# TSplus Remote Access Documentation



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# TSplus Remote Access v17: Quickstart Guide

### Prerequisites:

### On the Server:

- OS: Microsoft Windows Versions 7 to 11 or Windows Server 2008R2 to 2022 with at least 2GB of RAM.
- TSplus does not support installation of Remote Access on Windows Home Editions.
- The operating system **must** be on the C: drive.
- Java Runtime Environment. If Java is not already installed, Remote Access will install OpenJDK during setup.
- If using a Windows Server OS, be sure that the TSE/RDS and TSE/RDSLicensing roles are not installed.
- Your Remote Access server must have a static private IP address.
- For External access, your server must have a static public IP address or dynamic DNS provider.

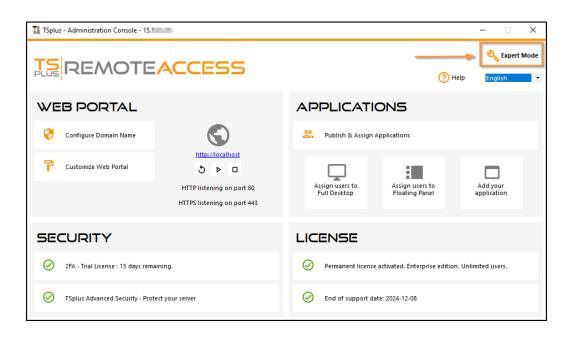
#### On the Client:

- OS: Microsoft Windows Versions 7 to 11 are fully supported.
- For MacOS you can use any Mac RDP client or the TSplus HTML5 client.
- For Linux you can use Rdesktop or the TSplus HTML5 client.
- Java Runtime Environment.
- A PDF reader (example: Foxit Reader or Acrobat DC)

For more detailed prerequisites please see the documentation

#### Note:

Starting with Remote Access Version 15, the Administration console has changed its look. A **Lite Mode** and an **Expert Mode** have been introduced. Administrators can toggle between the two interface styles by clicking the button in the upper-right corner of the Admin Console.



### Step 1 : Installation.

### Note:

The trial version of Remote Access is the fully-featured Enterprise Edition. It is licensed for up to 5 concurrent users for a period of 15 days.

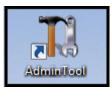
Installing TSplus Remote Access is an easy process. Just download it from our web site, run the Setup-TSplus.exe program.

Files are decompressed and copied into:

- C:\Program Files\TSplus (32-bit systems)
- C:\Program Files(x86)\TSplus (64-bit systems).

Once the installation is complete the installer will ask you to reboot.

After the reboot, you will see 2 new icons on your Desktop:



The AdminTool is what you need to use Remote Access.



The Portable Client Generator is used to create Remote Access connection clients for your users.

See the documentation for full installation instructions.

### Step 2 : Creating users.

After the reboot, the Remote Access Server is almost ready to go. Now we'll create users. Open the AdminTool to get started. Then go to the System Tools tab and click on "Users and Groups". This will take you to the Local Users and Groups window:

TSplus - Administration Console - 15.	letak		- 🗆	×
	ACCESS	Help	Nite M	ode •
<b>М</b> НОМЕ	😨 Services			
	🕰 Users and Groups			
S WEB	Server Properties			
E FARM	Windows System Toolkit  Local Group Policy Editor			
SYSTEM TOOLS	Event Viewer			
없 ADVANCED				
값 add-ons				
	🤣 Reboot the Server			

👰 lusrmgr - [Local Users and Grou	ps (Local)\Users]					×
File Action View Help						
Local Users and Groups (Local)	Name	Full Name	Desci	Actions		
Users Groups	🛃 Admin			Users		•
	New User	?	×	More Actions		•
	User name: John					
	Full name:					
	Description:					
	Password:					
	Confirm password:		-1			
	User must change password at next	lagan				
	User cannot change password at next	liggin				
	Password never expires Account is disabled					
	Account is disabled					
			_			
	Help	Create Close	•			
	<		>			
				,		

Each user must have a User Name AND a Password. When creating users, be aware of the box labeled "User must change password at next logon". If you don't want your users to change their password during the first login, uncheck this box and check the "Password never expires" or "User cannot change password".

### Step 3 : Select the most suitable client for your needs.

Remote Access is compatible with Windows Remote Desktop Protocol. Any user can connect locally or remotely with a standard Remote Desktop Connection client (mstsc.exe) or any RDP compatible client. To fully benefit from the advanced features in Remote Access (RemoteApp, Universal Printer...) you can use a generated client or the Remote Access Web Portal.

Remote Access is a very flexible solution and offers multiple ways to open a session:

- Classic Remote Desktop Connection (MSTSC.EXE).
- **Portable TSplus RDP client** which will display a windowed environment for your remote connection that you can minimize in the Windows taskbar.
- MS RemoteAPP client which will display application using the native MS RemoteApp.
- Windows client over the TSplus Web Portal.
- HTML5 client over the TSplus Web Portal.

These clients give the user the following experience:

#### With Remote Desktop Connection (mstsc.exe)

- **Connection**: The connection is a very standard one. The Universal Printer is not supported with this type of connection.
- **Display**: Users will see their session within a Remote Desktop window. This desktop displays the content of the user's desktop folder.

If the administrator has assigned specific applications with the AdminTool, only these applications will be displayed (no taskbar, no Desktop).

### **TSplus RDP generated client.**

This is a unique TSplus solution, it empowers local and remote users to connect using one single dedicated program. It includes the connection program, the Universal Printing advanced feature, portability with high level of security while keeping it very simple for the users.

For more information about using the TSplus Client Generator, see this documentation

#### The TSplus RemoteApp generated Client.

Remote applications will look and behave like a local application. Instead of a classic Remote Desktop window, you will be free to switch between your local and remote applications without having to minimize a Remote Desktop window. For more information about these clients, see this documentation.

