CoexLinks Fidelity 4.10a
Outbound, Mobile and Web

User Manual

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Overview

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

Description

CoexLinks Fidelity is a specialized software extension that runs on the IBM Domino server (including 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 whether it is added to the mail system on that server or simply routed through the server. No scripts or agents are required. There are two basic modes for the server software, CoexLinks Classic and CoexLinks Fidelity. This manual is for the CoexLinks Fidelity software, and specifically for use supporting outbound without the Message Store, and web and mobile users with IBM iNotes and IBM Notes Traveler. There are separate manuals for Coexlinks Fidelity for Outbound Mail with Message Store and CoexLinks Classic. The purpose of each is outlined below so you can decide which is appropriate for you use.

In addition, CoexLinks includes an optional client component, CoexLinks Clipper, which is described in the CoexLinks Classic manual though it may be used with any version.

Purpose

CoexLinks (now CoexLinks Classic) was developed to address the need for coexistence between IBM Notes/Domino and non-Notes mail systems, primarily to handle Notes doclinks when they were sent to an external mail system. CoexLinks works by intercepting mail routed through the Domino server and converting any doclinks in the body of the mail to either URL links or NDL file attachments based on configuration. When Version 3.5 was introduced, CoexLinks was renamed CoexLinks Classic and CoexLinks Fidelity was introduced to render all emails to high quality MIME, replacing the rendering done by the Domino SMTP process or Notes client. In addition, a Message Store was added to allow storage and secure access to encrypted emails and emails with action hotspots, buttons, stored forms or other Notes features which do not have an equivalent outside the Notes client.

Both versions of the software are incorporated in the same software files, with configuration switches to use only CoexLinks Classic or to harness all the power of CoexLinks Fidelity. Since the high fidelity rendering includes all of the doclink

conversion capabilities, there is no need to run both. The same license file is also used for both, so a customer can choose to start with one version and switch to the other if desired.

This manual will emphasize the options most useful to CoexLinks Fidelity when used with outbound email and with IBM iNotes and IBM Notes Traveler. Since the doclink conversion options are seldom needed for these use cases, they will be excluded from this manual, but can be found in the CoexLinks Classic manual.

Security

CoexLinks Fidelity works completely within the IBM Domino security model, running with the privileges and security level of the Domino server. This ensures that MIME conversion can be made on all e-mails successfully. Parameters are available to allow customized disclaimers to preface select modified e-mail to let the recipient know the e-mail was modified and how to handle the NDL file attachments or URL links created.

Email stored in the Message Store is controlled by document level security based on the intended recipients of the message. This allows a secure way for multiple recipients to access the stored email, while preventing others from seeing the contents. Encrypted messages will also be stored in the Message Store where the recipients can open it securely.

2

Installation

This chapter will discuss exactly how to install and configure CoexLinks Fidelity to run on your 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 Fidelity, including debugging and tracing options, can be found in Chapter 4 – Monitoring and Debugging.

Preparing for Installation

In order to install and configure CoexLinks Fidelity, you will need both the software and the software license. The CoexLinks Fidelity software is available from the Genii Software website from the CoexLinks Fidelity Download page at http://www.GeniiSoft.com/showcase.nsf/CoexDownloads, while the CoexLinks Fidelity 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 Domino server's operating system and Domino release.

1. Stop the Domino server

You cannot modify the Notes.INI information on a Domino server without first shutting down the server or stopping the Domino service. The same rule applies for upgrades to CoexLinks Fidelity.

You will need to edit your Notes.INI file to add and modify some options. Open the Notes.INI file and proceed to the next step.

2. Copy the software and license into appropriate directories

CoexLinks Fidelity
The CoexLinks Fidelity software consists of two files, the extension manager library and the server addin, though 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.

Linux 32-bit: **libcoexlinks32.so** and **cxmsgproc32**
Windows 32-bit: **nCoexLinks32.dll** and **nCXMsgproc32.exe**
Windows 64-bit: **nCoexLinks64.dll** and **nCXMsgproc64.exe**

The two software files go into the *program* directory where the Domino server software resides. Copy the license file, named **coexlinks.lic** for all operating systems, into the Domino *data* directory. The **cxmsgproc32, nCXMsgproc32.exe**

or **nCXMsgproc64.exe** files are not necessary if the Message Store will not be used.

