

Mainframe Modernisation


— from Legacy to Cloud

Unlocking greater flexibility, better agility,
and new growth opportunities for ANZ enterprises

According to Accenture's 2021 Mainframe Modernisation Survey, executives in Australia-New Zealand are pursuing mainframe modernisation, with a focus on cloud, primarily to better integrate existing systems with other platforms, and to increase the agility of applications.

Mainframe decommissioning followed by mainframe transformation are currently the top focus. Several challenges stand in the way, however, including high operational costs, lack of skills, and difficulty developing a strategic business case for change.

Most organisations are working with or considering working with a vendor for mainframe modernisation because they believe this will help them gain efficiencies, improve service delivery, and enable better security and reliability.



Mainframes aren't exactly front of mind when talking about IT innovation, but they are still a primary workhorse of modern business. In fact, more than 70 percent of Fortune 500 companies still run business-critical applications on mainframes, and many companies and institutions have legacy mainframes at the core of their data centres. Their usage is even more widespread in enterprises dealing with massive amounts of sensitive customer data such as banking, healthcare and the public sector.

Mainframes are still around because they're good at what they're good at: handling thousands of simultaneous users and hosting critical, enterprise "non-stop" applications. They hold essential business data, but also represent some significant IT and business challenges for companies (see figure 1). Most mainframe applications are based on decades-old coding languages (usually DB2 with applications in COBOL).

Mainframes' high technical debt makes companies more brittle and less agile because of slow application change and high costs. For these reasons and others, many are eyeing mainframes as the last frontier of cloud migration.

In fact, new Accenture research based on a survey of Australia-New Zealand (ANZ) IT executives finds that modernising mainframes is high on their list of priorities.

Mainframe Cloud Migration in Australia-New Zealand

Large ANZ enterprises across industries such as government, financial services, insurance, healthcare, and logistics have started to accelerate their mainframe modernisation projects. In fact, our study found that 60% of enterprises have an active mainframe-to-cloud initiative in progress and another 33% are thinking about it.

Many ANZ enterprises are working with public cloud vendors such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud to migrate applications better suited for the cloud while retaining those that must remain on-premise or mainframe workloads due to cost, performance, security and compliance reasons. Going forward, over a third of the ANZ enterprises that use mainframes indicate they plan to shift 50% or more of their applications workloads to the public cloud.

Figure 1: Challenges the current state of your mainframe fleet poses to your organisation's strategic IT initiatives



n = 100; ANZ Mainframe Modernisation Survey 2021: **4% of respondents answered "No challenges faced"**

Mainframe Modernisation Benefits

What benefits are companies achieving through their mainframe modernisation programs? The number-one answer in our survey was better integration of existing systems with other well-known platforms (see figure 2).

Other important advantages are:



Increasing the agility of applications



Modernising the IT infrastructure by adopting new programming languages



Reducing costs and time spent on system maintenance



Creating more responsible and scalable legacy systems

Figure 2: How has your organisation benefited from its mainframe modernisation initiative?



A leading insurance provider developed a strategic roadmap and business case to modernise their mainframe and migrate their applications to a new platform and language. Accenture combined its technology strategy and systems integration capabilities to modernise the company's claims payment application from legacy technology to Java. This migration is projected to save the company approximately \$20 million in costs over five years.

Improved data accessibility and security are vital. Legacy systems are much more prone to cyber threats and security vulnerabilities, thus putting organisational data at risk. Using the latest technologies like cloud and distributed data warehouses can help with not only securing the data but also making it accessible at any point. Technologies like cloud-scale data warehouses, AI, and machine learning models can enable businesses to unlock their data's true potential.



A global resources company undertook mainframe decommissioning to simplify its existing system landscape. This was done through elimination of the mainframe platform while continuing to support the systems and associated historical data used. The project involved re-platforming active production applications and associated data to a distributed (Windows) environment inside the company's two data centres in North America. The target Windows environment provides "mainframe like" functionality through the use of Micro Focus Enterprise Suite and supporting architecture components.

Cloud can also help companies realise value faster. Success today is defined by being adaptive and responsive to the current market conditions. This requires businesses to be able to update/change their IT systems at a faster pace, which is easily achievable with modernisation. Modernising the old mainframe systems by migrating to the cloud ensures that enterprises reap the benefits and capabilities of an advanced system that ensures increased agility, scalability, and cost-efficiency.

A Danish shipping company worked with Accenture to migrate all of its 550,000 lines of code from VB6 to .NET, leveraging .NET tools and accelerators. This helped the company modernise their mainframe environments to become more agile and responsive.

Overcoming the Challenges

Our survey found that, although ANZ companies are making progress in modernising their mainframes, it's not happening fast enough. Half of the organisations are only in the early stages of their mainframe-to-cloud modernisation initiative while a mere 16% have completed or are nearing completion of a migration.

One major issue has to do with a skills and experience deficit that can prevent companies from moving ahead quickly with a mainframe modernisation program and accelerating business value. The majority of ANZ enterprises believe that cloud development is one of the most important sets of expertise required to implement mainframe modernization (see figure 3).

