

Kofax Communication Server

TC/LINK-LN Technical Manual

Version: 10.2.0



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1. OVERVIEW

1.1 Features

TC/LINK-LN transfers messages between Lotus Notes and Kofax Communication Server (KCS). Image and binary attachments can be used.

For the features of the general part of TC/LINK, please see the document: TC/LINK KCS Link Modules. Features described here are part of TC/LINK-LN.

Note: This product is the successor of TC/GATE. It contains most of the features. Although some features of TC/GATE are explicitly excluded from TC/LINK, (for example the “#” contained in Notes addresses are not supported the same way). See the TCLINK.DOC for a detailed description of supported features.

TC/LINK-LN can handle Notes Rich Text Format (RTF) and Notes Forms.

- The setup of TC/LINK-LN can be changed from Notes.
- TC/LINK-LN contains a KCS addressing box for Notes clients.
- An options box for special KCS options is included.
- Users are synchronized from the Notes Names and Addresses Book.
- The look of notifications from KCS to Notes is more “Notes-like”
- Additional fields are filled when sending from KCS to Notes.
- Ignore messages from agents or modify messages via Agents before sending them to KCS or Notes.

Important! The Kofax Communication Server (KCS) and its components formerly used the name TOPCALL. Some screen shots and texts in this manual may still use this former name.

1.2 Prerequisites

Lotus Notes 8 32-bit client or higher. Latest verified version: 9.0

IBM Domino 8 server or higher. Latest verified version: 9.0

For all other prerequisites, please see also the prerequisites of the general link description in TC/LINK manual.

Notes:

- TC/LINK-LN needs databases on the Domino server. If there are no rights to add the databases, the message “Cannot create ... (582) you are not authorized to perform that operation” will be written into the log file. In this case, you may ask the notes administrator to let TC/LINK-LN add the databases. (He can remove the right to add databases after TC/LINK-LN has been started once). The administrator can also add the databases manually. A detailed description on how to add these databases can be found in this document.

1.3 Unicode Support

TC/LINK-LN understands Lotus Multi-Byte Character Set required for full support of Unicode characters.

For more information, see:

- *TC/LINK Technical Manual*
- *Unicode Installation Guide*

2. PRODUCT DESCRIPTION

2.1 User Manual

This section describes the Notes User's view of this product; Notes forms...

2.1.1 How to Send from Lotus Notes

The general format of a Notes address is:

```
"Username @ Domain"
```

Where domain is a service on KCS (e.g. "FAX") and must be defined as foreign domain in the Notes N/A book.

Alternatively you can address:

```
"Username @ Service @ Domain"
```

(Service is e.g. "FAX", Domain is e.g. "TOPCALL")

Here, the Service needs not be defined as foreign domain.

You can provide a full name and a number (or other address) when sending from Notes to KCS. Use the following syntax:

```
"FULLNAME # NUMBER @ DOMAIN".
```

Note that the hash sign ("#") is configurable and can be another character in your installation. Instead of the hash sign you can also use the "@" sign e.g.:

```
"FULLNAME @ NUMBER @ DOMAIN"
```

Note that such an address cannot be distinguished from SMTP/Internet addresses, therefore using the "@" sign as full name delimited is disabled for some configurable services (see installation). For these services you have to use the hash ("#") sign.

You can also provide a Companyname using the following syntax:

```
FULLNAME AT COMPANY # NUMBER @ DOMAIN
```

or

```
FULLNAME AT COMPANY @ NUMBER @ DOMAIN
```

It is possible to add KCS addresses via a KCS address button from the TCMEMO form. With the KCS address window, it is possible to fill all specific fields for a KCS address. You have the possibility to add the following fields of an address:

- Recipient ID
- Company
- Department
- Fullname
- Salutation
- FreeText

Notes:

- All KCS specific fields mentioned above are optional.
- The TC/GATE syntax ("JUNK#COMPANY#FULLNAME #NUMBER@ DOMAIN") is no longer supported.

The *Username* depends on the service. E.g. for X400 it could be quite complex, for fax it is simply the fax number.

Recipient	How to address / restrictions / Notes
Fax	"12345 @ FAX @ TOPCALL"
Fax with answerback	"12345-ABACK @ FAX @ TOPCALL"
Telex with answerback	"111-ANSWERBACK @ TLX @ TOPCALL"

Teletex	"1234@TTX @ TOPCALL"
TC/LINK-X4	<p>Specify X.400 Address in native Notes Format, Service name must be "X400". Service on KCS is defined by the registry value X400Service of the TOPCALL sub key, e.g.: /G=<i>Given Name</i>/I=<i>Initials</i>/S=<i>Surname</i>/Q=Q/OU4=OU4/OU3=OU3/OU2=OU2/OU1=UI1/O=O/P=P/A=A/C=C/DDA.DDA1=x/DDA.DDA2=y/DDA.DDA3=z/DDA.DDA4=w @ X400 @ TOPCALL"</p> <p>Notes: The Notes X.400 field "Common Name" has no representation on KCS and therefore cannot be interpreted by TC/LINK-LN. The first slash (before the "G=Given...") can be omitted so that addresses that are generated in the local address book are recognized correctly.</p> <p>Alternative: Use the KCS format for X.400 addresses periods instead of semicolons: S= Surname.G= <i>Given Name</i>.C=AT.A=ADA.P=TOPCALL.O=TCVIE @ X400 @ TOPCALL</p>
TC/LINK-SM	"Sthoma@kofax.com @ SMTP @ TOPCALL"
TC/LINK-MX	<p>Use Service "EXCHANGE" which is defined with the appropriate prefix: "SMTP:SMTPAddress of Exchange user @ EXCHANGE @ TOPCALL"</p> <p>or: "KCS Address of Exchange user @ EXCHANGE @ TOPCALL"</p>
TC/LINK-LN (Notes to Notes via KCS)	<p>Assume sending from Domino server "NOTES1" to Notes server "NOTES2"</p> <p>"Name @ NotesDomain @ NOTES2 @ TOPCALL"</p> <p>("NOTES2" has to be a service on KCS, which sends to the other, NOTES2, Domino server)</p>
TC/LINK-FI	<p>"Number @ TCFI @ TOPCALL"</p> <p>For the content of the Number: Normal Notes restrictions apply</p>
TC/LINK-AC	Not possible.
KCS user	The Service "TOPCALL" has to be defined as TOPCALL type. "Userid @ TOPCALL"

2.1.1.1.1 Details of Operation

When using the syntax Number @ service @ domain or NUMBER @ DOMAIN, there could be a misinterpretation of the service, Notesdomain and KCS number.

In the case of ambiguity the following rule applies:

If the last Notesdomain of an active address equals the owndomain (configured in the Registry) or it is no valid service, then the domain before is used as service, but only if that domain is a valid service.

Explanation:

Imagine the following address: Fullname @ domain1 @ domain2
(Instead of Fullname you can also write "Fullname AT company")

Here are all different cases concerning both domains.

Domain1	Domain2	Leads to KCS Service	Leads to KCS Number:
Valid service	Owndomain	Domain1	Fullname
Invalid service	Owndomain	Domain2	Domain1
Valid service	Valid service (not owndomain)	Domain2	Domain1
Invalid service	Valid service (not owndomain)	Domain2	Domain1
Valid service	Invalid service (not owndomain)	Domain1	Fullname
Invalid service	Invalid service (not owndomain)	Domain2	Domain1

Note:

There is a conflict with the use of internet (SMTP) addresses which cannot be distinguished from the fax addresses above. Now you can configure which services are used as internet (SMTP) services.

2.1.1.2 X.400 Addresses Notes to KCS

TC/LINK-LN supports the notes X.400 format and the KCS X.400 format. Conversion to and from the Notes X.400 format is done if the notes foreign domain is X400. The service on KCS can be configured in the Registry

Note: The Domain Name must be X400 for proper operation; the Service name is taken from the registry key "TCLINKLN/TOPCALL/X400Service".

E.g. Send to:

```
/G=Given Name/I=Initials/S=S/Q=Q /OU1=UI1/O=O/P=P/A=A/C=C/DDA.DDA1=x/DDA. @ X400 @
TOPCALL
```

The various X.400 fields can be entered in a more comfortable way with the Notes private Address Book (Client's Names.NSF):

The screenshot shows a dialog box titled "Mail Address Assistant" with a sub-title "X.400 Address". It contains two columns of input fields for configuring an X.400 address. The fields are as follows:

Given name (/G):	Org Unit 1 (/OU1):
Initials (/I):	Org Unit 2 (/OU2):
Surname (/S): Thoma	Org Unit 3 (/OU3):
Generational qualifier (/Q):	Org Unit 4 (/OU4):
Common name (/CN):	DDA (/DDA.type=value):
Organization (/O): TCVIE	DDA (/DDA.type=value):
PRMD (/P): TOPCALL	DDA (/DDA.type=value):
ADMD (/A): ADA	DDA (/DDA.type=value):
Country (/C): AT	Gateway domain (optional): X400 @ TOPCALL

Buttons for "OK" and "Cancel" are located in the top right corner.

The example above maps to the following address:

```
/S=Thoma/O=TCVIE/P=TOPCALL/A=ADA/C=AT @ X400 @ TOPCALL
```

You can also use the KCS X.400 format. It has to be specified in the following way:

```
S= Thoma.G=Siegfried.C=AT.A=ADA.P=TOPCALL.O=TCVIE @ X400 @ TOPCALL
```

which means the X.400 address string uses the same syntax as TCfW and KCS, but instead of semicolons (;), there are periods (.) because semicolons are the separator between addresses within notes.

The target service on KCS must be X400.

TC/LINK-LN uses the default X.400 service for sending to X.400 recipients (registry: Topcall\X400Service). Make sure that this service exists.

2.1.1.3 X.400 Addresses KCS to Notes

In X.400, you must either send to a KCS shadow user whose IN-actions go to Lotus Notes or you specify the Lotus Notes address as a domain-defined attribute, for example:

- DDA Type = "NOTES" (service must exist on KCS)
- DDA Value = "Annemarie Fischer/TC_VIE/TOPCALL"

2.1.2 Option Settings via Fields in the Message

There are some fields (field names – case sensitive) which are interpreted by the TC/LINK-LN. There are some message-related options which can be optionally set. Here is a list of supported fields via the link:

Field name	Type	Meaning on KCS side	Syntax / values:
TCCoverSheet	Text	Select a cover sheet for the message	foldername/filename
TCLatestDelivery	Time/Date	Specifies the latest delivery time	
TimeAction	Time/Date	Specifies the delivery time, when the message should be sent on KCS	
Template	Text	Specifies the KCS template	foldername/filename
CostCenter	Text	Name of KCS cost centre	
Archive	Text		No / Pos / Neg / All
Hline	Text	Print header line on KCS	Yes / No
Resolution	Text	Select the resolution for FAX.	High / Normal
SendingCopy	Text	Specifies the sending copy	All / First / NoCopy
Resolution	Text	Resolution of Fax	High / Normal

Additionally, very KCS specific fields can be set via Notes message, only change or create them if needed and you will know the behavior of these fields (see also "2.3.3 – Supported fields by TC/LINK-LN" for details):

\$Correlation, From_Active, From_Answerback, From_Archive, From_Backreception, From_C1, From_C2, From_C3, From_C4, From_C5, From_C6, From_Company, From_CostCenter, From_DeliveryPriority, From_DeliveryReport, From_Department, From_Freetext, From_Fullname, From_Hline, From_Number, From_RecipientID, From_RemMsg, From_Resolution, From_Salutation, From_SendDate, From_SendTime, From Service

The same list is available for To_ instead of From_!

To specify user setting, use the following advanced addressing syntax:

To set some "per recipient"-options (fields), use the following syntax in the (for example) SendTo-field:

" 'FullName', 'Company', 'Dept', 'Salutation', 'Freetext'" <Notes Recipient>

Examples:

" Daniel Schmidt" <ds-email@kofax.com @ smtp> (=for email) or

" Daniel Schmidt', 'Kofax', Development " <016613312345@FAX> (=for FAX)

If no comma is contained in one of the fields, the single quotes can be omitted in this field. A single quote as literal is represented by \' (=Backslash and quote).

- Double Quotes must be used, if more than one field is used.
- Single quotes can be used.
- Fields are optional, in this case commas cannot be omitted (e.g.: Fullname,,Dept)
- Trailing commas can be omitted (e.g. if free text is missing)

2.2 Administrator Manual

2.2.1 How to Add the KCS Specific Forms to a Domino Server

These forms are delivered in the TC/LINK-LN setup database, which is installed on the Domino server. The Notes Administrator (or the Kofax technician, if he's allowed to) has to copy these forms manually to the Notes *mail template database*. The database name of the Notes *mail template database* depends on the used Domino version, e.g. for Lotus Domino Version 8.5: "Notes(R8.5)", file name: MAIL85.NTF.

Open the TC/LINK-LN Setup database (tcsetup.nsf on the connected Domino server) and go to the Design/Form view.

Copy the following forms from the TC/LINK-LN Setup database to the Notes *mail template database*:

*TCMemo,
 (TC Delivery Options)
 (TC Receiver Options)
 (TC Originator Options)

- You can copy the forms using copy and paste (Ctrl-C and Ctrl-V)
- Open the form you just pasted in the customer's Mail template and save it once to sign it with the ID of a customer's user (see 6.6 Message Box "Cross Certify Necessary").

Optionally you can set it to the default Memo Form (check this with the Notes Administrator) by doing:

- Select the forms and copy them from the TC/LINK-LN Setup database to the Notes mail template database.
- Delete the old Memo form (*Memo) from the Notes mail template database by selecting it and pressing the delete button.
- Rename the TCMemo to memo via the forms properties. Alternatively you can rename the TCMemo form to „FAX“, and let the Memo form the default.

The screenshot shows the 'Form' properties dialog box in a Domino environment. The title bar reads 'Form'. The dialog is divided into several sections:

- Name:** Memo | Document | Memo
- Comment:** (Empty text field)
- Type:** Document (dropdown menu)
- Display:**
 - Include in menu (Create menu dropdown)
 - Include in Search Builder
- Versions:**
 - Versioning: None (dropdown menu)
 - Create versions: (dropdown menu)
- Options:**
 - Default database form
 - Store form in document
 - Disable Field Exchange
 - Automatically refresh fields
 - Anonymous Form
 - Merge replication conflicts

- make this form the “Default” form in this database:

The screenshot shows the 'Form' dialog box in Lotus Notes. The 'Name' field is set to 'Memo | Document | Memo', 'Comment' is empty, and 'Type' is 'Document'. Under the 'Display' section, 'Include in menu' and 'Include in Search Builder' are both checked. The 'Versions' section shows 'Versioning' set to 'None' and 'Create versions' set to 'Create versions'. In the 'Options' section, the 'Default database form' checkbox is checked and highlighted with a red arrow. Other options like 'Store form in document', 'Disable Field Exchange', 'Automatically refresh fields', 'Anonymous Form', and 'Merge replication conflicts' are unchecked.

Inform all Notes users that they have to refresh the design of their local mail database by selecting “File/Database/Refresh Design...” using the customers’ mail server:

The screenshot shows the 'Refresh Database Design' dialog box. The 'Server' dropdown menu is set to 'chicken2/Development'. There are 'OK' and 'Cancel' buttons at the bottom right.

Warning: The User’s mail database has to be selected when performing this step. If a mail database is located on the server, it is done automatically at 1a.m.

2.2.2 Additional Tasks

If TC/LINK-LN / KCS technician does not have the right to add databases on the Domino server, the Administrator has to do this. See section Installation.

2.3 Operation

This section describes some of the Features of TC/LINK-LN in detail. You can read this chapter if you want to get background information or enhance your TC/LINK-LN installation.

2.3.1 Lotus Notes Rich Text (“RTF”) Conversion

If configured, the Lotus Notes rich text (with all its formatting and graphical elements) within the Body field of a Notes Memo (or within the whole Form) will be sent from Notes to KCS. TC/LINK-LN converts the notes forms to a graphical representation if necessary. This operation is also called in our KCS terminology “printing the message”, because this conversion is done by the document print function of the Lotus Notes client. (See also below.)

Note: If you encounter errors when converting Rich Text files, refer section [Rich Text Conversion Error](#) to resolve.

2.3.1.1 Enable Lotus Notes Rich Text Conversion

1) Set registry setting "RichText" to "1" or "2" or "4". (HKEY_LOCAL_MACHINE / SOFTWARE / TOPCALL / TCLINKLN / NOTES \ RichText)

Possible values for registry setting "RichText":

- 0: Disable the rich text conversion. The Notes-outbound message will be rendered only as plain text, without rich text formatting.
- 1: Enable the rich text conversion. The Notes-outbound message will be rendered with rich text formatting.
- 2: Enable the rich text conversion only when there is at least one of the Body fields with at least one printable character (in this case: ASCII code > 32). With this setting, Notes-outbound messages having only attachment-icons in the Body field will not be printed. (Nevertheless, the attachments itself will be printed, of course.)
- 4: Enable the rich text conversion only when the first Body field contains at least one printable character (in this case: ASCII code > 32).

Values other than 0, 1, 2 or 4 should not be used in the RichText registry setting!

Reason: In the current implementation, if using some other arbitrary value, then the rich text conversion will be prohibited, and also the plain text version of it will be excluded from the message. (Only the attachments will be transferred.)

2) Set the default printer to „TOPCALL Fax to TCDC”. Otherwise, TC/LINK-LN will not be able to convert rich text, and what is worse: it will remain hanging at the printing step. If you use the document converter and you start the TCDC.EXE program in the AUTOSTART group of your Windows installation, the default printer is automatically set correctly.

3) Be sure not to start NOTES.EXE if TC/LINK-LN is running as a service. Explanation: rich text conversion is done by TC/LINK-LN by launching the command line „NOTES.EXE PRINT”. If TC/LINK-LN is started as service, it cannot start NOTES.EXE if it already runs in foreground.

2.3.1.2 Disable Rich Text Conversion for Certain Documents

If the Notes documents to be sent contain the Notes text field 'NoRichTextPrint' and this field is not empty (e.g. value="1"), then the RichText conversion is not performed for this document even if the RichText conversion is configured for the TC/LINK-LN instance.

2.3.1.3 How TC/LINK-LN Converts Rich Text and Forms to Images

Image conversion is done via the Notes Client. TC/LINK-LN launches the notes client (NOTES.EXE) with the command line „NOTES.EXE PRINT”. The Notes client will start and open the print database PRINT.NSF on the local computer. If it is already started, it only opens the print database. This database is prepared by TC/LINK-LN so, that it contains the document to be printed as the current document and also, the "Postopen" event is modified by TC/LINK-LN in such a way that the printing will be called. So, opening the print database PRINT.NSF will cause the current document to be printed automatically to the default printer (to "TOPCALL Fax to TCDC".) Since this procedure uses the KCS printer driver for Windows, all limitations apply.

If TC/LINK-LN is started as service, it cannot start NOTES.EXE if it is already running in foreground. Be sure not to start NOTES.EXE if TC/LINK-LN is running as a service.

Note that the current version of the NT-printer driver does not support grey levels.

2.3.1.4 Landscape Printing

If rich text conversion is enabled, the link normally will print the whole form in portrait-format. With a special field in the form, it is possible to print the whole form in landscape-format too. If there is a text-field in the form, which is called TCLandscape with the value 1, TC/LINK-LN will print this whole form in landscape-format. If there is a TCLandscape field and the user wants to print the whole form in portrait-format anyway, so the field has to be filled with the value 0.

If there is no field defined in the document, TC/LINK-LN will print this document with the default settings of the printer-driver.

Restriction: Converting the document to landscape RTF disables “advanced RTF conversion” (see chapter below), only for this document.

2.3.1.5 Using KCS Cover Sheets with Rich Text

By default, TC/LINK-LN uses the originator’s coversheet even if a message starts with an RTF text block. This behavior can be changed by setting registry value `General\CoverForRTF` to 0. Then the ONLYIMG coversheet is used for messages starting with a RTF block.

2.3.1.6 Cover Sheet / Rich Text Overlap (“Advanced RTF Conversion”)

If rich text conversion is enabled, TC/LINK-LN can be configured for Advanced RTF Conversion. This means that the RTF text of outgoing faxes starts on the coversheet (overlapping) and is automatically formatted by the fax channel.

Advanced RTF Conversion cannot be configured on a per-message basis; it applies to ALL messages sent from Exchange.

Therefore, Advanced RTF Conversion only makes sense if TC/LINK-LN is used for sending faxes from Notes.

This feature must be configured manually via the Link PC’s registry database:

```
General\AdvancedRTFConversion (REG_DWORD): 0x1
General\RTFBottomMargin (REG_DWORD): 0x133 (or 0x107)
General\RTFTopMargin (REG_DWORD): 0x106
General\RemoveRTFPages (REG_DWORD): 0x0
```

Setting `General\AdvancedRTFConversion` to 0x0 disables advanced RTF conversion. For more information, see TC/LINK manual.

2.3.1.7 “Postopen”-Event Problem

Sometimes, customer defined “Postopen” events in a Lotus Notes form in `TCSetup.nsf` can prevent TC/LINK-LN from printing this form. Thus, RTF conversion will fail and TC/LINK-LN will be blocked. Here is the background and the solution to it:

Background:

The printing (=rich text conversion) of a message is performed by copying the message document in the local `Print.nsf` database, opening it, and so triggering the “Postopen” event of the respective form, with has the following code:

```
Sub Postopen(Source As Notesuidocument)
  Call Source .Print( 1 )
  Call Source .Close
End Sub
```

Now, the registry setting “`.../NOTES/MemoForms`” defines whether only a specified field (default: “Body” field) or the whole form will be sent from Notes to KCS. See details, how to define this, in the chapter “*Sending only one field or the whole form to KCS*”. Now, if it defined here, that only one field should be send to KCS, then the document to send will be first renamed to a “PrintForm”-form-document (defined in `TCSetup.nsf` und copied automatically at TC/LINK-LN startup into `Print.nsf`) which has the correct “Postopen” code in it, so in this case printing works always.

However, if there is no according field definition in the “`.../NOTES/MemoForms`” setting for the current form to send, then not only one field, but the whole form will be printed. In this case, the according form definition in `Print.nsf` will be used to print the document (and not the “PrintForm”-form definition, of course). So, the printing can only work if the “Postopen” event in this form definition has the code as above. TC/LINK-LN tries to make sure this: when starting TC/LINK-LN, all forms from `TCSetup.nsf` will be copied to `Print.nsf` and the Postopen events will be overwritten to contain the same code as “PrintForm”-form has, that is, the code above. Unfortunately, if the form in `TCSetup.nsf` contains a “Postopen” event definition in

Formula language, then this overwrite will fail, and as a consequence, later the RTF-printing of such kind of forms will also fail, blocking TC/LINK-LN.

A second problem: if the form in TCSetup.nsf contains a "Postopen" event definition in LotusScript, then TC/LINK-LN will successfully overwrite it, and so, printing will be possible, but without performing the original "Postopen" code, which can be relevant.

Conclusion / Solution:

If the customer sends a **whole form** from Notes (and not only one one field of it):

- if the "Postopen" definition for this form in TCSetup.nsf is in Formula language, this "Postopen" definition must be removed before starting TC/LINK-LN. If it is a stored form, "Postopen" definition in Formula language must not be used.
- It must be made sure that the "Postopen" event of this form does not contain any print relevant processing.

2.3.2 Forms

Forms are interpreted by TC/LINK-LN. They are converted to images.

2.3.2.1 Forms Background

A Notes Form is the Layout of a Document. It can contain bitmaps, constant text and fields that are filled from data of a document. The form can also contain macros and Lotus Script programs. Lotus Script is the Basic programming language implementation of Lotus. The macros or scripts are launched when a form is displayed or printed.

Forms are usually stored once in a database (normal form). But forms can also be stored in a document. This type of form is called "Stored Form". When a form is stored with the Document, all information that is needed to print or display the data is contained in the document. The macros and Lotus Script programs are also contained in the Notes document. Since every document can be mailed if you add a "SendTo" field, such a Notes document containing a form can be sent via TC/LINK-LN.

For security reasons, "Stored Forms" are not allowed by default. To enable these forms, read the next section. "Stored Forms" can contain macros that are invoked when converting a form. With such a macro it would be possible to destroy the installation of TC/LINK-LN („Mail bomb / Mail virus"). If a user wants to fax his own custom form, he should ask the notes administrator to put his form into the TCSETUP.NSF instead of using "Stored Forms", but it is also possible to send stored forms too, the administrator have to change the registry key.

TC/LINK-LN does not support shared fields.

When TC/LINK-LN starts, all forms from the setup database TCSETUP.NSF on the Domino server are copied to the local print database. Then TC/LINK-LN modifies it for its own needs (For Notes programmers: a postopen event is inserted).

Since every form is signed, the Notes client recognizes that TC/LINK-LN changes the form. It brings up a Message Box saying that this form has been modified. To avoid this, the signature is removed when copying the form to the print database.

2.3.2.2 Customer-Specific Forms for Sending from Notes

If you want TC/LINK-LN to convert your own forms, simply add them to the setup database and restart TC/LINK-LN.

By default, the Notes 4 memo form with all its subforms is stored in the TOPCALL.NTF database template which is copied while running the setup program.

Note that all forms that are used by the customers for mail sending must be added to the TCSetup.NSF if you want to use Forms. Otherwise you will get a message Box "Cannot locate Form" on the TC/LINK-LN computer.

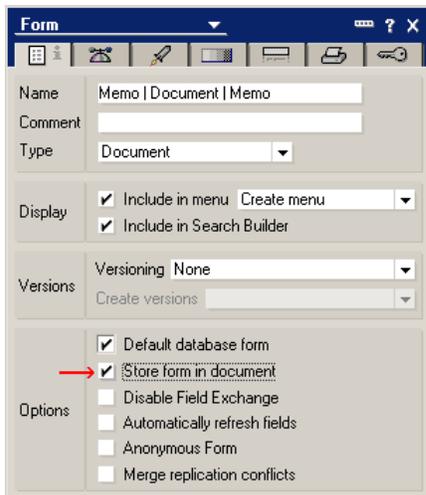
2.3.2.3 Using Stored Forms

1) Enable stored forms in TC/LINK-LN

A registry entry is used to enable stored forms, set the registry value “HKEY_LOCAL_MACHINE/SOFTWARE/TOPCALL/TCLINKLN/NOTES/AllowStoredForms” (DWORD) to 1 to enable the stored forms. The default setting is 0, so it is not allowed to send stored forms by default and if the originator tries to send a stored form, he receives a Delivery Failure Report. (Hint: always restart the link after changes in the registry.)

2) Creating a stored form:

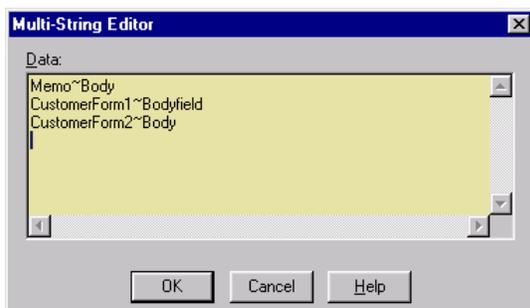
In the personal mailbox it is possible to create a form. Go to “Design – Forms” and design a new form. To store the form in the document, you have to go to the menu entry “Design – Form Properties”. In the section “Defaults” you can find the field “Store form in document”. By selecting this field (see picture) Notes will store the whole form in the document.



Stored forms have to be saved in the mail database of the originator, it is not necessary to save them in the TC/LINK-LN setup database (TCSetup.NSF).

2.3.2.4 Sending Only One Field or the Whole Form to KCS

Use the registry setting “.../NOTES/MemoForms” to specify which field should be sent to KCS for a given form type. If the form type of the message is not listed in this registry setting, the whole form will be sent (printed, if rich text conversion is set). This is a multi-string setting:



Each line has the syntax:

„FORMNAME~FIELDNAME”

or:

„FORMNAME” (Fieldname is missing, in this case “Body” as default field name will be used)

When TC/LINK-LN receives a message from Notes, it looks up the name of the message form in the registry entry MemoForm.

1. If it does not find the form, **the whole message**, including the form layout (e.g. for the Memo form the Letter Head and Mood Stamp) **will be sent** to KCS.

2. If it finds the Form, but there is no corresponding field name definition (syntax: „*FORMNAME*”, e.g.: “Memo”), then the **default-field “Body” will be sent**
3. If it finds the Form and there is a field specified (syntax: „*FORMNAME~FIELDNAME*”, e.g.: “Memo~Subject”), only **the field specified will be sent** (in the example only the “Subject” field.).

Hints:

- 1) If you specify more than one form in the MemoForms field, separate all entries by a CR (paragraph mark). The MemoForms field is a “multiString” field and the delimited between the strings is a CR. Do not specify any other delimiter like a semicolon or a comma!
- 2) If you want TC/LINK to send not only the Body field of the memo form but also the form itself, do not list the form “Memo” MemoForms field.
- 3) In some Windows versions use REGEDT32.EXE when entering MultiString fields. With REGEDIT.EXE you cannot edit or enter MultiString fields like MemoForms.
- 4) “Formname” will be searched case-insensitive.

2.3.2.5 Customer-Specific Forms for Receiving into Notes

You can specify which forms are used when receiving a message within Notes. The Forms must be installed in the customer’s mail template. You can specify different forms for receiving, delivery and non-delivery notifications.

See registry settings “.../NOTES/FormMessage”, “.../NOTES/FormDelivery”, “.../NOTES/FormNonDelivery”.

2.3.3 Supported Fields by TC/LINK-LN

TC/LINK-LN creates fields in a message when the message is send from KCS to Notes, but TC/LINK-LN also acts on some fields when you send a message from Notes through KCS.

