



Modernize Around the Core: A Unified Path to Agility, Compliance, and Control

How regulated enterprises unlock
mainframe value across data, visibility,
applications, delivery, and infrastructure

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Executive summary

Most mainframe enterprise leaders navigate the same tension. Business leaders push for agility and faster integration. Compliance leaders need auditability and proof of governance. Operations teams can't tolerate disruption to the systems that keep revenue flowing. These priorities don't conflict because anyone is wrong. They conflict because all three are right, and finding a path that satisfies everyone at once is genuinely hard.

The result is that modernization programs often move more slowly than they should. New research from Hanover makes the cost of inaction concrete: 91% of mainframe organizations have experienced a breach or security compromise in the past five years. Two-thirds have spent at least \$500,000 on access compliance remediation in just the past two years. And 92% say potential non-compliance fines are highly or extremely impactful to their organization.

The organizations making the most progress aren't resolving this tension by replacing critical systems. They're resolving it by modernizing around them. Incremental, auditable improvements let enterprises increase agility without sacrificing the stability that regulated environments demand. They do it through five connected capability areas: connecting data, improving visibility, understanding applications, accelerating delivery, and optimizing infrastructure.

Each of these areas addresses a real, recurring pain point. Each maps to a proven Rocket Software solution. Together, they form a coherent modernization approach that doesn't require you to rebuild what already works.



The modernization paradox

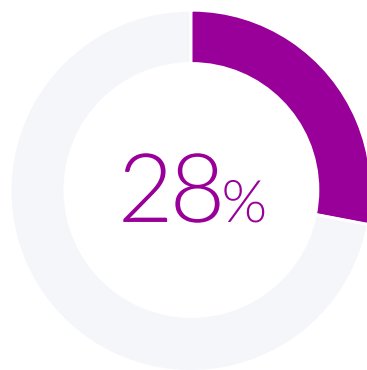
Modernization is no longer optional. Disruption is.

The urgency to modernize has never been higher. Customers expect seamless digital experiences. Boards expect cost efficiency. Partners expect real-time integration. Regulators, through frameworks like DORA, PCI DSS, and NYDFS, are raising the bar for operational resilience and evidence of control. The pace of AI-driven change means that organizations falling behind today will find the gap harder to close tomorrow.

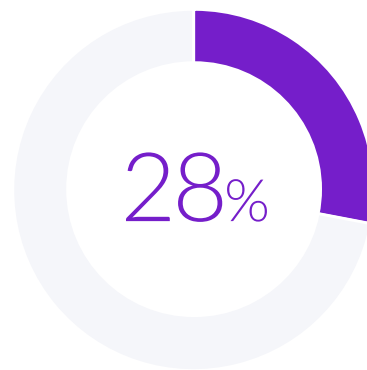
At the same time, the systems that most need modernization are often the ones that can't afford to fail. Payments run on them. Customer transactions run on them. Revenue depends on them. The cost of disruption isn't theoretical; it's measured in fines, downtime, and lost customer trust.

The Hanover data gives this tension a sharp edge. The leading triggers for organizations to reconsider or replace their current approach aren't strategic planning cycles or proactive roadmap reviews. They're security incidents (28%) and increased regulatory scrutiny (28%). Modernization in the mainframe enterprise is still largely reactive, and that reactive posture carries a price. Organizations that wait for an incident or an audit finding to drive change pay more, move slower, and operate under more risk than those that get ahead of it.

Leading modernization triggers



28% of leading triggers for organizations are security incidents.



