Quest® Coexistence Manager™ for Notes 3.10.2

Quick Start Guide

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Legend

CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

IMPORTANT NOTE, **NOTE**, **TIP**, **MOBILE**, or **VIDEO:** An information icon indicates supporting information.

CMN Quick Start Guide
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About the CMN documentation suite

The documentation for Quest Coexistence Manager for Notes (CMN) includes:

- ***Release Notes*** (printable PDF): Describes the current CMN release—any new and enhanced features, resolved issues, and known issues. Also documents minimum installation requirements, and provides Quest contact information.
- ***Quick-Start Guide*** (printable PDF): An orientation to the product's basic purposes, features and capabilities, with a case study showing how its primary components are most commonly used within a typical coexistence scenario. Also explains how to download and install the software.
- ***CMN User Guide*** (printable PDF): Comprehensive documentation of CMN's three primary components: Directory Connector, Mail Connector and Free/Busy Connector. Describes component capabilities, deployment considerations, configuration instructions and tips, and application notes and screen-by-screen field notes for CMN's Management Console software tools.
- ***FBC Scenarios Guide*** (printable PDF): Provides process instructions and application notes for installing and configuring CMN's Free/Busy Connector (FBC) in a variety of Exchange-side scenarios.
- ***CMN Program Parameters Reference*** (printable PDF): Listing of all CMN program parameters that are not associated with UI fields in CMN's Management Console, with descriptions and default values and usage/application notes. (Parameters associated with UI fields do appear in the *Configuration.xml* files, but should not be edited manually.)
- ***Management Console Online Help*** (three compiled Windows Help files, one for each CMN component): Field notes and application notes for the screens and features of CMN's Management Console.

All CMN documentation is intended for network administrators, consultants, analysts, and any other IT professionals who will install or use the product components, or who may help plan for their use in a coexistence scenario. All of these documents, including the online Help, are bundled and installed with the product, and all except the Help files are also available separately at Quest's Support Portal.

Where To Look in the CMN Documentation

This table shows where you can find particular types of information about particular CMN components:

	for Dir Connector & Mail Connector	for Free/Busy Connector
Introduction and orientation:	— — CMN Quick-Start Guide and User Guide — —	
System requirements:	— — CMN Release Notes — —	
Installation instructions:	— — CMN Quick-Start Guide — —	
Configuration instructions:	CMN User Guide	CMN FBC Scenarios Guide
Operating instructions:	— — CMN User Guide — —	
Troubleshooting info:	CMN User Guide	CMN FBC Scenarios Guide

The CMN application Help files contain the same information as the *User Guide*, but make the information available on-screen at a single keystroke (from the CMN Management Console).

All CMN documentation is intended for network administrators, consultants, analysts, and any other IT professionals who will install or use the product components, or who may help plan for their use in a coexistence scenario. All of these documents, including the online Help, are bundled and installed with the product, and all except the Help files are also available separately at Quest's Support Portal.

1

Product overview

Coexistence is the state of two or more independent servers when all are serving the same organization at the same time. For example, when a company using a particular brand of email and calendar applications acquires another company that uses a different brand, the new company may decide to let everyone continue using their familiar tools. The company then must find a way for people in both groups to be able to communicate and collaborate effectively, and uneventfully, with everyone else in the new company. They should be able to email one another without knowing or caring which server serves which users, and messages should be received on all servers with the same attributes and functionality and attachments they had when they left their senders. Moreover, people should be able to send meeting invitations that ping the invitees' calendars and notify them of any conflicts, again without regard to which servers host which users' free/busy data. And of course the company will want some way to coordinate the two independent directories of the two environments.

Coexistence also becomes useful—or necessary—when a single organization decides to migrate from one server brand to another, and must therefore endure a transition period when some users have already migrated to the new server, while others remain on the old server, awaiting migration. The coexistence period for a migration scenario like this may be only temporary, but it can last weeks or even months for larger organizations. In any case, a good coexistence strategy is critical for a smooth transition.

The challenges of a Notes–Exchange coexistence

The Notes/Domino and Outlook/Exchange environments offer most of the same email, calendar and directory capabilities, but the two different brands implement many of these features differently. As such, Outlook cannot make sense of certain message types that originate in Notes, and vice versa. Often the recipient application can display the pertinent information correctly, but cannot then perform the calendar updates that would have been automatic if the recipient and sender were using the same email client. Or sometimes the receiving client can perform automatic calendar updates, but introduces errors—missing dates, or extraneous meeting instances, etc.—and will not report or even detect the errors. Meanwhile, each environment is virtually blind to the free/busy status of the other side's users.

