



Making Moves: The Atlassian Server to Data Center Migration Playbook

*Your Guide to a Successful
Server to Data Center Migration*

 ATLASSIAN

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Introduction: Making a Data Center Migration Manageable



"38% of data migrations fail, according to findings from Bloor Research."

Companies in the midst of scaling face both challenges and opportunities. For Atlassian customers, a data migration from Server to Data Center could be a smart move that provides the room and flexibility you need to grow. With multiple nodes, vast customization opportunities and worldwide support, Atlassian's Data Center promises to significantly improve users' experience and workflows.

Migration the path isn't always easy. In fact, [38%](#) of data migrations fail, according to findings from Bloor Research. Some reasons for failure include: faulty assumptions that the current data landscape is well-documented and well-understood, lack of a formal approach to data governance, or the absence of a qualified Atlassian solution provider partner equipped to help businesses navigate the migration process.

Don't let these challenges be a reason to put critical migrations on hold! So then, how can businesses confidently make the leap they need without jeopardizing data availability and performance? It comes down to careful preparation, a supportive Atlassian full lifecycle solution provider, and a commitment to making the change work. In this ebook, we'll break down the four components of a successful migration: understanding why a move is necessary for your business, building the right team to support the Atlassian Data Center, preparing for and executing the migration with the help of an Atlassian full lifecycle solution provider, and finally, maintaining performance excellence.



Section 1: Determine If You Need to Make the Move

Before you dive into a migration to Data Center, you'll need to understand the factors that go into your decision. The first, and perhaps most obvious, is size and scalability. As your team grows, the number of people who need access to your Atlassian solutions will increase—and with so many people relying on a single server or federated environment, availability and performance must be able to meet the growing size and demand of your team.



Availability

Moving to Data Center can substantially reduce the risk of downtime thanks to its HA architecture and node-based traffic control. As your team grows in size and expands its geographic footprint, uptime and performance can remain high as long as you have a careful plan for node deployment and load balancing.

By clustering multiple active servers, Data Center also enables uninterrupted access to Atlassian applications. That means that even in the event of a hardware or node failure, users can rest easy knowing they'll still be able to access their applications and continue to be productive.

Performance

As multiple users in distributed locations attempt to access the application at the same time, pages take longer than usual to load and users get bumped offline. What's more, other jobs and queries like APIs can further impact performance.

Atlassian's Data Center solution reduces the risk of downtime and outages by offering a self-hosted deployment option designed to enable teams to scale their operations. By dedicating nodes for specific types of traffic, like particular teams or API traffic, companies can increase the number of users without sacrificing service. As teams grow, administrators can also add new nodes without disrupting existing services.



Know Your Options

What's the difference between Server and Data Center?

Server	Data Center
Runs on a single node	Provides instant scalability by running on multiple nodes; new nodes are added to a cluster to match performance requirements
Does not support Security Assertion Markup Language Single Sign On functionality	Supports Security Assertion Markup Language Single Sign On functionality
Does not offer a zero downtime upgrade option	Offers uninterrupted access for users during upgrades
Does not allow you to archive a project	Allows you to archive a project and preserve the data should you need it later





Atlassian's "Tipping Point"

Atlassian has identified a "tipping point" to help teams realize when they need to upgrade to Data Center: Once you reach 500 people using Jira, Confluence, or Bitbucket, it's time to start thinking about moving to a more stable solution like Data Center. Atlassian recommends a move to an active-clustered environment that provides high availability and supports performance at scale when this tipping point is reached, as applications grow across an organization.

Of course, there is no one-size-fits-all approach to migration, and each team's specific needs will differ based on a number of factors. To determine the best path forward, start by asking yourself these questions to help you get a sense of whether a migration from Server to Data Center is in your immediate future.

- 1. Is the number of users who have access to your server growing?**
- 2. As you scale, is performance degrading?**
- 3. Is downtime costing you profits or productivity?**

If you answered "yes" to any of these questions, it's probably time to make the move. Engaging an Atlassian full lifecycle solution provider who can help guide you through every step of the process immediately increases your chances of a smooth migration.



Section 2: Build a Support System

Once you decide to make the move to Data Center, you'll need a support system to help you through each step of the migration process. By leveraging Atlassian's global online community and hiring a knowledgeable team to advise and execute, you will be well on your way to a successful Server-to-Data Center migration.

Tap into the Atlassian Community

The Atlassian community numbers more than 3.5 million users, and they tap into each other's expertise at <https://community.atlassian.com>. Here you can access a portal of information on various scenarios and products, find articles about the migration process and gain insight into trending activity. You can also pose specific questions to users about migration challenges.