So, different fields are supported depending of the message type: Outgoing messages, Incoming messages and Notifications.

2.3.3.1 Outgoing Messages (from Notes through KCS)

To configure message related options see also the section “2.1.2 Option Settings via Fields in the Message”.

2.3.3.2 Incoming Messages (from KCS to Notes)

Field name	Type	Description	Syntax/Values/Range
\$Correlation	Text	Correlation Information is stored in this field. It stores the unique number of the related KCS message.	xxxxxxx,xxxxxxx x = any digit
From_C1	Text	Specifies the first part of the unique document number from the message of the originator. With this field and From_C2 you can find the original Notes document of the originator.	OFxxxxxxx:xxxxxxx x = any digit (hexadecimal) If the originator was no Notes user, this field is empty.
From_C2	Text	Specifies the second part of the unique document number from the message of the originator. With From_C1 this field you can find the original Notes document of the originator.	ONxxxxxxx:xxxxxxx x = any digit (hexadecimal) If the originator was no Notes user, this field is empty.
From_Service	Text	The used service of the originator for message is stored in this field. In this field is described, from which service the message was posted to KCS. (Service of Originator)	Any possible Service name, e.g. NOTES for Service Notes, so the originator was also a Notes user.

			FAX means that the document was received from a FAX-machine.
From_Number	Text	The number or user ID from the originator. This value depends on the From_Service field. e.g. From_Service=NOTES -> any Notes username. From_Service=FAX -> any FAX number.	Any possible number or username – depending on the From_Service.
To_C1	Text	Same information stored as in \$Correlation, but only the first part is stored in this field.	xxxxxxx x = any digit
To_C2	Text	Same information stored as in \$Correlation, but only the 2nd part is stored in this field.	xxxxxxx x = any digit
To_Service	Text	The used service (in-event) of the recipient for this message is stored in this field. Normally it should be Notes if the recipient is a Notes user.	Any possible Service name, but normally NOTES is the value.
To_Number	Text	The username of the recipient in Notes.	Any Notes username.

There are more fields in an incoming message, but not all are really important. So here follows the list of all fields without detailed explanation because the name tells you what kind of data is stored in it. All fields are of type Text. Fields starting with From_ means that the data from the originator is stored, starting with To_ means that the data from the recipient is stored.

The following fields are created by TC/LINK-LN – the same list is available for To_ instead of From_ :
From_Active, From_Answerback, From_Archive, From_Backreception, From_C1, From_C2, From_C3, From_C4, From_C5, From_C6, From_Company, From_CostCenter, From_DeliveryPriority, From_DeliveryReport, From_Department, From_Freetext, From_Fullname, From_Hline, From_Number, From_RecipientID, From_RemMsg, From_Resolution, From_Salutation, From_SendDate, From_SendTime, From Service

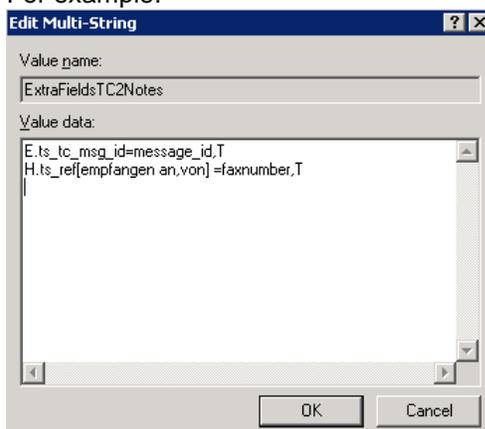
2.3.3.3 Incoming Messages: Transferring Additional Fields Configured in the Registry

TC/LINK-LN can be configured to transfer additional TCSI fields into the Lotus Notes mail document. It is also possible to define substring selector start- and stop-strings to transfer not the whole content of a TCSI field, but only a substring of it.

Configuration:

The configuration takes place in the registry setting <link-inst>\NOTES\ExtraFieldsTC2Notes (multi-line string).

For example:



Each line defines one field mapping. Syntax of one definition line:

```
<parent-obj>.<TCSI-field-name>=<Notes-field-name>,<Notes-field-type>
```

Or, with optional substring extractor:

```
<parent-obj>.<TCSI-field-name>[<start-delimiter><sep><end-delimiter>]=<Notes-field-name><sep><Notes-field-type>
```

Samples:

```
E.ts_tc_msg_id=message_id,T
E.ts_ref[Empfangen an,von]=faxnumber,T
R.ts_correl_1(0)=correll_recip0,T
```

Indexing makes sense only if parent object is a recipient ('R')

Explanation:

Fieldname	Description	Possible values
<i>parent-obj</i>	1-character denotation of the TCSI (sub) object of the mail structure where the field to be transferred directly resides.	E → set_entry_mail_ms itself H → set_header O → originator (set_entry_rs_originator) R → one of the recipients (set_entry_rs)
<i>TCSI-field-name</i>	Name of the TCSI field whose value is to be transferred to Lotus Notes. If the parent object is 'R' (recipients) then a zero based postfix index in braces can be used to select the recipient. (The mail can have more then one recipients.) E.g. ts_correl_1(0) means the ts_correl_1 field of the first recipient in the mail-structure.	Name of an existing TCSI field, depends on the parent object. In case of parent object 'R' an additional index value in braces.
<i><start-delimiter></i>	Substring selector delimiter string, marks the start of the substring to be extracted	
<i><sep></i>	Separator character between start- and end delimiter	Must be the same character as defined the last but one character of the definition line
<i><end-delimiter></i>	Substring selector delimiter, marks the end of the substring to be extracted	
<i>Notes-field-name</i>	Defines the name of the field to be created in the Lotus Notes mail document.	arbitrary string
<i><sep></i>	This character is an arbitrary separator character between <Notes-field-name> and <Notes-field-type>. On the other hand, this (re)defines the separator character between <start-delimiter> and <end-delimiter>.	any arbitrary character
<i>Notes-field-type</i>	Defines the type of the field to be created in the Lotus Notes mail document.	T → text D → time/date N → number

Definition rules:

- 1) The '.' after the <parent-obj> definition must be always on second position.
- 2) The last but one character in a definition line is not only a separator character itself, but it defines the separator character used between <start-delimiter> and <end-delimiter>. This flexible separator character definition enables that there is no need to prohibit any special character in <start-delimiter> or <end-delimiter>. E.g., if we want to use commas (',') in them, then you can redefine the separator character for example to semicolon (;).
- 3) There are some (obvious) restrictions concerning possible Notes field types in dependence of the TCSI field types:
There are 3 possible TCSI field types: *string*, *integer* and *date/time*.
There are 3 possible Lotus Notes field types: *text*, *number* and *date/time*.
Now, the following rules apply:
A TCSI-string-type field can only be transferred to a Lotus Notes *text* field but not in a *number* or *date/time* field.

A TCSI-integer-type field can only be transferred to a Lotus Notes *text* or *number* field but not in a *date/time* field.

A TCSI-time/date-type field can only be transferred to a Lotus Notes *text* or *date/time* field but not in a *number* field.

4) Substring extracting:

a) The search of *<start-delimiter>* and *<end-delimiter>* is case sensitive.

b) If you use substring selector, then one of the *<start-delimiter>* or *<end-delimiter>* can be left out. E.g. instead of [Empfangen an,von] you can use [Empfangen an,] or [,von] respectively. This has the effect that the extracted substring will not be cut off on the undefined side. (Note that the separator character, in this example the ',' character, cannot be left out, though.)

c) If just any of the given delimiters does not match, then empty string will be written into the Lotus Notes mail document.

d) Whitespace characters are, of course, valid characters in the delimiter definition and will be applied in the string matching.

E.g. [Empfangen an ,von] => *start-delimiter* begins in fact with 2 spaces.

Operational rules:

1) Field value transfer: leading/terminating whitespaces will be cut off. This is also true when this value is an extracted substring.

Troubleshooting:

1) To find out if the definitions in *<link-inst>\NOTES\ExtraFieldsTC2Notes* are in fact OK:

Start TC/LINK-LN with at least *<link-inst>\NOTES\TraceLevel=20*. Just on start, TC/LINK-LN parses the *ExtraFieldsTC2Notes* and writes an according trace, also in OK case.

Search in the trace file for "Start enumerating *ExtraFieldsTC2Notes* reg.setting lines." and check the consecutive trace lines.

2.3.3.4 Notifications

Field name	Type	Description	Syntax/Values/Range
\$Correlation	Text	Correlation Information is stored in this field. It stores the unique number of the related KCS message. (Only in non-delivery notifications)	xxxxxxx,xxxxxxx x = any digit
\$REF	Response Reference List	Specifies the unique document ID (=Notes ID) of the original sent message. (Only in non-delivery notifications)	Fxxxxxxxx:xxxxxxxx-Nxxxxxxxx:xxxxxxxx x = any digit (hexadecimal)
From_C1	Text	Specifies the first part of the unique document number from the sent message. With this field and From_C2 you can find the original Notes document (=sent message).	OFxxxxxxxx:xxxxxxxx x = any digit (hexadecimal)
From_C2	Text	Specifies the first part of the unique document number from the sent message. With this From_C1 and this field you can find the original Notes document (=sent message).	ONxxxxxxxx:xxxxxxxx x = any digit (hexadecimal)
FailureReason	Text	Text of the Failure which occurred. (empty in delivery notifications)	Any possible error message.
From_FullName	Text	The recipient address/number/user ID where the original message was sent before the non-delivery/delivery was received.	Any possible address.
From_Service	Text	The service the user tried to send the original message.	Any possible KCS Service

LAST_MDA_ACTION	Text	The last action (error) on KCS side for this message.	Any possible text.
COSTS	Text	The costs of the message – normally only useful when sending faxes.	
Duration	Text	Duration of sent message.	(in seconds)

There are several additional fields which are not important but they are created by TC/LINK-LN. So here is the full list of fields which are created by TC/LINK-LN without explanation:

From_Active, From_Answerback, From_Archive, From_Backreception, From_C1, From_C2, From_C3, From_C4, From_C5, From_C6, From_Company, From_CostCenter, From_DeliveryPriority, From_DeliveryReport, From_Department, From_Freetext, From_Fullname, From_Hline, From_Number, From_RecipientID, From_RemMsg, From_Resolution, From_Salutation, From_SendDate, From_SendTime, From_Service, MessageType, Duration, Costs

Remark: There are no fields starting with To_.

2.3.4 Parallel Link on Different Computers (Same Notes Database)

2.3.4.1 Overview

TC/LINK-LN can now be installed on more than one machine but connected to one Domino server and one KCS server.

On **Notes side** all links use only one Notes database (LN2TC.NSF) thus using the same foreign domains. All links can now use the same TC/LINK-LN Setup database (TCSETUP.NSF) on the Domino server. The ComputerName of the TC/LINK-LN helps the administrator to distinguish the different instances of TC/LINK-LN.

On **KCS side**, all links have to poll the same queues to allow failover operation.

Installation Hints:

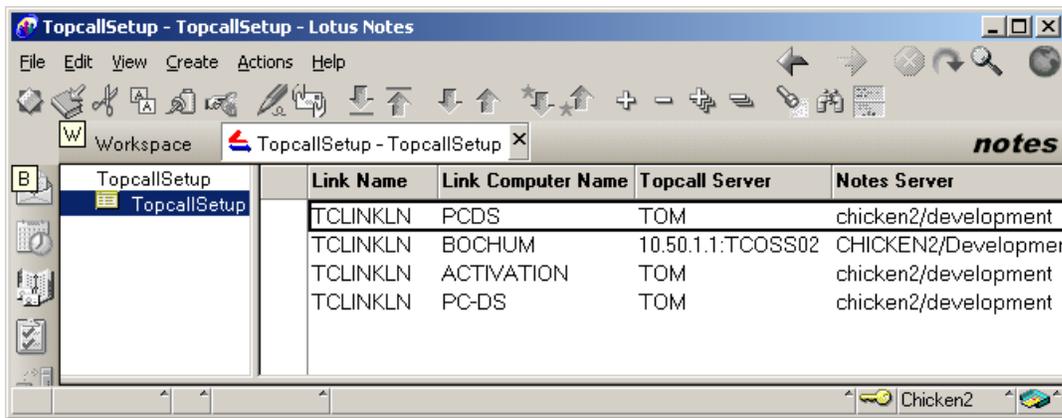
You can configure all instances of TC/LINK-LN exactly with the same settings. They can now share one setup database and one LN2TC Mail database.

Dirsync is also locked which means that it is executed only by one TC/LINK-LN at the same time.

2.3.4.2 TCSETUP.NSF

Every instance of TC/LINK-LN creates one document in the setup database. You can see the link name of each instance in the first column, the computer name in the second column of the TopcallSetup view of the TC/LINK-LN setup database. (Note: "Topcall" is the old name for KCS.) With older templates, both documents look the same.

Note that the links can run in parallel also if you do not update the Setup database with the new template.



See also the description of TC/LINK.

2.3.4.3 Message Locking

On KCS side: Is done by Kofax Communication Server itself.

On Notes side: Unfortunately, Message locking is NOT done by the Domino server itself. Instead TC/LINK-LN has to do it manually.

Here is how TC/LINK-LN locks messages coming from Notes:

Whenever a message is opened on Notes side, TC/LINK-LN checks, if this message is already occupied by another instance of TC/LINK-LN. This is done by two independent mechanisms. The first mechanism, TC/LINK-LN-Lock, is always active. The second mechanism, TCLINK-Lock, can be turned on additionally, see below section 2) TCLINK-Lock.

1) TC/LINK-LN-Lock:

It uses the fields "TCSessionKey", "TCLinkName" and the field "TCTimestamp" from the Message content. If the "TCSessionKey" is not the current computer name, "TCLinkName" is not the correct link name (it's already mine; could happen in case of a crash of TC/LINK-LN) and the TCTimestamp is in the future (the message is not yet expired) this message is a no-no.

Otherwise, TC/LINK-LN writes the own "TC-SessionKey" (=Computername) and a timestamp (=CurrentNotesServerTime + LockTimeout) into the message and checks for update errors (another instance of TC/LINK-LN could have been locking the Message at the same time)

The following 3 fields are used for message locking:

TCSessionKey	own computer name
TCLinkName	Link name (same as registry key name, e.g. TCLINKLN)
TCTimeStamp	CurrentNotesServerTime + LockTimeOut (in seconds)

Conclusion:

- For a fail save operation, all instances of TC/LINK-LN have to use the same Message transfer database (LN2TC.NSF by default)
- All instances of TC/LINK-LN have to run on different machines (Computernames).
- Do not use the fields TCSessionKey, TCLinkName and TCTimeStamp in your own created forms, otherwise TC/LINK-LN could believe that those messages are already in progress.

2) TCLINK-Lock

To switch on TCLINK-Lock the registry setting "LockMechanism" = 1 and "LockTimeout" (hours) = 1...6 in ...TCLINKLN/General should be set.

When using this locking mechanism, a temporary file is created on KCS for each message going from Notes -> KCS. This prohibits other links to transfer this message. When the message is successfully transferred from Notes to KCS, then this temporary lock file will be removed. When an error occurs and this remove does not succeed, then after LockTimeout hours the lock file will be automatically removed.

It is recommended to switch on this locking mechanism when more than one link polls an LN2TC database. Using only the first locking mechanism (TC/LINK-LN-Lock) does not give enough protection against double sending a message to KCS.

2.3.4.4 Dirsync Locking

For successful dirsync locking, all instances of TC/LINK-LN have to use the same setup database.

Dirsync locking is done via the Setup database:

Implementation description:

Whenever an instance recognizes that it should start dirsync, it first checks, if there is already a “Dirsync Active” document that is not expired (checked with DSTimeStamp) and that is not from an own previous dirsync (checked with DSSessionKey):

If there is no other instance dirsync running, it creates a “Dirsync Active” document containing following fields:

(Note that you cannot see this document in the setup database).

Form	“Dirsync”
DSSessionKey	ownComputerName
DSTimeStamp	CurrentNotesServerTime + LockTimeout (in seconds)

Notes:

After creation of this document, it is verified that no other instance created another “Dirsync Active” document during the time between check and creation.

Conclusion:

If you use two setup databases for the two links, it is possible that both links could execute dirsync at the same time. That actually does not imply any harmful situation, but it is a performance drawback, because the KCS server is loaded with more than one dirsync at the same time.

2.3.5 Parallel Links on the Same Computer

To install a second instance of the TC/LINK-LN, modify the defaults.ini of the Kofax Communication Server setup and run the setup again. To modify the defaults.ini read the TC/LINK Manual, section “Parallel Link”.

For a RichText-conversion-enabled link instance applies: When Notes\CloseClientMode is configured to close all running Lotus Notes processes on link-start and/or link-stop (strongly recommended!), then also all parallel TC/LINK-LN instances will be forced to stop. This means, that all other parallel links will stop (and restart – by TCSRVR) when the RichText-conversion-enabled link instance restarts (for example, when the document conversion fails).

So, be sure that only a single link is enabled for RichText-conversion on the same computer, because if two links are RichText-enabled, then they would terminate each other in endless loop at link-start!

Restrictions:

- Only one single TC/LINK-LN instance on a machine can be configured for Lotus Notes RTF conversion (Notes\RichText=1). All other instances must have Notes\RichText=0.
- Notes\CloseClientMode=0 must be set for all RichText-disabled-links. Otherwise it could close the Lotus Notes-client while another link instance just uses the Lotus Notes-client to perform RichText conversion.
- Enable only one link instance for Dirsync and for database compacting.

Message locking in the LN2TC database: The documents are locked in the same way as in the case of parallel link on different computers. Every locking mechanism is now done via the PC name and Link-Name. You find more details on this locking mechanism in the section “Message Locking” in this manual.

If the Agent-enhancement is running and the parallel link is installed on the same machine, be sure that the Agent checks both PC-Name and Link-Name.

2.3.6 Different Notes IDs for Each Link Instance (on the Same Computer)

Since version 2.07.00 of TC/LINK-LN it can be configured, which ID file should be used. So when installing multiple instances of TC/LINK-LN on one computer, it is now possible to use different ID files for each instance. This means that each link can be connected to a different Domino server, but again only one Notes Client can be installed on the link computer.

To set a different ID-File registry value has to be configured:
HKLM\SOFTWARE\TOPCALL\TCLINKLN\Notes\INIFile (REG_SZ, by default empty)

To configure a link instance to a different ID file, you have to configure in the registry key "INIFile" the name of the (modified) Notes.ini file. In the INI-File there is the entry "KeyFilename" where the ID File is specified. Therefore for every instance, which should have a different ID-File, an own INI-File is needed.

If the registry key is empty then the default notes.ini is used.

Configuration example of two instances:

	Link Instance 1	Link Instance 2
Configuration of registry key "INIFile"	(Empty or) notes.ini	Mynotes.ini
Setting of the Key "KeyFilename" in the INI-file	KeyFilename=Inuser.id	KeyFilename=Inuser2.id
Behavior of TC/LINK-LN	The link connects to the (first) Domino server where the Inuser.id belongs to.	The link connects to the (second) Domino server where the Inuser2.id belongs to.

To get a second notes.ini, simply do the following steps:

- 1.) If not already done, install the Notes client and get the client to work with the link user ID-File.
- 2.) Copy the existing notes.ini and name it (for example) Mynotes.ini.
- 3.) Modify the KeyFilename in the Mynotes.ini and configure the name of the second ID-File.

Note: All the different notes.ini files should be in the Notes directory. The ID-Files should be in the Notes\Data directory.

One of the TC/LINK-LN instances must have configured the default "notes.ini". Otherwise the Notes client cannot be started anymore on the link computer. It is recommended to set the default "notes.ini" to the link instance which is using the RTF conversion (=RichText enabled).

2.3.7 Japanese Support

The link can send and receive messages, which contain Japanese characters. So it is possible that Japanese characters are involved in the following cases:

- Sending and receiving mail: plain text, RTF, recipient, subject
- Dirsync
- Name of forms

To support the Japanese language, some registry values are changed. The registry key "HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\General\PCCodePage" is set with the value "932" and also the registry key "HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\Topcall\Codepage".

To support Japanese notifications to Lotus Notes, the registry key HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\CLSFile must be set to L_CP932.CLS, otherwise subject and other text of KCS delivery notifications includes bad characters.

2.3.8 Greek Support

The link also supports the Greek characters. It is possible to send and receive messages, which contains Greek characters.

The registry key "HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\General\PCCodePage" needs the value "1253" to send Greek messages.

Hint: To receive the messages from KCS to Notes with the correct characters, it might be necessary to define no cls-file in the registry, because Lotus Notes may not translate the message correctly with the Notes-Codepage 1253 (l_cp1253.cls). Therefore change the value in the registry key "HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\nOTES\ClsFile" to "none".

2.3.9 Hungarian Support

To support Hungarian Domino server names the following settings are required:

HKLM\SOFTWARE\TOPCALL\TCLINKLN\notes\...

...ConvertToOEM (Reg_DWORD) = 0x0

...ClsFile (Reg_SZ): L_CP1250.CLS

and also:

HKLM\SOFTWARE\TOPCALL\TCLINKLN\General\PCCodePage (Reg_DWORD) = 0x4e2 (decimal: 1250)

2.4 TC/LINK-LN Setup Document

It is possible to administer the TC/LINK-LN from the Notes side. In the TC/LINK-LN Setup database on the Domino server you will find a "TopcallSetup" view containing a "TopcallSetup" document (TCSETUP.NSF). All setup values described above can be modified there. When TC/LINK-LN is idling (=five poll cycles without any message transfer), it copies the changed values to the local registry and uses them from there. Note that you have to restart TC/LINK-LN if you make changes to the values. You can do this with the TCMON32.EXE program if TC/LINK-LN is running as service.

2.4.1 Technical Description

When TC/LINK-LN starts the first time, it will copy the new configuration values to the set-up document. It will create the TC/LINK-LN setup database (TCSETUP.NSF) from the Template TOPCALL.NTF. (Stays in C:\TCOSS\TCLP.)

TopcallSetup view and a TopcallSetup form into the database. Note that TC/LINK-LN must have the rights to create a database on the Domino server. The view and the form come from a special template, TOPCALL.NTF, which is delivered with TC/LINK-LN and stays in C:\TCOSS\TCLP.

When you change the set-up entries in the registry with the regedit32.exe program, the last modification date/time is set per key. This time-stamp is checked against the last modification date of the TopcallSetup document in the Notes database. TC/LINK also uses the difference between the server and the client's PC to check the time stamps.

It is possible to change the set-up values in the registry and to change the set-up values in the TopcallSetup document. If you change both, the last change will win.

Note, that if you change the computer time on the Domino server, Notes has to be restarted, even if the correct time is shown in the command line window of Notes. If you change the time on the TC/LINK-LN PC, TC/LINK-LN has to be restarted. Be careful: In either case, the modification time of the configuration data (Setup database or Registry respectively) is based on the old time! This could lead to wrong setup synchronization.

It is important, that the Notes User for the link has the "delete documents"-right in the TCSETUP.NSF.

2.5 Dirsync

Users on KCS are synchronized from the Lotus Notes address book (that is, “Domino directory”, normally: names.nsf).

In our terminology, the corresponding users on the KCS side are called *shadow users*. These records identify/refer to the same person as the according records on Lotus Notes side.

You have to supply the name of Domino directory database file name (without extension) in the registry value “NABook”.

TC/LINK-LN initiates the dirsync process every day at the time you specify in the field “DirsyncAt”. The format is HHMMSS without colons.

2.5.1 Immediate Dirsync

For testing purposes and for an initial dirsync run, you can start dirsync immediately by setting the registry key „DSImmediate” to „1”. To enable the immediate dirsync the registry key HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\Notes\DirsyncAt has to be set to any non empty value.

Note that this flag is reset by TC/LINK-LN after a run of dirsync.

2.5.2 Full Dirsync

If you want to make a full (not an update) dirsync, you have to empty (or delete) the Registry field “LastDirsyncAt”. TC/LINK-LN writes the date and time value after a successful dirsync into this field. For the next dirsync, only changes from this time on are taken from the NABook.

Note that this field is not maintained in the TC/LINK-LN setup database (tcsetup.nsf).

To enable Full Dirsync every day (so no update dirsync) set the registry key HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\Dirsync\PeriodicFull (REG_DWORD, by default 0) to 1. Otherwise to have only update dirsync set this key to 0. This key is read dynamically by the link, so no restart is required.

Note: This field is not maintained in the TC/LINK-LN setup database.

2.5.3 Field Mapping Notes <-> KCS: the Template User

The *User-ID* of the *shadow-user* on KCS is generated by Dirsync. How it is generated is defined by the registry entry TCUserName. See the description in the installation section (Run TC/LINK-Installation) of this document.

Concerning other *shadow-user* fields: the field-mapping between the Lotus Notes address book records and the corresponding KCS user records is defined in the so-called *template user*. This dummy user is stored as any other KCS user, but it contains mapping definitions in its fields. See the chapter “Dirsync Variables” how to define this mapping within the *template user*.

The default *template user* is defined in the registry entry DSTemplate (by its User-ID). This default *template user* will be created automatically by TC/LINK-LN. (Normally: “LNUSER”)

However, it is possible to override this default *template user* individually for any Lotus Notes address book entry: If you add a field named “TEMPLATE” (or its override, defined optionally in the registry setting DSTemplateField) to a Notes’ address book entry, and enter in this field the User-ID of another *template user*, this *template user* will be applied for this address book entry. In this case, an according *template user* must be created manually on the KCS. The existence of this template user on KCS is very important: if there is no corresponding template user on KCS, the dirsync will fail with an error 3504. (There is no falling back to the default *template user* defined in the registry entry DSTemplate in this case!) On the other hand, an empty *template user* definition in some address book entries (that is, the template-definition-field exists, but its content is empty) does not cause a dirsync failure. In this case, the default *template user* defined in the registry entry DSTemplate will be used.

A typical *template user* on KCS looks like this:

2.5.4 Dirsync Variables

All text fields of the notes user document can be used on KCS. For text lists, the index is appended with an underscore as delimiter except for index 0. So you don't have to distinguish between texts and text lists if you only want the first entry:

Examples:

The second entry of fullname text list can be used in a KCS template by specifying \$FullName_1\$

The first entry of fullname text list can be used in a KCS template by specifying \$FullName\$ (see also the example below):

See also special dirsinc variable \$FullName_\$\$ in a subchapter of the "enhanced originator mapping". This transports the FullName in abbreviated form.

2.5.5 Disabling Dirsync

You can disable dirsinc by emptying (no zero, no blank) the DirsyncAt value in the registry or setup database. Do not set it to "000000". In this case, dirsinc will start at midnight.

Do not disable dirsinc by emptying the "NABook".

If you empty the "NABook" entry, keep in mind, that you cannot use TCUserName=2 or TCUserName=32 ("Shortname" and "fullname with domain").

2.5.6 Enhanced Originator Mapping (KCS 7.22.00 and Above)

2.5.6.1 Introduction

This feature allows a more flexible way to recognize KCS shadow users. Now TC/LINK-LN supports an additional address mapping mechanism for the mail originator based on the new KCS proxy addresses. Proxy addresses are all the addresses specified for a specific user within the KCS (shadow) user profile. It is the combination of all the active and inactive addresses. By defining proxy addresses for KCS users, the shadow user recognition is independent of the userid.

The new method of address mapping and inbound routing also increases the performance that results in higher throughput using less system CPU time.

One shadow user for multiple mail systems

One shadow user can be used as shadow user for multiple mail products by adding proxy addresses to the user profile manually. Directory synchronization cannot be used to just add a proxy address to an existing user. Please note that the notifications are sent to the mail system(s) according to the actions defined in the events panel of the user profile. It is not possible to route back notifications automatically to the mail system that generated the message. This requires one shadow user per mail system.

Example:

The screenshot shows the 'User Profile - DS' dialog box with the 'Address' tab selected. The 'Service' is set to 'SMTP', 'Addr. no.' is 3, and 'Active' is unchecked. The 'Free address' field contains 'Daniel.Schmidt@topcall.com'. Below this is a table of addresses:

Active	No	Service	Number:
X	1	TOPCALL	DS,
	2	NOTES	Daniel Schmidt/Development,
	3	SMTP	Daniel.Schmidt@topcall.com,

Buttons for 'Delete Addr' and 'Save Addr' are visible next to the address field. At the bottom of the dialog are 'OK', 'Save', and 'Cancel' buttons.

With this configuration it is possible that TC/LINK-LN uses the Fullname User representation on KCS (TCUserName=1) but this user can use TCfW with his shortname. When sending a KCS message from Lotus Notes, he will see it his outbox.

Remark: The inactive addresses are used for inbound routing and recognition of users, not for sending of messages to Lotus Notes. Therefore configure the events.

2.5.6.2 Using “Enhanced Originator Mapping” when TCUserName = 2 or 3

It is strongly recommended to use “enhanced originator mapping” when using TCUserName = 2 (means: “username” of the KCS shadow user is the ShortName of the according Notes-user) or TCUserName = 3 (means: “username” of the KCS shadow user: [FirstName] [MiddleInitial] [LastName]) for performance reason. Because: otherwise, when sending a mail from Notes to KCS, Notes address book lookups would be made in case of TCUserName = 2 or 3 to get the according ShortName or MiddleInitial, namely, for the originator but also for all recipients. This is very resource-consuming and so results in a very bad performance. If using “enhanced originator mapping”, these lookups are no more necessary.

To use “enhanced originator mapping” the following 2 things should be made sure:

1) It must be made sure, that each shadow user in KCS contains in field NOTES / Free address (In TCfW: dialog "User profile" / "Address"-tab / Service "NOTES" / Field: "Free address") the full Lotus Notes address. Format: UserName/OU/O@Domain.