An effective coexistence between the Notes and Exchange environments will address these three primary concerns:

- **Directory coexistence:** Most organizations routinely experience staff additions, departures and transfers. These staff changes introduce data inconsistencies between the two environments' directories. A directory update reconciles these differences by updating the contents of one directory to match the contents of another. A bidirectional update ensures that both directories contain *all* of the organization's users, resources and groups.
- **Mail coexistence:** Simple, direct SMTP mail routing is easy to configure, but does not preserve or compensate for substantial cross-platform losses in the fidelity of message contents: attributes, attachments, calendar data, and so forth. Notes and Exchange environments offer similar email and calendar capabilities, but implement many features differently. Outlook therefore does not handle certain message types that originate in Notes, and vice versa. Often the recipient client can display the pertinent information correctly, but cannot perform the calendar updates that would have been automatic if the recipient and sender were using the same email system. Or sometimes the receiving client can perform automatic calendar updates, but introduces errors— incorrect times, missing dates, or extraneous meetings, etc.

- **Free/Busy coexistence:** The Notes and Exchange environments implement calendar free/busy queries differently, making each side blind to the availability status of users on the other systems. The calendar applications on both sides need some mechanism to determine the free/busy status of users within the other environment.

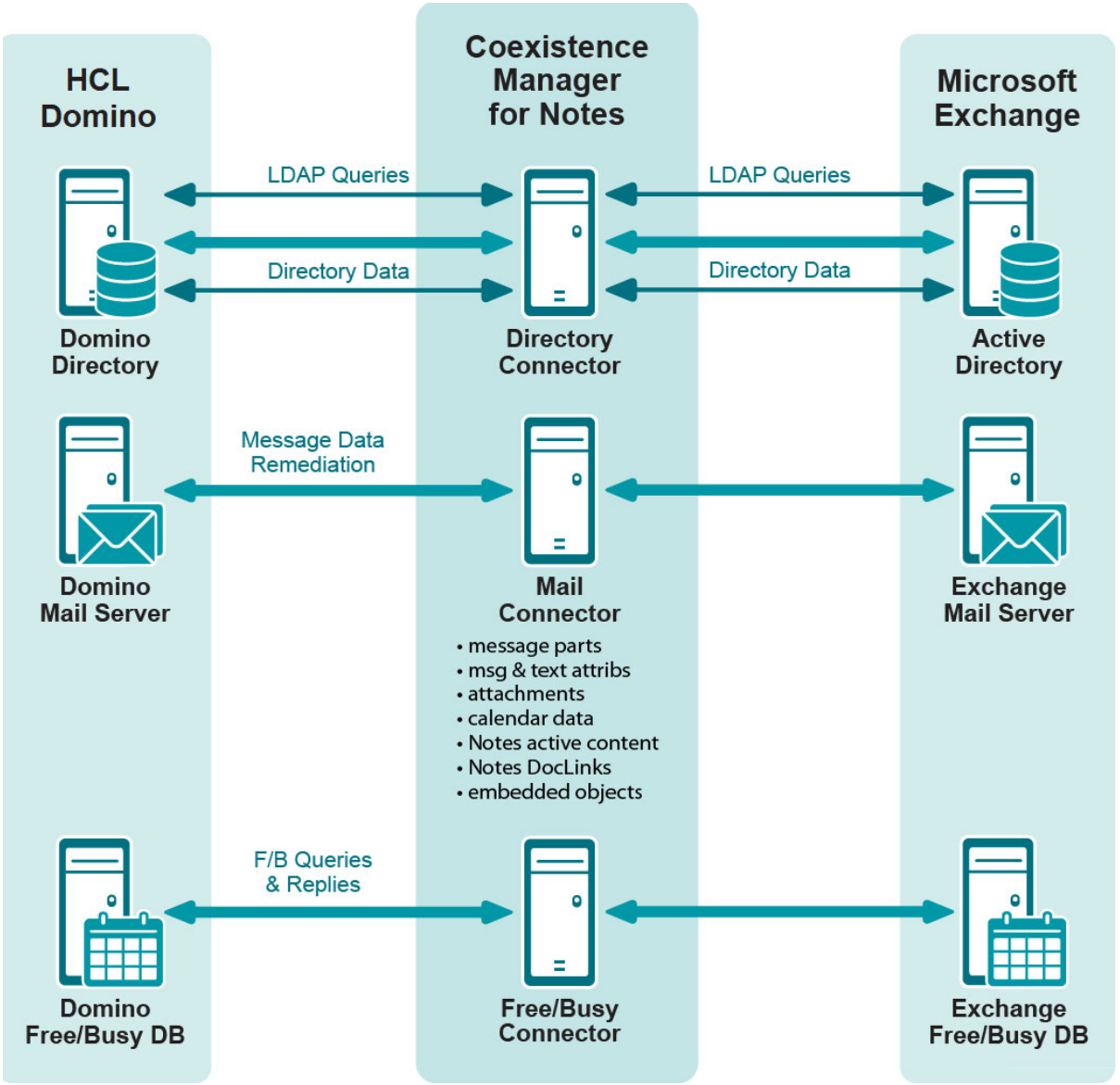
The solution: Quest Coexistence Manager for Notes