Gather a Team of Experts

Successful migration from Server to Data Center, however, needs the right team in place to support the operation. Most businesses, however, do not have dedicated people readily available to dedicate the time and effort to a migration. Working with an Atlassian full lifecycle solution provider will make the migration process more efficient, allowing in-house resources to stay focused on their core competencies.

The Consultant	The Engineer	The Solutions Architect	The License Manager	The Performance Auditor
Assesses your business needs and makes recommendations before, during, and after migration.	Leads implementation of migration, while taking into consideration the unique aspects of your business.	Analyzes your migration strategy and builds integrations and workflows in Jira, Confluence, or Bitbucket.	Manages renewals, upgrades, and Marketplace Add-On licenses to fit your business needs.	Reviews current tools and business processes, and provides recommendations based on results.





Section 3: Plan and Lay a Foundation

Working with a trusted team of experts can make it easier for Server users to review their current setup and document existing processes, both of which are critical precursors to migration execution. Without that preliminary understanding of existing data infrastructure and processes, it is more challenging to measure the success of the migration and catch any issues that already exist or arise as a result of changes being made.

There are five main steps to help you prepare for migration, and an Atlassian full lifecycle solution provider can help you through them.



1

Identify a Baseline

Test performance of your existing data infrastructure before you start the migration so you can eventually measure improvements. An Atlassian full lifecycle solution provider can step in and offer an unbiased assessment of how your data operations are running, and help you gain accurate insight into what's working and what isn't.

"As a solution provider, we come in and look at what data infrastructure companies have and get an understanding of what they want to gain through a migration to Atlassian Data Center. We present them a plan and determine how hands on they want us to be. Sometimes they'll want us to just provide some guidance while their team does the migration execution. Other times, they hand over the keys and we help handle things from the initial planning phase to the final Data Center deployment."

— Joshua Sneed, Atlassian Engineer, Contegix



2

Document Current Processes and Performance

Review overall system behavior to note any issues so you can monitor whether or not the migration resolves them. Examine API patterns and take stock of any heavy API usage, as that traffic may need its own node in the Data Center.

Be sure to also analyze current backup and recovery processes. Being prepared with these processes can prevent a scramble if an issue arises. Finally, start and maintain a running list of what how performance is being monitored and measured to ensure continuity.

3

Eliminate Performance Issues of Individual Nodes

Data Center's multi-node structure allows for more concurrent users, but it does not necessarily improve the performance of individual nodes. To prevent node performance from declining with the migration, note and iron out any issues before beginning the process.

4

Check on Governance

How users engage with applications affects application performance, and there are multiple aspects of governance that should be considered. (For more information, refer to our blog post, ["Governing Jira With a Project and Workflow in Jira."](#)) It's critical that companies have a good strategy developed in collaboration with a solution partner and a governance committee to apply best practices on data protection, system management, and controlled administration. Regular, agenda-driven reviews of system performance, expansion, changes, and integrations are also vital.

5

Get Rid of Non-Performing Applications

There is no rule of thumb on how many applications are too many, but system administrators and performance monitoring tools should be on the lookout for high overhead applications that reduce system performance, either initially or over time.

Note that once the migration to Data Center is complete, however, traffic updates and indexing for high-overhead applications like test case management or business intelligence tools can be set aside to a designated node in the cluster. This can significantly reduce impact to performance, giving computing power and bandwidth to applications that require significant computing resources.



Section 4: Execute a Successful Migration

Once companies are ready to execute the migration, they'll need to set up the Data Center environment to set the process in motion. An Atlassian full lifecycle solution provider can help build their clusters based on their needs and set the following components up for success. On an ongoing basis, companies should look to this provider to perform monitoring (content checks, host monitoring, and security scans) as well as security and compliance services.



The essential components of the Data Center include:

Load balancer

The load balancer distributes requests from your users to the cluster nodes within the Data Center. There are different options for load balancer algorithms, and an Atlassian full lifecycle solution provider can help you choose the right one for your data needs.

- Round robin: Using this algorithm, the load balancer sends each new session to the next node in the cluster from the last request. This is the most commonly used and easiest to implement algorithm.
- Least connections: In this setup, the load balancer sends new sessions to the node in the cluster that has the least number of existing connections. This has the potential to be a more balanced approach than round robin. However, it's important to watch out for sudden overload of each new node.
- IP hash: For this last option, the load balancer calculates a hash value based on the client's IP address, using it to assign a node to the new session. This algorithm ensures that requests from the same IP address go to the same node, assuming the node isn't overloaded.



