

Usage Guide



TerminalWorks TSPrint Usage Guide





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TSPrint license system

In TSPrint there are two license types: Limited license and Unlimited users license. With limited license you can create Custom licenses. For example, if you have three TSPrint users, you will need to make a custom license with 3 limited licenses, which is \$79 x 3. Unlimited users license can handle unlimited number of users on a single Server.

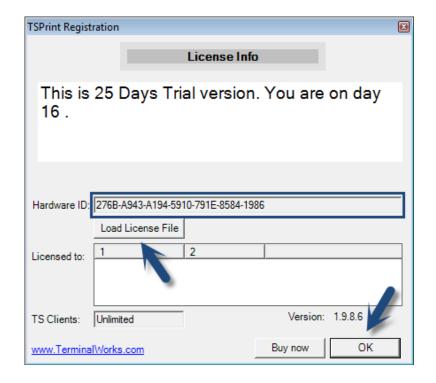
TSPrint license costs are as follows:

• Limited license: \$79

• Unlimited users license: \$399

Purchase is a onetime payment with free updates and life time support. Also if the Server crashes you can transfer the license for free on your online account.

Based on your Hardware ID, you will get a license file to load and register your product.







Software requirements

We would like to mention that the new TSPrint 2 Server is compatible with TSPrint 1 client, and TSPrint 1 Server is compatible with new TSPrint client. To have all new features enabled, you have to update the client and server part of the installation. Please take a look at the list below for the information on supported remote desktop technologies and operating systems. Please take a look at the list below for the information on supported remote desktop technologies and operating systems.

Supported Platforms

- Microsoft RDP
- Citrix ICA
- VMWare VDI

Operating Systems

TSPrint Server:

- Windows 2012 Server
- Windows 2008 R2 Server
- Windows 2008 Server
- Windows 2003 Server
- Windows 8
- Windows 7
- Windows Vista
- Windows XP

TSPrint Client:

- Windows 8
- Windows 7
- Windows Vista
- Windows XP
- Windows 2000
- Windows Embedded
- Mac OSX (10.6,10.7,10.8)
- Linux
- HP ThinOS

Note: 32bit and 64bit operating systems are supported. TSPrint requires minimum .NET 2.0 framework to function properly. In case you experience any issues please make sure that .NET is installed.





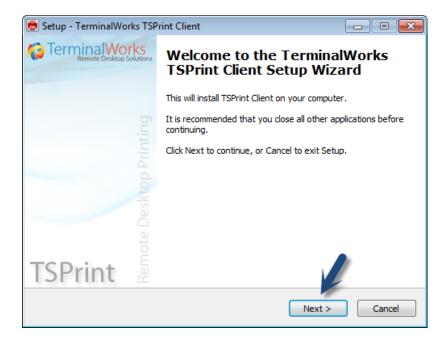
Installation

TSPrint installation comes in two parts: TSPrint_client and TSPrint_server.

Client part will be installed on your client computer, while server part will be installed on the server, which your client computer is remotely using.

TSPrint client installation

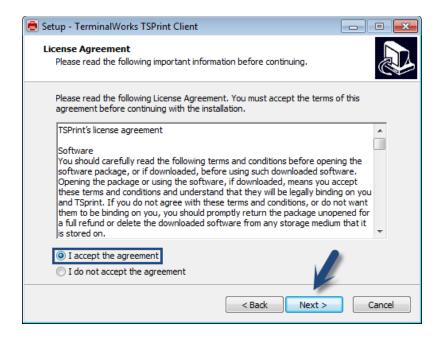
After starting the installer file you will get the following welcome screen:



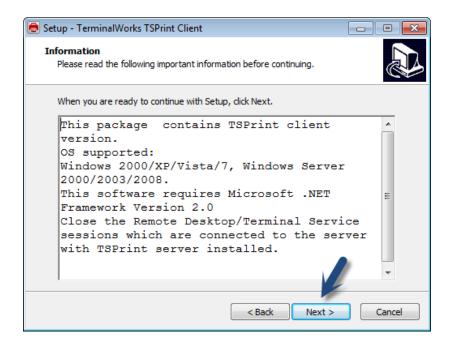
TSPrint client uses a minimal configuration installation. There are no additional options during the installation, everything is simplified. Press Next > to continue.







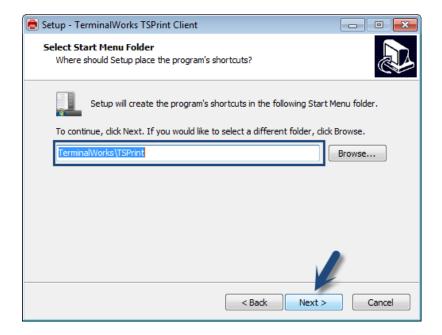
Read the license agreement and accept if you agree. After you select "I accept the agreement", press Next > ...