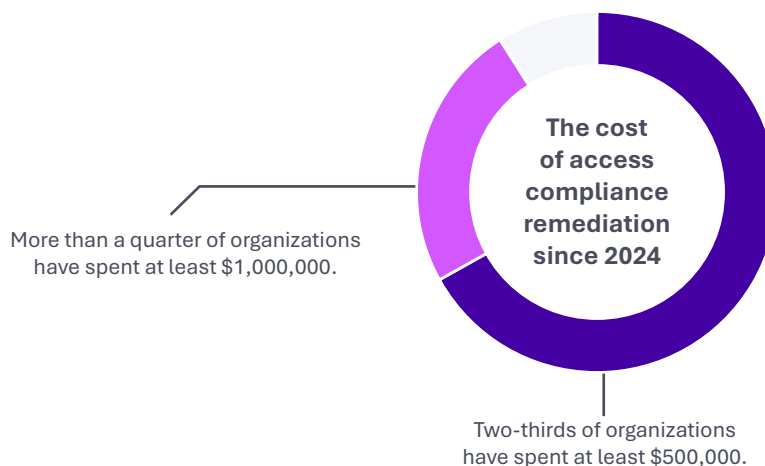
28% of leading triggers for organizations are regulatory scrutiny.



Why modernization programs slow down

Most organizations know what needs to change. The harder question is how to change it without disrupting the workloads that can't go down, failing a compliance audit, or creating integration problems that take months to unwind.

The compliance burden compounds quickly. In regulated industries, every change carries a documentation and approval requirement before it can move forward. The Hanover research makes this visible: two-thirds of organizations have spent at least \$500,000 on access compliance remediation in the past two years, and more than a quarter have spent \$1,000,000 or more. Most compliance findings take more than four weeks to formally close, and the teams involved typically number six to 10 people. When governance isn't built into the modernization process from the beginning, it doesn't disappear; it becomes a bottleneck that stretches every timeline and diverts resources from higher-value work.



There's also an important distinction between feeling prepared and being ready. Most organizations in the Hanover study reported high confidence in their compliance posture and said they conduct frequent reviews. Yet audit findings, manual evidence collection, and access control gaps persist. Advanced controls remain under-deployed: single sign-on sits at 32%, passwordless authentication at 36%, and session monitoring at 44%. The gap between reported confidence and actual control readiness is where risk lives and where auditors increasingly look.

Integration complexity and operational risk add another layer. Legacy and modern systems don't exist in isolation. When teams consider a change, they face real questions: How does data move between systems? What dependencies might break? What are the downstream effects on connected applications and business processes? When the answers aren't clear — and when the stakes involve payments or core operations — caution becomes the rational default. Projects slow not because of lack of capability, but because the cost of getting it wrong is too high to accept without certainty. In environments where failure isn't an option, uncertainty is enough to stall progress.



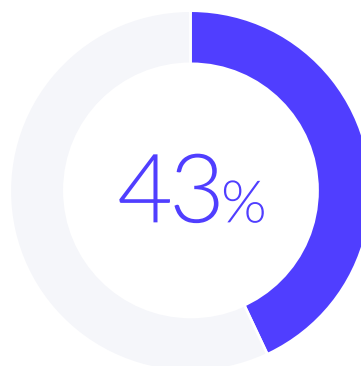
The shift from modernizing the core to modernizing around it

For years, mainframe modernization was framed as a binary choice: keep the mainframe as it is or move off it entirely. That framing set organizations up for the disruption they were trying to avoid. It also obscured a more practical path that leading enterprises have been taking with real results.

Rather than replacing the systems at the core of their operations, these organizations are improving how those systems connect to the rest of the enterprise. API enablement extends mainframe data and services to modern applications without touching the underlying platform. Open tooling brings development practices into the present without forcing a migration. Observability and storage optimization make the platform perform better and cost less to run. DevOps modernization speeds delivery while keeping governance intact.

This approach works precisely because it doesn't require betting the business on a single transformation. Each improvement is scoped, testable, and reversible if needed. Each one produces value before the next begins. And each one fits within the compliance frameworks that regulated enterprises already operate under, because DORA, NYDFS, and PCI DSS aren't calling for rip-and-replace. They're calling for demonstrable, auditable control.

The Hanover data reinforces why incremental improvement is gaining ground. Half of organizations say DORA has increased the rigor of their internal reviews, and 43% report that NYDFS has accelerated modernization of legacy access tools. Regulation is pushing change, but the change it demands is targeted and evidence-backed, not wholesale replacement. Organizations that modernize around the core are better positioned to meet that expectation than those waiting for a migration program to be greenlit.



