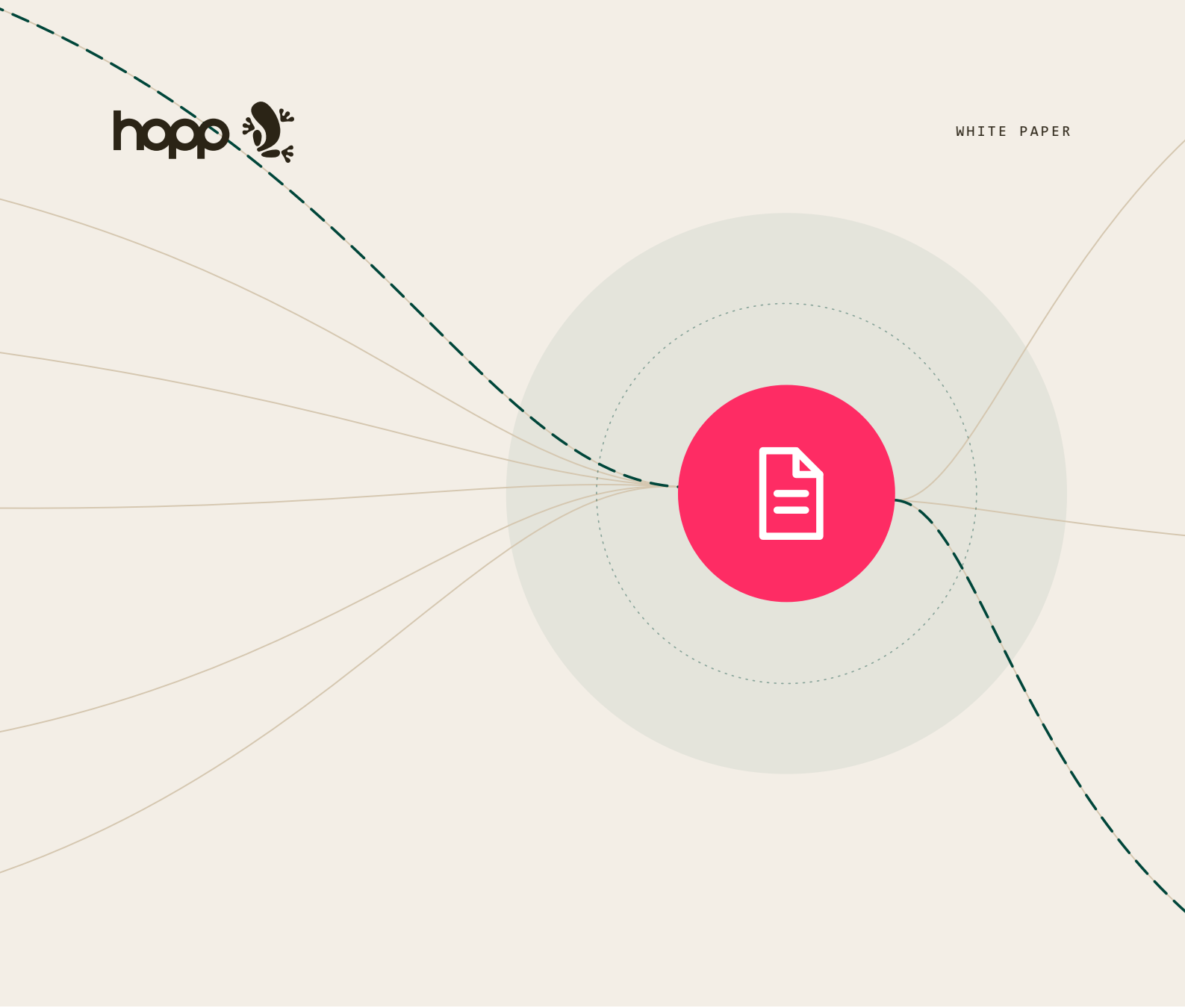
WHITE PAPER



Data Migration Checklist

Strategy, planning, transfer and validation, step by step

INTRODUCTION

Data migration is the process of moving data from one system, storage type or format to another. It happens when a company upgrades legacy systems, moves to cloud platforms, merges with another business or consolidates several data sources. The purpose is to move the data accurately, securely and efficiently, so that business operations continue without interruption in the new environment.

Data migration matters more than ever. Organizations rely on their data to make informed decisions, improve their processes and serve their customers well.

As technology changes, companies adopt new systems and platforms that support their goals better. A successful migration keeps the business running, improves data quality, and helps the organization stay compliant with regulations.

It also lets businesses use new technologies and stay competitive. Because migration is both strategic and complex, it needs careful planning, clear objectives and a well-executed approach, to avoid disruption and data loss.