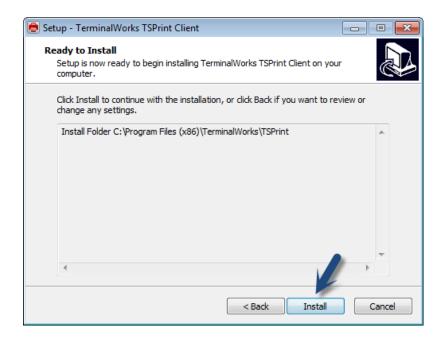
Next step will offer you to read information about the installation. Press Next > to continue.







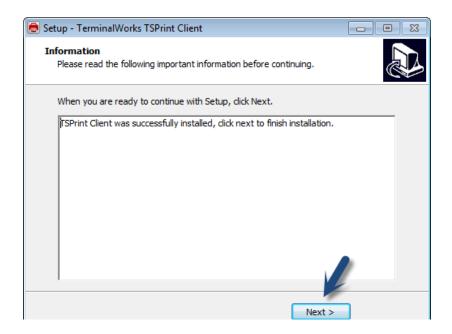
You are able to choose your installation directory, as long it is located inside the Program Files directory. We suggest that you leave it by default to keep easier track of your installation, in case you need support. Press Next > to continue.



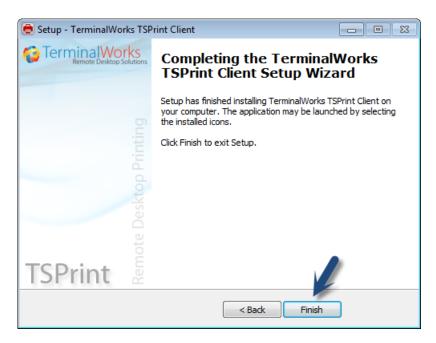
This dialog presents the last screen before the installation starts. It contains full path information of the installation directory. The installation of the TSPrint client takes less than a minute. You can now proceed and press Installation.







After the installation process is done, you will get the confirmation that TSPrint Client was successfully installed. Press Next > to continue.



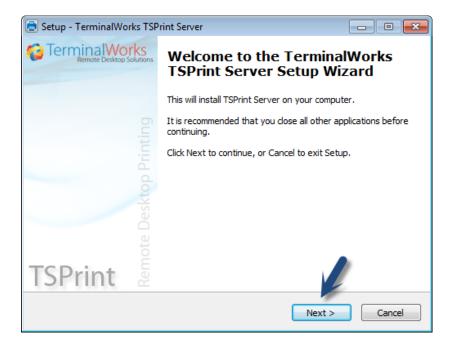
And that's it! TSPrint is now ready for use. For more information on how to use TSPrint and what options are available, please continue to the next section.



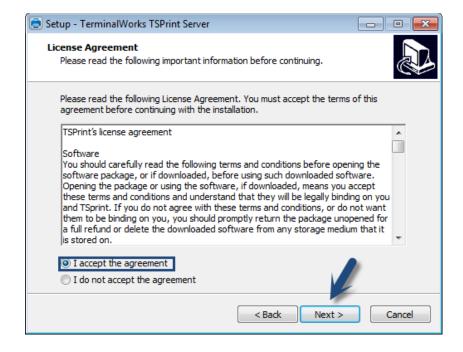


TSPrint server installation

After starting the installer file you will get the following welcome screen:



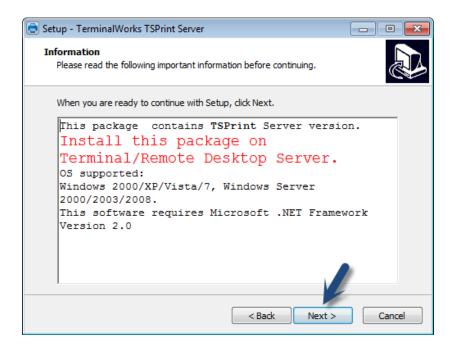
Same as TSPrint client, server part uses a minimal configuration installation process. There are no additional options during the installation, everything is simplified. Press Next > to continue.



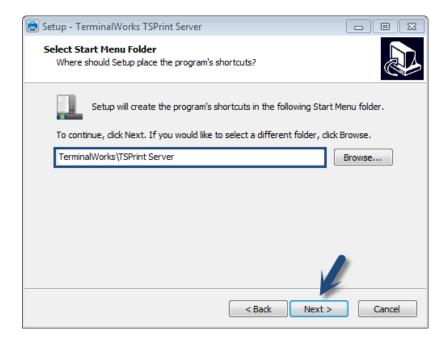




Read the license agreement and accept if you agree. After you select "I accept the agreement", press Next > .



