

The complete guide to successful data center migration projects



Migrating data centers is a major project, with significant risks – and rewards. Nordic countries offer numerous advantages that make them optimal candidates as data center locations. Due to significant investments in connectivity, bandwidth prices decreased sharply in recent years and the region has become more attractive than ever for data center investment.

atNorth's facilities in Iceland and Sweden offer you all of these advantages and more, in a nutshell:

Lower TCO

Powered by renewable energy sources and cooled through natural resources, data center operating costs in the Nordics are lower, freeing resources that you can dedicate to other business critical functions.

Better QoS

atNorth employs a highly specialized, experienced team of data center experts who are able to provide your organization with personalized support and advice. Ensuring you will always get the best performance from your clusters.

Sustainable operations

atNorth Icelandic facilities are 100% powered by sustainable hydrothermal power and cooled more efficiently by the lower ambient temperatures of the Nordic region. This allows us to operate high-density compute clusters while simultaneously reducing their carbon footprint. Our Swedish facility goes a step further in the direction of the circular economy and leverages the hot water generated through the cooling of the servers for household heating of the nearby community.

So what does co-locating or migrating a data center actually involve? This checklist will help you prepare and plan your own move.



Pre-Migration: Preparing for Success

The success of any migration project is determined before a single byte of data is transferred. The quality of your planning is fundamental to making the transition trouble-free.

Keeping everyone in the loop

Data center migration is not just an IT project. The move will have a significant impact at every level, affecting your users, suppliers and customers.

You need to ensure that every stakeholder, internal or external, is aware of what you are trying to achieve. More importantly still, they need to understand their role in the transition process and the benefits they can expect as a result of the move. You should also make them aware of any potential impact on service during and after the transition.

Map your existing IT infrastructure

Before moving anything, you must understand exactly what you have. Hardware, software, licenses, contractual obligations, stakeholders – and how they all fit together.

Mapping your assets and the way they all fit together will help you define the 'completed' state once migration is complete. And provide the template for your migration planning.

Test your readiness

The only way to ensure you have properly documented everything – hardware, software, process and plans – is to test the plan and assess your readiness for the move. Testing identifies bottlenecks that will affect the project, giving you an opportunity to resolve them before moving any data.

Pay particular attention to addressing any compatibility issues at the new data center location.

Determine the migration project scope

With issues identified and addressed, you can specify which aspects of your infrastructure actually need to be migrated – and which are best left in place. You will need to consider your compliance obligations and any potential vulnerabilities that may be exposed during or after a move.

The plan also needs to cover future capacity requirements and whether you have sufficient human resources and skills for a smooth transition.

Outsource or do it yourself?

It is the engine behind your operations – and you cannot afford to be without it. But do you have the right combination of skills and people required to complete migration tasks correctly – and quickly?

It may be that outsourcing responsibilities to an experienced third party allows you to achieve your goals more quickly and effectively. As well as having the right mix of knowledge and experience they will also have existing equipment, logistics and workflows to solve problems at a lower price than your team can achieve. They will also offer SLAs for consistency and protection throughout, providing additional safeguards during the migration and beyond.

Data Center Decisions

Now you know what your new data center needs, you must find a provider who can deliver. As well as price considerations, consider other factors like connectivity, support provisions (remote and onsite), energy efficiency, certifications and the financial stability of the provider.

Built out the migration Plan

Working alongside your new data center provider, you can draw up a migration plan that covers:

1. The outcomes you want to achieve
2. The scope, activities and dependencies of the project
3. Network diagrams
4. The project management tools and methods that will guide migration
5. A responsibility matrix for each stage of the migration
6. Security procedures to protect systems and data
7. A communications plan for your internal and external stakeholders
8. Defined reporting and escalation procedures
9. Quality Assurance and testing procedures
10. Monitoring and troubleshooting processes to keep the project on track
11. Rollback provisions in the event of an emergency
12. Planning timeline
13. Detailed budget

Once the plan has been defined, you need stakeholder sign-off. You should double-check your readiness for the migration – and then begin the transfer.