This can be achieved by dirsinc, e.g. when in dirsinc-template-user the field NOTES / Free address has the following value:

```
$FullName_%$@$MailDomain$
```

See details also: "New dirsinc variable \$FullName_%"

If field NOTES / Free address correctly filled at all KCS shadow users, "enhanced originator mapping" works already automatically.

2) Set the registry setting DisableNABLookUp =1 (in HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\NOTES)

If you are sure, that all KCS shadow users have NOTES / Free address correctly filled, you can turn off the address book lookup with the setting DisableNABLookUp =1 and so get an immense performance gain.

Background: earlier, when sending a mail from Notes to KCS, there were searches performed in the Notes address book to find the originator of the mail and all recipients of the mail to get e.g. the according ShortNames (in case of TCUserName = 2). This data was necessary to find the matching KCS shadow users. However, this search in the address book is a very time-consuming step and so results in a very bad performance. In later versions, TCLINK-LN tries first to match NOTES / Free address instead of e.g. ShortName to find the shadow-user on KCS. If this field is filled correctly in all shadow-users, is it always possible to find KCS shadow users only by matching this address field and there is no need to use eg. ShortName. Using email-address as a match-string to find the KCS shadow user has the advantage, that these addresses are directly available in a Notes-mail without any additional lookups.

2.5.6.3 Special Dirsinc Variable \$FullName_%"

This new dirsinc variable makes it possible to fill properly the field NOTES / Free address in KCS shadow user and so activate "enhanced originator mapping". It instructs dirsinc to transfer the Notes address book field "FullName" in abbreviated format (that is, without "CN=", "OU=", "O=" tags).

Explanation: The field "FullName" in Notes address book (names.nsf) contains the not-abbreviated full name (e.g.: "CN=Max Mustermann/OU=TC_VIE/O=TOPCALL"). If you define "\$FullName\$" in the dirsinc-template-user, dirsinc will transfer the full name to KCS user profiles in this not abbreviated format. Up to now, there was no way to transfer the full name in abbreviated format (e.g.: "Max Mustermann/TC_VIE/TOPCALL"), except, you have used the registry setting TCUserName = 0 and the dirsinc variable "\$Name\$" or you have defined your own custom "abbreviated full name" field in the dirsinc address book.

Usage: now, you can simply use the definition \$FullName_%\$@\$MailDomain\$ in the KCS dirsinc-template-user field "NOTES / Free address" and so activate "enhanced originator mapping", also in case of TCUserName = 1 or TCUserName = 2.

2.5.7 DirsincFormula

The registry entry "NOTES\DirsincFormula" specifies which Notes users are taken in consideration for dirsinc. The default for this field is:

```
SELECT Type="Person"
```

You can enter any valid Notes formula into this field. If the formula cannot be interpreted by Notes, an entry is generated in the event log and in the log file.

Note that this field is especially useful for testing dirsinc with only a few users:

Set the DirsincFormula e.g. to

```
SELECT Type="Person" & @Begins(Lastname; "F")
```

This example will only dirsinc people whose Lastname starts with "F".

The Length of the DirsyncFormula field can be up to 2000 characters. If you face problems with this restriction, the following workaround is recommended:

Workaround: Create a simple Notes agent, running on the server, which sets the 'Foreign dirsync allowed field' (AvailableForDirSync) in all unwanted person documents to zero. Start the agent periodically before starting dirsync. If the dirsync allowed field is set to zero (0), this person won't be dirsynced regardless of the DirsyncFormula.

The behavior for deleting users from KCS via TC/LINK-LN dirsync is as follows:

The specified dirsync formula is used to add or modify users on KCS. For deleting users TC/LINK-LN requests from the Domino server the list of deleted users in Notes (really deleted from the Names address book). Users, which do not match anymore the specified Dirsync formula, are not deleted from KCS.

Because of this behavior it is e.g. possible to make dirsync in 2 steps:

1. Make dirsync for users starting with A* (SELECT Type="Person" & @Begins(Lastname; "A"))
2. Make a 2nd dirsync for users starting with B* (SELECT Type="Person" & @Begins(Lastname; "B"))
--> normally you do not want that all users not starting with B* are deleted (in this case all starting with A*) when running the B* dirsync.

2.5.8 Custom Dirsync Database

If you plan to use a custom dirsync database (not the Names.NSF provided by Lotus) be sure to include the following fields.

FullName	first element is used; must be Common Address like "CN=Daniel Schmidt/OU=TCVIE/O=TOPCALL"
Availablefordirsync	optional, If there, must be set to "1"
MailDomain	required for Registry TCUserName==32
ShortName	required for Registry TCUserName==2
FirstName, MiddleInitial, LastName	required for Registry TCUserName==3
TEMPLATE	optional, overrides configured KCS User/Address Template
Type	has to be "Person" if you don't specify the DirsyncFormula

Note: Users for dirsync are selected via a Dirsync formula that can be specified in

```
... \TOPCALL\TCLINKLN\notes\DirsyncFormula
```

The default is:

```
SELECT Type="Person"
```

2.5.9 Dirsync Notes

- Be sure that the field „DirsyncAllowed“ in the administrative section of the Person form in the NABook is set to „1“. Otherwise TC/LINK-LN will ignore this user.
- Please ensure that names on KCS are unique. If you use common name it must be unique over all persons in the N/A Book.
- If you use the ShortName or the 32:UserName with domain, you have to specify an address book. Otherwise, TC/LINK-LN cannot look up the originator's address. (If you use enhanced originator mapping, than this note can be ignored.)
- Some of the notes fields in the NABook are rather long. It can occur that the variable name does not fit into the TCfW field. In this case, there are 4 solutions:
 1. Add a new field with a short name to the NABook and maintain the information there.

2. A Notes programmer can change the NABook, so that this field is copied to a field with a short name.
3. Map this field to another KCS fieldname. You can do this with the registry entry SOFTWARE/TOPCALL/TCLINKLN/USRIO/MAPFIELD="tcname=notesname" (Multistring field, see the general Link manual).
4. Within this mapping table the variable names have to be specified without \$ delimiters, e.g. OFN=OfficeFaxPhoneNumber and not \$OFN\$=OfficeFaxPhoneNumber\$
If all Person entries in the NABook contain the same fields, you can use the indices of those fields. E.g. \$27\$ instead of \$OfficeFaxPhoneNumber\$

- Attention must be paid when changing the registry setting "TCUserName"! This changes the user ID of the shadow users on the Kofax Communication Server. (E.g. if you use TCUserName=1, all shadow users will have the Lotus Notes fully qualified username as KCS user ID. Now, if you decide to change TCUserName to 2 (=short name), dirsync will fill the short name instead of the fully qualified username in the KCS user ID field.) This has the following consequences:
 1. After changing "TCUserName", you have to perform once (perhaps manually) a full dirsync, so that all shadow users on KCS get the new user ID. ("Update dirsync" updates only the shadow users where the according Notes Address Book entry has been changed since the last dirsync-run. Therefore, the result would be a mixed status where some users already have the new user ID and many users still have the old user ID.)
 2. If dirsync changes the user ID in a shadow user, the old KCS user will be deleted internally and a new KCS user with the new user ID will be created using the current template user. This has the side effect that the message folder belonging to the user will be emptied.
 3. The message records in the short term archive (inbox, outbox) will be preserved, but still with the old user ID. As a consequence, the old user ID (which has actually no more corresponding KCS users) must be used in TCfW for searching these entries. Furthermore, it may also happen that a user cannot display these previous messages any more with TCfW, namely in case his/her access rights are limited to displaying only messages which contain his/her own (new) user ID.

2.5.10 Dirsync Hints

Since the fields in the NABook are different from one Notes version to the next, there is no complete list of fields here, but you can easily determine which fields can be used in the KCS template user:

Set the Notes Trace level to 45 and invoke dirsync.

In the Trace file you can then find all fields when searching the following line:

"CLNDDirsync::ComposeDirsyncLine: written line:"

This line is written for each user to the log file.

This is useful for debug purposes also!

Example (Timestamp stripped):

```
(10) Dirsync: Process entry Herbert Haertensteiner
(45) CLNDDirsync::ComposeDirsyncLine: written line:
(45) M,"Herbert Haertensteiner","DefaultUser",Newname="Herbert Haertensteiner",Corr=""
(45) OF5BFCD173:43435803-ONC1256235:00416F51", $UpdatedBy 2="CN=Bernhard Schuetz/OU=TC
(45) _VIE/O=TOPCALL", $UpdatedBy 1="CN=Stefan Reiff/OU=TC_VIE/O=TOPCALL", $UpdatedBy="C
(45) N=TCVIE_1NSRV/O=TOPCALL", x400Address="", ccMailUserName="", MailFile="mail\hhaerte
(45) n", Full_Name_1="Herbert Haertensteiner", FullName="CN=Herbert Haertensteiner/OU=TC
(45) _VIE/O=TOPCALL", MailServer="CN=TCVIE_1NSRV/O=TOPCALL", LastName="Haertensteiner",
(45) MailDomain="TOPCALL", MiddleInitial="", FirstName="Herbert", DocumentAccess="[UserM
(45) odifier]", AvailableForDirSync="1", Profiles="", LocalAdmin="", ClientType="0", Owner
(45) ="CN=Herbert Haertensteiner/OU=TC_VIE/O=TOPCALL", Certificate="03005502_D4050E85
(45) 13G0162D_G002D611", PublicKey="", EncryptIncomingMail="0", Comment="", Children="", A
(45) ssistant="", Spouse="", CellPhoneNumber="", HomeFAXPhoneNumber="", OfficeFAXPhoneNum
(45) ber="142", PhoneNumber="", OfficePhoneNumber="", country="", Manager="", Zip="", Locat
(45) ion="", State="", Department="", City="", CompanyName="", StreetAddress="", JobTitle=""
(45) ", MailAddress="", ShortName="HR", MailSystem="1", Form="Person"
```

This line consists of Variable="Value" entries separated by commas: For example you can use \$OfficeFaxPhoneNumber\$ within the KCS user template - address part to get the fax DID extension.

Note that the field names may not be the same for your installation. Some fields may even be missing for some users. That depends on how, and with which Notes version the users were created. For the same reason it is recommended not to use e.g. \$27\$ but use \$Company\$

The configuration of the template user is explained in the general part of TC/LINK.

Examples:

User Profile - LUSER (\$FirstName\$ \$LastName\$)

General | Address | Event | Rights | Manual Fax | Distributor | Authorize/Sign | Alert | Queue Length Log

User ID: Password:

Group: Retype password:

Representative: Change own password

Company: Password never expires

Department: Change password at next login

Full name: Cost center:

Salutation: Language:

Free Text: Visible in outbox

Default template: Dirsync allowed

User belongs to: Reject all messages

Logging of all send attempts

OK Save Cancel

User Profile - LUSER (\$FirstName\$ \$LastName\$)

General | Address | Event | Rights | Manual Fax | Distributor | Authorize/Sign | Alert | Queue Length Log

Service: Addr. no.: Active

User ID:

Node:

Active	No	Service	Number:
X	1	TOPCALL	\$Name\$.
	2	FAX	\$\$\$OfficeFAXPhoneNumber\$.
	3	NOTES	\$FullName\$.

OK Save Cancel

Active	Event	Service	Number	Archive	Auto	Registered	Delivery	Sender
X	In	NOTES	\$FullName\$		X		(All)	(All)
X	DelNotif	NOTES	\$FullName\$		X		(All)	(All)
X	Non-delNotif	NOTES	\$FullName\$		X		(All)	(All)

2.6 Notes Agents

2.6.1 Notes Agents and Agent Overview

Since Notes 4.5, documents sent by a script contains an item called *\$AssistMail* whose value is set to 1. When TC/LINK-LN receives such a message, a log file entry is created, the message is acknowledged (negative notification is sent, if requested) and the message is not sent.

The log file entry looks as follows:

```
"Warning: Message was created by an Agent: Ignored"
```

If you don't want TC/LINK-LN to deliver messages that are sent automatically from Notes prior to Release 4.5 (e.g. by the „out of office agent“) you can add the *\$AssistMail* in your script.

See the Notes Help or the printed Notes Programmers Guide for programming script and macro language.

2.6.2 Modifying Messages via Lotus Notes Agents

Overview:

Now with TC/LINK-LN it is possible to modify messages with Lotus Notes Agents before sending to KCS or Lotus Notes. So the advantage of this feature is that the Agent can also modify fields of a message.

Therefore, there are two new local databases (on TC/LINK-LN PC) named from the registry keys:
 HKEY_LOCAL_MACHINE\Software\TOPCALL\TCLINKLN\nOTES\WorkDBTC2LN for the direction to Lotus Notes

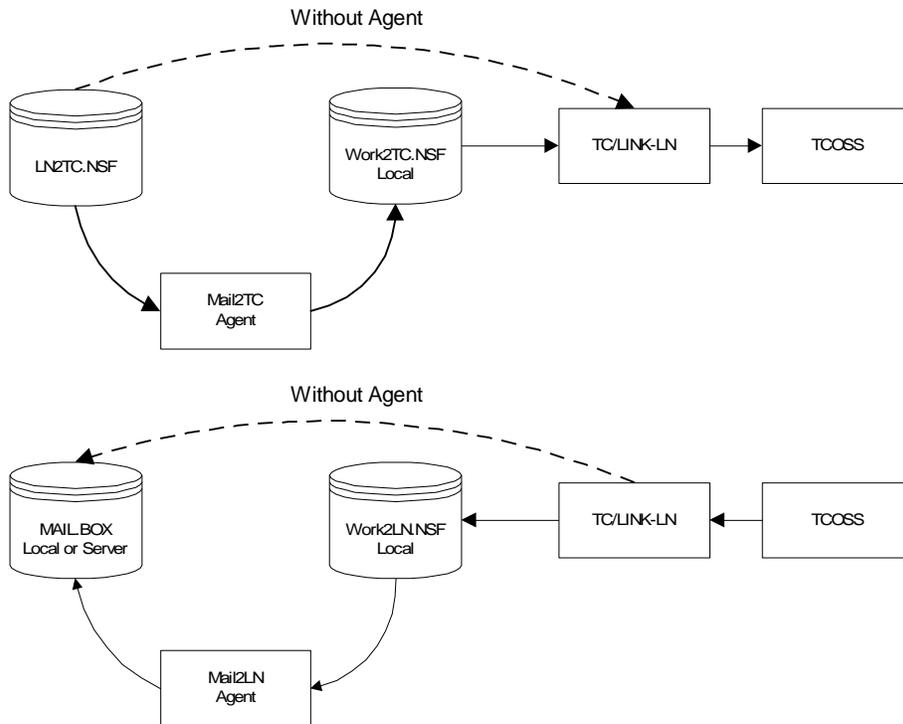
HKEY_LOCAL_MACHINE\Software\TOPCALL\TCLINKLN\nOTES\WorkDBLN2TC for the direction to KCS

If the database name for a direction is missing, TC/LINK-LN behaves like before for this direction.

The Agents for Sending and Receiving are maintained in the TC/LINK-LN setup database (TCSETUP.NSF) on the Domino server. During startup of TC/LINK-LN the Agents are copied to the appropriate databases (LN2TC.NSF on the server and WORK2LN.NSF local)

Agents are not supported by KCS.

The structure of TC/LINK-LN with/without Agents:



Changes during transfer from Notes to KCS

If Work2TC-database and an Agent2TC is specified:

The link locks a message in the LN2TC-database. Afterwards the link starts the specified Agents. The Agent has now to move the document from the LN2TC-database to the Work2TC-database. Then the link transfers the message from the Work2TC-database to KCS.

Hint: Do not create the Work2TC and Work2LN database yourself; if you specify a name in the registry, the link will automatically create these two databases at the startup! The Work2TC-database must be local. Don't copy any messages via Agent to databases on the server. The link cannot run Agents, which will try to access databases on the server. If it is necessary to create the database yourself (not by the link), then create the database with a mail-template (e.g. Mail85.ntf in case of a Lotus Domino 8.5) to see the messages in this database.

Changes during transfer from KCS to Notes

The link receives a message from KCS and put it into the Work2LN-database. Afterwards the link starts the Agent. The Agent has to copy the message to the local mail.box and remove it from the Work2LN-database.

New registry entries in HKEY_LOCAL_MACHINE\Software\TOPCALL\TCLINKLN\nOTES\ (case sensitive):

- WorkDBTC2LN (REG_SZ): Specifies the database from KCS to Lotus Notes – for example: Work2LN.nsf
- WorkDBLN2TC (REG_SZ): Specifies the database from Lotus Notes to KCS – for example: Work2TC.nsf
- Agent2LN (REG_SZ): Specifies the name of the Agent which handles the message to Lotus Notes – default name in TCSETUP.NSF: Mail2LN
- Agent2TC (REG_SZ): Specifies the name of the Agent which handles the message to KCS – default name in TCSETUP.NSF: Mail2TC

There are two default Agents in the TCSetup database:

Mail2LN: Moves the document from the Work2LN database to the Mail.Box.
 Mail2TC: Moves the document from the LN2TC database to the Work2TC database.

Attention: These default Agents are NOT designed for the parallel TC/LINK-LN.

Locking mechanism with Agent in the LN2TC.NSF for Parallel:

Therefore the Agent (Agent2TC) has to check the locking mechanism in the direction to KCS. So the link creates the following two entries in the actual message to lock the message:

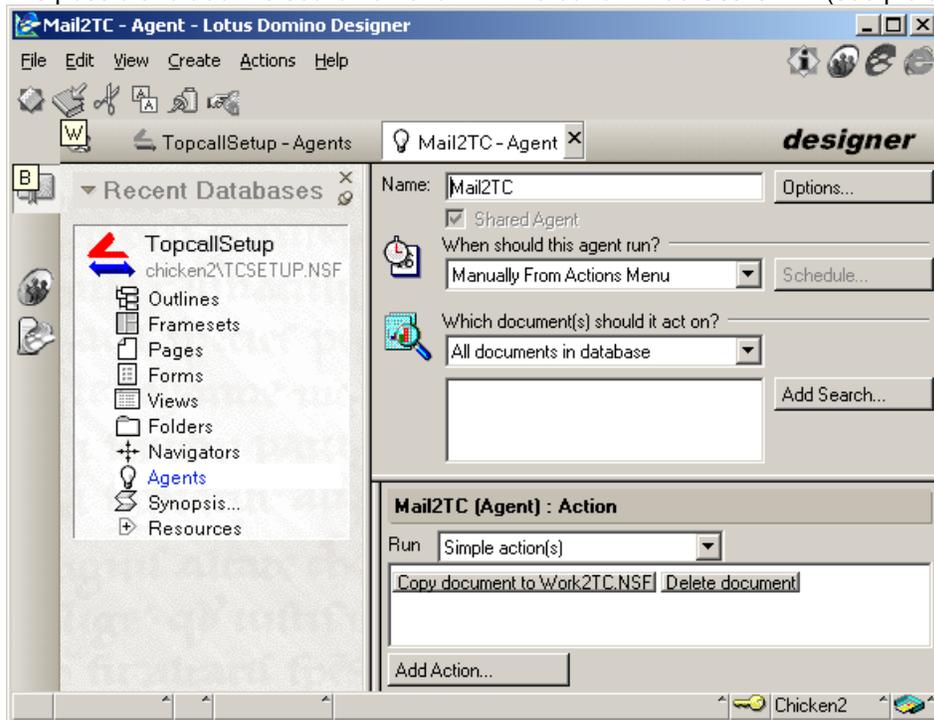
- TCAgentName: Link-Computername.
- TCAgentTimestamp: Time, when the message was locked.

So the Agent “Agent2TC” has to check, if the field “TCAgentName” in the message is the same name as the Link-Computername and only process this message. The Agent must also process “all documents in database” (see picture below).

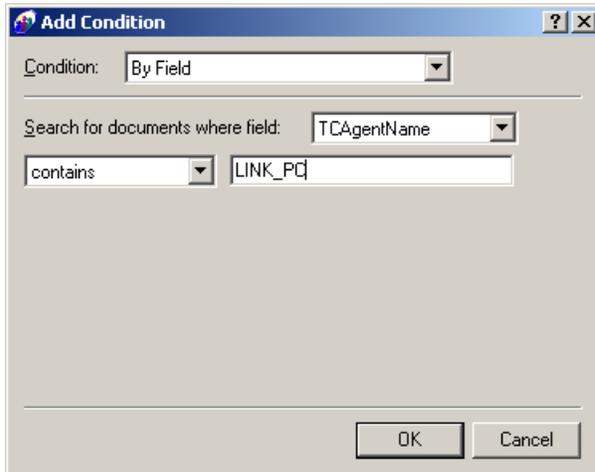
It is recommended to create an Agent for each link and set the search criteria “Query by field ‘TCAgentName’ “ to each Link-Computername.

To create an Agent, open the TCSETUP database and select “Create / Agent...” in the menu.

It is possible to add the search criteria with the button “Add Search...” (see picture below):



Choose “by field” in the condition field. In the “Search for documents where field:” box, select the name “TCAgentName”, select “contains” in the box below, and in the field on the right side type the name of the link computer.



Troubleshooting and Hints for the Notes Agent Enhancement:

The link can't start/run the Agent:

Check, if the link user has rights to start Agents. Therefore open the Work-database and run the Agent manually from the Workspace with the link user. If the Agent runs without errors, the link user has enough rights to perform this Agent.

Advanced hint: To check if the TC/LINK-LN can run the Agent, create a second Agent (with script), which will run the first Agent. (See Lotus Notes help and search for NotesAgent)

Example for Script-Agent, which will run the first Agent: (create this sample Agent in the database, where the other Agent is stored) Therefore go to the Agent view and select "Create / Agent" in the menu. Select "script" on the bottom and enter the following text in the script-window:

```
Dim session As New NotesSession
Dim db As NotesDatabase
Dim theAgent As NotesAgent
Dim agentString As String
Set db = session.CurrentDatabase
Forall agent In db.Agents
    agentString = agentString & Chr(10) & agent.Name
End Forall
MessageBox agentString,, "Agents"
Set theAgent = db.GetAgent(Inputbox( _
"Which agent do you want to run (exact name)?"))
If Not(theAgent Is Nothing) Then
    Call theAgent.Run
Else
    MessageBox "No existing agent selected"
End If
```

The TC/LINK-LN will run the Agent in the same way, so if this sample program works, the link can also run the Agent.

If the Agent can't start the second Agent, then it is necessary to define the second Agent as "On Scheduled Never"! (see print screen below)

Therefore start the Notes Client on the link computer (= with the LINK-ID-file!) and go to the Agent view in the TCSETUP database. Under the description "When should this Agent run?" select "On Scheduled Never" for each Agent and save them.



If using the Lotus Notes script, don't call any GUI-calls in the Agent, like NotesUIDatabase or NotesUIDocument. The Agent can only call back-end classes like NotesDatabase or NotesDocument.

The link doesn't copy the Agent from the TCSETUP-database to the LN2TC or Work2LN database: Check if the name of the Agent in the registry is exactly the same name as in the TCSETUP-database and remember that the name is case sensitive.

Starting the agent manually in the Work-database shows a window with the text "is not cross certified":

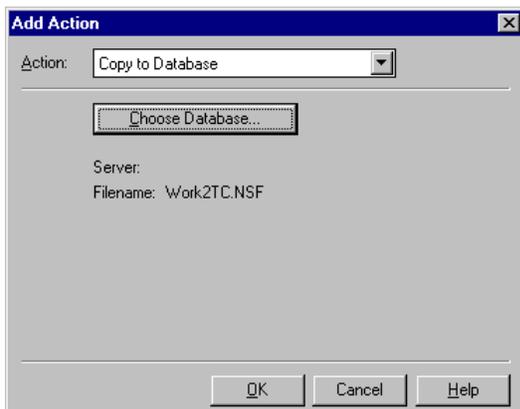
Go to the Setup-database and open, then save and at the end close the Agent. Now the Agent should be signed correct. Make the test manually again and the window should not popup again!

Agent can't copy the document to the Work-database or to the mail.box:

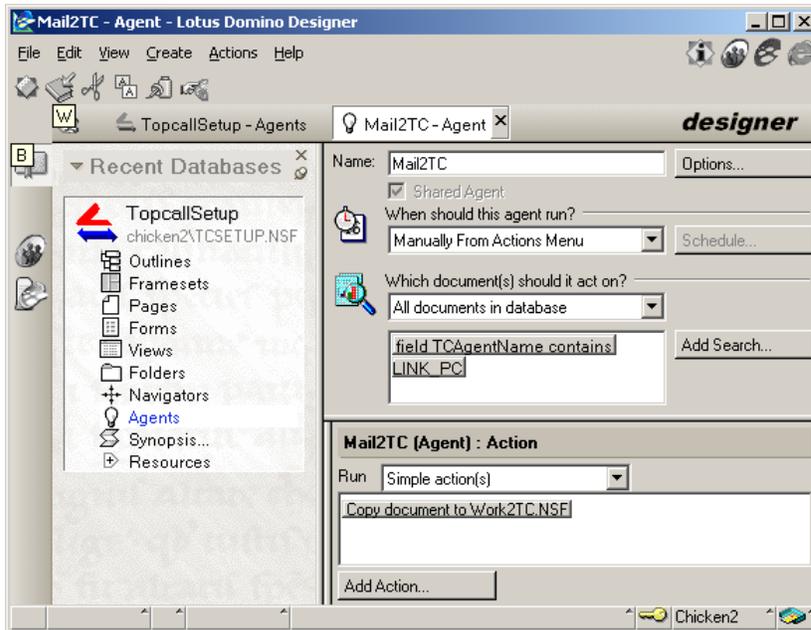
Open the Agent and look for the destination database name, if it is the same as defined in the registry (for the direction to KCS). For the direction to Notes, the destination database should be "mail.box".

Attention: The default Agent (Mail2TC) in the TCSETUP-database copies the document by default to the Work2TC.NSF!

Example for Mail2TC-Agent with "Simple Actions": Press the "Add Action..." button and select the Action "Copy to database". Then choose the correct database.



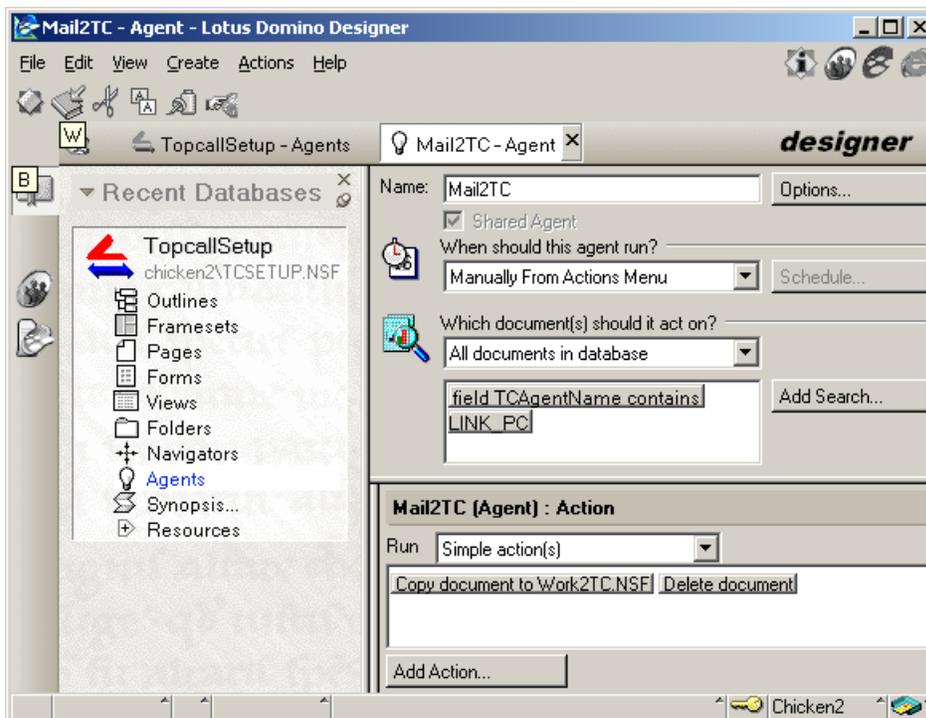
After that step the following line should appear in the Actions-window: “Copy document to Work2TC.NSF”



Agent copies the document/mail to the Work-database, but doesn't delete the document from the source-database:

At the end of the Agent, don't forget to delete the document.

Example for “Simple Actions”: Press the “Add Action...” button and select the Action “Delete from Database”. Press “OK” and the following line should appear in the Actions-windows: “Delete document”



What happens if the Agent is not running or aborts while running?

The document will not be deleted by the link. Design the Agent to delete the document in the last step, to make sure that the Agent can't delete the document before it is finished with all other steps (for example:

modifying fields).
If the Agent fails, look in the Trace-File for the reason.

Restriction:

The two databases (Work2TC and Work2LN) are local databases on the Link-PC. So when running two links in parallel with the Agent-enhancement, it is not possible to have the full fail-safe. If one link crashes, the messages in the Work2TC-database of this link are still there and can't be handled by the other link.

2.7 Notification and Messages into Notes

2.7.1 Notification

The look of Notifications from KCS to Notes is more "Notes-like".
You can configure a form for incoming messages, Non-Delivery and a form for Delivery in the TC/LINK-LN Setup. (See Registry value "FormDelivery" and "FormNonDelivery". By default these fields are set to "Delivery Report" and "NonDelivery Report" which are the names of the normal notes notifications.
If a customer wants to change these forms, they must be installed in the user's mail database.