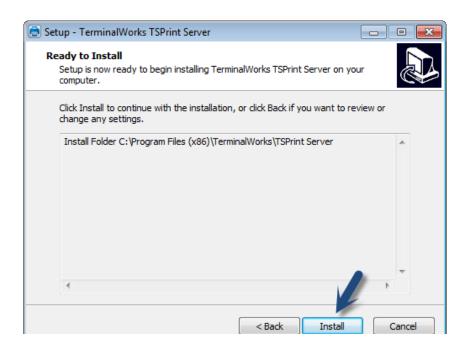
Next step will offer you to read the information about the installation. Press local to continue.



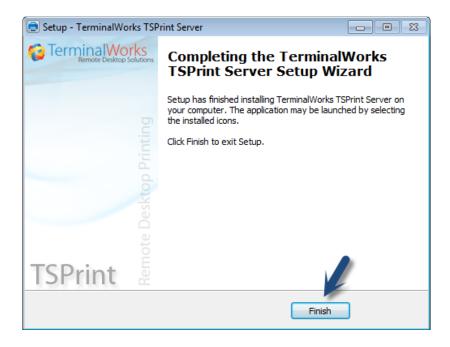
You are able to choose your installation directory, as long it is located inside the Program Files directory. We suggest that you leave it by default to keep easier track of your installation, in case you need support. Press Next > to continue.







This dialog presents the last screen before the installation starts. It contains full path information of the installation directory. The installation of the TSPrint client takes less than a minute. You can now proceed and press Install .



And that's it! TSPrint is now ready for use. For more information on how to use TSPrint and what options are available, please continue to the next section.





How does it work?

TSPrint is the RDP printing software for your Terminal Services/Remote Desktop/VDI or Citrix environment. It offers you to avoid installation of printer drivers on your terminal server, increasing the stability of all of your servers. It also offers for your clients to print directly to their local printers from your terminal server without any additional time required on your side for implementation or configuration. For more details please read the following topics.

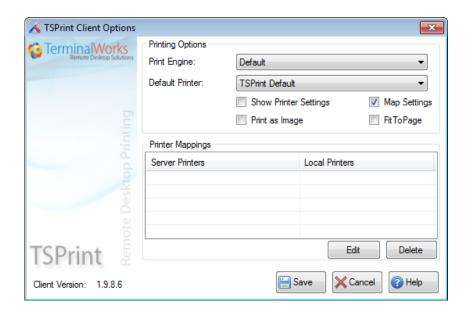
Dynamic channel technology

So far, TSPrint as any other market solution of this kind used static virtual channels. Static channel had limitations, especially with RemoteApps. For example, when you connect at the same time to two RemoteApps, only the first RemoteApp would work properly.

The reason is the following. The virtual channel API does not allow for multiple instances of the same virtual channel DLL to be loaded within a single process. Because of this, if there are multiple instances of the Remote Desktop ActiveX control running within the same process, only the first instance of the control will be able to load the virtual channel DLL.

Solution is to adjust our product with new Dynamic Virtual Channels, which we successfully integrated in TSPrint 2. All limitations which came across with static channels, are now gone. Furthermore, integrating virtual channel in TSPrint 2 resulted in improved speed and stability of our product. We are glad to be the first solution on the market which integrated Dynamic Virtual Channels to their product.

Client settings



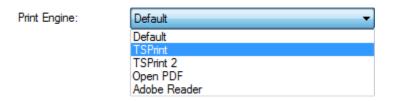




Printing Options

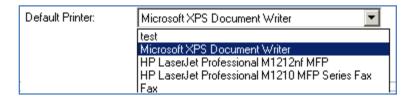
Print Engine

Print engine defines the way data is sent to the printer. Changing this option can help you correct the errors with faulty margins, fonts and similar. If the print output is correct, there is no need to change this option from the 'Default' value. In our example we have the following print engines:



Default printer

In this part you can choose the local default printer. In our example we have the following:



Check boxes



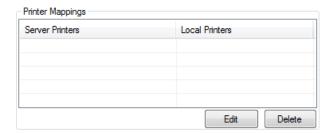
- Show Printer settings: You can decide if you want to see your printer settings before print job starts.
- Map Settings: Selecting this option will set that our virtual printer preferences are used.
 If you do not select this option, and set options (orientation for example) they will be discarded when printing takes place. In this case local printer preferences will be used.
- Print as Image: Selecting this option will result with the print job being printed out as a
 picture, instead of a group of characters. This may solve problems when fonts are not
 printed out correctly, but will cause larger print jobs and longer printing times.
- FitToPage: Selecting this option will result with the print result being enlarged or reduced to the page size. You can use this option in case you experience problems with margins.





Printer Mappings

Custom printers created by Print Manager module of TSPrint Server will be shown here. Printers can be edited by pressing the 'Edit' button. You are able to delete the unwanted printer by pressing the 'Delete' button.



If you wish to save selected options, press the 'Save' button.

Pressing the 'Help' button it will open TerminalWorks Support pages.



