Companies Should Look for Complete End-to-End Solutions When Considering Their IBM® Notes® and Domino® Migration Project
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Introduction

Modernization of collaboration platforms is a common trend. More and more businesses are moving forward with cross-browser based business applications that run across multiple devices with the option to move into the cloud.

Unfortunately, IBM Notes and Domino has not kept up pace with this modern transition. This has led to many Notes and Domino customers migrating their email and applications to other platforms. This migration away from Notes and Domino is mostly rooted in fear due to the absence of a clear product roadmap. IBM has muddied the waters over the last several years with a lack of updates, culling of related staff and introduction of competing solutions such as IBM Workplace® and Connections®. At the time of writing this paper, IBM is experiencing their 20th consecutive quarter of declining revenue. This is no doubt a cause for concern for customers and business partners. Attendance at the once popular technical conference formerly called Lotusphere and now branded IBM Connect, has reached record lows and showcased IBM Watson and cognitive computing as the featured technologies.

This transition has been happening for several years now. As of 2015 it has been estimated that there were 36,000 active Notes and Domino customers with an average of 1000 users each. An estimated 40% of those companies used Notes and Domino only for applications, suggesting that many have already migrated their Notes based email. ¹

The market for helping businesses get off the Notes and Domino platform is significant. The reason why this market remains large is due to the lack of truly compelling end-to-end migration and modernization solutions. All too often businesses that have already made the move have had to incur many compromises in terms of cost and functionality moving forward, with many more postponing the transition when they discover the costs are prohibitive.

At DOCOVA® we realized how existing migrations solutions were only partial at best. Businesses need a complete end-to-end solution. A solution that can migrate Notes applications as well as serve as the business collaboration platform for rapidly building modern business applications moving forward.

The successful migration off of an IBM Notes and Domino environment requires a complete end-to-end solution with a solid migration methodology and a platform that supports:

- Cross-browser, Cross-device
- Creating, Modifying, Managing and Running Business Applications
- Browser-based User Interface
- Browser-based Development Interface
- Browser-based Administration Interface
- Mobile and hand held device interface
- Notes Application Analysis Tools
- Notes Application Migration Tools
- Backend Technology Options
- Integration Options
- Pre-built Business Functionalities (Public File Access, Scanning)
- Ability to run on premises or cloud based Platform as a Service (PaaS) solution.

Each of these elements is crucial for an enterprise collaboration platform and for the migration of a Notes and Domino environment. Each is explained in more detail below.
Attributes of a Viable Migration Solution

The solutions that businesses should consider are only ones that have a complete migration methodology that will take them by the hand, ask the questions, identify the complexities and provide the answers that lead to a full and successful migration. The solutions should not only deliver a modern platform that the company can move forward with, but also the tools to automate the migration process.

First and foremost, in order to move off Notes and Domino you need more than products, you need a plan. Plans take time. When starting to devise a migration plan, the details of the project become apparent, businesses begin to realize the size and complexity involved and can start to feel overwhelmed. Feelings of uncertainty can cause businesses to delay or not even try to transform their Notes and Domino environments leaving them vulnerable to their competition.

Delaying the migration process is risky. Notes technical resources are already becoming scarce as they move to other technologies, or simply retire from the work force. If IBM were to retire the Notes client, migrations would be expensive. It would be like trying to find a COBOL developer prior to Y2K. The notion that the Notes client could go away in the near future is often scoffed at, as it was with Micro Channel, Token Ring, OS2, Warp, Workplace, Domino.Doc, Quickr, IBM Foundations and other IBM technologies. Most recently there seems to be a general consensus that XPages, IBM’s technology to modernize Notes applications, is now all but dead.

The methodology used should help businesses manage their time, costs and resources from the analysis and migration through testing, training and deployment. The methodology should help the business split this big project into smaller ones so that the business can start realizing a return on their investment as soon as possible.

Browser-based, Cross-device

Solutions that businesses investigate for their Notes and Domino migration should be ones that are browser-based, cross-device solutions.

Today’s business collaboration platforms have to meet the needs of today’s modern workforce. They need to be able to run on multiple devices ranging from desktops to tablets to smartphones.

The collaboration platform should be a zero-footprint solution and run on all popular modern browsers like Chrome, FireFox, Safari, Opera and Internet Explorer.