43% of organizations report that NYDFS has accelerated the modernization of legacy access tools.



Five capabilities that drive modernization without disruption

The following five capability areas represent the practical work of modernizing around the core. Each addresses a specific point where enterprises get stuck, and each connects to a Rocket Software solution built for that purpose. Rocket® EVA™ can serve as the entry point into this connected modernization portfolio, helping organizations identify where to start, connect the right capabilities, and move from isolated improvements to a more unified modernization path as additional solution integrations become available.

01 Making mainframe data actionable

Data is the reason the mainframe matters. It holds the transactions, records, and operational history that run the business. Yet in too many organizations, that data stays locked inside core systems, difficult to reach and difficult to reuse. Analytics slow down. AI initiatives stall before they begin. Customer experiences stay disconnected from the information that could improve them.

The cost of that isolation shows up throughout the research. When 89% of organizations identify the time required to produce audit evidence as a significant cost of non-compliance, they're describing a data access problem. Information that should be immediately available instead takes days, dozens of labor hours, and teams of six to 10 people to assemble.

Rocket® DataEdge™ helps organizations unlock mainframe data and put it to work across the enterprise without disrupting the systems that hold it. The result is trusted, real-time access that fuels analytics, supports AI workloads, and connects applications to the records they depend on. The data stays governed and secure. It stops being a bottleneck.



02 Increasing system observability and performance

Teams can't modernize what they can't see. When performance problems go undetected, minor issues escalate into outages, and outages hit the workloads that a business can least afford to interrupt. The research makes the observability gap explicit: centralized access logging and reporting sits at 50% adoption, and session monitoring at 44%. These are the controls auditors focus on, and the ones that reveal how systems actually behave under load.

When teams lack that visibility, they hesitate. Change feels risky because the consequences are hard to predict. Root causes take longer to find. Every audit requires reconstructing what happened rather than demonstrating what was always known.

Rocket® TMON® gives operations teams the real-time performance insight they need to act with confidence. Problems surface before they escalate. Modernization decisions rest on data rather than assumption. And the operational record that auditors ask for is already there.

03 Understanding application complexity

A significant share of modernization programs stall not for technical reasons, but for visibility ones. Teams don't know what a change will do. Applications have grown over decades, dependencies are layered and undocumented, and the business logic that matters most is often the least visible. When no one can predict downstream effects, the default becomes no change at all.

That hesitation carries a real cost. About a third of organizations in the Hanover research describe producing audit evidence and remediating issues as highly challenging. Much of that difficulty traces to a lack of clarity about how systems connect and where risk actually lives.

Rocket® C\Prof™ helps teams map and understand IBM Z® CICS® application and system behavior — which powers the bulk of core transaction processing for many large enterprises — and diagnose the root causes of issues so that changes can be made with confidence rather than caution. Dependencies become visible. Business logic becomes documentable. The fear of unintended consequences gives way to informed planning, and modernization that had stalled starts moving again.



04 Modernizing software delivery and extending DevSecOps

Traditional release processes weren't designed for the demands of modern regulated environments. They create bottlenecks, delay innovation, and turn governance into friction rather than assurance. The pressure is only growing. Half of organizations in the Hanover study report that DORA has increased the rigor of their review and testing cadence, and 46% say it has required new policies and documentation. When regulation demands more proof, delivery processes have to produce that proof without slowing everything down.

Rocket® ChangeMan® brings auditable, modern delivery practices to the mainframe. Change management becomes faster and more traceable. Governance is built into the process rather than appended after the fact. Approvals move faster because the evidence is already assembled. And the audit trail is complete without anyone having to reconstruct it.

05 Optimizing data storage and recovery

Leaders are asked to deliver more capability on tighter budgets, and the mainframe is often where that pressure lands most directly. The research frames the stakes clearly: two-thirds of organizations have spent \$500,000 or more on access compliance remediation in the past two years, and more than a quarter have crossed \$1,000,000. Every dollar consumed by reactive remediation is a dollar not available for forward-looking investment.

