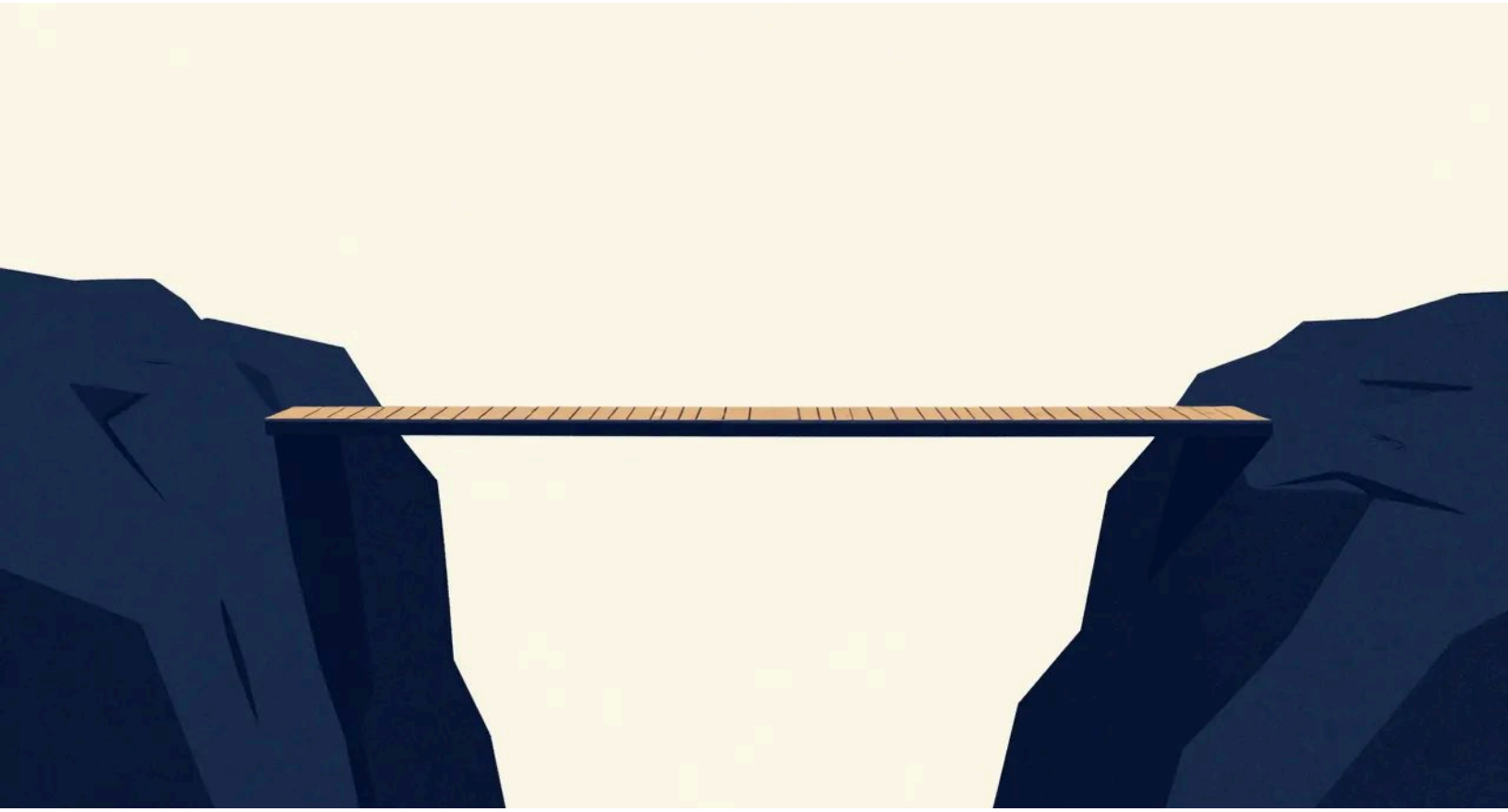


EXECUTIVE PAPER · MIGRATIONS

A Migration Without a Rollback Path Is a Bet

Every cutover puts the business on the line for a weekend. Operations and technology leaders should refuse to go live until they can prove they can come back.