Migration: Making the move

You have a limited timeframe in which to complete certain elements of the migration – which is why planning is so crucial to your migration project. But when the day arrives, you will be good to go.

Keep communications open

The migration involves multiple teams working together. Open communications will be critical to ensuring that the various aspects of the project all come together seamlessly, and that all procedures and safeguards are being properly adhered to.

Make sure everything is ready on site in advance

On the day of the move you need to be sure that you have people, tools and equipment on-site and ready to go. Consider purchasing spares in advance so that if anything goes wrong or gets broken you can carry out immediate repairs. Waiting for replacement parts creates delays that could jeopardize the entire project

Migrate 'as-is'

Avoid the temptation to upgrade systems or perform maintenance while everything is offline – if something goes wrong, you are simply adding to the amount of work that needs to be completed.

Migrate your data center 'as is' first – you can then carry out routine maintenance and upgrades when the move has been successfully completed and your systems have bedded in.

Test and document as you go

Close down systems one-by-one and check that everything is packed correctly before dispatch. Upon arrival at the new data center, check that everything is present and correct. Power up systems one-by-one, starting with the most critical, recording your actions and the results as you go.

Documenting your progress provides a record that can be used by your support team in the event of a problem during the migration or at any point in the future.

Set a limit for downtime

Despite all your planning, you will almost certainly encounter some unforeseen problems. When this occurs you must have a set timeframe in which to achieve a resolution. If the issue cannot be resolved within that time limit, do not hesitate to activate your rollback procedure, to ensure that systems are available when business resumes.

Post-migration: Maximizing your returns

With your equipment installed and running in the new data center, the migration is almost finished. But there are some additional steps to complete before you can achieve final sign-off.

Monitor, adjust, optimize

Monitor your new environment closely to ensure that everything is stable and running correctly. Check for connectivity bottleneck and that power and cooling supplies are sufficient. You should also review your security provisions to ensure they are properly protecting your systems and data.

And don't forget to document any changes or updates.

Collect feedback

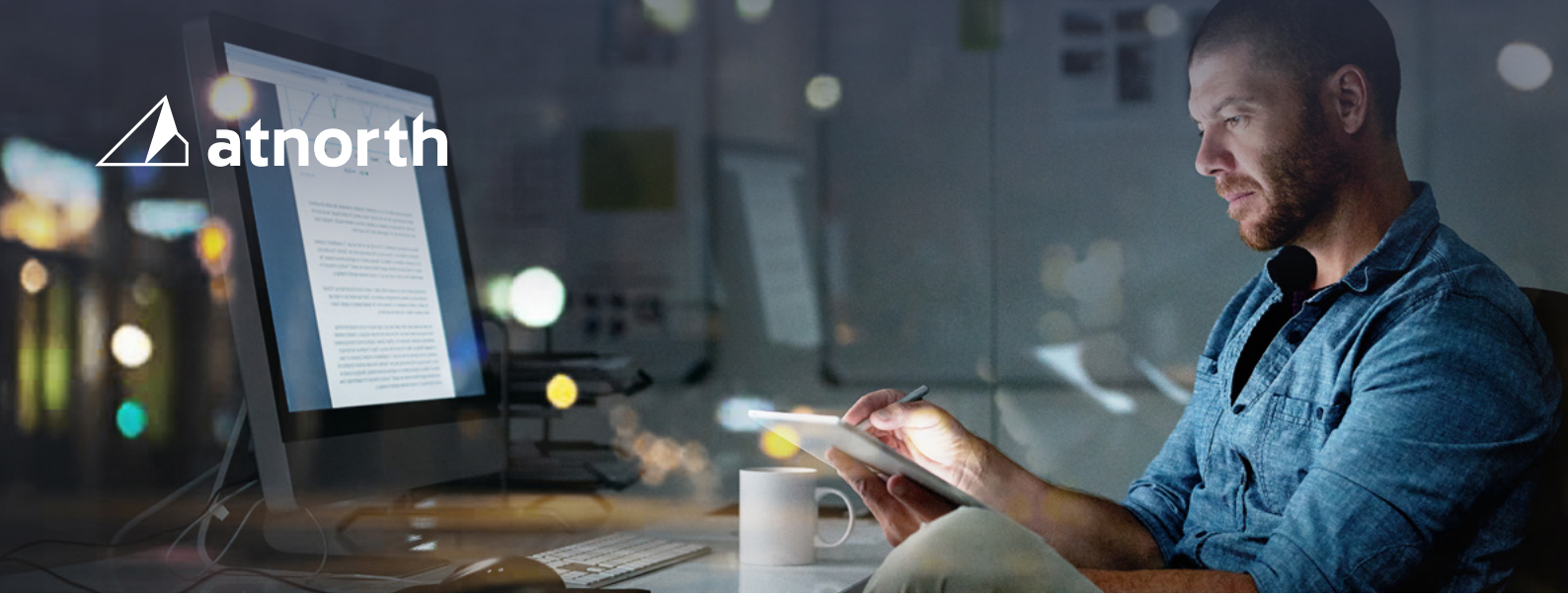
The migrated systems look healthy – but are they delivering against the needs of your customers and users? Always seek feedback from internal and external stakeholders that may pinpoint an unidentified problem – or an unexpected success.