You will need to edit your Notes.INI file to add and modify some options. 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. Modify "extmgr_addins=" setting

Search the Notes.INI file for the **extmgr_addins=** setting. If it does not exist, add it at the end of the Notes.INI file, but *always make sure there is a blank line after the last entry in the Notes.INI file*. Without this blank line, the final entry may be ignored.

For CoexLinks Fidelity for 32-bit Domino (Linux or Windows), the line should read:

extmgr_addins=coexlinks32

For CoexLinks Fidelity for 64-bit Domino (Windows), the line should read:

extmgr_addins=coexlinks64

You may find there is already an **extmgr_addins=** parameter, as other add-ins also use this technology, especially security and anti-virus add-ins. In this case, simply add **coexlinks32** or **coexlinks64** (as appropriate) to the parameter as a comma delimited list, so that

extmgr_addins=app1,app2

becomes

extmgr_addins=app1,app2,coexlinks32

There can be any number of applications included in this list. While it is not required that **coexlinks32** or **coexlinks64** be last, it is generally recommended.

3. Modify "ServerTasks=" setting

If the Message Store facility will be used, or if multiprocessing will be enabled after recommendation, the Message Processor server add-in must run along with

other system tasks. Search the Notes.INI file for the **ServerTasks=** setting. Add a comma and the CoexLinks Fidelity server add-in. For example, if it was:

ServerTasks=Replica,Router,Update,AMgr,HTTP

you would change it to the following (for 32-bit Domino):

ServerTasks=Replica,Router,Update,AMgr,HTTP,cxmsgproc32

or the following (for 64-bit Domino) :

ServerTasks=Replica,Router,Update,AMgr,HTTP,cxmsgproc64

Note about case sensitivity: Windows is case insensitive while Linux is case sensitive. Therefore, on Linux, all extension manager and addin references are converted to lowercase. Thus, even though the Linux server addin is named "cxmsgproc32", the command "tell CXMsgProc32 q" will work. Similarly, even though the Windows server addin is named "nCXMsgproc32.exe" the command "tell cxmsgproc32 q" will work.

4. Add additional CoexLinks parameters

Directly below the **extmgr_addins=** parameter, add the additional CoexLinks Fidelity parameters to control your CoexLinks Fidelity configuration. There are no required parameters, but there are some options which may be used. There is one parameter which may be confusing, as it is named **COEXiNotesRendering**, but actually controls both iNotes and Notes Traveler. By default, both iNotes and Notes traveler rendering are enabled for CoexLinks Fidelity, but may be disabled by setting **COEXiNotesRendering=0**

The two possible settings are:

COEXiNotesRendering=1

which enables iNotes and Notes Traveler rendering, and is functionally the same as leaving out the parameter.

COEXiNotesRendering=0

which disables iNotes and Notes Traveler rendering. If both this parameter and **COEXOutboundRendering** are set to 0, the server goes into CoexLinks Classic mode.

A mail server is sometimes only designated for iNotes and Notes Traveler rendering, usually because outbound mail is handled further downstream by a

gateway server. In that case, the iNotes and Notes Traveler rendering may be left on. The two possible settings for outbound rendering are:

COEXOutboundRendering=1

which enables outbound rendering on this server, and is functionally the same as leaving out the parameter because it is the default.

COEXOutboundRendering=0

which disables outbound rendering. If both this parameter and **COEXiNotesRendering** are set to 0, the server goes into CoexLinks Classic mode.

Other parameters are used to control access to the Message Store, and to configure appropriate filtering and processing of emails rendered to MIME. Those will be discussed below.

5. Restart the Domino server

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 Fidelity software is properly loaded, you will see a few messages along the lines of:

10/09/2017 10:00:32 AM CoexLinks Fidelity 4.10: Copyright (c) Genii Software Ltd., 2002-2017 - All Rights Reserved

10/09/2017 10:00:32 AM CoexLinks Fidelity Evaluation license (expires 03/15/2017 MM/DD/YYYY)
10/09/2017 10:00:32 AM CoexLinks Fidelity V4.10, By lic.#5980, Evaluation License - Development Use ONLY!

These messages indicate that CoexLinks Fidelity 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:

10/09/2017 10:03:01 AM CoexLinks Fidelity 4.10: Copyright (c) Genii Software Ltd., 2002-2017 - All Rights Reserved

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Configuration Options

This chapter will list configuration options which are commonly used with CoexLinks Fidelity when iNotes and Notes Traveler rendering as desired. For additional configuration options specific to CoexLinks Fidelity, see the CoexLinks Fidelity for Outbound Mail manual.