Creating, Modifying, Managing and Running Business Applications

If you are going to migrate Notes business applications, then it stands to reason that the solution that you need will have to be a platform on which you can run business applications. Indeed, the target platform should enable businesses to not only run migrated applications but also continue to enhance them, manage them and continue to create new applications within the same development interface as the migrated applications.

Many migration solutions do not have this capability. A solution may migrate your Notes applications to something like ASP .Net for example, however, it might lack a cohesive development, administration and user interface for using, changing and administering these and new applications. Even if these converted applications are leveraged through something like SharePoint®, SharePoint does not have the same constructs and elements that Notes had, making the development of new applications different and separate from the migrated ones. Businesses end up having to learn and support different ways of developing and supporting applications moving forward.
The only way around these disparate solutions is to engage in reengineering and redeveloping your Notes applications on the target platform, which is exactly what most migration "solutions" try to convince companies to do.

Notes applications were powerful due to the usefulness of their application building elements and constructs like forms, subforms, views, controlled access sections and response documents to name a few, and multiple security levels, including document level controls. The target platform should support these elements out-of-the-box so that migrations are more precise, and the continued development of migrated applications as well as new applications can leverage these types of elements.

**Browser-based User Interface**

What good is a migration solution if it doesn’t provide a user interface on the target platform for the applications once they are migrated? Notes had a Workspace where users could quickly and easily manage the applications they had access to. However, there are no migration solutions on the market today (aside from DOCOVA) that provide both the ability to migrate the application to the new platform, and have a user interface for managing the applications inherent to the solution.

Look closely at demos of other migration solutions. Even though they might try to show that the migrated application looks very similar to what it looked like in Notes, in a lot of cases you will find that they’ve actually lost the navigational constructs of the application. With some solutions, after you import the different Notes application elements (Forms, Views) the way they are connected is lost. Just because a Notes application was migrated to “modernize” it and have it run in a browser client, the operation of the application shouldn’t be compromised. If it is, then you will have to re-engineer your business process to accommodate for what the new platform cannot do. With DOCOVA, the functionality you had in the Notes application is more accurately retained.

**Browser-based Development Interface**

The target collaboration platform for your Notes migration project should have a browser based development interface for managing and enhancing migrated Notes applications and for creating new applications. This alleviates the need for additional software and having multiple interfaces to create and update your apps.

Applications should be able to be built in this development interface with no coding, but also cater to deeper application development needs by providing the developer with extensive development tools to build sophisticated business applications rapidly.

Without a browser based development interface, the target collaboration platform would be limited in the cloud as a SaaS or PaaS solution. Moving your Notes applications into a cloud PaaS solution would be difficult without it.

The platform should have an object model similar to what Notes and Domino had and a development API and formula language similar to what Notes and Domino had. Having these components will make migrations go more smoothly because there is a more direct functionality path and existing IT staff familiar with the current environment will easily understand and adopt the new interface.

The development interface should also have a Web-services API to aid in integrations. See the discussion on integration options for more information on this topic.

Although popular development interfaces, such as Microsoft’s Visual Studio, are familiar to developers and therefore do not need to be “learned”, that can be offset by the amount of time it makes to actually make a
change to an application. There is no cost benefit if you save having to learn the design interface but it takes you 10 times the effort to implement a change, every time you need to make a change.

When you have to add functionality to products like SharePoint they are typically done at the code level. One of the big benefits of Notes was Domino Designer. It allowed for the rapid application development that resulted in the viral growth of Notes Applications. **DOCJAVA’s App Builder™** gives you that same capability.

**Browser-based Administration Interface**

The target collaboration platforms that businesses should be considering are ones that have a browser-based administration interface.

A Notes and Domino migration is not just about the applications, it’s about the collaborative platform that the business is moving to.

An administration interface should allow administrators to set options for the platform, manage users, applications, security and much more.

Without a browser based administration interface, the target collaboration platform would be limited in the cloud as a SaaS or PaaS solution. Migrating off Notes and Domino and to the cloud would be more difficult to manage and administrate without this feature.

**Notes Application Analysis Tools**

One of the first phases of migrating off a Notes and Domino environment is the analysis of current Notes applications.

There are many excellent analysis tools on the market today that will provide all kinds of information about your Notes applications, but typically the analysis will perform two major tasks. One is to determine what Notes applications are still being used and the other is determining the complexity of the design of the applications.