### Accessing your TSplus Remote Access server from a remote location

To access your Remote Access server from outside of your local network, you will have to create a port forwarding or port redirection rule of 3389/80/443 ports depending on your preferred connection method. You can change the RDP port in the Home tab:

TSplus - Administration Console	- 15.	– 🗆 X
	EACCESS	💐 Lite Mode
<b>Ш</b> номе		
	$\Box$	$\bigcirc$
	Computer name: DESKTOP-QVTJFVE Private IP 192.	http://localhost
S WEB	Public IP 176. RDP port 3389	▶ □ 5 The built-in HTTP server is listening on port 80
FARM	Connections: 1 TSplus X	The HTTPS server is listening on port 443
SESSIONS	Q Session Mar Enter a port number \$389	
SYSTEM TOOLS	System Audit - No issues fource	
校 ADVANCED	Version 15 •••••••••••••••••••••••••••••••••••	(i) Read changelog
값 ADD-ONS	Permanent license activated. Enterprise edition. Unlimited users.	
ତିଲ୍ମ LICENSE	End of support date: 2024-12-08	

The 80/443 ports can be changed in the Web Server tab:

🕄 tsplus - Administration Console				- 🗆	×
	ACCESS		Help	Ҳ Lite M English	ode •
ф номе	Web Portal				
	🕆 Web Portal Design	G Web Credentials			
	Web Portal Preferences	RemoteApp Client			
S WEB	Applications Portal	HTML5 Client			
FARM	tsplus Web App	R HTML5 Top Menu			
SYSTEM TOOLS					
ADD-ONS	Web Server				
ତ୍ୟ LICENSE	Lockout				

🕄 tsplus - Administration Console			- 🗆	×
	ACCESS	🕐 Неір	Ҳ Lite M English	lode •
<ul> <li>↔ HOME</li> <li>→ APPLICATIONS</li> <li>↔ PRINTER</li> <li>♥ WEB</li> </ul>	Default HTTP web server A built-in HTTP Web Server is provided with tsplus However, you can use a different one (IIS or Apache for example). Use the built-in HTTP web server Use a different HTTP web server When using IIS or Apache, its HTTP port number must be set to 81. (Tunneling forwards this 81 port into the public HTTP port 80)			
FARM SESSIONS System tools	Change the Web Server root path You can change the Web Server default root path. The current Web Server root path is: C\Program Files (x86)\tsplus\Clients\www	Select a new Web Server root path		
段 Advanced	Web servers options Change the HTTP/HTTPS port numbers Will not change IIS or Apache port settings HTTP: 80			
ତିନ୍ଦ୍ର License	HTTP: 443			
		Save and Restart Web Server		

### Step 4 : Application Publishing and Application Control.

In the Remote Access AdminTool you can assign application to users or groups.

- If you assign one application to a user, they will only see this application.
- You also can assign them the TSplus Taskbar, the Floating Panel or the Application Panel to display multiple applications.
- You can also publish a full Remote Desktop.

Now available in Lite Mode from the home tab.

TSplus - Administration Console - 15	– 🗆 X
	🌯 Expert Mode 🥎 Help English 🔹
WEB PORTAL	APPLICATIONS
😌 Configure Domain Name	Publish & Assign Applications
Customize Web Portal Customize Web Portal HTTP listening on port 80 HTTPS listening on port 443	Assign users to Full Desktop Floating Panel Add your application
SECURITY	LICENSE
2FA - Trial License : 15 days remaining.	Permanent license activated. Enterprise edition. Unlimited users.
Splus Advanced Security - Protect your server	C End of support date: 2024-12-08

TSplus - Administration Console - 15.			- 🗆 X
	CCESS	🕜 Help	Expert Mode
+ Add Application	TSplus Remote Taskbar User Assignment — — X     Setect which users and groups will be able to see and run this     application:     O All authenticated users	elect an Application to Edit or As	
Desktop, Taskbar, Floating Panel and Wicrosoft TSplus Remote Fl Remote Desktop Taskbar Published Applications Notepad	Specified users and groups Users and Groups		

Or go to **Expert Mode** > Apps tab to add, edit, delete, and assign apps.

TSplus - Administration Con	sole	- 🗆 X
	TEACCESS	🔾 Lite Mode ? Help English •
П НОМЕ	+ Add Application Demous Application	> Or Assign Application
	Select an Application to Edit of application:	s V Order by: 🕑 Date added V
	Desktop, Taskbar, Floating O All authenticated users	😩 Users
S WEB	Microsoft tsplus Remote Remo DESKTOP-NQIKIV1\Edgar	
FARM	Published Applications -	
SESSIONS	Notepad	
SYSTEM TOOLS		
ADVANCED		
슈퍼 ADD-ONS	Add Remove	
ତିଙ୍କ LICENSE	Save Cancel	

In this example, the administrator has decided that the user 'John' will get the TSplus Taskbar. See this documentation for more information.

Thank you for using TSplus Remote Access!

# **TSplus Remote Access Prerequisites**

### 1) Hardware

Number of users	Windows 2008 to 2022 or 7 to 11 Pro		
	I5 or above		
3 - 5	4 GB		
	One CPU 2 GHZ		
	I5 or above		
10	8 GB		
	One CPU 2 GHZ		
	16 GB		
25	One CPU		
	I7 or Xeon		
50 and above	32 GB		
50 and above	Dual CPU - SSD Disk dedicated to the system		

TSplus Remote Access Server minimum requirements:

Each server (physical or virtual ones) can potentially handle up to 50 concurrent users. For over 50 concurrent sessions, we recommend using a farm of servers with the Load Balancing feature available in TSplus Remote Access Enterprise Edition.

**Note:** The exact specifications of your hardware will depend on what kind of resources (CPU/RAM/Disk) your applications consume.

### 2) Operating system

Your hardware must use one of the operating systems below:

- Windows 7 Pro
- Windows 8/8.1 Pro
- Windows 10 Pro
- Windows 11 Pro
- Windows Server 2008 SP2/Small Business Server SP2 or 2008 R2 SP1
- Windows Server 2012 or 2012 R2
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

#### Both 32 and 64 bits architectures are supported.

The required framework is .NET version 4.6.2 for all supported Windows versions.

• If you install Remote Access on a Windows Server OS make sure the RDS/Terminal Services and RDS/Terminal Services Licensing roles are not installed before installing TSplus Remote Access.

If these roles are currently installed, remove them and reboot.

- Windows Home Editions are not supported.
- On Windows Server 2016, 15 sessions maximum are allowed for Remote Desktop access.
- Windows Server 2016, 2019, 2022 Essentials Edition is not supported nor recommended for using TSplus Remote Access.

N.B: TSplus Remote Access LTS 11 supports Windows XP and Windows Server 2003.