COEXEnabled

This parameter does not usually appear, as it defaults to the software being enabled. The primary value for this is that it can be changed and take effect without having to bring down the server. Issuing a "set config COEXEnabled=0" at the server console or through the admin client will cause CoexLinks Fidelity to stop and allow messages to continue to route without being processed. Issuing another "set config COEXEnabled=1" will enable processing again, although you may need to also issue "load CXMsgProc32" or "load CXMsgProc64" to restart the server addin. Disabling processing using COEXDocLinkType=0 is no longer recommended.

COEXEnabled=0   (disabled - all processing skipped)
COEXEnabled=1   (enabled - default value if parameter not included)

COEXiNotesRendering

When an email in Notes rich text format is viewed via iNotes, the rendering is usually handled by the Domino server, but like other rendering, it is not always high enough fidelity and information can be lost or garbled. If the COEXiNotesRendering is set to 1, the CoexLinks Fidelity engine will render email.

COEXiNotesRendering=0   (disabled - default if parameter is not included)
COEXiNotesRendering=1   (rich text messages opened in iNotes will be rendered)

COEXOutboundRendering

When an email in Notes rich text format is sent outside of the Notes/Domino environment to an external address, the rendering into MIME is usually handled by the Notes client or Domino server, depending on the settings. The default behavior of CoexLinks Fidelity is to take over this rendering, providing high fidelity and data retention for emails destined for external addresses. If the COEXOutboundRendering is set to 0, the CoexLinks Fidelity engine will render email to MIME, although it will continue to handle the doclinks. Effectively, this reverts CoexLinks Fidelity to CoexLinks Classic.

COEXOutboundRendering=0 (disabled - outbound email will not be rendered to MIME)
COEXOutboundRendering=1 (enabled - default if parameter is not included)

COEXDebug

Determines the debugging level. Normally, this option should be left out, which implies no debugging. Debugging information will be written to the **log.nsf** on the server. As debugging can inhibit performance and fill the log file, it should only be used when resolving a specific issue.

COEXDebug=0   (all debugging disabled – same as leaving option out)
COEXDebug=1   (minimal debugging enabled)
COEXDebug=2   (medium debugging enabled)
COEXDebug=3   (full debugging enabled)
COEXDebug=4   (intrusive debugging enabled – system may not run well)

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Fidelity Configuration Options

This chapter will list configuration options which are specific to CoexLinks Fidelity and the new Message Store. For configuration options common between CoexLinks Classic and CoexLinks Fidelity, see Chapter 3. For additional configuration options specific to monitoring and debugging options, see Chapter 5.

COEXDetectPlainText

In most cases, CoexLinks Fidelity will simply render every message to MIME using the text/html part, but some customers prefer plain text messages to be rendered as text/plain. Setting this parameter to 1 triggers a scan of each message to see if it contains anything but plain text, defined as text format changes (i.e., font face, color, text size, bold, etc.) or tables, images, links, paragraph format changes (i.e., different indentation, centering, etc.) and so forth.

COEXDetectPlainText=0   (emails will always be rendered as HTML - default)
COEXDetectPlainText=1   (emails with no special formatting, images, links, etc will be rendered as plain text, otherwise as HTML)

COEXRenderStoredForm

When an email is processed by CoexLinks Fidelity, and it is found to have a stored form, this indicates whether the stored form should be rendered. If this is set to 0 and the Message Store is enabled for stored forms, the form will not be rendered but will be copied to the Message Store. If it is set to 1, the form will be rendered, but it will still be copied to the Message Store in its original form the Message Store is enabled for stored forms.

COEXRenderStoredForm=0   (stored forms will not be rendered)
COEXRenderStoredForm=1   (stored forms will be rendered - default)

COEXStoredFormFailure

When CoexLinks Fidelity attempts to render a stored form, but the rendering fails, this is a message to use to indicate the failure.