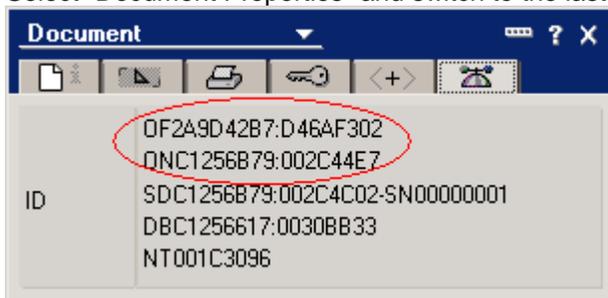
Note: The notes native "Non Delivery Report" form provide a "Resend" button. You can use this button to correct and resend the message. The drawback for using this Button is that the original SendTo field, which is displayed in the Message header is not changed and contains the original (wrong) address.

How to change forms in the user's mail database is described in the "How to add these forms..." above.

Normally, you only get one (the KCS) nondel-notification into notes, if a problem occurs. In some cases you can get more information, if you enable the Notes direct nondel notification with the registry key: "...NOTES\LNNondeIN" (DWORD) = "1".

Note: In this case you will get 2 notifications from different message layers with different information in some cases (Example: disable sending for mail only users)

In the following sections there is the description for the delivery and non-delivery notification where to find the correlation information of the original sent message (=the message in Lotus Notes!).
To get the unique ID of the sent document, open the Sent view and right-click on the document/mail. Select "Document Properties" and switch to the last section.

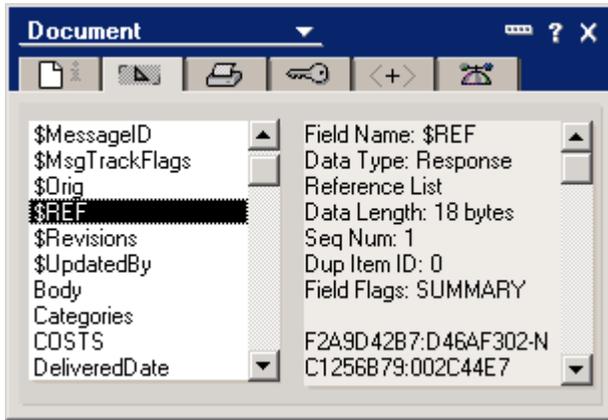


These two numbers identifies the message as a unique message. This number can be also found in the notifications – so this is called correlation information.

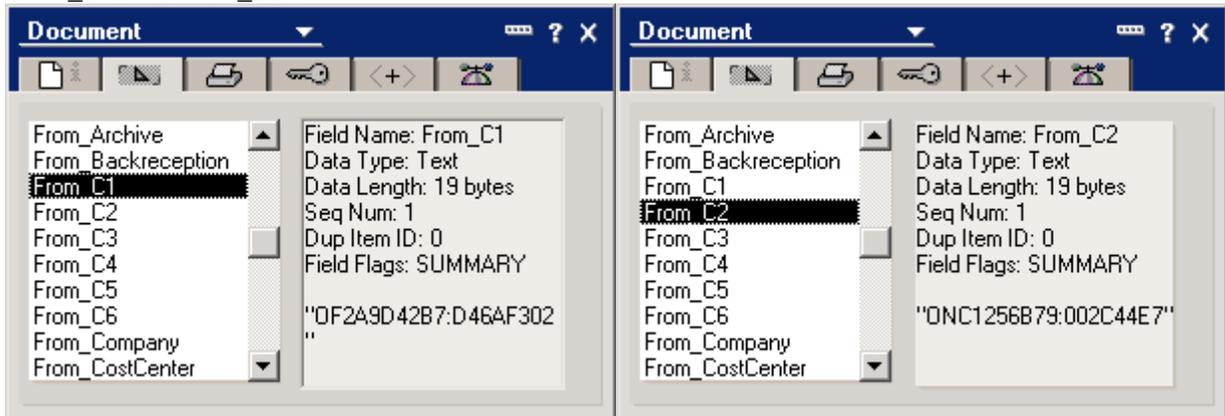
2.7.1.1 Correlation Information for Delivery Notifications

In delivery notifications you can find the unique ID in the following fields:

\$REF:



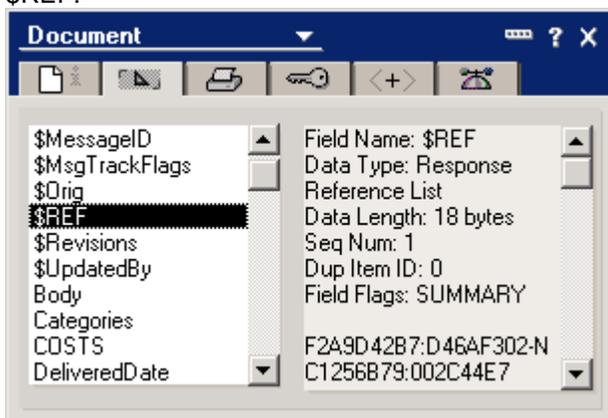
From_C1 and From_C2:



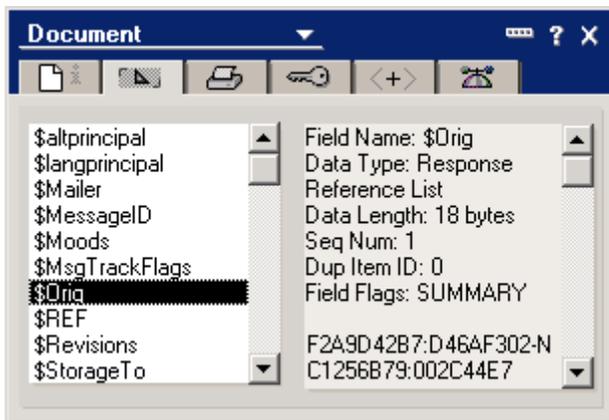
2.7.1.2 Correlation Information for Non-Delivery Notifications (Created by TC/LINK-LN)

In non-delivery notifications you can find the unique ID in the following fields:

\$REF:



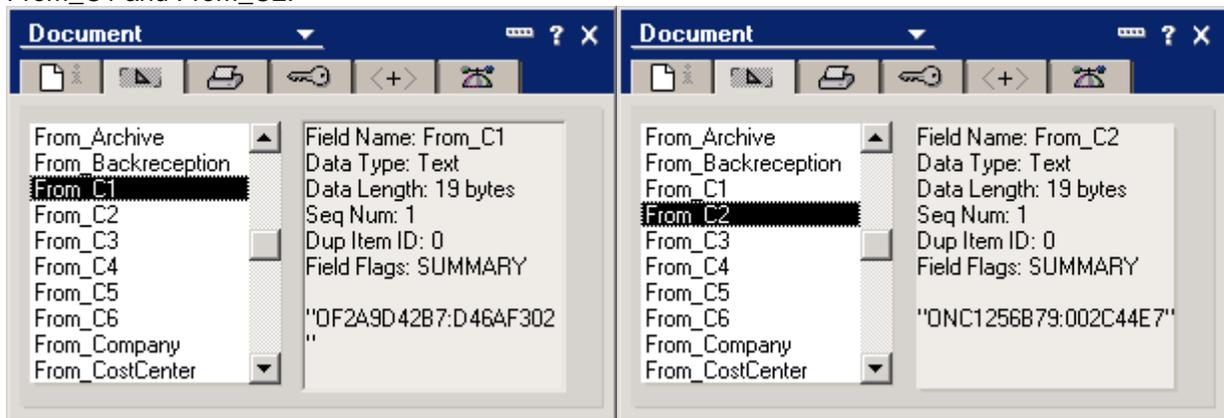
\$Orig:



2.7.1.3 Correlation Information for Non-Delivery Notifications (Created by KCS)

In non-delivery notifications you can find the unique ID in the following field:

From_C1 and From_C2:



2.7.2 Messages

2.7.2.1 Fonts

With TC/LINK-LN it is possible to change the font in body field for incoming messages into Notes. The link is posting all the messages with a Times Roman typeface. E.g. for telex proportional fonts are a problem.

Therefore, TC/LINK-LN has a registry key:

HKEY_LOCAL_MACHINE/SOFTWARE/TOPCALL/TCLINKLN/NOTES/FontType (type DWORD).

With this registry key it is possible to set the type of font, which is used for the incoming messages in Notes.

There are three values possible (type DWORD):

- 0: Text will be displayed in a Times Roman typeface (default).
- 1: Text will be displayed in a Helvetica typeface.
- 4: Text will be displayed in a Courier typeface.

The values 2 and 3 are reserved by Notes and should not be used.

2.7.2.2 Incoming Fax Image in Lotus Notes Message Body

It is possible (with according non-default TC/LINK-LN configuration) to have received fax pages as images in Lotus Notes message document body. These images will be embedded in the message body as BMP images. It is possible to display only the first page or all pages. It is also possible to have the whole fax in the message parallel as a TC or TIFF or PDF attachment.

Configuring this feature:

1) It have to make sure, that the (fax-)messages are sent from KCS=>LN through a "B"-queue ("B" => converting to BMP format)

2) Set registry setting as follows:

Case 1): pasted all document sites as image(s) in LN message body, no additional attachment:

```
... \NOTES\BmpInBody=1
... \NOTES\BmpInBodySeparatorText="fax page"
... \General\ConvertToBMP=SinglePage
... \General\FmtAdditionalImage=
```

Case 2) pasted 1st site as image + attachment which include all message sites:

```
... \NOTES\BmpInBody=1
... \NOTES\BmpInBodySeparatorText="fax page"
... \General\ConvertToBMP=FirstPage
... \General\FmtAdditionalImage=I
```

Setting "FmtAdditionalImage": defines the format of the additional attachment: "I" ->TCL, "0"->"4" -> TIFF or "F" -> PDF. (See also TC/LINK manual for this setting.)

2.7.2.3 Attachments in Lotus Notes Message Body

When transferring messages from KCS to Lotus Notes, the way how attachment files are embedded into the Lotus Notes message can be configured in TC/LINK-LN. This behavior is controlled by the registry key \NOTES\AttachmentInBody (type: DWORD, default=0):

a) When AttachmentInBody is set to "0", then the attachments are present (internally) as \$FILE fields in the created memo form, but they are not referenced by any "hot spot" item in the "Body" field. Such unreferenced \$FILE attachments are displayed in Lotus Notes at the bottom of the document, below a black horizontal line. A double-click opens the attachment.

b) When AttachmentInBody is set to "1", then so called "hot spot" references (showed as gray 'attachment'-icons in the document display) are created within the "Body" field for each attachment. Double-clicking the icon opens the attachment. In this case, all attachment icons reside in the "Body" field; there is no additional black horizontal line and no attachment area at the bottom of the document.

2.7.2.4 Embedding NSF Attachment Content to Lotus Notes Message Body

When a message is sent from Lotus Notes to Kofax Communication Server, the Lotus Notes content is converted as an attachment (NSF content). When replying to such messages, KCS also sends the message content as an attachment to Lotus Notes, instead of embedding the attachment to the message body and removing the attachment.

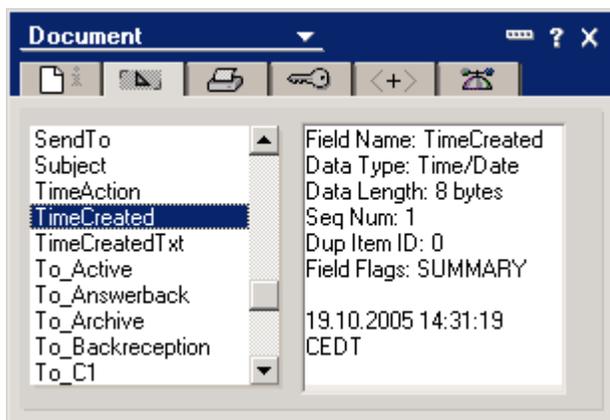
This behavior can be controlled by the registry key \NOTES\IncludeNotesAttachments (type: DWORD, default=0):

a) When IncludeNotesAttachments is set to "0", then any Lotus Notes content in the attachment is embedded into message body and NSF content attachment is removed.

b) When IncludeNotesAttachments is set to "1", then Kofax Communication Server ignores the Lotus Notes content in body and also send the attachment as it is.

2.7.2.5 KCS Create Time

The time, when the message was received on KCS is available in the Lotus Notes message document with name "TimeCreated" (Data type: Time/Date) and "TimeCreatedTxt" (Data type: text)



2.7.3 Message Waiting Agent (TC/MWA-LN)

TC/LINK-LN also supports "Message Waiting Signal"-messages.

The Message Waiting Agent for Lotus Notes is integrated in the Domino Server via a Hok-dll. The Hook-dll posts the message waiting signals to the KCS via a Notes message. The notes messages are routed into a database, where the link is polling. These messages are sent via the TC/LINK-LN to KCS.

Install a second link in order to avoid delays for the message wait messages and to configure unique termination settings. You don't need a second link license if you install the second link instance on the same link server (see manual section "Parallel link on the same computer").

Here are some hints to support the MWA-messages:

- To configure the termination of the message wait on and off messages (=message waiting signal), configure the dedicated TC/LINK-LN. Therefore change the settings of some registry keys to the following configuration:
"HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\TOPCALL" and SubKey:

ArcNeg: 0	> don't create archive entry on negative termination
ArcPos: 0	> don't create archive entry on positive termination

- Note: Per default, the keys ArcNeg and ArcPos are configured to 1 in the link, so the messages will be archived.

DelEnvNeg: 1	> delete envelope on negative termination
DelEnvPos: 1	> delete envelope on positive termination
DelEntNeg: 1	> delete mail entry on negative termination
DelEntPos: 1	> delete mail entry on positive termination
ChkDisSend: 0	> don't check, if shadow user exists

- A license for TC/MWA-LN is needed. The license is checked in the TC/LINK-LN, so if the messages are not transferred to KCS, check the Eventlog of TC/LINK-LN if the license for TC/MWA-LN is valid.

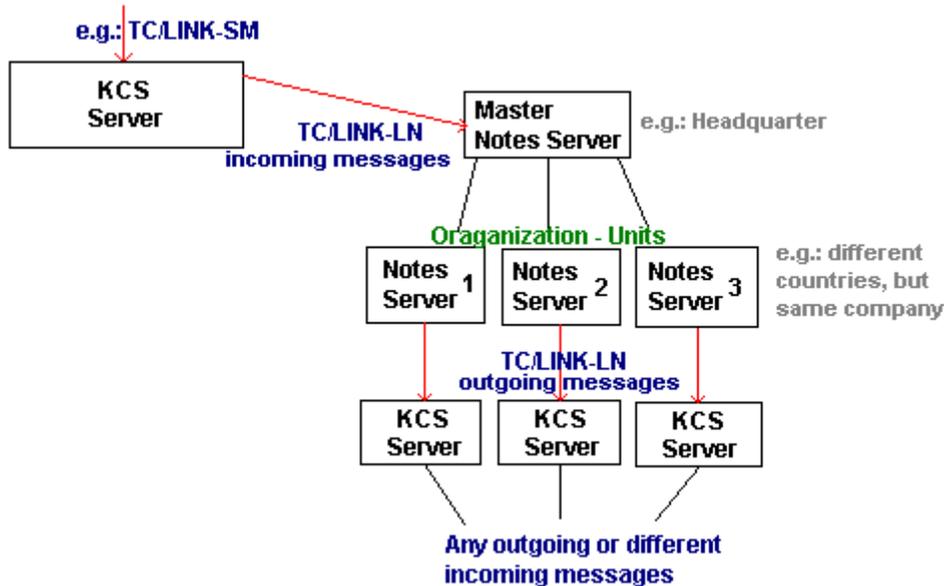
For details also refer to TC/MWA-LN manual.

2.7.4 Multiple OwnDomains

When sending a message from KCS to Lotus Notes a Domain is appended at the end of the originator address. This is needed to reply to such messages. By default the message is then returned via the same TC/LINK-LN from where the message arrived into Notes.

But in some cases it is needed that multiple links are installed and messages which are addressed to a special recipient (or group of recipients) should be replied via a dedicated link. In this case a different Domain name at the end of the originator address is needed.

The following scenario should be possible:



In the case above you can receive all the internet mails (e.g. your international company has .com like kofax.com) via one Kofax Communication Server on a (master) Domino server. On the other hand there is the possibility to send the messages from additional Domino servers to the own Kofax Communication Server (and link server), so not all the traffic is sent via the master Domino server.

To enable this feature set in the registry key
 HKLM\SOFTWARE\TOPCALL\TCLINKLN\Notes\OwnDomainEx (Type: Multi_Reg_SZ, by Default: Empty)
 using the following syntax:
 SearchString=DomainName

Hint: No blanks before and after the '=' sign.

Example:

```
Schmidt=TOPCALL1
/DE/=TOPCALL2
/CH/=TOPCALL3
```

So if the recipient address of an incoming message contains "Schmidt" then the OwnDomain "TOPCALL1" will be appended. If "/DE/" is found than "TOPCALL2" and if "/CH/" is found "TOPCALL3" is appended to the originator address.

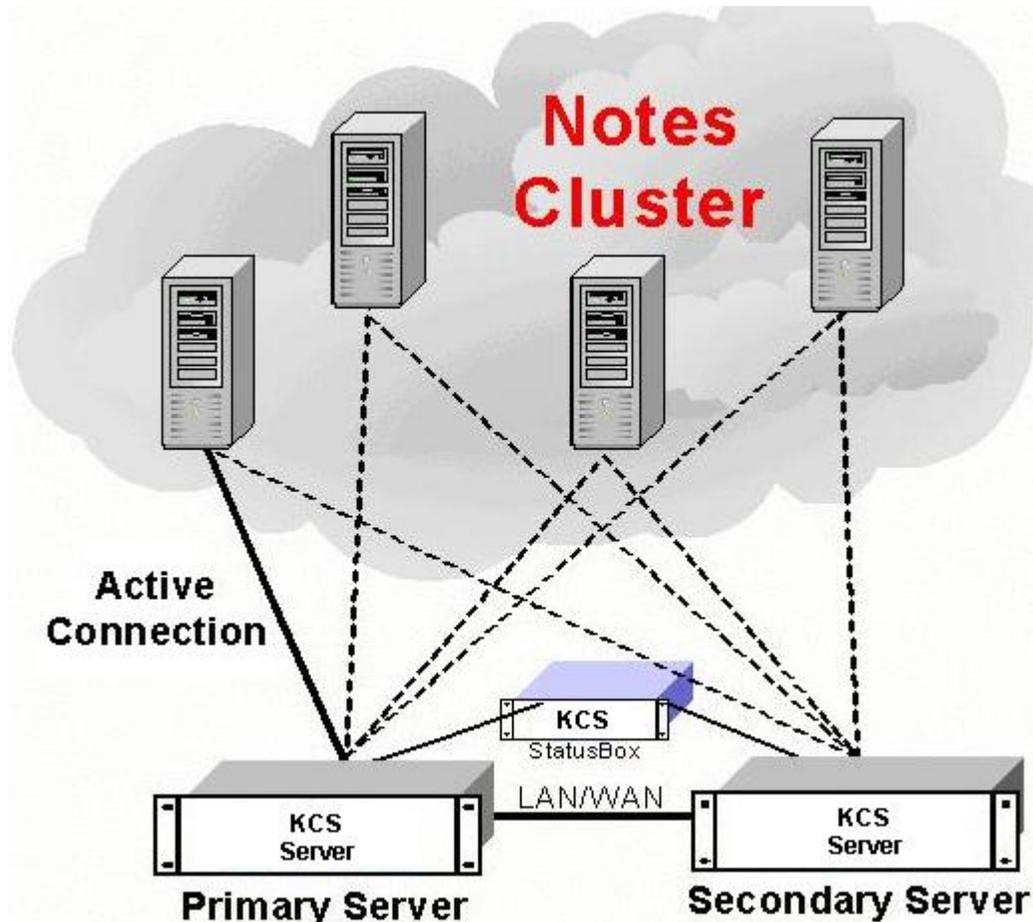
If the recipient address doesn't contain any strings than the default of the registry key "HKLM\SOFTWARE\TOPCALL\TCLINKLN\Notes\OwnDomain" is used.

Hint: The configured OwnDomains in the registry key OwnDomainEx will be not automatically created by TC/LINK-LN!

2.8 Notes Clustering

TC/LINK-LN supports Lotus Notes clustering for Domino server in the same domain for failover operation in case of a damaged Domino server.

If the Domino server is down TC/LINK-LN will connect automatically to the next server in the cluster. After the crashed Domino server is up again, the link automatically connects to the first (primary) Domino server again.



To ensure that the user can also send his mail during the shutdown/crash of the Domino server the link changes the foreign-domain documents in the address book (=names.nsf). Therefore the link needs Editor rights in the Access Control list of the address book to modify these documents.

Foreign-domain documents are used to enable the different addressing types for FAX, SMS, INTERNET and more. In the foreign-domain documents is the name of the server and database stored, where the LN2TC database is located. So if one server is crashing the foreign-domain documents have to point to the next server and database in the cluster, therefore the changes are needed in the foreign-domain documents via the TC/LINK-LN.

After one server is crashing or down for any other reason the TC/LINK-LN switches automatically to the next server in the cluster and tries to connect to the LN2TC database on this server. If the database doesn't exist the first time the link will automatically create the database on the cluster server. If the primary Domino server is up again the link modifies the foreign-domain documents to the original server, so the users are sending the messages again to the primary server. Afterwards the TC/LINK-LN switches back to the primary Domino server, but only after delivering all documents of the LN2TC from the (second) cluster server.

There is a new registry key to specify the additional Domino server (cluster members) named 'HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\Notes\ClusterServers' of type REG_MULTI_SZ.

In this registry key enter all cluster members of your cluster. Don't add the primary server from the 'HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\Notes\Server' registry key to your 'ClusterServers' registry key too.

The registry key

'HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\Notes\ClusterServerBefore' is only a key to remember the last used Domino server (for internal use only). Don't modify or delete this registry key. This registry key is automatically created by the link.

Also be sure that the order of the cluster servers in the registry key is the same in every link, if there are more links installed to one LN2TC database.

If the registry key 'ClusterServer' is empty the link is not switching to another server and the clustering for the link is disabled.

The registry key 'HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\Notes\ClusterErrorCodes' of type REG_MULTI_SZ is for future Notes releases. It can happen that opening a Notes database on the server leads to new or other error codes. If this happens (you can see the error code in the trace) it is possible to configure additional error codes in this registry key, but only enter an error code if you are really sure.

For example: If you have 2 servers (ServerA/Test and ServerB/Test) in a cluster, the name of the primary server (ServerA/Test) is in the 'Server' registry key and the second cluster server (ServerB/Test) is entered in the 'ClusterServers' registry key. So only enter 'ServerB/Test' in the 'ClusterServers' registry key.

For incoming messages (from KCS to Lotus Notes) the registry 'ClusterServers' is also used to connect to the server and to put the messages to the mail.box on this server.

If you have to create the database for the TC/LINK-LN (LN2TC, TCSETUP.NSF) manually, because the TC/LINK-LN User doesn't have the right to create databases on the Lotus Domino server, you can do it with the following rules:

- LN2TC database must exist on each server in the cluster with the same database name. Each LN2TC database on each server must have a different replica ID, so this database must not be clustered.
- Also TCSetup.NSF must exist on each server in the cluster with the same database name. Each TCSETUP.NSF database on each server must have a different replica ID, so this database must not be clustered too.
- Lotus Notes specific settings, which should be already done if the cluster is enabled and running:
The mail.box database on each server must have a different replica ID. To enable the cluster failover for mail transfer you have to define the entry MailClusterFailover=1 within the NOTES.INI file of each Lotus Domino server (normally located at c:\lotus\domino).
The NAMES.NSF must be part of the cluster and must have the same replica ID on each server.
Be sure that the TC/LINK-LN user has Editor rights to each NAMES.NSF replica to automatically change the foreign domain documents by TC/LINKLN.

General Notes:

- If multiple mail.box-feature is enabled on one server in the cluster, this feature must be activated on all servers in the cluster. Also configure the same value in registry key Notes\ServerMAILBOX on every link in the cluster!
Note: Only one mail.box name can be specified.
- After a restart of a server in a cluster it may happen that there are replication conflicts in the names.nsf. This happens when the server and TC/LINK-LN tries to modify the foreign-domain documents at the same time. Sometimes the replication conflict and the normal document entry point to the same Domino server, but it can be different also. But you can delete the replication conflict without special notice, because after few poll cycles TC/LINK-LN will correct the foreign-domain entries if the wrong Domino server name was in it.
- The registry key CreateDependenciesMail can be also set to 0 (=zero) for clustering, but the TC/LINK-LN must have the right to modify the foreign-domain documents in the names.nsf anyway. Only foreign-domain documents which are belonging to the configured LN2TC database are modified.

Hints for special cluster environment with no write permission on names.nsf

Some customers do not want to give write permission on the names.nsf databases. In this configuration it is not possible to update the name of the current target server in the TC/LINK-LN relevant foreign domain

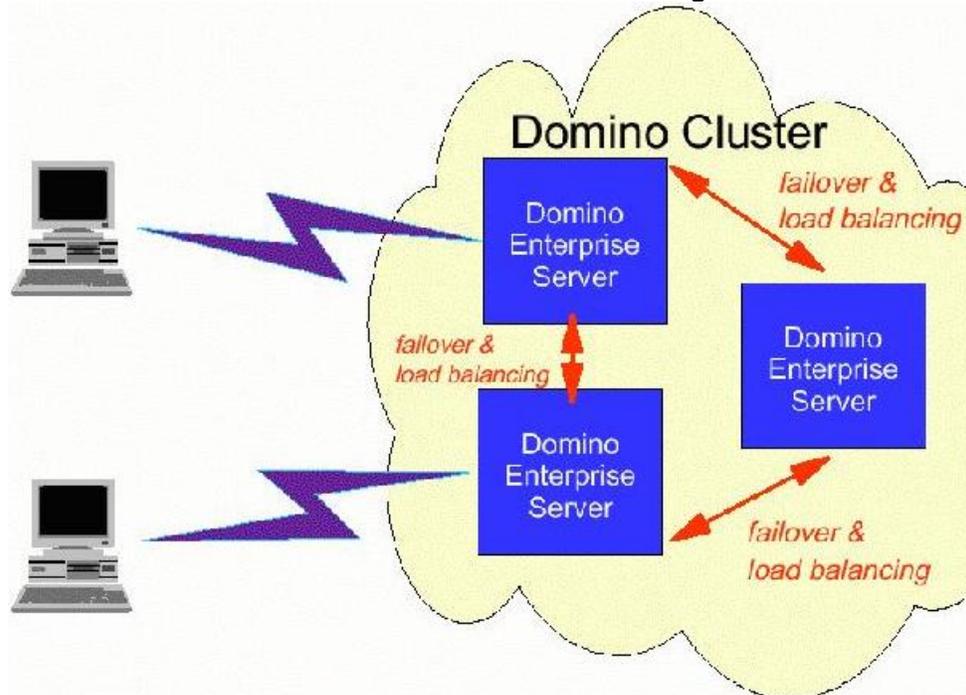
documents when the current target server changes (e.g. in case of a server crash). In this configuration, however, the administrator creates normally more than one foreign domain documents for each TC/LINK-LN relevant foreign domain, namely, one for each possible cluster server. This is possible, because Notes ignores the foreign domain definitions with servername in it that is currently not working; on the other hand, a multiple foreign domain definition does not generate any error, the “first” one will be simply taken, whatever “first” means. In this configuration there is no possibility (because no write permission) and also no need (because of multiple foreign domain definitions) to update foreign domains by TC/LINK-LN. In this case, use the registry setting “**DisableFDDocUpd**” = 1 to deactivate in TC/LINK-LN the automatic update mechanism for foreign domains. Using this setting results in a performance gain (no unnecessary tries to access the “foreign domains”–documents) and less error log / trace output.

Hints for the Agent enhancement, if it is used in the Cluster environment:

If the Agent, which is running via the TC/LINK-LN, has connections via script or formula to databases which are located on the server (e.g. which is crashing later on), it must be ensured that the script also checks the cluster environment to avoid errors in the link. Remember that the Agents are running on a different server (name) if one server is down – so if the Agent tries to connect to the server which is down, the Agent will return an error and the link cannot transfer the messages.

So be careful when you design the Agents for the TC/LINK-LN and test them also in bad situations (e.g. when the primary server is down).

Additional hints and behavior of Lotus Notes clustering:



Updating the databases in a cluster is done via a replication task – the cluster replication task. This means that the data/documents are stored in a database and afterwards the replication task is updating each database with the new data. So if the replication is not finished (or not done) and the server crashed it happens that the documents, which are not replicated yet are not available on the other cluster server while the server is down. After restart the data is available again, but if e.g. the hard disc is damaged on the server which is down the data will be lost.

With this behavior of Notes clustering we have the following situation for TC/LINK-LN:

The user is sending a mail from the client, so the mail is in the mail.box of the server. Via the router task the mail is delivered into the LN2TC, if there is an address/recipient in the mail, which contains a domain, which is routed to the LN2TC (via foreign domain).

If the server is crashing during this routing the mail is either in one of these databases or if the hard disc crashes the document/mail is lost – also if there are some mails waiting in the LN2TC (e.g. heavy traffic).

The TC/LINK-LN is fault tolerant to the point that it ensures the sending of mails even if a Domino server is down. The link however, cannot process mails stored in the Notes database of the server that is down (in this case the LN2TC database). As soon as the server comes back up the messages will be sent, unless the problem was caused by a hard disk crash, in which case they're lost.

Behavior of incoming messages (from KCS to Notes):

The TC/LINK-LN stores the message, which is coming from KCS, in the mail.box of the primary server. If the primary server is down the link will post the message into the mail.box of the next cluster server. The message will wait in the mail.box of the cluster server until the primary server is up again and is delivered by the Notes router, because the router tries to deliver the messages directly to the home server of the user (in our case the primary server) not to the replicate on the cluster server.

