

## ThinPrint Tracking

Print job statistics  
(version 8.6)

## Manual

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**Safety warning**

All ThinPrint products are pure software solutions. Please note the safety warnings in the technical documentation from your hardware vendor and from the manufacturer of each device and component. Before beginning installation, we recommend closing all windows and applications and deactivating any virus scanner.

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## Overview

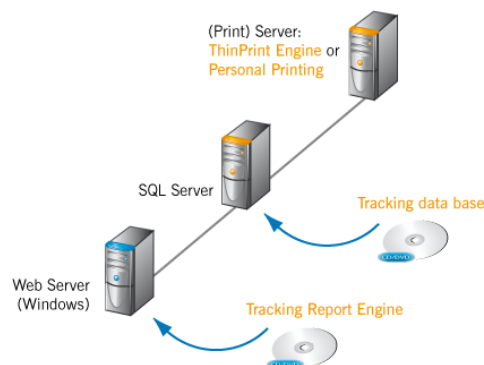
ThinPrint Tracking allows you to oversee your print volume: How many printers are overloaded? Which are hardly used? How many color or black&white printouts are printed on a daily basis? What are the resulting costs?

### How it works

The print data of ThinPrint Ports is compiled by the server and transferred into an SQL database. From there, they can be graphically presented as a website using the Tracking Report Engine, which also allows for many other settings, such as querying print volumes for a certain branch during a certain time period. Authorized individuals can access the website from anywhere.

Print job tracking has the following components (Illus. 1):

- **ThinPrint Engine or Personal Printing**  
sends data to the ThinPrint Tracking Service
- **ThinPrint Tracking Service**  
receives data and writes it to an SQL database
- **ThinPrint Tracking Report Engine**  
web component for clear analysis, summary, and graphic report of tracking results



**Illus. 1** Example for using ThinPrint Tracking

Tracking is part of the following ThinPrint products:

- **ThinPrint Engine** with a **ThinPrint Engine Premium** license  
or
- **Personal Printing**

If not yet installed, an SQL server must be installed to enable use of the tracking feature within the ThinPrint Engine. This program is not included in the ThinPrint Engine software.

## Tracking Service

You can gather information about the print jobs sent with the ThinPrint Engine for your statistics (tracking). To do so, you must set up a Microsoft SQL server. The Thin-

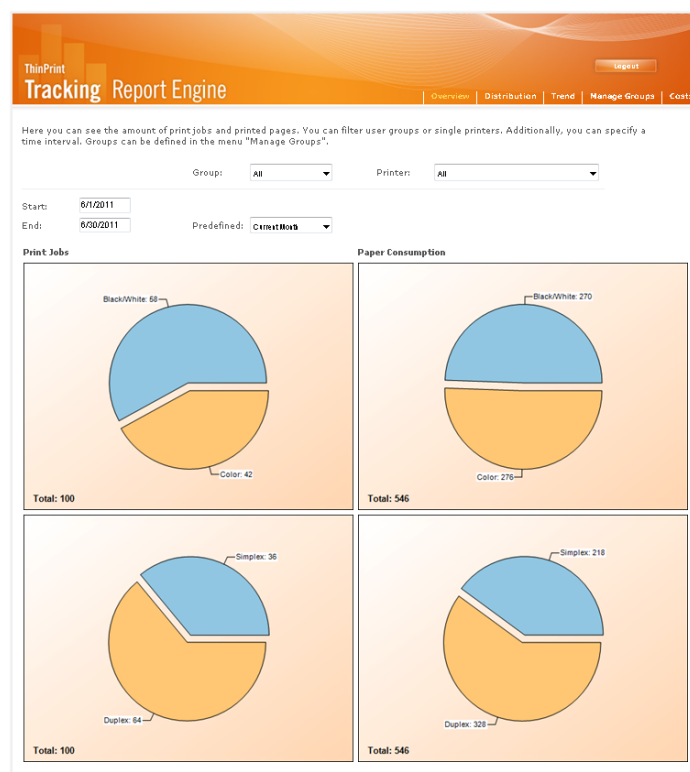
Print Engine sends its tracking data to the server that has the tracking service installed. Print data which can be analyzed and displayed by Tracking Report Engine are:

- Author of a print job (user/group)
- Printer used
- Settings used
- Number of pages printed
- Information on any errors
- Costs
- Compression rates (ThinPrint Engine only)
- Print duration
- Print data during a defined period

The SQL server can collect print data from different sources – from ThinPrint Engines on application or print servers or from Personal Printing servers.

## Tracking Report Engine

ThinPrint Tracking includes a web application for viewing the tracking data. This program represents the SQL data graphically in its web interface – installed on a web server. The tracking data can therefore be analyzed from the web browser on any workstation (Illus. 2).



**Illus. 2** Analyzing SQL data in a web browser (example)

## Installation and configuration

### Technical requirements

Your architecture must meet the following requirements for running ThinPrint Tracking:

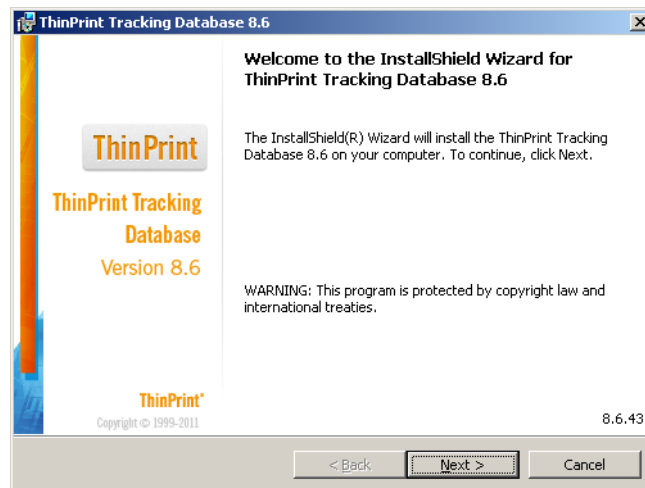
- **ThinPrint Engine + ThinPrint Tracking Service:**  
See the *ThinPrint Engine* manual (on *terminal servers* or *print servers*, on [Page 25](#)) or **Personal Printing:** See *Personal Printing* manual (on [Page 25](#)).
- The **SQL server** additionally requires:
  - Microsoft SQL Server 2005, 2008 or 2008 R2
- The **ThinPrint Tracking Report Engine** can be run on the following servers (as a web server):
  - Windows Server 2003 x86 with Service Pack 2 or later
  - Windows Server 2008 x86 and x64 Service Pack 2
  - Windows Server 2008 R2 x64 Service Pack 1The following is required:
  - Microsoft .NET Framework version 3.5 SP 1
  - ASP .NET (can be enabled as a Windows component or installed as a part of the .NET Framework)
  - Internet Information Services (IIS) 5.1 or later. Port 80 is used by default. Do not change this port number and make sure that no other programs are using this port.

**Note!** Please note with ThinPrint Tracking, that data printed via a ThinPrint Port is collected.

Administrator permissions are required for all installation and configuration procedures.