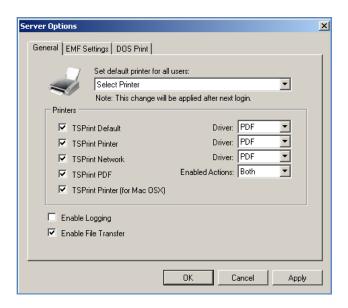




Server settings

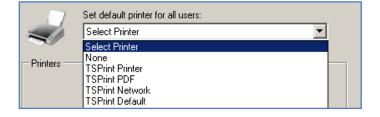
On the Server you can do the most of our product adjustments, but you will need administration rights. Please take a look at the following.

Server Options



Set default printer for all users

Here you can select the default printer for all users, which connect to the server. Users re-log is necessary to make effect.



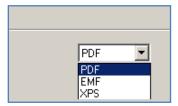




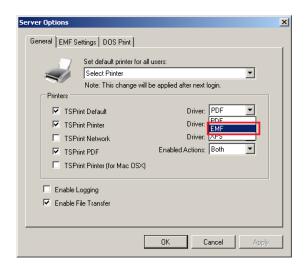
Printer Drivers

With TSPrint you can choose among 3 drivers used for our printers.

- PDF: Default driver, and print job is converted to PDF
- EMF: Detailed description below
- XPS: Print job is using XPS driver



EMF Driver



Until now, by default, print job is converted to PDF format and sent to the local printer. Besides PDF there was also an option to use XPS format. In TSPrint 2 to improve printing performance, we added a new printer driver, which uses EMF format to spool documents. EMF is a file extension for Enhanced MetaFile, a spool file format used in printing by the Windows operating system.

We would like to provide you a short description of its main features.

Page by page printing

Page by a page printing system allowed you to print on your local printer as soon as the first page is spooled on the server side. Till now TSPrint always spooled the whole document on the server side, compressed it and then send it to the local printer. This often introduced a delay when large documents were printed as we had to wait for the document to spool on the server side to send it to the client. With TSPrint 2.0 our universal driver splits the document and sends

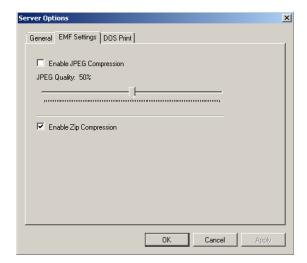




page by page to the client which results in immediate printing as soon as the customer presses the Print button on his application.

Better printing results

After we managed to prove that we can drastically improve the speed of printing we also had to make sure that the results were as satisfying as always. Not only did we manage to do that, but we also improved a lot in cases comparing to PDF/XPS format. There is also additional tab added in Server options named EMF Settings. In EMF settings tab you can enable JPEG and ZIP compression.



JPEG compression is used to compress images inside EMF format, and also it can be adjusted per wanted quality of your print job. As the quality is lower, printing will be faster. ZIP compression is used during the phase when EMF is sent over remote connection to the local workstation. Print job is compressed, and once it arrives to the local workstation it is extracted, so the local printer can print it. Special notice: since EMF is usually used by Windows operating system, it will support only Windows client machines.

Default Printers

- TSPrint Default
- TSPrint Printer
- TSPrint PDF
- TSPrint Network
- TSPrint Printer MAC OSX





TSPrint Default

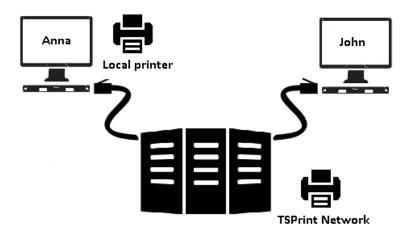
Printer is used when user would like to print directly to his local default printer. No matter which printer is set locally as the default printer, it will send the print job directly to that printer.

TSPrint Printer

When used, user will have a local dialog box opened where he can choose any of his local printers. When EMF driver is used Print preview will also be shown.

TSPrint Network

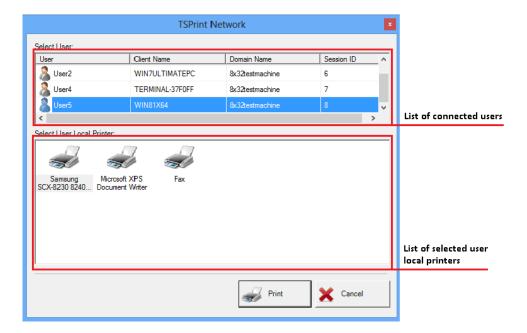
Among many functions with TSPrint you get three virtual printers: TSPrint Default, TSPrint Printer, and TSPrint PDF. TSPrint Default is mapped to the default local printer, while TSPrint Printer will open a new window where you can choose any of the local printers and TSPrint PDF, which will convert file to PDF on your local or Server side. In TSPrint 2 we added a new printer, which we named TSPrint Network. Using TSPrint Network, you can choose any user local printer, which is connected at the Server. Let us explain through a simple example. John would like to print his document using Anna's printer when both of them are connected to the Server. John on the Server will simply select TSPrint network to choose Anna local printer and print his document.