Other requisite skills include:



Application modernisation



Cloud solution architecture

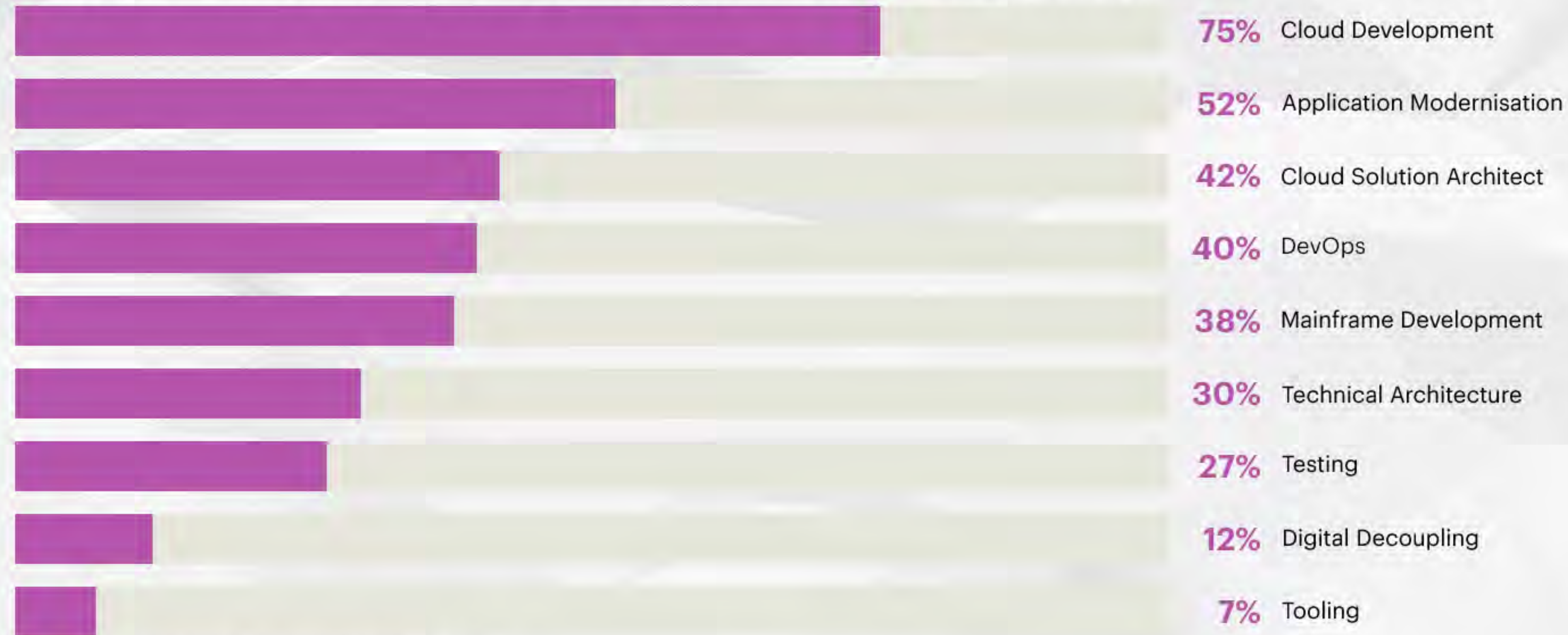


DevOps



Mainframe development

Figure 3: What expertise do you believe your organisation needs to embark on a mainframe modernisation initiative?



N = 15; ANZ Mainframe Modernization Survey 2021

In response, many ANZ companies are using the capabilities of a vendor/integrator. For example, one financial institution wanted to move its core banking operations off their mainframe to the company's open, scalable cloud infrastructure with the aim to help break vendor and technology lock-in, improve cost efficiency, enhance IT flexibility, and improve business agility. The client was able to achieve this in a short span of three months by collaborating with Accenture. The company built a complete infrastructure with applications migrated from their mainframe to the cloud.

Charting a course to success with your mainframe modernisation program

Accenture's 7R framework maps the mainframe modernisation journey. An upfront discovery phase using a comprehensive methodology is required to determine the appropriate strategies to address the constraints posed by enterprises using mainframes. For each application, there are a number of options that can be used to achieve the intended outcomes:



Retire

the applications you no longer need.



Retain

for its useful life, remediating any specific pain points and moving development and test environments to a cloud infrastructure to increase agility and reduce costs.



Replace

with a package (including commercial-off-the-shelf [COTS] or software-as-a-service) that offers improved functionality; extract and migrate data to a new system to reduce complexity and costs.



Rehost

to a less-expensive location without changing the code, to gain cost benefits without the risk that can result from programming language changes.



Re-platform

to a different platform/operating system, without changing the programming language, thus permitting applications to run in the cloud.



Refactor

from legacy code to a modern programming language, using (semi-) automated tooling to mitigate risk relating to legacy skills, increase agility and reduce costs.



Reimagine

the business by rewriting the application based on newly developed requirements, using domain-driven design. The resulting application is not limited by a focus only on current capabilities and therefore not only allows technology modernisation but also modernisation of what were likely outdated business processes.

For more on how to get your workloads to cloud rapidly, securely, and with confidence for your business needs, read our whitepaper, [Cloud migration is a must: How to get it right.](#)

The way forward

Mainframes still play an important role with many enterprises, yet they carry with them a variety of burdens. As companies start to realise the benefits of having much more scalable, agile, flexible, and interoperable systems, the modernisation process will gain further momentum.

Enterprises that do not start soon may find themselves lagging within a couple years. Successful mainframe modernisation requires the vision, methods, and capabilities needed to transition existing systems into cloud-based apps that deliver on today's performance imperatives and bring the agility needed to adapt to tomorrow's requirements.

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About the ANZ Mainframe Modernisation Survey

Accenture performed a telephone-based survey of ANZ enterprises from a range of industries that use mainframes for their businesses. As part of this survey, executives from 50 Australia and 50 New Zealand-based enterprises were interviewed. Of these, 83% of respondents were either CIO or CTO and some direct reports of CIO/CTO, and 17% were CFO or direct reports of CFO. 48% of these enterprises had annual revenues of more than US\$1B and 51% had revenues between \$500 and \$900M. 36% of the sample had either full enterprise deployment or deployed mainframes in the majority of their business areas. 35% had mainframes deployed in some of their business areas, and 30% were in piloting/proof-of-concept stage.

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