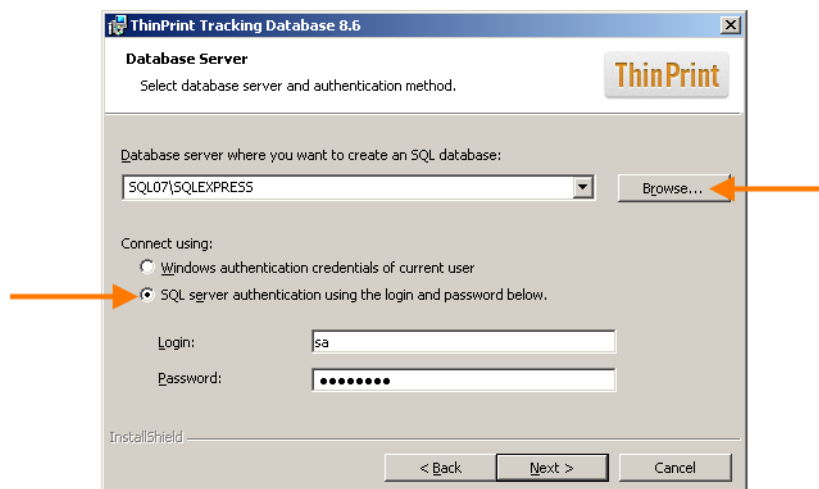
### Installation of Tracking Database

- Open SETUP.EXE onto the SQL server.
- Select the desired language. InstallShield Wizard opens, see Illus. 3 and click Next.



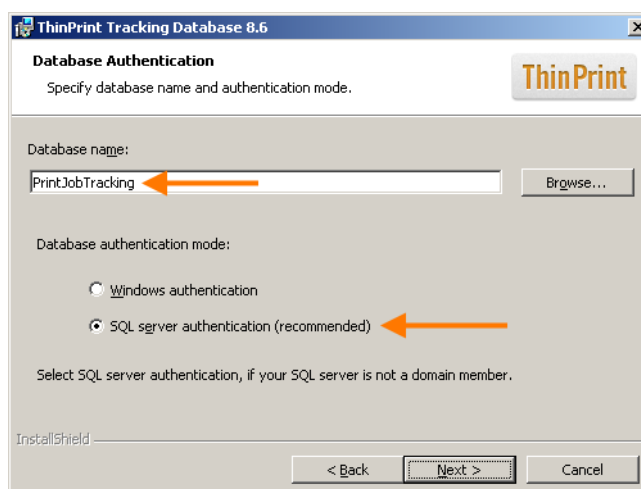
Illus. 3 Start InstallShield Wizard

- Select the SQL server, on which you wish to install Tracking database (arrow above in Illus. 4).
- Then specify how do you wish to access the database (Illus. 4, bottom arrow):
  - Windows authentication or
  - SQL server authentication
- Confirm with NEXT.



Illus. 4 Choose Database server and authentication to SQL server

- Choose a name for the database in which the information about print jobs will be stored: PRINTJOBTRACKING for example (Illus. 5, upper arrow).
- In case of a software update, you can select an existing database by clicking on the button BROWSE.



**Illus. 5** Choose database server and Authentication mode

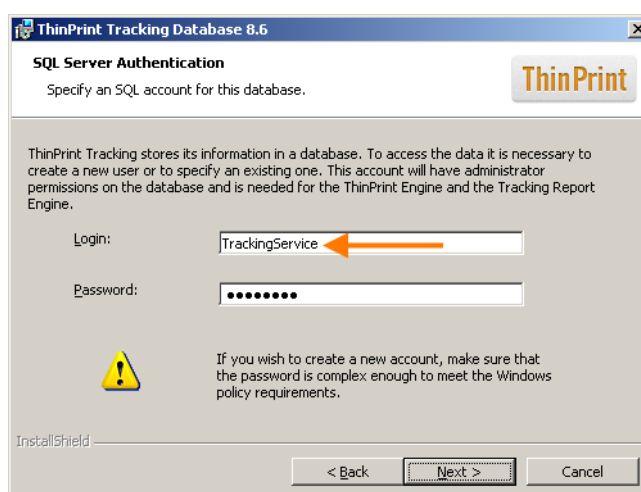
## Select authentication mode for the users

Authentication mode (Illus. 6) defines how the users and Tracking Service access the stored print data via Tracking Report Engine.

**Note!** SQL server authentication is recommended.

### SQL server Authentication

- Create an account with administration permissions (Illus. 6), TRACKINGSERVICE for example. Or specify an existing one.
- Note the user name and password. Confirm with NEXT and close InstallShield Wizard with FINISH.

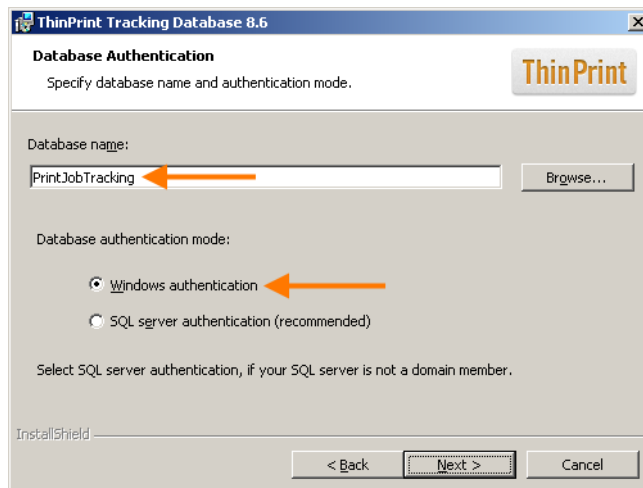


**Illus. 6** Create administrator account for the Database

### Windows authentication

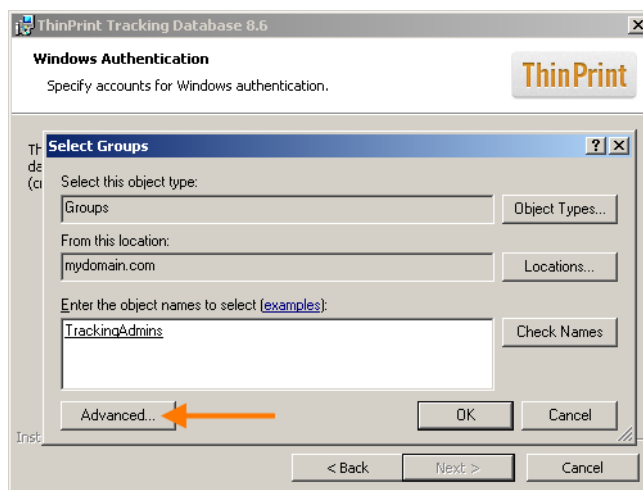
If you choose Windows Authentication (Illus. 7), all users and servers need to be members of the same domain. Users can log on with their user name and their domain password.





**Illus. 7** Choose Windows authentication mode

- Choose WINDOWS AUTHENTICATION (Illus. 7, lower arrow) and confirm with NEXT.



**Illus. 8** Inherit groups from Active Directory

- You can select user groups from the Active Directory which should be able to access Tracking Database. For this, click ADVANCED (arrow in Illus. 8).