### 3) Network parameters

The Remote Access Server must have a static private IP address:

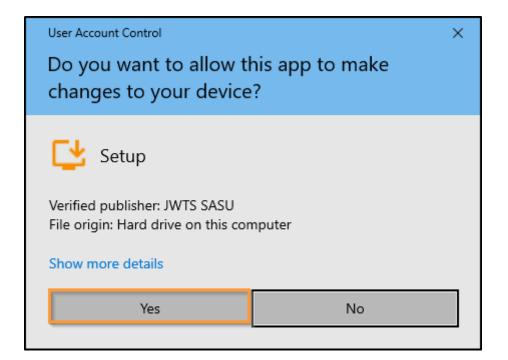
Internet Protocol Version 4 (TCP/IPv4)	Properties	? X				
General						
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.						
Obtain an IP address automaticall	у					
O Use the following IP address:						
IP address:	192.168.1.212					
Subnet mask:	255.255.255.0					
Default gateway:	192.168.1.1					
Obtain DNS server address autom	atically					
Ose the following DNS server add	resses:					
Preferred DNS server:	192.168.1.1					
Alternate DNS server:						
Validate settings upon exit	Advar	nced				
	ОК	Cancel				

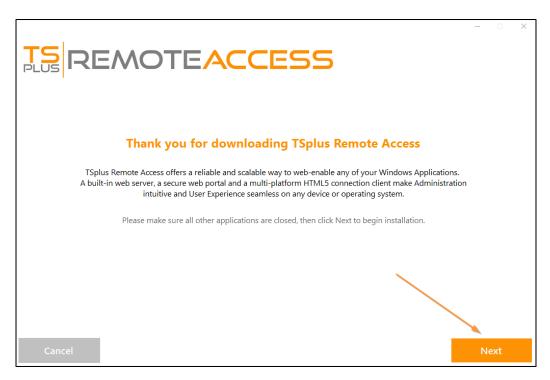
Remote access (from Wide Area Network - WAN)

- A broadband internet connection is recommended as well as a static public IP address. If you do not have a static IP address, consider using a dynamic DNS service like <u>http://DynDNS.org</u> More information about how to set this up can be found here.
- The TCP RDP port (by default 3389) must be opened both ways on your firewall.

# **TSplus Remote Access v16 Installation**

Run TSplus Remote Access Setup program and then follow the installation steps.





You can then select your language (possible to change it later)

You can then select two custom options by checking the corresponding boxes: Recommended or Advanced

# TS REMOTEACCESS

The Advanced option allows you to:

- \* Not install TSplus Advanced Security.
- \* Use custom proxy settings.
- \* Download only the installer, which does not install TSplus.
- \* Change default ports (not recommended).

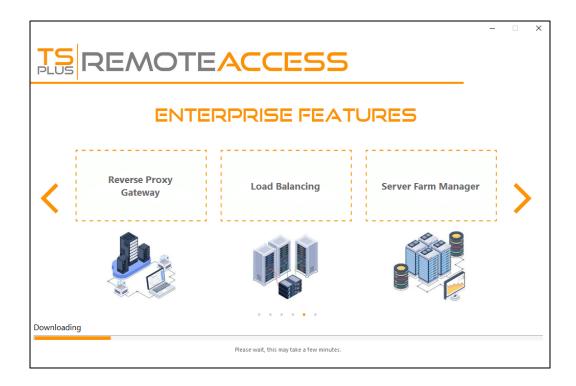
Click on Next.

<u> </u>	<b>NOTEACC</b> setup type	ESS			×
	Langua Recommended Uses the most common settings. Recommended for most users.	e English • Advanced Allows to customize all s Recommended for advance	ettings.		
Cancel			Back	Next	

Click on "I accept the agreement".

			×
License Agreement			
TSplus's license agreement Software You should carefully read the following terms and conditions before opening the software package, or if downloaded, before using such downloaded software. Opening the package or using the software, if downloaded, means you accept these terms and conditions and underst that they will be legally binding on you and TSplus. If you do not agree with these terms and conditions, or do not want them to be binding o you, you should promptly return the package unopened for a full refund or delete the downloaded software from any storage medium that it is stored on. Ownership You acknowledge and agree that TSplus ('licensor') is the owner of all rights, title and interest in and to the enclosed disks and/or cdrom and the downloaded Tsplus software, if downloaded, and the computer programs contained therein in machine readable object code form as we the accompanying user documentation along with all subsequent copies thereof, regardless of the media or form in which they may exist (collective) the "software". The software is protected by coornight laws and international treats or many end the downloaded for a we the accompanying user documentation along with all subsequent copies thereof, regardless of the media or form in which they may exist	or I as		
convey to you any interest in or to the software, digital content, or any accompanying printed materials, but only a limited right of use and limit reproduction which is revocable in accordance with the terms of this license agreement. License Grant of license. Licensor hereby grants and you accept a nonexclusive license to use the software in accordance with the terms of this agreement. Remote Desktop/Remote Assistance. The Software contains Remote Desktop and Remote Assistance technologies that enable the Software or applications installed on the TSplus Computer (hereafter referred to as a Host Device) to be accessed remotely from other Devices. You may use the Software's Remote Desktop feat to access the Host Device from any Device provided you acquire a separate Software license for that Device (for example, you may use any Wind XP based laptop to remotely access on ESplus. Host Device), they now are using Remote Assistance for other Software's Remote Desktop feat functionality for a similar purpose) you may share a Session with other users without any limit on the number of Device connections and witho acquiring additional licenses for the Software. For Software Connections and without acquiring additional licenses for the Software.	re ows		
Cancel Back		agree	

Please wait, downloading and installing the program



Then the TSplus logo appears and a window informs you about the completion of the installation.

	- 0	×
$\bigcirc$		
Installation Complete		
You have successfully installed TSplus Remote Access!		
To complete the installation of TSplus, setup must restart your computer.		
	Finish	

To use TSplus, you must reboot your system. The trial period delivers a full product for 15 days and 5 concurrent users.

The steps below only if you check install TSplus Remote Access in Advanced mode.

		-		×
Configuration				
<ul> <li>Install TSplus Advanced Security</li> <li>Only download setup (do not install)</li> <li>Use custom proxy settings</li> </ul>				
Cancel	Back	Ne	xt	

Web servers are listening on ports 80 and 443 by default. We recommend you to accept our TSplus default installation settings. According to our experience, most of the production issues are due to Windows security features.

