White Paper

Migrating Lotus Notes Applications to the Cloud Using the CIMtrek migration tools

CIMtrek Ltd
Introduction:

CIMTrek has been created to help organizations modernise their legacy applications and smooth the migration to new platforms including the Cloud.

Everyone's talking about the cloud. The benefits are well understood, the impact is real and we even helped write the book.

So what is CIMtrek all about? Simple really CIMtrek is here to modernize your existing applications and facilitate the journey to the cloud.

Our technology:

- Helps you understand the magnitude of the migration journey.
- Automatically migrates legacy IBM Lotus Notes/Domino applications to cloud platforms, such as the Google Application Engine or Azure from Microsoft, as well as on premise platforms such as Websphere from IBM.
- Enables your migrated applications to mirror closely the way your existing applications work
- Opens up locked away processes and data ready for additional modernization and new uses

Enabling you to protect your Intellectual investment and extend the scope and reach of your data and applications.

Reading this paper will give you an insight into what we do and you will see that, uniquely, CIMtrek does far more than simply generate a new HTML based user interface that pretends you have a web application that's ready to use.

What we do is quite unlike anything that has gone before.

By taking a holistic view of the application and applying some artificial inference, we are able to break down the application into its component parts and rebuild it as an n-tier application that is highly efficient, very performant and mirrors the way you used the original Lotus application. As a result you reducing expensive re-training and ensuring faster adoption of the new technology used.
The application is managed by the CIMtrek service. This is a Restful web service following MVC pattern as much as is practically possible. It is made up of following logical components as the base layer: -

- **Data Access Layer**: this includes data access logic and database connection handling with a relational database;
- **An object data model and is mapped to the relational database tables / fields**;
- **Business/Application Logic**: responsible for handling all the Notes application logic and data communication to the client via HTTP request / response protocol.
- **Authentication & Securities**: this is used to handle user authentication/securities.

The components have been written and designed in the manner that they can run on a web server as well as an application server. However, please note that server architecture might change or may require additional wrappers depending upon the target hosting platform.

CIMtrek uniquely allows you to deploy and execute the applications in the most appropriate environment and platform – from full on premise to total cloud or a hybrid of the two options.
The Process of Migrating:

What do I need to migrate?

Before we can migrate an application we need to understand some of its characteristics. In order to do that we run what we call the discovery process. This process accesses your Domino server(s) and provides you with a complete list of all the NSF files you have. We can analyse those in detail to determine what needs to be converted and how much effort it might take.

The following screen shot shows the outcome of this process in more detail:

Document Libraries and attachment migration:

As part of the CIMtrek Lotus Notes migration suite we have the capability to extract not only the data from and application but the attached documents (word, Excel, PDF etc.) and move them to the repository of choice – in the example shown below we are using Google Docs. Cimtrek will run through application denoted as type DocLib and move the documents to the users directories as required.

The following screen shots show how this process works and the results of the migration.
Step1: Select the nsf.

Step2: Select “Doc Export”. You will see a list of attachments to.
Step 3: Select the destination for the documents from the drop down, in this case “Google Docs” is selected. Enter user credentials select upload button.

Step 4: Documents are uploaded.
Step 5: Completion of upload process.

Step 7: When uploaded, Cimtrek creates a folder with the same name as that of the nsf and the documents are kept/uploaded inside the folder.
Creating the SQL database:

One very powerful component of the migration suite is the ability, and the touch of a button, to generate a SQL database structure and populate it with the data held in the unstructured Notes environment.

The following screen shot shows how it’s done:

The data migration can be performed as part of an overall migration or can be done without having to migrate the rest of the application’s components.
The Application Migration Process:

As seen above, CIMtrek will analyse the applications functionality to determine how it works and what it does. We then take the application and break it down into its component parts ready to migrate it. The component parts are in the appname.CIM file.

Extracting to CIM

Once everything is in an open format CIMtrek generates a new application using a traditional Client/Server architecture for implementing migrated applications. The migrated applications are delivered via a browser and therefore the solution requires a webserver (IIS or JBOSS or whatever), either reusing what you have today or a dedicated platform (in-house or cloud based). The data used by the migrated applications resides in a database – this can be Oracle, SQL, MySQL etc. Again the database can be dedicated to the CIMtrek migrated applications or can reuse an existing implementation of an existing database environment you have today.
Generating the new cloud based application:

The migrated application – and the key word here is “application” comprises the following logical components:

- **Authentication & Securities**: this is used to handle user authentication/securities.
- **Business/Application Logic**: for handling all the Notes application logic and data communication to the client via HTTP request / response protocol. Is also used to communicate with the database and Authentication and Securities components.
- **Data Access Layer**: includes data access logic and database connection handling with a relational database;
- **The object data model**: that is mapped to the relational database tables / fields;

When the migrated application is deployed, the CIMtrek “server” is simply your database, webserver and application servers, which as stated above, can either be using the existing servers you have or a dedicated environment. In other words it is not an environment that needs to be managed in its own right unless you want it to be.

This unique approach allows you to migrate to Cloud, On-Premise or Hybrid environments – you can even put your applications in more than one place – quickly and easily.
The Architecture of the migrated application

What Next?

The output from the Migration tool delivers, on average, 85% of the functionality found in the original Notes application. This means that there is remedial work and testing to do to ensure the new cloud application fully meets the user's requirements.