This paper takes you through the essential parts of a successful data migration, from strategy and planning to execution, challenges and best practice, for a smooth and reliable migration.

01

Data migration strategy and data migration plan

The data migration strategy is the overall game plan. It sets the direction and the guiding principles of the project, and makes the high-level decisions, such as whether to migrate in one big bang or in phases. Beyond timing, the strategy sets the scope of the project, decides how to handle historical data, and sets the standards for data quality. These choices are the foundation the whole migration is built on.

The data migration plan, by contrast, is the detailed playbook: the concrete steps that bring the strategy to life. It covers the project organization, roles and responsibilities, the infrastructure setup, and the activities and timelines needed to carry out the migration. It is the practical roadmap that guides the team through each phase, so that every task is done on time and the risks are managed.

02

Planning and strategy drive success

The difference between a migration strategy and a migration plan is more than theory: it is fundamental to the success of any migration. The two play distinct, complementary roles, and together they give a solid foundation for a smooth, efficient, low-risk migration.

The strategy is the compass. It defines the vision, goals and principles of the migration, what the project aims to achieve, and how decisions will be made. Without a clear strategy, teams lose focus, misjudge priorities and overlook critical risks. Failing to set data quality standards, or to address compliance requirements early, can mean costly rework or regulatory violations later.

The plan turns that vision into a concrete, executable roadmap. It breaks the objectives down into tasks, timelines, resources and risk mitigation steps. The strategy gives the direction; the plan makes sure it is followed through.

Without a plan, even the best strategy may never happen. Poor planning leads to missed deadlines, budget overruns and operational disruption, all of which can seriously affect business continuity. Not defining who owns the key activities, or not building in testing phases, can lead to data loss, long downtime and frustrated stakeholders.

Together, strategy and planning give both foresight and control. The strategy keeps teams aligned on the big picture, and the plan makes disciplined execution possible. That helps the organization anticipate challenges, manage dependencies and keep momentum as the complexity grows.

A well-articulated strategy and plan also build trust. Business leaders, IT teams and end users can be confident that the migration will be handled professionally, with minimal disruption and clear accountability. That trust matters most with sensitive or business-critical data.

When strategy and plan are neglected, the risks multiply. Poorly planned migrations can lead to data loss, unexpected outages, inflated costs and lost stakeholder confidence. Setbacks like these disrupt operations, reduce productivity, and can even damage a company's reputation.

Good planning prevents these outcomes by finding potential problems early, such as incompatible formats, conflicting business rules or missing data, and dealing with them before they cause harm. Clear roles and responsibilities give accountability, and realistic timelines protect against rushed decisions and overlooked details.

Anticipating compliance demands also protects data privacy and regulatory integrity. Communication is just as critical. A plan with structured communication keeps stakeholders informed and aligned, reduces resistance, and brings the right people in at the right time.

In the end, a strong strategy and a detailed, pragmatic plan let organizations move their data with confidence. They reduce uncertainty, minimize business disruption, and cover both the technical and the organizational sides of the migration. This preparation is not a luxury: it is a prerequisite for protecting the data, keeping the business running and delivering long-term value.

03

The most common data migration challenges

Executing a data migration well is crucial for any organization, yet it rarely comes without challenges. The first step to overcoming them is to understand what they are, and how they can affect your project.

- **Data quality.** Business decisions based on inaccurate or outdated data lead to costly errors, so cleanse and validate the data before the migration.
- **Data loss.** Often caused by incompatibilities between the source and target systems. Without careful management, data can be lost or corrupted in the transfer.
- **Large volumes.** Managing large amounts of complex data takes skill, resources and precise coordination.
- **Complex data structures.** Different systems store and organize data in their own ways, so transforming and mapping it accurately is like solving a complicated puzzle.
- **Legacy systems.** Older platforms may not integrate smoothly with modern technology, which leads to workarounds and inconsistent interpretations of the extracted data.
- **Data security.** Security must stay a top priority, especially when you migrate sensitive information or move data to the cloud. Protection against unauthorized access or breaches during the migration is not negotiable.
- **Compatibility.** Mismatches between the migrated data and the new system are common, and often need extra transformations and validations.
- **Downtime.** Some migrations need system outages, which disrupt business operations and productivity if they are not well planned.

- **Budget.** Data migrations can be expensive, so balancing quality and cost takes careful, realistic planning.
- **Expertise.** A lack of experience in internal teams can lead to costly mistakes, especially in complex migrations. Skilled professionals or external specialists often make the difference between success and failure.
- **Regulation.** Industry-specific compliance needs careful attention throughout the migration. Without proper guidance, it is easy to get lost, or to make costly errors.

