# CoexLinks Migrate 4.10

## User Manual

(Updated Novmber 7, 2017)

Genii Software Ltd.
http://www.GeniiSoft.com

# Table of Contents

# **1** Overview

*This chapter will discuss what* CoexLinks Migrate *is, what business problems it is designed to solve, and how it goes about solving them.*

## Description

CoexLinks Migrate is a recent addition to the CoexLinks family of products. All three products in the family, the other two being CoexLinks Fidelity and CoexLinks Journal, are specialized software extensions that run on the IBM Domino server (including earlier versions when this was known as the IBM Lotus Domino server) using IBM's "extension manager" and "server add-in" technology to allow interception and modification of mail for high fidelity rendering and encapsulation. CoexLinks Migrate processes existing emails in IBM Domino mail user databases as a batch or on-demand process.

## Purpose

CoexLinks Migrate processes existing email in IBM Domino mail user databases by encapsulating each email into a standards-based MIME email format. Rich text emails are rendered with our proprietary, high fidelity rendering engine prior to encapsulation.

CoexLinks Migrate has a variety of related use cases:
- Migration of existing emails to another email system so that all old and new emails are available to the user via the new email system.
- Conversion of existing emails in-place, often used for customers moving to IBM Verse or IBM SmartCloud Notes whose email clients require standards-based MIME formats.
- Data warehousing (aka journaling) to either a proprietary or third party email vault or data repository, thus providing for compliance, surveillance and discovery. Often used in conjunction with CoexLinks Journal, which allows data real-time warehousing for email as it flows through Domino.
- Retrieval on-demand of specific emails based on search criteria.

This manual will emphasize the options most useful to CoexLinks Migrate for the different use cases.

## Security

CoexLinks Migrate works within the IBM Notes/Domino security model. Unlike the other two CoexLinks products, Coexlinks Migrate may be run on either the Notes client or the server. When run on the Notes client, it has the privileges, security level and decryption capability of the Notes user whose id is used. When run on the Domino server, it has the the privileges and security level of the Domino server. This ensures that encapsulation, and when necessary, the MIME conversion, can be made on all e-mails successfully.

A variant of the Message Store available now with CoexLinks Fidelity will be included with a future version of CoexLinks Migrate as customer needs are better defined.