Any user can use another user local printer, once they are connected to the same Server. Let us show an example of a dialog which will show after TSPrint Network is selected.

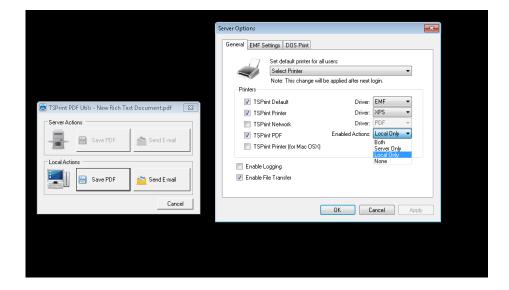






TSPrint PDF

TSPrint PDF converts the print job to PDF, and you can save it on the client or server machine. Also, you can automatically attach converted PDF to your email client. In TSPrint 2 we added couple of new modes for TSPrint PDF printer. We have 3 modes:







- 1. Server only, it can be used to store PDF document only on the Server
- 2. Client only, it can be used to store PDF document only on the Client which connects to the Server
- 3. Both, it can be used for Client and Server.
- 4. None, it cannot be used for Client and Server

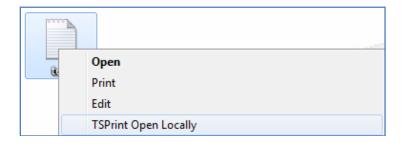
For example, we enabled "Local Only" mode, and as you can see user can save PDF on the Client side only.

TSPrint Printer-MAC OSx

Printer is used for MAC clients. When used, user will have a local dialog box opened where he can choose any of his local printers.

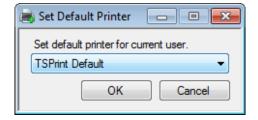
Enable File Transfer

When you check this option you can select any file on server to open it on your local client side. When you disable this option you will also disable TSPrint PDF to save files to the local machine.



Set Default printer

In this section you can choose default printer. In our case we choose TSPrint Default. If you wish to disable the defaulting of printers by TSPrint and leave it to Windows, then select "None" as the default printer.

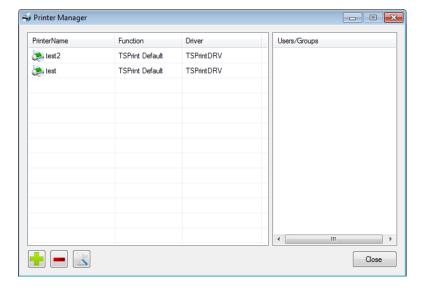






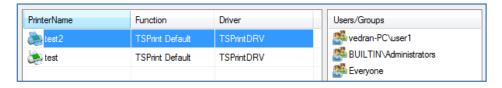
Printer manager

Printer Manager of the TSPrint software enables you to create new TSPrint printers and assign them to different users or groups.



Printer list

This window will give you a list of printers with their name, function, driver and user/groups which they belongs to. In our example we created printers "test" and "test2".



Selecting the 🖶 button you open Print Editor window to create new printer.

Selecting the _ button you will delete selected printer.

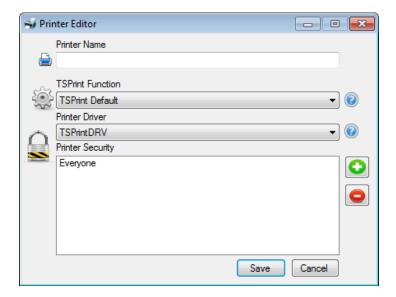
Selecting the button you open Print Editor window to edit the selected printer.







Printer Editor



As shown in the screenshot you have the following options:

Printer Name: Write the name of the printer you wish to create.

TSPrint Function: Here you will be able to choose the function of your new printer.



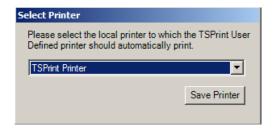
- TSPrint Default: File is sent to the default local printer.
- TSPrint printer: It will open a TSPrint dialog, where you select local printer.
- TSPrint PDF: File will be converted to the PDF format
- TSPrint Network: please read detailed description in later sections







• TSPrint User Defined: Here you can select the desired local printer to which the server printer should be mapped to.



- TSPrint TEXT: It works only with generic text printers located on your client computer. At first run you have to select the desired one.
- Windows Driver: It is used for special printers, for example dot matrix printers.

Examples:

- TSPrintDRV
- TSPrintXPS
- TSPrintEMF

Printer security: In this window you can add or remove users which have access to the printer by clicking on to add users or on to remove users. In our example everyone has the access:







TSPrint FAQ

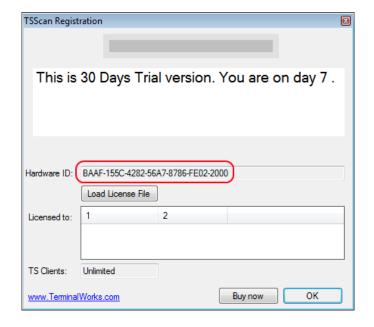
TSPrint Hardware ID

The hardware ID is a unique ID which is generated by TSPrint and TSScan for each installation. It is required when purchasing our product so that we are able to generate a license which would unlock your installation to a full installation.