Given these challenges, a thorough plan, the right tools and experienced people are essential to a successful migration.

04

A complete data migration checklist

A well-structured plan is the cornerstone of any successful data migration. This checklist is a practical guide to a systematic, thorough approach through the whole migration, with as little risk and as much efficiency as possible.

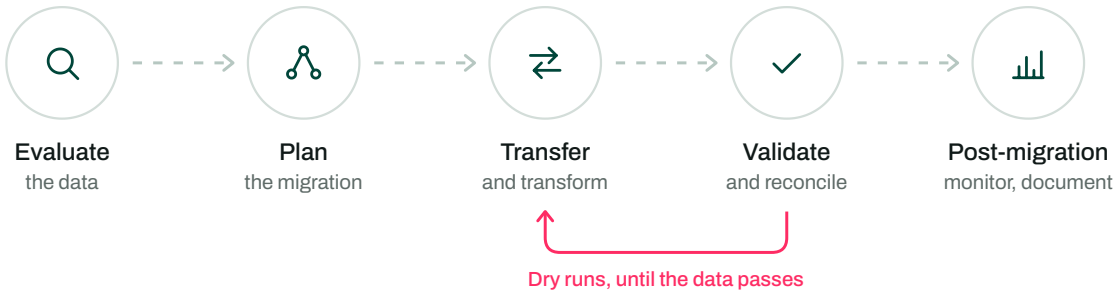


Figure 1. The five phases of the checklist. Transfer and validation repeat in dry runs before the final go-live.

1. Data evaluation

Before the migration starts, understand what data the new system needs, and what exists in your current landscape. A structured evaluation lays the groundwork for a smooth, predictable transition.

Understand your data landscape. Start by identifying the data requirements of the new system, and assessing what is available:

- Define the data needed to support key business processes and the system configuration.
- Inventory every data source, database, application and file that will feed into the new environment.
- Document the business rules that affect the source and target data, including relationships, validation logic and attributes.
- Prioritize the critical data areas, to focus the migration effort where it matters most.

Profile and scope your data. Profiling reveals potential issues before the migration:

- Analyze the data sources for patterns, anomalies and quality issues.
- Detect missing values, duplicates and inconsistencies early.
- Map the dependencies between data elements, to avoid disruption.
- Exclude outdated or redundant data, and write a scoping report for the migration.

Assess dependencies and volumes. Prepare for the technical complexity by understanding how things connect:

- Identify the relationships, constraints and hierarchies in your data model.
- Consider how a change in one area affects the others.
- Estimate the data volumes, and assess whether your infrastructure can handle the load.
- Choose the migration method (batch, incremental or other) on the data size and the system's capabilities.

2. Migration planning

With the data landscape mapped and cleaned, the next step is a solid migration strategy and execution plan, one that allows for many test loads, not a single attempt. Expect to iterate, validate and refine your approach through repeated dry runs before the final go-live.

Define objectives and structure. State clearly what the migration aims to achieve, and how it will be delivered:

- Set the objectives, success criteria and performance benchmarks.
- Define roles and responsibilities across the teams.
- Identify the risks, and build in mitigation.

Build a realistic timeline. Timelines give structure and visibility:

- Develop a phased schedule with milestones and resource allocation.
- Account for business operations and risk windows.
- Include fallback options, and allow buffer time for testing and validation.

Assess the business impact. Understand what the migration affects beyond IT:

- Map the dependencies between systems and teams.
- Evaluate the downtime risks, and prepare backup plans.
- Coordinate closely with the business units, to keep the business running.

Choose the right migration approach. The method should reflect your business priorities:

- Decide between a big bang and a phased or hybrid approach.
- Factor in the data volumes, the system complexity and the level of disruption you can accept.

Select tools and platforms. The right technology makes execution easier:

- Evaluate in-house tools and third-party platforms.
- Make sure they are compatible with your current IT stack.
- Allocate the budget and technical resources accordingly.

Communication and stakeholder management. Transparency is key:

- Identify every relevant stakeholder, and make clear how each is involved.
- Keep regular updates and open communication channels.
- Share progress, issues and decisions proactively.

Enablement and security. Prepare people and systems for a secure transition:

- Provide training materials, FAQs and support resources.
- Run workshops or simulations, so people get familiar with the change.
- Review the security protocols, especially when you use third-party tools.
- Finalize the agreements and audit controls that protect sensitive data.

3. Data transfer and transformation

With the plan in place and the environment ready, the migration itself can begin. This phase extracts, transforms and loads the data into the target system, under control and in the open.