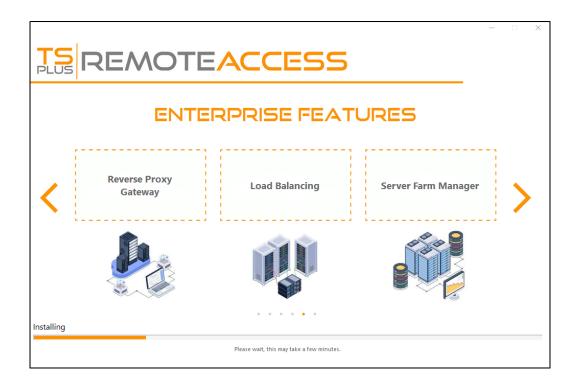
You can still modify these ports if you wish during installation or at any time on the <u>Built-in Web Server Management of</u> the AdminTool. Just make sure that the defined ports are available and that Java is installed on the server.

	ACCESS	-
TSplus WEB options		
<ul> <li>HTTP web server and Universal</li> <li>HTTPS web server with Tunneli</li> <li>Highly secured SSH communic</li> <li>RemoteAPP client to start Virtu</li> <li>Gateway and Web Portal</li> <li>HTML5 client access from iPho</li> </ul>	ng ation with Tunneling al Application over Internet	
CHANGE PORT NUMBERS HTTP: 80 HTTPS: 443	DISABLE HTTP BUILT-IN WEB SERVER © Use the built-in HTTP web server © Disable the HTTP web server	
Cancel	Back	Next

Click on "I accept the agreement".

		-		×
	EMOTEACCESS			
Licer	ise Agreement			
TSplus	's license agreement	^		
downle that th	ould carefully read the following terms and conditions before opening the software package, or if downloaded, before using such oaded software. Opening the package or using the software, if downloaded, means you accept these terms and conditions and understand ey will be legally binding on you and TSplus. If you do not agree with these terms and conditions, or do not want them to be binding on u should promptly return the package unopened for a full refund or delete the downloaded software from any storage medium that it is			
the do the acc (collect convey	ship knowledge and agree that TSplus ("licensor") is the owner of all rights, title and interest in and to the enclosed disks and/or cdrom and/or wnloaded TSplus software, if downloaded, and the computer programs contained therein in machine readable object code form as well as companying user documentation along with all subsequent copies thereof, regardless of the media or form in which they may exist itively the "software". The software is protected by copyright laws and international iteraty provisions, and this license agreement does not to you any interest in or to the software, digital content, or any accompanying printed materials, but only a limited right of use and limited uction which is revocable in accordance with the terms of this license agreement.			
	f I ficense. r breeby grants and you accept a nonexclusive license to use the software in accordance with the terms of this agreement.			
The So Compu- to acce XP bas functio	e Desktop/Remote Assistance. ftware contains Remote Desktop and Remote Assistance technologies that enable the Software or applications installed on the TSplus fter (hereafter referred to as a Host Device) to be accessed remotely from other Devices. You may use the Software's Remote Desktop feature ss the Host Device from any Device provided you acquire a separate Software license for that Device for example, you may use any Windows de Japoto 1 or enoteby access one TSplus. Hoto Device). When you are using Remote Assistance (or other software which provides similar nality for a similar purpose) you may share a Session with other users without any limit on the number Device connections and without ma additional licenses for the Software. For Microsoft applications, you should consult the license agreement	*		
Cancel	Back	l a	gree	

The progress bar appears and allows you to follow the progress of the process:

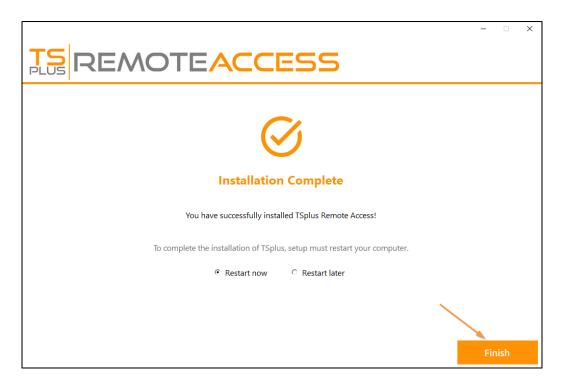


• Since TSplus 11.40 version, you will have the choice to install <u>TSplus Advanced Security</u>, our powerful Security Add-On, in its Ultimate trial version (All Security features free to use for 2 weeks) to your TSplus system:

For more information about this product, see pages about TSplus Advanced Security documentation.

Then the TSplus logo appears and a window informs you about the completion of the installation.

Please make sure you know your Windows username and password before rebooting.



To use TSplus, you must reboot your system. The trial period delivers a full product for 15 days and 5 concurrent users.

# How to identify your TSplus Edition

On the License Tile under the Serial Number, you can see the type of License you purchased as well as your number of users next to the number of connections:

TSplus - Administration Consol	e - 15.40.		- 0	×
	TEACCESS	🕐 Help	Nite Mo	ode •
<b>Ф</b> номе				
	ⓒ규 Activate your License			
	🗘 Refresh your License			
S web	License Status			
FARM	Computer ID:			
	Computer name: DESKTOP-QVTJFVE			
SYSTEM TOOLS	End of support date: 2023-01-26			
ADVANCED	Editions           Ø         Desktop Edition         Ø         Enterprise Edition			
값 add-ons	Mobile Web Edition			
ତ୍ମ LICENSE				
L				

TSplus has merged old licenses into one in order to gain more clarity. System and Printer editions have migrated to **Desktop Edition**.

The **Desktop Edition** has the basic features:

- TSplus Administrator Tool (AdminTool),
- Concurrent connections support,
- Application Control per user and/or per groups,
- TSplus Remote Taskbar and/or TSplus Floating Panel,
- Remote Desktop access,
- TSplus Portable Client Generator,
- RemoteApp connection client,
- Fully compliant with RDP protocol,
- Dual Screen support, bi-directional Sound, RemoteFX when compatible with Windows version,
- Local and Remote connection support,
- Workgroup and Active Directory users support,
- Device/Disk redirection.
- Virtual Printer, enables you to print from any location, without having to install any specific driver and allows printer redirection.

The Mobile Edition enables you (in addition to all the System and Printer editions features) to:

- Connect from any web browser with TSplus HTTP Web Server,
- Entirely secured connection from any web browser with TSplus HTTPS Web Server and SSH server,

- HTML pages includes Windows and HTML5 web access clients,
- Easily connect from iPhone/iPad and Android devices, also with the TSplus Mobile App,
- Customize logon web page with TSplus easy-to-use Webmaster Toolkit,
- With TSplus Web Applications Portal, users can access their application list inside their web browser,
- Instead of Windows Credentials, TSplus Web Credentials allows users to connect with only an e-mail or a pincode,
- Universal Printer enables you to print from any location, without having to install any specific printer driver,

The Enterprise Edition includes all of the previous features plus these ones:

- Support an unlimited number of servers within each TSplus Farm (requires one license per server),
- Thousands of users working concurrently on a scalable Load-Balanced architecture,
- Single Enterprise Portal to access all your TSplus servers,
- Ability to assign one or several Application Server(s) to users or groups of users,
- Load Balancing and Failover support included.
- The Possibility to add an extra-layer of security with the <u>TSplus 2FA Add-On</u>.

