

Kofax Communication Server

TC/REPORT User Manual

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The logo for Kofax, consisting of the word "KOFAX" in a bold, blue, sans-serif font.

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Chapter 1

Preface

TC/Report is a Kofax software product that was designed to keep track of the message traffic within a company. It creates a report for a desired time span that lists all messages sent, who sent them, the service used, the size and the cost incurred.

TC/Report provides flexible statistics and accounting for TCOSS systems. It can generate reports in many formats and deliver them to any type of recipient.

TC/Report also provides a very simple and open interface to 3rd party billing systems. Data can be preprocessed and sent to the billing system in many formats.

In addition, data from 3rd party systems can be imported and integrated into one unified report. Currently importing of 3rd party data requires customization by Kofax staff.

The system collects data from configured TCOSS servers, stores and processes it, and creates output according to the customer's needs.

There are two basic uses of the system:

- **Statistics** – used for general statistics. Create reports to monitor the overall performance of the TCOSS server (e.g. line usage, message traffic, message distribution). The product includes several highly configurable reports for all kinds of statistic.
- **Accounting** – used for calculation of costs (for users, groups, cost-centers).
- **Billing** – used to export the accounting data to external billing systems.

Reports usually contain graphs and tables in user-friendly form. They can be sent to any mail recipient or printed on a defined network printer.

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

Reports

The product comes with a set of standard report templates. Each of these templates allows various filters (users, user groups, message classes, etc.). This way, various reports can be generated without the need to modify the standard templates.

Report Generation

Reports can be automatically created and scheduled (daily, weekly, etc.).

Report Formats

Report messages can contain attachments with the following formats:

- CSV – Comma-separated values, (this file format does not support graphics)
- RPT – Crystal Reports,
- DIF – Data Interchange format, (only with Crystal Reports 8.5, no graphics)
- XLS – Excel
- HTML 3.2,
- RTF – Rich Text Format,
- DOC – Word for Windows,
- PDF – Portable Document Format.

Report Delivery

Reports can automatically be printed to any network printer, sent to any recipient (can also be a third party application like a billing system) or posted to the web as html.

One unified view for all types of activity: The system treats the traffic on all services (links, TC/Voicemail, fax, telex, X.400, smtp, sms) in the same way.

One unified view for many servers: One view for multiple KCS servers.

Any statistics possible: costs, calls, errors, etc. per: user, user group, cost center, etc.

Billing

This feature allows to automatically export data into customers billing system. Some reports are especially designed for billing purposes.

As a general rule, third party billing systems can import data formats supported by Crystal Reports:

- CSV – Comma-separated values,
- DIF – Data Interchange format (only with Crystal Reports 8.5),
- XLS – Excel

To interface to a billing system:

- Install TC/Report,
- Define a report with output as data file to a billing system, in the format that the billing system requires,
- Set up an automatic schedule to send the report to the billing system.

Chapter 2

Minimal Requirements

Reports can be requested with one of the following applications:

- Management Console
- TCfW Communication Server Client or TCWEB
- any mail client connected to KCS via a link

Chapter 3

Requesting Reports

Requesting a report means sending a message (the report request) to the Report Agent user.

The easiest way to do this is via the Report Request Wizard, a snap-in of the TC Management Console. As an alternative, you can create and send the request via TCFW or any other mail client connected to KCS.

Required TCOSS Permissions

For requesting a report, you need one of the following permissions in your KCS user profile:

- Reporting Right: configurable with TCFW 4.02.10 or higher
- Right to list all in- and outboxes (configurable with older TCFW versions)

The screenshot shows the 'User Profile - FS (AFischer)' window with the 'Rights' tab selected. The 'Read' and 'Write' sections are visible. The 'Reporting' checkbox is checked and circled. Below, the 'Group members' and 'All users' sections show permissions for 'Inbox', 'Outbox', and 'Message Folder'. The 'List' checkbox for 'Inbox' and 'Outbox' is checked and circled. The 'Correct' checkbox for 'Inbox' is also checked and circled.

	Read	Write	Group members			All users		
			List	Correct	Open	List	Correct	Open
Inbox	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outbox	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Message Folder	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Report Request Wizard

The user interface for creating, modifying and deleting requests is wizard-like and easy to use. You can select a report from a list of installed report types. A set of simple input windows offers all choices available for a selected report type.

The report can be requested immediately via a command button, or you can copy the resulting request text and paste it into a TCFW message. You can also store report requests as templates for later reuse.

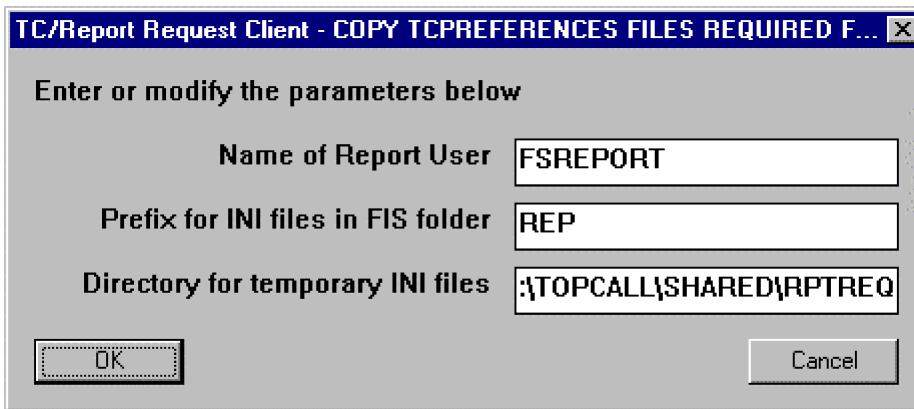
Report configuration files (INI-Files) are part of the new TC/Report Setup. Each file describes possible parameters and values for a specific report.

The Report Agent stores these files in the KCS FIS folder. The wizard retrieves this information from the server and stores it locally in INI-Files. If there is no connection with the KCS server, the INI-Files are used. The content of the INI-File determines the choices offered to the user and their translation to the request text.

Installation

The Report Requests Wizard can be installed as a separate component in KCS Setup.

If installing the Report Request Wizard on the Report Agent computer, Setup offers you the correct configuration options and you just have to click OK.



Name of Report User:

Enter the name of the KCS account used by the Report Agent.

Prefix for INI files in FIS folder:

Enter the same prefix as specified during Report Agent installation.

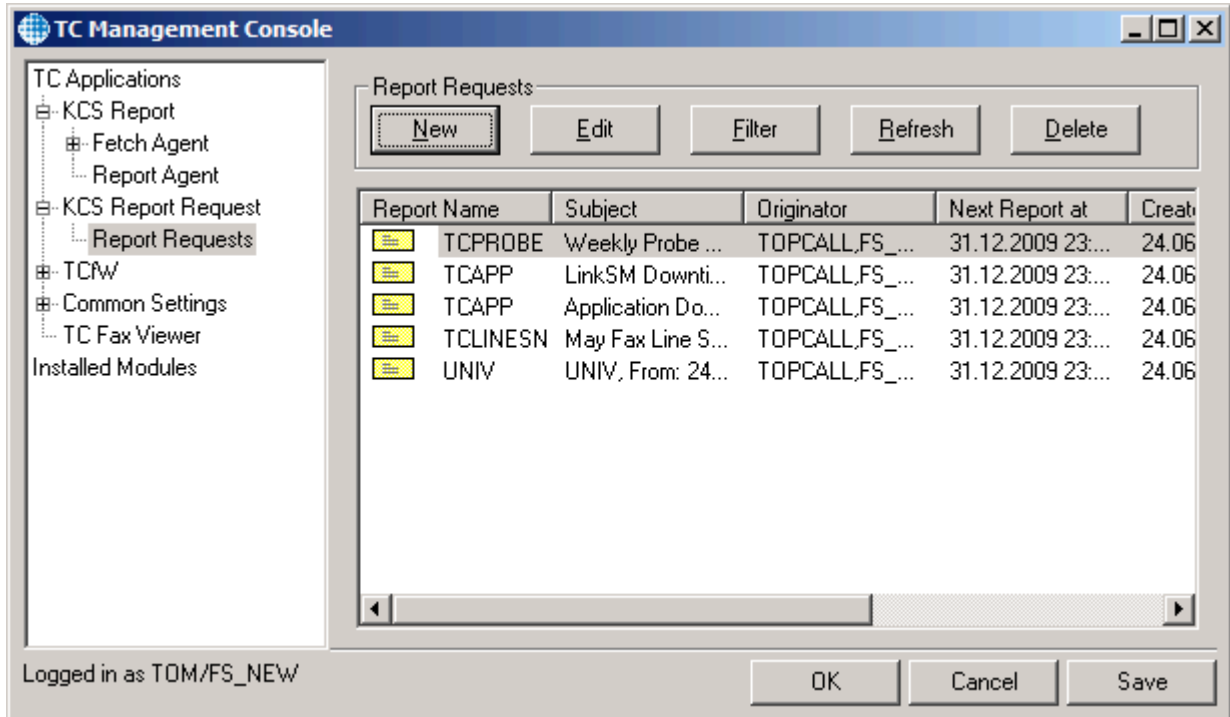
Directory for temporary INI files:

INI files retrieved from the FIS folder are cached in this directory.

Actions after setup:

- Use TC Management Console to configure messaging server and network protocol.
- Enter the list of servers available for reporting into registry key HKLM\Software\Topcall\TCReport_Request\PolledServers (Type REG_MULTI_SZ).

List of Pending Report Requests



As a default, the list of pending reports shows all pending reports requested by the current user. Buttons on top of the page allow to request additional reports, change the filter settings of the list view and modify or delete existing report requests.

Additional information about failed report requests is available by right-clicking a report. A popup with error information appears. You must press the ESC key to remove this popup window. Due to technical limitations the popup window does not contain all error information that was returned to the sender of the report request, e.g. the list of fetched intervals for all servers is NOT displayed.

New: Create a new report request.

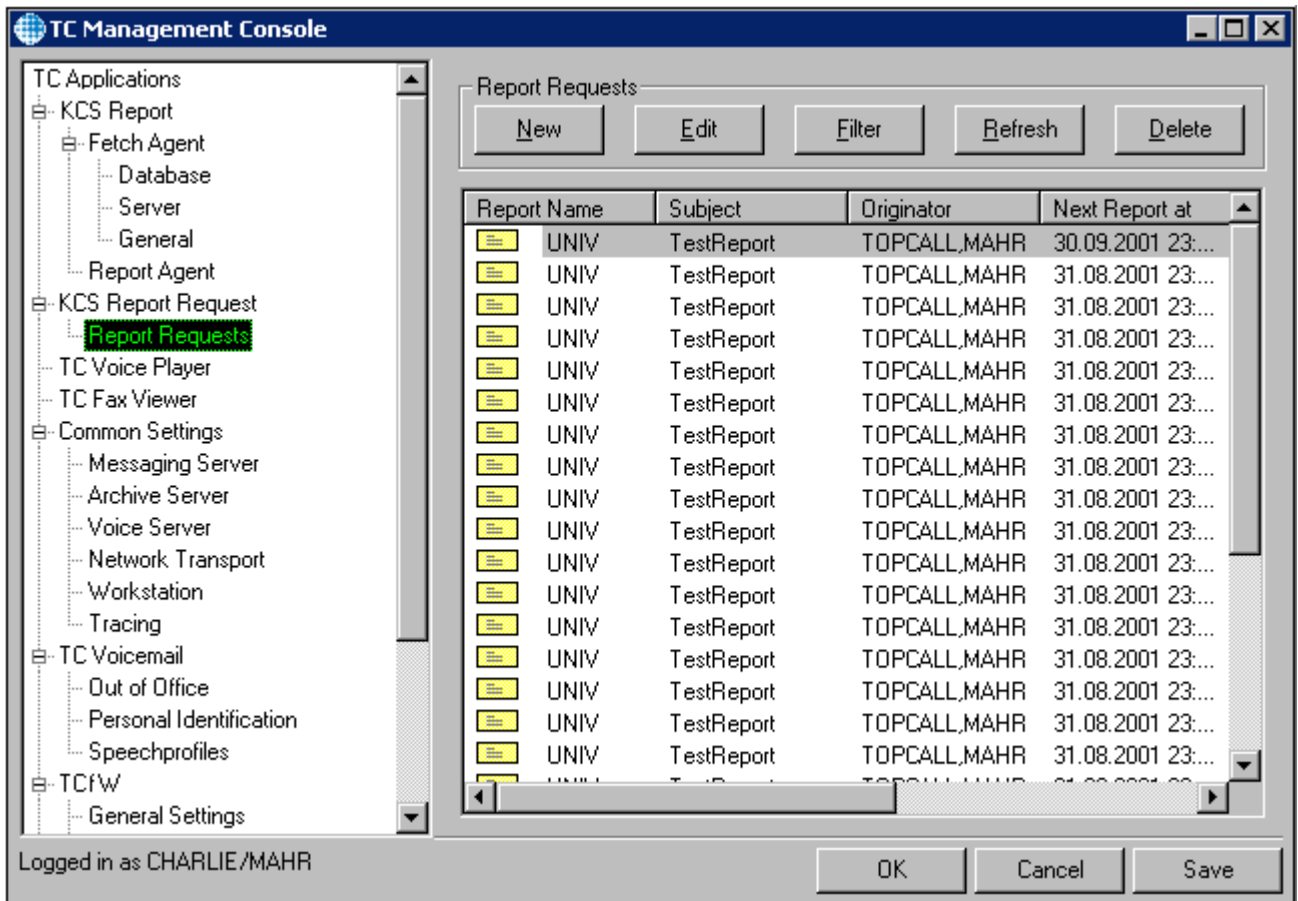
Edit: View and optionally change the settings of the highlighted report request. As an alternative to the Edit button, you can simply double click the highlighted report.

Filter: Change display filters for this list.

Refresh: Redisplay the list based on the current status of the Report user's inbox.

Delete: Cancel the highlighted report request. As an alternative, you can simply press the Delete key.

Note In the first version, changes to the column layout of the list view are not stored.