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Migrations

FOR

CTO, COO · 12 min read

AT A GLANCE

The problem. Migrations fail at the moment of cutover, when customers, data and revenue move to a new platform at once. When the new platform misbehaves and there is no tested way back, a weekend outage becomes months of disruption. UK regulators fined one bank £48.65 million after a 2018 migration that, in the regulator's words, it was essentially impossible to roll back from. Banks in Malta and Nigeria repeated versions of the same failure in 2024 and 2025.

Why it persists. Rollback plans get written and never run. Rehearsals happen on environments that differ from production. Data checks confirm that records arrived without confirming that the business works.

The recommendation. Make three things go-live conditions: a rollback rehearsed and timed on a production-equivalent environment, a parallel run that compares old and new outputs on real transactions, and data verification signed off by business owners. Name the point of no return in writing, and keep the old system ready until the new one has proven itself.

The Decision in Front of You

Your organization will move something important in the next two years. It might be a data center exit, a cloud migration, a database engine change, an operating system upgrade across hundreds of servers, or a rewrite onto a new application framework. Each of these ends in a cutover: a window in which production work stops on the old platform and starts on the new one.

The decision is what you require before you approve that window. Most go/no-go meetings ask whether the new platform is ready. The more useful question is how the team returns to the old platform, how long that takes, and whether anyone has done it.

The stakes are measured in customers who cannot pay, ship or get paid. At TSB Bank, the cost of a failed cutover included £48.65 million in regulatory fines and £32.7 million in customer redress, a combined £81.35 million before counting the bank's own remediation costs [1][2].

What's Happening

The reference case: TSB, 2018

Over the weekend of 20 to 22 April 2018, TSB moved five million customers' records to a new banking platform in a single migration event [3][4]. The data moved. The platform failed. Online, mobile, telephone and branch banking were disrupted across all 550 branches and a significant share of TSB's 5.2 million customers [2][3]. TSB did not return to business as usual until December 2018 [2].

The Prudential Regulation Authority's final notice, published in December 2022, sets out what went wrong before the weekend. In the weeks before migration, TSB accepted a supplier proposal to run performance testing on only one of the two data centres, leaving a test environment that the regulator described as distinctly different from production [3]. That decision was neither documented nor escalated [3]. Non-functional testing, which covers performance and capacity, ran until the day before the go-live decision [3]. TSB later said the two data centres, specified to be identical, had been configured inconsistently and that this was a key cause of the disruption [4].

On rollback, the notice is blunt. A roll-back plan was not possible in the circumstances, and once migration had occurred it was essentially impossible to roll back from the changes made [3]. The board had asked for a fall-back plan in case migration could not go ahead [3].

The independent review commissioned by TSB's board, written by the law firm Slaughter and May and published in November 2019, criticized the choice to move five million customer records in a single weekend. It found that alternatives such as a phased migration were not seriously considered and that the board did not substantively discuss the approach [5]. TSB had run nine dress rehearsals and a pilot with more than 1,600 staff before go-live [4]. Its late performance testing still ran on one data centre, and the fault sat in the difference between the two [3][4].

Recent cases show the pattern continuing

BNF Bank, Malta, 2025. In late March 2025, BNF replaced the core banking system it had run since its founding in 2008 with Temenos Transact, and switched its card network from Visa to Mastercard in the same transition [6][7]. Customers were locked out of accounts, and some reported missing funds and double transactions for nearly a month [8]. In May the chief executive apologized and said the data migration, including accounts and balances, had been completed and fully reconciled [7]. According to a commentator's summary of the chief executive's interview with the Times of Malta, the bank had run more than 3,500 tests over 18 months, spent more than €1 million stabilizing services, accepted that changing card provider at the same time was a mistake, and was asked by Malta's financial regulator to take corrective measures [9].

Reconciled balances proved the data arrived intact. Customers still could not use their accounts, and a second major change in the same weekend made faults harder to isolate.

GTBank, Nigeria, 2024. Guaranty Trust Bank began moving to the Finacle core banking platform on Friday, October 11, 2024, and told customers to expect completion by the following Monday [10]. The migration overran. Some customers could not withdraw money, and the bank was still apologizing publicly in late November, more than six weeks after the start [10]. The same coverage notes that Sterling Bank customers saw several days of disruption during a core migration in September 2024, and that Zenith Bank had an outage while preparing its own move [10]. Public reporting does not describe the bank's rollback plan. The lesson for executives is that a cutover window needs a defined abort time; once it passes, the business is committed to fixing forward for as long as that takes.

