Adapt, Automate, and Secure: Driving Digital Success with the Mainframe

Mainframe leaders share their perspectives, priorities, and strategies in the 2020 BMC Mainframe Survey
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Today’s Mainframe Agenda: DevOps, AI, Security—and a Growing Role in the Digital Economy

The 15th annual BMC Mainframe Survey finds executive and technical professionals sharing a sense of confidence in the mainframe, optimism for its future, and an ongoing commitment to innovation to extend its value. **Data volumes and transactions are rising**, with further growth in MIPS expected.

More than just a legacy platform, the mainframe now serves as an emerging DevOps hub—and it’s perceived as a growth opportunity by a new generation of mainframe talent. Automation and artificial intelligence are helping empower this younger workforce, increase the speed and quality of application delivery, and ensure security, availability, and resiliency.

At the same time, organizations are also increasingly aware of the importance of mainframe security—something often taken for granted in the past. As they take active measures to protect the sensitive business and customer data in the environment, security and compliance have become the top priority named in this year’s survey.

All in all, the results of the 2020 BMC Mainframe Survey underscore three key themes: **adapt, automate, and secure**.
Perspectives and Priorities: Driving growth with a smarter, more secure mainframe

Executives and technical professionals have a high opinion of the mainframe, and they're putting it to work more and more to support digital business.

90% see the mainframe as a platform for new growth and long-term applications

68% expect MIPS to grow

67% of extra-large shops now have a majority of their data in mainframe environments

Compliance and security overtake cost

Top priorities also included initiatives to advance the capabilities of the mainframe environment.

- Security and compliance (56% in 2019)
- Cost (66% in 2019)
- Data recovery (39% in 2019)

Innovation is on the march

In the past, cost has often been the highest-ranked mainframe priority among survey participants—but no longer. Top priorities include:

- Mainframe modernization (48%)
- AI/machine learning (30%)

Mainframe Agenda

- Perspectives and Priorities
- Adapt
- Automate
- Secure
- Conclusion
Adapt: DevOps pays off—with even more room for improvement

Given the speed of digital markets, it’s no surprise that **78 percent of respondents said it would be useful if they could update their mainframe applications more often.** One BMC European-based banking customer mentioned the application programming challenges posed by implementing DevOps on the mainframe, where multi-platform orchestration can be especially difficult without effective end-to-end visibility.

But the DevOps journey is well worth taking—and many respondents have made significant progress.

- **56%** of respondents are now using DevOps on the mainframe
- **62%** of executives report that their organization has DevOps practices in place (53% in 2019)
- **74%** of respondents that adopt DevOps have seen ROI in one year or less

Respondents report that implementing DevOps on the mainframe improves:

- Stability: 37%
- Application deployment: 37%
- Security: 35%
- Quality of Applications: 35%

To get even more from their DevOps efforts, respondents see a need for:

- Developing tooling: 40%
- Code management tooling: 39%
- Change management: 34%

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**Mainframe Agenda**

**Perspectives and Priorities**

**Adapt**

**Automate**

**Secure**

**Conclusion**
Adapt: Mainframe teams get younger, more gender-balanced—and less complete

As senior staff members depart, the mainframe workforce is becoming less experienced. At the same time, the gender gap is narrowing—from a 70-30% male majority in 2019 to a 60-40% male majority this year.

68% of respondents are under 50 years old

42% have less than 5 years of experience on the mainframe

8% are in their first year on the platform

Not your father’s mainframe

While newer digital platforms may get more hype these days, 60 percent of the next generation of mainframe professionals see it as a growing platform.

Filling in for missing skills

46 percent of respondents cite staffing and skills as a top priority. What are they doing to replace departing expertise? 59 percent are turning to third-party staffers for the skills needed for their mainframe environment, most often application developers.
Automate: Getting smarter and faster to do more

The mainframe is working harder than ever to meet the relentless demand for new and better applications and services. Over the past year:

- **54%** report increased transaction volumes
- **47%** report increased data volumes
- **44%** report an increased number of databases

To handle this increased activity—even with valuable skills leaving the organization—mainframe teams are leveraging automation and artificial intelligence. AI can save time, reduce error, and give less experienced staff more intuitive and efficient ways of working. This can help them come up to speed more quickly and cover more tasks, more effectively.