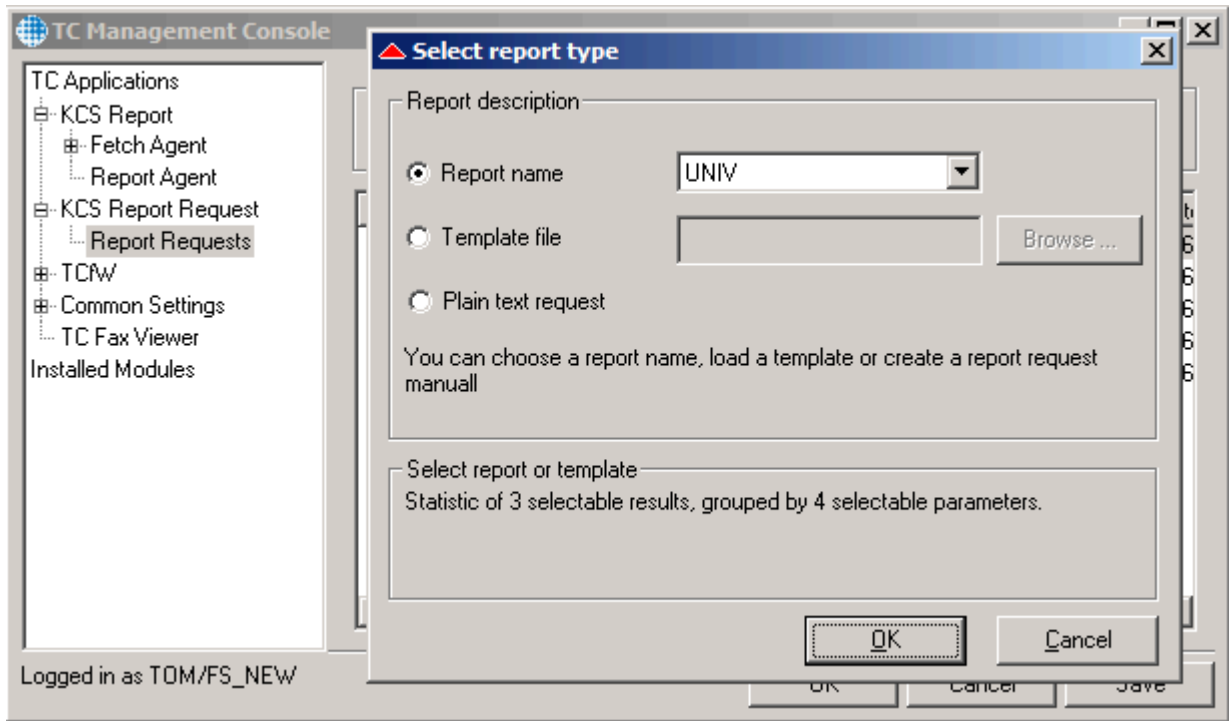
Creating a New Report Request

This chapter describes how to create a new report request.

Step 1: Report type

There are three ways to create a new request:

- **Report name:** Create a request with the wizard. Select a report type and click OK.
- **Template File:** Choose a template file to create a request and click OK.
- **Plain text request:** This option allows you to type in the request without help from the wizard.



Step 2: Common report options

- **Report start date:**
The beginning of the time span of messages to be included in the report.
- **Report end date:**
The end of the time span of messages to be included in the report.
- **Servers:**
Select the Servers from which the data should come from. Select “<All Servers>” to get the data from all available servers. If “<All Servers>” selected, you can’t choose any other server.
- **Create periodic report every:**
For periodic reports, check this box and choose an interval.
- **Wait until end date:**
If checked, the Report Agent shall wait until the report end date is reached. Else, the report includes messages up to the current date and time. The default for this option is different for periodic (Wait = YES) and non periodic reports (Wait = NO).
- **Defaults:**
Clicking the Defaults button resets all options on this screen to their default values.

Note In this release, the list of available servers must be configured manually in registry key *PolledServers*. Otherwise, only the option <All Servers> is available.

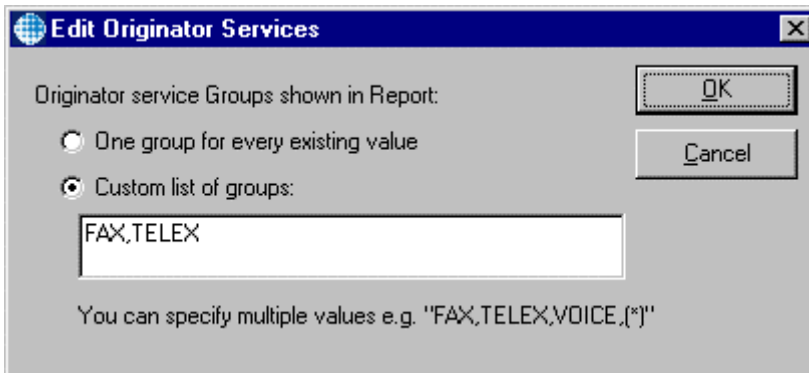
Step 3: Select groupings and results

Here you can select which information shall be displayed on the report (e.g. sum of costs), and how the statistic data shall be grouped (e.g. by originator service) .

The categories available for groupings and results depend on the report type.

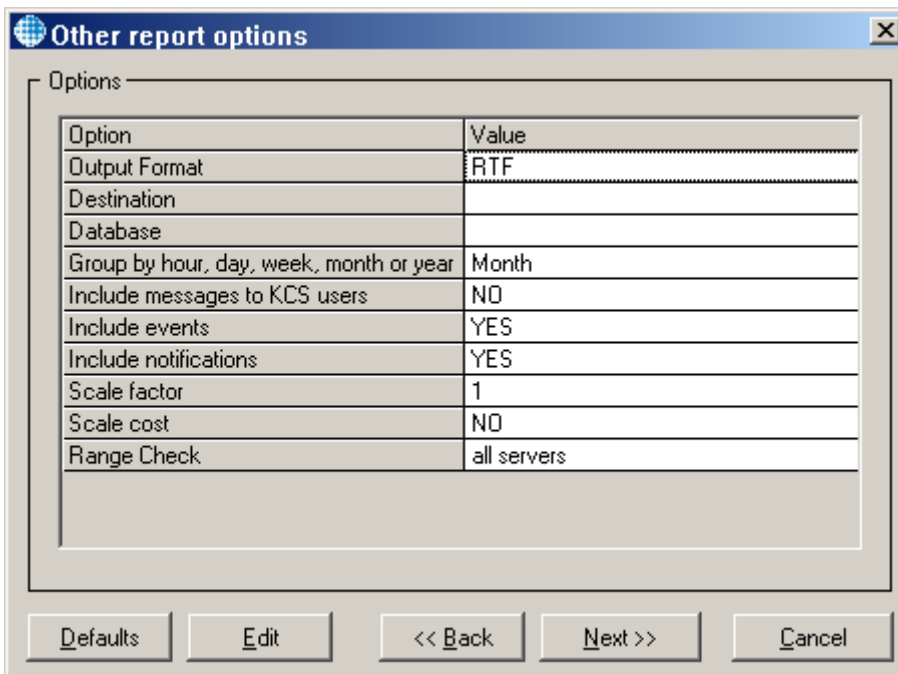
It also depends on the report type, whether the settings can be changed.

- **Defaults:** Resets all options on this screen to their default values.
- **Edit:** This button is available for most grouping categories. It opens a window where you can specify which groups shall be displayed for a given category:



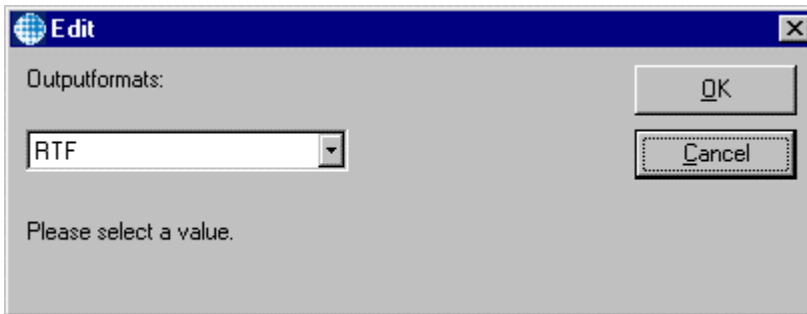
Step 4: Other report options

Now, you can change extended options for the request, like destination, output format etc. The options Database, Destination, and Output Format are always available. The other options depend on the report type.



To change an option, use the **Edit** button or double click the value.

For most options, you can select a value from a list of alternatives (e.g. output formats), or enter a value (database name):

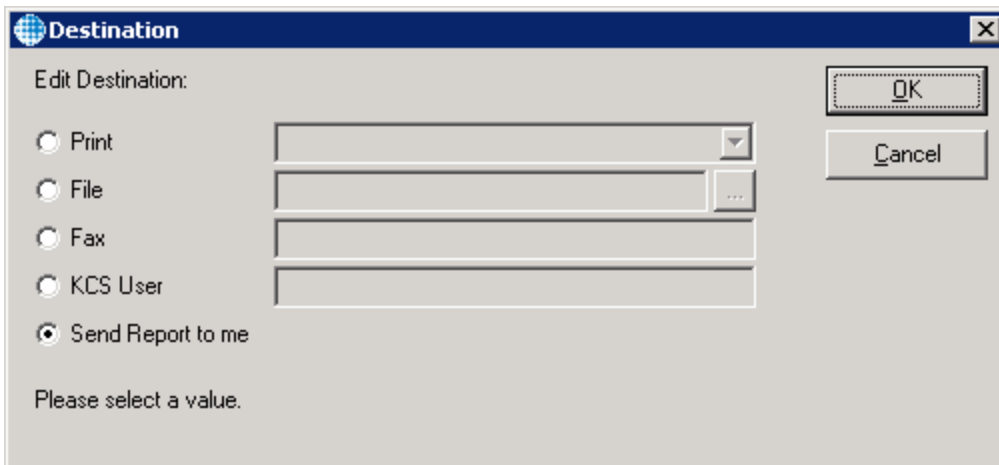


The destination can be changed via a more complex dialog box:

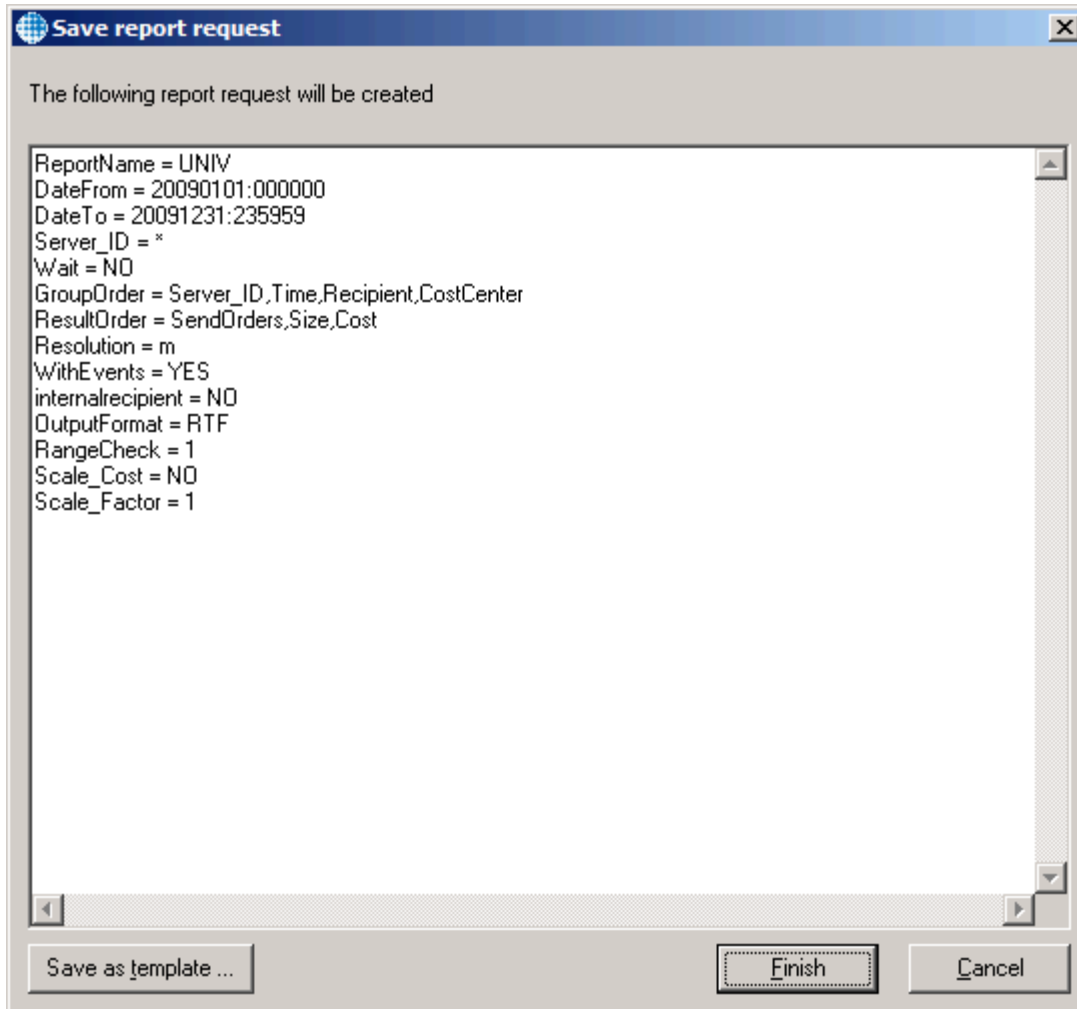
For Destination = File you have to specify the output format first and after that you can choose file name and location. The selected location must be accessible for the Report Agent user. If the Report Agent is not installed locally, clicking the Browse "..." button leads to a message box that reminds you to select a path where the Report Agent has access to.

For Destination = Print you must choose a printer that is installed on the Report Agent computer and is available to the Report Agent user.

If TC Management Console finds out that the Report Agent is installed on the local machine, it offers a choice of printers. Otherwise, you must type in the printer name. (Pressing F5 in the printer name field always offers a list of the locally installed printers and of network printers that can be found).



Step 5: Save report request



This screen shows the resulting report request text.