Quest Coexistence Manager for Notes (CMN) provides rich directory, email and calendar coexistence features between HCL Notes and a local Microsoft Exchange, or a hosted Exchange environment. CMN can be deployed either for a finite transition period, as when migrating from Notes to Exchange, or for indefinite or even permanent coexistence.

To accommodate the three elements of Notes–Exchange coexistence, Quest Coexistence Manager for Notes includes three primary components:

- **Directory Connector:** Updates directory data between the Domino Directory and Active Directory, configurable for any number of servers.
- **Mail Connector**: Provides email remediation features, to permit intact delivery of most message parts, message and text attributes, attachments, Notes DocLinks, and embedded objects, as well as email messages carrying calendar data, and Notes "active content" messages.
- **Free/Busy Connector**: Facilitates the exchange of calendar free/busy data between users in the two different environments.

The three CMN components are separate, but designed to work together in any combination to suit a broad range of coexistence needs. All three components are described in greater detail in the CMN User Guide.


HCL Domino
Coexistence Manager for Notes
Microsoft Exchange
LDAP Queries
Directory Data
LDAP Queries
Directory Data
Domino Directory
Directory Connector
Active Directory
Message Data Remediation
Domino Mail Server
Mail Connector
• message parts
• msg & text attribs
• attachments
• calendar data
• Notes active content
• Notes DocLinks
• embedded objects
Exchange Mail Server
F/B Queries & Replies
Domino Free/Busy DB
Free/Busy Connector
Exchange Free/Busy DB

2

Getting started

These topics explain how to prepare for and install CMN to your greatest benefit.

- Deployment considerations
- Installing CMN
- Installing CMN
- Licensing Quest CMN
- Uninstalling Quest CMN
- Configuring Quest Coexistence Manager for Notes

Deployment considerations

Before installing CMN, it is important to document a deployment plan. The plan should specify the components you will install, where they will be installed, and how many instances of each will be required. Remember to accommodate all system requirements (as documented in the CMN *Release Notes*) when planning component deployments. You can install and configure any number of CMN components, in any order you like, but consider that the Directory Connector provides directory updates that the Free/Busy Connector will need to function.

It is possible to install two or more CMN components on a single server, but production environments with higher volumes of message and free/busy traffic may benefit from installing on separate servers for optimal performance. One common approach installs the three CMN components to three separate computers, one for each component (in addition to the Free/Busy Connector's QCalCon, which must be installed separately on a Domino server).

Environments with very high message volume may also deploy multiple Mail Connectors and/or install the Free/Busy components on different computers. For example:

CMN Server: Directory Connector
CMN Server: Mail Connector 1
CMN Server: Mail Connector 2
CMN Server(s): Mail Connector ... [n]
CMN Server: Free/Busy Connector for Notes-to-Exchange F/B queries
CMN Server: Free/Busy Connector for Exchange-to-Notes F/B queries
Domino Server: QCalCon (required for F/B Connector)

For technical reasons, the QCalCon subcomponent of the Free/Busy Connector *must* be installed on a Domino server. But if the Domino environment contains more than one Domino server, QCalCon is installed on only one server. (Other Domino servers must be configured to find and use the single QCalCon instance on the "bridgehead" server.) The other four Free/Busy Connector subcomponents can be installed on a single computer, although deployment to two separate computers (as illustrated in chapter 4 of the CMN *User Guide*) will improve performance in environments with higher volumes of F/B queries and replies.