Map the data accurately. Accurate mapping is vital to a successful transformation:

- Define field-level mappings between the source and the target.
- Agree naming conventions, formats and any conversions needed.
- Document the mappings thoroughly, to guide implementation and testing.
- Create test cases from the mappings, to validate the results after the load.

Clean and prepare the data. Cleansing makes the data you move high-quality and fit for use:

- Standardize the formatting across sources.
- Apply data quality checks, and resolve issues at the source.
- Define quality rules, and automate them where possible.
- Set validation standards that preserve integrity during and after the transfer.

Execute the transfer. Careful execution gets the data safely into the target environment:

- Extract the data from the source systems by reliable, documented methods.
- Apply the transformations needed to meet the target format and business logic.
- Load the data in batch or in real time, depending on the scope and the system design.
- Keep complete logs of every step, for traceability and troubleshooting.

Monitor progress as it happens. Finding issues early reduces risk:

- Use dashboards or tools for continuous monitoring.
- Track performance, data volumes, error rates and success measures as the run progresses.
- Make sure there are escalation paths for handling issues quickly.

4. Data validation

Validation after the load confirms that the data was transferred accurately, and is ready for use in the new system.

Validate the data's accuracy. Check completeness and correctness:

- Compare the migrated data with samples of the original, to find inconsistencies.
- Run queries that validate key business rules and data integrity.
- Run user acceptance testing (UAT), to confirm the system meets operational needs.
- Use automated validation tools or scripts to check large data sets efficiently.

Reconcile and audit. Close the loop with a formal reconciliation:

- Compare records between the source and target systems, to find mismatches.
- Document and resolve the discrepancies methodically.
- Audit the fields for completeness: nothing missing or misaligned.

Involve stakeholders. Stakeholder trust is critical in the final stages:

- Share the validation results and reconciliation reports with the business and technical leads.
- Hold review sessions to walk through the key findings.
- Agree the closure and sign-off criteria together.

5. Post-migration

The migration may be complete, but the work is not over. Ongoing monitoring and optimization secure the long-term success of the new system.

Monitor system health. Put procedures in place to catch and resolve issues after the migration:

- Monitor system uptime, data usage and performance.
- Create alerts for key errors and data flow interruptions.
- Track user feedback and reported issues as a health indicator.

Improve data quality. Use early feedback and analytics to refine the data:

- Run regular cleansing and enrichment routines to maintain integrity.
- Update rules and business logic as operations change.
- Adapt the data models where needed, to reflect new processes.

Document for the future. A well-documented migration benefits future projects:

- Record what worked and what didn't.
- Store the final mappings, the tools used, the test cases and the lessons learned.
- Share them across teams, to support audits or similar migrations later.

05

The importance of validation and testing

Even with the most carefully followed checklist, the success of a migration depends in the end on how well the migrated data performs in its new environment. Validation and testing are not just the final steps; they are what protects the integrity of the migration.

Structured testing before and after the migration verifies that the data has not only arrived, but behaves as expected, and supports the business processes it is meant to serve. User acceptance testing, reconciliation reports and automated validation scripts confirm that the migrated data is complete, accurate and usable.

These activities also surface hidden issues: gaps in the data, mismatched values and overlooked dependencies that would otherwise disrupt daily operations. Involving stakeholders in the reviews and tests builds confidence in the result, and helps people adopt the new system.

Testing and validation are the last line of defense. They keep data quality, trust and business continuity intact beyond the cutover, and they are essential both for a smooth transition and for getting long-term value from the data in its new home.

06

Why Hopp

Choosing the right partner for a data migration is critical to a transition that keeps the business running and the data intact. Hopp Tech offers a structured, transparent and repeatable migration framework for the complexity and risk of large-scale data migrations.

Hopp's approach is batch-based, designed to give full control and traceability through every phase of the migration. Organizations can validate the results step by step, which reduces the risk of data loss, minimizes disruption, and makes sure the transformations follow the business rules and compliance requirements.

Unlike real-time or ad hoc migration solutions, Hopp separates the migration from the system go-live, which gives more freedom in scheduling, testing and quality assurance.

That separation reduces the risk of introducing errors in critical deployment windows, and supports phased or parallel rollouts when they are needed. Hopp is designed to fit into existing enterprise environments, with both legacy systems and modern cloud architectures. Its predefined logic,

governance and auditability mean that migrations run consistently, with clear accountability and complete documentation at every step.

By combining a rigorous method with an adaptable platform, Hopp Tech helps organizations treat data migration as a strategic initiative, not only a technical exercise. Its focus on transparency, quality and operational resilience makes it a trusted choice for organizations that need to carry out complex data migrations with precision and confidence.

> **Want to know more?**
>
> Read more about Hopp at hopp.tech, or write to us at sales@hopp.tech.



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