Knowing what applications are being used helps businesses to determine what Notes applications need to be migrated and which ones can be archived or retired.

Knowing the design complexity of a Notes application is supposed to help in determining how long it will take and how much it will cost to migrate. However, when ascertaining the complexity of the design of an application many analysis tools fail to take into account specific issues related to the target platform. This means that a Notes application analysis performed with these tools has a certain amount of added inherent risk.

The analysis tools being used should assist in the migration methodology by enabling applications to be grouped or classified together for migration. This capability allows businesses to then leverage different approaches for migrating based on their needs. For example, one company might migrate by department, whereas another company might migrate based on complexity or “quick wins”.

Businesses should be looking for migration analysis tools that are designed for the target platform the Notes applications will be migrated to. Analysis tools that know what their target platform is can expose technical items that might be problematic in a migration. This will reduce risk and help the technical resources to focus their attention on any anomalies that might need attention.
The **DOCOVA Analyzer™** is specific to migrating Notes apps to the DOCOVA platform. It is designed to look at applications with that in mind, and rank the complexity accordingly. It deliberately seeks out code that is a challenge to migrate to a browser based platform.

**Notes Application Migration Tools**

Certainly when everyone talks about “modernizing” Notes applications they are talking about converting them so that they run in a browser environment. The target platform for a migrated Notes application should have a standards based, browser interface.

Businesses should be looking at migration tools that help them automatically migrate all aspects of their Notes applications to the target platform without having to re-engineer the underlying business process. This will help keep costs down. This includes the migration of user interface, business logic, security, database schema and data.

The user interface includes design elements such as forms, subforms, views, image resources and so on. Typically the components used to make up the interface that users interact with.

The business logic is the LotusScript® code, and the @formula and @command languages found in libraries, agents and other elements of a Notes application. The LotusScript, @formula and @command languages should be translated into the target programming languages required on the new platform in an automated fashion. Most companies do not have one or two Notes applications. They have dozens, hundreds or in some cases thousands. You need a tool that can do the heavy lifting and convert the code for you rather than having to manually convert or rewrite it.
Security refers to the security throughout the Notes applications such as application control lists, authors and readers fields, controlled access sections as well as directory authentication. All of these should be translated to the new platform.

Database schema is the translated backend database schema that is required to organize the attributes and data of the application. On relational databases for example, this means the automatic creation of tables and objects.

All data in the Notes application including, text, richtext, attachments, doclinks and meta-data should all be migrated to the new platform.

**Backend Technology Options**

To avoid being locked into back-end vendor technologies, businesses should ensure that the collaboration platform that they are moving to is flexible enough to run on different back-ends so that they have the choice to select options like MS SQL Server, MySQL, Domino or DB2 for example.

Having a solution that works with many types of database platforms allows businesses to be able to switch out the back-end if needed in the case of changes in company policies or technology discontinuances. In these cases, massive cost saving are realized when a switch only requires the movement of data to the new back-end database.

**Integration Options**

Businesses should seek collaboration platforms that can talk to other systems as well as facilitate the ability for other systems to easily talk back. These other systems can be other software applications like ERP systems, or desktop applications.

The collaboration platform should be able to make calls into other systems in order to leverage and integrate the information from those systems. At the same time, the platform should provide a web-services API to allow external systems to do the same.

Businesses should also be looking for collaboration systems that have integration points that can more deeply and securely integrated with file systems or with the API’s of desktop applications like Word and Excel.

**Useful Pre-built Business Functionalities**

In addition to everything mentioned above, businesses should only consider target collaboration systems that have extended, built-in functionalities demanded by today’s workforce. Features like public file access and paper scanning integration make it much easier for people to work in today’s business environment.

**Ability to run on premises or cloud based Platform as a Service (PaaS) solution.**

With the explosion of the cloud, businesses should seek solutions that provide options for moving to the cloud. Not all companies are willing or can move their business applications into the cloud and hence a solution that can be run on premises, in the cloud as a Platform as a Service (PaaS) solution, or a hybrid combination of the two is desirable.
Existing Migration Solutions

Aside from DOCOVA, there are currently no enterprise collaboration platforms we know of that include their own analysis and migration tools.

Existing Notes migration solutions can be grouped into five categories:

- SharePoint Vendors
- Analyzers
- Archivers
- Emailers
- Others

SharePoint Vendors

Until now, the most common target collaboration platform for migrating off Notes and Domino has been Microsoft SharePoint. SharePoint does not have any native migration or analysis tools for a Notes and Domino environment. These solutions are provided by third party vendors.