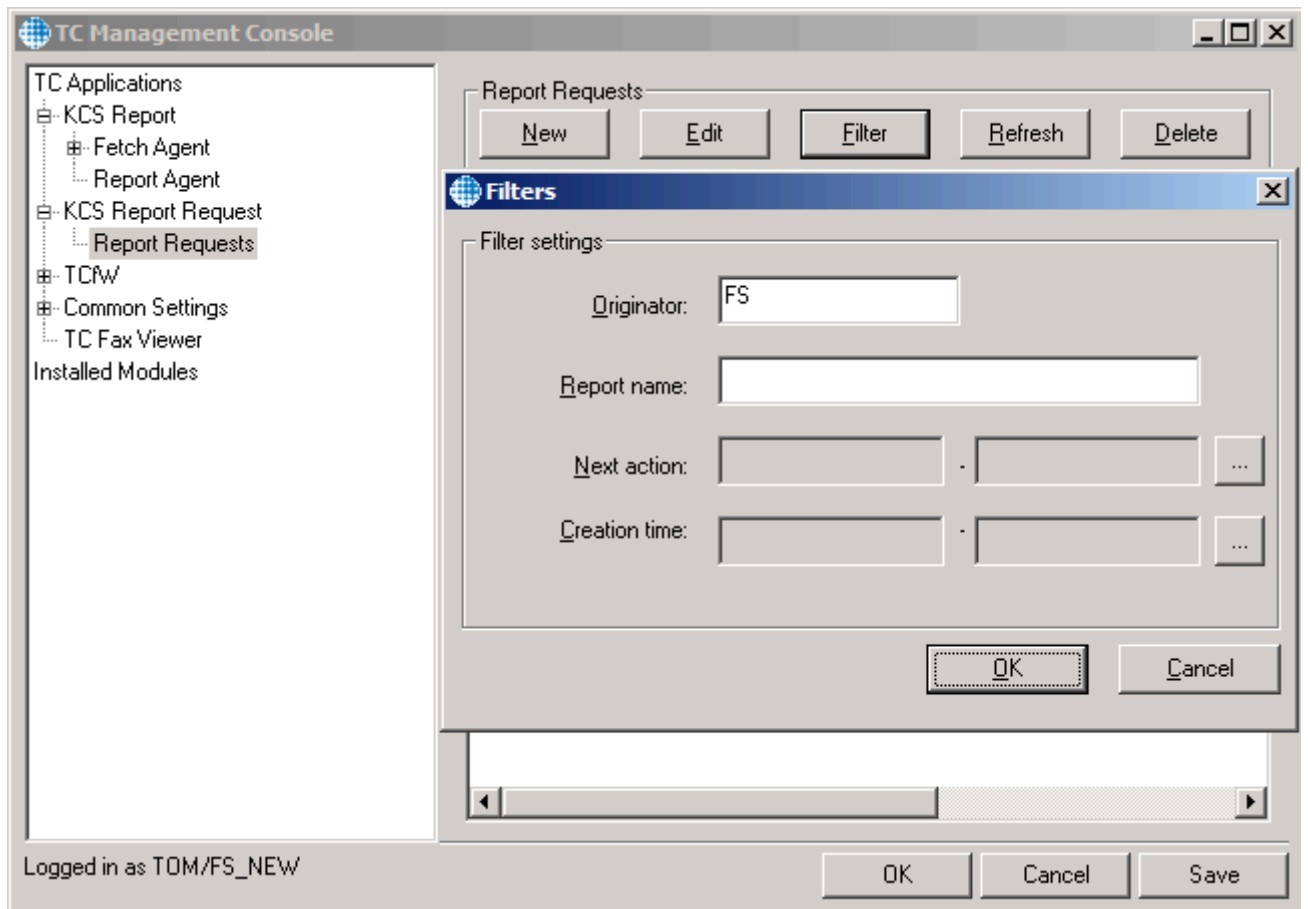
If needed, you can change the text, or copy it to the clipboard. If you bypassed the wizard by selecting “Plain text request”, you come directly to this window and can enter the report request text.

- **Save as template:** If you plan to reuse this request, you can save it in a disk file. The latest version of the Report Request agent creates template files as text files in UTF-16 LE encoding, with byte order mark. Older versions created plain ANSI files. Both file types are accepted when you create a new report from a template file.
- **Finish:** This button is only available if you are connected to the TCOSS server. Click it to send the request to the Report agent. A message box prompts you to enter a subject for the report request.
- **Cancel:** Return to the list of open reports without sending the request.

Editing an Existing Report Request

When editing a report request from the list of pending requests, you bypass the first page of the wizard (no selection of report type). Apart from this difference, the user interface is identical for creating a new request and for modifying an existing request.

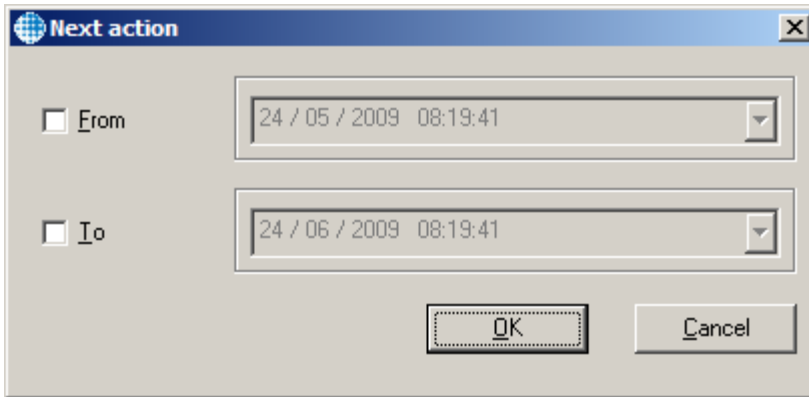
Setting Filters



Here you can select display filters for the list of open reports. By default, only the report requests of the logged in user are displayed.

- **Originator:**
Enter the User ID of the KCS user who requested the report. Please note that in order to see requests created by another person, you must have the right to view this person's outbox.
- **Report name:**
Filter for report names. You can use * as a wildcard. If the field is empty, all report types are displayed.

- **Next action:**
Filter for the time when the next report will be created. Use the button labelled “...” to select a date and time interval.
- **Creation time:**
Filter for the time when the report request was created. For periodic reports, this filter does not make sense, because the Report Agents creates a new report request after sending a report.



Registry Keys

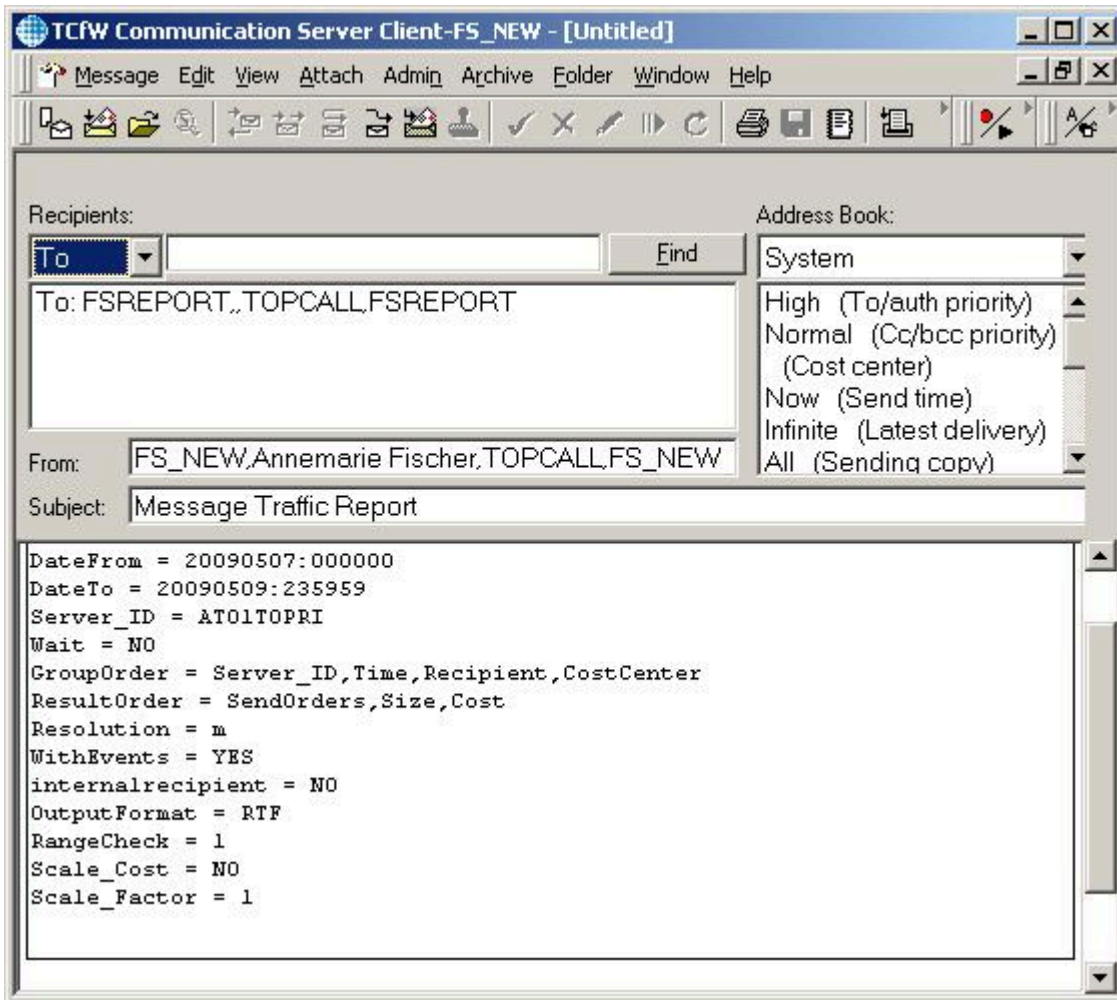
The Report Request Wizard uses the following registry keys below *HKLM\Software\Topcall\TCReport_Request*:

Name	Type	Default	Description
ReportUser	SZ		Report user name
WorkingDirectory	SZ	C:\TOPCALL\SHARED\RPTRREQ	INI files are stored in this directory
FetchConfig	DWORD	1	If 0, only local INI files are used
PolledServers	MULTI_SZ		List of servers polled by fetch agent.
FISPrefix	SZ	REP	Prefix for INI documents in FIS folder

Requesting a Report via TCfW

To request a report, you have to send a command message to the Report Agent. The parameters for the report are specified in the message text (see [Command Message Format](#)). Other components of the message (cover sheet, etc.) are ignored.

Example:



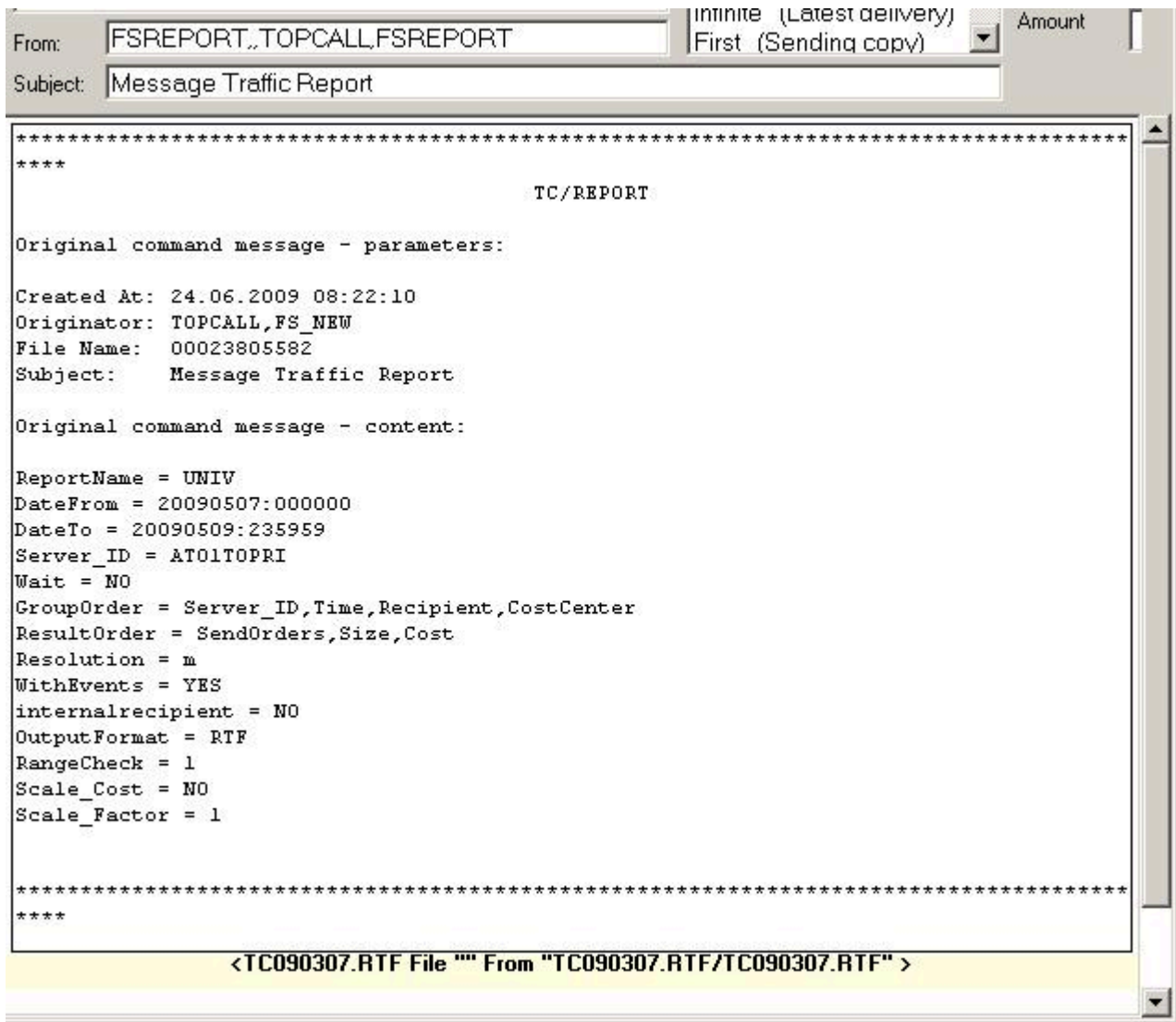
The recipient is the KCS account used by the Report Agent (see Tech Manual, Report Agent installation).

The subject of the request is returned when the report is returned as a message.

The originator needs the TCROSS reporting right or (for compatibility with previous versions) the right to list all inboxes and outboxes.

It is not possible to request reports via any TC/Link without shadow user recognition, since by default the TC/LINK-queue users do not have the necessary rights. Requesting reports in this way results in a non-delivery notification with error code QR.

Example for a successfully returned message:



The report will be returned as an attached file.

Command Message Format

The format of a command message has to be the following:

Subject: This subject is used when returning the report as message.