COEXStoredFormFailure=str   (message used in place of the rendered form – replaces default message)

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 **cxmsgproc32** and **libcoexlinks32.so** on Linux. The license file, **coexlinks.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 "tell CXMsgProc32 q", and we follow that convention in this manual. Likewise, all CoexLinks Fidelity notes.ini environment variables are treated as case insensitive, so the following are equivalent:

```
COEXDocLinkType=8
coexdoclinktype=8
CoexDocinkType=8
```

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 ncxmsgproc32.exe and nCXMsgproc32.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 Fidelity, this means that the Windows 32-bit files are called **nCXMsgProc32.exe** and **nCoexLinks32.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 "tell CXMsgProc32 q", and we follow that convention in this manual. But if an administrator finds it easier to type "tell cxmsgproc32 q", it will function identically, just as it does on Linux. Likewise, all CoexLinks Fidelity notes.ini environment variables are treated as case insensitive, so the following are equivalent:

COEXDocLinkType=8
coexdoclinktype=8
CoexDocinkType=8

B

Rendering examples

This appendix shows some examples of how rendering is handled better with CoexLinks Fidelity 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.
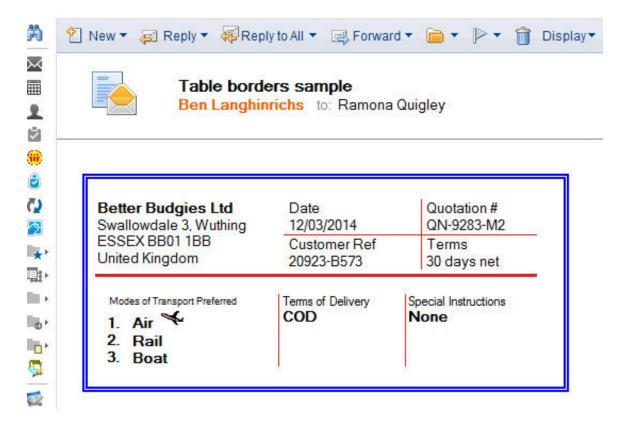
Table rendering

While there are many, many specific rendering decisions made, one of the most obvious to users is the way tables are rendered.
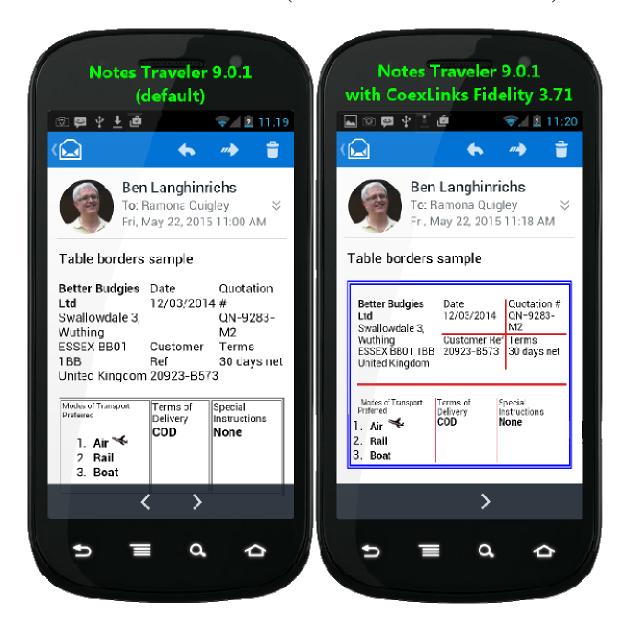
Both iNotes and Notes Traveler render all cell borders based on the first table cell, and render them in a single size. CoexLinks Fidelity renders table cells selectively as they are rendered in Notes. There is also a separate border on the table itself, but iNotes and Notes Traveler do not render this 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)

| | New ▾ | Reply ▾ | Reply to All ▾ | Forward ▾ | 📁 ▾ | ▷ ▾ | 🗑 Display ▾ |

Table borders sample
Ben Langhinrichs   to: Ramona Quigley

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

Modes of Transport Preferred	Terms of Delivery	Special Instructions
1. Air ✈	**COD**	**None**
2. Rail		
3. Boat		

Viewed on mobile device (without / with CoexLinks)

Email in iNotes client (without CoexLinks)

Table borders sample

Ben Langhinrichs

To: Ramona Quigley

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

Modes of Transport Preferred 1. Air ✈ 2. Rail 3. Boat	Terms of Delivery **COD**	Special Instructions **None**

Email in iNotes client (with CoexLinks)

Table borders sample

Ben Langhinrichs

To: Ramona Quigley

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

Modes of Transport Preferred 1. Air ✈ 2. Rail 3. Boat	Terms of Delivery **COD**	Special Instructions **None**