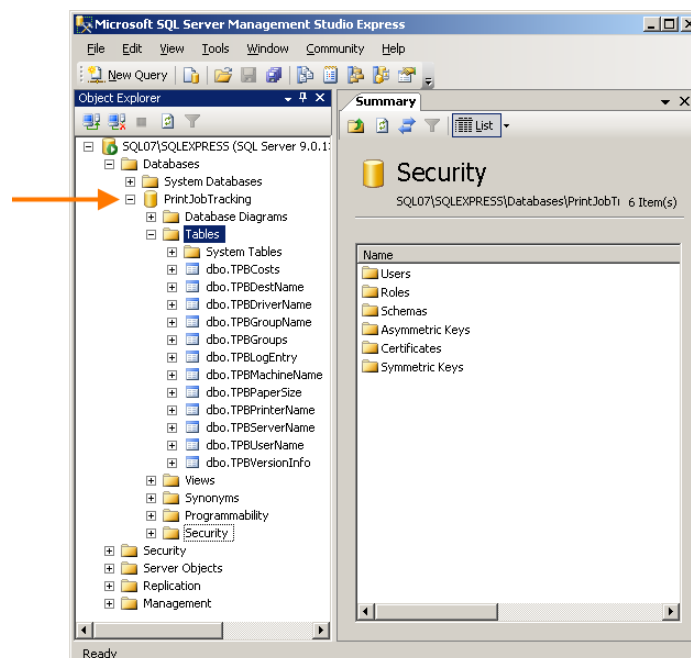


**Illus. 9** Define administrator groups and user groups

During installation of Tracking database, Tracking database administrators (Illus. 9, arrow above) with read and write permissions will be created, as well as users with read permissions only (see Illus. 9, bottom arrow).

- Finally, conclude Tracking database installation in InstallShield Wizard with INSTALL and FINISH.

## Manage Tracking Database

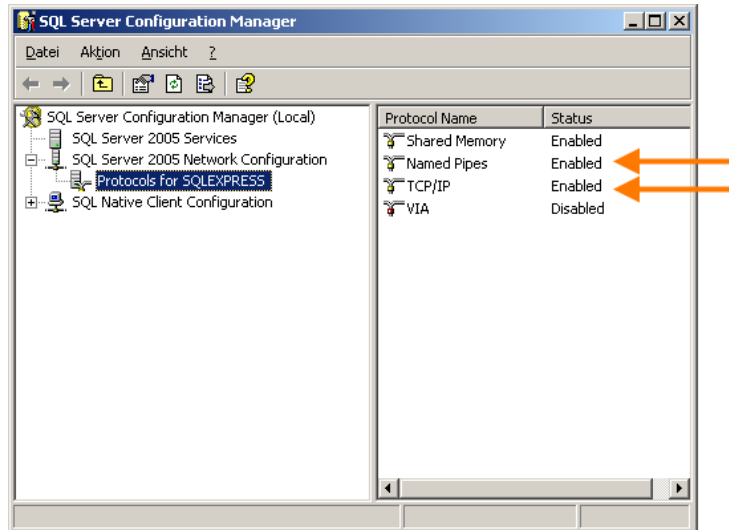


**Illus. 10** Database (here: PrintJobTracking)

- Open a management tool for the database, as for example Microsoft SQL Server Management Studio Express<sup>1</sup>. With this tool, you can administer the database created by the installer (Illus. 10).

*With SQL authentication*

When you install Tracking database with SQL authentication, a user account will be created with read permissions on the database. This name of the user account will be TRACKINGUSER, and the password is: THINPRINT-1.

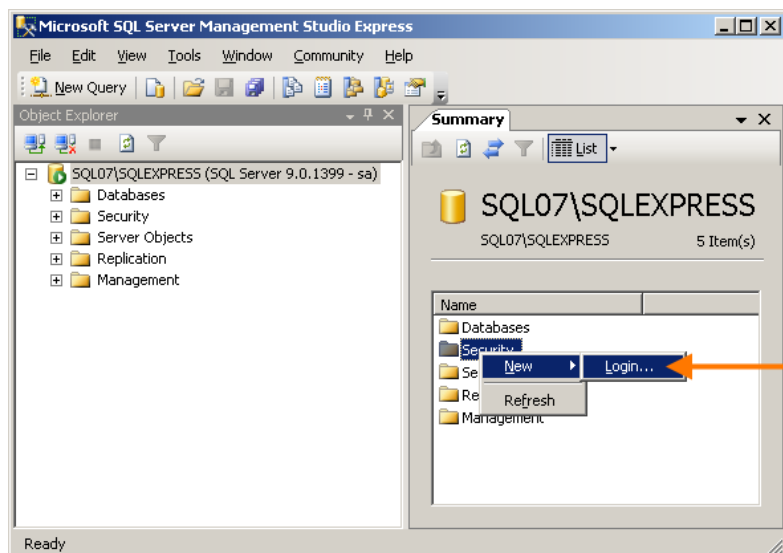


**Illus. 11** Enable protocols

- To access the SQL server remotely, open SQL Server Manager and enable the protocols NAMED PIPES and TCP/IP (Illus. 11). Then start the SQL SERVER BROWSER in the services folder.

*With Windows authentication*

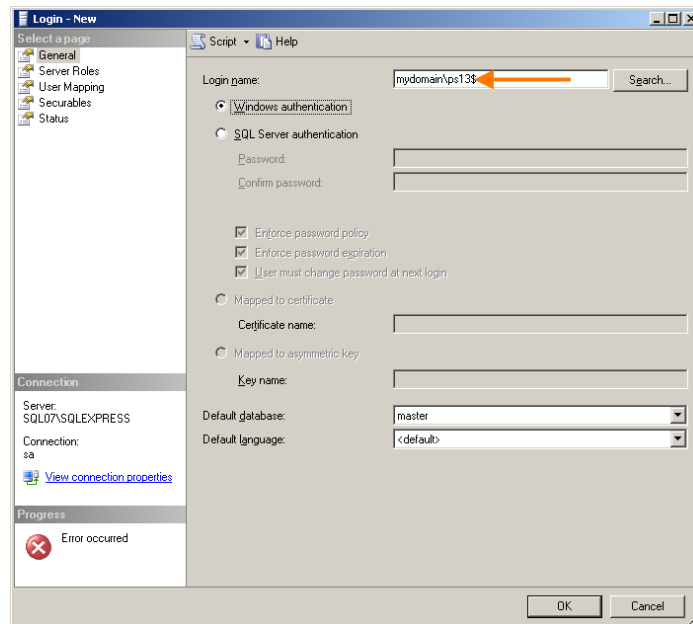
- To ensure the Tracking Service gets access to the SQL server, open Management Studio Express (Illus. 12) and enter with a right click in the FOLDER SECURITY on NEW and LOGIN.