Body field: The body field contains the parameters, instructions, and is interpreted line by line; its syntax similar to an .INI file:

```

Key = Value
; (Semicolon for remarks)
    
```

Keys

The following keys are valid for all reports:

Key	Default Value	Description
ReportName	"Universal"	Name of .RPT file (not the full path) (customer supplied report files have to be placed also in the c:\topcall\shared\rpt directory)
DateFrom	the beginning of the current year	Date and time – The beginning of the time span of messages to be included in the report. (YYYYMMDD:HHMMSS)
DateTo	end of the year	The end of the time span of messages to be included in the report. (YYYYMMDD:HHMMSS)
Year		The keys "year", "month", "day" and "date" are alternative parameters to easily specify the time period. The Report Agent translates these parameters to the parameters "DateFrom" and "DateTo". Possible formats are: YY or YYYY
Month		MM (or M) YYMM YYYYMM
Day		DD (or D) DDD (e.g. 100 means the 100th day of the year) MMDD YYMMDD YYYYMMDD Useful combinations of these parameters are possible.
Date		You can specify all the parameters for the time period in one parameter, separated by commas (","), e.g.: F20000101, T20000630:235959 → DateFrom = 20000101; DateTo = 20000630:235959 Y2000, M6, D20 → Year = 2000; Month = 6, Day = 20 Useful combination of these parameters is possible.
Database	"TCReport"	To access a backup database you can specify the name of the database. Note If you specify this parameter the Report Agent doesn't check if the database contains the entries of the requested time period.
Wait	"Y" (periodic reports) "N" (non periodic)	Specifies, if the Report Agent should wait until the end date (DateTo) is reached. If not, the DateTo parameter is changed to the actual date and time. possible values: "Y", "Yes", "True", "N", "No", "False"

Key	Default Value	Description
Orientation		Only for direct print (Destination = PRINT,...) possible values: "PORTRAIT", "LANDSCAPE"
OutputFormat	"RTF"	"RTF", "XLS" ... The report will be created in the specified file format.
Period	""	Hour, Day, Month, Week, Quarter, HalfYear, Year (only used for scheduling next report)
Destination	Originator of command message	Service, Recipient The following additional, special services can be used: PRINT,Printername , e.g. "PRINT, \\PrtPath\HPLJ" FILE,Filename , e.g. "FILE, c:\temp\lastreport" FAX,fax number , e.g. "FAX,1503" ; requires KCS Fax Printer driver! TOPCALL,user or service,number Note It will not work if the specified service can't receive attached binary files (like the services PRINT or FAX) The addressing is defined in TCfW.
Server_ID	All Servers ("*")	KCS Server ID (e.g. DEMOTC) Wild cards are allowed, but no "multiple values"
ExcelVersion		Excel version for Excel reports. Possible values (decimal): 21: Excel50 22: Excel50 Tabular 27: Excel70 28: Excel70 Tabular 29: Excel80 30: Excel80 Tabular 36: Excel97 Overrides registry value General\ExcelVersion.
ExcelAreaType		Defines for Excel reports, on which area the column width is based. Possible values: 1: Report header 2: Page header 3: Group header (group number according to ExcelAreaGroupNumber) 4: Details 5: Group footer (group number according to ExcelAreaGroupNumber) 7: Page footer 8: Report footer 255: Whole report Overrides registry value General\ExcelAreaType.

Key	Default Value	Description
ExcelArea GroupNumber		For Excel reports: If column width is based on a group header or footer (ExcelAreaType = 3 or 5), this value defines which group (1,2,...) is meant. Overrides registry value General\ExcelAreaGroupNumber
HtmlEnable SeparatedPages		For HTML reports: number of resulting HTML files. Possible values: YES (one HTML file per page) NO (only a single HTML file) Overrides registry value General\HtmlEnableSeparatedPages.
HtmlHasPage Navigator		For HTML reports. Possible values: YES (page navigator control on each page) NO (no page navigator control) Overrides registry value General\HtmlHasPageNavigator
HtmlVersion		Defines the HTML version of HTML reports. Possible values (decimal): 32: HTML 4.0 24: HTML 3.2 Standard 25: HTML 3.2. Extended Overrides registry value General\HtmlVersion
CsvString Separator		String separator for CSV format Overrides registry value General\CsvStringSeparator
[Parameter1]	Depends on Report	Parameters used for creating report. Note that the actual key name depends on the report itself (optional)
[Parameter2]	""	(optional)
...	""	(optional)
[Parameter99]	""	(optional)

Note the keys are case insensitive, and trailing and leading blanks are ignored.

Date From and DateTo

For the date/time fields, you don't need to also specify the smaller units, that is you don't need to specify also the time when specifying a day, a day when specifying a week, a week when specifying a month, etc.

The defaults are as follows:

When specifying a date in the Date From field the time is considered the beginning of that day, that is 000000.

When specifying a date in the Date To field, the time is considered the end of that day, that is 235959.

Example:

DateFrom = 20010104 The time span starts at midnight on the night of Jan. 3th, 2001.

DateTo = 20010104 The time span ends at midnight of the night of Jan. 4th, 2001.

If the time specified in the DateTo field is in the future (and the wait parameter is “Y”, or it’s a periodic report), the report agent waits until the end date / time has been fetched from all servers. That is, if you enter the current date (without specifying a time) in the DateTo field, the report agents waits until 23:59:59 of that day has been fetched from all servers before issuing a report.

The time specified in a report request is interpreted as time on the respective TCROSS servers. The resulting report holds only data with matching Time_Action. Time zone differences are not considered, - the standard reports ignore the field Time_Stamp_UTC.

Exception: For the NOTIF report, the time specified in the report request is interpreted as time on the Report Agent computer.

Note There is no way to specify relative time values, e.g. Today or Yesterday.

Year, Month, Day, Date

If you don’t want to bother entering the Date From and the Date To, you can just enter a year, a month, a day or a date. These will be converted to the DateFrom and DateTo parameters by TC Report. If you enter May for example it will be converted into DateFrom: May 1st, and Date To: May 31st.

Time interval check

For all report requests that do not explicitly specify a database name (except for the NOTIF report), the Report Agent checks if the requested interval is in the database. The following algorithm is used:

- Which servers will be part of the report: the Action_Table must contain messages from these servers, and the server id must match the Server_ID specified in the report request.
- Is the end of the report interval (DateTo) for all these servers in the Action_Table ? (*)
If not and Wait is YES: report is delayed
If not and Wait is NO: DateTo is replaced by the maximum date that has been fetched from all servers.
- Is the start of the report interval (DateFrom) for all these servers in the Action_Table ? (*)
- If the start date has not been fetched, the algorithm checks if there is a backup database holding the complete interval, with at least 1 record that matches the Server_ID specified in the report request. If this is the case, the report is done from this backup database.
- If the start date has not been fetched and there is no matching backup, one of the following error messages is returned:

Error	Subject	Text	Retries
81	Fetch Agent didn't fetch requested time period.	The Fetch Agent didn't fetch the requested time period. The time period for the requested servers '%4' must start with %1 or above. Please try to request the report later. Details: %5	1 retry.
141	Restore Backup, try again	The entries for the requested time period are stored in the backup %3. This backup is already overwritten. Please restore the backup %3 with the time period from %1 to %2. Rename the backup files to a temporary filename, and request the report with the parameter "Database=...". Details: %5	1 retry.

Error	Subject	Text	Retries
151	Can't access more than 1 database	The entries for the requested time period are stored in more than one backup database. Crystal Reports can only access one database. You can split the request to all the time periods of the backup databases, or create a new database which contains all entries of the requested time period and request the report with the parameter "database=...". Details: %5	1 retry.
181	Server doesn't exist	The requested server doesn't exist ! Check the value in the parameter SERVER_ID = ...,	1 retry.
231	Fetch Agent did not fetch requested time period.	The Fetch Agent didn't fetch the requested time period. Please try to request the report later. Details: %5	1 retry

Additional information in error messages

Most of the above error messages contain information about the interval that is available for every matching server. The placeholder %5 is expanded to a list of server information entries, every entry in the following format:

```
yyyy/mm/dd hh:mm:ss - yyyy/mm/dd hh:mm:ss: servername [(disabled)]
```

(disabled) is written for servers that are at the moment disabled.

Servers that have not been fetched at all and servers that do not match the Server_ID specified in the report request are not part of the list.

Configuration possibilities via report parameter RangeCheck

The check algorithm can be modified per report request via a new report parameter called *RangeCheck*. According to the value of parameter RangeCheck, the above algorithm is modified at the positions marked with (*)

Possible values:

- RangeCheck = 1: default, algorithm as described above
- RangeCheck = 2: DateFrom and DateTo are only checked for enabled servers
- RangeCheck = 0: DateFrom and DateTo are not checked at all

This parameter is part of all standard report INI files and can be changed via the report request agent. You can change the default value by editing the INI files:

Change the value "Default" in section [PRangeCheck] from RC1 to RC0 or RC2.

Period (Interval)

The period allows you to specify in which interval you want reports issued. Careful, this does not mean that if you enter an interval of one week you will get a report each week containing information of the past week. It means that you will get one report each week containing information on the time spanning between the initial DateTo and DateFrom. That is if you request a report to be issued once a week (period=week) and you enter the time span March 5th to May 10th (DateFrom=20010305 and DateTo=20010510), you will get the first report on May 10th that will contain information on messages sent between March 5th and May 10th. The second report will be issued on May 17th (DateTo May 10th plus

1 week) and will contain information on messages sent between March 12th (DateFrom March 5th plus 1 week) and May 17th, and so forth.

When a recurring report is requested, the Report Agent creates a new send order by adding the specified period to the parameters DateFrom and DateTo. These reports are created when the specified date in the DateTo parameter is reached.

If you don't specify any date parameters (DateFrom, DateTo, year, month, day or date) you will get the default values, e.g. the following send order:

```
DateFrom = 20000101 (beginning of the current year)
DateTo = 20001231 (end of current year)
Period = Week
```

The first report contains information from Jan. 1st 2000 to December 31st 2000. This report will not be issued until December 31st (the DateTo parameter is reached).

The second report from Jan. 8th 2000 to January 7th 2000

The combination of a periodic report with the parameter WAIT = N (don't wait until ToDate is reached) is possible but useless, because the end-date will be substituted by the current date / time, annulling a periodic issuing of reports. This means that in our example above, time spanning from March 5th to May 10th, May 10th would be changed to the current date, say April 1st. You would get the first report immediately spanning from March 5th to April 1st but would get no further reports., because the next report would have to be from March 12th to April 8th, but April 8th, would again be changed to April 1st.

You can request reports in the following intervals:

- year
- halfyear
- quarter
- month
- week
- day
- hour

If you want to stop generation of periodic reports you simply have to cancel the last send order in TCfW.

Note The report can be requested by any system, but to stop the generation of periodic reports you need TCfW. In other mail systems like Notes or Exchange it is not possible to stop the generation of periodic reports.

OutputFormat

Possible parameters for the OutputFormat are:

- CSV (this file format doesn't support graphics)
- RPT
- DIF (Crystal reports 8.5 only, no graphics)
- RTF
- XLS
- HTM or HTML

- DOC
- PDF
- CHR (only for 2 custom reports)

The parameter OutputFormat is ignored when you specify the destination PRINT, <networkprinter> or FAX,<fax number>. In case of direct printing TC/Report uses the RPT file format (Crystal Reports). For Fax TC/Report uses the KCS printer driver and creates a TCI file.

It is not possible to specify more than one output-format.

If you want the report to be printed, you must specify the printer's display name (as displayed in the control panel) and not the share name. That is, "PRINT,HP LaserJet 4000 PCL 5e" instead of "PRINT,\\TCDEVNTSRV\HPLJ_4000_PCL5E"

The following restrictions depend on the OutputFormat you specify:

- CSV (comma separated values): no graphics, no page formatting, no font formatting
- RPT (Crystal Reports): requires Crystal Reports to view the results
- DIF (data interchange format): no graphics, no page formatting, no font formatting, suppression of group names not working correctly
- RTF (Rich Text Format): bad table formatting, tables can be truncated, must be viewed via MS Word
- XLS (MS Excel): no table formatting, no page formatting, graphs are not in original size (scaled), overlay graphs and values
- HTML: no page formatting, graphs have low resolution, the report can be split to more files, which are numbered from 1 to x, e.g REPORT1.HTM, REPORT2.HTM etc.
- DOC (Word for Windows) no table formatting (values are separated by tabs), tables can be truncated.
- PDF (portable document format) graphs have low resolution

General (all file format except RPT, XLS and HTM): some Crystal Reports functions don't work (e.g. custom column header, suppress tables and graphs); these functions are not used in the standard reports.

Note You will get the best results of the reports if you use the RPT format (which requires Crystal Reports installed) or the default format RTF.

Destination

By default, a report will be sent to the person who requested it. This can be changed by specifying the destination parameter. Use this parameter if you want to print the report automatically (PRINT), send it via fax (FAX), post it to a folder on a Web server (FILE) or send it to another recipient, e.g. a billing system (KCS).

It accepts the following values:

Value	Description
PRINT, printer	The report will be sent directly to the specified printer. The specified OutputFormat is ignored – the report will be printed in the Crystal Reports format (*.rpt). Example: Destination=PRINT, HP LaserJet 4000 Series PCL 6 on SERVER</p>

Value	Description
FILE,path\name	<p>The report will be copied to the specified file or directory. Thus you can create a HTML page on a web server. If the specified value ends with a backslash (“\”), it is interpreted as a directory. The report will be copied to this directory. If the directory doesn’t exist, it will be created automatically (if the report agent has the necessary user rights).</p> <p>Examples:</p> <p>Destination=FILE,c:\reports\ Destination=FILE,\\PCxy\reports\report.rtf</p> <p>Format HTML - multiple output files:</p> <p>If you specify a file name for output format HTML, the resulting file names are numbered from 1 to N. Example: Destination=FILE,c:\reports\stat.htm</p> <p>Result: files stat1.htm, stat2.htm and stat3.htm in folder c:\reports.</p> <p>If you specify a directory name for output format HTML, the resulting file names will be REPORT1.HTM, REPORT2.HTM etc.</p> <p>Example: Destination=FILE,c:\reports\ Result: files REPORT1.HTM, REPORT2.HTM etc. in folder c:\reports</p> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;"> <p>Note If a HTML report contains graphics, Crystal Reports creates additional graphic files with unique names, e.g. stat{0123AB67-1234-5678-ABC-12345678}.png. These files are not overwritten when a new report is created. The administrator should delete left-over files periodically.</p> </div>
FAX,faxnumber	<p>The report will be sent to a fax. The Report Agent uses the KCS fax printer driver which is installed, when you install TCfW on the TC/Report machine. The output format is ignored.</p>
TOPCALL,user or service	<p>The report will be sent to the specified user or service. Do not use the KCS Services without binary capability like “FAX” or “PRINT” which cannot receive and convert attached binary files.</p> <p>Examples:</p> <p>Destination=TOPCALL,userxy The report will be sent to the user "userxy" Destination=TOPCALL,FILE,xy</p> <p>If you have a KCS service called "FILE", the report will be sent to this service in this example.</p>

When the destination parameter is used, the person requesting the report won’t get any information that the report was created (and sent / copied) successfully. They are only notified if the report creation or the sending failed.

Values

The syntax of each value is defined by the Key. Within all values, following variables are replaced automatically with the contents of the “DateTo” variable:

%y Year (“1972” – “2999”)
%m Month (“01” – “12”)
%d Day (“01” – “31”)

%t Current Time

Note This feature can be used to create monthly files with unique filenames.

