No More Silos - 7 Mainframe Fallacies and the Truths You Need to Know

A BMC Compuware Guide to Seamlessly Connect Your Mainframe Infrastructure to the Rest of Your IT Environment
Compuware joins BMC to empower the next generation of developers to mainstream the mainframe. With unparalleled mainframe operations management and agile application development and delivery, BMC Compuware provides a mainframe-inclusive DevOps toolchain that increases volume and velocity.

Bring apps that run on the mainframe to market faster with increased quality throughout the process of analyzing, building, testing, deploying, monitoring, and tuning apps and services. Our combined offering accelerates each client’s evolution to an Autonomous Digital Enterprise.
INTRODUCTION

What Will Tomorrow Look Like for the Mainframe?

Opinions vary, but only one is grounded in truth: The mainframe is positioned for a long, successful future. **BMC Compuware** commissioned a Forrester Consulting research study that highlights two signs of this reality:

+ 72 percent of mainframe-powered organizations say their customer-facing applications are completely or very reliant on mainframe processing

+ 64 percent of mainframe-powered organizations have planned to run more than half their mission-critical workloads on the platform by 2019, an increase from 57 percent in 2018

Still, uninformed and anti-mainframe IT pundits continue to regurgitate baseless claims that the death of the mainframe is imminent. Here, we debunk those fallacies with fact-based truths around the reliability, power, scalability, and security of the mainframe for businesses and government agencies.

Here, we debunk those mainframe fallacies with fact-based truths.
FALLACY 1: The mainframe is expensive.

**Truth 1:** The mainframe is more economical than servers.

Research from Rubin Worldwide found companies that increase their use of mainframe resources and reduce their reliance on physical servers average cost savings of around 14 percent more than those running IT workload primarily on servers. Mainframes account for 68 percent of production workloads but only six percent of IT spend, with their average IT costs of goods being 35 percent less than server-heavy organizations.

Regardless, many still blame “legacy” systems like the mainframe for why organizations spend on average 70 percent of their budget “running the business.” In truth, as any IT system grows, there is simply more to maintain. But, there is much more complexity to sift through and maintain with servers than with mainframes.

Furthermore, that percentage is likely so high because many businesses and agencies still leverage their IT organizations primarily as overhead-support “cost centers” where investments in growth and transformation—worthwhile expenses that categorically increase revenue—are underfunded.
FALLACY 2: An IT organization must re-platform to take advantage of virtualization and cloud computing.

Truth 2: The mainframe is an ideal platform to leverage with the cloud.

Embracing “cutting-edge technology” is meaningless when your real issue is related to culture, processes, and tools—and, really, organizations should consider the mainframe one of the most cutting-edge platforms in their data centers.

Virtualization, for instance, has been a staple of the mainframe for over four decades, allowing you to operate multiple virtual systems separately on one back-end platform. It’s no different than virtualization on servers.

And, organizations can easily leverage the mainframe and cloud together to take advantage of each platform’s leading capabilities through Two-platform IT, an integrated, one-speed IT approach wherein you host mission-critical assets on the mainframe and commodity workloads with XaaS resources from cloud providers.

This eliminates economic constraints and the complexity found in distributed server infrastructure, allowing organizations to focus on innovating applications that can span the mainframe and cloud through APIs and can be worked on across platforms using DevOps tool integrations.

Organizations can easily leverage the mainframe and cloud together.
FALLACY 3: Re-platforming off the mainframe is worth the risk, time, and expense because it could ultimately generate great cost savings.

Truth 3: Organizations that attempt migrations off the mainframe create more problems for themselves.

A BMC Compuware-commissioned Forrester Consulting survey found these problems include:

+ Unsecure application
+ Degraded performance
+ Increased security risks
+ Increased costs
+ Extended project timelines
+ Duplicate tooling
+ Increased complexity

There are documented cases of state agencies and private companies that have tried to migrate off the mainframe only to face disastrous outcomes:

+ The State of Pennsylvania sued IBM over a $110 million IT “upgrade” project that was discontinued in 2013 after falling 45 months behind schedule and going $60 million over budget.
+ The State of Michigan sued Hewlett-Packard Co. after it failed to deliver on a $49 million contract despite having 10 years to complete the project.