**Illus. 12** Install access for Tracking Service on the SQL server

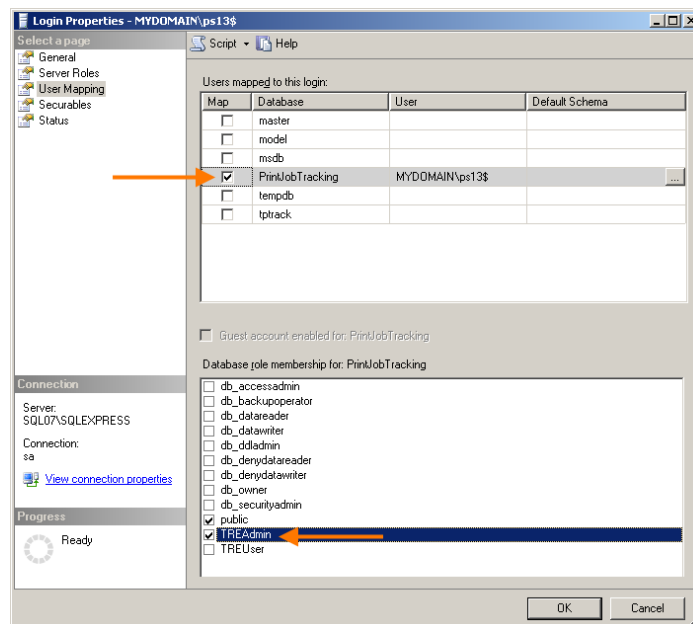
1 Can be downloaded from the Microsoft website for free ([www.microsoft.com](http://www.microsoft.com), Page 25, note system requirements)

- Create a new account according to this sample (Illus. 13):  
<domain>\<Server name of Tracking Service>\$  
Here: mydomain\ps13\$



**Illus. 13** Install login for Tracking Service

- Put a checkmark at the database, which is configured for Tracking, here: PRINT-JOBTRACKING (arrow above in Illus. 14) and a checkmark at TREADMIN, lower arrow in Illus. 14.



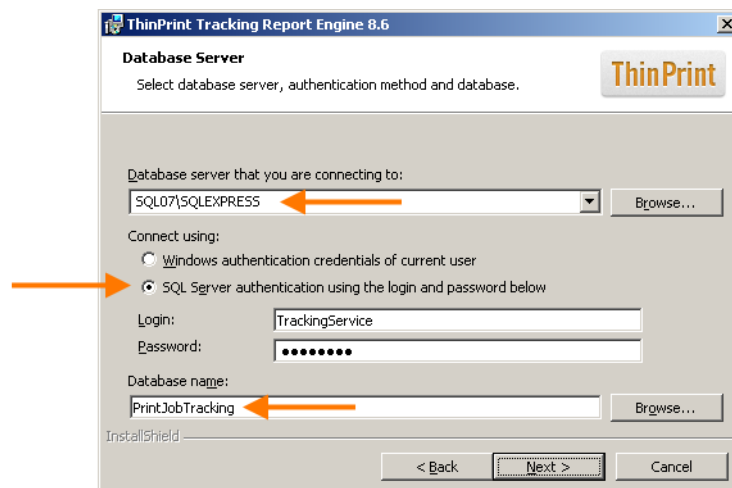
**Illus. 14** User mapping

Then Tracking Service can access the database with Windows authentication.

## Installation of Tracking Report Engine on the webserver

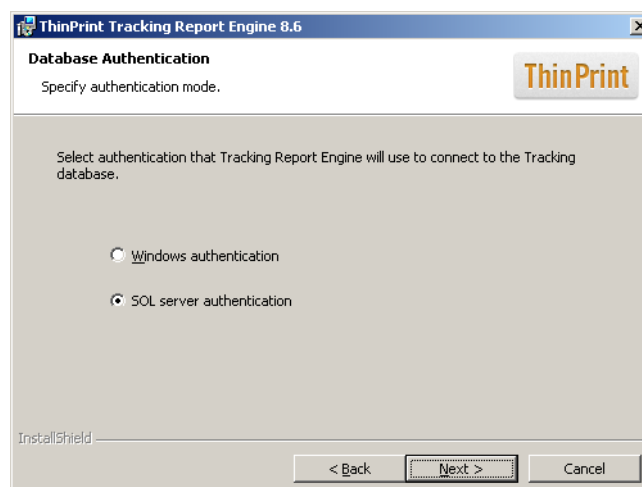
Please consider that Tracking Report Engine cannot be installed on Windows 2003 x64 machines. Make sure that the following Windows components are installed and started: IIS and ASP.NET.

- Copy SETUP.EXE of Tracking Report Engine onto the web server and open it. Select the desired language and confirm with OK. InstallShield Wizard opens.



**Illus. 15** Choose database and authentication mode

- Select the database server on which Tracking Database has been installed (Illus. 15, arrow above). Then select the same authentication mode which you have selected during Tracking database installation (Illus. 5), here SQL SERVER AUTHENTICATION (Illus. 15, middle arrow). Finally, indicate the database which has been created by Tracking database installer, here: PRINTJOBTRACKING, (Illus. 15 lower arrow).
- Confirm with NEXT.



**Illus. 16** Choose authentication mode

- Here, select the authentication mode with which Tracking Report Engine establishes a connection to Tracking Database. Confirm with NEXT and close InstallShield Wizard with FINISH.

## Personal Printing and Tracking

The settings for Tracking are described in the [Personal Printing](#) manual ([Page 25](#)).

## ThinPrint Engine and Tracking

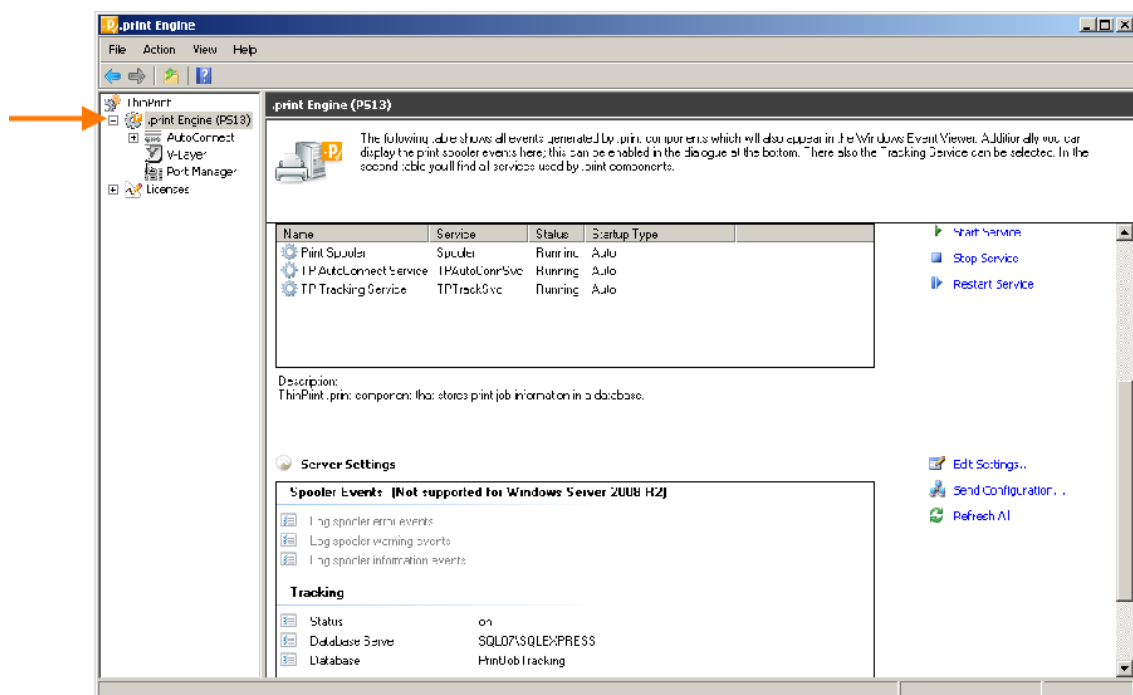
### Installation

Please consult the ThinPrint Engine user manual for installation information ([Page 25](#)).