# Activating Your TSplus License (Online)

Locate the Administrator Tool on your desktop :



• If you cannot find the admin tool shortcut, it should be located in the desktop folder on the administrator account used to download TSplus. You can also find the TSplus folder on this path: 'C:\Program Files (x86)\TSplus\UserDesktop\files'.

Double-click on it, then click on the license tab.

Here you can see the status of your TSplus license, as well as your Computer ID and Computer Name:

if it displays "UNREGISTERED" it means that your server is not connected to the internet and you need to check your server's web access before continuing.

TSplus - Administration Console	e - 16.50.11.21	- 🗆 X
		🌯 Lite Mode English 🔹
ADVANCED	িন্য Activate your License	
슈 ADD-ONS	🔁 Buy now	
	🗘 Refresh your License	
	License Status	
	Mobile Web Edition	

# Activate your licenses on an online TSplus server

When you order a license, connect to our Licensing Portal and enter your Email Address and your Order Number:

C	USTOMER PORTAL	
	Manage your Licenses	
Email		
Order	Number	
Ren	nember me	
	Login	
	Something not working? Contact support	

Download the Customer Portal User Guide for more information about how to use it.

Your activation key will be displayed at the top of the dashboard:

icensing N	Management App	Home (	Orders					Logout
		You	ir activation key	is: NAQR-				
Licen	ces							
Application	Numéro de Série / Computer	Jours	Utilisateurs	Edition	Numéro de Commande	Date	Support?	Actions
TSplus	P30	•	3	Enterprise	11408	2020-01- 27	I Voir	I≣ Détails
TSplus	P65	-	10	Enterprise	JWT19	2019-05- 29	I Voir	III Détails
TSplus	P24	•	25	Enterprise	JWT18	2018-10- 19	×	i≣ Détails
TSplus	P6E		10	Enterprise	JWT17	2017-09- 25	×	i≣ Détails
TSplus	P62	-	5	Enterprise	JWT16	2016-09-	I Voir	) Détails

You can then go to the License Tile of the AdminTool, click on the "Activate your License" button, enter this activation key and click on "Next".

TSplus - Administration Console - 15	– 🗆 X
	Kpert Mode
Con Activate your License	
+ Rehost an existing license	
Control Co	
Computer ID:	
Editions	

License Activation			
Please enter your Activation Key:          I         You will find your Activation Key in our order confirmation email.         Please contact Support should you require any help activating your license.			
Next	>		

# 

You will get a list of all the available licenses/supports assigned to this activation key, i.e. all licenses/supports not activated yet:

Please select	the license(s) you want to activate on this computer:
TSplus	
TS	Splus Enterprise edition - 5 users
	O No Updates/Support
	O Update/Support services for TSplus Enterprise edition - 5 users - 3 years
TSplus Adva	Inced Security
🗆 TS	Splus Advanced Security Ultimate edition
f you have p	listed above are all the licenses currently available for activation on this computer. urchased multiple units, only one will be displayed in this list for this computer, and you activate the other units on other computers.

Check one or more items and click on the "Next" button. Please note that you can activate several products at the same time by checking several products/support!

License Activation	
Your license has been activated!	
<ul> <li>TSplus Enterprise edition - 5 users</li> </ul>	
· Update/Support services for TSplus Enterprise edition - 5 users - 3 years	
TSplus Advanced Security Ultimate edition	
Thank you for your business!	
You can now safely close this window.	
	Finish
	FILISH

All your products/support are now activated (in this example, both TSplus with support and TSplus Advanced Security have been activated at once).

# 

_	e Status
ିଟ	Permanent license activated Enterprise edition - Unlimited users
⋳	Computer ID: 2222
	Computer name: DESKTOP-F304H4I
<b>—</b>	
	End of support date: 5/14/2023
License	End of support date: 5/14/2023
_	
_	e Status

Refresh your License Data by clicking on the corresponding button at the bottom of the page, it will synchronize information with our Licensing Portal:

<b>िन्न</b> Activa	vate your License
🗘 Refre	resh your License

License	×
License has been synchronized w	ith licensing portal
	ОК

*N.B*: You can still download license.lic files on the Licensing Portal for TSplus Legacy Versions. <u>Download the</u> <u>Customer Portal User Guide</u> for more information about how to use it:

## **License Activation**

If you are using a recent version of TSplus then license activation is very easy:

- Open TSplus AdminTool
- · Click on the "License" tab
- · Click on the "Activate your license" button
- Enter your Activation Key: 6BAP-

### Legacy License File

If you are using a legacy version of TSplus then you will need a license file to activate your product.

Please only do this for:

- · TSplus version 12 or lower
- TSplus Long Term Support (LTS) 12
- TSplus Long Term Support (LTS) 11

#### Serial Number:

P00 000 000

Apply Serial Number

# Activating Your TSplus License (Offline)

### Retrieve your Activation Key

When you order a license, connect to our Licensing Portal and enter your Email Address and your Order Number.

CU	STOMER PORTAL	
	Manage your Licenses	
Email		
Order Nu	Imber	
Remem	nber me	
	Login	
Son	nething not working? Contact support	

Download the Customer Portal User Guide for more information about how to use it.

Your activation key will be displayed at the top of the dashboard:

		You	ir activation key	/ is: NAQR-				
_icen	ces							
Application	Numéro de Série / Computer	Jours	Utilisateurs	Edition	Numéro de Commande	Date	Support?	Actions
TSplus	P30	-	3	Enterprise	11408	2020-01- 27	i Voir	E Détails
TSplus	P65	-	10	Enterprise	JWT19	2019-05- 29	I Voir	E Détaits
TSplus	P24	•	25	Enterprise	JWT18	2018-10- 19	×	i≣ Détails
TSplus	P6E		10	Enterprise	JWT17	2017-09-	×	=

### Locate the Administrator Tool on your desktop



If you cannot find the admin tool shortcut, it should be located in the desktop folder on the administrator account used to download TSplus. You can also find the TSplus folder on this path: 'C:\Program Files (x86)\TSplus\UserDesktop\files'.