The relative processing demands and hardware requirements of CMN components vary based on typical activity in different environments. The F/B Connector usually exerts the heaviest demand on computing resources, compared to the other two CMN components. The Mail Connector runs continuously, but in most settings its email and calendar remediation functions are less demanding than the F/B Connector. Meanwhile, Directory Connector activity is typically scheduled, and consumes resources only during active processing, so its resource requirements are usually lower than either the Mail Connector or F/B Connector.

Installation instructions for CMN components appear below. After installation, CMN components must be configured before they can be used. Deployment and configuration options for the three primary CMN components vary to accommodate local environments and needs. These considerations are more fully explained in chapters 2, 3 and 4 of the *User Guide* and, for the Free/Busy Connector, in the *FBC Scenarios Guide*.

Installing CMN

Remember: CMN's Directory Connector, Mail Connector and Free/Busy Connector are independent components that are installed separately. The CMN installer lets you choose the CMN component you want to install, and *must be run on the computer where you want the component to reside*. (If you want to install different CMN components on different computers, you must run installer on each computer.)

Upgrade considerations

The information in this topic applies only if you are upgrading to the current CMN version from an already-installed earlier CMN version. Installation and upgrade procedures are documented together in the Upgrade and installation instructions below.

Upgrading the Mail Connector or Free/Busy Connector

You can install the new version without uninstalling CMN Directory Connector or Mail Connector versions 3.9.2 or 3.10.0. The installer automatically detects existing installations and upgrades them accordingly. During the upgrade from version 3.9.2 or 3.10.0, the existing license key is retained and does not need to be reinstalled.

For the 32-bit version, there is no direct upgrade path from CMN Free/Busy Connector version 3.9.2 or earlier to version 3.10.2; a fresh installation of version 3.10.2 is required.

For the 64-bit version, the new version can be installed directly without uninstalling the previous version.

Upgrading the Directory Connector

The Directory Connector's underlying engine, which facilitates data transfers between the Domino directory and Active Directory, was replaced in version 3.7. There is no automatic upgrade path to this new Directory Connector from any earlier version. If you are upgrading from a version earlier than 3.7, you must uninstall the earlier version, and then install the 3.7.1 version. You will, however, be able to import your existing (pre-3.9.2) DC configuration data into the new Directory Connector. The procedure is documented in the Upgrade and installation instructions topic below.

Upgrade and installation instructions

Before you begin, review the Deployment considerations above, and map out your intended deployment. If you are upgrading from an earlier version of CMN, be sure to also see Upgrade considerations above for important information.

IMPORTANT: ***Quest recommends*** you temporarily turn off Microsoft's UAC (User Account Control) during CMN installation, because UAC interferes with some CMN installer functions in many environments. UAC can then be re-enabled after installation.

If you are upgrading your Directory Connector from an earlier version

The Directory Connector's underlying engine, which facilitates data transfers between the Domino directory and Active Directory, was replaced in version 3.7. There is no automatic upgrade path to this new Directory Connector from any earlier version. If you are upgrading from any version earlier than 3.7, you must uninstall the earlier

version, and then install the 3.7.1 version. You will, however, be able to import your existing (pre-3.7) DC configuration data into the new Directory Connector.

Use Windows' *Programs and Features* (Vista or later) or *Add or Remove Programs* tool (both in Windows' Control Panel), to uninstall your previous Directory Connector version. Note:

- When you select the CMN Directory Connector to uninstall, the "Directory Connector Tools" (which appears separately in the list of programs) will also be uninstalled.
- This uninstallation does ***not*** remove the Directory Connector's XML configuration file, which contains all of the DC connector definitions from the previous version. You will be able to import all of that configuration data into the new DC in a later step below.
- This uninstallation will ***not*** remove the SQL application that the Directory Connector used in pre-3.7 versions. The new DC does not need and will not use SQL, so you may manually remove it *if no other application on your computer is using it*. Note that Quest's Migrator for Notes to Exchange (MNE), commonly used with CMN, *does* need the SQL application, so do *not* remove your SQL if you also have MNE installed.

After uninstalling any pre-3.7 CMN Directory Connector, you may install the 3.7.1 version.

To install or upgrade Coexistence Manager for Notes

1. Download Coexistence Manager for Notes from the *software.quest.com* website, and extract all files into a temporary folder.
2. Verify that your environment conforms to the *System requirements* specified in the RTM *Release Notes* that accompany this release.
3. Run CMN.*exe* from the installation folder. (Or you could instead simply insert a CMN product CD, which starts the installer utility automatically.)
4. When you are ready to install, select the component from setup folder. CMN components are listed separately and installed independently.
5. Click the name of the component you want to install. Then click **Next**, and read and accept the license agreement.
6. Follow the remaining instructions and prompts in the CMN Installer, and click **Finish** from the last screen to complete the installation.