To support the clustering for TC/LINK-LN, the Notes link user needs at least rights to modify the foreign-domain documents in the configured global address book (by default: NAMES.NSF). If the link can create the documents (create Mail dependencies) you don't need to change the access control list. If the link has not the right to modify the foreign-domain documents the switching in the cluster will not work, because the link can't change the destination server (to the second server, which is still running) in the foreign-domain documents.

To check if the link can modify the foreign-domain documents:

- Go to the client where the link is installed.
- Open the global address book (which is configured for the link, by default: names.nsf).
- Open a foreign-domain document (view: Server \ Domains).
- Try to modify the document (menu: Actions \ Edit Domain).

If you can now change the document the link will be allowed to modify the documents too.

See also the restriction section for additional hints.

Here is now a copy from the TechNote (with the number: 158544) of Lotus, where Clustering/Failover is explained:

What is failover?

A cluster's ability to redirect requests from one server to another is called failover. When a user tries to access a database on a server that is unavailable or in heavy use, the user connects to a replica of the database on another server in the cluster. When users open a database, the switch is transparent even though they have been switched to a different server.

When does failover occur?

Failover occurs when a user cannot access a database in a cluster. This happens either because they cannot access the database server or they cannot access the database itself.

The following user activities trigger failover:

- A user tries to open a database on a server that is unavailable in the following situations:
 - User double-clicks a database icon on the workspace.
 - User selects a database icon on the workspace and selects File, Open.
 - User selects a database icon on the workspace and selects View - <database view> or Create - <form name>.
- A user tries to open a database that is unavailable in the following situations:
 - Database is marked out of service.
 - Database is marked pending delete.
- A user tries to access their home server and the server is unavailable.
- A user tries to open their mail file and the server is unavailable.
- A mail router request to transfer and deposit mail to a user's mail file cannot complete because the server is unavailable.

- A user tries to access a Web Navigator server and the server is unavailable in the following situations:
User selects the Open URL icon.
User double-clicks a URL hotspot (HTTP address).
- A user replicates a local database with a database in the cluster and the server is unavailable.
- A user activates any field, action, or button that contains an @Command (FileOpenDatabase) and either the server or the database is unavailable.
- A user tries to launch a doclink, view link, or database link that is connected to a database or server that is unavailable.
- Running a LotusScript routine that includes the DB.OPENWITHFAILOVER call which opens a database with failover if either the database or server are unavailable.

NOTE: Failover does not happen on File, Database, Open.

The following server conditions trigger failover:

- A server is down or unreachable by the user.
The server is BUSY. Workload balancing is enabled on a server using the NOTES.INI setting Server_Availability_Threshold and the resources available on the server drop below the specified threshold.
- The server is MAXUSERS. The server reaches the maximum number of sessions allowed, as specified by the Server_MaxUsers setting.
- The server is RESTRICTED. The Server_Restricted setting enables the server to deny new open database requests.

3. INSTALLATION

3.1 Installation Prerequisites

3.1.1 Step 1: License Key(s)

Get licenses keys from Kofax and apply them to the Kofax Communication Server. See TC/LINK manual for more information about needed licenses.

3.1.2 Step 2: KCS (old name: TCOSS) Version

Check if the KCS version is sufficient. The minimum KCS version can be found in the TC/LINK manual.

3.1.3 Step 3: Create KCS Link User

Use the TCfW Communication Client to create the link user on KCS.
This user **must have a local address**.

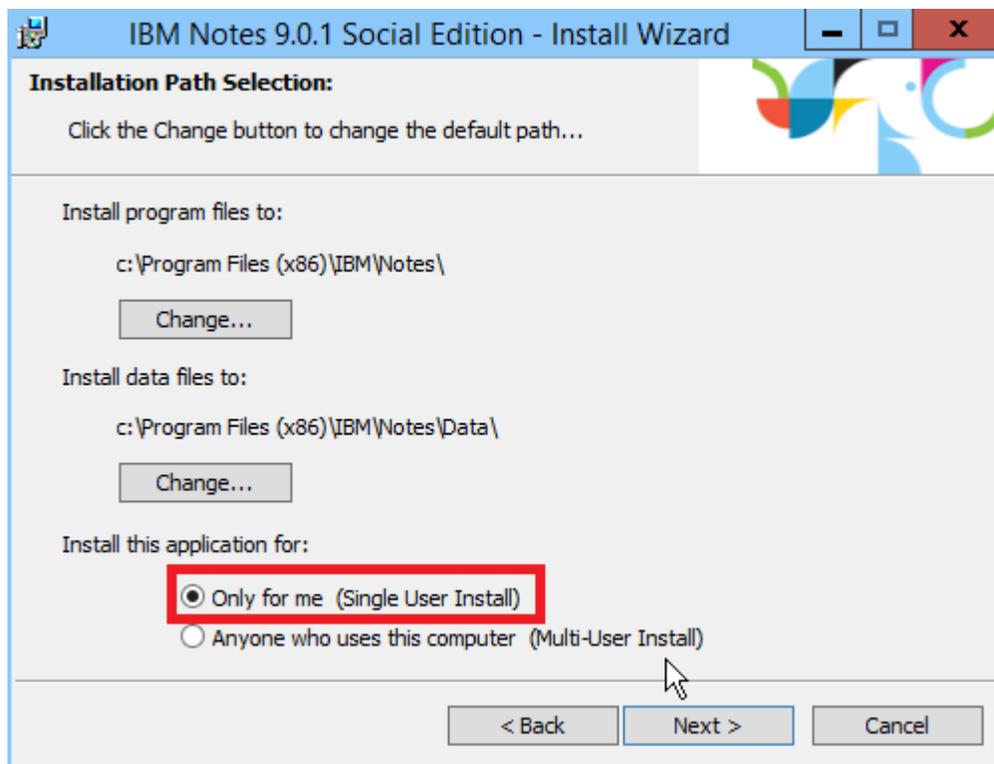
Note:

On a newly installed KCS (old name: TCOSS) 7.22.00 or above, there is already a link user called "TCLINK" (password TCLINK).

3.1.4 Easy or Advanced Installation – Prerequisites

Following are the prerequisites for installing TC/LINK-LN:

1. Prior installing KCS setup, install a Lotus Notes client. Make sure to install the "single user" installation variant. Refer screenshot below:



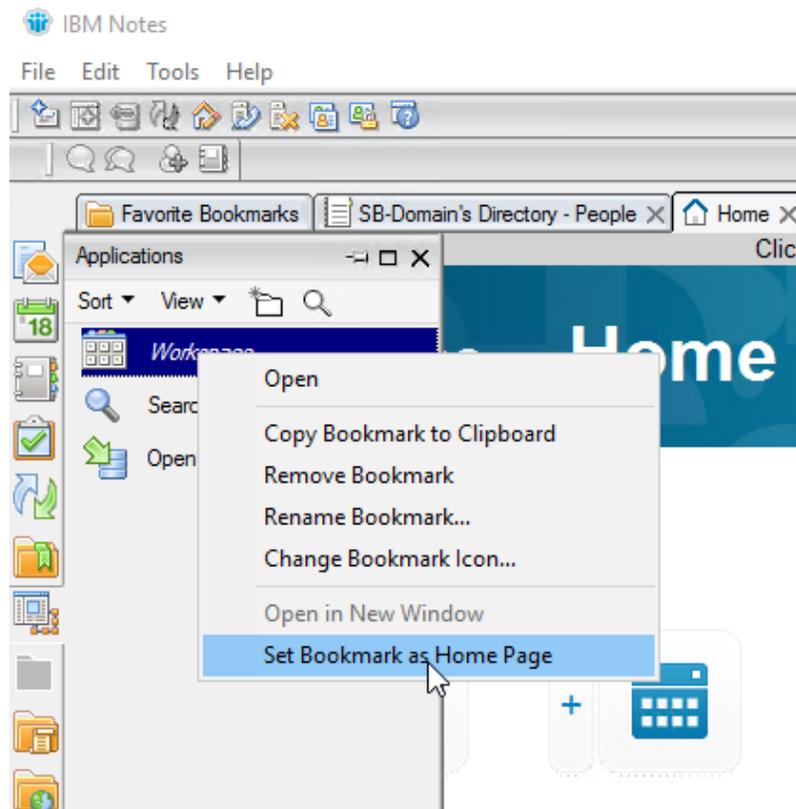
2. Install the latest fix pack available for the currently installed version of the Lotus Notes client.

Note: Rich Text files conversion may fail when running TC/LINK-LN in a Windows Server 2016 environment along with Lotus Notes Client 9.01 without any fix pack installed. To prevent this, install the latest available fix pack for Lotus Notes client 9.01.

3. Once Lotus Notes client is installed, start up the Lotus Notes client. It will start up in the Eclipse mode. Change the Lotus Notes client to run in “Basic mode”:
 - a. Stop Lotus Notes Client.
 - b. Start a text editor such as Notepad in Administrator mode and open the NOTES.INI file. Default installation path for this file is C:\Program Files (x86)\IBM\Notes\notes.ini. Update the following line:
UseBasicNotes=1
If this line is not available, add it as second line after the line [Notes].
 - c. Save and close the NOTES.INI file.
4. Start the Lotus Notes client and verify that it is running in Basic mode. To verify this, select the menu option **Help > About Notes**. Basic mode is indicated as shown in the following screen.



5. Additionally, it is also recommended to set the “Workspace” as homepage. To do this, in the left tool bar, click the **Applications** button. Right-click on **Workspace** and select the **Set Bookmark as Homepage** context menu option.



The Notes Client has to be installed before invoking the KCS setup program since useful defaults are taken from there.

During KCS installation, you will be asked if you want easy or advanced installation.

Advanced installation:

Additionally to all the previous configuration values you can select if TC/LINK-LN should enter the foreign domain documents in the "Names.NSF" for all the services provided from KCS and the necessary databases on the Domino server (Mail Dependencies). Note that this database is always the "Names.NSF" database, not the Names database for dirsinc, which can be configured.

Automatic creation of KCS dependencies

When installing TC/LINK, the only KCS object needed is the TCLINK user. All other KCS dependencies (queue users, link service, notification coversheets, guest user etc.) are created automatically by TC/LINK.

Automatic creation of Notes dependencies

When installing TC/LINK-LN, all databases and routing entries (foreign domain) are created automatically.

Shared Login

To run TC/LINK-LN in a Lotus Notes environment where shared login needs to be enabled, do the following:

1. Back up the Lotus Notes ID file before enabling the Shared Login feature. The name format of this file is "username.id". Where, "username" is the current logged-in user name. Default location of this file is [Drive]:\Program Files\IBM\Lotus\Notes\Data\ids\people\.
2. After enabling the Shared Login feature in Lotus Notes if TC/LINK-LN fails to start, then replace the existing Lotus Notes ID file with the back up file.

3.1.4.1 Easy Installation

You have to **install the Notes client** and ensure that there is a working server connection **before running the KCS setup program** since it takes some configuration values out of the Notes client configuration file ("Notes.INI").

For an update, existing configuration data is NOT changed and dependencies are NOT created automatically.

For a new installation, Notes and KCS dependencies are created automatically.

TC/LINK-LN checks and restores the Notes and KCS dependencies (if selected) every time TC/LINK-LN starts.

Note that TC/LINK-LN itself is probably not allowed to do too much on the Domino server. If TC/LINK-LN may not be allowed to create databases on the server, the technician or the Notes Admin has to do this manually. This is described under "Advanced Installation"

TC/LINK-LN does not change existing templates on the customer's Domino server. The Notes administrator should do this if he wants to modify the specific forms. The KCS specific forms are provided in the TC/LINK-LN Setup database, which can be created automatically by the TC/LINK-LN.

3.1.4.2 Advanced: Preparation of the Notes Environment

- Obtain an ID file for TC/LINK-LN from the Notes Administrator. Either use an ID file, that is not password protected or use the TCPWD utility (see below how to install it) to enter the password automated.

The Reason for this is that the TC/LINK-LN must be able to login into Lotus Notes without user interaction. If you would use an ID file with password then you would have to enter the password manually every time the TC/LINK-LN starts.

- Installing TCPWD:
 1. Copy the TCPWD.DLL into the Lotus Notes directory.
 2. Open the NOTES.INI (in the Lotus Notes directory) and after the section [Notes] enter the following

line: EXTMGR_ADDINS = TCPWD

3. Enter the password in the registry setting

HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\NotesAddin\TCPWD (REG_SZ).

(After first use TCPWD will automatically encrypt the password in the registry.)

Hints:

1) To disable this ADDIN simply delete the entry in the NOTES.INI.

2) The TCPWD.DLL must be acquired separately; it is currently not part of the Kofax Communication Server setup.

- Install the Lotus Notes (client) on the TC/LINK-LN Computer. Follow the instructions of the Notes set-up program, read the documentation provided by Lotus on how to install the Notes Client, how to administer the Lotus Domino server, and how to send messages using the Mail feature of Lotus Notes carefully. The installed/used Lotus Notes client version must be compatible with used Lotus Domino server.
- Check for a working server connection by opening the Domains Name/Address Book. You must use the user ID (.ID File) that is used by TC/LINK-LN. There is only one .ID file for the Lotus Notes client and TC/LINK-LN.

DO NOT SWITCH TO A DIFFERENT ID FILE WITH THE NOTES CLIENT.

- Check the Rights of this user by sending a Notes message to another notes user.
- Disable the Notes Mail functionality:
In the Person document in the Notes Address book (names.nsf):

Person: **tqalink8/tqa** tqalink8@tqa-domain.topcall.co.at

Basics | Work/Home | Other | Miscellaneous | Certificates | Roaming | Administration

Basics

First name:

Middle name:

Last name:

User name:

Alternate name:

Short name/UserID and/or Internet address for R4.x SMTP MTA:

Personal title:

Generational qualifier:

Internet password:

Preferred language:

Mail

Mail system:

Collaboration

Instant messaging server:

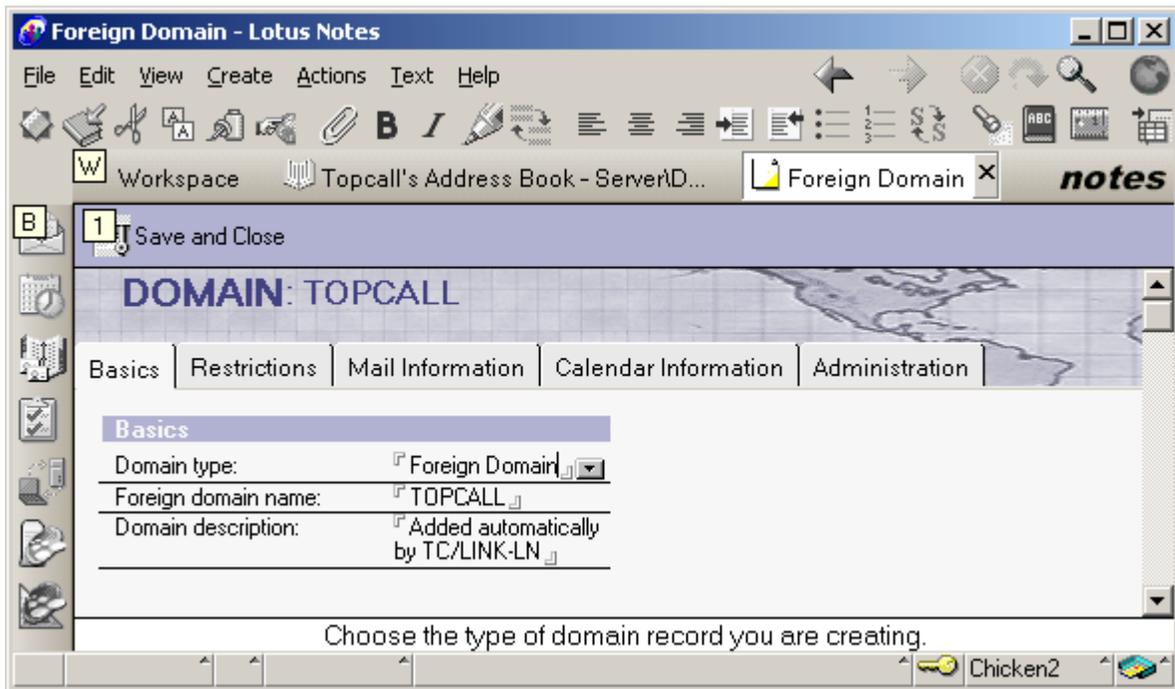
- Check the system path environment variable. (E.g. Control Panel / System / Advanced tab)

THE NOTES DIRECTORY MUST BE INCLUDED IN THE SYSTEM PATH!

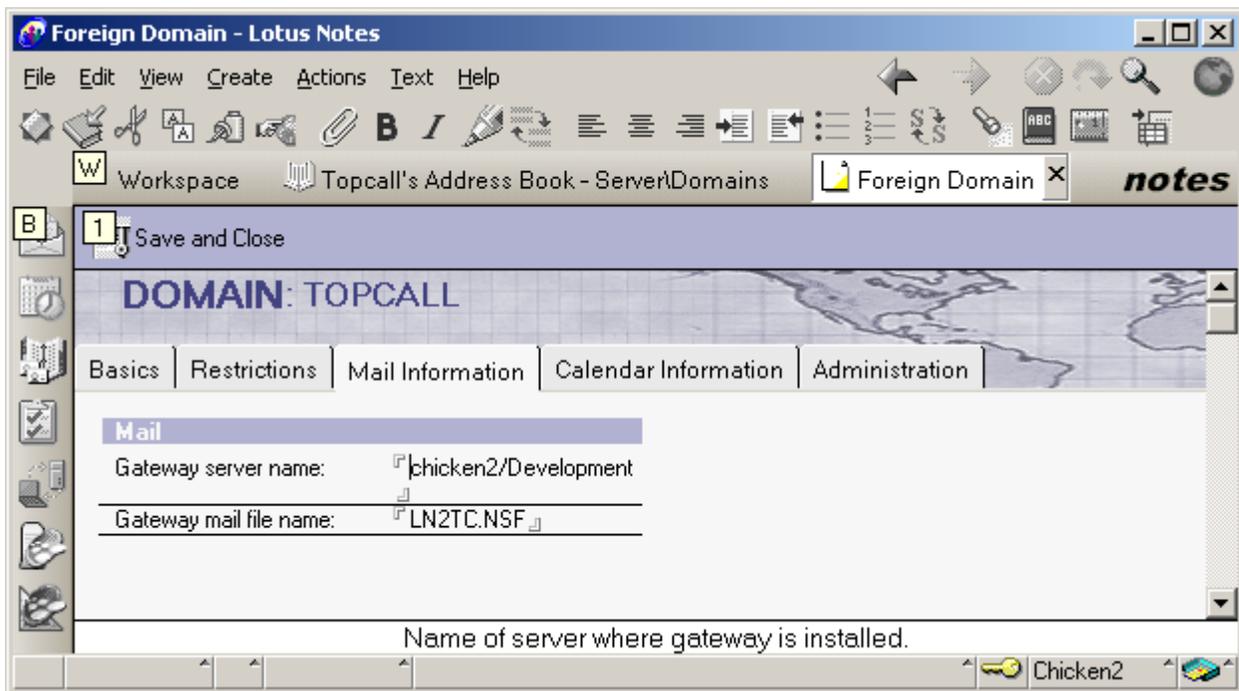
Otherwise, TC/LINK-LN is not able to open the Notes API.

- No need to create the foreign domain documents in the Lotus Notes address book (names.nsf). These are created automatically by TC/LINK-LN on the TC/LINK-LN start. (Older versions of TC/LINK-LN had required manually creation of these documents.) Prerequisite for this, however, that the Lotus Notes user must have the create document rights on the names.nsf database. The foreign domain documents contain the name of the Domino server where the TC/LINK-LN gateway database resides and the name of the TC/LINK-LN gateway database itself (normally LN2TC.nsf). The domain names are

actually the available KCS service names (Like "FAX"). All Notes mail addressed with such a domain (E.g. ...@FAX) will be routed to the gateway database specified here.



Routing information in the section 'Mail Information':

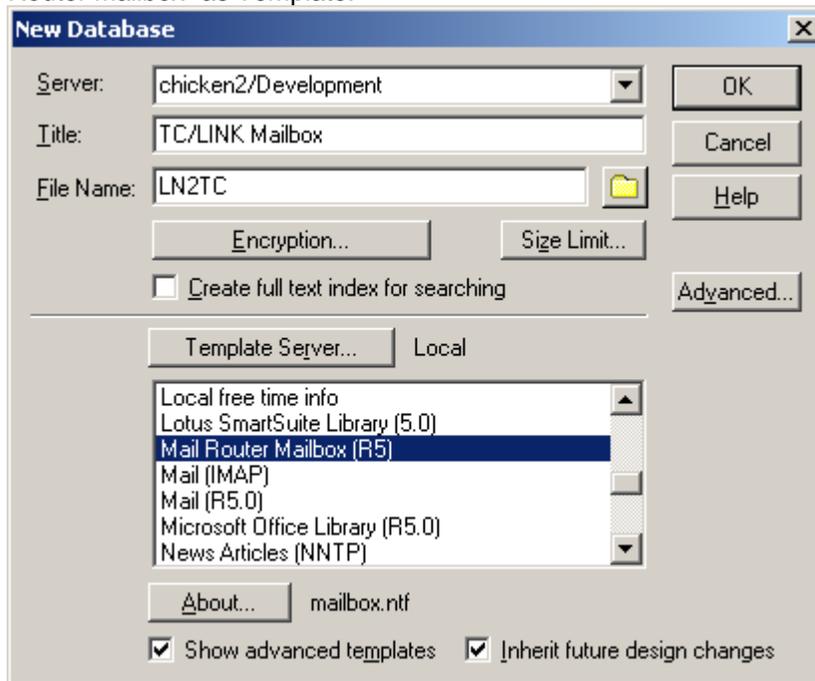


When TC/LINK-LN starts the first time, it also tries to create some TC/LINK-LN specific databases on the server. If TC/LINK-LN does not have the right to create them, you have to create them manually. How to do this is described below.

Note that the template TOPCALL.NTF is installed with the setup program on the local machine into the directory C:\TCOSS\TCLP. You can create the TC/LINK-LN setup database based on this template on the Domino server after running the setup program.

3.1.4.2.1 TC/LINK-LN Router Database (for message transfer Notes to KCS)

- If TC/LINK-LN does not have the right to create databases:
Create the TC/LINK router (gateway) database, LN2TC.NSF, on the Domino server using the “Mail Router Mailbox” as Template.



Note:

- Check if TC/LINK-LN has read and delete rights in this database.
- TC/LINK-LN will try to create this database if it does not find it.
Note: TC/LINK-LN should have the right to create databases on this server.

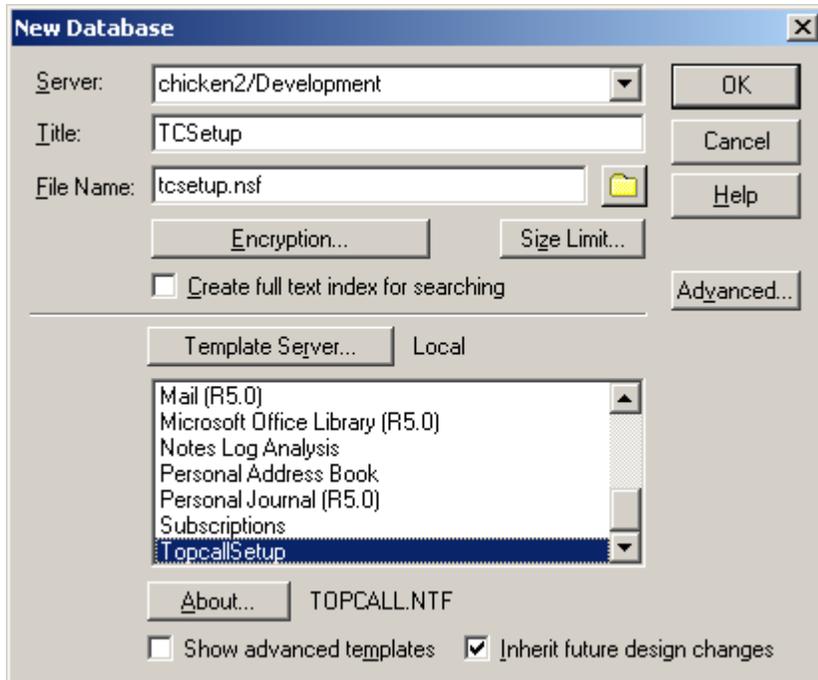
Setup Database:

This database holds all the Documents which are routed to KCS. If a document is undeliverable, it is called “dead mail”. The Notes administrator has to look into this database for this dead mail, as it is with the Notes native mail-file mail.box. (See the Lotus Notes/Domino documentation on how to administer the Lotus Domino server)

- Check the created domain document by sending a Notes Message (Memo) to this domain. It must appear in the newly created database.

3.1.4.2.2 TC/LINK-LN Setup Database

- If TC/LINK-LN does not have the right to create databases:
Create the TCSetup.NSF database on the Domino server using the “TOPCALL.NTF” as template. The template TOPCALL.NTF is on the distribution diskettes of TC/LINK-LN and is installed into C:\TCOSS\TCLP.



Note:

- This database will be changed with every installation, and TC/LINK-LN will try to update the design documents automatically.
- You can configure the name of this database in the Registry.

3.2 Run TC/LINK-Installation, Setup Program

If you are upgrading from an older release, stop the Lotus Notes client.

Start the setup program. The default path (c:\tcoss\system) must not be changed. Some files are searched only there.

If you want to use the document converter, you have to check the „TCDC Autostart” Checkbox. The TCDC.EXE will then be placed in the autostart group of your Windows Installation.

3.2.1 Running as Windows Service

If TC/LINK-LN runs as Windows service, it does not use a Windows user ID. Instead it uses the “System Account”. This account is also used for the Notes.exe which is started by TC/LINK-LN for the Rich text conversion. By default, any program started with this account cannot print. (The printing feature is used for the rich text conversion). To let Notes.exe print, you have to check the following key in the registry:

HKEY_USERS/.DEFAULT/SOFTWARE/MICROSOFT/WINDOWS NT/CURRENT_VERSION/WINDOWS :

There must be a key (REG_SZ) named device which should contain:
TOPCALL Fax to TCDC,winspool,Ne00:

Additionally there must be a Key (REG_SZ) named “.../DEVICES/TOPCALL Fax to TCDC” which has to contain the TOPCALL Printer as value:

The Name:

HKEY_USERS/.DEFAULT/SOFTWARE/MICROSOFT/WINDOWS NT/CURRENT_VERSION/WINDOWS
/DEVICES/TOPCALL Fax to TCDC

This key has to contain:

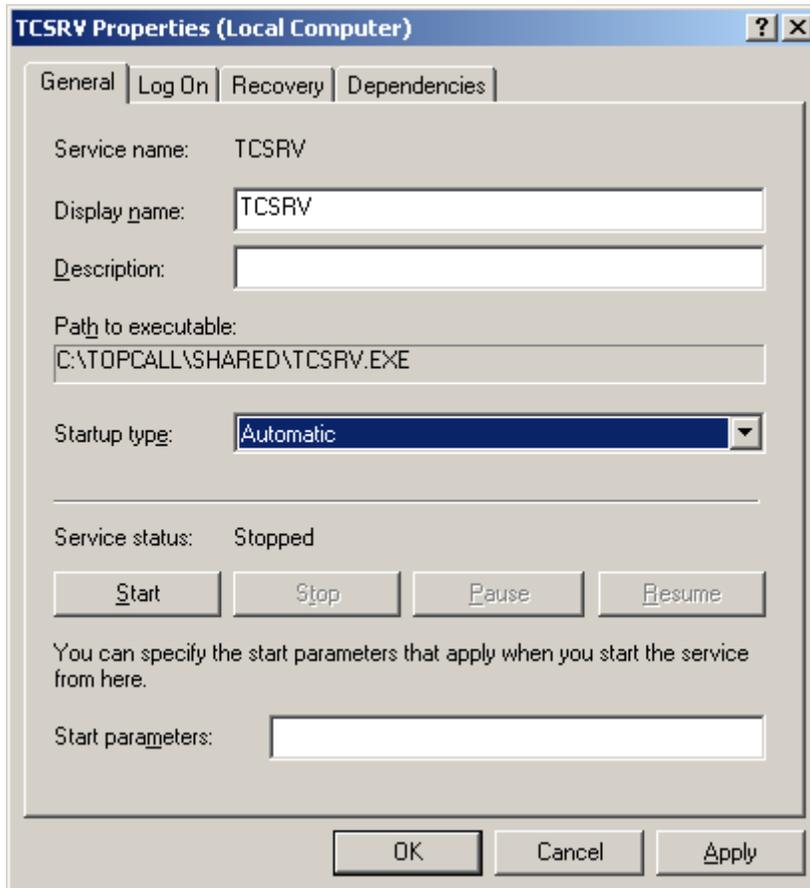
winspool,Ne00:

Note that this is written by the Setup program.

With this setting it is possible to let TC/LINK-LN with rich text conversion run in background completely.