Double-click on it, then click on the license tab.

Here you can see the status of your TSplus license, as well as your Computer ID and Computer Name "UNREGISTERED"

TSplus - Administration Consol	e - 16.50.11.21	– 🗆 X
	TEACCESS	🔾 Lite Mode English 🗸
ADVANCED	ⓒ규 Activate your License	
슈가 ADD-ONS	Euy now	
ලිසු LICENSE	🗘 Refresh your License	
	License Status         Image: Computer ID:         UNREGISTERED         Image: Computer ID:         UNREGISTERED         Image: Computer ID:         Image: DESKTOP-TSPLUS	
	Editions       Editions <ul> <li>Desktop Edition</li> <li>Enterprise Edition</li> <li>Mobile Web Edition</li> </ul>	

### Activate your licenses on an offline TSplus server

Click on the "Activate your License" button. A popup appears and displays a quite long URL address.

Copy this URL on an internet-connected computer browser and access it in order to retrieve a license file:

License Activation		×
License Activat	on	
Copy activation URL	https://licenseapi.dl-files.com/licensing/activation/start/d7cbcf904fbabea3cf60f2d7898429924d78512a8518421ccf8	efd8d0
िन Activate your lic	ense	

Licensing	licenseapi.dl-files.com/licensing/activation/start/d7cbcf904fbabea3cf60f2d7898429924d78512 🞕 🛧
	License Activation
	Please enter your Activation Key:
	You will find your Activation Key in our order confirmation email. Please contact Support should you require any help activating your license.
	Next >

Your license is then validated. Download the license file by clicking on the corresponding button:

Licensing	Management App
	License Activation
	Your license has been activated!      TSplus Enterprise edition - 5 users      Update/Support services for TSplus Enterprise edition - 5 users - 3 years      TSplus Advanced Security Ultimate edition
	Thank you for your business! You can now safety close this window.
	Download License file for Offline Activation

This license file must then be copied back to the server in order to finish the offline activation process:

Screenshotn4.7 type unknown

→ × ↑ ↓ > This	PC > Downloads			✓ Ö Search D	ownloads	)
organize 👻 New folder						(
🖈 Quick access	^	Name	Date modified	Туре	Size	
📃 Desktop	*	ዿ jre-8u191-wind	11/16/2018 4:35 PM	Application	1,846 KB	
🖶 Downloads	*	Iicense_P6B_0F	9/11/2020 1:02 AM	LIC File	1 KB	
Documents	*	퉣 Setup-Remote	5/5/2020 9:02 AM	Application	6,093 KB	
Pictures	*	👻 Setup-TSplus-S	9/10/2020 12:14 PM	Application	4,197 KB	
Fictures	~	闅 UpdateRelease	9/3/2020 2:28 PM	Application	685 KB	
🔜 Desktop	~					
File <u>n</u> an	ne: license_P6B_0F					

A message will confirm that your license was retrieved succesfully:

License Activation	×
License retrieved successfully	
ОК	

You will then have to select the corresponding licenses / support to activate and a message confirming that all your products/support are now activated.

*N.B*: You can still download license.lic files on the Licensing Portal for TSplus Legacy Versions. <u>Download the</u> <u>Customer Portal User Guide</u> for more information about how to use it:

## **License Activation**

If you are using a recent version of TSplus then license activation is very easy:

- Open TSplus AdminTool
- · Click on the "License" tab
- · Click on the "Activate your license" button
- Enter your Activation Key: 6BAP-

### Legacy License File

If you are using a legacy version of TSplus then you will need a license file to activate your product.

Please only do this for:

- · TSplus version 12 or lower
- TSplus Long Term Support (LTS) 12
- TSplus Long Term Support (LTS) 11

#### Serial Number:

P00 000 000

Apply Serial Number

# **Rehosting Your TSplus License**

### **Online Activation**

Online Activation is authorized once a month.

Prerequisites: It is necessary to have an active support subscription to rehost your license.

It is necessary to install a new version of non-cloned Remote Support to generate a new Computer ID.

If you have duplicated your server and cloned Remote Support, please contact support to rehost your license.

On the new server Go to the "License" tab Click on "Rehost an existing license"

🕄 TSplus - Ad	Iministration Console - 15.		– 🗆 X
	REMOTEACCESS	Help	Expert Mode
<b>←</b>	ිට Activate your License		
	몇 Buy now		
	Rehost an existing license		
	C Refresh your License		
	Initial License : 14 days remaining. 5 users.         Computer ID:		
	Computer name: DESKTOP-QVTJFVE		
	Editions		

Enter your Activation Key:

License Rehosting	
Please enter your Activation Key:	
XXXX-XXXX-XXXX	
You will find your Activation Key in our order confirmation email.	
Please contact Support should you require any help rehosting your license.	

Select the initial Computer you want rehost.

License Rehosting	
Please select the initial Computer you want to rehost from:	
- DESKTOP-	
This is the original Computer, which you want to stop using.	
Please contact Support should you require any help rehosting your lice	ense.

#### Confirm rehost

License Rehost	ting	
Are you sure you want to I	rehost your existing licenses to this n	ew computer?
Please note: - Rehost can only be done o - Rehost cannot be reverted period of 15 days.	nce every 6 months. and will disable your licenses on the pre	evious computer after a grace
< Back		Rehost

Your license rehost is finished.

host	
License Rehosting	
Your licenses have been rehosted!	
You can now safely close this window.	
	Finish

Wait a few moments for your AdminTool to synchronize until the window appears.

License	$\times$
Your permanent license has been successfully activated! Permanent license activated. Enterprise edition. Unlimited users.	
Permanent license activated.	
OK	

Congratulations on your license has been successfully activated!

### **Offline Activation**

Offline Activation can also be done for rehosting licenses.

When the server does not have Internet access, the 'rehost an existing License' button will present the offline rehost page:

🕞 Lice	nse Rehost	-		×
	License Rehost			
	Copy rehost URL	licensing/rehost/start/5cf31979169c9741fa80e7d82de5125632983940237446adfcb4668db3ba6427/w/lN	-QQOEMKT	TB9Q
	C Refresh your lic	ense		

The process is the same as Offline Activation.

# Activating your support license

The 15 version of TSplus introduced a new and easy way to handle your annual support contract.

The support services include our worldwide Ticket/Email support service, Forum access, license rehosting, FAQ and tutorial support.

