



MAINFRAME TRENDS, STRATEGIES AND OPPORTUNITIES:

Six talking points for 2026 and beyond

A decade ago, who could have predicted we'd be living in a golden age for the mainframe, with major investment and the platform acting as the backbone of today's hybrid IT strategies? This article summarizes some of the issues around this continued popularity and a few strategy areas that organizations should be considering in the months and years ahead. It references several sources, including the 2026 Arcati Mainframe User Survey.

1

We're seeing increased investment in the mainframe

In April 2025, IBM announced plans to invest \$150 billion in its US manufacturing operations over the next five years, including more than \$30 billion in R&D for mainframe and quantum computers.¹ As organizations continue to define and redefine their mainframe strategy, particularly in a hybrid world, this level of investment provides users with confidence. Indeed, IBM's confidence in the technology and in its future both results from, and is a driver of, the mainframe's current buoyancy.

2

It's a growing mainframe market

There is clearly an appetite for the platform and the value it brings. The market in 2025 was valued at \$5.33 billion and is expected to hit \$7.54 billion by 2031.² We see this reflected on the ground, with high levels of demand, and in key sectors like banking and financial services. The mainframe continues to be the hub for digital transformations, the transactional workhorse, the foundation of operational continuity, and now a cornerstone of hybrid IT.

The latest Arcati Mainframe User Survey pointed to "moderate growth or stable mainframe usage" as the most common patterns, noting that "large-scale contraction remains uncommon. Reported changes are incremental rather than abrupt, suggesting that mainframe capacity decisions are shaped by long planning horizons and business demand rather than short-term technology shifts".

It says the primary drivers for platform growth are, not surprisingly, business expansion, new applications, and workflow consolidation. In short, growth is "tied to new or expanded demand, not inertia," which is extremely encouraging.

Few respondents to the survey framed their goals "in terms of platform exit or wholesale restructuring," adding that "Taken together, staffing, stability, automation investment, and priority alignment point to a consistent strategy. Organizations are redefining operations, not redefining the platform." All of this is good news. However, there remains a nagging problem...

3

How can we get the skilled mainframers we need?

Workforce requirements are a big issue. The Arcati Survey reported that “Mainframe modernization, upgrade cadence, and tooling decisions are shaped as much by workforce structure as by technology.” We see this in our own practice around the world, in the demand for our people and expertise. That said, there is good news on the horizon: the workforce appears to be getting younger, which chimes with previous results from the BMC annual mainframe survey. Arcati reported that “in contrast to last year, when professionals with more than 30 years of experience dominated responses, 2026 is led by mid-career practitioners” - the biggest cohorts within the 6-10 year and 11-20 year ranges. This article looks at these changing workforce issues.

How can organizations close the gap and future-proof mainframe staffing? You can invest in in-house education and training programs, and actively encourage a pipeline of new mainframe talent, much like Vertali’s own New To Z (NTZ) initiative.

Companies can also partner with universities and colleges to promote mainframe usage. And leveraging AI can make it far easier for less experienced programmers or people from different IT backgrounds to work with mainframe technologies. This article in Planet Mainframe explains how enterprises can respond to those “missing mainframe skills” with a multifaceted strategy.

Okay, so that’s a bit of background. Mainframe technology is moving forward, there’s clearly market appetite, and recognition of the need to bring forward the next generation of mainframers. Let’s drill down into a few specifics, in terms of mainframe strategy.

4

What’s on your priority list?

It depends on who you are, and what you want to do. While every organization is different, we can see themes recurring: continued optimization; integration and modernization; and cyber security, compliance and resilience. Modernization strategies include rehosting, refactoring, and API enablement to connect mainframe platforms with cloud applications, with an awful lot of migration and upgrade work underway. As the market consolidates, open standards and interoperability across platforms become even more important, enabling far better integration of mainframe infrastructure with other technologies. We’ll return to hybrid enterprise IT environments in a moment. In the meantime...

5

Are you securing your systems, data and reputation?

Enhancing security measures for mainframes has to remain a top priority. It cannot be treated as a reactive concern but as an embedded operational discipline, woven throughout your business and technology strategy, one that shapes your priorities, tooling, and governance. IBM's Cost of a Data Breach Report 2025 told us that the mean time to identify and contain a data breach was 276 days. Imagine the damage that can be done in nine months? In today's heightened threat landscape, are you properly managing the risks you face? Cyber security and risk management need to be central to how an organization operates today and how it evolves its mainframe environment. Especially with AI and quantum computing raising the threat level to new heights. Could the mainframe fall to a ransomware attack? Of course. And the day may come when a "missile attack" involves cyber criminals causing as much havoc as they can in as short a time as possible, overwriting or destroying data files, whether encrypted or not. Disaster. But you can clearly plan for the worst, and for your recovery.

Around the globe, Vertali teams are experiencing heightened demand, with organizations keen to invest in advanced security protocols and methods to protect systems and data. Whether that means multifactor authentication and file integrity monitoring, AI for fraud detection and threat assessment, or a regularly tested architecture so you can recover quickly after an attack, you have to:

- Ensure budget is allocated specifically for mainframe security.
- Invest in the people, skills and culture needed to underpin security.
- Recognize that proper security requires commitment and discipline: maintaining a hardened "zero trust" stance is not a one-time job.

Protection is one thing, you also have to ensure you're cyber resilient and complying with legislation such as Hong Kong's recent Protection of Critical Infrastructure (Computer Systems) Bill and the European Digital Operational Resilience Act (DORA). This is now a big issue, the ability to prove you are resilient in case of a cyber event or natural disaster. And it's not only a matter for big corporates, it filters down to smaller organizations in supporting roles. If you're a big bank and have outsourced part of your IT, the outsourcer has to be DORA compliant. It's recognized today that regulatory compliance requirements are having an "outsized influence" on mainframe modernization plans and strategies. Yet another part of the strategy jigsaw to consider.

6

We're already living in a hybrid, AI-enabled world

"Mainframes are back in vogue as enterprises ramp up hybrid IT strategies" - ITPro, September 2025

Mainframes today are the backbone of hybrid IT strategies, as reported by Kyndryl's 2025 State of Mainframe Modernization Survey. Enterprises are adopting hybrid cloud models to enhance their flexibility and efficiency: leveraging the power and reliability of the mainframe while exploiting the scalability, flexibility and innovation of cloud-based solutions. As the 2026 Arcati study reported, "Hybrid environments are the norm, not the exception." Indeed, fully isolated mainframe environments are now the exception: "Organizations are not deciding whether to become hybrid. They already are."

As with virtually every other aspect of life, AI tech is being integrated into mainframe operations, to deal with everything from streamlining processes and improving operational efficiency to providing real-time security monitoring and alerts. At the same time, automation tools are increasingly used to manage workloads, optimize performance, and respond to threats. AI and automation bring new complexities and risks as well as new opportunities. But what about those opportunities: As Kyndryl reported, "Within the next three years, respondents collectively expect to achieve \$12.7 billion in cost savings and \$19.5 billion of increased revenues within their organizations as a result of using AI and generative AI in their mainframe environments."

Welcome to the future. It's already here.

Working with world-leading organizations in finance, retail, utilities, governments, and 100% focused on IBM mainframe infrastructure, Vertali helps to secure and optimize mainframe operations.

For more information go to <https://vertali.com> or email info@vertali.com