The problem with this approach is that in many cases there can be a separation between the analysis and migration and the target platform. SharePoint has its own object model and API, which is considerably different than what is found in Notes applications. Third party migration tools provide a disjointed solution from the rest of SharePoint causing the business to now have to manage and support different environments for their applications.

“[SharePoint is] used by organizations of all sizes and in all industries to create and manage intranets, offer collaboration capabilities and manage content, but there is less satisfaction with and usage of it for other scenarios, such as a custom application platform and as a business intelligence tool...”

So why then have so many companies moved to SharePoint? Until now, SharePoint was the only game in town. Arguably the uptake of SharePoint has been due to the lack of attention given to Notes and Domino and by IBM continually trying to mine the community for new product sales that move customers to different and often more expensive technologies.

SharePoint is fine for standard template Notes applications that are simple, like a discussion or document database. However, when it comes to custom Notes applications, even simple ones, migrating becomes more difficult, complex and costly because the two platforms are vastly different. Moving Notes applications to SharePoint is like trying to drive a square peg into a round hole. As a result, businesses that move to SharePoint make sacrifices and compromises when moving their Notes applications.

“According to Forrester's research, SharePoint is seen as a key platform for managing unstructured content and enterprise collaboration.” “What's clear [...], is that SharePoint is not a popular choice for external-facing apps or business intelligence (Bl).”

Analyzers

“Analyzers” are solutions where vendors garner attention to their product via a “migrate off Notes” message but are only the analysis portion of a migration project. These analysis tools often rank Notes application complexity in terms of low, medium and high depending on the number of design elements and lines of
code. However they do not take the target platform into account, hence a seemingly low complexity application might in fact be more difficult to migrate compared to a higher complexity ranked application.

**Archivers**

“Archivers” are solutions where vendors talk about “migrating” your Notes applications, but their solutions are more about archiving your Notes data into their separate software solution. The data becomes searchable, but the applications are lost and not part of a strategic business collaboration platform moving forward. Whatever collaboration platform a business then decides to use, must somehow be integrated with these disparate and unrelated solutions or users are forced to jump between different systems.

**Emailers**

“Emailers” are solutions where vendors talk about “migrating” off Notes to something like MS Office 365, where the migration is actually about migrating your Notes email to Outlook/Exchange. It’s not about your Notes applications. Some vendors will talk about the number of Notes and Domino users they have migrated, but when digging deeper, these vendors are only talking about email.

**Others**

“Others” is a category of vendors that talk about “migrating” off Notes, and how easy it is with their system, but there really is no automated migration solution involved.

When it comes to migrating custom Notes applications, this type of vendor will try to convince companies to retire as many applications as possible, find off-the-shelf solutions or totally re-build your apps on the new platform. This is not an application migration. The reason why companies had Notes was to build applications that suited their business to make them more efficient and competitive. The solutions offered by these types of vendors abandon that concept.

These vendors will try to argue that your Notes applications’ code is old, so why would you want to migrate it. This is simply untrue. Companies that are still using Notes and Domino are still making modifications to their code. If the company is using the application then obviously the business logic is relevant and needs to be converted.

The “Others” make these arguments because they don’t have the end-to-end methodology and tools to actually perform the migration and modernization of the Notes applications, never mind the target platform.
The Case for DOCOVA

Migrating off of Notes and Domino can be complex and the amount of detail to consider can make the prospect of a migration feel daunting. Businesses need to seek complete, end-to-end solutions that facilitate the automation of migrating their Notes and Domino environment. The conversion and migration of applications needs to be accomplished via a logic plan that demonstrates progress quickly but does not overly tax users and technical resources. Rapid adoption of the new platform enables businesses to begin realizing faster ROI and removal of the license costs associated with Notes and Domino.

In our opinion, there is no solution for Notes and Domino migrations like DOCOVA. There is no other technology we know of that facilitates a complete end to end migration. We understand what was unique to Notes and leverage that knowledge to deliver the required fidelity to DOCOVA. Our tools and methodology help customers avoid process re-engineering, and provide a way for them to cost effectively modify migrated applications and continue to create new ones.

The DOCOVA enterprise collaboration platform coupled with the DOCOVA Notes/Domino® Migration Methodology forms the most complete end-to-end solution for migrating from Notes and Domino.