Meeting the demand for better business continuity

Automation and AI are helping participants improve business continuity by reducing scheduled outages—something 64 percent of survey participants are being asked to do—and ensuring rapid recovery from unplanned outages. For the 46 percent who’ve made data recovery a top priority, the ability to predict data recovery times in event of a failure is key.

**The AIOps revolution**

More teams are using AI-powered IT operations, or AIOps, to optimize performance, availability, and decision-making based on operational data.

- **41%** are currently using AIOps on both mainframe and non-mainframe platforms (31% in 2019)
- **68%** report that both environments feed the same enterprise solution (20% in 2019)
- **ONLY 17%** aren’t currently using AIOps in any environment (31% in 2019)

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Secure: Bringing security up to enterprise standards

The mainframe can’t afford to rest on its reputation as a highly secure platform. As threats continue to evolve, **63 percent of respondents have made security a top priority.** Key areas of focus include strengthening adaptive cybersecurity, compliance, data recovery, and security information and event management (SIEM).

**The SIEM consensus**

- **34%** are interested in greater adoption of SIEM on the mainframe
- **65%** have dedicated mainframe SIEM in use or under consideration
- **13%** only, don’t see it as a requirement

**Bringing mainframe SIEM into the Security Operations Center (SOC)**

Businesses are working to integrate mainframe security with the rest of the enterprise environment.

- **38%** now send mainframe SIEM data to the enterprise SIEM system
- **34%** are evaluating this approach
Secure: Vulnerabilities linger as capabilities lag

Internal and external audits have highlighted the presence of vulnerabilities in mainframe environments.

**Internal audits in the last two years**
- 92% of respondents—and 84% of them had a vulnerability finding.

**External audits**
- 86% of respondents—and 82% of them had a vulnerability finding.

Given these figures, you’d expect vulnerability scanning to be a universal practice, but this is far from the case.

<table>
<thead>
<tr>
<th>Current Status</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currently conduct vulnerability scanning</td>
<td>36%</td>
</tr>
<tr>
<td>Have it under evaluation</td>
<td>33%</td>
</tr>
<tr>
<td>Have taken no steps in this direction</td>
<td>32%</td>
</tr>
</tbody>
</table>

Why? It may be that organizations lack a baseline understanding of what a secure mainframe infrastructure looks like. A shortage of mainframe skills and resources likely comes into play as well, suggesting a role for intelligent and automated solutions to help protect, detect, and defend the mainframe. Either way, effective protection will depend on active best practices such as vulnerability scanning, penetration testing, and security audits.

**Looking outside**

Security is one more area where third-party organizations are helping close the skills gap. 32 percent of respondents will look toward third-party mainframe security staffing needs within the next three years. Shown preliminary results of this survey, one U.S.-based market research company suggested retired armed services veterans as a talent source with the right security mindset.
Conclusion

A large and growing role in digital business, coupled with a changing workforce, makes this an exciting time for mainframe professionals. To rise to today’s challenges, participants in the 2020 BMC Mainframe Survey are working quickly to:

- **Adapt**, using DevOps to accelerate application delivery and providing new ways of working designed for less experienced staff members.

- **Automate** and leverage artificial intelligence to keep pace with rising transaction and data volumes, gain operational insight, and ensure high-quality experiences.

- **Secure** vast amounts of business and customer data through dedicated and integrated SIEM—while still catching up on the need for comprehensive security best practices.

To read the full report, visit [bmc.com/info/mainframe-survey](http://bmc.com/info/mainframe-survey)
To learn how BMC AMI can help you adapt, automate, and secure your mainframe, visit

bmc.com/ami