Example:

```
DateTo = 20010130:132000  
Destination = FILE, \\server1\reports\year%y\month%m\day%d\report%t.rtf
```

The report will be the following file:

```
\\server1\reports\year2001\month01\day30\report132000.rtf
```

Example Message

The following sample message leads to a report:

```
ReportName = universal_graph  
DateFrom = 20010104  
DateTo = 20010108  
Group = d  
Originator = (*)  
Recipient = FAX, NOTES, (*)  
Costcenter = (*)
```

The syntax for the parameters originator, recipient and cost center is only valid for the report universal.rpt. For detailed description, see [“Old” Universal Report](#).

Chapter 4

Report Types

For many report types, there is also a graphic version.

Depending on the report type and the number of grouping categories, there can be up to 3 graphs in the report header.

Graph 1 is a Bar graphic displaying a result category on the Y axis (selected by parameter *Graph1*) against the first grouping category on the X axis.

Graph 2 is a Pie graphic, displaying a selected result category (selected by parameter *Graph2*) grouped by the first grouping category.

Note: If the selected result category has a total sum of 0, the char summary will show a total of 100% nevertheless.

Example:

TOPCALL Report

Overall communication cost by Month and Service

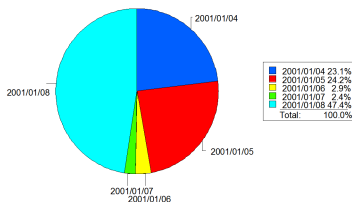
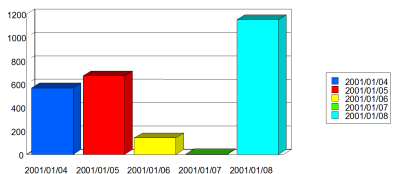
Time period: 04.01.2001 00:00:00
08.01.2001 23:59:59

Server Name: Cost Center

currency: ATS
Print date: 26.03.2001
Print time: 16:24

Costs / Time period:

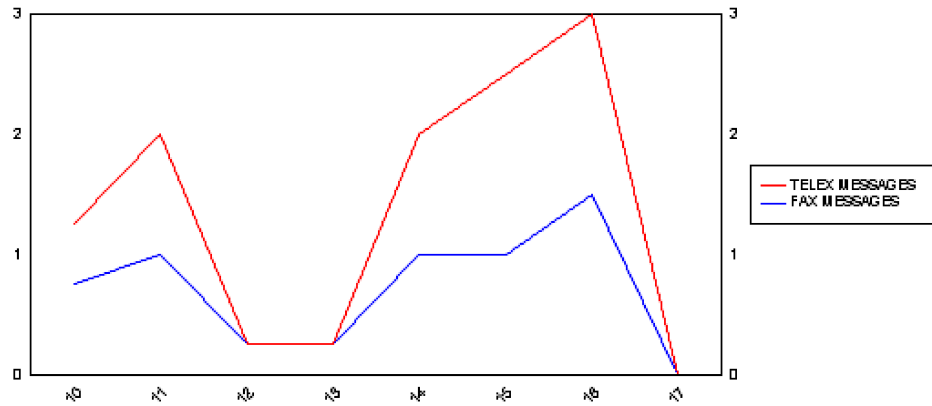
Messages / Time period:



Graph 3:

For some reports, there is also a Multi-Line graphic. Please note that this third graphic is only available if the report contains exactly 2 grouping categories. This graphic is mainly used to compare the over-time behavior of several objects. For instance, the QUEUELEN report can display the average queue lengths of every queue during a day:

Average Queue Length / Object Name and Time



For this graph, you have to specify a result category, that shall be plotted on the Y axis of the graph (e.g. average queue length). This is done via parameter *Graph3*. The second grouping category is used as the X axis of the graph (usually a time category). The graph displays one line for every primary grouping category.

Please note that for all report types, rounding errors are of course possible.

“Old” Universal Report (UNIVERSAL)

This report is included in this version for backward compatibility only. More flexibility is available with the new UNIV report. The UNIVERSAL report provides only a subset of the UNIV report functionality.

This report shows a statistic of costs, size and number of the messages, grouped by the following fields:

- Time period (database field Time_Stamp_Local)
- Originator service (database field MsgClass_Originator)
- Recipient service (database field MsgClass_Recipient)
- Cost center

The order of these fields depends on the order of the parameters in the report request.

Example:

report Request:	<u>Report:</u>						
Recipient = *	Recipient	Originator	Costcenter	Time Period	Cost	Number of Messages	Size
Originator = *	FAX	NOTES	XX	2000/08	312	123	50000
Costcenter = *	...						
Month = 08							

You can specify multiple parameters like originator, recipient and costcenter. These parameters accept the following values:

Value	Description
*	for each message class or costcenter one row
(*)	sum of all entries in one row
value1, value2, ... (e.g. FAX, SMTP)	for each value one row
value1, (value2, value3), value4, ...	every value in brackets in one row, each other value one row
value1, value2, ... ,(*)	each specified value gets one row, sum of every other messages is shown in the row "OTHER"

Parameters:

	Default value	Description
Server_ID	All Servers	Defined during setup
DateFrom DateTo	From: beginning of the current, To: current date	From – To
originator	*	
recipient	*	
costcenter	*	
group	m	d = group by day w = group by week m = group by month y = group by year

	Default value	Description
internalrecipient	No	messages sent to a KCS user (the field MsgClass_Recipient is empty) are not included in this report per default, because usually these messages are forwarded to an external mail system like Notes or Exchange. To include these messages use the parameter internalrecipient = Y ("YES" and "TRUE" are also valid values).

Columns:

	Description
Costs	Sum of costs
Number of Messages	
Size	Sum of size (bytes)

Rows:

	Description
originator	service of the originator (e.g. FAX, SMTP)
recipient	service of the recipient
costcenter	
time period	

Graphic version: UNIVERSAL_GRAPH

Contains a Bar graphic (Graph1) and a Pie graphic (Graph2). With this report, the values of parameters Graph1 and Graph2 must match constants in the TC/Report language file. This is a specific implementation detail of the UNIVERSAL report, which is not present in the other report types.

Graph type	Description
Bar	<p>grouped by the first field in the table (it can be Time period, Originator, Recipient or Cost Center; it depends on the order of the parameters in the send order)</p> <p>This graph can show the following values:</p> <ul style="list-style-type: none"> – sum of costs – number of messages – sum of size <p>Parameter Graph1 is used to specify which field is shown in the graph. It accepts the following values, which are taken from the language file Tcrpt01.Ing:</p> <p>Graph1 = Costs – position 18 in the language file</p> <p>Graph1 = Messages – position 35 in the language file</p> <p>Graph1 = Size – position 36 in the language file</p> <p>If you change the language file the parameter Graph1 accepts only the new values.</p>
Pie	<p>grouped by the first field in the table</p> <p>shows the values you specified in the parameter Graph2</p>

Enhanced Universal Report (UNIV)

This report allows many combinations of groupings and results. Therefore, it can be used for many purposes, e.g. for channel statistics, ASP cost accounting etc.

It is flexible enough to provide very detailed information, like send orders from an individual user, or to specific fax destinations.

Compared with the original universal report, the layout has been improved; less space is used.

You can choose 1 to 4 groupings and 1 to 3 result fields.

By default, this report shows a statistic of send orders, size and cost, grouped by server, time, recipient service and cost center.

Possible grouping categories

Name (in report request)	Description
ChannelGroup_Out	Part of the normalized recipient address (database field ChG_Out).
ChannelGroup_In	Part of the normalized originator address (database field Chg_In).
Channel_Out	Database field TS_CHANNEL
Channel_In	Database field TS_REC_CHANNEL
MediaServer_Out	Only useful for ASPs, database field Media_Server
MediaServer_IN	Only useful for ASPs, database field TS_REC_SERV_ID
Time	Database field Time_Stamp_Local, units defined in parameter Group.

Name (in report request)	Description
Time_Intended	Database field Time_Intended, units defined in parameter Group.
Originatorgroup	Database field Originator_Group
NormalizedOriginator	Database field Normalized_Orig
Originator	Originator service, database field MsgClass_Originator
OrigNumber	Originator number, database field Originator
Recipient	Recipient service, database field MsgClass_Recipient
Recipientgroup	Database field Recipient_Group
NormalizedAddr	Database field Normalized_Addr
RecipNumber	Recipient number, database field Recipient
Costcenter	Database field Cost_Center
Priority	
State	Only divided in SUCCESS or FAILURE
Server_ID	Server id, database field Server_Id
CustomerName	Customer Name (for ASP) from Server_Table
CountryCode_In	For fax and telex: incoming country code (cc_in)
CountryCode_Out	For fax and telex: outgoing country code (cc_out)
Time_Created	
Time_Received	
Recipient_Info	
Originator_Info	
File_Name	
Corr1	Custom field 1 (specified in message header or mapped via SYSCONF line 20 pos 1)
Corr2	Custom field 2 (specified in message header or mapped via SYSCONF line 20 pos 2)
Corr3	Custom field 3 (specified in message header or mapped via SYSCONF line 20 pos 3)
Corr4	Custom field 4 (specified in message header or mapped via SYSCONF line 20 pos 4)

Possible statistic results

Name (in report request)	Description
SendOrders	Number of send orders
SuccessfullySent	Number of successful send orders
FailedSendOrders	Number of failed send orders (terminated)
SendRetries	Number of unsuccessful send attempts that will be retried later

Name (in report request)	Description
Duration	Sum of duration (including retries)
DurationPercent	Only possible if Time is the last grouping category and a channel is added as penultimate grouping category and resolution is hour, day or week. Duration of send attempts in percent of the current time interval.
Size	Sum of message size in KB (including retries)
Pages	Sum of (pages * send attempts)
Cost	Sum of costs (including retries)
CostErrors	Sum of costs for unsuccessful send attempts
FaxPages *	Number of sent fax pages (counted per send attempt). Use only if send attempts are enabled on TCOSS and Fetch Agent! Otherwise the results are misleading.
FaxPagesTotal *	Total number of sent fax pages (counted per send order). Use this value only if the Fetch agent is not configured to fetch send attempts! Otherwise the results are misleading.

Note To use parameters marked with *, the following applications need to be updated to KCS 7.85.04 or higher:

- TCOSS
- TC/Report Fetch Agent
- TC/Report Report Agent
- If you are using Fax over IP, FoIPv3 3.02.03 or higher is required.

Parameters in report request

Parameter	Default	Description
Server_ID	*	Default = all servers
DateFrom .. DateTo	From: beginning of the current year, To: current date	From – To
GroupOrder	Server,Time,Recipient,Costcenter	
ResultOrder	SendOrders,Size,Cost	
Resolution	M	Possible values: h,d,w,m,y
ChannelGroup_Out	*	
ChannelGroup_In	*	
Channel_Out	*	
Channel_In	*	
CountryCode_In	*	
CountryCode_Out	*	
Originator	*	
OrigNumber	*	

Parameter	Default	Description
Recipient	*	
RecipNumber	*	
MediaServer_Out	*	
MediaServer_In	*	
Costcenter	*	
Originatorgroup	*	
Recipientgroup	*	
NormalizedOriginator	*	
NormalizedAddr	*	
Priority	*	
State	*	
CustomerName	*	
Corr1	*	
Corr2	*	
Corr3	*	
Corr4	*	

Options:

Name (in report request)	Description
WithEvents	YES or NO (default is YES) If NO: events are excluded from report If YES: events are included in report
WithNotifs	YES or NO (default is YES) If NO: notifications and send copies are excluded from report If YES: notifications and send copies are included in report
Scale_Cost	YES or NO (YES to enable decimal separator)
Scale_Factor	Possible values: 1 (default), 10, 100, 1000, 10000

With the parameters Scale_Cost you can enable a decimal separator symbol for the result values Cost and CostErrors displayed in the report. If Scale_Cost is set to YES, Scale_Factor defines the scaling factor which can have a value between 1 and 10000.

Example: With a scaling factor of 100 the value 5000 is displayed as 50.00, thus showing the amount in dollars and cents instead of cents.

If Scale_Cost is NO, no decimal separator is inserted.

Usage Examples:

- Outgoing line statistic: sending performance of a channel
GroupOrder = Channel_Out,Time
ResultOrder = SuccessfullySent,FailedSendOrders,SendRetries

Resolution = h

- Cost accounting for ASP: monthly costs per customer
GroupOrder = CustomerName,Priority,Time
ResultOrder = Cost,SendOrders
Resolution = m
- Fax and telex cost accounting per cost center
GroupOrder = Time,Recipient,CostCenter
ResultOrder = SendOrders,Cost
Recipient = FAX,TELEX
Resolution = m

Note Fax and telex channels must be mapped to message class FAX and TELEX respectively. See TC/Report technical manual.

- Number of emails sent per user group
Recipient = INTERNET
GroupOrder = Time,OriginatorGroup,Recipient
ResultOrder = SendOrders
Resolution = m
Note: Queues for TC/LINK-SM must be assigned to message class INTERNET.
- Messages sent to different countries by a specific user
GroupOrder = OrigNumber,CountryCode_Out
ResultOrder = SendOrders,Cost
OrigNumber = "JOHN"

Graphic version: UNIV_GRAPH

Contains a Bar graph, a Pie graph and (only for reports with 2 grouping categories) a Multi-Line graph, as described in [Report Types](#).

Scaling factor:

Costs and cost errors can be displayed with a scaling factor. E.g., with a scaling factor of 100 costs can be displayed in Dollar/Cents instead of Cents.

Line Statistics Report (LINES)

TC Report

Line Statistic

Time Period: 01.01.2001 00:00:00
02.01.2001 00:00:00

Server Name: ALL

Channel	Time period	Line usage %	Outgoing Sendorders	Incoming Sendorders
05	00	23	76	2
	01	37	128	238
	02	24	384	44
	03	34	892	84

This report shows messaging traffic (incoming and outgoing) on a physical channel or channel group (fax or telex). Its purpose is to detect peaks of fax traffic and to be able to add a fax line or a media server (for ASPs) in time. By default, this report shows a statistic of line usage (percentage), incoming messages and outgoing messages, grouped by the following fields:

- Channel (database field TS_CHANNEL)
- Time period (database field Time_Stamp_Local, in units of hours)

You can select 1 to 4 grouping categories and 1 to 3 result fields. This report should always contain Time as the last grouping category.

The line usage in percents is only displayed for the last grouping category (no totals available). It is only available under certain conditions: penultimate grouping category must be "Channel", last grouping category must be "Time", resolution must be hour, day or week.

No matter which grouping categories you choose, this report contains only messages sent to real physical channels, no links or internal recipients.

All physical channels or channel groups must be configured per server via TC Management Console.

For every physical channel or channel group on this server, define an association of channel and message class. Channel name must be "___" (three underscores) followed by the real name of the channel or channel group. Message class must be "F" for fax and "X" for Telex channels. **Example:** "___F" for channel group "F", "___07" for channel 07. See *TC/Report Technical Manual* for details.