## Flow through Domino

The following diagram shows the flow of messages through the Domino server with CoexLinks Migrate.
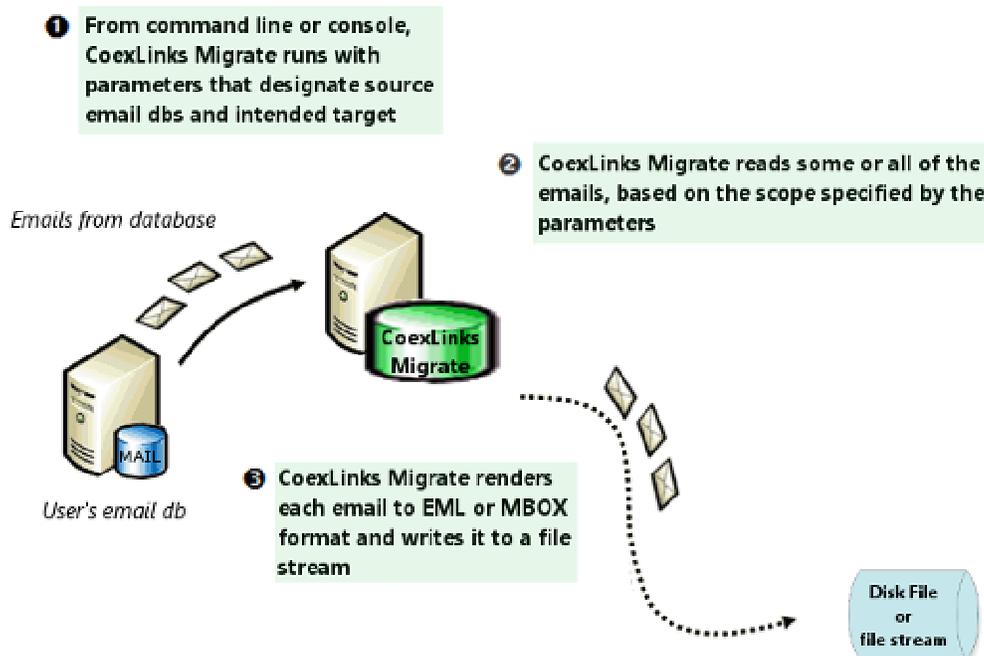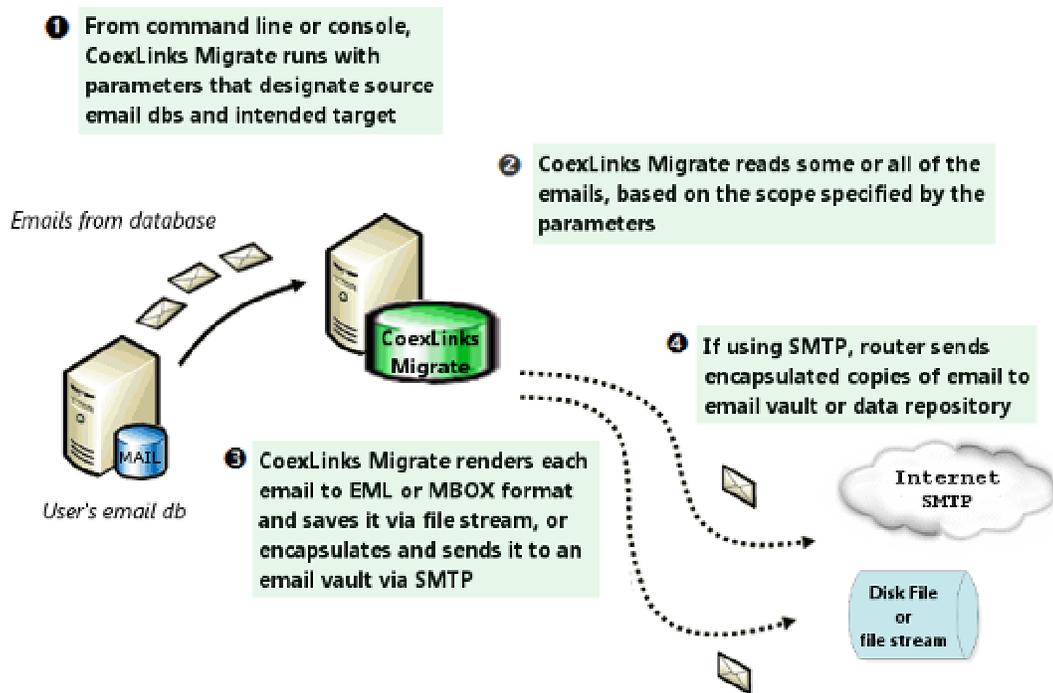
## CoexLinks Migrate used with CoexLinks Journal

The following diagram shows the flow of messages through the Domino server with CoexLinks Migrate when it is used along with CoexLinks Journal to feed legacy messages into an email vault or data repository. Often, when a customer starts to use CoexLinks Journal for current messages, they also need to use CoexLinks Migrate to get all the preceding messages into the same data store.

# CoexLinks Migrate flow
## when used with CoexLinks Journal

❶ From command line or console, CoexLinks Migrate runs with parameters that designate source email dbs and intended target

❷ CoexLinks Migrate reads some or all of the emails, based on the scope specified by the parameters

*Emails from database*

**CoexLinks Migrate**

MAIL

*User's email db*

❹ If using SMTP, router sends encapsulated copies of email to email vault or data repository

❸ CoexLinks Migrate renders each email to EML or MBOX format and saves it via file stream, or encapsulates and sends it to an email vault via SMTP

Internet SMTP

Disk File or file stream

# 2

# Installation

*This chapter will discuss exactly how to install and configure CoexLinks Migratey to run on your Notes client or Domino server.  It includes examples of the most common configuration entries for your NOTES.INI file.  Additional information on configuration options can be found in Chapter 3 – Configuration Options. Information on monitoring the activity of CoexLinks Migrate, including debugging and tracing options, can be found in Chapter 4 – Monitoring and Debugging.*

## Preparing for Installation

In order to install and configure CoexLinks Migrate, you will need both the software and the software license.  The CoexLinks Migrate software is available from the Genii Software website from the CoexLinks Migrate Download page at http://www.GeniiSoft.com/showcase.nsf/CoexMigrateDownloads, while the CoexLinks Migrate license, whether an evaluation license or the production license, must be obtained from Genii Software or a reseller.  Be sure that you have the appropriate software for your Notes client or Domino server's operating system and Notes/Domino release.