Sonos, 2024. Sonos released a rebuilt mobile app on May 7, 2024 [11]. Complaints were widespread, and many customers asked for the old app back [12]. In August the chief executive explained why that was not possible: the company had updated the software running on its speakers and in its cloud since the launch, and after extensive testing it concluded that re-releasing the old app would make the problems worse [12]. Sonos estimated short-term remediation at $20 million to $30 million, cut about 100 jobs and postponed two product launches [11]. Its rollback path had decayed as the rest of the system moved on.

Google Cloud's June 2025 global outage traced to new code that had no feature flag, a switch that turns a change off without redeploying [13].

Why the Usual Approach Fails

Rollback plans are written and never executed. A document that says "restore from backup and repoint DNS" is a hypothesis until someone runs it against production-sized data and times it. Without that timing, nobody can say when the decision to reverse has to be made.

Rehearsals use the wrong environment. TSB's rehearsals were real and numerous [4]. Its performance testing ran against an environment that differed from production in the place that failed [3][4]. A rehearsal proves only what its environment shares with production.

Data checks stop at the database. Row counts and checksums confirm that records moved. A customer logging in or a card authorizing needs its own test. BNF's balances reconciled while customers were locked out [7][8].

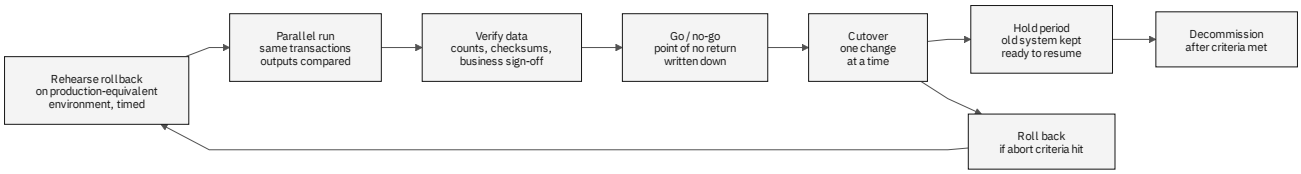
Schedules squeeze the safety work. When a program runs late, testing is compressed and run in parallel instead of in sequence. Commentary on the FCA's findings at TSB noted that testing finished only the day before migration [14]. Go-live dates announced to customers or regulators become commitments that override what the test results say.

Cloud providers' own guidance anticipates these failures. Microsoft's Cloud Adoption Framework tells teams to retain the source environment as a fallback, keep the ability to revert DNS records and configuration, verify data with checksums and hashes instead of row counts alone, and watch the new platform closely for the first 24 to 48 hours. It warns against premature declarations of success [15]. AWS guidance asks teams to document a rollback procedure in the cutover plan, include rollback time when sizing the downtime window, and rehearse the cutover [16].

The Framework: The Reversible Cutover

A cutover is ready when the team can show three things to the executive who approves it. A rollback has been rehearsed and timed. Old and new systems have processed the same work in a parallel run and produced the same results. Data has been verified by the people who own the business process. A written point of no return then tells everyone when reversal stops being an option.

Exhibit 1. The Reversible Cutover: no go-live until the way back has been proven



Source: author's framework, consistent with Microsoft Cloud Adoption Framework [15] and AWS Prescriptive Guidance [16].

Rehearse the rollback. Run the full reversal at least once on an environment that matches production in configuration, data volume and network layout. Time it. The measured time sets the latest moment in the cutover window when a rollback can still start.

Run in parallel. Push the same real transactions through old and new systems for a defined period and compare the outputs: balances, invoices, shipments, reports. Differences get explained before go-live. Where a full parallel run is impossible, compare a sample of real transactions replayed against the new system.

Verify data at two levels. Technical checks cover counts, checksums and hashes [15]. Business checks cover the twenty or thirty transactions that matter most, performed by the people who own them, with written sign-off.

Write down the point of no return. Reversal becomes impractical at a known moment, usually when the new system accepts writes the old one cannot absorb. Name it, time it, and list the abort criteria checked before crossing it.

Change one thing at a time. BNF's chief executive called the simultaneous card switch a mistake [9]. Two changes in one window give a fault more places to hide.

Hold before you decommission. Keep the old system ready to resume for a defined period, and keep anything that depends on it backward compatible. Sonos lost its rollback option because the systems around the old app changed while it was out of service [12].