To find you hardware ID please follow these steps:

- 1) Log-in to your terminal server/remote desktop server.
- 2) Go to Start -> All Programs -> TerminalWorks->TSPrint Server
- 3) Click on the License Registration icon.
- **4)** A dialog will show up which will contain your unique hardware ID. Please copy/paste it to the purchase page.

Note: In case you are not able to copy/paste the hardware ID, please write it down as it is without any whitespaces.







Communication Error



Note: Please check if you have the TSPrint Client installed. This error can also show up if you are using third party RDP client or server. Please contact our support department for more help.

This page will try to list all reasons why you receive this error message and instructions on how to resolve it. If none of the mentioned reasons fit your case then please contact us at support@terminalworks.com.

Client Installation

You should make sure that the client module of our product was installed on your local workstation from which you connect to your terminal server. TSPrint provides the TSPrint Client while TSScan provides the TSScan Client. It happens that third party computer/registry cleaners falsly delete required registry entries. Please reinstall the client installation if it was working before and stopped working after some time.

You also check if the following registry key is present:

- [HKLM_CURRENT_USER]\Software\Microsoft\Terminal Server Client\Default\AddIns\TSPrint

This registry key should contains the following value:

"Name"="C:\Program Files(x86)\TerminalWorks\TSPrint\TSPrint.dll"

Also check if the file exists to which this registry key points.

RDP/Citrix Client

Our products were built by utilizing the API-s provided by Microsoft or Citrix. Third party RDP or Citrix clients often do not provide support for those interfaces. In case you receive the communication error message please try to connect to your terminal server using the standard tools as the MSTSC.exe RDP client of Microsoft or the Citrix Receiver. If those clients are able to use our product then please contact the vendor of your RDP client and ask them about support for Virtual Channels.





Remote Desktop via Web

If using TSWeb, RWW or RDWeb it is sometimes necessary to tell the webserver to load our virtual channel DLL. To do this, please follow the below steps:

1.) Windows Server 2008/2008 R2

Find and open C:\Windows\web\ts\web.config
Search for the following line in that file:
<add key = "xPrinterRedirection" value = "true" />
Insert the following line below:
<add key = "xPluginDlls" value = "TSPRINT.dll" />
Save the file and restart your web server.

2.) Windows Server 2003

You need to edit the websites html file. On 2003 it should be by default in:

C:\inetpub\wwwroot\tsweb\default.htm

If you are missing that file please check your web server configration for more details.

Now open that file and search for the following line:

'Device redirection options

Add the following line below the "Device redirection options" line:

MsRdpClient.AdvancedSettings.PluginDlls = "TSPRINT.dll"

Save the file and restart your web server.

3.) Small Business Servers

You need to edit the websites html file:

C:\Program Files\Windows Small Business Server\Bin\webapp\Remote\tsweb.aspx

If you are missing that file please check your web server configration for more details.

Now open that file and search for the following line:

'Device redirection options

Add the following line below the "Device redirection options" line:

MsRdpClient.AdvancedSettings.PluginDlls = "TSPRINT.dll"

Save the file and restart your web server.

Please note replace "TSPRINT.dll" with "TSSCAN.dll" if you are using TSScan.

Now copy the TSPRINT.dll (or the TSSCAN dlls) from:

C:\Program Files(x86)\TerminalWorks\TSPrint

to:

C:\Windows\System32 and C:\Windows\SysWOW64 if present.

This should be done on your local workstation.





Firewall/SSL/VPN

For SSL VPN devices such as SonicWall, StoneWare, Juniper, F5 Firepass, etc, these appliances must be configured properly to enable third-party plugin DLLs. For TSPrint and TSScan, there are two requirements to use these devices:

- Clients must use the RDP ActiveX client (Terminal Services Advanced Client TSAC)
- 2. The appliance must be configured to enable the TSPrint plugin DLL, TSPrint.dll. (c:\program files(x86)\TerminalWorks\TSPrint\dll)

Most SSL VPN devices automatically publish an RDP clients that do not support all 3rd-party DLLs. Java clients are an example of RDP clients with limited support of 3rd-party DLLs. Note:

- Please contact the vendor to verify that the appliance is properly configured to support 3rd-party DLLs for MSTSC
- Please copy the earlier mentioned TSPrint.dll to the clients System32 folder.

More details for SonicWall can be found at: SonicWall Documentation

RDP/Citrix Servers

There are many third party RDP/Citrix alternatives. It really depends on the solution if our product will be supported. In this case please contact us and we will research if the product is supported by our solutions.

How to map a TSPrint printer to another local printer besides the default printer?