Rocket® z/OS Storage helps organizations optimize infrastructure economics by delivering smarter storage management, better resource utilization, and optimizing recovery point and recovery time objectives with faster, more accurate data backup and recovery. Performance goals stay met. Spend comes under control. The infrastructure runs more efficiently, which lowers operating costs and frees capacity for the modernization work that matters most.



What modernization leaders do differently

The organizations making the most consistent progress share a set of practices. These aren't aspirational principles — they're observable habits that show up repeatedly in how successful programs are run.

They modernize incrementally



Rather than committing everything to a single large transformation, they scope improvements to deliver measurable value at each step. This aligns with how change actually happens in regulated environments: step by step, with evidence at every stage.

They reduce vendor complexity carefully



Consolidation has real appeal, and fewer vendors can mean simpler management and cleaner contracts. But leaders don't consolidate at the expense of capability or by accepting new lock-in risk. They weigh breadth against depth and make deliberate decisions.

They build compliance into every initiative



When governance is embedded in the process from the start, it accelerates approvals rather than blocking them. The Hanover research makes the alternative clear: when compliance is reactive, it's expensive. When it's proactive, it's an accelerant.

They focus on time-to-value



Early results matter. Small wins build organizational confidence and internal momentum, while large programs with long runways create resistance and fatigue. Leaders use demonstrated value to secure funding and support for the next step.

They protect the systems that generate revenue



Every modernization decision is weighed against its risk to the workloads that can't fail. That's not conservatism — it's discipline. Stability is a requirement, not a constraint.



A unified framework for the mainframe enterprise

The five capability areas described in this paper aren't independent investments. They form a coherent framework that addresses modernization end to end — from how data flows to how change gets delivered to how infrastructure performs. EVA gives this framework a clearer entry point, creating a connected way to engage the right Rocket capabilities based on the modernization outcome a team needs first.

Connecting data with Rocket® DataEdge™ makes mainframe information accessible and usable across the enterprise. Improving visibility with Rocket® TMON® gives teams the observability to modernize safely and respond to problems quickly. Understanding IBM® CICS® applications with Rocket® C\Prof™ eliminates the uncertainty that stalls projects before they start. Accelerating delivery with Rocket® ChangeMan® brings modern, auditable practices to the mainframe release process. And optimizing storage and data recovery with Rocket® z/OS Storage brings cost under control without compromising reliability.

Each pillar delivers value on its own. Together, they create a modernized environment without requiring a disruptive migration. The right starting point is wherever the pain is greatest, with EVA helping point teams toward the capabilities that match that need. From there, each improvement creates the foundation for the next.



Modernization is about unlocking value

For some organizations, the right path forward involves moving workloads off the mainframe entirely. Rocket Software supports that journey too. But for many enterprises, the more pressing question isn't how to leave the platform; it's how to get more from it. How to make the data more accessible, the systems more observable, the applications better understood, the delivery faster, and the infrastructure more efficient.

The organizations leading this work aren't waiting for a breach or a regulatory deadline to force their hand. They're moving proactively, building on what already works, and closing the gap between how ready they feel and how ready they actually are.

The Hanover research makes the cost of waiting concrete. Ninety-one percent of mainframe organizations have experienced a compromise. Two-thirds are spending half a million dollars or more every two years on reactive remediation. And change is still being triggered more by incidents than by strategy. Proactive modernization isn't just a better approach. It's a measurably less expensive one.

The foundation you build today shapes what becomes possible tomorrow.

We're ready to help you take the next step.

Talk to an expert



About Rocket Software

Rocket Software is a global technology leader in modernization and a partner of choice that empowers the world's leading businesses on their modernization journeys, spanning core systems to the cloud. Trusted by over 12,500 customers and 750 partners, and with more than 3,200 global employees, Rocket Software enables customers to maximize their data, applications, and infrastructure to deliver critical services that power our modern world.

Rocket Software is a privately held U.S. corporation headquartered in the Boston area with centers of excellence strategically located throughout North America, Europe, Asia and Australia. Rocket Software is a portfolio company of Bain Capital Private Equity.



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