

# How to migrate IBM Lotus Notes to Microsoft SharePoint



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## Introduction

The migration of mailboxes including e-mails, calendars, tasks, address books and archives from IBM Notes to Microsoft Exchange can be significantly improved using tools like Quest. But if you need to bring IBM Lotus Notes applications to the SharePoint platform, there is more work to do than just clicking a third-party tool's migrate button.



*IBM Domino, which hasn't been hot since last millennium but does what lots of legacy software does: stubbornly refuse to be replaced because some of the apps built on it are useful and/or too painful to replace - [Simon Sharwood, The Register](#).*

In most cases, Lotus Notes applications contain more than just forms and views, but consist of business logic and many individually developed workflows. This means that migrating Lotus Notes applications to a different technology like SharePoint cannot be done automatically. This results in a need to re-create the application to get the best results out of the new platform. A different architecture means a different approach to implement a stable and performant application, and one that your users will love.

This is where WEBCON BPS comes in handy, as a true Rapid Application Development (RAD) platform.



## Reasons for Migrating from IBM Notes to Exchange / SharePoint

There are many reasons organizations choose to migrate Lotus Notes applications. Our clients most frequently point out the following:

### Concerns about the Future of IBM Notes

IBM Notes is stuck on Release 9, which went live in 2013. Although IBM released some Feature Packs afterwards, real development with new features and significant improvements is nowhere to be seen. This state of affairs has brought about legitimate concerns for IBM customers about the future of IBM Notes, and whether the platform can still be relied on in the long-term.

Many of them have decided to leave the platform, while it still works fine and is supported. Microsoft SharePoint is the most commonly chosen replacement solution. In October 2017, to stem the growing loss of clients, IBM announced a partnership with HCL to ensure the further development of new IBM Notes versions. By many, this move were considered “too little, too late”.

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*22 years later, the Notes/Domino ecosystem is almost always legacy software, long since overrun by Exchange for messaging and myriad applications for collaboration. IBM didn't do much wrong with the product, but also didn't do much right: Notes/Domino worked well, but was complex, proprietary and lacked a simple client to generate end-user enthusiasm - [Simon Sharwood, The Register](#).*





## Integration with Line of Business Software

Alongside the drop in popularity of IBM Notes came the decreasing motivation of LOB (e.g. ERP, CRM) vendors to maintain support for integration with Notes. Should a vendor decide to cease support, many clients could be left with data silos, accelerating the need to migrate away from the platform. This in turn accelerates the general trend of losing market share.

## Unification of IT Infrastructure

The need to have one, unified IT ecosystem is most often realized after mergers and acquisitions. Running different mail and collaboration platforms in parallel is difficult and requires costly maintenance requiring a vastly different skillset than the organization is engaged in. It's no surprise then, that companies are wanting to unify their collaboration platforms to save time and money. In the last couple of years, this decision was mostly made in favor of the Microsoft Exchange / SharePoint environment. The success of Microsoft's offer in this field is partly the result of a great availability of knowledge.

## Availability of Knowledge

Most companies want to be aware of their ongoing tech maintenance and further development of their own IT ecosystems. This is where Microsoft definitely thrives, with knowledge databases, communities focused around forums, blogs and MVPs, with the added bonus of a wide variety of conferences. All of these points help provide a significant sense of security. Whether the organization choose to handle their IT systems themselves or not, there's plenty of skilled people available to assist them for a fair price.





## What do you need to know about IBM Notes before migration

Before launching the migration of Notes applications to SharePoint, you have to be aware of some individual characteristics of the IBM Notes platform, so that you can prepare accordingly. Here are the most important ones:

### Quirky Database

The first quirk is that it uses a flexible document database rather than a relational database (like MS SQL Server used by SharePoint). There is some basic structure to it, but it is not consistent and you cannot rely on fields being present across different documents. There is no relational integrity enforced, and no constraints, making the data quite chaotic at times.