## 1. Stop the Domino server

Depending on your use of CoexLinks Migrate, you may or may not need to stop the Domino server. If you need to change Notes.INI configuration, you should first stop the Domino server or Domino service.  The same rule applies for upgrades to CoexLinks Migrate.

You may need to edit your Notes.INI file to add and modify some options, listed below in the **Configuration Options** chapter. If so, open the Notes.INI file, make the necessary changes and proceed to the next step.

## 2. Copy the software and license into appropriate directories

The CoexLinks Migrate software consists of two files: a server add-in executable that is also used for command line processing and a DLL that is used for programmatic retrieval of documents based on search criteria. The names vary by operating platform. Note that even on 64-bit Windows systems, the 32-bit version should be used if 32-bit Domino is used. Also, system restrictions make it necessary to name the DLL the same name on both 32-bit and 64-bit systems, but they are not interchangeable.

Linux 32-bit:  **cxmigrate32** and **libdbcxmgr.so**
Linux 64-bit:  **cxmigrate64** and **libdbcxmgr.so**

Windows 32-bit: **nCXMigrate32.exe, MidasAssist32.dll** and **ndbCXMgr.dll**
Windows 64-bit: **nCXMigrate64.exe, MidasAssist64.dll** and **ndbCXMgr.dll**

The software files go into the *program* directory (aka *executable* directory) where the Notes client or Domino server software resides. Copy the license file, named **cxmigrate.lic** for all operating systems, into the Notes or Domino *data* directory.

You may need to edit your Notes.INI file to add and modify some options. If so, open the Notes.INI file and proceed to the next step. Steps for modifying the Notes.INI information on different server platforms can be found in the appropriate Domino server documentation.


## 3. Restart the Domino server, if necessary

When you have finished making changes to the Notes.INI information on the Domino server, and made sure they are saved, you can safely restart the Domino server or Domino service. If the CoexLinks Migrate software is properly loaded, you will see a few messages along the lines of:

11/04/2017 09:00:32 AM  CoexLinks Migrate 4.10: Copyright (c) Genii Software Ltd., 2016-2018 - All Rights Reserved

11/04/2017 09:00:32 09:00:32 AM  CoexLinks Migrate Evaluation license (expires 12/15/2017 MM/DD/YYYY)
11/04/2017 09:00:32 09:00:32 AM  CoexLinks Migrate V4.10, By lic.#5938, Evaluation License - Development Use ONLY!

These messages indicate that CoexLinks Migrate has been loaded with an evaluation license. The production license will only contain the first of these lines, though it may be shown a few times as the various processes are loaded:

11/04/2017 09:00:32 09:03:01 AM  CoexLinks Migrate 4.10: Copyright (c) Genii Software Ltd., 2016-2018 - All Rights Reserved

# 3

# Configuration Options

*This chapter will list configuration options which are commonly used with CoexLinks Migrate, though all are optional.*

## COEXIncludeDraftMsgs

By default, CoexLinks Migrate does not migrate draft emails, but this option allows them to be included.

COEXIncludeDraftMsgs=0     (not included - default value if parameter not included)
COEXIncludeDraftMsgs=1     (included)

## COEXIncludeCalendarMsgs

By default, CoexLinks Migrate does not migrate calendar entries emails, but this option allows them to be included.

COEXIncludeCalendarMsgs=0 (not included - default value if parameter not included)
COEXIncludeCalendarMsgs=1 (included)

## COEXResolveGroups

By default, CoexLinks Migrate does not expand groups, but simply uses the group name. Because group members may have changed since the email was sent, listing the members may give incorrect information about who received an email. Nonetheless, there are certain cases where the groups should be expanded, and this option allows that expansion. If a group is expanded, all nested groups will also be expanded.