The Update Services include the delivery of Update codes, the right to install and to use any new release, patch and updates.

We are investing every day to enhance TSplus and to fix all known issues. So, we recommend all our customers to keep their TSplus installation updated. The annual fee is not expensive and is available on our Store Page.

## Step One

Locate the Admin Tool on your desktop :



Double-click on it, then click on the license tile.

• If you cannot find the admin tool shortcut, it should be located in the desktop folder on the administrator account used to download TSplus. You can also find the TSplus folder on this path: 'C:\Program Files (x86)\TSplus\UserDesktop\files'.

Click on the License tab You can now see the serial number:

## Step Two

Click on the "Activate your license" tile and enter your Activation Key

TSplus - Administration Console - 15.	- D >	<
	🌯 Expert Mod 🕜 Help English	le •
<ul> <li>Activate your License</li> <li>Refresh your License</li> <li>Refresh your License</li> <li>License Status</li> <li>Permanent license activated. Enterprise edition. Unlimited users.</li> <li>Computer ID:</li> <li>Computer name: DESKTOP-QVTJFVE</li> <li>WARNING: No support plan has been activated for TSplus</li> <li>Editions</li> <li>System Edition</li> <li>Mobile W</li> <li>Printer Edtion</li> </ul>	Veb Edition e Edition	

## Step Three

Then select "Extend Support period":

License Activation	
Please select the license(s) you want to activate on this comput	ter:
TSplus	
TSplus Enterprise edition - Unlimited number of user	rs
O No Updates/Support	
<ul> <li>Update/Support services for TSplus Enterpri - 3 years</li> </ul>	se edition - Unlimited number of users
The licenses listed above are all the licenses currently available If you have purchased multiple units, only one will be displayed will be able to activate the other units on other computers.	

er of users
ise edition - Unlimited number of users - 3

# Updating TSplus Remote Access

Our development team is working on a daily-basis to ensure the stability and compatibility of TSplus with the latest versions of Microsoft Operating Systems and the latest Updates. We are proud to provide you with new features and enhancements every week.

This is why it is recommended to keep your server up to date. By subscribing to our annual Support and Updates Services, you will have access to the latest Updates and bug fixes.

In order to see which TSplus version you have and update it:

• You can check the status of your TSplus release on the Home tab of your AdminTool:

TSplus - Administration Console - 14	.80.11.24	– 🗆 X
	EACCESS	
П НОМЕ		
	<b></b>	$\bigcirc$
	Computer name: DESKTOP-QVTJFVE Private IP 192.	http://localhost
S WEB	Public IP 176.	▷ □ 5 The built-in HTTP server is listening on port 80
FARM	Connections: 1	The HTTPS server is listening on port 443
	Q Session Manager	
SYSTEM TOOLS	System Audit - No issues found on	
	Version 14.80.11.24 - Version 15.10.12.9	(i) Read changelog
Հֆ ADD-ONS	Permanent license activated. Enterprise edition. Unlimited users.	
ତିଙ୍ଗ LICENSE	End of support date: 2024-12-10	
	English •	🧿 Help

• You can then click on it. Since TSplus 11.50 version, the AdminTool automatically downloads...:

🛺 Update Release	×
Downloading Update Release	
100 %	

...and applies the Update Release program when requested:

Update Release		×
The download of UpdateRelease.e It has been saved in: C:\Users\adm		ompleted.
Would you like to apply it now?		
	<u>Y</u> es	<u>N</u> o

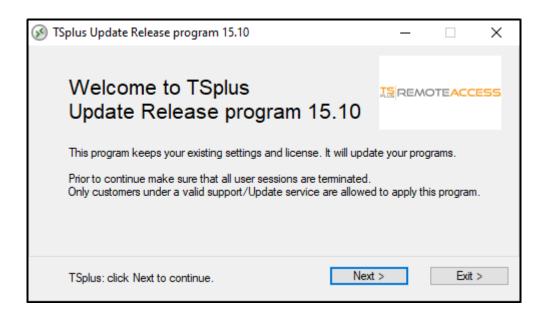
• Since TSplus 11.40 version, you will have the choice to install <u>TSplus Advanced Security</u>, our powerful Security Add-On, in its Ultimate trial version (All Security features free to use for 2 weeks) to your TSplus system:

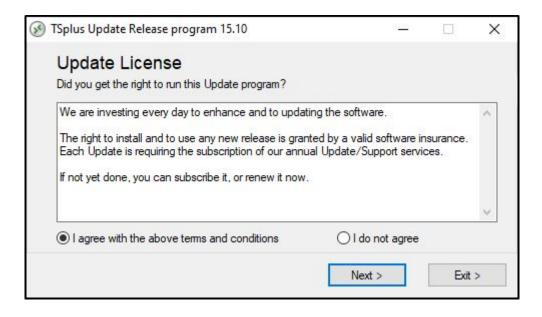
Update TSplus Advanced Security		$\times$
An update is available for TSplus Advan Would you like to apply it now?	oced Security (versio	n 6.0.12.6).
	Yes	No

You still can download it via this link: Update Release and apply it manually.

The Update Release program is designed to keep your current TSplus settings safe. It is not required to reboot after Update; however we do recommend to do so.

If you have not subscribed yet for TSplus Update/Support services, or if your subscription has expired, you will not be able to run the Update Release program:





In such case, we advise you to place your order on our Store Page.

You will receive back the proper information to download your support.lic file. Activating your Update/Support services is an easy process described <u>here</u>.

When the update is finished, a reboot is required:

🔞 Update - TSplus version 15.	10. — — X
	Completing the TSplus Update Wizard
To complete the update of TSplus, you must restart yo computer. Would you like to restart now?	
	• Yes, restart the computer now
	○ No, I will restart the computer later
	Finish

For versions prior to v14, just for specific requirements, the TSplus Support team can deliver an Emergency Update code which will unlock the Update Release program.

TSplus Update Release program 12.60	-	
Welcome to TSplus Update Release program	12.60 <b>T</b> S	
The Support/Update service is not subscribed or Please subscribe it now or contact us for more inf In case of emergency, our support team can crea	omation.	
Emergency Update Code:		
TSplus: click Next to continue.	Next >	Exit >

# Upgrading your TSplus version

If you want to update your current version of TSplus, in order to add more users or more features, register in your <u>license</u> portal.