Possible grouping categories

Name (in report request)	Description
ChannelGroup	The channel group is part of the normalized recipient or originator address, database field Channel_Group_X
Channel	Database field Channel_X
Time	Database field Time_Stamp_Local, units defined in parameter Group.
MediaServer	Only useful for ASPs, database field Media_Server_X
Server_ID	Server id, database field Server_Id
CustomerName	Customer name for the Server_Id, stored in server_table

Possible statistic results

Name (in report request)	Description
SendOrdersOut	Number of outgoing send orders processed
SendOrdersIn	Number of incoming send orders processed
LineUsage	Percent line usage within a time interval

Parameters in report request

Parameter	Default	Description
Server_ID	*	Default = all servers
DateFrom .. DateTo	From: beginning of the current year, To: current date	From – To
GroupOrder	Channel,Time	
ResultOrder	LineUsage,SendOrdersOut,SendOrdersIn	
Resolution	H	h = group by hour d = group by day w = group by week m = group by month y = group by year
ChannelGroup	*	
Channel	*	
MediaServer	*	
CustomerName	*	

Graphic version: LINES_GRAPH

Contains a Bar graph, a Pie graph and (only for reports with 2 grouping categories) a Multi-Line graph, as described in [Report Types](#).

Notes concerning Line Usage:

- Line usage statistics is only available under certain conditions (see above). If it is not available, the column contains the value “not applicable”.
- The line usage can be greater than 0% even if the number of incoming and outgoing send orders is 0. This is the case if there were only send retries, but no send orders were terminated.

Queue Length Report (QUEUELEN)

TC Report

Queue Length Statistic

Time Period: 01.01.2001 00:00:00
01.03.2001 00:00:00

Server Name: TOM

Name	Time period	Average queue length
FAX high priority	200 1/01	2.1
	200 1/02	4.7
	Total:	3.2
FAX standard priority	200 1/01	3.1
	200 1/02	1.3
	Total:	2.7
FAX low priority	200 1/01	5.2
	200 1/02	3.2
	Total:	4.5
TELEX high priority	200 1/01	0.0
	200 1/02	0.4
	Total:	0.2
TELEX standard priority	200 1/01	0.1
	200 1/02	0.4
	Total:	0.2

This report can show the number of messages waiting in a channel, channel group or link queue. It helps the administrator to decide when a channel or a link instance has reached its limit of capacity.

This report evaluates values in the Log_Table, which holds entries from the queue length log. Only entries with a LOG_ID of "QUEUELEN" are evaluated. TCOSS queue length counting is configurable: There can be counters per channel group, per channel or per queue user. It is possible to have individual counters for every priority level.

By default, this report shows the average number of queued messages, grouped by the following fields:

- Queue length counter object (database field ObjectName)
- Time period (database field Time_Stamp_Local, in units of hours)

You can select 1 to 3 grouping categories and 1 to 3 result fields.

Possible grouping categories

Name (in report request)	Description
ObjectName	Name of the queue length log entry (e.g. "FAX high priority")
Time	Database field Time_Stamp_Local, units defined in parameter Group.
Server_ID	Server id, database field Server_Id
CustomerName	Customer name, from sever_table

Possible statistic results

Name (in report request)	Description
Maximum	maximum queue length
Minimum	minimum queue length
Average	average queue length

Parameters in report request

Parameter	Default	Description
Server_ID	*	Default = all servers
DateFrom DateTo	From: beginning of the current year, To: current date	From - To
GroupOrder	ObjectName,Time	
ResultOrder	Average	
Resolution	H	Possible values: h,d,w,m,y
ObjectName	*	
CustomerName	*	

Note If there are counter objects that summarize other counters (e.g. “Fax total”, “Fax high priority”, “Fax low priority”), the totals displayed in the statistic cannot be correct.

Graphic version: QUEUELEN_GRAPH

The QUEUELEN_GRAPH report contains a Bar graphic showing the average queue length per first grouping category. There is no Pie graphic.

Reports with 2 grouping categories include a line graph showing the average queue length per first and second grouping category.

Distributor Statistic Report (DIST)

TC Report		
<u>Distributor Statistic</u>		
Time Period:	01.01.2001 00:00:00 01.03.2001 00:00:00	
Server Name:	ALL	
Time period	Distributed messages	Average wait time (min)
2001/01	432	23
2001/02	389	45
Total:	821	33

This report is a statistic of incoming message distribution. It tells you how many messages were distributed, how long they waited in the distribution queue and who distributed them.

By default, this report shows the number of distributed messages and the average wait time in the distributor queue, grouped by the following fields:

- Time period (database field Time_Stamp_Local, in units of months)

You can select 1 to 3 grouping categories and 1 to 2 result fields.

Possible grouping categories

Name (in report request)	Description
Time	Database field Time_Stamp_Local, units defined in parameter Group.
Server_ID	Server id, database field Server_Id
Customer	Customer name, from sever_table
Operator	Operator name, from TS_LAST_MDA_NOTE

Possible statistic results

Name (in report request)	Description
WaitTime	Average wait time in distributor queue (per distribution)
Number	Number of distributed messages

Parameters in report request

Parameter	Default	Description
Server_ID	*	Default = all servers
DateFrom DateTo	From: beginning of the current year, To: current date	From - To
GroupOrder	Time	
ResultOrder	Number,WaitTime	
Resolution	m	Possible values: h,d,w,m,y
Operator	*	
Customer	*	Customer name

Note The DIST report requires TCFW 5.01.01 or above for message distribution. Please note that the distributors must have the “visible in outbox” flag set.

Graphic version: DIST_GRAPH

The DIST_GRAPH report contains a bar graphic (average wait time per first grouping category) and a pie graphic (number of messages per first grouping category).

Reports with 2 grouping categories include a line graph showing the number of distributed messages per first and second grouping category.

Special Lines Report with User Information (TCLINESN)

The TCLINESN report is a modified LINES report, with one or two grouping categories and up to six result categories. It contains only messages received from or sent to a fax or telex channel that is configured in the Channel_Table. (Note: The channel itself must be configured in the Channel_Table; adding an entry for the channel group is not enough.)

The TCLINESN report is based on a new view AU2. This view contains only send orders from or to real fax or telex channels (the channels configured with 3 underscores in the channel table). The logic for selecting fax and telex messages is in the view itself, this means that no new fetch of the database is necessary after changing the hardware channel configuration; and no other report types are affected by the changes.

On the other hand, this means that the TCLINESN report uses only the latest information: If a channel number is used for fax at the time of report creation, it is interpreted as a fax channel for all send orders that are covered by the report.

Note Several other views (AU1, ACTION_USER) are used internally by the AU2 view.

Possible grouping categories

Name (in report request)	Description
ChannelGroup	The channel group is part of the normalized recipient or originator address
Channel	Database field TS_CHANNEL or TS_REC_CHANNEL
Time	Database field Time_Stamp_Local, units defined in parameter Group.
MediaServer	Only useful for ASPs, database field Media_Server or TS_RECIP_SERV_ID
Server_ID	Server id, database field Server_Id
User	User id (originator or recipient)
Group	User group
Costcenter	Cost center
Company	User company (from User_Table)
Department	User department (from User_Table)
Fullname	User fullname (from User_Table)
Freetext	User freetext (from User_Table)
Salutation	User salutation (from User_Table)
Mailsystem	User mailsystem (from User_Table)
CustomerName	Customer name for the Server_Id, stored in server_table
Time_Intended	Intended send time, useful if incoming faxes are distributed
Time_Created	Creation time

Depending on the direction of the send order, the user specific categories refer to the user who sent or received the fax (or telex).

Possible statistic results

Name (in report request)	Description
SendOrdersOut	Number of outgoing messages
PagesOut	For outgoing messages: number of pages * number of send attempts For fax line statistic (without telex), use FaxPagesOut instead!
SendOrdersIn	Number of incoming messages
PagesIn	Number of incoming pages
SendOrders	Total number of messages
Pages	Total number of pages (PagesOut + PagesIn) For fax line statistic (without telex), use FaxPages instead!
FaxPagesOut *	Number of sent fax pages
FaxPages *	Total number of fax pages (incoming pages + sent fax pages)

Note To use parameters marked with *, the following applications need to be updated to KCS 7.85.04 or higher:

- TCOSS
- TC/Report Fetch Agent
- TC/Report Report Agent
- If you are using Fax over IP, FoIPv3 3.02.03 or higher is required.

Options:

Name (in report request)	Description
CountErrors	Y or N (default is Y) If N: unsuccessful outgoing messages are not counted If Y: all outgoing messages are counted

Parameters in report request

Parameter	Default	Description
Server_ID	*	Default = all servers
DateFrom DateTo	From: beginning of the current year, To: current date	From – To
GroupOrder	Time	
ResultOrder	SendOrdersOut,PagesOut,SendOrdersIn,PagesIn,SendOrders, Pages	
Resolution	H	h = group by hour d = group by day w = group by week m = group by month y = group by year

Parameter	Default	Description
ChannelGroup	*	
Channel	*	
MediaServer	*	
CustomerName	*	
User	*	
Group	*	
Costcenter	*	Column name: MATTER
Company	*	
Department	*	
Fullname	*	
Freetext	*	
Salutation	*	
Mailsystem	*	
CountErrors	Y	

As this report is a variant of the LINES report, the following characteristics are inherited from the LINES report:

No matter which grouping categories you choose, this report contains only messages sent to or received from real physical channels.

The physical channels or channel groups must be configured per server via TC Management Console. For every physical channel or channel group on this server, define an association of channel and message class. Channel name and message class name must be “___” (three underscores) followed by the real name of the channel or channel group. **Example:** “___F” for channel group “F”, “___07” for channel 07.

Note

Several fields in the TCLINESN report are taken from the User_Table. This table is created during TC/Report Setup. Fetching user information must be enabled explicitly per server. If no user information is stored, the corresponding fields are displayed as “OTHER” in the TCLINESN report.

If user information has been changed, the user table may hold several entries for a single user, e.g., if the user changed to a different department. The TCLINESN report always uses the information that was valid at the send time. Depending on the grouping criteria, a user who changed from department “DEPT1” to “DEPT2” during the time covered by a report will show up twice in the TCLINESN report.

Example:

DEPT1 User1 15 send orders
DEPT2 User1 10 send orders

Graphic version: TCLINESN_GRAPH

The TCLINESN_GRAPH report contains two bar graphs, each of them displaying a configurable result category on the Y axis, against the first grouping category on the X axis.

Customizing column headers

The standard layout of the TCLINESN report has the following header:

SENT PAGES REC'D PAGES TOTAL FAXES TOTAL PAGES

You can customize the language file to get different headers for sent and received pages. Change the following lines in TCRPT01.LNG:

Report request parameter	Description in report request agent	Line number in TCRPT01.LNG	Default header text
SendOrdersOut	Outgoing Messages	120	SENT
SendOrdersIn	Incoming Messages	121	REC'D
SendOrders	Total Messages	122	TOTAL FAXES
PagesOut	Outgoing Pages	123	PAGES
PagesIn	Incoming Pages	124	PAGES
Pages	Total Pages	125	TOTAL PAGES
FaxPagesOut	Sent Fax Pages	184	PAGES
FaxPages	Total Fax Pages	185	TOTAL PAGES

Change to e.g.:

```

120          SENT
121          RECEIVED
122          TOTAL NR.
123          PAGES OUT
124          PAGES IN
125          TOTAL PAGES
184          FAX PAGES
185          TOTAL FAX PAGES

```

TC/Broadcast Job Statistic Report (TCJOB)

For this report, the Fetch Agent must be configured to fetch log entries!

The TCJOB report displays a job statistic for a specified customer and timeframe.

It holds information about all jobs that were created in the specified timeframe.

TOPCALL Report

JOB STATISTIC

Time period: 01.07.2002 00:00:00
 05.07.2002 00:00:00
 Server Name: MultiFax TCOSS

Print date
 Print time

USER	Job ID	Time Intended	Pages In	Pages Out	Duration	Distribution List
61359	00000257277	7/1/02 12:40:44PM	1	2	38	0001,0002,0003
	00000257309	7/1/02 12:41:24PM	1	0	0	0003,0004
61359	Total:	2 Jobs	2	2	38	
Total:		2 Jobs	2	2	38	

In this report it is not possible to change the grouping categories. Also the number of result categories is fixed. But you can choose which information is displayed in the first three result fields (Pages In, Pages Out, Duration in the above screenshot).

Possible statistic results

Name (in report request)	Description
PagesIn	Number of pages in the job request (for requests by fax: OFR cover is not counted)
PagesOut	Number of pages successfully sent out (PagesIn * successful send orders)
Duration	Sum of duration for all send orders of the job
FailedSendOrders	Number of failed send orders

Additional options

Name (in report request)	Description
TruncateList	Y or N, default is Y. If Y, the list of distribution list numbers is truncated to 40 characters, and ends with "...". If N, the list is not truncated and proceeds in a second line (only recommended for output as XLS file).

There is no graphical version of this report.

TC/Broadcast Distribution List Statistic Report (TCDL)

For this report, the Fetch Agent must be configured to fetch log entries!

The TCDL report displays a statistic of distribution list usage for a specified customer and timeframe. The report contains only distribution lists that were used during the specified timeframe. If job retries were made, the view contains also temporary distribution lists.

TOPCALL Report

Distribution List Usage

Time period: 01.07.2002 00:00:00
05.07.2002 00:00:00

Print date
Print time

Server Name: Multifax TCOSS

USER	Time period:	Distributionlist	Jobs
61359	2002-26	0001	1
		0002	1
		0003	2
		0004	1
61359	2002-26	Total	2
	Total		2
Total			2

Possible grouping categories:

Name (in report request)	Description
User	Job originator (= owner of distribution list)
DL	Distribution list ID
Time	Time of job creation
Server_Id	TCOSS instance

There is no graphical version of this report.

Single Notification for Broadcasts (NOTIF)

If a message is sent to several recipients a single notification can be created afterwards, either at a predefined time or at an explicit specified time. This notification shows the state of all mail entries belonging to this message and sending details of all recipients in one document.

In order to activate this feature, add the TC/Report user to the list of the recipients (normally as BCC).

Example:

```
To: Recipient 1
To: Recipient 2
etc.
BCC: FREE,TCReport:Notif
```

Note If the keyword "Notif" is not specified, the notifications will also be created, when there are more than one recipients (not only TCReport). In this case the notifications will be created at the predefined times.

At the preset time TC/Report will generate a notification showing the status of the mail entries. Default values are after one hour and after 24 hours (these values can be configured in the Report Agent registry)

It is also possible to specify a time when the report shall be created.

Example:

```
...  
BCC: FREE,TCReport:Notif;30m;2h;10h
```

The separator must be a semicolon (“;”).

In this case the first notification will be generated after 30 minutes, the second after 2 hours and the third after 10 hours.