Exhibit 2. Rollback looks different for each kind of cutover, and each kind has its own point of no return

Cutover type	What rollback means	Typical point of no return	Verification before go-live
Data center move	Repoint traffic and DNS to the original site, which stays powered and current	Original site lease ends or hardware is removed	Full failover and failback test; performance test in the new site at production load
Cloud migration	Revert DNS and configuration; resume on the retained source environment [15]	New system accepts writes that are not replicated back to the source	Checksums on migrated data; end-to-end tests of critical processes [15]
Database engine or schema change	Switch application back to the old database, fed by reverse replication	Reverse replication is turned off, or the new schema accepts data the old one cannot store	Row counts, checksums, and replayed production queries compared on both
Operating system upgrade	Boot the previous image or snapshot	Snapshot expires or data written after upgrade cannot be read by the old version	Staged rollout to a small share of servers first, with defined health checks
Application or framework rewrite	Route users back to the old version behind a switch or feature flag	Backend, firmware or data format changes that the old version cannot handle [12]	Parallel run on real transactions; old and new outputs compared

Source: author's analysis, informed by Microsoft Cloud Adoption Framework [15] and AWS Prescriptive Guidance [16].

Costs, Risks, and Tradeoffs

Reversibility costs money and time. Some systems do not justify it.

Exhibit 3. Tradeoffs of requiring a reversible cutover

Area	Cost or risk	Mitigation
Double running	Old platform, licenses and hosting stay paid for during the hold period	Set a fixed hold period with exit criteria in the business case from the start
Schedule	Rehearsals and parallel runs add weeks before go-live	Plan them into the original timeline; refuse to compress them when the program runs late
Reverse replication	Writing new data back to the old system adds engineering work and its own failure modes	Limit reverse replication to the hold period; test it in rehearsal
False comfort	A rollback rehearsed on the wrong environment proves nothing, as TSB showed [3]	Require that rehearsal environments match production in configuration and volume
Decision paralysis	Teams roll back for minor issues that a fix forward would solve faster	Agree abort criteria in advance; AWS guidance also calls for fix-forward contingencies [16]
When this is wrong	Low-risk, stateless or easily rebuilt systems; brief maintenance changes behind an existing feature flag; vendor-mandated cutovers where no old version can run	Use standard change control and a tested backup; for vendor-forced moves, negotiate a supported fallback in the contract

Source: author's analysis.

How to Act

Exhibit 4. A one-year roadmap

Window	Actions	Owner	Milestone
First 30 days	List every migration planned in the next 18 months. For each, record the business processes affected, the planned cutover window, and whether a rollback has ever been executed.	CTO with COO	Migration register approved; each entry marked rehearsed or not rehearsed
First 30 days	Adopt the three go-live conditions as policy: rehearsed rollback, parallel run, business-signed data verification.	COO	Policy issued; applies to every cutover that touches customers or money
First 90 days	For the next major cutover, build a production-equivalent rehearsal environment. Rehearse the rollback and record the time. Write the point of no return and abort criteria.	Migration program lead with infrastructure lead	Rollback executed end to end with measured duration under the planned window
First 90 days	Define the parallel run and the 20 to 30 business transactions that must match. Assign a business owner to each.	Business process owners with QA lead	Parallel-run plan and sign-off list approved
First 365 days	Run every major cutover through the gates. Keep each old system ready through a defined hold period. Review each cutover within two weeks of go-live.	CTO	Zero customer-facing cutovers without a rehearsed rollback; post-cutover reviews on file
First 365 days	Report to the executive committee on rollback rehearsal times, parallel-run mismatches found and fixed, and hold periods completed.	COO	Quarterly report delivered and reviewed

Source: author's recommendation.

Questions to Ask Your Team

1. Have we ever executed this rollback, end to end, and how long did it take?
2. How does the rehearsal environment differ from production, item by item?
3. At what time during the cutover weekend does rollback stop being possible?
4. Which business transactions will we compare between old and new before we switch, and who signs off on each?
5. Are we changing anything else in the same window, and could that change go separately?

6. How long will the old system stay ready to take traffic back, and what keeps it compatible in the meantime?
7. If testing slips, what gives way: the go-live date or the test plan?
8. What would we tell customers and regulators on Monday morning if we had to roll back?

Closing

A cutover is a short window in which the whole business depends on one plan working. A rollback that has been rehearsed, a parallel run that matched, and data that business owners have signed off turn that window into a decision that can be reversed. Without them, the organization is betting its customers and its regulatory standing on the first attempt. Approve the cutover only when the team can show you the way back.

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