### Preparing ThinPrint Engine and Tracking Service

To prepare the ThinPrint Engine for sending data of sent print jobs to the SQL server, you must make the following settings in the configuration for the ThinPrint Engine:

1. Open configuration with START→ (ALL) PROGRAMS→ THINPRINT ENGINE→ CONFIGURATION.
2. Mark the respective THINPRINT ENGINE node (Illus. 17) and select EDIT SETTINGS.

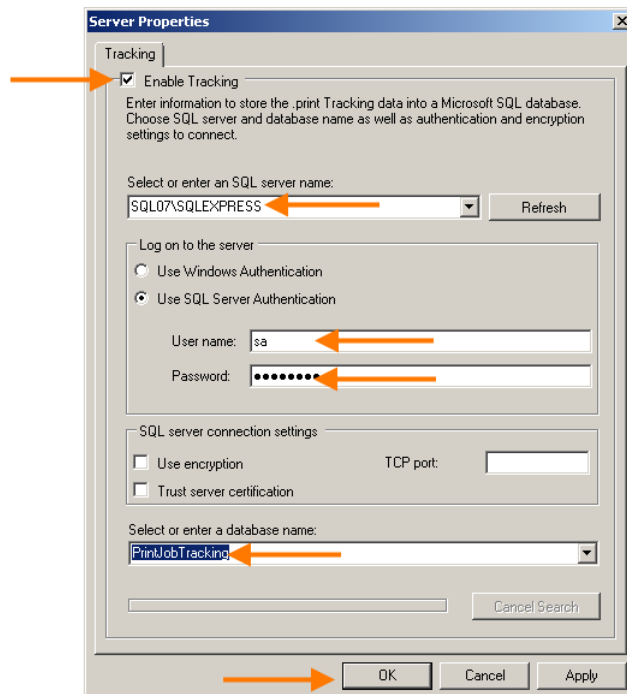


Illus. 17 Selecting TRACKING SETTINGS

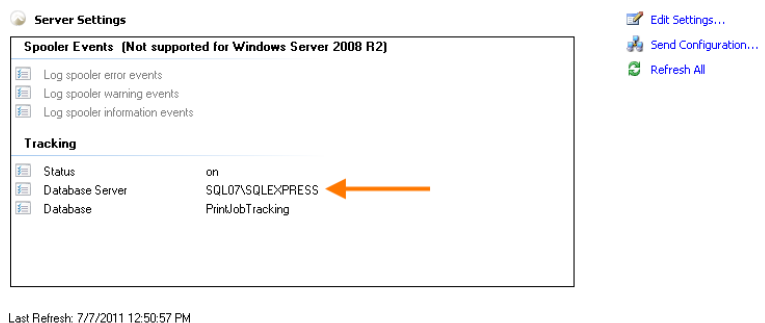
3. Enter the following settings in the TRACKING tab (Illus. 18):

- ENABLE TRACKING
- SQL server's address and name
- SQL server/Windows authentication: an account or the which has write permissions for the installed database (here: PRINTJOBTRACKING)
- Encryption settings if the data are to sent encrypted to the SQL server
- Name of the Tracking database (here: **PrintJobTracking**).

**Warning!** The result is shown in Illus. 19. The Tracking Service is part of the license ThinPrint Engine Premium. If you enable Tracking Service with another product or another license, printing won't be possible.



Illus. 18 Enable Tracking and enter settings



Illus. 19 Print job tracking enabled

For information about preparing Tracking on a print server cluster see the *Microsoft Failover Clusters and ThinPrint* documentation ([Page 25](#)).

## Analyzing tracking data

The ThinPrint Tracking Report Engine makes it possible to display data from the SQL database as an overview in a web browser. All significant information on print jobs can be summarized by various criteria, sorted, and graphically displayed.

You can analyze the data with the included Tracking Report Engine, or any other tool, to retrieve the database.

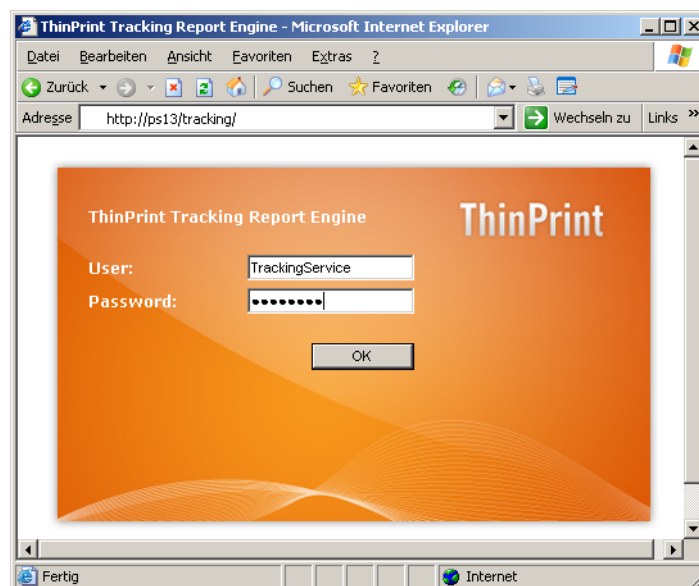
- To analyze the tracking data, start your web browser and call up the website of the server that ThinPrint Tracking Report Engine is installed on:

`http://<webserver>/tracking`

Example:

`http://ps13/tracking`

- Enter the account created on the SQL server (here: TRACKINGSERVICE) which has write permissions for the database (here: PRINTJOBTRACKING) (Illus. 20).



**Illus. 20** Open the Tracking Report Engine in a web browser

### Overview

The page OVERVIEW appears (Illus. 21). You see the following information for analysis:

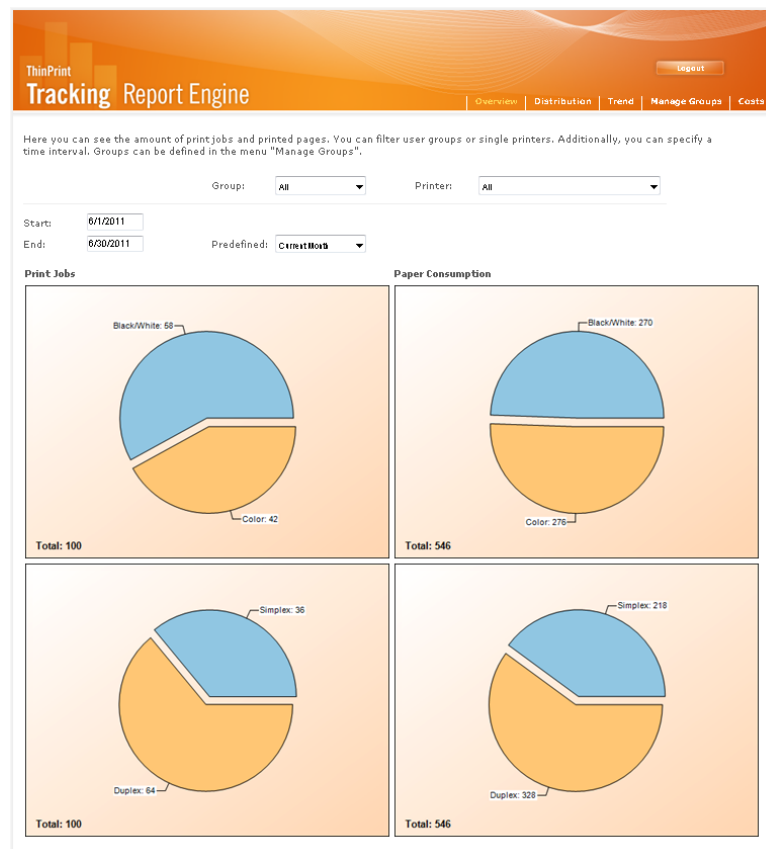
- Number of print jobs
  - Color and b/w (grayscale)
  - Simplex and duplex