Application Nodes

Data Center nodes share the workload of incoming user requests. As you set up application nodes, there are different sizing requirements to consider:

- Node sizing in a clustered Jira environment: For a two-node cluster of Data Center, Atlassian solution providers recommend ensuring that each of the nodes are the same size as your current unclustered Jira. This helps maintain enough resources for high availability and performance.
- Confluence node sizing requirements: When planning for a Confluence deployment, it's important to estimate the scalability based on peak visitors, the editor to viewer ratio, and total content, taking into account reported outages as well. Considering all these elements ensures that you set aside enough load to run data operations without interruption.
- Bitbucket node sizing requirements: The requirements to run Bitbucket depend on a number of factors, including the number and frequency of clone operations, as well as the size of existing repositories, since cloning a repository is one of the most demanding operations. Depending on how often you need to execute this step, you may need more load availability.



Shared Database

To set up a shared database effectively, it's important to ensure that it allows the number of maximum connections across all nodes.



Shared File System

All Data Center applications require a shared file system and all nodes in the cluster should have access to a shared directory in the same path.

Shared file system contents include:

- plugins
- shared caches
- repositories
- attachments
- avatars



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“We recently worked with a teaching hospital in the Pacific Northwest. They are currently building out their Data Center and a lot of our role in that is helping them develop a governance model so that all the pieces work together. We’re helping them set up a general structure that’s scalable and aligns with data best practices.”

-Mick Flanigan, Senior Director Professional Services,
Contegix

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Face Your Fears of Migration

Still on the fence about whether or not your business is due for a migration to Data Center? Consider these top questions that arise around a migration, answered by Contegix's Atlassian experts.

Why can't I just upgrade from a single server to a federated environment?

While a federated environment can offer a bit more scale than a single server, it still has its limits and may not enable the growth that some organizations need.

Will I have enough manpower to manage a migration?

You don't have to do it alone. Not only can you rely on the Atlassian community for support, but an Atlassian full lifecycle solution provider can help you assess your current data infrastructure, plan for the move, and provide continued monitoring.

Will the migration itself be too expensive?

Since Data Center is licensed by user count, you can better predict costs and scale your environment without additional licensing fees for new servers or CPU.

Can I deploy Atlassian in a virtual environment?

62% of Atlassian's self-hosted customers are choosing to deploy their applications on a virtual architecture. Many are leveraging infrastructure service providers like Amazon Web Services (AWS) or Microsoft Azure to do just that.

By upgrading, do I introduce the risk of downtime?

No. With zero downtime upgrades, you'll be able to manage the entire upgrade process without disrupting your end users.

Data Center is costlier than Server. Is it worth it?

It comes down to weighing the added cost against the added benefits. If scalability is becoming a challenge with Server for your company, then the move to Data Center is a justifiable one. Contact Contegix to work with a license solution architect who will help you determine the most cost-effective way to deploy Data Center.



Conclusion

Conclusion: Maintain Performance Excellence

While the transition from Server to Data Center can seem overwhelming, view it as an opportunity to size and scale. Once you decide to make the move, you'll be on the right track toward increased collaboration and productivity across your teams. Then, get to work—leverage Atlassian's online resources and build a team of experts and solution providers. Review your setup and conduct an audit of systems, processes, and overall performance to understand your team's unique needs and ensure they are being met. A successful migration will not happen all at once, and your team will likely need to continue refining aspects of the process even after migration.

So what's next? Once you complete the migration, you must monitor the environment to ensure the best results. With a team of engineers, consultants, and an Atlassian full lifecycle solution provider by your side, you can continuously test and track your application, setting your team up for long-term business success.





About Contegix

Our Story

Your digital applications power your business. Customers and employees expect you to deliver user-friendly, fast, and delightful digital experiences. At Contegix, we understand how critical these apps and the underlying cloud infrastructure are to your success. You need to move quickly, and you can't afford to worry about maintenance, upgrades, downtime, and other system issues. That's why we built our business.

Contegix was founded in 2002 as Atlassian's primary hosting partner and added consulting services to help Atlassian customers customize their toolsets. From there, we expanded our capabilities to support content management systems (CMS), and through our BlackMesh heritage, we have been managing a multitude of mission critical and highly trafficked websites in the world for the last 16 years. We also added extensive Service Desk capabilities,

extending support to your end users, ensuring a great experience.

You're Unique. We Get it.

We understand the complexity of your unique applications, and that's why the industry's most sophisticated Drupal, WordPress, and Atlassian users work with us. We start by offering "concierge-level" application hosting with proactive, personalized support you won't find elsewhere. Then, we partner with you to advance and future-proof your apps, integrating into your team and advising you on best practices.

Our depth of expertise in CMS platforms and the Atlassian toolset paired with our FedRAMP authorization allows us to support and optimize the most complex and secure environments.

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