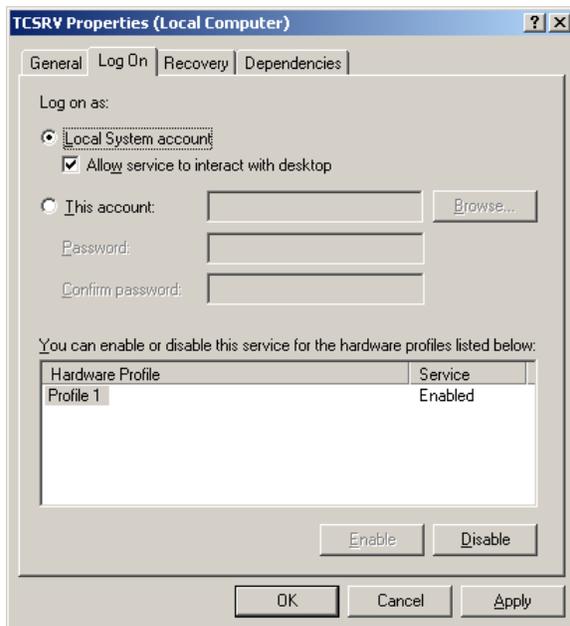
The Notes client is started in background also. Since the Notes client cannot be started twice on one computer, you **MUST NOT** start it in foreground.

If you face problems with the Rich Text Conversion, and you want to watch Notes printing, you have to enable the “Interact with desktop” check box in the service start-up options of TCSR.V.



The service TCSR.V starts TC/LINK-LN as a sub-process. TC/LINK-LN inherits all rights of the starting process (especially “allow interact with desktop”).

Note that this should be used only for diagnostic purposes since all processes started by TCSR.V then have the right to interact with the desktop.

**Note:**

To disable rich text set the „RichText” value in the registry under notes to „0”:

HKEY_LOCAL_MACHINE/SOFTWARE/TOPCALL/TCLINKLN/NOTES/RichText = 0

with the Regedt32.exe program.

3.2.2 Windows Logon Configuration for Windows Server 2008 64-Bit

On Windows Server 2008 64-bit with TC/LINK-LN using RTF conversion, the TC/LINK-LN instances have to be configured similar to the Document Converter:

	Test Mode	Productive Mode
...\ <linkln>\logontype< td=""> <td>+N</td> <td>S (or B)</td> </linkln>\logontype<>	+N	S (or B)
...\ <linkln>\user< td=""> <td>Empty or the same as ...\<linkln>\user< td=""> <td>the same as ...\<linkln>\user< td=""> </linkln>\user<></td></linkln>\user<></td></linkln>\user<>	Empty or the same as ...\ <linkln>\user< td=""> <td>the same as ...\<linkln>\user< td=""> </linkln>\user<></td></linkln>\user<>	the same as ...\ <linkln>\user< td=""> </linkln>\user<>
...\ <linkln>\domain< td=""> <td>Empty or the same as ...\<linkln>\domain< td=""> <td>the same as ...\<linkln>\domain< td=""> </linkln>\domain<></td></linkln>\domain<></td></linkln>\domain<>	Empty or the same as ...\ <linkln>\domain< td=""> <td>the same as ...\<linkln>\domain< td=""> </linkln>\domain<></td></linkln>\domain<>	the same as ...\ <linkln>\domain< td=""> </linkln>\domain<>
...\ <linkln>\password< td=""> <td>Empty or the same as ...\<linkln>\ password<="" td=""> <td>the same as ...\<linkln>\ password<="" td=""> </linkln>\></td></linkln>\></td></linkln>\password<>	Empty or the same as ...\ <linkln>\ password<="" td=""> <td>the same as ...\<linkln>\ password<="" td=""> </linkln>\></td></linkln>\>	the same as ...\ <linkln>\ password<="" td=""> </linkln>\>

For more details on this issue (e.g. Test Mode versus Productive Mode) and on the Windows login configuration considerations in general please refer to the KCS Document Conversion Technical Manual.

Important! It is strongly recommended to close all “splwow64” processes running on the link server (with the Task Manager) when changing the Windows logon configuration. (See also Hints/Troubleshooting chapter in this manual (search for “splwow64”) and also in KCS Document Conversion Technical Manual.

3.2.3 Installation Procedure

First, there are the setup windows of the general part of TC/LINK. Please see the documentation of the general part for a description of these windows.

Notes:

- You have to enable the switch “AT NEXT NODE” in the general part of setup.
Reason: If you don’t enable it, a message is terminated successfully (“Sent OK”) when transferred to notes. If the Notes router afterwards decides that it cannot deliver the message to an intended

recipient, TC/LINK-LN does not have the chance to set it to “Inactive – Problems”. Note that it is NOT enabled by default when installing TC/LINK-LN.

- X.400 Service: You have to specify a valid X.400 service that can be used when sending to TC/LINK-X4.

The Notes-specific parts of the setup procedure are described here:

3.2.3.1 Notes Setup Screen 1

In this screen you can enter the first part of the Notes specific parameters.

Field Label	Value
Database on Notes Server for Msg. to Topcall	LN2TC.NSF
Name of Setup Database on Notes Server	TCSETUP.NSF
Default Domain (for Recipients in Notes)	dev
Own Domain (for Originator on TC)	TOPCALL
Notes Server Name	pcpasz/Development
Port to connect to Notes Server	TCP/IP
Name of Form for Messages to Notes	Memo
Notes Form for Delivery Notification to Notes	Delivery Report
Notes Form for non Delivery Notification	NonDelivery Report

The fields in the setup screen correspond to the following entries in the registry database. You can check and change the Registry entries on the TC/LINK-LN computer with the regedt32.exe program:

See \\HEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\NOTES:

Description of the various fields:

3.2.3.1.1 Database on Domino Server for Msg. to KCS (Registry entry: Database):

This database is used by Notes to transfer the messages going from Notes to KCS. TC/LINK-LN looks for new messages in this database. The database is located at the server specified in the field “Server”. This database is created automatically by TC/LINK-LN if it does not exist before and if TC/LINK-LN has enough rights to create it on the server. TC/LINK-LN must have at least read and delete rights on this database. This database must be the same as configured in the foreign domain document in the public names and address book.

3.2.3.1.2 Name of Setup Database on Domino Server (Registry entry: TCSetupName):

This is the name of the setup database where TC/LINK-LN mirrors the registry settings. If you specify different databases for each TC/LINK-LN, you can allow multiple TC/LINK-LN’s to work via the same Domino server.

3.2.3.1.3 Default Domain (for Recipients in Notes) (Registry entry: DefaultDomain):

The DefaultDomain is the Domain TC/LINK-LN is connected to. It is used primarily for recipients within Notes that do not contain a Domain. When sending from KCS to Notes, you need not specify a Domain. If a message does not contain a domain (@ DOMAIN) specifier, the default domain is added to the address (recipient) by TC/LINK-LN.

3.2.3.1.4 Own Domain (Registry Entry: OwnDomain):

The OwnDomain is one of the Domains/Services (foreign Domains) that are reserved for KCS users. Notes Mail to this domain has to be routed to the TC/LINK’s Mailbox. It is used for the originator’s Domain. This domain is then used by the Notes Router (the task of the Domino server that transfers messages) to

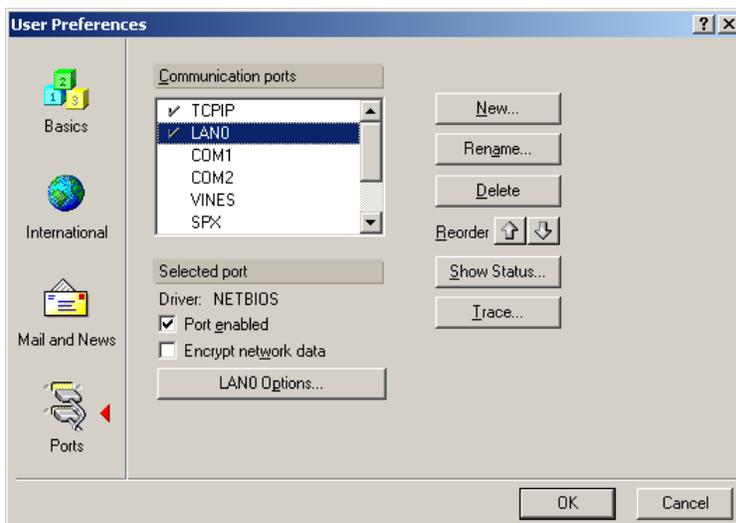
route delivery and non-delivery notification. If you do not specify a valid domain in this field, you will not get notifications from Notes, and all messages sent from KCS to Notes will stay at "At-Next-Node" if you specify "Set to At-Next-Node" in the setup general part of TC/LINK-LN (see the description of the general part of TC/LINK, the documentation of TC/LINK-MX, and the document TC/LINK KCS Link Modules Version 1.00.00).

3.2.3.1.5 Domino Server Name (Registry Entry: Server):

The Server entry is the Name of the Lotus Domino server TC/LINK-LN is connected to. The Server entry must match the MailServer entry in the Notes.Ini file (Note that for easy install, the server name is taken from there). TC/LINK-LN tries to connect to this server via the protocol specified in the Notes client installed on the TC/LINK-LN computer. Be sure, that the Notes client can connect to this server BEFORE trying to even start TC/LINK-LN since you would get error messages in the Event-log if TC/LINK-LN could not connect to the Domino server.

3.2.3.1.6 Port to Connect to the Domino Server (Registry Entry: Port):

If you face problems with connecting to the Domino server via TC/LINK-LN while having no problem with connecting from the Notes client, you can specify one of the Notes ports here. You have to enter a valid Notes port e.g. LAN0. If you empty this field, all enabled ports are tried. Note that this port must correspond to the ports in the Notes.INI file or in the File/Tools/User Preferences/Ports:



3.2.3.1.7 Name of Form for Messages to Notes (Registry Entry: FormMessage):

This form is used when sending from KCS to Notes for normal messages (not used for Delivery/NonDelivery).

3.2.3.1.8 Notes Form for Delivery Notifications to Notes (Registry Entry: FormDelivery):

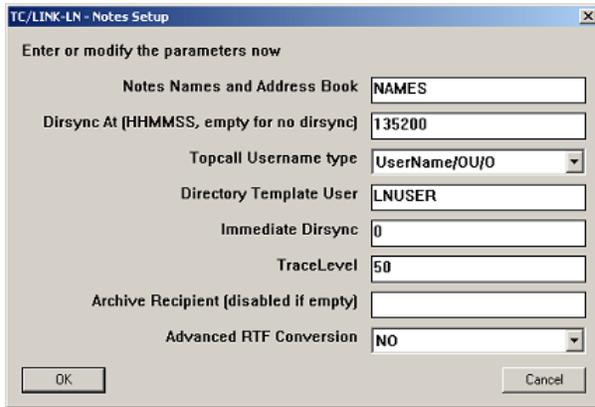
This form is used for delivery notifications to Notes.

3.2.3.1.9 Notes Form for Non-Delivery Notifications (Registry Entry: FormNonDelivery):

This form is used for non- delivery notifications to Notes.

3.2.3.2 Notes Setup Screen 2

In this screen you can enter the Notes specific parts of the dirsync parameters.



3.2.3.2.1 Notes Names and Address Book (Registry Entry: NABook):

Users and addresses for dirsinc are searched in this database. This database is opened on the Domino server.

3.2.3.2.2 Dirsync At (Registry Entry: DirsyncAt):

Dirsync is initiated every day at this time. Specify the time (24hrs) in the Format HHMMSS without colon.

3.2.3.2.3 KCS Username Type (Registry Entry: TCUserName):

Specifies how the user on KCS is composed from the user on Notes for dirsinc. Following entries are valid:

UserName/OU/O (DisplayMailAddress without Domain) Fully qualified username with all organizational units without Domain.	Registry value: 0
Common name (Firstname Lastname)	Registry value: 1
ShortName	Registry value: 2
FirstName MiddleInitial LastName	Registry value: 3
UserName/OU/O @ Domain (DisplayMailAddress with domain, spaces!) Fully qualified username with all organizational units Domain.	Registry value: 32
UserName/OU/O@Domain (DisplayMailAddress with domain, no spaces!) Fully qualified username with all organizational units Domain.	Registry value: 64

(Actually, the bit 0x20 (=32) can be added to each of 0, 1, 2, 3 to append “ @ domain” at the end. However, it makes sense only in case of “0” to use it. The same applies for 0x40 (=64) : appending “@domain” without spaces.)

		Registry value
UserName/OU/O	(DisplayMailAddress)	0
Common name	(Firstname Lastname)	1
ShortName		2
FirstName MiddleInitial LastName		3
UserName/OU/O @ Domain	(DisplayMailAddress with domain)	32

Notes:

- Please ensure that names on KCS are unique. If you use common name it must be unique over all persons in the N/A Book. Otherwise 2 Persons within Notes will get the same User ID on KCS.
- If you use the ShortName or the UserName/OU/O @ Domain, you have to specify an address book. (See 3.2.3.2.1, 61) Otherwise, TC/LINK-LN cannot look up the originator’s address.

3.2.3.2.4 Directory Template User (Registry Entry: DSTemplate):

This KCS user or address is used as template for creating new users or addresses.

If you want to specify different templates for different groups of users, you can add a field named „TEMPLATE” to the user in the Notes’ Names and addresses Book (NABook). If you have only one group

of users, you can enter the template in this field and you need not change the customer's NABook. There is a field called „DirsyncAllowed” in the names and address book. An entry is only synchronized when this field is set to „1”.

3.2.3.2.5 Immediate Dirsync (Registry Entry: DSImmediate):

If you want to start dirsync immediately (after starting TC/LINK-LN) set this value to 1. To ensure that dirsync runs only once, this value is reset to zero automatically after the first dirsync cycle.

3.2.3.2.6 Trace Level (Registry Entry: TraceLevel):

This number specifies the amount of information written to the log file. The log file is written to “C:\TCOSS\TRACE\TCLINKLN.TRC” by default. Usually a value of 10 will be sufficient. If you face problems with TC/LINK-LN, the support department may ask you to increase this value. Values up to 500 are used for debugging purposes.

3.2.3.2.7 Archive recipient (Registry Entry: TopcallArchiveName):

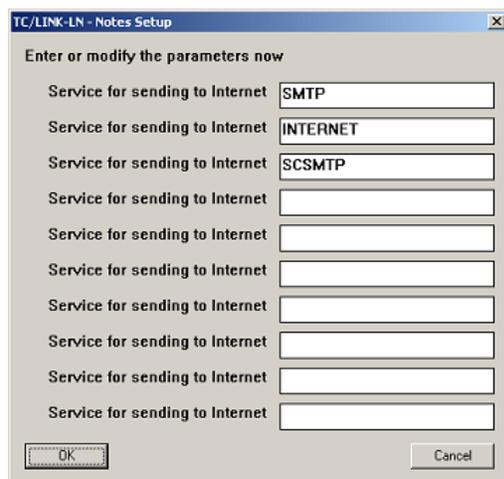
KCS User ID of the archive recipient. See more in the chapter *Integrated Archiving Support* in the TC/LINK manual.

3.2.3.2.8 Advanced RTF conversion (Registry Entry: General\AdvancedRTFConversion):

If rich text conversion is enabled, TC/LINK-LN can be configured for Advanced RTF Conversion. This means that the RTF text of outgoing faxes starts on the coversheet (overlapping) and is automatically formatted by the fax channel.

3.2.3.3 Notes Setup Screen 3

To distinguish the new Notes Fax address Syntax from the Internet address Syntax, you have to enter the services you want to use for internet sending.



3.2.3.3.1 Service for Sending to Internet

(Registry entry: TOPCALL/SMTPSERVICE, TOPCALL/SMTPSERVICE1 to 9):

You can enter 10 services which can be used to send using SMTP addresses.

If you enter a service here, the address syntax “... @ NUMBER ...” is disabled. You have to use the syntax: “... # NUMBER ...” or “NUMBER ...” for this service.

Note that the address mapping is done in the MAP-File (TCLLN.MAP)

3.2.3.3.2 What to Do Next

If TC/LINK-LN does not have the proper rights to create databases, you have to create them manually now. The Template TOPCALL.NTF is now installed into C:\TCOSS\TCLP directory. See above.

After successfully installing you can change the TCSRVS service startup mode from manual to automatic, if you want to start TC/LINK-LN as service. Do NOT place the Notes client in your startup group. After sending and receiving via TC/LINK-LN, check the log file (c:\TCOSS\SYSTEM\TCLINKLN.TRC) for warnings concerning those messages.

3.3 Detailed Installation Information

3.3.1 Create Dependencies Details

3.3.2 KCS Dependencies

The KCS setup creates a DWORD registry value named

`HKLM\SOFTWARE\TOPCALL\TCLINKLN\SETUP\CreateDependenciesTopcall`

The following KCS objects are created automatically by TC/LINK-LN, if automatic creation of KCS dependencies is enabled:

Description	Default name	Registry subkey	More information
Guest User		Setup\GuestUser	TC/LINK manual
Default Free Service	FREE	Setup\ServiceFREE	TC/LINK manual
Default TOPCALL Service	TOPCALL	Setup\ServiceTC	TC/LINK manual
Default Fax Service	FAX	Setup\ServiceFAX	TC/LINK manual
Default Telex Service	TLX	Setup\ServiceTLX	TC/LINK manual
Default Service for Notes Users	NOTES	Setup\ServiceNOTES	Is used in dirsync templates, prefix is default queue
Dirsync template user	LNUSER	Setup\DSUserTemplate	Section 2.5.3 Field Mapping Notes <-> KCS: the Template User
Dirsync template recipient	LNRECIP	Setup\DSRecipTemplate	Section 2.5.3 Field Mapping Notes <-> KCS: the Template User
Default template	DEFTEMP in link user's message folder	Setup\DefaultTemplate	Used for guest user and dirsync template user. Should also be default template for link user (configure manually via TCfW!)
Delivery Coversheet	LNDEL CVR in link user's message folder	Setup\DelNotifCover	TC/LINK manual
NonDelivery Coversheet	LNNONDEL CVR in link user's message folder	Setup\NonDelNotifCover	TC/LINK manual
ONLYIMG template	ONLYIMG in link user's message folder	Setup\OnlyImgTemplate	TC/LINK manual

These objects are only created if they do not yet exist.

If automatic creation of KCS dependencies is disabled, you should make sure that these objects exist on KCS.

3.3.3 Notes Dependencies

The KCS setup program creates a DWORD registry value named

`HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\SETUP\CreateDependenciesMail`

which is set to 1 if TC/LINK-LN should check the Mail dependencies during every startup.

The mail dependencies for Lotus Notes are:

- The setup database.

TC/LINK-LN tries to create the database on the configured Domino server. The name of the database can be configured in the registry setting ...\\NOTES\\TCSetupName. (Default: TCSETUP.NSF, Template: TOPCALL.NTF in C:\\TCOSS\\TCLP)

- TC/LINK-LN router database

TC/LINK-LN tries to create the database on the configured Domino server. The name of the database can be configured in the registry setting ...\\NOTES\\Database. (Default LN2TC.NSF, template MAILBOX.NTF)

- The foreign domain documents

TC/LINK-LN tries to add a foreign domain document for every service that is configured on KCS. These documents are created in the names and addresses book of the Domino server (from registry key NABook (Default NAMES.NSF).

In case that TC/LINK-LN cannot do anything mentioned above, there is only a warning written into the log file since this can be intended by the Notes Administrator.

Here is a list of TC/LINK-LN specific registry entries and which are created for easy installation.

Parameter	Comes from	Value
ClsFile:	Default.ini	CP 1252
Database:	Default.ini	LN2TC.NSF /Create on Domino server/ Check against foreign domain entries
DefaultDomain	Domino server	stats.mail.domain
DirsyncAt	Defaults.ini	Empty
DSImmediate	Defaults.ini	0
DSTemplate	Defaults.ini	Empty
FormDelivery	Defaults.ini	Delivery Report
FormMessage	Defaults.ini	Memo
FormNonDelivery	Defaults.ini	NonDelivery Report
LNNonDeINF	Defaults.ini	0
MemoForms	Defaults.ini	Memo
NABook	Defaults.ini	NAMES.NSF
OwnDomain	Domino Server's NABook	Take first foreign domain that matches MailFile and ServerName (w.o. Domain)
Port	Defaults.ini	Empty
RichText	Defaults.ini	1
Server	Notes.INI	parameter MailServer
SummaryFields	Defaults.ini	Empty
TCSetupName	Defaults.ini	LN2TC.NSF; Create database on Domino server
TCUserName	Defaults.ini	1
TraceLevel	Defaults.ini	10

The Notes executable directory is taken from the LOTUS.INI file. The Installation program of Lotus Notes stores the path there. For example: Notes=c:\\notes\\notes.exe. If you face problems with your Installation, you can check this key or rerun the Notes installation program.

The server name is taken from the NOTES.INI, which has to be in the system's search path. The Lotus Notes setup program (install.exe) that comes with every Lotus Notes Workstation installation CD writes this file (NOTES.INI). If you cannot find the NOTES.INI, you have to rerun the Lotus Notes workstation installation program (install.exe).

4. PERFORMANCE

This section documents the performance measured with the following equipment:

Kofax Communication Server:

Model 300 (2x P3-1.4 GHz), 512 MB RAM, KCS 7.46 (no other load on KCS), Win2000.

TC/LINK-LN:

Installed on the KCS machine. Connected to Lotus Domino 5.0.9 server, Lotus Notes Client 5.0.12.

Tests:

- A short text message was tested with and without Notes RTF, to KCS and to Notes.
- A Message with a 1-Page WinWord attachment was sent from Notes to KCS.
- A Message with a binary attachment (size 1.1MB -> 100-Page Word attachment) was sent to KCS and to Notes.

Description	KCS to Notes (Messages/Hour)	Notes to KCS (Messages/Hour)
Text msg 1P	8565,3	19047,6
Bin Att (105K)	7971,7	12257,4
Bin Att (1.14M)	2759,3	1969,4
TCDC Word 1P	x	486,3
TCDC Word 100 P	x	115,7
TCDC RTF 1P	x	790,9
FAX TIF 1P	8141,1	x

5. RESTRICTIONS

5.1 Read Notification

“Return Receipt” requests from Lotus Notes are ignored completely.

Read notification (“Return receipt”) requests from KCS are not supported by the TC/LINK-LN. Only delivery notification (“Delivery Report”) requests are supported.

5.2 Pictures in Notes Body via SMTP

Inserted pictures in a Lotus Notes message (e.g. pasted tables from Excel or pasted graphics from Acrobat) are not sent via SMTP. When sending via FAX, these pictures are sent only in case of RTF conversion is used.

5.3 Clustering

The cluster enhancement for TC/LINK-LN is only tested with two servers in a cluster. Additional servers are supported, but not tested.

6. HINTS / TROUBLESHOOTING

- If an error occurs you can look into the Event log, where TC/LINK-LN reports the errors.
- If you don't know, what TC/LINK-LN is doing, check the log file. It is located at:
C:\TCOSS\TRACE\TCLINKLN#.TRC (the hash sign # is replaced by a digit) by default.
- CT/LINK-LN MUST NOT run on the Domino server.
- If you want a delivery and a non-delivery notification when sending from Notes to KCS, you have to set the field "Delivery Report" of the delivery options to "Confirmed" or "Trace". If you set it to "Basic" you will only get a non-delivery notification. If you set it to "None" you will not get a notification at all. Please note, that the default of this field is "Basic" so you will only get a non-delivery notification and not a delivery notification from KCS.
- Notes Users at KCS are named in the way dirsync is set up even if you disable dirsync.
- Unlike in TC/GATE, there is no „IncludeCover" with notification switch. That means there is no cover included and the Notification will be sent unconditionally.
- The TOPCALL printer driver for Windows does not support grey levels.
- If you use the 16-Bit version of Excel, there is a problem with the document converter. Excel. XLS attachments are not printed at landscape modus.
- The cover variable for the field "LAST_MDA_ACTION" is now called \$Laction\$. If you use the old NONDEL covers of TC/GATE, you have to change the \$txtLaction\$ variable to \$Laction\$. The old variable \$txtLaction\$ is no longer supported.
- When sending from Notes to KCS users with user-IDs of 8 or less characters, the ID has to be entered case sensitive.
- Distribution lists are currently not supported by TC/LINK-LN.
- Do NOT set the "DeIASAP" (Remove Envelope) in the registry to 1. It has to be zero. When set to 1, the original mail entry is not appended to the notification, and TC/LINK will have problems to decide if it's a delivery or non-delivery report.
- Order of Attachments:
The link will handle the attachments in the chronological order since 1.12.03, which means that attachments, which will be first inserted into the document, will be first transferred to KCS.
- The default Resend button in the Non-Delivery Report (from the mail template) in Lotus Notes doesn't work as expected. A Non-Delivery from KCS can have a Non-Delivery cover within the body field. This means that the Non-Delivery cover from KCS is sent within the message, which makes no sense. To solve this problem read the hint #7568. With a small mail template change the Resend button is also working with KCS Non-Deliveries.
- A block of Rich Text can be larger than 64kB, all text is transferred. The 64k limit for rich text was removed with 1.08.01.
- All additional fonts, which are installed under Windows on different user PC's, have to be installed on the link PC too. This is important by using the RTF printing option.
- When running two links in parallel with the Agent-enhancement, it is not possible to have the full fail-safe. If one link crashes, the messages in the Work2TC-database (look at the Agents-section for details) of this link are still there and can't be handled by the other link. The two databases are local on the Link-PC!
- Incoming faxes have in the "From" field no spaces around the @ signs. This is new from V2.11.00.

6.1 TC/LINK-LN Cannot Connect to the Domino Server While the Notes Client Can

Reason 1: The Notes client uses PassThru to connect to the Domino server

Reason 2: The name of the Domino server is not spelled correctly. Double-check the entry in the Registry against the entry in the NOTES.INI.

Reason 3: Try another NOTES/PORT (See Port in Registry)

Reason 4: The Noteslink does not have access to the ID file. If you start TC/LINK-LN as service it cannot access the ID file if it is e.g. on a mapped drive.

Reason 5: TC/Link LN started as Service: It must have access to the Network. In the setup program you can supply a Windows User ID and password with which TC/LINK-LN is started.

You can try reinstalling NT/Notes and TC/LINK-LN. Start from an empty hard disk and install from an ORIGINAL Notes CD!

6.2 TC/LINK-LN Takes No Messages from LN2TC.NSF Database

Reason 1:

It goes to the wrong database (check the foreign domain document and the Notes Database configured in the Registry)

Reason 2:

TC/LINK-LN does not have enough rights to Read and Delete messages in this database.

6.3 After Restarting Link-LN with TCMON no RTF Conversion Possible

After stopping and starting the TC/LINK-LN with TCMON the RTF conversion does not work any longer.

This problem occurs when a message arrives from Notes to KCS and the TC/LINK-LN tries to open the Notes client (notes.exe) to start the RTF conversion, but this open fails. Reason: Certain running Lotus Notes processes prohibit the starting of notes.exe.

Workaround: TC/LINK-LN forces to close the currently running Lotus Notes client processes on link-start and/or link-stop (according to setting Notes/CloseClientMode, see below). The registry key Notes\ClientProcesses (REG_MULTI_SZ) defines the (Lotus Notes) processes that will be closed. New processes can be added manually to this registry key.

These predefined process names are always added to the Notes\ClientProcesses setting by TC/LINK-LN on link-start:

- nlnotes.exe
- namgr.exe
- nupdate.exe
- nweb.exe
- nwrdaemn.exe
- naldaemn.exe
- nhldaemn.exe
- ntaskldr.exe
- nfileret.exe
- notes.exe
- notes2w.exe
- nnotesmm.exe
- npxcdmn.exe

The link terminates the old Notes client session (processes), so the TC/LINK-LN will be able to start a new client session to print the message from Notes.

Hints:

1) Notes sometimes create other processes, so it is necessary to close them too:

To get the names of the Notes processes, check the process list in the Windows Task Manager before and after the start of the Notes Client on the link machine. There should be at least one process called nlnotes.exe. All processes that start with the Notes Client have to be added manually to the list in the registry key. Normally, the tasks start with the letter "n", e.g. nupdate.exe.

2) A special registry setting was introduced to specify which method should be used at which time to close the Lotus Notes client processes.

HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\nOTES\CloseClientMode (DWORD)

Possible methods:

a) sending WM_CLOSE messages to those windows whose process module name is listed in the reg.setting "ClientProcesses".

b) calling TerminateProcess for all processes whose process module name is listed in the reg. setting "ClientProcesses".

Possible timing:

a) on start of TC/LINK-LN

b) on termination of TC/LINK-LN

You can combine (=by adding) the following values:

1 -> "send-WM_CLOSE-to-Notes-windows"-method on start of TC/LINK-LN

2 -> TerminateProcess-method on start of TC/LINK-LN

4 -> "send-WM_CLOSE-to-Notes-windows"-method on termination of TC/LINK-LN

8 -> TerminateProcess-method on termination of TC/LINK-LN

E.g., set CloseClientMode = 10 to use the TerminateProcess-method to close Notes Client both on start and on termination of TC/LINK-LN.

CloseClientMode=0 means: do not stop any Lotus Notes client processes.

6.4 Bad Notes Document (Message) Crashes Link

It can happen that the link crashes after receiving a bad message from Notes. So the link tries to send this message every time and the document has to be deleted manually.

So the link has also to recover from temporary errors.

Therefore the following registry key is available to configure the number of retries, before the link will automatically delete this document and return a non-delivery:

HKEY_LOCAL_MACHINE\Software\TOPCALL\TCLINKLN\nOTES\MaxProblemsToTC (REG_DWORD)

by default 3.

The link will return a non-delivery notification after "MaxProblemsToTC"-tries.

6.5 OLE Attachments

Since OLE objects do not contain a file name, it is not possible to extract a standalone file out of them.

OLE objects are displayed and printed by the Notes client. So no special treatment is necessary. Currently, there is no way to add an OLE object as binary to a KCS message.

6.6 Message Box "Cross Certify Necessary"

If you install Notes forms provided by Kofax (or another vendor), you will get a similar message box when using this form the first time.