- Paper consumption
  - Color and b/w (grayscale)
  - Simplex and duplex

You can also specify the information as follows:

Function	Description
Group	Choice between a specific or all user groups (see <i>Managing Groups</i> , <a href="#">Page 20</a> )
Printer	Choice between a specific or all printers
Start	Start of a report period (display and input)
End	End of a report period (display and input)
Predefined	Choice of a report period

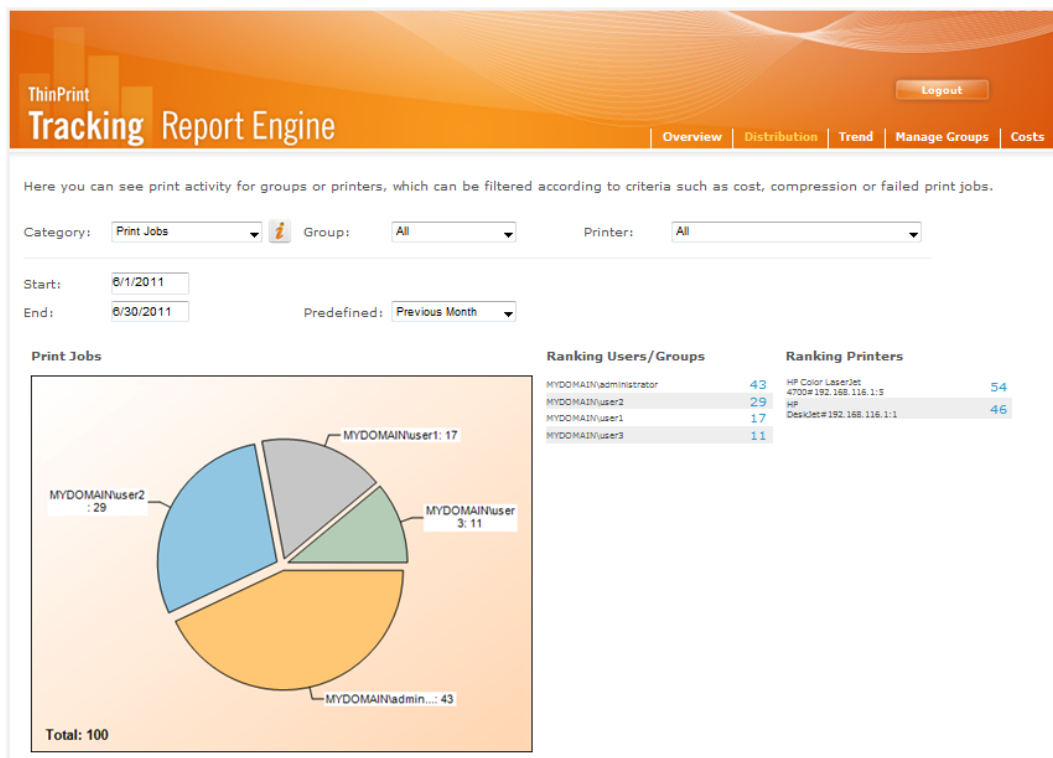


Illus. 21 Overview of number of printouts and paper usage

**Distribution**

The DISTRIBUTION page allows analysis of which users, groups, or printers have printed the most (Illus. 22). You can specify the information as follows:

CATEGORY	Description
Print Jobs	Number of print jobs
Costs	Print costs for the number of pages printed by the respective selection (group(s) or users), taking into account printer-specific costs per page
Paper Consumption	Number of sheets used for printing
Simplex	Number of pages printed one-sided
Duplex	Number of pages printed on both sides
Black/White	Number of pages printed in black-and-white
Color	Number of pages printed in color
Errors	Number of failed print jobs
Group	Choice between a specific or all user groups (see <i>Managing Groups</i> , <a href="#">Page 20</a> )
Printer	Choice between a specific or all printers
Start	Start of a report period (display and input)
End	End of a report period (display and input)
Predefined	Choice of a report periods

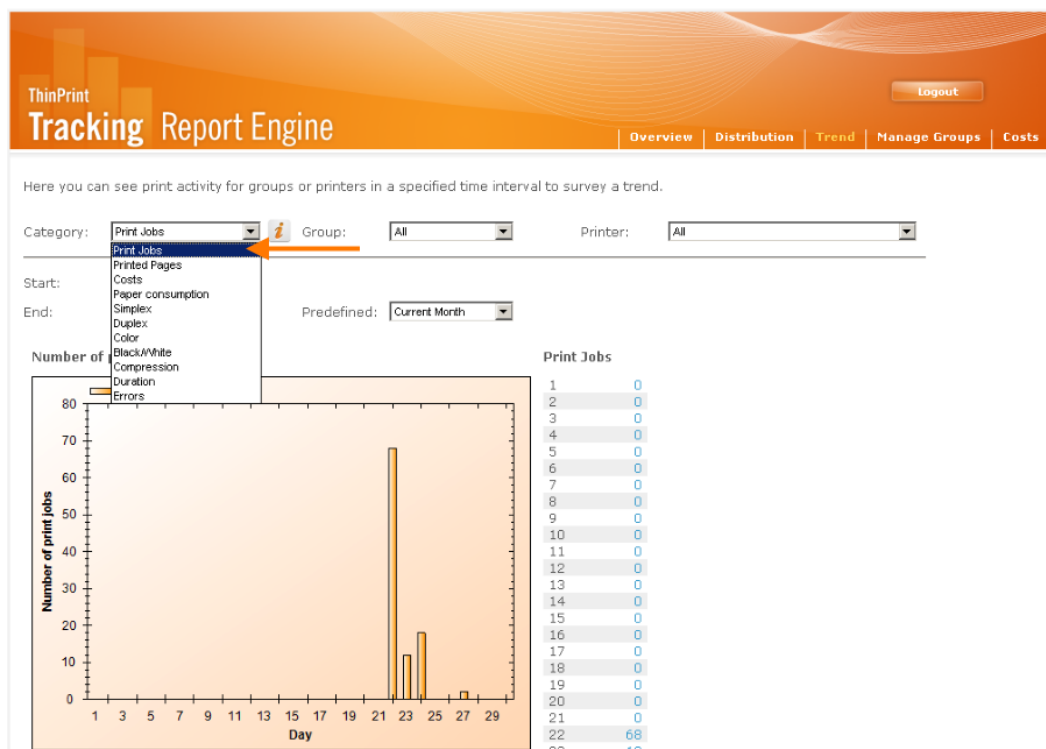


Illus. 22 Ranking

### Trend

The TREND page gives an overview of how the frequency of printing has developed across a set timeframe. The example in Illus. 23 shows a cost trend. See above for a description of available functions.