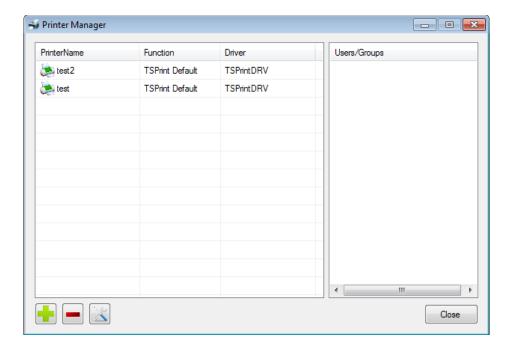
TSPrint is mostly used with two types of TSPrint printer: TSPrint Default and TSPrint Printer. The TSPrint Default printer will print everything to the local default printer without any dialogs. The TSPrint Printer in return will show each time a dialog where you can select the desired printer and its settings.

Now sometimes you would like to create a new printer and tell TSPrint to automatically transfer the print job to another local printer besides the default printer. This can be done with the new type of TSPrint printer named TSPrint User Defined. By default the TSPrint installation does not create such a printer.

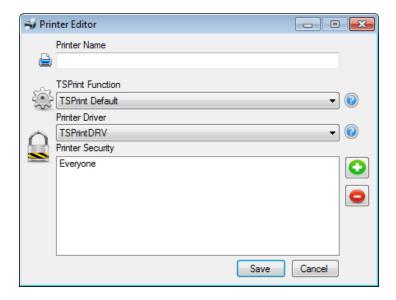
To map a local printer to a TSPrint printer log-in to your terminal server and go to: Start -> Programs -> TerminalWorks -> TSPrint Server -> Print Manager







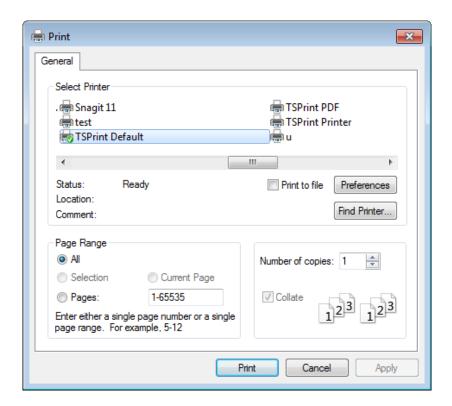
Now to create a new user defined printer which you can map to a local printer, press the green plus button on the lower left corner of the dialog. This will show us the following dialog:



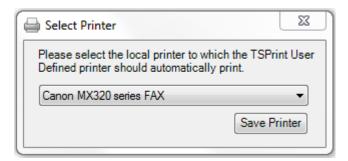
Enter the desired name of the printer and under TSPrint Function select TSPrint User Defined. Now under the Printer Security field you can add different users or groups which should be able to see and print to this printer. If you leave this field empty then only you and the server Administrator will see this printer and be able to print to it. After you save the new printer it should appear as any other printer in our list:







Now the first time you print to this printer a dialog will show up which will ask you to select the desired local printer. If another user on the terminal server prints to the same printer he will also receive this dialog the first time and he will able to select his local printer. By printing on the terminal server to the user defined TSPrint printer TSPrint will check if the user has selected a local printer to which print jobs should be transferred. In case he has not the earlier mentioned dialog will show up.



Now print to the printer and your print job will automatically be transferred to the earlier selected local printer. Using this scheme you can for example create a new printer and assign to him form sizes of your local POS printer and each time when printing on the terminal server the print job with the correct form size will be printed on your local POS printer.

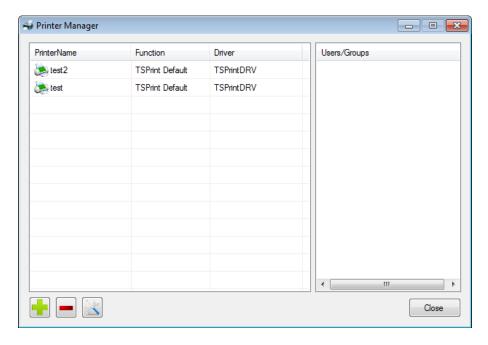




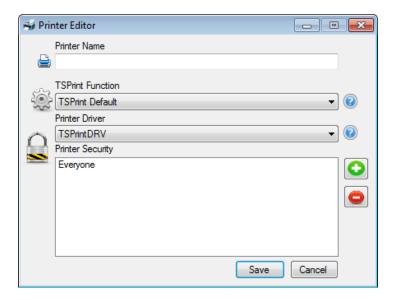
How to use Dot matrix printers with TSPrint?