The Form TCMEMO, TC ReceiverOption has to be cross-certified by every user using Notes client, as these forms are created with organization /DEVELOPMENT

This is not a feature of Notes. It is simply the question if the customer trusts the software provided by Kofax. He has to click „Yes” once, and then the software provided by Kofax (TCMEMO) can execute. If he not wants to trust the foreign Organization name, he only has to press “No” at this message box and only save the document, view or other design element by choosing the menu entry “File / Save”. Then the message box will not appear again – it is saved with the ID of the user.

Recommended behavior:

During Installation at the customers site, you can sign all Notes forms delivered with TC/LINK-LN with the ID of a customer’s user (e.g. the Notes User of TC/LINK-LN) by opening and saving every form or by using the administration tool (File / Tools / Administration Tools) “Sign database”. If there is also a message box coming with the administration tool then also choose “No” there.

Background Information:

Since Notes 4.5, every Notes executable (form, button,...) is signed by the creator. If the user is not already in the same company (trust relationship) as the creator, he has to add this certificate to his Execution control list (ECL). You can access this ECL with “File/Tools/User Preferences/(Basic)/Security Options”

Execution Control Lists

The Execution Control List (ECL) enables you to protect your data against the threats of mail bombs, viruses, Trojan horses or unwanted application intrusions encountered when navigating the Internet. Execution Control Lists provide a mechanism for managing whether such executable files should be allowed to execute and what level of access the program should be permitted.

ECLs are managed on a per-user basis either by the user (via the User Preferences panel) or by the administrator (via the Public Address Book) and can be controlled to a very granular level. For example, you could stipulate that when a document is digitally signed by certain trusted colleagues, programs executed by that document can access documents and databases as well as modify environment variables, but cannot access the file system or external programs.

6.7 Notes Error “549 Document Has Been Deleted”

It is possible that the Mailrouter-Database, used by TC/Link-LN to get messages from NOTES contains entries, which cannot be deleted by TC/Link. (These messages still appear in the mail router database although they do not exist anymore).

In case of TC/Link-LN finds such an entry in the mail router-database, it skips those documents, writes a line into the trace file and an event in the event log.

The TC/Link trace file (With ...\\TCLINKLN\\NOTES\\TraceLevel >= 0) shows....
NotesError: (549) Document has been deleted

To remove these undeletable entries from the mail router database see the Lotus Notes Knowledge Base Report, or simply delete and recreate the transfer database (if no other open messages are shown).

In fact, there is no solution on KCS side to prevent those "deleted" documents. TC/LINK-LN skips the documents and goes on with the next messages in the database.
The Notes system administrator has the responsibility to check the mail router database periodically for such documents.

6.8 15k Summary Limit of Lotus Notes

When sending from KCS to Notes to many recipients (at least one on Notes) the following can happen:
The outgoing messages on KCS are set to "Inactive/Problems" with the error:

```
Message cannot be delivered to mail recipient (LV)
```

and the Response field:

```
Error delivering to [servername, reason truncated]
```

The notes router generates a non-delivery notification to KCS saying:

```
Field is too large (15K) or View's column & selection formulas are too large
```

In the Notes log file (Mail Routing Events):

```
30/06/97 15:54:10 Router: Unable to deliver message 0051D6C2 to Siegfried  
Thoma@TOPCALL from MH@TOPCALL @ TCINTL  
30/06/97 15:54:10 Field is too large (15K) or View's column & selection formulas  
are too large
```

The reason for this message is that the summary buffer of the document sent to Notes is too large. Normally, all non-rich-text fields are stored into this summary buffer. Especially all the KCS extension fields (From_XXX and To_XXX) are appended to this buffer. The reason for this is that only data in this summary buffer can be used in views and selection formulas. The drawback of this buffer is that its size is limited to 15kBytes. If a document has a summary buffer larger than that size, it either cannot be stored in a database or it cannot be sent via the Notes router. This applies to messages sent to many users having their full profile filled out (Company department, Costcenter,...)

The KCS extension fields From_... and To_... are no longer stored in the summary buffer. You cannot use those fields then for displaying in Views or selection formulas. If you need to do this, you can configure TC/LINK-LN that the Field is stored in the Summary buffer anyway:

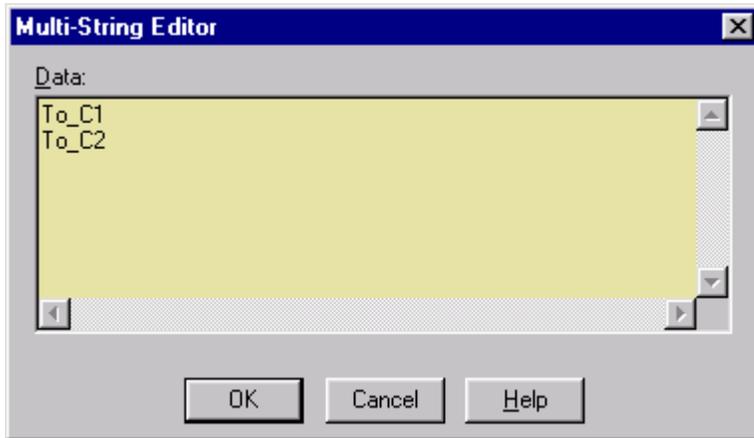
With Regedt32:

Create a Multistring (MULTI_SZ) value:

HKEY_LOCAL_MACHINE\\SOFTWARE\\TOPCALL\\TCLINKLN\\NOTES\\SummaryFields

In this hive you can enter a list of fields that should have the summary flag set.

E.g. if you want to use the fields To_C1 and To_C2 in a view set this field to the following values:



6.9 Umlauts

The KCS characters are converted to the OEM character set defined on the TC/LINK computer. The Notesapi accepts this codepage for all text fields with the exception of the bodyfield. The content of the Bodyfield is converted from the (TC/LINK-LN internal) OEM character set to a character set defined by Lotus: MBCS (Multi Byte Character Set). The conversion is done with the help of code table files supplied by Lotus (.CLS). You can define which CLS file is used in the registry key:

```
HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\notes\clsfile.
```

Warning: You have to specify the full filename including the extension, otherwise following error will appear in the log file:

```
14:42:44.806 (c8/ca) ^ (00) CLNSendDoc::putAttachment: Cannot put textatt:
C:\TEMP\TCL55.tmp: (1072) Error opening Character Set Translation File
```

The default is L_CP850.CLS.

Note that you also have to configure the Notes Client:

- In older releases, enter the correct codepage in the Notes Client with “File/Tools/User Preferences/International/Import-Export-CharacterSet”.
- In newer releases, use “File/Preferences/Regional Settings/Import/Export characters”.

6.10 Usage of KCS Template/Cover

To use the ONLYIMG Template correctly, you have to set the Registry Value: SuppressLeadingPagebreak in the General setting of TC/LINK-LN to “1”.

Default template TCLN

Here is a description which Cover/Template TC/LINK-LN uses:

	With Text	With RTF	W/O Text (Only attachment)
Template specified in message	Selected Template	Selected Template	Selected Template
Template in message empty:			
With Shadowuser	Default template of Shadowuser	Onlyimg template of LinkUser	Onlyimg template of LinkUser
W/O Shadowuser	Default template of Linkuser	Onlyimg template of LinkUser	Onlyimg template of LinkUser
++CVR	Selected Cover	Selected Cover Note 1	Selected Cover

Via SMI with Shadowuser	Default template of Shadowuser	Onlyimg template of LinkUser	Onlyimg template of LinkUser
Via SMI without Shadowuser	Default template of Linkuser	Onlyimg template of Linkuser	Onlyimg Template of Linkuser
Via SMI with ++CVR	Selected Cover	Selected Cover Note 1	Selected Cover

Note 1: Warning “++” sequence not stripped in RTF text.

Note that you can also use the Onlyimg Template of the Shadowuser if you set the Registry “UserSpecificOnlyimg” to 1.

6.11 Overlays and Rich Text

If you want to use a KCS overlay together with Rich Text, you probably want to make room for the Company Logo at the top of the Page. In this case, you can specify a top margin in the “File/Setup Page” of the PRINT.NSF database. Don’t forget to disable “AdvancedRTF” so that the margins are faxed 1:1. A drawback of this solution is that this setting is database global. It applies to all forms contained in this database.

Another quite simple solution to that problem is to simply adopt the Form that is used. Insert some empty lines into the form. These can even be made conditionally (via paragraph properties).

Notes:

- If you want to modify Faxes sent with (“Bodyfield only”), edit the form “PrintForm”
- Make changes to the Forms ONLY in the TC/LINK-LN setup database on the Domino server (Don’t forget to restart TC/LINK-LN) before using the new forms.

For further information see the Notes help or ask any Notes programmer that has attended the “Notes Database Development 1” course.

6.12 After Long Operation of TC/LINK-LN Free Disk Space Decreases

Running TC/LINK-LN over a longer period leads to following effects: The size of the local MAIL.BOX and the PRINT.NSF (in C:\NOTES\DATA on the link machine) increases.

The link can automatically compact these databases and delete the multiple TCSetup entries in the print.nsf.

There is a registry key

“HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\NOTES\CompactAt” (REG_SZ) by default empty – is disabled like before) available. Set this registry key to a valid time to compact these databases at this time.

The time format is hhmmss:

hh – 2 digits, hour

mm – 2 digits, minute

ss – 2 digits, second

For example: 020000 -> at 2 o’clock in the morning.

The link will compact the databases at this time every day.

Hints:

After the startup of the link, the link will automatically convert this “hhmmss”-time format to the “yymmdd:hhmmss”-format. This is necessary so that the link knows at which date and time the link can compact the databases next time.

So it is possible to specify also the date, but it is not recommended.

If you want to change the time then only overwrite the old value with the new time in the “hhmmss”-format.

While compacting the databases, the link is not able to send any documents (the link waits until the compact-process is over!).

6.12.1 Print.nsf Database Is Growing

In some cases it may be not sufficient just to compact the print.nsf database once a day, as it will grow too fast. If compacting the print.nsf database is not enough, TC/LINK-LN can be configured to recreate a fresh copy of the print.nsf database in regular time intervals.

If the registry key below is set to a value greater than "0", TC/LINK-LN will recreate a fresh print.nsf database in regular time intervals. The value is interval in minutes.

This value is by default "0" (turned off).

"HKEY_LOCAL_MACHINE\SOFTWARE\TOPCALL\TCLINKLN\nOTES\RefreshPrintDbIntervalMinutes"
(REG_DWORD)

6.13 Registry Settings Are Always Overwritten by Setup

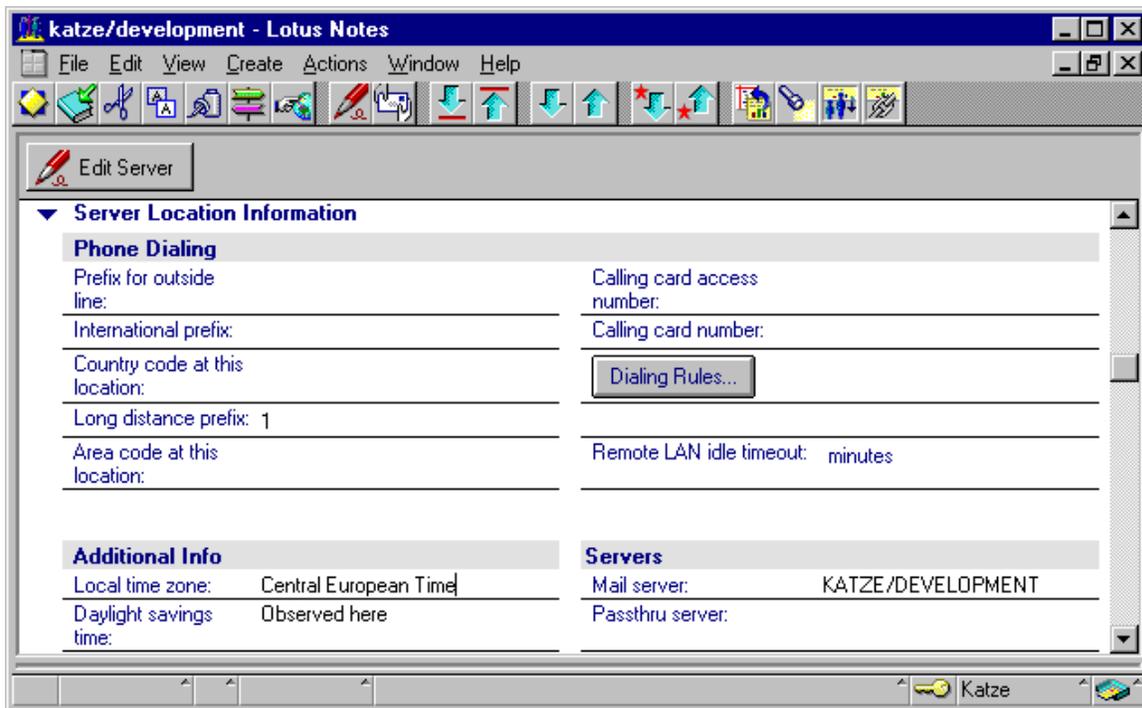
It is possible that every change in the registry is ignored and that the settings from the setup are always taken, but the registry settings are newer.

This is only a time zone problem between the client and the server. It is necessary that the time zone is the same on the client as on the server.

Therefore, take a look at the following two documents and look for the time zone and daylight saving settings:

Domino server time zone:

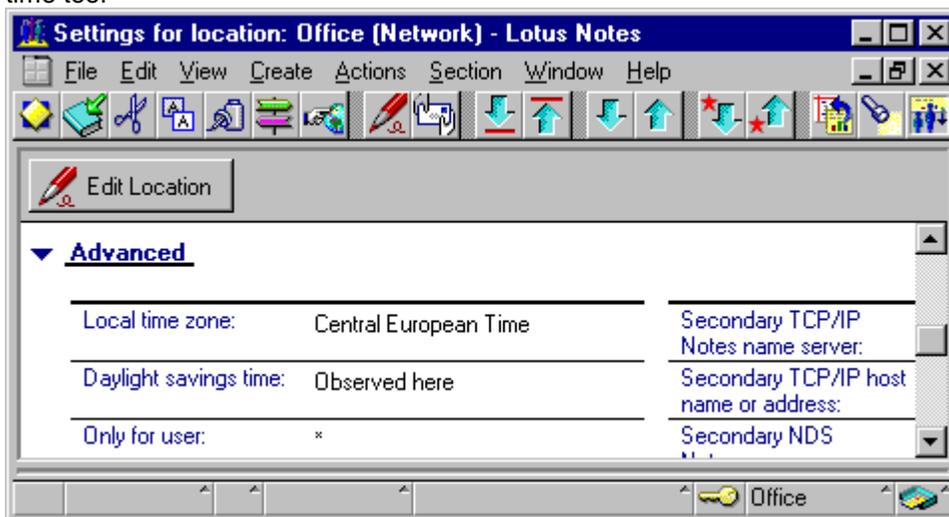
Open the public address book (names.nsf), go to Server/Servers and open the server document. The time zone and daylight saving time settings are in the section "Server location information" (see picture below).



Notes client time zone: (change these settings to the same as on the server)

Open the local address book on the client, go to Advanced/Location and open the current location (you can see the current location on the bottom right side (normally Office). The time zone and daylight saving time settings are in the section "Advanced" (see picture below).

Attention: If you change the local time zone (and close the client), the Notes client will change the system time too!



6.14 Traces

TC/LINK-LN writes a trace file to c:\toss\trace\tclinkln#.trc. It's a good idea to check this file for error messages even if mails are delivered correctly.

Be careful with that traces, Trace files can become very large when tracing too much or sending large messages while tracing the content.

You have 3 major options for debugging the Noteslink:

- The Trace Level (GENERAL/TRACELEVEL)
- The Mail Level Trace (GENERAL/MAILDEBUG)
- The TCSI Level Trace (TOPCALL/TCSIDEBUG)

For the trace level of the General Part see the general Link Description.

With the Mail and TCSI Level trace you can usually find some configuration errors if you get one of the 4xx KCS error numbers.

The usual value for the trace level is 10. Over 10 there are some debug messages written. Especially with trace level 49 you will get much information about the Message flow within TC/LINK-LN. Above 50, you can see every function call within TC/LINK-LN. However, this trace level is rarely necessary.

6.15 Mail Client

Everything works with the Lotus Mail version of the Notes client except:

- you cannot use the KCS-modified Memo form, this means you do not have the KCS address input
- you do not have the KCS send options window

You can:

- send and receive mail, you just have to type in the address (or take it out of your address book)
- since the 1.05 version of the TC/LP you can use ++commands to set message options

If you want the enhanced mail form you need at least the desktop license.

6.16 TC/LINK-LN Message Transfer Order (Sending from Notes to KCS)

If there are more than one waiting messages in the router database (LN2TC.nsf), TC/LINK-LN picks up and transfer the messages to KCS in priority order. This means, the higher the priority set in the fields "DeliveryPriorityTo" or "DeliveryPriority" the sooner the message will be sent to KCS by TC/LINK-LN.

The transfer priority order of two messages will be determined the following way:

- 1) First the "DeliveryPriorityTo" field (can be set on the special KCS send options panel) will be compared. Possible values in priority order: High (H), Normal (N), Low (L).
- 2) If both messages have the same value in the "DeliveryPriorityTo" field, than the "DeliveryPriority" field (can be set on the standard Lotus Notes "Delivery options" panel) will be compared. Possible values in priority order: High (H), Normal (N), Low (L)
- 3) If this comparison results also equality, the "PostedDate" field will be compared, and the message with the earlier PostedDate has the priority.

6.17 Clustering – Twice Sending from Notes to KCS Possible After Primary Server Resume

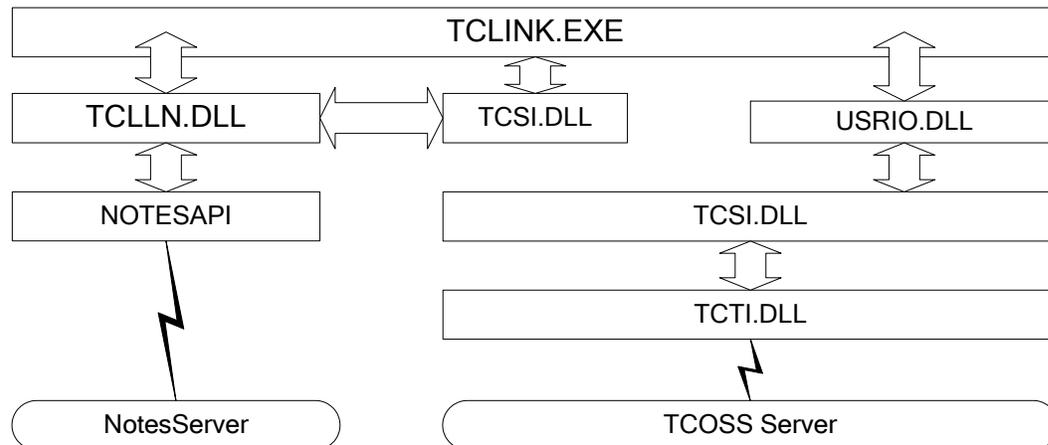
After restart of the primary server after a failover, it can occur that a message stays twice in LN2TC.nsf, with different message IDs. In this case, this message will be transferred twice to KCS. There is no possibility to prohibit this behavior on TC/LINK-LN side. TC/LINK-LN has no possibility to find out whether these two messages are the same or not. (TC/LINK-LN detects simply two messages with two different message IDs, so both messages will be transferred to KCS.) It is not clear, under which conditions and why Lotus Domino creates this duplicate message in LN2TC. Normally, the messages will be created in LN2TC.nsf by the router task when routing it from Mail.box. The routing of each message is recorded in

the Log.nsf / Router-Log. Curiously, only one of the two messages has a corresponding entry in the Router-Log. The routing of the second message has no trace in the Router-Log.

6.18 Implementation Information

Structure of the Noteslink

- It helps you to understand the traces – Every module can do its own trace.
- Understand registry – Every module is a key in the registry.



6.19 Windows Server 2008 x64 – “splwow64” Process

This remark concerns the RTF / attachment conversion with TCDC Document Converter on x64 link servers.

The TCDC Document Converter starts and utilize the process “splwow64” (spooler compatibility process for x32 applications on x64 system) during RTF / attachment conversions. Nevertheless, if this process already runs in the same Windows session but in different user context, then the conversion (=TCDC printing) will fail.

Consequences:

- On x64 systems, when TCDC error occur, than this aspect have to be checked also.
- After reconfiguring (for some reasons) the user context of the TC/LINK-LN or TCDC processes (registry settings <link-instance>UserId, <link-instance>\Domain, <link-instance>LogonType, or: TCDCLINK\UserId, TCDCLINK\Domain, TCDCLINK\LogonType), then it is strongly recommended to stop all “splwow64” processes on the link server before link start.

Please refer also to KCS Document Conversion Technical Manual for more details on “splwow64”.

6.20 Slow Processing When Many Messages Are Queued

TC/LINK-LN can become very slow when many messages are queued for processing from Lotus Notes to Kofax Communication Server. This is because the link sorts messages by priority and send date. Sorting of messages can be a time-consuming operation.

If the order of the messages is not important, sorting can be disabled, thus increasing the performance. This behavior is controlled by the registry value SortLN2TCMessages:

- 0 – sorting is disabled (message order depends on how Lotus Notes provides the messages)
- 1 – sorting is enabled (order depends on message priority and send date)

6.21 Some Messages Cannot Be Processed

Some messages cannot be processed by TC/LINK-LN when an older version of the Lotus Notes client is installed on the TC/LINK computer. An error is written to the trace file; for example:

- Client version 8.15 / 8.5.1 – error 15090 General Lotus Notes Error
- Client version 8.5.2 – error 2232 Warning: unexpected MIME error

Upgrading the Lotus Notes client on the TC/LINK computer to version 8.5.3 solves the problem.

6.22 Setup Stops During Upgrade

While upgrading TC/LINK-LN to a new release, KCS setup may stop with the error “Error while processing setup command file”. This can happen if you are using TCPWD to log in to Lotus Notes and your Lotus Notes client is running.

Workaround: Stop Lotus Notes client before upgrading to a new KCS release.

6.23 Windows Server 2012: Error 1: Incorrect Function

On Windows Server 2012, starting the service may fail with an error “Error 1: Incorrect Function”.

Workaround: The Interactive Services Detection is disabled by default on Windows Server 2012. To enable it, set the registry value HKLM\SYSTEM\CurrentControlSet\Control\Windows\NoInteractiveServices from the default “1” to “0”. Restart the operating system to make the changes effective.

6.24 Troubleshooting: Save Messages as Files

For troubleshooting, it is possible to save messages from KCS to the Domino server as text files in the folder C:\TCOSS\TCLP\TMP\TCLINKLN\. This behavior is controlled by the registry value DumpInboundMessagesToFiles.

Two text files are created for each message:

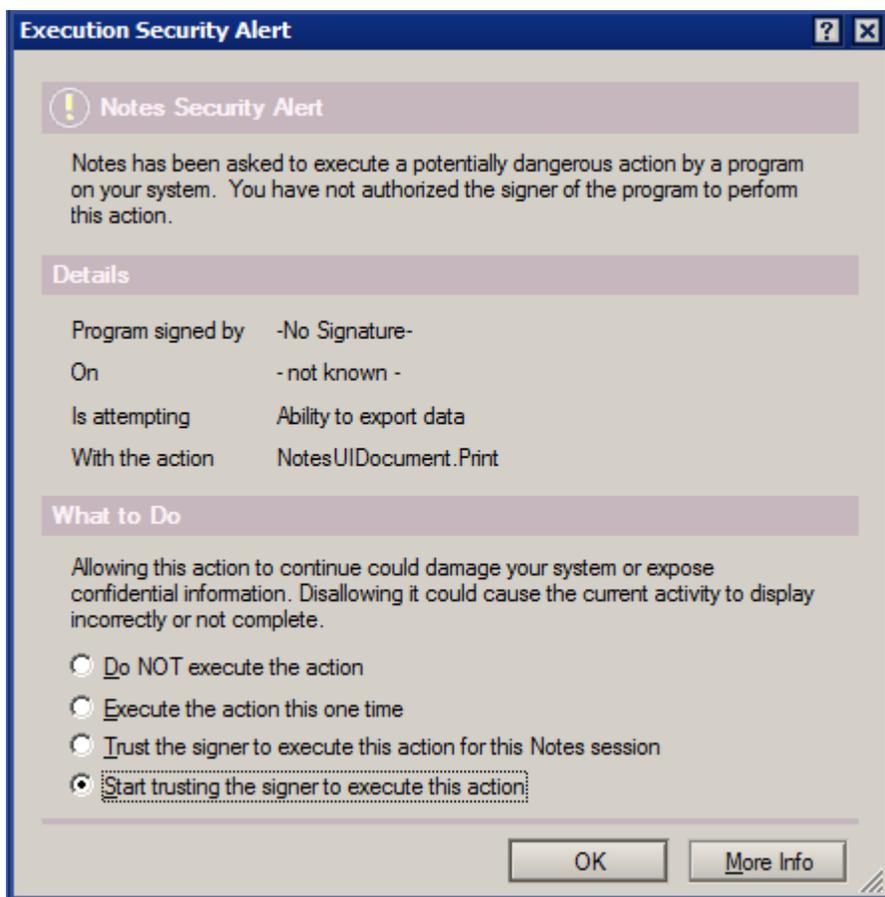
- 1) First in the original code page as it arrives from KCS (name <file_name>.tmp.copy)
- 2) Second after TC/LINK-LN has converted it to LMBCS (name <file_name>.tmp.copy.converted)

For Unicode KCS installations, both copies are encoded in LMBCS, because the conversion is performed the message reaches TC/LINK-LN.

Note: It is recommended to disable this feature unless you are debugging. The temporary files created by this feature can require significant disk space.

6.25 Rich Text Conversion Error

After installing the TC/LINK, when you use TC/LINK-LN Rich text conversion option for the first time, the Lotus Notes client may display the “Execution security alert” dialog box as shown below:



This above dialog box and other pop-ups, which are displayed when performing the Rich text conversion, must be confirmed by selecting the **Start trusting the signer to execute this action** option. Else, pop-up are shown with every sent message and if the pop-ups are not confirmed, Rich text conversion may fail.

When TC/LINK-LN is started using KCS Monitor, the TC/LINK-LN console window and the Lotus Notes client are usually not visible. Therefore, you cannot confirm these alerts. To visualize the Lotus Notes client and confirm the pop-up dialogs, configure the TC/LINK-LN to "interact with the desktop". Till Windows 2003, this was performed by configuring the registry value TCLINKLN\LogonType=+B (the "+" enables desktop interaction). Due to restrictions in the Windows Server 2008 R2 and newer operating systems, this does not work. To overcome this issue, do the following:

1. Configure the same Windows user for TC/LINK-LN which is configured for TCDCLINK. You can do this by setting the same registry values which are set for TCDCLINK\UserID, TCDCLINK\Domain and TCDCLINK>Password in TCLINKLN\UserID, TCLINKLN\Domain and TCLINKLN\password respectively.
2. Set the TCLINKLN\LogonType as per the value set in TCDCLINK\UserMode. For example, if TCDCLINK is configured to productive mode (TCDCLINK\UserMode=2), TCLINKLN\LogonType should be configured to "S". Refer chapter [Windows Logon Configuration for Windows Server 2008 64-Bit](#).
3. Login in Windows with the user configured for TCDCLINK and TC/LINK-LN and start the command prompt as Administrator. To do this, right-click on the **Command Prompt** short cut in the Windows **Start** menu and select the **Run as Admin** context menu option.
4. In **Command Prompt**, set directory to C:\TCOSS\TCLP (default location). Use the following command to do this:

```
cd /d C:\TCOSS\TCLP
```
5. Start TC/LINK-LN using the value set in the TCLINKLN\Commandline registry key. The usual command is `C:\TCOSS\TCLP\TCLINK.EXE "TCLINKLN"`.

6. Now, send a test message to the configured TC/LINK-LN (for example, FAX message) from any Lotus Notes client installed on any other machine such as the workstation PC of the Administrator.
7. On the Server running TC/LINK-LN, the Lotus Notes client will be started.
8. Approve all pop-up screens which appear. If you get a pop-up with the "Execution security alert" title, select the option **Start trusting the signer to execute this action** and click OK.
9. If you also send Lotus Notes messages using different Notes forms other than the standard **Memo** (Phone messages), repeat the steps starting with step 6 with every form in use.
10. Stop the TC/LINK-LN running in interactive console window by pressing the capital character **Q**.
11. You can now start TC/LINK-LN using KCS Monitor.

Note: Use the above procedure whenever TC/LINK-LN encounters Rich Text conversion errors.

7. APPENDIX

7.1 Checklist for Installation

It is recommended to fill out such a list for every installation. This list is especially important when calling the support department.

KCS version	
Link server license or TC/LINK-XX license ¹⁾	Key: Expire Date: Registrations:
Postscript license ¹⁾ (optional)	Key: Expire Date: Registrations:
PCL5 license key (optional)	Key: Expire Date: Registrations:
GIF license key (optional)	Key: Expire Date: Registrations:
File Reporter license key (optional)	Key: Expire Date: Registrations:
Dirsync license key (optional)	Key: Expire Date: Registrations:
KCS Server Name	
Link Type to KCS Server, transport type PRC or Native	
Secondary KCS Server Name (for tandem servers only)	
Link Type to secondary KCS Server (tandem only)	
KCS Link User Name	
KCS Link User Password	
NT Link User Name	
NT Link User Domain	
NT Link User Password	
NT TCDCEXE User Name (foreground TCDC only)	
NT TCDCEXE User Password (foreground TCDC only)	
NT TCDCEXE User Domain (foreground TCDC only)	

1) For KCS < V7.08 in combination with KCS tandem servers these licenses have to be entered for both CPU numbers of the primary and the secondary KCS server.

