

ENABLING DEVOPS ON MAINFRAMES FOR LEGACY MODERNIZATION



Mainframe Applications Benefit From DevOps Practices That Boost Speed And Lower Risk

"Mainframe application delivery does not need to be inherently slow and complex. AD&D leaders have found that automating the mainframe application delivery pipeline reduces risk, cost, and complexity while improving responsiveness to changing customer needs." Forrester Research⁽¹⁾.



Today, digital transformation is a top priority for organizations. Digitization enables monetization of data across channels, particularly mobile. It is, however, a double-edged sword. On the one hand, it can help you differentiate yourself through better services and products instantly on hand-held devices. On the other, a single glitch can mar brand reputation. Quality, clearly, is the key when embarking on digitization initiatives.

The challenges of legacy mainframes

- **People:** Majority of the workforce that operates mainframes is ageing and are used to dated skills. Any system or process change mandates the right approach to shift the culture paradigm and enable flexibility
- **Process:** Projects that are run on mainframes often use manual and

traditional processes. Each enhancement depends heavily on the business and small changes in business requirements can upset timelines and create significant code rework. This results in longer response time for business/user changes and, eventually, delayed time-to-market

- **Tools:** Most mainframes lack the capabilities to deliver automation. Without this, coordination between development, operations and testing environments as well as security, infrastructure and business teams suffer, leading to lengthy software development lifecycles.

PEOPLE	PROCESS	TOOLS	
Culture paradigm shift for the ageing workforce Inertia to re-skill Low motivation for legacy systems	Traditional manual processes Lack of agility High response time to business changes	Ineffective impact analysis Lack of IDE Configuration management	Incomplete E2E testing Isolated environment provisioning No automated deployment

Typical challenges of Mainframe delivery

In view of these challenges, enterprises are altering their priorities to focus on shorter time-to-market, risk mitigation and faster return on investment (RoI). This puts

significant pressure on IT teams to get it right the first time. As business and IT expectations align, the new drivers are automation, flexibility, adaptability, rapid development,

and faster deployment. However, most organizations are still unaware of how to modernize their legacy mainframes and address these challenges.

What DevOps can do for you

DevOps refers to the strategic combination of people, processes and tools to provide enterprises with next-gen capabilities. For instance, it streamlines code build and transfers changes to a common repository, thereby enabling continuous build and integration. Implementing test automation on the common repository delivers continuous testing. Additionally, choosing the right tools to fit environments and deployment strategies supports continuous deployment.

DevOps helps you:

- Enable digital and mobile workloads dependent on Mainframes based system of record (SOR) to accelerate agile production releases
- Break silos for faster time-to-market
- Convert monolithic services into modular microservices that are self-contained and independently deployable
- Expose and consume services as APIs through the flexibility and scalability of cloud
- Implement automation with quick integration
- Ensure end-to-end quality and speedy delivery through shift-left and fail-fast testing

Achieve enterprise agility with Infosys DevOps for mainframes

Infosys uses an iterative approach to help enterprises enable DevOps for their mainframes. By leveraging open source and the best in industry tools, we deliver agile and CI/CD processes, allowing clients to meet the demand for high-quality, reliable and faster services.

We offer the below three service offerings that are catered to, according to the needs and vision of the customers:

- **Blueprint** – Here, we help companies plan their DevOps journey, assess DevOps readiness and create a roadmap. The key

activities include defining DevOps goals, analyzing IT value stream and portfolios, selecting tools, building capacities, and establishing governance

- **Pilot** – Here, we help in identifying early adopters, validating the common minimum program for DevOps, measuring benefits, and establishing internal communication
- **Lighthouse** – Here, we set up a DevOps Center-of-Excellence (CoE) and its charter, identify internal champions, and enable continuous improvement



Infosys tools and accelerators

Custom-developed tools and accelerators ensure you benefit from a continuous integration and continuous development pipeline for your DevOps journey.

	Plan	Analysis	Construct			Validate	Deploy		
	ALM Tools	Impact and System analysis	Version Control / IDE	Code Quality & Review	Unit Testing & Coverage	CI Tools	Environment Provisioning	Testing	Deployment / Release
IBM	RTC	ADDI	SCLM, RTC / IDz	Software Analyzer in IDz	zUnit / ADI,	RTC	zD&T	Optim, RTW	UrbanCode Deploy/ UrbanCode Release / SCLM
Infosys		Topaz for Program Analysis	ISPW / Topaz	SonarQube integrated in Topaz	Xpeditor -Topaz, for Total Test	Jenkins & Topaz Workbench CLI		Hiperstation / Topaz for Enterprise Data	ISPW
MICRO FOCUS		Enterprise Analyzer	Changeman / ED		Silk Test, Rumba Scripts		ETS		Changeman
Others	JIRA/ CA ALC/ Confluence	CA Application Analyzer	Endevor/ CA Librarian/ Git	SonarQube / SmartBear	XA Tester	Jenkins		TOSCA	XLDeploy / XLRelease
Infrastructure / Environment provisioning									

Why choose Infosys?

Infosys DevOps helps you accelerate DevOps adoption by enabling progressive transformation across technology, processes and people. We do this by:

- Enabling technology innovation through process transformation using agile practices, people transformation through integrated team models, and robust automation
- Using our strong partner ecosystem to build a heterogeneous yet highly beneficial DevOps pipeline for mainframe customers
- Developing DevOps recommendation frameworks to ease the transition from the traditional waterfall model to agile
- Establishing a CoE for mainframe and distributed platforms to help clients choose the right tool sets and orchestrate solutions based on their goals
- Leveraging our expertise and agile POD model for mainframe projects, thereby reducing collaboration effort
- Conducting a range of programs from boot-camp workshops, PoC demonstrations, assessment questionnaires, and vendor-organized webinars to improve adoption

Benefits

Infosys helps you merge an emerging technology such as DevOps with mainframe technology so you can benefit from:

- Increased agility and shorter time-to-market through faster development and deployment
- Enhanced quality through shift-left testing and better governance
- Improved process efficiency through automation, simplification and transparency
- Optimized cost by reducing failure and eliminating MIPS through automation and simulated platforms

Success stories



Mexican bank cuts 60% effort through automated test execution: Infosys helped one of Mexico's largest banking and financial institutions adopt DevOps and agile. We helped the client identify, provision and evaluate the right tools to achieve automation and improve test reporting. The new DevOps pipeline implemented has led to has increased transparency, reduced test execution effort by over 60% and improved defect identification.



European bank improves provisioning through DevOps: Infosys developed a DevOps PoC and implemented a pilot project in the mainframe portfolio of one of largest banks in Europe. The solution reduced provisioning time from 10 weeks to 3 weeks, accelerated testing and prepared the organization to leverage z systems development and test environment (zD&T). This is being rolled out to different applications at the bank in subsequent stages

Modernize your mainframes with DevOps for greater business rewards. Connect with us at modernization@infosys.com to know more.

Source

(1) *Digital Transformation Needs Mainframe DevOps – Forrester report (June 2016)* by Kurt Bittner, Robert Stroud with Christopher Mines, Taylor Turrisi, Rachel Birrell.

For more information, contact askus@infosys.com

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