   NOTE: If you are upgrading from a pre-3.7 version of CMN and the target Exchange version is 2013 CU4 or below, you must check the box **Is Exchange 2013 CU4 or below** for all upgraded Directory Connectors, in the Target Domain information page of the Directory Connector wizard**.** This check box is unchecked by default.

   The last screen of the Install utility contains a checkbox (marked by default) to automatically run CMN's Management Console for the CMN component you just installed. If you leave the checkbox marked, the Management Console will run when you click the **Finish** button from the Installer.

   If you have chosen to run the Management Console upon exit from the Install utility:

   - CMN component operations are configured and controlled by settings and values entered in the Management Console—for server and directory names and locations, scope of operations, other operational options, scheduled runs, and so forth. The CMN Management Console is used to configure all three CMN components, although different components' settings are managed on different screens. See the CMN *User Guide* (and the *FBC Scenarios Guide* too, if installing the Free/Busy Connector) for instructions and guidance in using the Management Console to configure the component you have just installed.

     > **NOTE:** Upon upgrading the Free/Busy Connector from CMN 3.9.x or 3.10.0 to the current version, the F/B Management Console asks if you want to "save changes" to the configuration even if you haven't made any changes. This may be confusing, but the Console is actually detecting changes that accompanied the FBC upgrade, so just confirm that you want to save the changes, and the Console will not ask again.

   - If you are upgrading the Directory Connector from any earlier version, the Management Console will detect the previous version and automatically run a special upgrade utility to import your connector

definitions and other DC configuration data from your previously installed version into the newly installed version. The Management Console then opens when the configuration import utility closes. From the Console, you must then run the Connector Creation Wizard for each DC connector imported into version 3.10.2, verify all settings, and save it.

7 If you want to install another CMN component on this same computer, go back to step 5. If not, you may browse the other components from setup folder if you like.

8 Unbind the default website from ports 80 and 443.

IMPORTANT: When making backups of CMN directories, do not keep the backups in the same subtree root folder as the original program directories. The CMN programs will see and try to use the backups if they reside in the same subtree root folder.

To run the DC upgrade utility manually

If you are upgrading your Directory Connector from CMN 3.9.x or 3.10.0, and have just installed the new 3.10.2 version but have not yet run the CMN Management Console:

1 In Windows, open a Command Prompt window.

2 Navigate to the DC's installation directory (typically *C:\Program Files\Quest\Coexistence Manager for Notes\Directory Connector*), and run the DC upgrade utility from the command line: *CMN.Apps.DirectoryConnector.UpdateConfiguration.exe*

This utility will import your connector definitions and other DC configuration data from your previously installed version into the newly installed version. The utility should be run only once, before your first run of the DC after you upgrade from a CMN 3.9.x or 3.10.0.

3 *For each imported connector definition:* Open the connector definition into the 3.10.2 Connector Creation Wizard, verify all settings, and save it.

Upgrading CMN from 32-bit to 64-bit

Install Domino 14 and Notes 14 or 64-bit HCL Domino and 64-bit HCL Notes before upgrading CMN 32-bit to 64-bit. After installing these, CMN can be upgraded directly to 64-bit.

Pre-installation Requirements

Ensure that HCL Domino 14 and HCL Notes 14 are installed.

Alternatively, you can install the 64-bit versions of HCL Domino and HCL Notes.

Upgrade Process

Once the above prerequisites are met, proceed to upgrade CMN directly to the 64-bit version.

Licensing Quest CMN

Quest Coexistence Manager for Notes is a metered-use product that requires the application of a valid license key. When the product is installed you must install a Quest license key before you can run any CMN Windows service and before the CMN Management Console will save any configuration entries. The installation of a valid license key authorizes and enables the use of all CMN components.

You can obtain your first or a subsequent license key by contacting a Quest Software sales representative. A license key is an *.asc*-type file that Quest sends to you with an email. You must save the file to your hard disk, and then install it in the CMN Management Console, on the *Common* | *Licenses* screen. For either a trial or perpetual license, the key takes the form of a file *CoexManagerNotes-###-#####.asc* (where ###-##### represents your unique license number).

The automated upgrade process from CMN version 3.9.x will transfer an existing license key into the new version, so you need not re-install it.

