

Mainframe Innovations Make Change an Advantage for the Enterprise

Investment in enterprise IT initiatives
accelerate value for businesses

2022 BMC Mainframe Survey Report



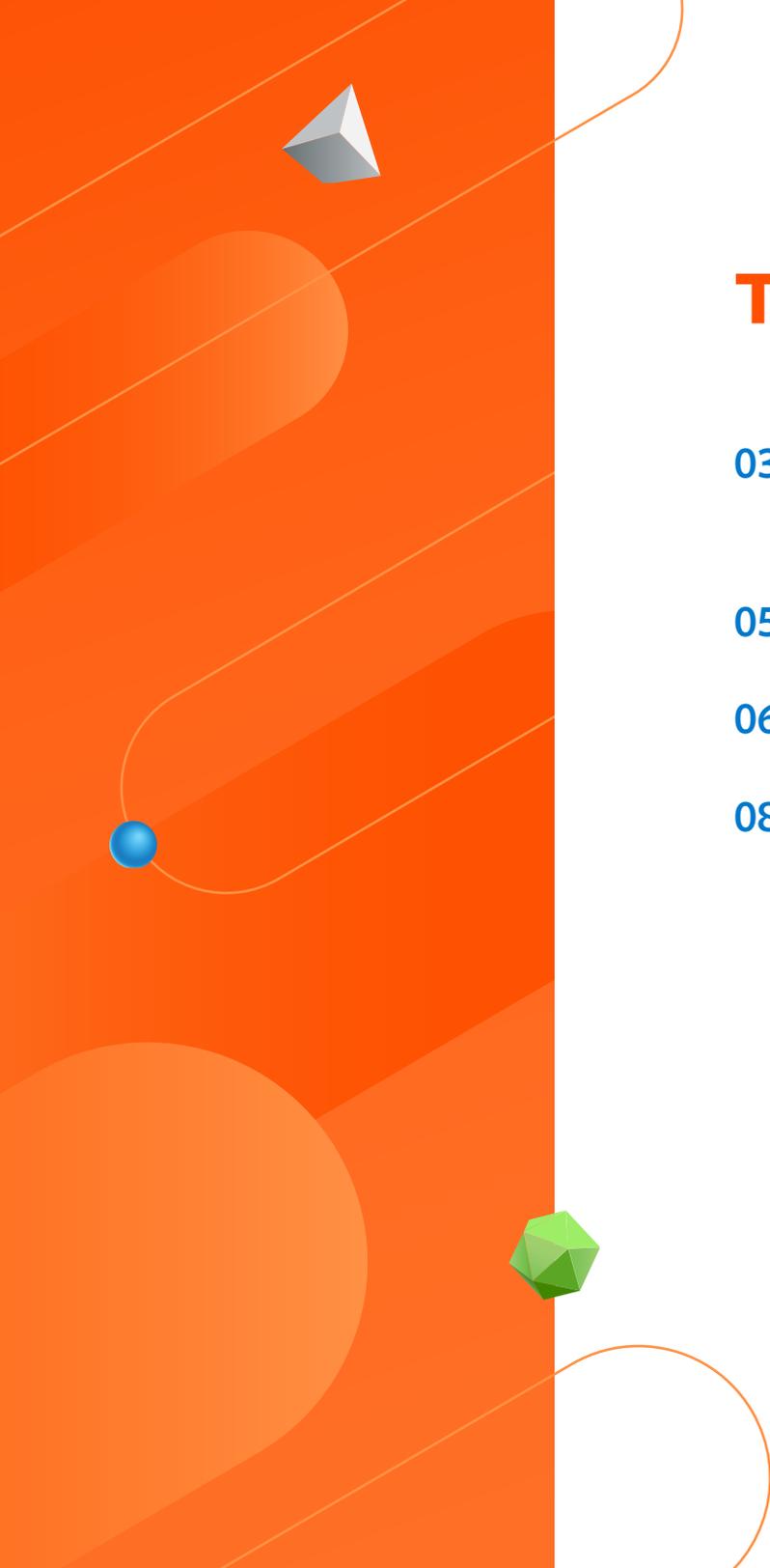


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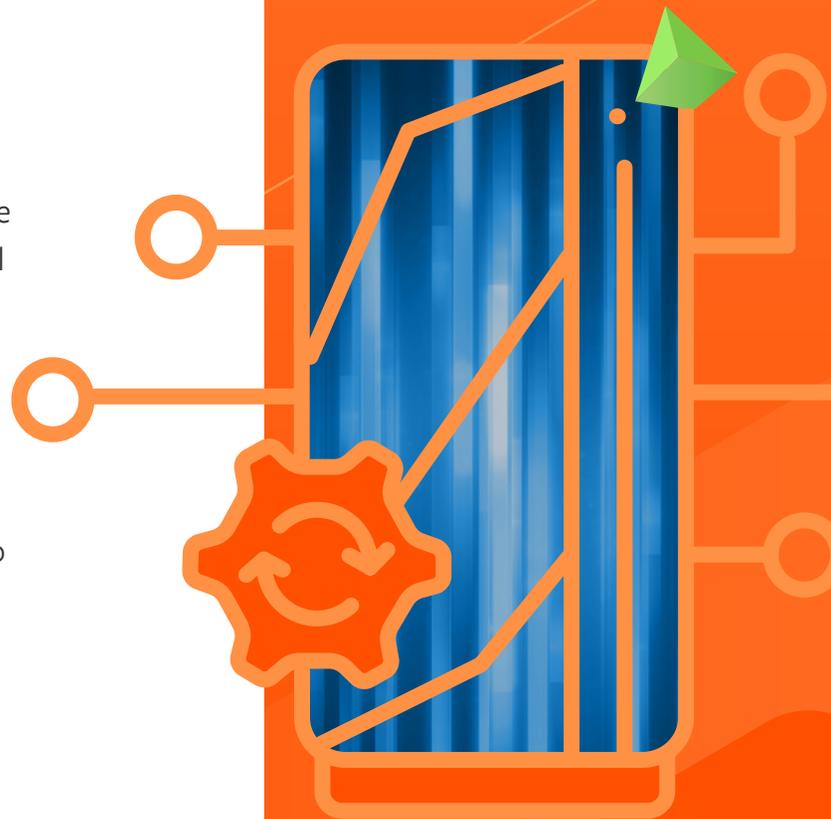
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The mainframe confirms its role as a platform for innovation

The 17th annual BMC Mainframe Survey is complete and one thing is clear from our findings—a shift has happened. Investments in key areas are bringing the mainframe to more of the enterprise, and digital transformation is increasingly inclusive of the mainframe.

This year, the mainframe continues to assert its place as a platform for innovation. Our findings show that adoption of new tools and processes in key areas like DevOps, DevSecOps, and AIOps were up yet again. Perceptions of new and available mainframe technologies, mainframe abilities to serve data, and use capacity have all increased over the last year, as well.

The mainframe is moving firmly into enterprise AIOps, as witnessed by the decreased use in non-mainframe environments and increased use in combined environments. Another interesting change this year is that the amount of people reporting **no** challenges implementing AIOps more than doubled. Respondents also reported that the expense of implementation has been significantly reduced, with an eight percent drop versus companies that listed it as a challenge last year.



Mainframe-inclusive practices are breaking silos:

53%

share DevSecOps roles across mainframe and distributed teams

57%

share platform operations roles across mainframe and distributed teams

44%

report site reliability engineering (SRE) is a shared role that includes the mainframe



65%

of respondents report combined use of AIOps in their mainframe and distributed environments



70%

of large shops have DevOps in use within their mainframe environment

The adoption of DevOps on the mainframe continues to be a trend, with only 23 percent of respondents saying they do not practice DevOps in their organization. Silos between teams appear to be declining and collaboration is improving, as witnessed by the increase of mainframe-inclusive DevOps (35 percent) and the decline of mainframe-exclusive and non-mainframe-exclusive DevOps. These categories of innovation and efficiency have moved from areas to invest in to areas that mainframe organizations are now actively participating in.

Investing in innovation—the proof is in the results

Committing to new IT initiatives can be difficult for enterprise leaders who wrestle with the risks and rewards of technology investments. This is particularly true in areas like AIOps, where measuring or realizing value can be challenging, or slow to appear.