COEXResolveGroups=0     (no lookups - default value if parameter not included)
COEXResolveGroups=1     (lookup canonical Notes names for InternetAddress)

## COEXResolveINET

By default, CoexLinks Migrate uses names as they appear in the various From, Sender, To, Cc and Bcc items, but this option allows them to be resolved to use the InternetAddress item in the Person document when it is found. COEXResolveINET=1 will only resolve canonical names (e.g., CN=Joe Schmoe/O=Any Firm might become jschmoe@anyfirm.com). COEXResolveINET=2 will attempt to resolve any names, including internet addresses, so that if LeadCounsel@anyfirm.com is an alias for Joe Schmoe, it would also become jschmoe@anyfirm.com. This latter setting may slow down the migration considerably.

COEXResolveINET=0     (no lookups - default value if parameter not included)
COEXResolveINET=1     (lookup canonical Notes names for InternetAddress)
COEXResolveINET=2     (lookup all names for InternetAddress)

# 4

# Migration Use Cases

*This chapter will discuss how to prepare for and execute migrations based on individual use cases.*

## Preparing for Installation

To install and configure CoexLinks Migrate, you will need both the software and the software license. The CoexLinks Migrate software is available from the Genii Software website from the CoexLinks Migrate Download page at http://www.GeniiSoft.com/showcase.nsf/CoexMigrateDownloads, while the CoexLinks Migrate license, whether an evaluation license or the production license, must be obtained from Genii Software or a reseller. Be sure that you have the appropriate software for your Notes client or Domino server's operating system and Notes/Domino release.

CoexLinks Migrate includes an executable program, **nCXMigrate32.exe**, that can be used from either the DOS command line on Notes client or Domino server, or from the server console as a server add-in. For those use cases which use nCXMigrate32.exe (or equivalent on other platforms, syntax will be shown for both command line and console.

On Windows 32-bit and 64-bit systems, CoexLinks Migrate also includes **MidasAssist32.dll** (or equivalent) to implement certain graphic routines.

CoexLinks Migrate also includes an extension library, **nDBMgr.dll** which can be used to programmatically retrieve encapsulated notes from formula language, C/C++ or Java.

## 1. Migration to disk or file stream

Use the executable, nCXMigrate32.exe. (Examples use 32-bit Windows)

From server console, syntax followed by example:

```
load CXMigrate32 [-bcc:bcc-address] [-dir:directory] [-
fmt:mbox/eml/ics] [-scope:xxx] -export db1.nsf [db2.nsf ...]

load CXMigrate32 -dir:c:\export\ -fmt:eml -scope:all -export
mail\JaneDoe.nsf
```

From command line, run from the Notes/Domino program directory:

```
nCXMigrate32 [-dir:directory] [-fmt:mbox/eml/ics] [-scope:xxx] -
export db1.nsf [db2.nsf ...]
```

```
nCXMigrate32 –dir:c:\export\ –fmt:eml –scope:view Inbox –export
mail\JaneDoe.nsf
```

Parameters:

> *bcc-address* is an optional override to instances where the email was sent as a BCC and no address is available. If included, it will be used. If not, the email will be extracted from the Received item or from the mail database

> *directory* is the file directory where the exported EML, MBOX or ICS files will be written. If no directory is defined, streams output to *stdout* and can be pipelined to another application which reads *stdout*.

> *fmt* is the file format of the output file. The default is MBOX if no format is chosen.
> > **MBOX** directs all output to a single file named for the source db with a .mbox extension.
> > **EML** directs each document's output to a separate files named for the note's UNID wiith .eml as the extension.
> > **ICS** directs all calendar items as output to a single file named for the source db with a .ics extension.