To install your license key if you are installing CMN for the first time:

1. Copy to your Desktop, or to some other convenient location, the license file (*CoexManagerNotes-###-#####.asc*) sent to you by email from Quest Licensing.
2. If you have not installed Quest Coexistence Manager for Notes, run the *Setup* program to install the software (as described in the installation instructions above).
3. Once the software is installed, run the CMN Management Console. Select **Licenses** under the *Common* section of the Management Console, and click the **Update License…** button. Select your license, and then click **OK**.
4. You may review your installed licenses in the *Licenses* section of the configuration utility.
5. If you have previously installed a trial or other permanent license on your computer, you can upgrade to your new license by using the *License* screen within the Configuration utility. Click on the **Update License…** button to direct the program to the License Key file.

Uninstalling Quest CMN

To uninstall CMN:

1. From your Windows **Start** button, select **Settings | Control Panel**.
2. Double-click **Add/Remove Programs**.
3. Select **Quest Coexistence Manager for Notes** and click **Remove**.

Configuring Quest Coexistence Manager for Notes

CMN's three primary components are installed, configured and run independently. Each component requires the connection and coordination of three separate environments: the Notes and Exchange environments, and the workstation(s) between them hosting the CMN applications. CMN operations also require the use of accounts with suitable access rights to Exchange and Notes, and of course the CMN components themselves must be configured for your own environment and operational preferences.

CMN component operations are configured and controlled by settings and values entered in a *Management Console*. The CMN Management Console is used to configure all three CMN components, although different components' settings are managed on different screens.

Detailed configuration instructions for CMN components are beyond the scope of this *Quick-Start Guide*. See the CMN *User Guide* for full details.

3

Scenario case study

American Widgets Corp. recently acquired a regional rival, Midwest Widgets Inc. Naturally, American Widgets wants to integrate all of Midwest Widgets' administrative operations, processes and infrastructure with its own operations, but American Widgets and Midwest Widgets have until now run their email and collaboration applications in different worlds. American Widgets is a Microsoft shop, using an Exchange 2010 server and Outlook clients for the email and calendaring needs of its 26,000 employees. But Midwest Widgets' 8,000 workers have been using HCL Notes and a Domino server for those same functions, and also for mail-enabled work-flow applications, and some custom applications developed with Notes' internal scripting language.

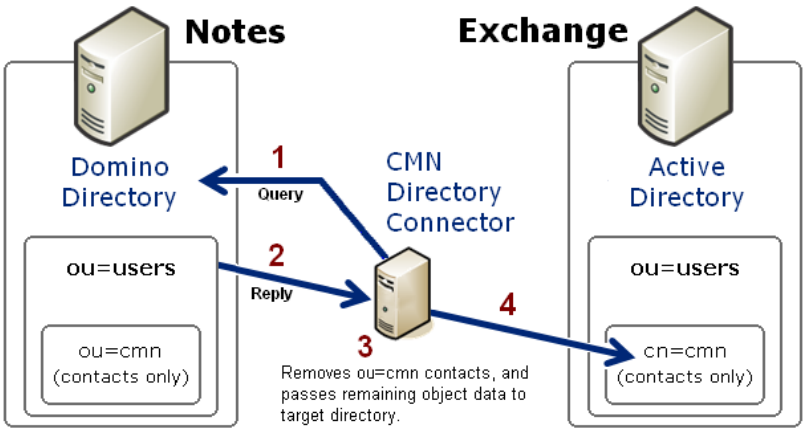
American Widgets doesn't want to force either group to immediately give up the apps they use daily. Its CIO, Ellen Oliver, believes they can implement a coexistence between the two. She is hopeful a good coexistence strategy will allow the two groups to communicate and collaborate effectively and uneventfully. Ellen knows she is going to need some specialized solutions to accomplish the integration of the two disparate mail, calendar and directory systems.

Ellen knows she can configure SMTP routing between the two environments, but she also knows SMTP routing alone will be insufficient because it will forfeit email fidelity and calendaring features. Ellen has heard of a Quest Software product called Quest Coexistence Manager for Notes (CMN) that facilitates a richer coexistence solution between Notes and Exchange. CMN addresses the three primary elements of coexistence with three primary components: a ***Directory Connector*** for cross-environment directory updates, a ***Mail Connector*** for SMTP email and calendar remediation, and a ***Free/Busy Connector*** to facilitate free/busy queries between the two environments.