Mainframe organizations have less to fear, as our findings show adopters of AIOps and DevOps are seeing clear value from their investments. AIOps implementation challenges have decreased across the key areas of skills, expense, complexity, and data. And the difficulty in achieving value has decreased this year. DevOps is also paying dividends for mainframe shops, as respondents with a DevOps practice report faster time to market and improved application quality.

AIOps and DevOps increase resiliency for mainframe organizations:

AIOps adopters

70%

report faster visibility into service issues

41%

cite improved uptime and better availability

46%

of extra-large shops discovered the root cause of an issue faster

Mainframe applications developed in-house are being delivered faster versus a year ago:

60%

of mainframe organizations have adopted DevOps to deploy better applications, faster

76%

report seeing value in under 12 months



Evolving and competing platform priorities

For the third year in a row, security and compliance lead the list of priorities for mainframe organizations.

Sixty-seven percent of survey respondents cited security and compliance as their top priority, a six percent increase over last year, indicating a growing awareness of the need to effectively secure the mainframe. However, audits continue to show that many organizations do not yet have the right security measures in place:

80%

Of respondents identified vulnerable user accounts in a security audit

34%

Report finding that the mainframe was accessed in an unauthorized manner

16%

Have their security operations center (SOC) investigate and respond to audit findings

Like any area of IT infrastructure, resiliency and expense remain an ongoing focus and the mainframe is no different. Cost optimization ranks second overall among survey respondents, with 48 percent citing it as a priority.



The third priority this year is a tie, with respondents equally concerned about expertise and resiliency challenges.

40%

of respondents cite staffing and skills as a priority

40%

cite data recovery a priority

While extra-large shops echo the overall survey results in ranking security and compliance as the top priority, they are placing a higher priority on AIOps (44 percent) compared to their smaller counterparts. This may be an indicator that business growth is driving the need for them to be more efficient than smaller organizations. Extra-large shops also seem to be wrestling with secondary priorities, as our findings this year show a three-way tie for second place.

Priorities of extra-large organizations:



