

Mainframe skills; time to flip the telescope around?

By Dale Vile



Introduction

The more I learn about the world of mainframes, the more I find myself drawn to it. When I started investigating the topic of mainframe skills in particular, it was on the premise that organisations needed to manage the risk of reliance on an ageing demographic to manage such a critical platform. As I spoke with more people, however, I began to suspect that there was another perspective. I wrote about this in an article a few weeks ago titled: "[Mainframe Skills: Challenge or Opportunity?](#)", and back then I was on the fence. Among others I'd like to thank Broadcom's mainframe team and some of their [great insights](#) for at least getting me that far.

But my position has since advanced yet further following a recent wide-ranging conversation with [Meredith Stowell](#), VP of Worldwide Ecosystem at IBM Z & LinuxONE. When I introduced the topic of mainframe skills, Stowell immediately responded that in order to consider it objectively, you first need to take a step back and consider the mainframe itself in the wider context.

She argued that we shouldn't just think in terms of protecting the mainframe as an important piece of heritage, or even as the unsung platform that underpins so much of the world's financial, commercial and public service activity. The case for investing in skills is founded at least as much, if not more, on the platform's future contribution to businesses, ecosystems and economies. A lofty position indeed, but as I probed further, I became increasingly convinced that she was onto something.



Mainframe as a Powerhouse, Not a Museum Piece

As Stowell put it, *“IBM Z remains a critical part of the IT infrastructure that’s powering the global economy, and it continues to have huge momentum behind it. Capacity continues to increase around three times every 10 years.”* She went on to explain that the current z16 platform – capable of supporting the latest native-cloud and AI workloads at scale – is the most successful upgrade program ever. Clearly, the mainframe is not some dusty relic – it’s a thriving, growing, evolving beast of a platform.

This got me thinking. If the mainframe is such a powerhouse, why do conversations about skills so often focus on simply maintaining the status quo? Stowell suggests we need to reframe the discussion: *“The first step in realising the mainframe’s full value is to make it an integral part of your hybrid cloud strategy. Stop thinking about it as an island that needs to be isolated, that needs to be protected. Instead, work to integrate it into your overall service delivery strategy”.*



The mainframe needs to be integrated into your overall IT delivery strategy, not treated as an island that exists independently

Skills for Innovation, Not Just Preservation

This perspective shifts the skills conversation from one of risk mitigation to one of opportunity enablement. As part of this, ideas from the mainframe, cloud and distributed on-premises worlds need to come together in harmony. As Stowell explained, *“It’s not just about bringing in new talent into mainframe teams. It’s also a diversity of thought, a diversity of experience. So not only is there mentoring from the experienced to new individuals, but there’s mentoring from the new to the experienced.”*

She shared an anecdote about a younger employee who, when paired with an experienced mainframer, was able to identify a number of key processes that could be automated with Ansible. The result was a dramatic improvement in efficiency, which in turn relieved the mainframe team from a lot of error-prone manual drudgery. *“It’s just great to see what happens when diverse backgrounds and mindsets come together.”* Stowell reflected.

The takeaway here is clear: fresh perspectives and modern skills can enable genuine innovation on the mainframe, not just keep the lights on. It can also help to harmonise practices between the mainframe and modern distributed environments – an obvious advantage when you’re looking to break down the silos that so often stand in the way of efficiency and progress.

AI: The Next Frontier for Mainframe Skills

Looking to the future, Stowell is particularly excited about the potential for AI to transform mainframe skills. *“To me, the next big question is how we fully leverage AI to complement and help develop human talent. This isn’t just about using AI to assist here and there, but considering how aspects of application development and operation can be totally transformed. It’s what IBM is calling ‘AI-First’.”*

She envisions AI becoming embedded in a lot of what mainframe teams do, just as is happening in the distributed world: *“Take the example of maintaining or optimising monolith COBOL applications. The first job is to inspect the code and establish exactly what it’s doing and how. We now have AI tools that can do that, and even extract the business process from existing code. The value of AI in areas like this is as much about explaining as anything else since the code has been developed over many years by different developers that have come and gone, and the same can be done with JCL jobs and REXX scripts.”*

And Stowell makes a good point when you remember that when experienced people retire, it’s not just practical skills and experience that walk out of the door, but a big part of institutional memory. AI can never fully make up for this, but it can lessen the impact, either through enhancing explainability, or enabling the kind of expert assistants that IBM was building with the original Watson platform way before LLMs exploded onto the scene.

When experienced people walk out of door, a lot of institutional memory leaves with them



Building Bridges, Not Just Skills

But it’s not just about bolstering and modernising mainframe skills. As I hinted at earlier, it’s also about building bridges – architectural, process, and, most importantly, human bridges – between the mainframe group and the broader IT team.

Stowell advised: *“As organisations work to integrate the mainframe into their hybrid cloud strategies, it’s crucial that they foster collaboration and knowledge sharing across teams. This could mean creating cross-functional squads that bring together mainframe experts and cloud architects, or implementing common tooling and processes that span the mainframe and distributed environments.”*

The goal is to break down silos, not just of technology and process, but of thought. By encouraging mainframe and non-mainframe IT professionals to work together, learn from each other, and innovate collectively, organisations can not only address the skills gap, but also realise the full potential of their hybrid IT landscapes.

Flipping the Telescope: From Risk to Opportunity

Ultimately, my conversation with Stowell confirmed what I was already beginning to suspect. Framing the mainframe skills discussion as a risk management exercise is like looking through the telescope the wrong way. Turn it around, place your eye to the other end, and the opportunity comes into sharp focus.

As Stowell put it, *“By injecting new talent, simplifying processes, leveraging open tooling, and harnessing the power of AI and automation, we can not only bridge the skills gap, but also supercharge the mainframe’s contribution to the business.”*

And that’s the real foundation of the case for investing in mainframe skills.

For more information on IBM’s mainframe skills related resources, see the [IBM Z Mainframe Skills Depot](#).

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