TC/Report sends information to the originator immediately like the following **Example:**

```
The delivery notification(s) for '<subject>' will be created at 2001/04/01 10:30:00,  
2001/04/01 12:00:00, 2001/04/01 20:00:00.  
You can request further notifications by sending the following message  
to the report user:  
ReportName = NOTIF  
Message = xxxx
```

<subject> is a placeholder for the original message subject.

<xxxx> is a placeholder for the original message filename and creation time.

The originator can request another notification at any time, using the message text from the first response message.

The output format of the notification can also be specified.

Examples:

```
BCC: FREE,TCReport:Notif;DOC  
BCC: FREE,TCReport:Notif;DOC;30m;2h;10h
```

The usual output formats of TC/Report are available: CSV, RPT (Crystal Reports), DIF, RTF, XLS, HTM, DOC, PDF. Default is RTF

The notification shows the following information:

- List of recipients
- Information for each recipient:
- state of the message: waiting, waiting for retry, delivered, failed, no KCS message
- number of send attempts (if enabled in Fetch Agent)
- delivered messages: duration, delay (time_action – time_created)
- failed: error cause, response
- Summary:
 - number of messages delivered, failed, waiting
 - number of messages for each error cause
 - minimum, maximum, average time of duration and delay

Restrictions:

- TC/Report gets the information about delivery from the short term archive. The short term archive contains only terminated messages. It is not possible to distinguish all possible message states (e.g.

“waiting”, “active”). If the TC/Report fetches send retries, there will be a distinction between “waiting for retry” (one or more send attempts failed, but message is not yet terminated) and “waiting”. Otherwise, the notification will show the state “waiting” for all non-terminated messages.

- Specifying an output format is not possible if “;” is not accepted in the mail system. For Outlook it works.
- If you send the original message from a mail system (e.g. MS Exchange) and include the Report user as BCC, the notification may contain misleading information: All recipient addresses found in the KCS address book are replaced by the first active address of the corresponding address book entry. E.g. if the recipient is a fax number “415161” and the KCS address book contains a user “XYZ” with an inactive fax address “415161”, the recipient shows up as “TOPCALL,XYZ” in the NOTIF report. This does not happen if delivery type TO or CC is used for the Report user.
- The recommended minimum interval for notifications is 5m. Shorter intervals, e.g. “FREE,Reportagent:NOTIF;1m;2m;3m” cannot be guaranteed, because:
The fetchagent needs time to fetch the terminated messages into the database.
Sometimes, the fetchagent is busy e.g. updating channels or fetching user profile information.
The reportagent also needs time to create the report.
- If a send order was deleted from the action_table (e.g. via deletion of the oldest 10%), it is shown as “waiting” in the NOTIF report.
- This report works only if the original message is sent to several users. This report cannot be tested by sending to the report user only.

Queue Wait Time Report (TCWAIT)

With TCOSS 7.53.00 or higher, the TCOSS mail entries contain two new time stamps:

TIME_SCHEDULED ... planned time of first or next send attempt

TIME_SELECTED ... time when message was actually selected for sending

The difference between both values is the time the message was waiting in the queue (e.g. fax message waiting for a free line, email message waiting to be picked up by TCLINKSM).

The TC/Report Fetch Agent now stores this information in the database.

The queue wait time report (TCWAIT, TCWAIT_GRAPH) gives a statistic of the queue wait time, i.e. the time that outgoing messages were queued waiting until they were processed.

This report can be used for service level management, and as a basis for SLA reporting.

With the default parameters used by the Report Request Agent, you will get a statistic of the fax queue wait time (minimum, maximum and average) grouped by TCOSS instance and month.

Note Faxes sent with the <G> switch for fax chaining may be sent up to 64 minutes before their intended send time. As a consequence, they are displayed with a negative wait time in the TCWAIT report.

TOPCALL Report**Queue Waittime Report**

Time period: 01.08.2003 00:00:00 - 31.08.2003 23:59:59
Filters: Message Class = FAX
Server Name: TOM

Print date: 04.09.2003
Print time: 16:37

Minimum, maximum, average and percentile wait time displayed in minutes.

Server	Time period:	Minimum	Maximum	Average
TOM	2003-30	0.0	1.0	0.1
	2003-31	0.0	1.0	0.2
	2003-32	0.0	0.0	0.0
	2003-33	0.0	2.0	1.7
TOM	Total	0.0	2.0	1.4
Total		0.0	2.0	1.4

Possible grouping categories (1-2 can be selected)

Name (in report request)	Description
Time	Real send time, database field Time_Stamp_Local. Units defined in parameter Resolution.
Time_Intended	Intended send time, database field TIME_INTENDED. Units defined in parameter Resolution.
Server_ID	TCOSS instance name, database field Server_ID.
CustomerName	Customer name for the Server_Id, Server_Table field Customer_Name
Recipient	Recipient message class (e.g. FAX, SMTP). Database field MsgClass_Recipient.
ChannelGroup_Out	Database field Chg_Out, is taken from localized address

Possible statistic results (1-3 can be selected)

Name (in report request)	Description
Minimum	Minimum queue wait time (minutes)
Maximum	Maximum queue wait time (minutes)
Average	Average queue wait time (minutes)
Percentile99	99th percentile of queue wait time (minutes) (maximum wait time for the best 99%)
Number	Total number of send attempts

Options:

Name (in report request)	Description
FilterMsgClass	Display only statistics for the specified recipient message class (database field MsgClass_Recipient). Here you can specify 1 message class or * to disable the filter. With this option, you can apply a filter without adding a group.

Name (in report request)	Description
FilterChgOut	Display only statistics for messages sent to the specified channel group (database field Chg_Out). Here you can specify 1 channel group or * to disable the filter. With this option, you can apply a filter without adding a group.

Default Parameters in report request Agent:

Parameter	Default	Description
Server_ID	*	Default = all servers
DateFrom .. DateTo	From: beginning of the current year, To: current date	From – To
GroupOrder	Server_Id,Time	
ResultOrder	Minimum,Maximum,Average	
Resolution	M	h = group by hour d = group by day w = group by week m = group by month y = group by year
CustomerName	*	
Recipient	*	
ChannelGroup_Out	*	
FilterMsgClass	*	
FilterChgOut	FAX	Show only fax queue wait time

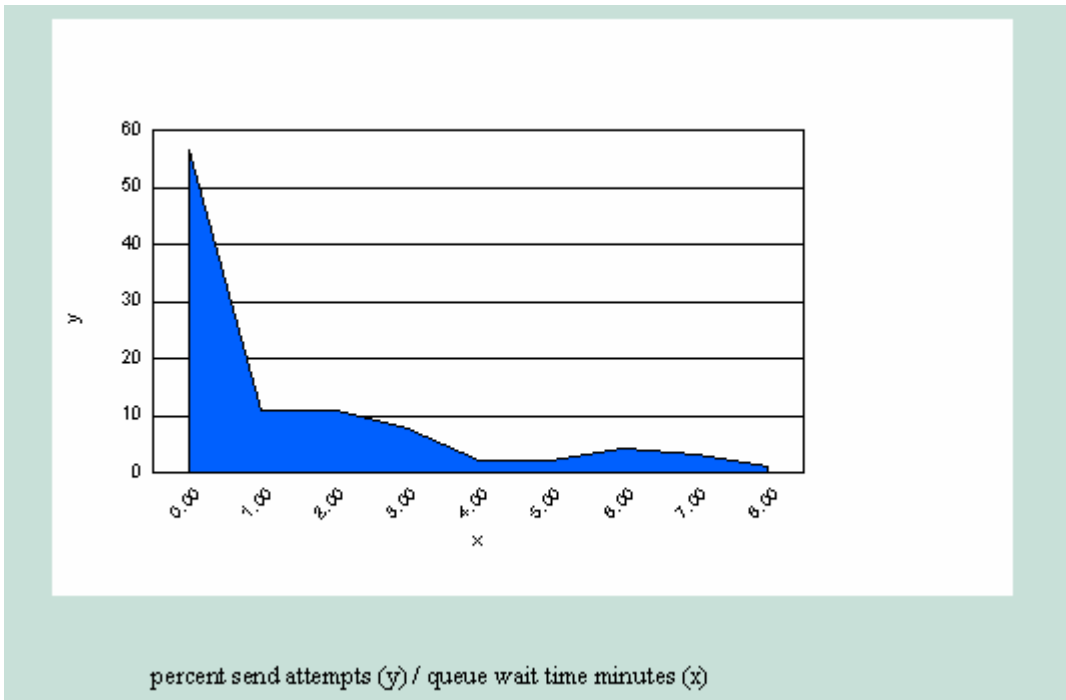
Graphic version

The graphic version of this report is called TCWAIT_GRAPH. It allows only 1 grouping category (default is Time).

In this report, the table with statistic data is followed by a simple graphic that displays the distribution of queue wait time values within all evaluated send attempts.

The horizontal (X) axis of the graph measures the queue wait time in minutes.

The vertical (Y) axis measures the percent send attempts that experienced a given wait time.



Records evaluated by this report:

This report evaluates only send orders where both time stamps TIME_SCHEDULED and TIME_SELECTED are defined. Please note that these fields are missing in send orders created by TCOSS versions below 7.53.00. Send orders created with older TCOSS versions do not count in this statistic.

The report evaluates all send attempts (if they are fetched into the database). This means that the calculated values are the minimum, maximum, etc. queue wait time per send attempt (not per send order).

If you apply any filters (via FilterMsgClass, FilterChgOut or via the Group criteria), only database records matching these criteria are displayed.

Translating this report:

If you want to translate or otherwise customize the headers and labels of this report, you can change the following lines in the TCRPT01.LNG language file:

Line	Default text	Description
154	Message Class =	Report header (displaying filter options)
155	Minimum	Result column header
156	Maximum	Result column header
157	Average	Result column header
158	99th Percentile	Result column header
159	Number	Result column header

Line	Default text	Description
160	Filters:	Report header (displaying filter options)
161	Channel Group =	Report header (displaying filter options)
162	percent send attempts (y) / queue wait time minutes (x)	Graph description in TCWAIT_GRAPH.
163	Minimum, maximum, average and percentile wait time displayed in minutes.	Comment in report header

Probe Statistic Report (TCPROBE)

This report can only be used if the KCS Probe Agent is installed on the TC/Report database.

TOPCALL Report

PROBE STATISTIC

Time period: 07.07.2003 17:00:00
 (local time) 08.07.2003 08:59:59

Print date: 08.07.2003
 Print time: 12:05

Server	Probe Name	Time period:	Probes done	Probes failed	Avg. Duration
TOM	Test to TC User	2003/07/07	3	0	10
		2003/07/08	10	0	10
	Total:		13	0	10
	Test to TCLINKFI	2003/07/07	5	0	28
		2003/07/08	8	0	18
	Total:		13	0	22
TOM	Total:		26	0	16
Total:			26	0	16

This report is for evaluation of periodic probes. It shows the proportion of failed probes during an interval.

The report can be grouped by:

Name (in report request)	Description
Time	Probe start time (P_TIME_STARTED)
Server_ID	TCOSS instance (P_SERVER_ID)
Customer	Customer (matching the P_SERVER_ID)
ProbeID	Probe definition ID (P_DEFINITION)
ProbeName	Probe name (P_DEFINITION_NAME)

The following statistic results can be displayed:

Name (in report request)	Description
ProbesDone	Total number of probe messages sent
ProbesFailed	Number of failed probe messages
PercentFailed	Percentage of failed probe messages

Name (in report request)	Description
AvgDuration	Average probe duration in seconds

You can select a maximum of 3 grouping categories and 3 statistic results columns.

The time parameter specified in the report request and displayed in the report is to be interpreted as local time on the report agent computer.

Probe Failure Statistic Report (TCPROBED)

This report can only be used if the KCS Probe Agent is installed on the TC/Report database.

TOPCALL Report

PROBE FAILURE STATISTIC

Time period: 01.01.2003 00:00:00
(local time) 31.12.2003 23:59:59

Print date: 08.07.2003
Print time: 12:05

Server	Probe Name	Time period:	Failures	Duration	Max. Duration
TOM	New Probe Definition	2003/07	1	4	4
	New Probe Definition	Total:	1	4	4
TOM	Total:		1	4	4
Total:			1	4	4

This report displays how long a messaging path was unavailable. You should only use it for probes that are configured to be retried on failure.

The report can be grouped by:

Name (in report request)	Description
Time	Probe start time (P_TIME_STARTED)
Server_ID	TCOSS instance (P_SERVER_ID)
Customer	Customer (matching the P_SERVER_ID)
ProbeID	Probe definition ID (P_DEFINITION)
ProbeName	Probe name (P_DEFINITION_NAME)

The following statistic results can be displayed:

Name (in report request)	Description
Failures	Number of failed probes
Duration	Total duration of downtime
MaxDuration	Maximum duration of downtime
AvgDuration	Average duration of downtime

You can select a maximum of 3 grouping categories and 3 statistic results columns.

The time parameter specified in the report request and displayed in the report is to be interpreted as local time on the report agent computer.

Probe Downtime per Interval Report (TCPROBE_ERR)

This report can only be used if the KCS Probe Agent is installed on the TC/Report database.

TOPCALL Report				
PROBE FAILURES PER INTERVAL				
Time period:	21.02.2008 12:00:00		Print date:	21.02.2008
(local time)	21.02.2008 15:59:59		Print time:	14:38
The downtime duration is displayed in minutes.				
Time period:	Probe Name	Failures	Duration	Max. Duration
2008.02.21 12	MkProbe2	1	60	60
2008.02.21 12	Total:	1	not applicable	60
2008.02.21 13	MkProbe2	1	60	60
2008.02.21 13	Total:	1	not applicable	60
2008.02.21 14	MkProbe2	1	38	38
	SMTP Probe	1	22	22
	TCUNKLN Probe	1	22	22
2008.02.21 14	Total:	3	not applicable	38
Total:		3	202	60

This report documents the unavailability of message paths with a configurable time granularity (per hour, day, week, month or year). TCPROBE_ERR uses time intervals as the first grouping category. The second grouping category is the probe definition.

The results columns show the amount and duration of failures per time interval. If e.g. the time granularity is “per hour”, the report contains every hour where probe failures were encountered, and shows the duration of the failure within this hour.

This report works only for configured to be retried on failure.

The report is grouped by:

Name (in report request)	Description
Time	Start of time interval (depends on resolution)
ProbeName	Probe name (P_DEFINITION_NAME)

Additional parameters:

Name (in report request)	Description
Server_ID	Display only statistics for the specified TCOSS server(s)
Resolution	Time granularity

The following statistic results can be displayed:

Name (in report request)	Description
Failures	Number of failed probes
Duration	Minutes of downtime within the time interval
MaxDuration	Maximum duration of downtime within the interval
AvgDuration	Average duration of downtime

You can select up to 3 statistic results columns.