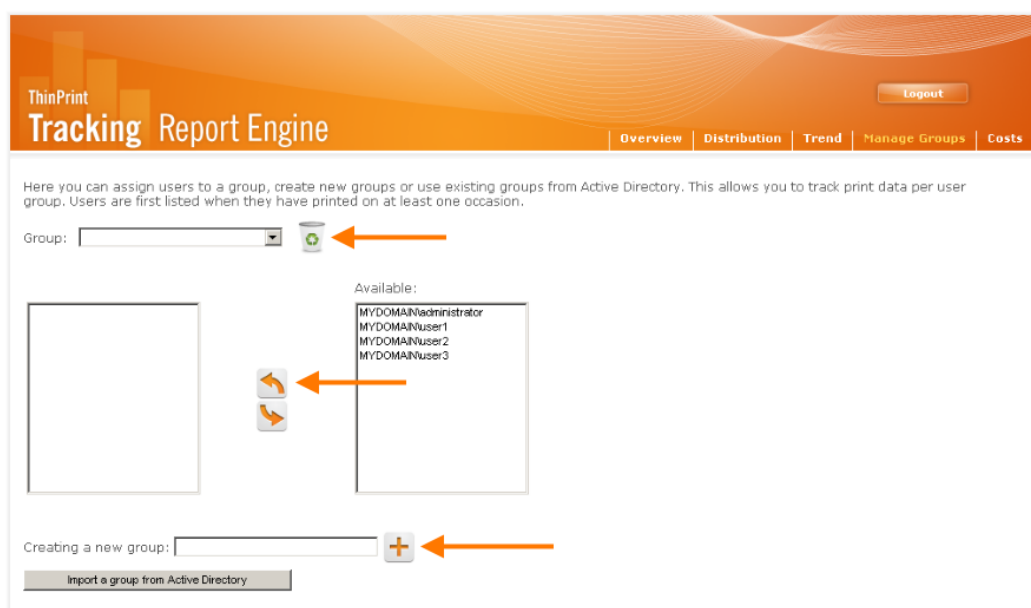
Additionally you have the option to display compression rates of print jobs, when printing with a ThinPrint Engine (arrow in Illus. 23).



Illus. 23 Displaying trends (here, number of print jobs)

### Managing Groups

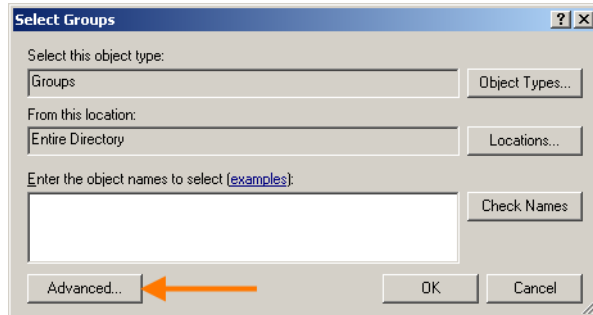
On the MANAGE GROUPS page (Illus. 24) you can define user groups to make the previous pages easier to read.



Illus. 24 Defining user groups

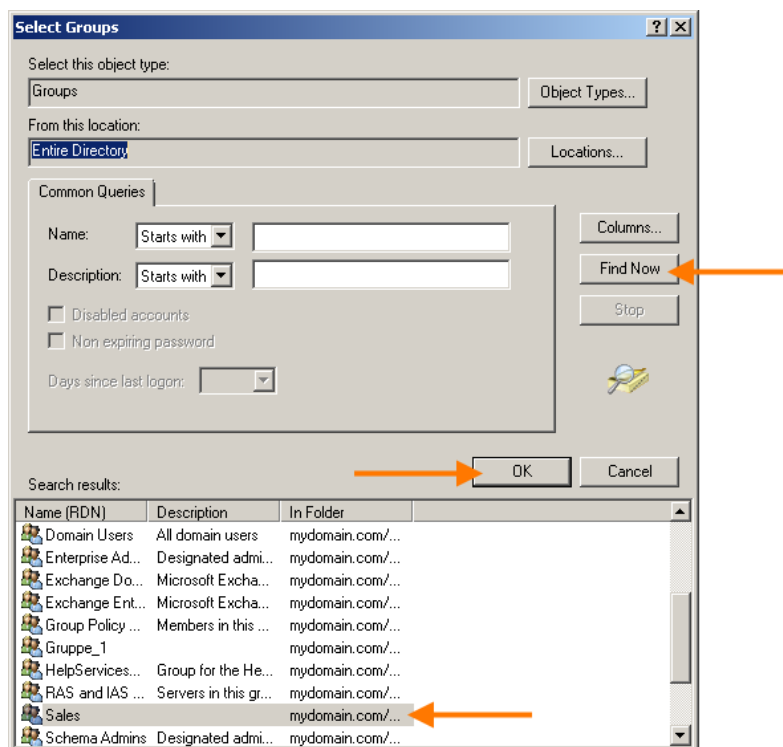
**Note!** To do this, you have to use the Internet Explorer browser on the same web server on which the Tracking Report Engine was installed. (It is not possible, in this situation, to gain remote access from just any computer.)

- To do so, click the button IMPORT A GROUP FROM ACTIVE DIRECTORY, (Illus. 24).
- Then click ADVANCED (arrow in Illus. 25).



**Illus. 25** User import from Active Directory

- Click FIND NOW (Illus. 26, upper arrow).
- Groups are displayed. Checkmark the desired group (Illus. 26, lower arrow) and confirm with OK.



**Illus. 26** Select group from Active Directory

The selected group will be displayed with the included users. Include each user in one group only to avoid possible corruption of the general overviews. Users can be arranged or redirected in any groups.

Note that users will only appear here after they have printed at least once or have been imported from an Active Directory group.

### Costs

On the COSTS page (Illus. 27) you can define costs to analyze the financial effects of printing. Given values are the estimated values of toner and paper consumption. Because these costs can vary greatly for different printers and types of printouts, ThinPrint recommends changing the default values to reflect your individual factors.

To do so, select a PRINTER and enter its average costs.

Function	Description
Currency	Enter a currency (three characters)
Printer	Select printer or change template (= default value)
New Paper Size	Define additional paper formats
Save Settings	Save cost values for b/w and color for the template or the selected printer
Delete	Delete paper format
Apply	Apply the same settings for other printers (multiple selection with Ctrl and Shift keys)

ThinPrint Tracking Report Engine

Logout

Overview | Distribution | Trend | Manage Groups | Costs

Select the paper sizes below left that are used by the printer shown above. Then enter the prices for color and b/w printing. This template can be used afterwards for all similar printers (on the right).