> *xxx* is the scope of the export.
> > **ALL** indicates all mail documents in db
> > **VIEW viewname** indicates all docs in named view or folder
> > **UNID unid** indicates a specific doc by universal id

> *db.nsf* is the relative or absolute pathname to the mail file to be exported

# 2. Conversion in-place

Use the executable, nCXMigrate32.exe. (Examples use 32-bit Windows)

From server console, syntax followed by example:

```
load CXMigrate32 [–scope:xxx] –convert db1.nsf [db2.nsf ...]
```

```
load CXMigrate32 –scope:all –convert mail\JaneDoe.nsf
```

From command line, run from the Notes/Domino program directory:

```
nCXMigrate32 [–scope:xxx] –convert db1.nsf [db2.nsf ...]
```

```
nCXMigrate32 –scope:view Sent –convert mail\JaneDoe.nsf
```

Parameters:

> *xxx* is the scope of the export.
> > **ALL** indicates all mail documents in db
> > **VIEW viewname** indicates all docs in named view or folder
> > **UNID unid** indicates a specific doc by universal id
>
> *db.nsf* is the relative or absolute pathname to the mail file to be exported

# 3. Data warehousing / journaling

Use the executable, nCXMigrate32.exe. (Examples use 32-bit Windows)

From server console, syntax followed by example:

```
load CXMigrate32 [-bcc:bcc-address] [-fmt:mbox/eml/ics] [-
scope:xxx] [-sendto:sendto-address] –journal db1.nsf [db2.nsf
...]

load CXMigrate32 –fmt:eml –scope:all –export mail\JaneDoe.nsf
```

From command line, run from the Notes/Domino program directory:

```
nCXMigrate32 [-bcc:bcc-address]  [-fmt:mbox/eml] [-scope:xxx] [-
sendto:sendto-address] –export db1.nsf [db2.nsf ...]

nCXMigrate32 –dir:c:\export\ –fmt:eml –scope:view Inbox –export
mail\JaneDoe.nsf
```

Parameters:
> *bcc-address* is an optional override to instances where the email was sent as a BCC and no address is available. If included, it will be used. If not, the email will be extracted from the Received item or from the mail database
>
> *fmt* is the file format of the output file. The default is MBOX if no format is chosen.
> > **MBOX** directs all output to a single file named for the source db with a .mbox extension.
> > **EML** directs each document's output to a separate files named for the note's UNID wiith .eml as the extension.
> > **IXCS** directs all calendar item output to a single file named for the source db with a .ics extension.

*sendto-address* is an optional email address where the journaled entries should be sent. If not included, the value will be taken from the Notes.INI variable **COEXJournalingRecipient**.

*xxx* is the scope of the export.
> **ALL** indicates all mail documents in db
> **VIEW viewname** indicates all docs in named view or folder
> **UNID unid** indicates a specific doc by universal id

*db.nsf* is the relative or absolute pathname to the mail file to be exported

# 4. Retrieval on demand

Use the extension library, nDBMgr.dll. (Examples use 32-bit/64-bit Windows)

A1) Format for exporting to file using formula language:

```
@DbCommand("CXMgr":"NoCache"; "Export"; [db.nsf]; [xxx];
[exportdir]; [fmt] ; [properties]);
```

A2) Examples for exporting to file using formula language:

```
@DbCommand("CXMgr":"NoCache"; "Export"; ""; @DocumentUniqueID;
"c:\\export\\"; "EML");

@DbCommand("CXMgr":"NoCache"; "Export"; @DbName;
"view":"CoexLinks Demo"; "c:\\export\\"; "EML");
```

B1) Format for exporting to file using formula language:

```
@DbCommand("CXMgr":"NoCache"; "RetrieveStart"; [db.nsf]; [xxx];
"EML"; [properties]; [maxcache]);

res:= @DbCommand("CXMgr":"NoCache"; "Retrieve"; @True);

@DbCommand("CXMgr":"NoCache"; "RetrieveEnd");
```

B2) Examples for exporting to file using formula language:

```
@DbCommand("CXMgr":"NoCache"; "RenderStart"; @DbName;
@DocumentUniqueID; "EML"; 640000);

res := @DbCommand("CXMgr":"NoCache"; "Retrieve"; @True);
```

# A

# Case sensitivity with Linux and Windows

*This appendix will describe how the difference between case sensitive Linux and case insensitive Windows is handled.*

## Linux is case sensitive

The Linux operating system is case sensitive, which means that you could have two databases named "showcase.nsf" and "Showcase.nsf", and that a command on the Linux command line to change the working directory to the Notes executable directory would be "cd $Notes_ExecDirectory" and would not work as "CD $Notes_ExecDirectory" will not.