An individual record is called a document, and fields used to describe it are defined by forms used for the purpose of interacting with documents. Adding a new field to the form will only affect the newly created and modified documents, but not the ones that were created before the change was implemented.

A lack of relational structures and integrity means you can expect significant redundancy in a Notes databases, and a need to work with links to documents. It's worth keeping in mind that whenever a document that was linked to is deleted, the situation gets increasingly messy. Some custom code can be written to prevent these issues, but this requires significant additional time and a specific skillset to deliver.





## Application Architecture

The complete configurations of applications in IBM notes are stored in the database. That means, all the necessary forms, views, code libraries, navigations, etc., are stored there. A simple Notes application typically comes with only one database file. However, more complex and modular applications are spread over multiple databases which requires significant custom coding and configuration to make the database files interact with one another. This is why the automatic migration of Notes applications to other platform is essentially impossible.

## Parent / Response Document Hierarchy

IBM Lotus Notes uses a special document relationship called response or child documents. This relationship allows developers to build a document hierarchy, which can be drilled down by the user. The document on the top level is called the parent document and can have an unlimited number of response (child) documents. A response document can have other response documents below it, which can be nested. In a relational context, this comes near to a 1:n:m relationship.





## Special Field Types

IBM Lotus Notes has a variety of fields that work in different ways than the comparable fields do in SharePoint. The reader, author or multi-value fields are just a few of the fields that should be considered with extra care during a migration.

Reader and author fields contain users, groups and roles, and define which persons have access to documents as reader (visible or not) or author (can change or delete). A multi-value field stores a list of selected values, which is not only a sequence of characters (string), but also a true list of values, which can be processed using special LotusScript code and formula functions. Multi-value lists can also be used to categorize views, where one document appears for each selected value of the list, but physically only exists once in the database.

Finally, we have rich text fields (RTF), which can store anything. You will often find RTF with dozens of attached files and embedded links to other Notes documents. These doc links point to the Unique ID (UNID) of the target Notes document, and lets users open the document by clicking the link. Of course, one Notes document can contain more than one RTF. Special field types in Notes and SharePoint should be taken into consideration during a migration.





## Rights Management

Rights management in IBM Lotus Notes is quite flexible. Every Notes database has an access control list (ACL) where users and groups are assigned to access levels and roles. These roles can be defined individually for each database application. Using roles instead of users and groups makes it easier to maintain access rights. While flexible, rights management are a big challenge when migrating to another platform like SharePoint, because of the difference in concepts and architecture.

The advantage of using a system like WEBCON BPS for migration is that it combines SharePoint privileges (for sites and pages) with proprietary rights management. Tasks can be assigned based on roles, as well as groups in SharePoint and Active Directory. Additionally, privileges can be dynamically increased or decreased during the course of the business process.

## Replication Conflicts

IBM Notes is famous for its replication capability, which offers a highly sophisticated, bi-directional synchronization engine for Notes databases. Replication can be controlled down to the field level, which reduces the amount of synchronized data dramatically. Replication can be configured between two IBM Domino servers, or servers and IBM Notes clients. This remains the best technology available for taking databases away on your notebook and synchronizing the data in both directions within seconds.

But if the same documents have been changed both on the server and client sides, you will encounter a replication conflict. IBM Notes stores both version of the document (original and conflict) in the database, allowing users can decide which document should survive. Migrating data from IBM Notes to SharePoint therefore means dealing with existing replication conflicts.





## Lotus Formula and LotusScript

Implementing business logic in IBM Lotus Notes database applications is usually done with the Notes Formula language and LotusScript. Both are proprietary and cannot be migrated automatically. Fortunately, modern low-code solutions are available that offer graphical business rules editors that can easily replicate the logic of the original IBM Notes applications.