Dedicate support resources to post-migration issues

Your support team are already under pressure to provide day-to-day assistance. Consider dedicating additional resources to dealing with issues directly related to the migration to relieve pressure on the support team and speed up issue resolution.

Hold a full debrief

What went well? What went wrong? Why? These questions – and their answers – hold valuable lessons for future migration projects. Make sure you obtain and document the experiences of your migration team to make sure this knowledge isn't lost. It will help make your next project even smoother.



The data center migration checklist

Stage 1: Pre-migration

- 1. Determine scope of migration
- 2. Identify stakeholders (internal and external)
- 3. Secure budgets and resources
- 4. Confirm requirements (skills, experience etc) to complete migration
- 5. Analyze and document your current systems, software and inter-dependencies
- 6. Visualize and map your future scenarios
- 7. Do a risk and impact analysis and assign appropriate measures
- 8. Inventory your equipment so that it can be moved quickly and safely in the correct order
- 9. Issue stakeholders with up-to-date documentation, instructions and diagrams
- 10. Label all parts and equipment
- 11. Deliver tools and spare parts to the new data center in advance
- 12. Inform the installation team of the new location and logistics routes
- 13. Pre-install, configure and test as much as you can in advance
- 14. Carry out regular readiness tests

Stage 2: Migration

- 1. Brief the migration project team about tasks, procedures and timelines – including rollback scenarios
- 2. Confirm everyone has a copy of the migration plan and that they have read and familiarized themselves
- 3. Check you have all equipment in place
- 4. Make sure that on-site resources will be in ready at the specified times
- 5. Ensure the rack layout has been optimized
- 6. Monitor project progress against specified timelines
- 7. Confirm that work continues to be carried out according to the specified processes and procedures
- 8. Test network and application components as they are installed and activated
- 9. Keep stakeholders updated regarding progress
- 10. Document activities and issues as you go

Stage 3: Post-migration

- 1. Evaluate project outcomes against the plan
- 2. Check effect of climate control systems and data center temperatures
- 3. Check stability of the electricity supply
- 4. Check connectivity throughput and performance
- 5. Confirm security systems are still properly protecting assets
- 6. Verify you still have sufficient rack space capacity
- 7. Check and test support provisions for your users and customers
- 8. Clearly report outcomes to stakeholders once migration is complete
- 9. Obtain final project sign-off