Methodology
DOCOVA is the only complete end-to-end migration solution for moving off Notes and Domino.

DOCOVA provides a complete transformation that will take companies by the hand and lead them to success, faster and more cost effectively than any other solution available today.

The migration methodology takes businesses through four stages: Analyze, Plan, Migrate and Manage.

Analyze
Initially, using DOCOVA’s integrated analysis tool called **DOCOVA Analyzer™**, businesses can analyze their Notes application environment to gain deeper insight into their applications for decisions that will be made in the planning stage.

Companies will be able to get an assumptions based estimate as to the cost and duration of their migration project.

The DOCOVA Analyzer has the ability to group applications together. This capability is integrated with the planning stage of the migration methodology.

The DOCOVA Analyzer also identifies possible code issues to help direct attention to certain areas in specific migrated applications. This helps to reduce risk and focus developer and technical staff efforts to aid in more rapid migrations. This capability is integrated with the migration part of the migration methodology.

**Tools used:**
- **DOCOVA Analyzer™**
Plan
When it comes to migrations, companies need more than a product. They often have the desire to switch platforms but have no plan to execute in order to reach that goal. Once companies have their environmental data in hand, they can begin the planning stage. Using DOCOVA’s “Your Plan” planning process, companies can quickly start to organize their migration. “Your Plan” walks organizations through everything from what apps to move first to retiring your Notes clients and Domino servers, to testing and training.

Tools used:
- DOCOVA’s “Your Plan” working document.
- DOCOVA Analyzer™

Migrate
Unlike platforms like MS SharePoint® and Office 365®, DOCOVA was made for Notes application migrations. DOCOVA was built with similar types of UI constructs and an object model and API that closely follows what was found in Notes, while also accommodating modern internet based technologies.

When migrating a Notes application to DOCOVA, the Notes application design elements are converted into modernized versions of those elements in DOCOVA. User interface, business logic (LotusScript and @formula language) are migrated to the DOCOVA UI, API and scripting languages that have similar object models and structure.

DOCOVA truly helps companies avoid business process re-engineering their applications, an activity that is costly and disruptive to business units.

Not only will the integrated DOCOVA App Importer™ migrate your applications it will also archive applications in the DOCOVA platform. Unlike other solutions, this allows users to search and use the information in archived applications, all within the same user interface as their up-to-date live applications.

Tools used:
- DOCOVA App Importer™
- DOCOVA Analyzer™

Manage
Once Notes applications are migrated to DOCOVA, your business can move forward with DOCOVA as their enterprise collaboration platform conducive to managing your content and business applications.

Users will easily and quickly adopt the browser based user interface to collaborate and share information.

Developers can continue to modify and update migrated applications, plus create new business applications critical to your business needs using the browser based integrated application development environment (IDE) called DOCOVA App Builder™.

Administrators can leverage the browser based administration interface to manage and control the DOCOVA environment and instances.

Tools Used:
About DOCOVA®

DOCOVA® is an enterprise collaboration platform (ECP) and platform as a service (PaaS) solution developed by DLI.tools Inc.

DLI.tools Inc. has been providing Notes and Domino consulting services and products for more than 18 years. Having developed hundreds of applications across every industry, our knowledge of Notes and Domino is extensive.

Our expertise in Notes and Domino coupled with our prolific custom application development expertise and commercial product experience positions us as a key resource when it comes to understanding Notes and Domino migration projects. We have migrated thousands of .NSFs to DOCOVA including custom applications and DDM and Quickr environments.

Along with DOCOVA, DLI.tools has created other commercial software products such as the DLI.Uploader/Pro™ and thingFactory™. These browser based toolkits have been sold to hundreds of companies worldwide.

DLI.tools has won 11 awards for its DLI.Uploader/Pro and DOCOVA software products, ranging from IBM Beacon awards to technology publication awards.

DLI.tools Inc is headquartered in Mississauga, Ontario, Canada just outside of Toronto with business partners in Europe, North America and Australia.

For more information on migrating your Notes and Domino environment to DOCOVA contact us at www.docova.com.

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http://redpillnow.com/lotus-notes-mark-share/


[3] Barb Mosher Zinck (CMS Wire), Feb 2013, Forrester: Business Isn't Happy with SharePoint, But IT Seems To Be

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