CMN Directory Connector

The Quest CMN Directory Connector (DC) updates directory information between the Domino Directory and Active Directory. Within the Directory Connector component, one or more individual *connectors* are defined, each to copy directory data in only one direction. A bidirectional update is accomplished by defining a pair of connectors to run sequentially in opposite directions. Note that while *Directory Connector* is the name of the CMN component as a whole, the term *connector* also refers to the individual processes within the component, each defined to perform a particular directory update in a particular direction.

For each defined Connector, the CMN Directory Connector sends an LDAP query to the source directory (step 1 in this illustration), which then (2) replies by transmitting all of its object data back to the Directory Connector.

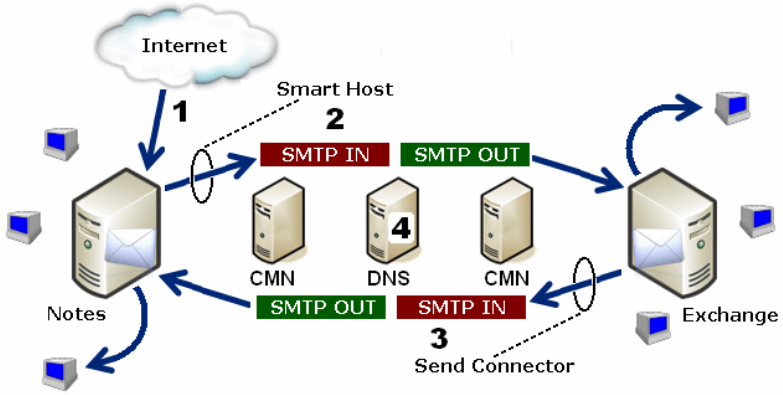


The Directory Connector then (3) filters (removes from the data) the objects that were in the source *ou=cmn* container. (The *ou=cmn* container is a reserved container created by the DC to hold contact objects copied from other connected directories. This filter eliminates the possibility of directory loops between connected systems.) CMN also maps the attributes of the remaining source objects to the corresponding contact attributes in the target. If an object in the source already exists in the target, a configuration option tells the DC whether field data in the source should overwrite any corresponding data in the target.

Finally (4), the Directory Connector passes the data to the reserved *cn=cmn* container within the target directory. If a target container by that name does not already exist in AD, CMN will create it, within a target container that you specify. That is, the *cn=cmn* container will be a subset of the specified target container ("*ou=users*" in the above illustration). When a connector is defined to run from Exchange to Notes, the process works the same way in reverse, although the target CMN container in Domino is designated *ou=cmn* rather than *cn=cmn*.

Each query–reply process as illustrated above is defined within the CMN Directory Connector as one *connector*. Two connectors defined for opposite directions, and run sequentially, together facilitate a bidirectional update. If you have multiple servers within either or both systems, the DC lets you define as many additional connectors as you need to facilitate updates among them.

CMN Mail Connector



The CMN Mail Connector is a Windows service that monitors SMTP traffic between Domino and Exchange to resolve incompatibilities. This service detects and converts messages to facilitate, for example:

- Invitations to recurring meetings.
- Requests to reschedule meetings, or series of recurring meetings.
- Cancellations of single meetings, or entire series of recurring meetings.
- Notes links.
- Attachments to single meetings or series of recurring meetings.

CMN's Mail Connector also detects and converts Notes rich-content features whereby messages carry "live" or "active" functional content, for things such as:

- Stored forms (created with **Store form in document**).
- Embedded buttons, hotspots, collapsible sections, etc.
- Native Notes encryption.
- Unsupported rich-text elements (e.g., tabbed tables).

These features, which we collectively call "Active Mail," would normally be lost or degraded when delivered to an Exchange recipient, due to differences between the mail platforms. However, CMN's Mail Connector can detect and process Active Mail content to preserve this functionality. CMN detects messages en route to Exchange with Active Mail content, and encapsulates the functionality within an NSF file attachment. Assuming a Notes client is still installed on the Outlook recipient's computer, and the NSF file type is associated (in Windows) with the Notes client application, the Outlook recipient simply double-clicks the icon to open the attached NSF file into Notes, with the fully functional Active Mail content in view.

The Mail Connector functions as a passive SMTP interface between Domino and Exchange. That is, the Mail Connector does not establish a connection or store output of processed messages. CMN converts messages containing calendar data, active mail and DocLinks, while other messages simply pass through to the destination server.