To simplify matters for Notes administrators who might work with both case insensitive operating systems such as Windows as well as case sensitive operating systems such as Linux, all server addins and extension managers and console command parameters are converted to lowercase before being executed. Thus, the commands "sh ta" or "SH TA" are equivalent from the server console.

Due to this conversion, all server addins and extension manager files must be in lowercase, which is why the two files are named **cxmigrate32** and **libdbcxmgr32.so** on Linux. The license file, **cxmigrate.lic**, is lowercase on all operating systems.

Because the lowercase conversion is automatic in both the server console and in the notes.ini file, common documentation practice is to use the propercase names when issuing server commands, such as "load CXMigrate32 …", and we follow that convention in this manual. Likewise, all CoexLinks Migrate notes.ini environment variables are treated as case insensitive

## Windows is case insensitive

The Windows operating system is case insensitive, which means that you *cannot* have two databases named "showcase.nsf" and "Showcase.nsf", and you *cannot* have two server addins named ncxmigrate32.exe and nCXMigratec32.exe.

Because of this, all server addins and extension managers and console command parameters ignore case entirely. Thus, the commands "sh ta" or "SH TA" are equivalent from the server console.

For the purpose of CoexLinks Migrate, this means that the Windows 32-bit files are called **nCXMigrate32.exe** and **nCXdbMgr.dll** solely for readability, and will work regardless of whether they are changed to another case variation.

As described before, common documentation practice is to use the propercase names when issuing server commands, such as "load CXMigrate32 …", and we follow that convention in this manual. But if an administrator finds it easier to type "load cxmigrate32 …", it will function identically, just as it does on Linux. Likewise, all CoexLinks Migrate notes.ini environment variables are treated as case insensitive.

# Rendering – Table and cell borders

*This appendix shows some examples of how rendering is handled better with CoexLinks Migrate on mobile devices and in iNotes. There is no way to show all of the differences, but these screen shots should give a sense of the improvements.*

## Table borders

Both iNotes and Notes Traveler render all cell borders based on the first table cell, and render them in a single size. CoexLinks Migrate renders table cells selectively as they are rendered in Notes. There is also a separate border on the table itself, but iNotes and Notes Traveler do not render this separate border at all.

The example shown here includes red cell borders with variable widths, but most are turned off so the borders only separate cells. This is a common use for cell borders in formatted tables. The example also includes a blue table border set to a double-line style. While table borders are somewhat less common, they are sometimes used in reports as a way of distinguishing tables and making them look good.

## Original email sent as viewed in Notes client (rich text)

# Viewed on mobile device (without / with CoexLinks)

# Email in iNotes client (without CoexLinks)

**Table borders sample**

**Ben Langhinrichs**

To: Ramona Quigley

| | | |
|---|---|---|
| **Better Budgies Ltd**<br>Swallowdale 3, Wuthing<br>ESSEX BB01 1BB<br>United Kingdom | Date<br>12/03/2014<br><br>Customer Ref<br>20923-B573 | Quotation #<br>QN-9283-M2<br><br>Terms<br>30 days net |

| Modes of Transport Preferred<br>1. Air ✈<br>2. Rail<br>3. Boat | Terms of Delivery<br>**COD** | Special Instructions<br>**None** |
|---|---|---|

# Email in iNotes client (with CoexLinks)

**Table borders sample**

**Ben Langhinrichs**

To: Ramona Quigley

| | | |
|---|---|---|
| **Better Budgies Ltd**<br>Swallowdale 3, Wuthing<br>ESSEX BB01 1BB<br>United Kingdom | Date<br>12/03/2014<br>Customer Ref<br>20923-B573 | Quotation #<br>QN−9283-M2<br>Terms<br>30 days net |

| Modes of Transport Preferred<br>1. Air ✈<br>2. Rail<br>3. Boat | Terms of Delivery<br>**COD** | Special Instructions<br>**None** |
|---|---|---|