Currency: €

Template: Template

Paper Size	Color Cost (€)	B/W Cost (€)	Printer Icon
10X11	0.00	0.00	[Printer Icon]
10X14	0.00	0.00	[Printer Icon]
11X17	0.00	0.00	[Printer Icon]
A4	0.04	0.20	[Printer Icon]
A3	0.06	0.25	[Printer Icon]
LEGAL	0.04	0.20	[Printer Icon]
LETTER	0.04	0.20	[Printer Icon]
12X11	0.00	0.00	[Printer Icon]
Other	0.04	0.20	[Printer Icon]

Apply this template to the following printers:

HP Color LaserJet 4700#192.168.1.1  
HP DeskJet#192.168.1.1

Save

15X11 +

**Illus. 27** Settings for estimated costs

## Appendix

### Customer service and technical support

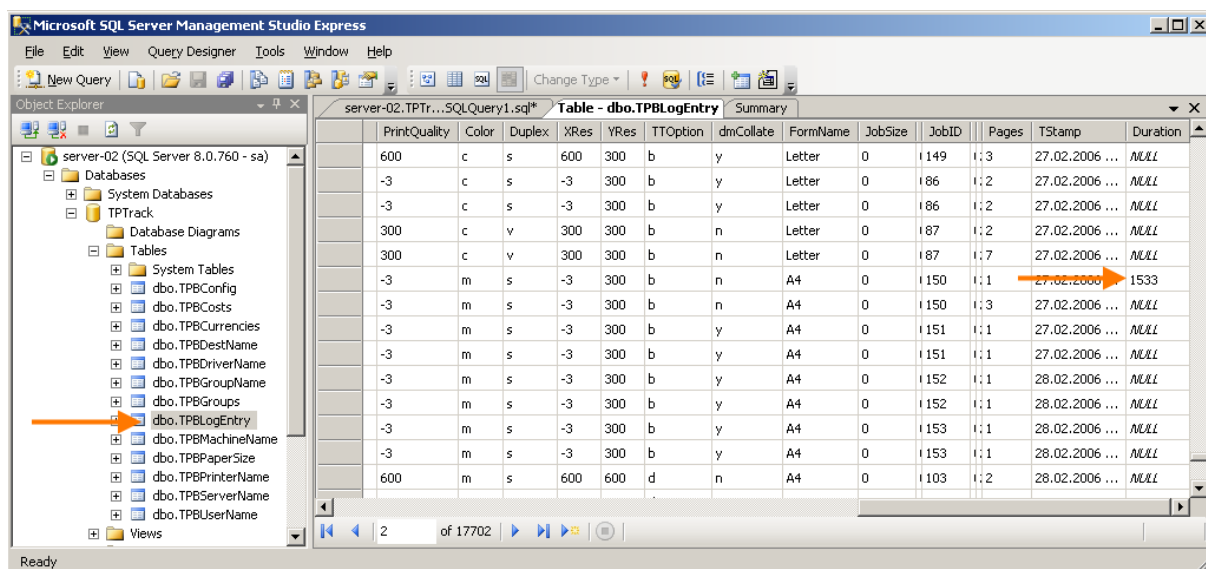
[www.thinprint.com/](http://www.thinprint.com/) → RESOURCES & SUPPORT

[www.thinprint.com/en-us/resourcessupport/supportrequest.aspx](http://www.thinprint.com/en-us/resourcessupport/supportrequest.aspx)

### SQL server management tools

#### Overview

In addition to the ThinPrint Tracking Report Engine, you can also use management tools for directly accessing the SQL database, such as Microsoft SQL Server Management Studio Express<sup>2</sup>. This has the advantage that you can both create a database and analyze all data stored in the database (Illus. 28).



Illus. 28 Microsoft SQL Server Management Studio Express

#### Data from the ThinPrint Tracking Service

If printer drivers and applications in use on the source computer<sup>3</sup> provide certain values and the specific version of ThinPrint Engine (or Personal Printing) also sup-

- 2 Can be downloaded from the Microsoft website for free ([www.microsoft.com](http://www.microsoft.com), Page 25, note system requirements)
- 3 The computer creating the print jobs that ThinPrint Engine sends to the ThinPrint Tracking Service

ports them, the following information can be sent with each print job to the ThinPrint Tracking Service, which will write it to the SQL database (here: **PrintJobTracking**):

Value in the database	Meaning	Supported by ThinPrint Output Gateway
MachineName	IP address of the source computer (e.g., 192.168.131.30)	●
DriverName	(not currently used)	
DestName	Host name of the target computer (e.g., client-22)	●
ServerName	Host name of the source computer (e.g., server-03)	●
PrinterName	Name of the printer on the source computer (e.g., HP LaserJet 4#client-22:6)	●
ID	ID in the SQL database	
UserName	Name of the person who printed (= Account)	●
Orientation	Paper orientation (portrait or landscape)	●
PaperSize	Paper format (e.g., A4, Letter, Executive)	●
PaperLength	Paper length (cm)	For user defined paper formats, otherwise value = 0
PaperWidth	Paper width (cm)	
Copies	Number of copies	●
DefaultSource	Default paper source	●
PrintQuality	Printout quality (maximum value of XRes and YRes; e.g., 600 dpi) or quality level (e.g., fine)	●
Color	Color or grayscale (b/w)	●
Duplex	Double-sided or single-sided (duplex or simplex)	●
XRes	Horizontal resolution (dpi)	
YRes	Vertical resolution (dpi)	
TTOption	TTOption Load TrueType fonts embedded in the file as bit-map, as soft font, or outline or information about what printer font is to be replaced	●
dmCollate	Sorting option; e.g. print longer documents consecutively	depending on the application
FormName	Name of the paper format	●
JobSize	(not currently used)	



Value in the database	Meaning	Supported by ThinPrint Output Gateway
JobTSize	(not currently used)	
JobID	Print job ID	●
Status	Values: 1 = Print job delivered 2 = Successfully printed 3 = Print job cancelled	●
ClientID	(not currently used)	
Pages	Number of printed pages	●
TStamp	Time of print job (start of communication between ThinPrint Engine and ThinPrint Tracking Service)	●
Duration	Duration of the printout (ms)	●
DevMode	device mode Data as blob (binary large object)	
PrintType	Format of print data values: m = EMF; r = RAW	●
CompressionRate	compression rate of the print job (divides the value JobTSize by value JobSize). With ThinPrint Engine only.	●
DocumentName	name of the document	●

## Additional sources

### ThinPrint

The following manuals and technical documentations (amongst others) are available at: [www.thinprint.com/manuals](http://www.thinprint.com/manuals)

- ThinPrint Engine for terminal server
  - ThinPrint Engine for print server
  - Personal Printing
- Microsoft failover clusters and ThinPrint

### Microsoft website

Management software for SQL servers *Microsoft SQL Server Management Studio Express* can be downloaded (for free) at:  
<http://www.microsoft.com/en-us/download/details.aspx?id=8961>

## Abbreviations

<b>ASP</b>	Active Server Pages
<b>dpi</b>	dots per inch
<b>EMF</b>	Enhanced Metafile
<b>ID</b>	Identification (number)
<b>IIS</b>	Internet Information Service
<b>MMC</b>	Microsoft Management Console
<b>Output Gateway</b>	ThinPrint Output Gateway
<b>SQL</b>	Structured Query Language