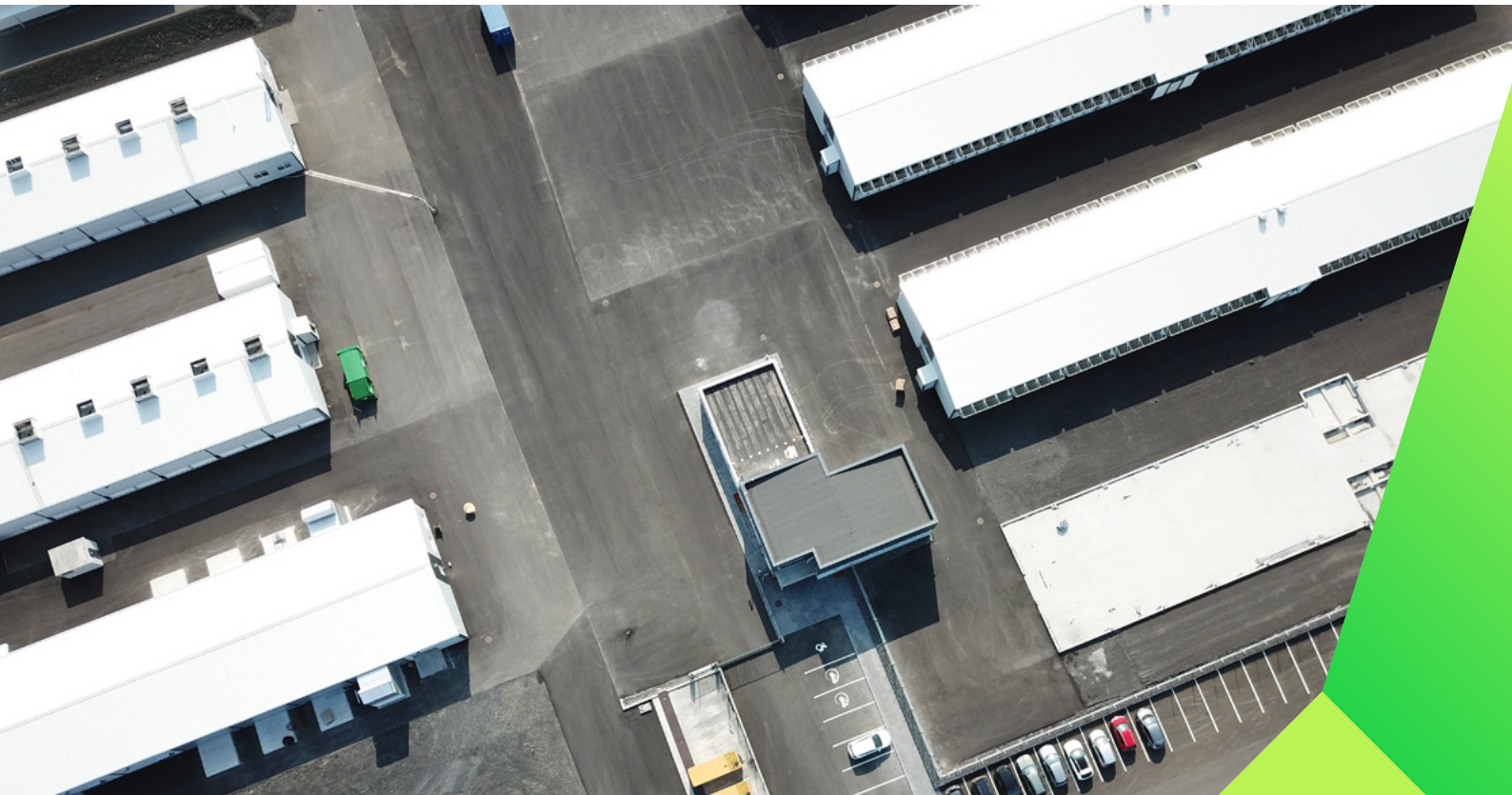


Conclusion

Your data center migration plan can go into minute detail. But as technology and best practices evolve so quickly, your plan can quickly become outdated.

This checklist will help you establish a workable strategy, but you will probably still encounter problems. And this is where practical experience can overcome many challenges.

If you have any concerns at all about completing a major data center migration project, you should talk to atNorth. Our team of specialists have worked on dozens of projects so we can help you navigate the many challenges to deliver a successful migration.



Contact us today to discuss your project and how we can help:

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