The many painful examples of failed migrations* that have occurred are too numerous to list here.

With the biggest government IT reform package in decades, the MGT Act, now signed into law, government agencies should be strategizing and acting on how they can address the imperative to accelerate IT modernization efforts.

Working code is gold. Rather than discard one perfectly modern and proven platform, it’s much more affordable, much safer, and much faster to make innovative progress staying on the mainframe and changing the culture, processes, and tools surrounding it.

*view a list of failed migrations off the mainframe at Planetmainframe.com.
FALLACY 4: The mainframe is vulnerable to cybersecurity risks.

**Truth 4:** The mainframe is the most securable platform on the planet, and this security continues to evolve.

The latest IBM mainframe, the z15, builds on the z14's pervasive data encryption capabilities with IBM Data Privacy Passports, which extend encryption to data wherever it resides and allow organizations to establish and enforce enterprise-wide data privacy policy where different views of data are served up to different users based on their need to know. This highly sophisticated, transparent, end-to-end, data-level protection and privacy is the latest realization of IBM's commitment to equip IBM Z with the most advanced commercially available privacy and security features—and that trend is expected to continue.

The only real security challenge mainframes face is insider threats. But defending against these is a matter of best practice, not built-in hardware capability.

The best mainframe cybersecurity tools are modern and provide a way for mainframe-inexperienced analysts to detect and thwart insider threats. In this way, mainframe-powered organizations can be well-fortified with unprecedented system- and application-level security.

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Defending against security threats is a matter of best practices.
FALLACY 5: COBOL is old, therefore it’s bad.

**Truth 5:** COBOL is modern, mission-critical and continually updated.

The largest corporations as well as federal, state, and local government agencies still rely on COBOL to run their most critical services. They can’t all be wrong.

COBOL programs are incredibly reliable and performant. They run and run and run—for decades, without change, without the need for wholesale rewrites. This is possible because IBM has leveraged a planned architecture to preserve customer investment in COBOL. These programs will always run because IBM will always support them.

That’s why the 220 billion-plus lines of COBOL in existence, with five billion added annually, comprise most of the world’s code. COBOL is still the go-to language for powering the lion’s share of global financial transactions, from ATMs to scheduling flights to shopping online.

What’s more, COBOL has become one of the most modern languages available—it’s not all 40-year-old syntax. IBM is updating COBOL faster than ever through the Continuous Delivery of new optimizations and features based on feedback from modern-day mainframe users.

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COBOL programs are incredibly reliable and performant.
FALLACY 6: A shortage of COBOL programmers is problematic.

**Truth 6:** If developers can learn C++ and Java, they can learn COBOL, but they need modern tools.

Today's incoming developers are polyglots—they are comfortable working with a variety of programming languages. Universities don't offer courses on COBOL like they used to, but the reality is COBOL is just another language.

What developers do need are modern DevOps tools that allow them to work on multiple kinds of programs with ease and confidence. Fortunately, these tools are readily available and growing. A modern IDE provides developers a familiar environment within which they can code in almost any language on most platforms.

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COBOL is just another language.
FALLACY 7: Mainframe development teams can’t embrace Agile development processes.

**Truth 7:** The mainframe is highly conducive to Agile/DevOps and can be like any other platform in your enterprise.

It’s not a question of whether the hardware is modern enough, but whether the culture, processes, and tools surrounding the mainframe can enable greater velocity, quality, and efficiency in development and delivery.

Numerous studies show mainframe teams adopting Agile/DevOps and Continuous Integration/Continuous Delivery are solving their most pressing development and delivery challenges by removing silos, working iteratively, and releasing high-quality code. Read about two successful companies including a UK bank and ABN AMRO.

The future looks incredibly bright for the mainframe and its primary language, COBOL. BMC Compuware is prepared to help your business or agency take advantage of that future with modern solutions.

Contact Us
About BMC
From core to cloud to edge, BMC delivers the software and services that enable over 10,000 global customers, including 84% of the Forbes Global 100, to thrive in their ongoing evolution to an Autonomous Digital Enterprise.

BMC—Run and Reinvent

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