## Built-In Workflow Capabilities

If you understand Workflow to mean that documents follow a predefined routing path, and tasks are assigned to users, then yes, IBM Notes has built-in workflow capabilities. But without using third-party workflow tools, you cannot design and model any process. The complete document routing workflow must be coded using LotusScript. You cannot define workflow steps, configure actions or task assignments. Everything must be coded. This of course results in a potential maintenance nightmare

If you use tools like GEDYS IntraWare, definition and configuration of workflows is reduced, but you still lack a graphical workflow designer. This continues to make the implementation of complex processes quite challenging.

Regardless of whether you hand-coded your workflows into your applications or used a tool, these workflows are part of the business logic and must also be implemented in SharePoint. Third-party platforms like WEBCON BPS that offer out-of-the-box SharePoint capabilities are often relied on to quickly and efficiently complete the process.





# Best Practices for Migrating IBM Notes Applications to SharePoint

## Identify the Purpose and Business Value of your Application

It may seem obvious, but the first step is getting a clear understanding of what the application does and what processes rely on it. What are the inputs and outcomes expected, and what is the business need the application addresses.

## Analyze and design the workflows and Forms

You also need to understand the underlying processes, which is often a bigger challenge because these processes are rarely documented and frequently involve hard code. The best way to discover and untangle the necessary details of applications is to have interviews with business owners and users.

The next step is to design the process using a no-code, rapid application development platform like WEBCON BPS, since it offers the benefit of rapid prototyping. This allows developers to show tangible results quickly, get meaningful feedback, and improve with the speed of achieving final implementation. One of the biggest advantages of the WEBCON BPS system is its ability to combine all aspects of business applications (workflows, forms, business rules, data models, etc.) within one framework. As a result, introducing any modifications is quick and easy.





## Identify Data Connectivity and Interfaces

IBM Lotus Notes applications, like any other business application, are often integrated with external data sources and systems for bi-directional information exchange. Unfortunately with IBM Notes, integrations often rely on hard-coded solutions. This reveals yet another reason why automatic migration of Notes applications is impossible. On the other hand, migrating to SharePoint and using third-party platforms on top of it allows organizations to leverage pre-configured connections and solve integration issues quickly and in a flexible way.

## Identify User Roles and Privileges

Don't forget to analyze user roles and access rights managements, as you will have to implement it on the SharePoint side as well. A lot of access rights management can be done within WEBCON BPS, which is a natural and convenient solution because privileges and process flows go side by side.





## Build the application using a suitable platform

SharePoint is a powerful platform, but its out-of-the-box capabilities are often not enough to port highly complex business applications delivered on IBM Notes. This is why many organizations use a 3rd party BPM/RAD platform that works on top of SharePoint to address every possible scenario. The best solutions will allow you to approach projects in an iterative way. We recommend our clients to divide migration projects into the following phases:

- Design – defining how the application will be implemented on the new platform
- Pilot implementation – configuration of the new application to work as similarly as the original as possible
- Go live and feedback – releasing the application to the employees and gathering feedback
- Improvements – introducing enhancements based on collected insights.

## Migrating Application Data to Sharepoint

The final step before deploying the application on SharePoint is the migration of data from the IBM Lotus Notes database to the new environment. This is quite a daunting task, because of the differences in characteristics of Lotus Notes databases and modern solutions.

During the data migration you must also remember that it's not about simply putting information from one "container" to another. It's also about the preservation of workflow statuses, keeping all historical data in order, and defining the proper relationships between workflow instances.

Finding a technological partner with experience and expertise in IBM Notes, Microsoft SharePoint, and BPM/RAD systems like WEBCON BPS helps ensure a timely and successfully implemented migration.





**Do you need assistance migrating from IBM Notes to SharePoint? Let us know how we can help:**



VSB is a Lotus Notes expert since 1995, supporting more than 200 Lotus Notes customers across all industries and for all business sizes.

Their expertise covers Lotus Notes support, development and administration, with a special focus on workflow solutions.

As a premium WEBCON partner, VSB is strategically positioned to help clients migrate Lotus Notes workflow applications to the SharePoint platform using WEBCON BPS.

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