The time parameter specified in the report request and displayed in the report is to be interpreted as local time on the report agent computer.

Application Downtime Report (TCAPP)

This report can only be used if Application Downtime Fetching is configured for the Fetch Agent.

TOPCALL Report

APPLICATION STATISTIC

Time period: 21.10.2003 00:00:00
21.10.2003 23:59:59

Print date: 27.10.2003
Print time: 8:48

Filters: Columns = SOSEARCH

Workstation	Application Group	Application	Not working from	to	Time (hh:mm:ss)
SOARCH1	Archive	TCARCH02	21.Oct 10:07:08	21.Oct 10:10:15	00:03:07
		Total Downtime			0 days 0 hours 3 minutes 7 seconds
	TCBROADCAST	TCNOTIF	21.Oct 00:00:00	21.Oct 10:03:35	10:03:35
		Total Downtime	21.Oct 10:07:45	21.Oct 10:10:17	00:02:32
					0 days 10 hours 6 minutes 7 seconds
		TCOCRMF	21.Oct 00:00:00	21.Oct 10:03:35	10:03:35
	Total Downtime	21.Oct 10:07:27	21.Oct 10:10:17	00:02:50	
			0 days 10 hours 6 minutes 25 seconds		
TCRESMF	21.Oct 00:00:00	21.Oct 10:03:35	10:03:35		
Total Downtime	21.Oct 10:07:43	21.Oct 10:10:17	00:02:34		
			0 days 10 hours 6 minutes 9 seconds		
TCROUTE	TCROUTE	TCROUTE	21.Oct 00:00:00	21.Oct 10:03:35	10:03:35
		Total Downtime	21.Oct 10:07:45	21.Oct 10:10:17	00:02:32
				0 days 10 hours 6 minutes 7 seconds	
TCSTATUS	TCSTATUS02	TCSTATUS02	21.Oct 00:00:00	21.Oct 10:03:35	10:03:35
		Total Downtime	21.Oct 10:07:08	21.Oct 10:10:17	00:03:09
				0 days 10 hours 6 minutes 44 seconds	
SOLINK1	Link TCDC	TCDCLINK	21.Oct 00:00:00	21.Oct 10:05:21	10:05:21
		Total Downtime	21.Oct 10:09:21	21.Oct 10:12:28	00:03:07
					0 days 10 hours 8 minutes 28 seconds
TCLINKSM	TCLINKSM2	TCLINKSM2	21.Oct 00:00:00	21.Oct 10:05:21	10:05:21
		Total Downtime	21.Oct 10:09:40	21.Oct 10:12:30	00:02:50
				0 days 10 hours 8 minutes 11 seconds	
	TCLINKSM3	TCLINKSM3	21.Oct 00:00:00	21.Oct 10:05:21	10:05:21

The TCAPP report shows downtime intervals for single applications, e.g. one report line might tell you that the application TCLINKFI4 was down today from 12:00 to 12:05, which means a downtime interval of 5 minutes. The report also shows the total downtime of the application during the report interval.

Depending on parameters in the report request, additional information is part of the report:

The application-specific information can be grouped by application group, customer and workstation. You can also specify filters to select a single application, application group, customer or workstation, e.g. to create a report for one customer only.

With default settings, the report is grouped by customer and application group.

Notes:

- Report start and end date are interpreted as “local time on the workstations”. Start and end of application downtime periods is also displayed as local time on the workstation where the application runs.
- The server selection in the TC Management Console report request panel is ignored.
- For report request with “wait until end date” set (typical periodic reports), the report is created when the local time on the TC/Report workstation is greater or equal as the report end date.
- No other time checks are done.
- An empty report (table without data) means that no downtime information is available for the requested period and selection criteria.

Possible grouping categories (1-2 can be selected)

Name (in report request)	Description
AppGroup	Application group, database field AppGroupID
CustomerName	Customer, database field CustomerID
Workstation	Workstation name, database field Workstation

Statistic results (no selection possible)

Name (in report request)	Description
RFrom	Start of a single downtime period (if the application was already down at the report start date, the application displays the report start date)
RTo	End of a single downtime period (if the application is still down, the report displays the report end date)
RTime	Time difference between RFrom and RTo

Options:

Name (in report request)	Description
FilterCustomer	Display only statistics for applications of the specified customer (database field CustomerID). Here you can specify 1 customer name or * to disable the filter. With this option, you can apply a filter without adding a group.
FilterWorkstation	Display only statistics for applications on the specified workstation (database field Workstation). Here you can specify 1 workstation or * to disable the filter. With this option, you can apply a filter without adding a group.
FilterAppGroup	Display only statistics for applications of the specified application group (database field AppGroupID). Here you can specify 1 application group or * to disable the filter. With this option, you can apply a filter without adding a group.

Name (in report request)	Description
FilterApplication	Display only statistics for the specified application (database field AppID). Here you can specify 1 application or * to disable the filter. With this option, you can apply a filter without adding a group.

Default Parameters in report request Agent:

Parameter	Default	Description
Server_ID	*	Is ignored
DateFrom DateTo	From: beginning of the current year, To: current date	From – To
GroupOrder	CustomerName,AppGroup	
ResultOrder	RFrom,RTTo,RTime	
CustomerName	*	
AppGroup	*	
Workstation	*	
FilterCustomer	*	
FilterWorkstation	*	
FilterAppGroup	*	
FilterApplication	*	

Translating or customizing this report:

If you want to translate or otherwise customize the headers and labels of this report, you can change the following lines in the TCRPT01.LNG language file:

Line	Default text	Description
165	The downtime duration is displayed in minutes.	Comment in report header
166	Application Group	Group header
167	Workstation	Group header
168	Application	Group header
52	Customer Name	Group header (language file line is also used for other reports)
169	Not working from	Result column header
170	to	Result column header
171	Time (hh:mm:ss)	Result column header
172	Total Downtime	Descriptive text at end of application statistics
173	dd.MMM HH:mm:ss	Format string for display of start and end date of unavailability in result columns
174	Workstation =	Part of report header, displayed if workstation filter specified

Line	Default text	Description
175	Application Group =	Part of report header, displayed if application group filter specified
176	Customer =	Part of report header, displayed if customer filter specified
177	Application =	Part of report header, displayed if application filter specified
178	days	Text for displaying total downtime
179	hours	Text for displaying total downtime
180	minutes	Text for displaying total downtime
181	seconds	Text for displaying total downtime

Chapter 5

Errors / Troubleshooting

If the command message cannot be processed, it is either retried with break code ST_BREAK4 (default: 1 retry) or immediately terminated negatively.

The TCOSS field LAST_MDA_NOTE (TCfW column in outbox: Response) contains a short description of the error. Additionally an event log entry is generated and the LAST_MDA_ACTION (TCfW column in outbox: Error) field contains QR. The originator gets one of the following error messages:

Error	Subject	Text	Retries (single report)	Retries (periodic report)
1	No printer driver installed !	Make sure that a printer driver is installed on the computer where TC/Report is running. The Windows user needs the necessary rights to access the printer.	0	0
11	User %1 is not allowed to generate reports	The KCS User "%1" needs the reporting right. Please contact your system administrator.	0	0
21	ERROR during checking user rights	The KCS user for TC/Report could not check the user rights. This User needs the right to read all user profiles. Please contact your system administrator.	0	0
31	Error: Message text not found!	TC/Report could not find the message text of the report request. The message text is necessary to specify the report parameters.	0	0
41	Can't convert date/time	Invalid values in the parameters DateFrom, DateTo, Day, Month, Year! Make sure that the values have the right format. DateFrom or DateTo = YYYYMMDD:HHMMSS Year = YY or YYYY Month = MM, YYMM or YYYYMM Day = DD, DDD, MMDD, YYMMDD or YYYYMMDD (e.g. Day=100 means the 100th day in the year). Only useful combinations are allowed (e.g. Month = 02; Day = 10)	0	0
51	Different currencies of TCOSS's	Statistics of costs cannot be calculated, because the requested TCOSS servers have different currencies. If the requested report doesn't depend on the currency, please contact your system administrator.	0	0
61	%1.rpt not found	The requested report template (ReportName = ...) does not exist. Make sure that the report name is correct (without extension .rpt).	0	0

Error	Subject	Text	Retries (single report)	Retries (periodic report)
71	Error copying output file	TC/Report couldn't copy the Report to the specified destination. - Make sure that the Windows user for TC/Report has write access to the destination. - Check the necessary disk space Error %1,%2	1	Unlimited
81	Fetch Agent didn't fetch requested time period.	The Fetch Agent didn't fetch the requested time period. The time period for the requested servers '%4' must start with %1 or above. Please try to request the report later. Details: %5 (list of servers and fetched intervals)	1	Unlimited
91	CR: %1 %2	The Crystal Report engine failed with error %1, %2.	1	1
101	ERR: %1 %2	Unexpected error: %1, %2. Please contact your system administrator.	0	0
111	Printer not found - default printer is used instead.	The specified printer (%1) couldn't be found. The default printer (%2) is used instead.	0 (report is created)	0 (report is created)
121	The Report will be created later.	The specified end-date '%1' is not yet in the database. The Report will be created later. Details: %5 (list of servers and fetched intervals)	Unlimited	Unlimited
141	Restore Backup, try again	The entries for the requested time period are stored in the backup %3. This backup is already overwritten. Please restore the backup %3 with the time period from %1 to %2. Rename the backup files to a temporary filename, and request the report with the parameter "Database=...". Details: %5 (list of servers and fetched intervals)	0	Unlimited
151	Can't access more than 1 database	The entries for the requested time period are stored in more than one backup database. Crystal Reports can only access one database. You can split the request to all the time periods of the backup databases, or create a new database which contains all entries of the requested time period and request the report with the parameter "database=...". Details: %5 (list of servers and fetched intervals)	0	Unlimited
161	Couldn't send msg	The Report Agent couldn't send the message to the user %1. Check the value in the parameter DESTINATION = ..., or check the user rights of the Report Agent.	1	Unlimited
171	Output format not supported	The requested output format is not supported by the report agent.	1	1

Error	Subject	Text	Retries (single report)	Retries (periodic report)
181	Server doesn't exist	The requested server doesn't exist ! Check the value in the parameter SERVER_ID = ...,	1	1
201	Printer "TOPCALL Fax" is not installed.	The requested printer doesn't exist.	0	0
211	Timeout printing to TCI file.	Timeout printing to TCI file. Try incrementing PrintTimeout.	0	Unlimited
221	Server not found in database	The requested server %4 was not found in database %3 Check parameters SERVER_ID and DATABASE !	1	Unlimited
231	Fetch Agent did not fetch requested time period.	The Fetch Agent didn't fetch the requested time period. Please try to request the report later. Details: %5	1	Unlimited
241	No connection to database.	Error or timeout while connecting to the database.	Unlimited	Unlimited

Note The informational message 121 "The Report will be created later" can be disabled in Report Agent configuration. See TCREPORT Technical Manual for details.

While a report request waits for the report end date (after the optional message 121 has been sent), you will not receive any error message 241 "No connection to database" until 2 days before the report end date.

Chapter 6

Restrictions and Significant Limitations

General Restrictions of the Software

- Japanese language is only supported with Unicode-enabled databases (databases created by KCS 9.2 or later versions).

User Interface

- Just **English language files** are delivered for TC Management Console panels of TC/Report.

Data Consistency

- The stored **message size** can slightly differ from the true value (e.g. Cover sheets are not counted as part of the message size)
- Each **channel** can have only one **message class**. If you change the Channel – Message Class assignment, it will be done for each entry in the database. E.g. if a channel is assigned to Fax and it won't be needed anymore, this channel should not be used for other services.
- The LINES report and certain features of the UNIV report (group by country code or channel group) only work if all **physical channels** and channel groups are configured in a special way (___ syntax in TC Management Console). Only entries fetched after configuring the channel or channel group are evaluated.
- Calculation only based on existing data where **costaccounting** was activated, not for data of the past (e.g. if CostPerRecipient for TC/LINK's is activated after installing TC/REPORT, the reported costs for the TC/LINK's are only valid from this moment on).
- In the case of a (very unlikely) **desync condition of a KCS Tandem server** logging entries can get lost.
- When triggering an event or sending a notification, TCOSS copies custom field values from the original send order into the new send order. If the event or notification is archived, be careful to interpret the information properly (use the parameters WithEvents and WithNotifs in UNIV report to filter for original messages).
- Custom field values may get truncated by TCOSS. Each field can have 128 characters, but the total length of all four custom fields is limited to 320 characters.

Report Requests

- The **error code QR** used by TC/Report is reported as “undefined error code” in KCS Link versions below 2.03.02 and KCS Client Applications older than 5.00.07. Solution: copy the newest TC0x.ERR files.
- **Crystal reports can access only one database** – when the data is split in more than one (backup) database, you have to split the request.
- If you want to fax a report, use the syntax **„Destination=FAX,number“**. Although the option **„Destination=TOPCALL,FAX,number“** is syntactically correct, it cannot be used because it would send a binary file to the fax channel.

- There is no explicit information if the generation of the **periodic reports** is stopped in case of an error. You will get a non-delivery message, which usually means that the generation of the periodic reports is stopped, but it could be possible that the retry of the send order succeeds.
- The **memory usage of the Report Agent** increases with every processed report. To avoid performance problems for other applications, the Report Agent is restarted after 1000 report requests (configurable).

Reports

- **No borders in DOC reports** (general: Crystal report errors and restrictions apply).
- **Do not use Wordpad for viewing RTF reports**, as they are not rendered in good quality by this application. Use MS Word instead.
- Currently creation of **new reports** or modifications of reports is only supported via **Kofax Professional Services**.
- Grouping category values longer than 27 characters can become invisible when exporting to RTF format.
- The **old reports** of the TC/Report version 1.00.xx (RPTx[_GRAPH].rpt) are not supported
- The **scale of graphs** in graphic reports is determined automatically by Crystal Reports. For some customer requirements, it might be necessary to use a fixed scale instead. This must be changed manually via the Crystal Reports Designer.
- The UNIVERSAL report yields wrong information if send attempts are fetched. Send retries are counted as individual send orders.
- When national characters cannot be displayed in the font defined in the report, Crystal Reports can change the font type and size. It is not guaranteed that the text fits into the defined line borders, i.e. it happens that a line is truncated at the top or at the bottom.
- In DOC and RTF reports, server names with non-ASCII characters can be truncated at the bottom. The report fields are too small to hold e.g. Chinese or Arabic characters. A workaround would be to manually increase the field size.
- In reports sent to destination "PRINT" or "FAX", text fields including simultaneously "left to right" and "right to left" characters are corrupted. E.g., if the text field consists of English and Arabic characters, the Arabic characters overwrite the English characters.