61%
Security



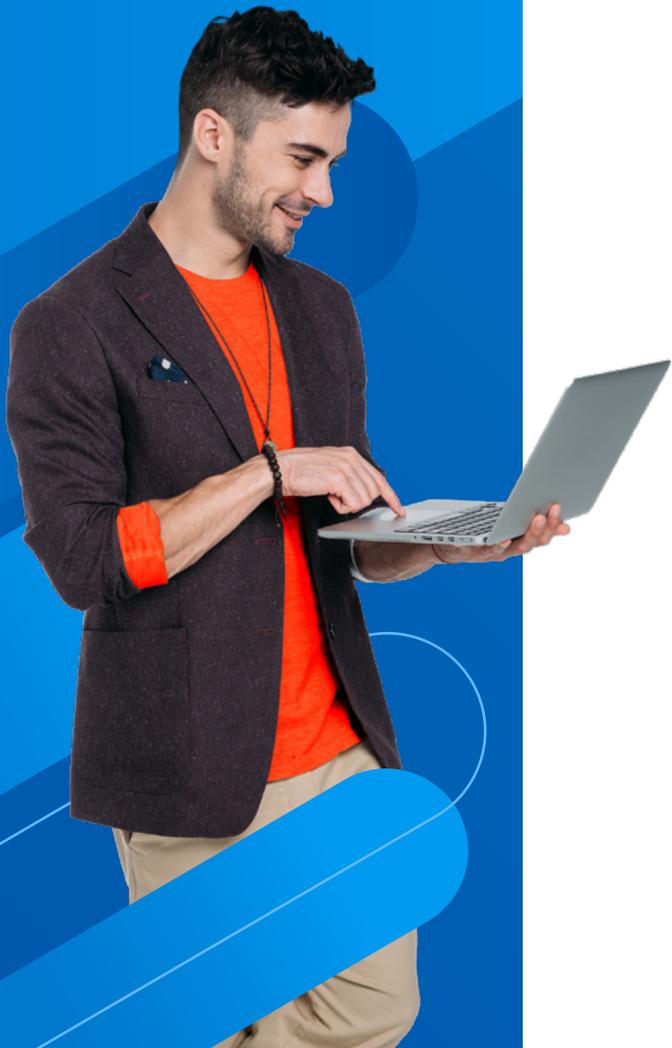
44%
Application modernization



44%
AIOps/Operational analytics



44%
Data recovery



Trends, challenges, and recommendations

Platform perception and growth

With innovation on the rise, it's no surprise that businesses with mainframes are seeing increased value in and taking an even more positive view of the platform. This year, the number of respondents with a positive perception of the mainframe is at an all-time high, while the number who see mainframes as a legacy platform has decreased annually for the last six years. On a similar note, perception of the mainframe as a long-term platform that is attracting new workloads has increased annually over the last five years. This is further supported by the reported increases in transactions, data, and databases in mainframe environments.

95%

Have a positive perception of mainframes

62%

Say transaction volume is increasing

61%

Have increased their investment in the mainframe

>50%

Report rising data volumes and databases

More volume, more problems

Challenges are growing:

59%

say the rate of database object change is increasing

55%

say that workload volatility and unpredictability are increasing

Mainframe security: it's time to prioritize the priority

Despite the increasing importance of mainframe security, enterprises have not been moving fast enough to adopt countermeasures and effective practices to secure their mainframes. Privileged user monitoring and enterprise security information and event management (SIEM) have both declined in production environments. There has also been no change in key areas like penetration testing, and only small changes have been made in other areas such as vulnerability scanning and the use of personally identifiable information (PII) software.

Mainframe teams appear to be looking to their security peers for help, with managing security across the enterprise ranking as the highest security priority among respondents. As the mainframe becomes more connected to enterprise initiatives like Zero Trust security, it will become more necessary to achieve alignment across teams. Investment and commitment from the C-level can fast track these kinds of improvements.



Recommendations



Implement real-time visibility to help security practitioners prevent data theft, loss, or a disruption to the business.



Prioritize SIEM integration to speed mainframe inclusiveness for the enterprise.



Ensure that the SOC is engaged and aware when the mainframe has been accessed inappropriately.



Secure privileged user accounts and remove accounts not in use.



The mainframe workforce has evolved; perceptions of non-mainframe staff haven't

Mainframe employee demographics continue to evolve, with more women working in mainframe environments. Changes in age and experience are also occurring. Workers aged 18 to 29 have increased, while those aged 50 to 64 have decreased. This also signifies an overall continuing shift to a younger workforce, with an increase in the number of workers with less than five years of experience while employees with a decade or more of experience are flat or declining.

While mainframe perceptions are at an all-time high among mainframe practitioners, non-mainframers still see the mainframe as a legacy platform that will not grow or attract new workloads, a perception that's lingered for the last five years.

Recommendations:



Mainframe staff should engage with peers and bring more awareness of recent innovations and the latest mainframe tools.



Leverage integrations with distributed tools to demonstrate the value, context, and collaboration that mainframe data can promote.





Support your innovators

Advancements in DevOps and AIOps adoption are exciting, but more work is still required. DevOps practitioners are focusing on quality and efficiency, with respondents citing automated testing (36 percent), an integrated DevOps toolchain (32 percent), and code management tooling (32 percent) as additional required capabilities.

In AIOps, while progress has been made, and the difficulty of implementations has reduced, a shortage of specialized skills remains the biggest challenge (39 percent).

Recommendations:



Prioritize tools that promote an integrated DevOps toolchain to make developers more effective.



Train and invest in expertise to accelerate and realize the benefits of AIOps faster.



Consider professional services to help fill shorter term needs.



Now is the time to invest in innovation

Growth in mainframe environments isn't slowing down. Fifty-five percent of respondents report that more than half of their data is on a mainframe, and a majority of businesses expect their MIPS volume to increase in the next 12 months.

DevOps teams are ready to accelerate their time to market:



4/5

want to update applications more frequently



64%

of extra-large shops say it would be extremely useful to update applications more frequently

It's never been more critical than now to embrace automation, AI, and development tools that make your teams more efficient, while also securing the mainframe platform. Ensure your business is keeping pace with innovation by investing in the right tools and processes to build a foundation that fosters resiliency and efficiency while turning change into a competitive advantage.

To learn more, visit bmc.com/mainframe-survey



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