Dot matrix printers are used to print lower-resolution graphics, with limited color performance, limited quality, and lower speeds compared to non-impact printers. The usual TSPrint printer drivers are known to cause problems when used to print documents on a Dot matrix printer. To resolve the issues printing with a Dot matrix printer please follow the steps describe in this document. Log in to your terminal server and open:

Start -> Programs -> TerminalWorks -> TSPrint Server -> Print Manager



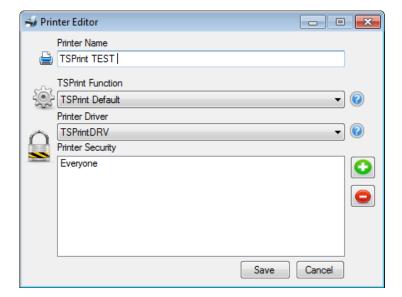
Press to add a new printer.



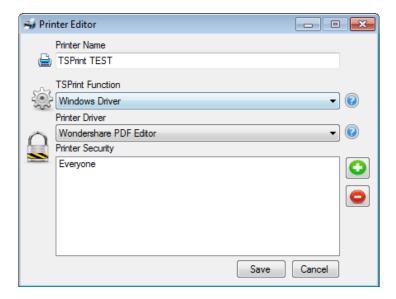




Name the printer you wish to add, we named it TSPrint TEST in our example.



Select Windows Driver as a TSPrint Function.



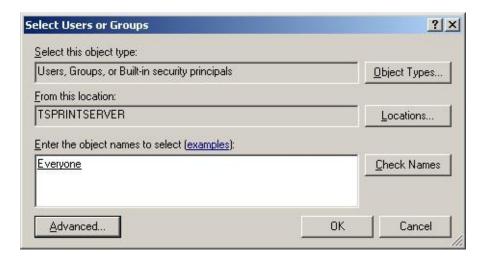
Select the printer driver you installed to your Terminal Server. Make sure that you have correct drivers that correspond to the actual printer installed at the client workstation. We used Epson FX-870 in our example. Set up the security options as needed by adding new Users or Groups. You can do so by pressing the green button showing a or the red button showing a sign.







Set up the security options as needed by adding new Users or Groups. We added the Everyone Group in this example. Press or Confirm.



Press Save to complete the process. Now just print to the newly created printers and the printed pages should now properly print out.





Do I need to install any drivers on my server?

There is no need to install any printer drivers on your server. You will be able to use TSPrint to print from your remote desktop on any printer that you have installed on your local computer. All types of printers are supported as long as you are able to print on them on your local computer. So you don't compromise the stability of the server by installing dozens of different printer drivers for each client workstation.

Does the TSPrint work with Ericom Blaze RDP?

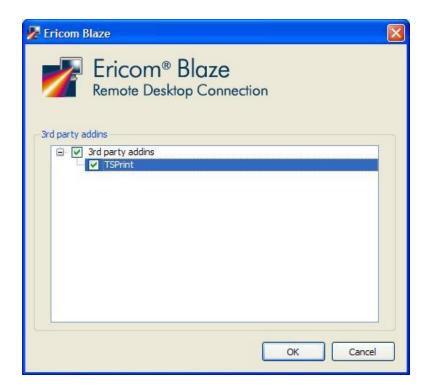
In order for Ericom Blaze RDP to be working with TSPrint, you have to do the following: Start Ericom Blaze RDP client and open the 'Local Resources' tab. Press the '3rd party addins' button.



Check the box next to TSPrint and press the OK button.







Do I need to reboot my server after installing TSPrint Server?

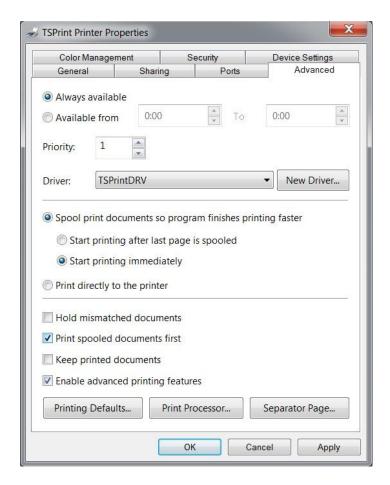
No. The product installation doesn't require any reboots before you can use it.

Why are my documents printing out in a random order?

If your documents are not printing in the order they were sent to the printer, please open the printer properties of the TSPrint printer you are sending the print job to (TSPrint Printer, TSPrint Default or TSPrint PDF).







Under the 'Advanced' tab, check the box next to 'Print spooled documents first'. After doing the above, your documents will be printed out in the correct order.

Margins are a little bit off

Please let the client login to the terminal server and then go to:

Start -> Programs -> TerminalWorks -> TSPrint Server -> Client Options/Options

A dialog should show up where you should change the Print Engine from Default to TSPrint Engine. This should resolve this issue.

Important! Since version 1.9.0.0 of TSPrint you also have to select the Fit To Page option on the client dialog.

How to use TSPrint on another local printer?

The TSPrint Default printer always prints on your default local printer. In case you wish to print on another printer please select the TSPrint Printer which will show you a print dialog where you can select the desired printer.





Additional information

Support email: support@terminalworks.com

Phone number: +14077451844 Active hours: 10 am-10 pm CET