Before introducing CMN, Ellen configures Notes person documents and AD object records to permit internal SMTP mail-routing during coexistence. SMTP mail routing can be configured for either single-domain or multi-domain environments, and Ellen prefers using smart hosts to configure a single-domain routing scheme. She configures Exchange to route mail to a smart host if Exchange determines the recipient is not in the local internet domain, via the *targetAddress* attribute in the Active Directory object record. Meanwhile, she configures Domino to do the same thing in reverse for a recipient whose local internet domain address is not listed in any Domino person documents. Then she configures both smart hosts to point to the CMN Mail Connector server.

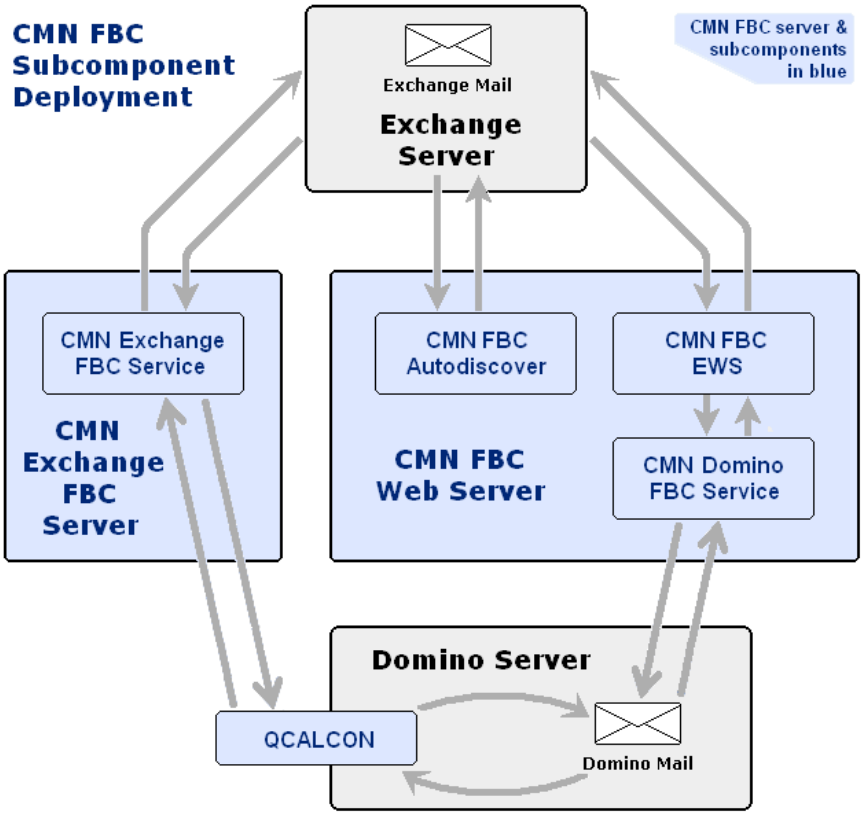
CMN Free/Busy Connector

Ellen knows that calendar features are popular among all American Widgets users, but obviously the features will be useful only if they have access to accurate, timely free/busy information for *all* users. CMN's Free/Busy (F/B) Connector is a coordinated set of applications that enable Exchange and Domino to query the calendar availability of each other's users. Sharing free/busy data between Notes and Exchange simplifies calendar updates when accepting a meeting invitation, or changing the day/time or canceling a meeting, or making some other change to an existing meeting or recurring meeting series.

When a user in one environment requests free/busy information about a user in the other environment, the asking server's query must be translated into a form that the other server will understand. Likewise, the data reply has to be translated into a form that the asking server will understand. This is true of free/busy queries and replies in both directions, and a separate translation application is required for each direction.

In addition to the query, translation and reply functions, both the Exchange and Domino servers require a service to facilitate data communications between themselves and external data sources (e.g., each other). EExchange On-Premise uses Exchange Web Service (EWS) and Exchange Online uses Graph API for communications with other applications, while Domino requires a server task. And finally, Exchange also uses an *Autodiscover* service to track and report the location (URL) of the Exchange.

In a typical configuration, CMN's bidirectional Free/Busy Connector contains five components to facilitate the flow of F/B queries and replies between the two environments, as shown here. For technical reasons, the Domino server task (called QCalCon) must be installed on the Domino server. It is possible to install the other four CMN F/B Connector components on a single server, but American Widgets sees sufficient query volume to warrant separate servers, for optimal performance. Ellen therefore opts to deploy the components on two servers.


CMN FBC
Subcomponent
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Exchange Mail
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EWS
CMN FBC
Web Server
CMN Domino
FBC Service
Domino Server
QCALCON
Domino Mail

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