7.2 LINK-LN Registry Entries

Note: All values are described in decimal (not hexadecimal)!

7.2.1 Notes Specific Parameter

7.2.1.1 Introduction

All configuration parameters of TC/LINK-LN are stored in the registry subkey on the TC/LINK-LN computer at:

HKEY_LOCAL_MACHINE\SOFTWARE\Topcal\TCLINKLN.

Notes specific configurations are stored in the subkey:
HKEY_LOCAL_MACHINE\SOFTWARE\Topcal\TCLINKLN\nOTES

7.2.1.2 List of Notes Specific Parameters

VALUE	DESCRIPTION	RANGE	DEFAULT	NOTE
Agent2LN (Reg_SZ)	Name of Agent in direction to Notes	Text		2.6.2
Agent2TC (Reg_SZ)	Name of Agent in direction to KCS	Text		2.6.2
AllowAgent (Reg_DWORD)	Allow Notes Agents	0 No 1 Yes	0	2.6
Alignment (Reg_DWORD)	Paragraph delimiter (in decimal values)	1 New paragraph on each blank line 2 New paragraph on any indented line 4 New paragraph on each blank line, hard CRs on each line. Also sets justification (paragraph alignment to none) 8 New paragraph on each line 16 New paragraph on lines of the form "fieldname: text"	4	2.7.2
AttachmentInBody (Reg_DWORD)	Concerns message transfer KCS->LN. If set to 1, then so called "hot spot" references (showed as gray 'attachment'-icons in the document display) are created <u>within</u> the "Body" field for each attachments	0 No 1 Yes	0	Attachments in Lotus Notes Message Body
ClientProcesses (Reg_Multi_SZ)	List of Notes processes, which should be terminated during the link startup	Text	nlnotes.exe namgr.exe nupdate.exe nweb.exe nwrdaemn.exe naldaemn.exe nhldaemn.exe ntaskldr.exe notes.exe	6.3
ClsFile (REG_SZ)	Umlauts Conversion Table The KCS characters are converted to the OEM charset defined on the TC/LINK computer	Filename	L_CP 850.CLS	6.9
ClusterErrorCodes (REG_Multi_SZ)	Enter the error codes for opening a database, where the link should switch to the next cluster server.	Text, but only numbers	(empty, only for future Notes releases)	2.8
ClusterServers (REG_Multi_SZ)	List/Names of cluster servers	Text		2.8
ClusterServerBefore (Reg_SZ)	Last used Domino server	Text		2.8
CompactAt (REG_SZ)	Compacts the local databases (Print.nsf & mail.box)	Text of format: hhmmss	(empty = disabled)	6.12
ConvertToOEM (REG_DWORD)	Convert text/strings to OEM. (e.g. when reading registry keys)	0 Disabled 1 Enabled	1	2.3.9
Database (REG_SZ)	Gateway mail file name	Filename	LN2TC.NSF Template MAILBOX.NTF	3.3.3
DefaultDomain	Domino server	Text		3.2.3.1.3

(REG_SZ)				
DirsyncAt (REG_SZ)	Time for daily dirsinc, Format HHMMSS	000000 – 235959	000000	3.2.3.2
DirsyncFormula (REG_SZ)	Displays “Type” that should be dirsincd	Text		2.5.7
DisableFDDocUpd (DWORD)	Disable foreign domain update (see Notes clustering)	0 enabled 1 disabled	0	See “Notes clustering”
DisableNABLookUp (DWORD)	Can be set when TCUserName = 2 or 3 and Notes free address is filled in KCS shadow user. Then there is no more need to perform address book lookup for originator mapping, so it can be disabled to increase performance.	0 AB lookup enabled 1 AB lookup disabled	0	See “Enhanced originator mapping”
DoNotConvertAttachmentsToLMBCS (REG_DWORD)	Available for non-Unicode KCS. By default, all text from KCS to Domino server is converted to LMBCS.	0 convert to LMBCS 1 do not convert	0 Do not modify unless debugging.	
DSImmediate (REG_DWORD)	Displays if an immediately dirsinc is done	0 no dirsinc now 1 starts dirsinc and sets flag to 0 after dirsinc again	0	3.2.3.2.5
DSLck (REG_DWORD)	Checks if other link is currently running a dirsinc.	0 do dirsinc without check, if other dirsinc by other instance is running. 1 checks if dirsinc is done by another instance, if not then dirsinc otherwise don't start dirsinc.	1	
DSTemplate (REG_SZ)	Directory Template user (actually: the User-ID of it), used by Dirsync as <i>template user</i> for creating new users or addresses	Text		3.2.3.2.4
DSTemplateField (REG_SZ)	Used by Dirsync. Field name in the Lotus Notes address book. An individual <i>template user</i> can be defined (by its KCS user ID) in this field, overriding the <i>template user</i> defined in the registry setting “DSTemplate”.	Text	“TEMPLATE”	2.5.3
DumpFailedBodyText (REG_DWORD)	Dump failed message body text to a file? The files are stored in C:\TCOSS\TCLP\TMP\TCLINK LN\Data with .bkp extension	0: No 1: Yes	0	
DumpInbound- MessagesToFiles (REG_DWORD)	Additional troubleshooting function stores inbound messages as text files	0: Do not save messages 1: Save inbound messages as files	0	6.24
FailedMailStore (REG_DWORD)	Database (.NSF) name to store the messages when the RTF printing fails. If configured to a non-empty string, the database is created locally on the TCLINK computer (typically under C:\Program Files (x86)\IBM\Lotus\Notes\Data)	For example: LN2TCErrors.NSF TC/LINK creates the database automatically, so there is no need to create it manually. The used database template is a “Mail Router Database”	(empty)	
FontType (REG_WORD)	Font Type for incoming messages (from KCS to Notes)	0: Text will be displayed in a Times Roman typeface. 1: Text will be displayed in a Helvetica typeface. 4: Text will be displayed in a	0	2.7.2

		Courier typeface.		
FormDelivery (REG_SZ)	Form of delivery Notification to Notes	Text	Delivery Report	3.2.3.1.8
FormMessage (REG_SZ)	Form when sending "normal" messages from TC to Notes	Text	Memo	3.2.3.1.7
FormNonDelivery (REG_SZ)	Form of non-delivery Notification to Notes	Text	NonDelivery Report	3.2.3.1.9
INIFile (REG_SZ)	Load the notes.ini file with a specific ID-file in it to connect to a different Domino server	Text	(empty)	2.3.6
LastDirsyncAt (REG_SZ)	Date of the last Dirsync YYMMDD:HHMMSS	Text in format: YYMMDD:HHMMSS		2.5.2
LastDocumentIDs (REG_MULTI_SZ)	Remembers the last processed document ID on each server (in cluster environment) This key is for internal use only, don't change it	Text in format: ServerName:DocumentID	(empty)	
LineDelimiter (REG_DWORD)	Specify the line delimiter for text attachments	0: "\r\n\x1a" 1: "\r\n"	0	
LNNonDelNf (REG_DWORD)	More non-delivery notifications	0 standard information 1 more information	0	2.7.1
MaxProblemsToTC (REG_DWORD)	Maximum number of retries to send a (bad) document	0 - 200	3	6.4
MemoForms (REG_MULTI_SZ)	Form of Memo	Text	Memo	2.3.2
NABook (REG_SZ)	Users and addresses for dirsync are searched in this book	Filename	NAMES.NSF	3.2.3.2.1
OriginatorField (REG_SZ)	The Notes field where the address of the Originator is stored when sending from Notes to KCS. If not specified or the field is not existing the field "From" is read.	Text	(empty)	
OwnDomain (REG_SZ)	Notes Mail to this domain has to be routed to the TC/LINK Mailbox If you do not specify a valid domain you will not get notifications	Text	Easy Installation: First foreign domain that matches MailFile and ServerName (w.o. Domain) is taken from Notes Server's NABook	3.2.3.1.4
OwnDomainEx (REG_MULTI_SZ)	Domain to append at the originator address when a special Notes username or part of the recipient address was found	Text in Format: SearchString=DomainName	(empty)	2.7.4
Port (REG_SZ)	Port for connection to Domino server	Valid Notes Ports		3.2.3.1.6
RestartOnNotesApiFailure (REG_DWORD)	Restart TCLINKLN on MailAddMessageBodyTextExt failure?	0: No 1: Yes	0	
RichText (REG_DWORD)	Rich Text within the Body Part of a Notes Memo	0: No Rich text 1: Rich text enabled, also if body field is empty. 2: Rich text enabled, but only if one of the body fields is not empty. 4: Rich text enabled, but only if the first body field is not	1 Rich text enabled	2.3.1

		empty.		
Server (REG_SZ)	Name of the Lotus Domino server the TC/LINK-LN is connected to	Text	Easy Installation: The server name is taken from the Notes.ini file	3.2.3.1.5
ServerMAILBOX (REG_SZ)	Configure the mail.box name of the server. This is a different name in a Notes system with multiple mail boxes	Text (only one name can be configured)	Mail.box	7.4.2
SetNLSInfoNull (REG_DWORD)	Set NLS_PINFO structure to NULL when a text attachment is converted to LMBCS?	0: No 1: Yes	0	
SortLN2TCMessages (REG_DWORD)	Controls the order in which messages are delivered from Notes to KCS.	0 – sorting disabled 1 – messages are sorted according to priority and send date (slower performance)	1 – sorting enabled	6.20
SummaryFields (REG_MULTI_SZ)	Enter a list of fields that should have the summary flag set	Text		6.8
WorkDBLN2TC (Reg_SZ)	Name of the database, which is used for the Agent enhancement (direction to KCS)	Text		2.6.2
WorkDBTC2LN (Reg_SZ)	Name of the database, which is used for the Agent enhancement (direction to Notes)	Text		2.6.2
TCSetupName (REG_SZ)	Name of setup database where TC/LINK-LN mirrors registry settings on the Domino server	Filename	Tcsetup.nsf	2.3.4.2
TCUserName (REG_DWORD)	Specifies how the user on KCS is composed from the user on Notes for dirsync	<i>UserName/OU/O</i> <i>Common name ShortName</i> <i>FirstName MiddleInitial</i> <i>LastName</i> 32 <i>UserName/OU/O</i> <i>@Domain</i> (spaces!) 64 <i>UserName/OU/O</i> <i>@Domain</i>	1	3.2.3.2.3
TraceLevel (REG_DWORD)	Amount of information written to the trace file	01-10 Normal Operation 11-49 Detailed Operation 50-499 Debug Level	10	3.2.3.2.6
CloseClientMode (REG_DWORD)	Defines how to shut down the Lotus Notes client application on TC/LINK-LN start / termination	You can combine (=by adding) these values: 1 -> "send-WM_CLOSE-to-Notes-windows"-method on start of TC/LINK-LN 2 -> TerminateProcess-method on start of TC/LINK-LN 4 -> "send-WM_CLOSE-to-Notes-windows"-method on termination of TC/LINK-LN 8 -> TerminateProcess-method on termination of TC/LINK-LN	2	6.3

7.2.1.3 List of Additional Dirsync Specific Parameter

\\SOFTWARE\\TOPCALL\\TCLINKLN\\Dirsync

VALUE	DESCRIPTION	RANGE	DEFAULT	NOTE
PeriodicFull (REG_DWORD)	Dirsync type, which should be done every day.	0 Update Dirsync (after once a full dirsinc was done) 1 Full Dirsync (every day a full dirsinc)	0	3.2.3.3.1

Note: For basic Dirsync settings see the section before.

7.2.2 Setup Specific Parameter

All Notes specific parameters see 7.2.1.

7.2.2.1 Service for Sending to Internet

\\SOFTWARE\\TOPCALL\\TCLINKLN\\TOPCALL

VALUE	DESCRIPTION	RANGE	DEFAULT	NOTE
SMTPService (REG_SZ)	Service for sending to Internet	SMTPService : Text SMTPService1: Text . . SMTPService9: Text		3.2.3.3.1

7.2.2.2 TC Setup Dependencies

\\SOFTWARE\\TOPCALL\\TCLINKLN\\SETUP

VALUE	DESCRIPTION	RANGE	DEFAULT	NOTE
CreateDependencies Topcall (REG_DWORD)	Automatic creation of KCS dependencies	0 KCS dependencies not created 1 KCS dependencies created	1	3.3.2

7.2.2.3 Notes Dependencies

\\SOFTWARE\\TOPCALL\\TCLINKLN\\SETUP

VALUE	DESCRIPTION	RANGE	DEFAULT	NOTE
CreateDependencies Mail (REG_DWORD)	Check mail dependencies at every start	0 disabled 1 enabled	1	3.3.3

7.2.2.4 The Mail Dependencies for Lotus Notes

7.2.2.4.1 The Setup Database.

TC/LINK-LN tries to create the database on the configured Domino server. The name of the database is stored in HKEY_LOCAL_MACHINE\\SOFTWARE\\TOPCALL\\TCLINKLN\\NOTES\\TCSetupName. (Default TCSETUP.NSF, Template: TOPCALL.NTF in C:\\TCOSS\\TCPL)

7.2.3 List of Important Registry Entries

7.2.3.1 Traces

See also 6.14. You have 3 major options for debugging the Noteslink:

7.2.3.1.1 The Trace Level

\GENERAL\

VALUE	DESCRIPTION	RANGE	DEFAULT	NOTE
Tracelevel (REG_DWORD)	Amount of information written to the trace file	1-10 Normal Operation 11-49 Detailed Operation 50-499 Debug Level	10	3.2.3.2.6 6.14

7.2.3.1.2 The Mail Level Trace

\GENERAL\

VALUE	DESCRIPTION	RANGE	DEFAULT	NOTE
MailDebug (REG_DWORD)	Writes messages to/from other mail systems to trace	0 messages not written 1 messages written to trace	0	6.14

7.2.3.1.3 The TCSI Level Trace

\TCSI\

VALUE	DESCRIPTION	RANGE	DEFAULT	NOTE
DebugLevel (REG_DWORD)	Server Interface Trace Level	0 disabled 1024 maximum trace level	0	6.14

7.2.3.1.4 The Notes Trace Level

\NOTES

VALUE	DESCRIPTION	RANGE	DEFAULT	NOTE
TraceLevel (REG_DWORD)	Amount of information written to the trace file	1-10 Normal Operation 11-49 Detailed Operation 50-499 Debug Level	10	3.2.3.2.6 6.14

The usual value for the trace level is 10.

Over 10 there are some debug messages written. Especially with trace level 49 you will get much information about the message flow within TC/LINK-LN.

Above 50, you can see every function call within TC/LINK-LN.

7.2.3.2 Cover Sheets and Rich Text

\SOFTWARE\Topcall\TCLINKLN\GENERAL

VALUE	DESCRIPTION	RANGE	DEFAULT	NOTE
CoverForRTF (REG_DWORD)	Coversheet when starting with RTF text	0 ONLYIMG Coversheet 1 Originator's coversheet	1	2.3.1.5
AdvancedRTFConversion (REG_DWORD)	Rich text on Fax coversheet	0 disables advanced RTF conversion 1 enables advanced RTF conversion	0	2.3.1.5
RTFBottomMargin (REG_DWORD)	Bottom margin for RTF image	in steps of 0,1mm	307	2.3.1.5
RTFTopMargin (REG_DWORD)	Top margin for RTF image	in steps of 0,1mm	261	2.3.1.5
RemoveRTFPages (REG_DWORD)	Removes RTF-pages	with KCS (TCOSS) < 7.06.00 with KCS (TCOSS) >= 7.06.00 (if messages are sent to other recipients than fax)	Depending on KCS	2.3.1.5

To disable rich text set the „RichText” value in the registry under notes to „0”:

\SOFTWARE\TOPCALL\TCLINKLN\NOTES\RichText=0.

7.2.3.3 Running TC/Link as Windows Service

To let Notes.exe print, you have to check the following hive in the registry:

HKEY_USERS\DEFAULT\SOFTWARE\MICROSOFTWINDOWSNT\CURRENT_VERSION\

WINDOWS:

VALUE	DESCRIPTION	RANGE	DEFAULT	NOTE
Device	Enable printing if running as NT-service		TOPCALL Fax to TCDC, winspool,Ne00:	3.2.1

Additionally there must be a Key (REG_SZ) named
 HKEY_USERS\DEFAULT\SOFTWARE\MICROSOFT\WINDOWSNT\CURRENT_VERSION\
 DEVICES:

VALUE	DESCRIPTION	RANGE	DEFAULT	NOTE
TOPCALL Fax to TCDC (REG_SZ)	Enable printing if running as NT-service		winspool,Ne00:	3.2.1

7.3 Performance Counter

Additionally to the common link performance counters, the following one is implemented:

- Number of Messages in Notes Queue

In this counter you can see the current number of messages waiting in the Notes Database for TC/LINK-LN.

7.4 Theory of Notes Mail Operation

7.4.1 Structure of a Notes Address

Common name, sub-organization, organization domain

```
"CN=Florian Stotz/OU=RECOS_Pfaeffikon/O=TOPCALL @ Domain"
```

Can also be written as (displayed, abbreviated)

```
"Florian Stotz/RECOS_Pfaeffikon/TOPCALL @ DOMAIN"
```

There can be more than one sub-organization.

Note: These are NOT the X.400 fields but the Notes fields.

The fields before the @ sign can be used as KCS addresses. The Syntax is as follows:

```
"Username @ Service @ Domain"
```

(Service is e.g. "FAX", Domain is e.g. "TOPCALL")

Here, the Service needs not be defined as foreign domain.

You can provide a full name and a number (or other address) when sending from Notes to KCS. Use the Syntax:

```
"FULLNAME # NUMBER @ DOMAIN".
```

Instead of the hash sign you can also use the "@" sign e.g.:

```
"FULLNAME @ NUMBER @ DOMAIN"
```

Note that such an address cannot be distinguished from SMTP/Internet addresses, therefore using the "@" sign as full name delimited is disabled for some configurable services (see installation). For these services you have to use the hash ("#") sign.

You can also provide a Companyname using the following syntax:

```
FULLNAME AT COMPANY # NUMBER @ DOMAIN
```

or

```
FULLNAME AT COMPANY @ NUMBER @ DOMAIN
```

It is possible to add KCS addresses via a KCS address button from the TCMEMO form. With the KCS address dialogue box, it is possible to fill all specific fields for a KCS address. You have the possibility to add the following fields of an address:

- Recipient ID
- Company
- Department
- Fullname
- Salutation
- FreeText

Notes:

- All KCS specific fields mentioned above are optional.
- The TC/GATE syntax ("JUNK#COMPANY#FULLNAME #NUMBER@ DOMAIN") is no longer supported.

The Username depends on the service. E.g. for X400 it could be quite complex, for fax it is simply the fax number.

7.4.2 Message Flow

7.4.2.1 About How Mail Routing Works

Mail routing is the process of moving a message along a path of servers until the Mail Router on a server locates the mail file for the recipient. To help determine the path, the Mail Router on every server loads a routing table based on the information supplied in the Public Address Book.

When you register users, each user automatically gets a personal mail file. This mail file resides on the user's home server. When a user sends a mail message, the server's Mail Router takes on the job of delivering the message to the next stop on the route to the recipient.

The Mail Router on each server works with two databases located on each server:

The mailbox database (MAIL.BOX or MAIL1.BOX and so on in multiple mailbox supported Notes environments), which stores mail pending delivery and routing.

The Public Address Book (NAMES.NSF), which is a directory of users, servers, and connections between servers in the same domain and between servers in different domains.

When a sender mails a message, the Notes workstation looks for the recipient's mail address in the Public Address Book. If the recipient is a group and the group is listed in the Public Address Book, the Mail Router translates the group into a list of individual recipient names. The workstation appends each recipient's address to the message. Then the Mail Router examines the document to find the location of the recipient's mail file, which is located on each recipient's home server. Based on the location of the recipient's home address, the Mail Router does one of the following:

If the recipient's mail file is on the same server as the sender's mail file, the Mail Router immediately delivers the message to the recipient's mail file.

If the recipient's mail file is on a server that is in the same Notes named network, the Mail Router transfers the document to MAIL.BOX on the recipient's home server and then the Mail Router on the recipient's home server delivers the document to the recipient's mail file.

If the recipient's mail file is on a server that is in a different Notes named network and if the sender's server has a Connection document specifying how and when to connect to that server, the Mail Router uses the information in the Connection document to connect to the recipient's home server. The Mail Router transfers the message to the mailbox (MAIL.BOX) on the recipient's home server, and then the Mail Router on the recipient's home server delivers the message to the recipient's mail file.

If there are a number of servers between the sender's server and the recipient's server and the sender's server cannot connect directly to the recipient's server, the Mail Router temporarily stores the message in each server's MAIL.BOX until the server's Mail Router moves the message to the next server. This process repeats at each "hop" until the document reaches its final destination.

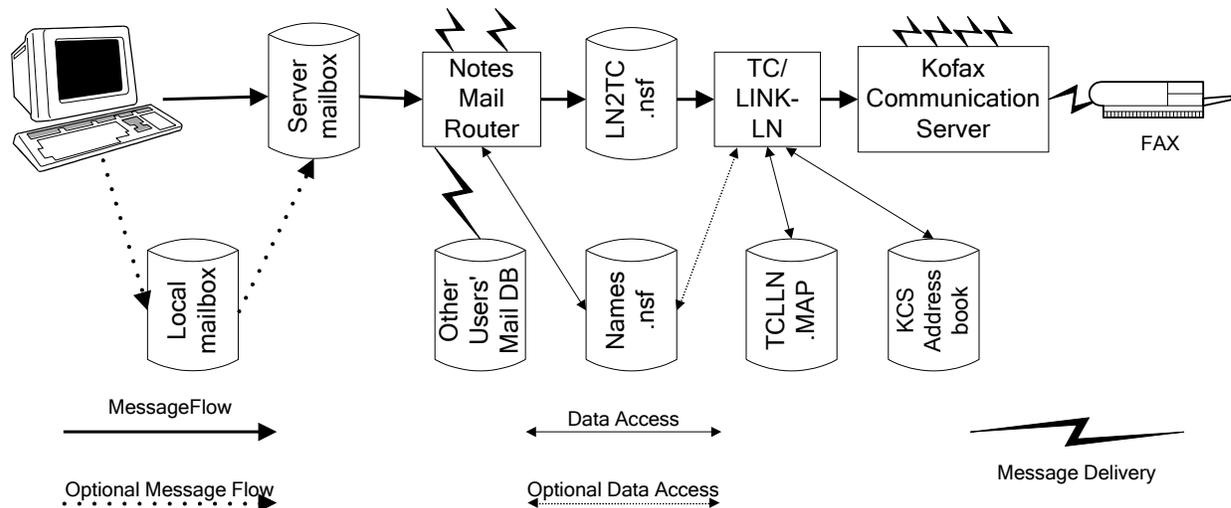
If there is more than one possible route to the recipient's server, the Mail Router on the sender's server computes the least-cost route to the recipient's server based on the connection costs defined by Connection documents. Each server at each hop along the route computes the least-cost route to the destination.

To prevent routing loops, Notes sets a default maximum hop count of 25 for each message. That is, a mail message can make up to 25 server stops before the Mail Router returns the message to the sender. Each time the message passes through a server, the hop count decreases, until the count reaches zero.

How does the Message flows from a Notes user to a fax recipient?

Here are the different stages; every message has to pass through:

	Message format	Address format
Server's Mail.BOX	Notes RTF	Name @ DOMAIN
Router
LN2TC.NSF
TC/LINK-LN	ASCII + Notes RTF in Binary	Service, Address
TC/LINK-LN General Part	ASCII or Picture (TCI)	Channel: Number, Service
KCS (old name: TOPCALL)
FAX MODULE	Picture	Fax Number



Please note the different configuration databases and files that are involved.

7.5 The TC/LINK-LN Setup Document

The setup document is contained in the set up database (TCSETUP.NSF). It is created actualized when TC/LINK-LN is in its idle loop (=five poll cycles without any message transfer).

Here is a copy of this document:

Note: If you need Help to any of the set-up fields, simply click on green bordered text. Then a help pop-up window will appear.

TC/LINK-LN Setup Fields

2.05

Database on NotesServer for Msg. to TOPCALL (Registry entry: Database):
CHICKEN2/DEVELOPMENT

Default Domain (for Recipients in Notes) (Registry entry: DefaultDomain):

Own Domain (Registry entry: OwnDomain):

Notes Server Name (Registry entry: Server):

Trace Level (Registry entry: TraceLevel):

Memo Forms (Registry entry: MemoForms):

Notes Form for normal messages to Notes (Registry entry: FormMessage):

Notes Form for Delivery Notifications to Notes (Registry entry: FormDelivery):

Notes Form for Non Delivery Notifications (Registry entry: FormNonDelivery):

Notes Names and Address Book (Registry entry: NABook):

Dirsync At (Registry entry: DirsyncAt): Last dirsync was at:

DirsyncFormula (Registry entry: DirsyncFormula):
Type="Person"

TOPCALL Username Type (Registry entry: TCUserName):

Directory Template User (Registry entry: DSTemplate):

Immediate Dirsync (Registry entry: DSImmediate):

PORT for connection to Notes (Registry entry: PORT):

Allow Notes Agents (Registry entry: AllowAgent):
Yes

Rich Text (Registry entry: RichText):
Yes

Name of the Setup Database (Registry entry: TCSetupName):

Umlauts conversion Table (Registry entry: ClsFile):

More Nondel Notifs (Registry entry: LNNondelNf):
Yes

Summary Flag (Registry entry: SummaryFields):

Poll Cycle (Registry: General\Pollcycle):

Pollcycle

General Trace Level: (Registry: General\TraceLevel)
TraceLevel

Mail-Level trace: (Registry: General\MailDebug)

MailDebug

Enable Document Converter (Registry: General\DocConv):
DocConv
PC Codepage: (Registry: General\PCCodePage)
PCCodePage

CPU-Nr:

Advanced Rich Text:

Remove Rich Text Pages:

Rich Text Top Margin: (Registry: General\RTFTopMargin)

Rich Text Bottom Margin: (Registry: General\RTFBottomMargin)

Allowed Delay in Minutes: (Registry: General\AllowedDelay)

Cover Folder: (Registry: General\CoverFolder)

Cover for Rich Text: (Registry: General\CoverForRTF)

TC/LINK Directory: (Registry: General\Directory)

Gif one Page: (Registry: General\GifOnePage)

TC/LINK DLL: (Registry: General\DLL)

Language : (Registry: General\Language)

MapFile : (Registry: General\MapFile)

MaxPollMail : (Registry: General\MaxPollMail)

MaxPollTC : (Registry: General\MaxPollTCI)

No Crash Recovery: (Registry: General\NoCrashRecovery)

No Watchdog: (Registry: General\NoWatchDog)

OnlyImg Override: (Registry: General\OnlyImgOverride)

Report Dirsync Failure: (Registry: General\ReportDSErrors)

Suppress Leading Page Break: (Registry: General\SuppressLeadingPageBreak)

Tiff One Page: (Registry: General\TiffOnePage)

Attachment File Extensions:

Example: To treat all files with extension “.BMP” as Bitmap specify: “BMP,B”

ExtFmt1

ExtFmt2

ExtFmt3

ExtFmt4

ExtFmt5

ExtFmt6

ExtFmt7

ExtFmt8

ExtFmt9

Attention:

Fill this list from up to down, do not insert empty lines. TCLINK regards an empty line is the end of the list. It is possible to define more than one graphic format for one file extension. E.g. you can specify the extension “.BIN” can contain “TCI” and “TIF” graphic format. A graphical format “RTF” is specified. If a file contains RTF-Code, it is renamed with extension “RTF” and forwarded to the Document converter (if configured).

Background

Some file formats cannot be distinguished from ASCII (e.g., RTF or SAM). Without this table shown above, these files would be attached as text instead of being converted by the Document Converter.

Name of TOPCALL server, Path:

Server

Path

Link User:

Link Queue:

TCOSS Code Page:

TCOSS Code Page:

TCSI-Level Trace:

TCSI Debug

Messages to TOPCALL

Archive:

Archive Positive: Negative:

Delete Entry:

Delete Entry positive

Delete Entry negative

Delete Envelope:

Delete Envelope positive

Delete Envelope negative

Delete after Sending:

Delete ASAP

Disable Sending for Mail Users:

ChkDisSend

Name of TOPCALL "Guest" user:

Guest User

Check Password (++PW required):

Check Password No

Check User Rights:

Check User Rights

Sending Copy:

SendingCopy

High resolution:

Fine Mode

Notifications to Mail

Notifications to Notes are only created if the Notes originator requested them. In this setup page, you can configure whether the notification shall contain a report text, the complete original message or only text components of the original message.

Graphic Format:

Notification Graphic

Return Notification Text (NEG):

Non Delivery Notification Only Text

Return Notification Text (POS):

Delivery Notification Text to Mail

Return Original Message (POS): .

Delivery Notification Original To Mail

Return Original Message (NEG):

Non Delivery Notification Original To Mail

Return only Original Text (POS):

Delivery Notification Only Text

Return only Original Text (NEG):

Non Delivery Notification Only Text

Set Entry AT NEXT NODE:

At Next Node

Delivery / Non Delivery Cover:

Non Delivery Cover

Delivery Cover

Allow ++FROM:

Allow ++ From

Logon Retry:

Logon Retry:

Backreception for all:

Backreception for All

Own area code (TSI):

Own area code

Service for sending to Internet :

SMTP Service

Update System Files:

User specific Onlyimage template:

Note:

Do not make changes to this form. It will be replaced with every new TC/LINK-LN Installation.

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