800 6 7 8 9 10 11 from anywhere in the EU.
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