Licenses Supports	Purchase Licenses	Renew All Supports			
Product	Date	Order Number	Computer	Support	Comment
TSplus Remote Access Desktop 5 users	2023-11-22	JA1201-02-3888-31-08	Upgrade Details	View	Edit
		Previous 1 Next			

Select your choice of upgrade (users and version) and click on "Buy for" to continue on our store.

License Detail		
5 users	Desktop Edition	Update and Support Services: 22/11/2026
Users		Edition
10		⊖ System
5 10 25 unlimited		Desktop     Mobile Web
		⊖ Enterprise
Price includes Update and Support Services for the remaining	period.	
Buy for \$1,50 Add to Cart		Back

After your purchase, the update will be instant and visible on your license portal.

On your server, click on the "Refresh your license" button in the AdminTool > License tab.

# Securing a TSplus server

## Overview

Securing any server is a never-ending story where every expert could add another chapter. TSplus benefits from and is compatible with existing security infrastructure in a company (Active Directory, GPOs, HTTPS servers, SSL or SSL telecommunication systems, VPN, access control with or without ID cards, etc). For customers who want to easily secure their servers, TSplus offers a set of simple and effective ways to enforce good levels of security.

## Changing the RDP port number and setting up the firewall

With the AdminTool, you can select a different TCP/IP port number for the RDP service to accept connections on. The default one is 3389.

You can choose any arbitrary port, assuming that it is not already used on your network and that you set the same port number on your firewalls and on each TSplus user access programs.

## TSplus includes a unique port forwarding and tunneling capability: regardless the RDP port that has been set, the RDP will also be available on the HTTP and on the HTTPS port number!

If users want to access your TSplus server outside from your network, you must ensure all incoming connections on the port chosen are forwarded to the TSplus server. On the Home tab, click on the pencil button next to the "RDP Port":

🐺 TSplus - Administration Console	e - 15.	– 🗆 X
	TEACCESS	🔍 Lite Mode 🕐 Help English 💌
П НОМЕ		
	<b>P</b>	$\bigcirc$
	Computer name: DESKTOP-QVTJFVE Private IP 192.	<u>http://localhost</u>
S web	Public IP 176.	The built-in HTTP server is listening on port 80
FARM	Connections: 1 Ti TSplus X	The HTTPS server is listening on port 443
	Q Session Mar Enter a port number \$389	
SYSTEM TOOLS	System Audit - No issues foure Save Cancel	
👸 ADVANCED	Version 15 - You are using the latest version	(i) Read changelog
값 ADD-ONS	Permanent license activated. Enterprise edition. Unlimited users.	
	End of support date: 2024-12-08	

Change the RDP port and save.

## Server side security options

The AdminTool allows you to deny access to any user that is not using a TSplus connection program generated by the administrator. In this case, any user that would attempt to open a session with any Remote Desktop client other than the TSplus one (assuming he has the correct server address, the port number, a valid logon and a valid password) will be disconnected automatically.

The administrator can decide that only members of the Remote Desktop User group will be allowed to open a session.

#### The administrator can decide that a password is mandatory to open a session.

Through setting the applicable local Group Policy, the administrator can specify whether to enforce an encryption level for all data sent between the client and the remote computer during a Terminal Services session. If the status is set to Enabled, encryption for all connections to the server is set to the level decided by the administrator. By default, encryption is set to High.

## The administrator can also set as a rule that only users with a TSplus connection client will be able to open a session.

Any incoming access with a standard RDP or a web access will be automatically rejected.

#### **Sessions Permissions**

You can find multiple advanced security options if you click on the Sessions - Permissions tab:

🐺 TSplus - Administration Console		- 🗆 X	(
	ACCESS	ዺ Lite Mode	
Ф номе	() Нер	English	•
	Session Management settings		
	Session Opening Preference		
	Session prelaunch configuration		
S WEB			
FARM	Open Files on Client Side		
	C Open URLs on Client Side		
SYSTEM TOOLS			
	🗞 Hide Disk Drives		
값 ADD-ONS			
	₽ Permissions		
	Client Generator		

REMOTEACCESS			💐 Lite Mode	
	TEACCESS	Help	English	
<b>М</b> НОМЕ	Microsoft Remote Desktop Client Restrictions			
	Allow access from RDP client for everyone			
	Allow access from RDP client for Admins only			
	O Deny access from Microsoft RDP client			
T.	Deny access from Outside (only LAN)			
S WEB				
•	Server advanced security options			
FARM	Limit access to the members of Remote Desktop Users			
	Encrypts end-to-end communications			
	Block all incoming access to this server			
	Disable UAC and enhance Windows access			
SYSTEM TOOLS	Allow Windows Key			
_	Allow only users with, at least, one assigned application			
ADVANCED	Allow CUT/PASTE within a session			
ADD-ONS				
	Web Portal Access Restrictions			
	No Restriction			
	O Web Portal Access is mandatory for everyone			
	O Web Portal is mandatory, except for Admins			
	Prohibit the Web Portal for Admins accounts			

- Allow access from Microsoft RDP client for everyone: Allows every user to connect using mstsc.exe.
- Allow access from Microsoft RDP client for Admins only: Allows only Admins to connect using mstsc.exe.
- Deny access from Microsoft RDP client: Prevent anyone to be able to connect using mstsc.exe.
- Deny access from Outside: It means that only private IPs from LAN will be able to open a session.
- Limit access to the members of Remote Desktop users: This limit applies only to this local group of users (which you can see by clicking on the Users and Groups tile.
- Encrypts end-to-end communications: High Encrypts client/server communication using 128-bit encryption. Use this level when the clients accessing the terminal server also support 128-bit encryption.
- **Block all incoming access to this server:** All alive sessions will remain active, while all incoming connections attempts will be blocked. Make sure that you can physically access the console of the server if you check this box. Do not use this option if your server is hosted on a Cloud environment.
- **Disable UAC and enhance Windows Access:** Deactivates the User Accounts Controls, remove all unwanted security pop-ups from Windows. users limitation (messages) while launching applications.
- The "Allow Windows Key" box allow the use of the Windows keys and combinations inside a TSplus session.
- Allow only users with, at least, one assigned application: User with one application and more are allowed to open a session.
- Allow CUT/PASTE within a session: unchecking this box will disable the CTRL C/CTRL V commands

#### Web Portal Access Restrictions

- No Restriction
- Web Portal is mandatory for everyone: users can only connect via the Web Portal.
- Web Portal is mandatory, except for Admins: users can only connect via the Web Portal, except Administrators.
- Prohibit the Web Portal for Admins accounts: Administrators cannot connect via the Web Portal.

## Hiding the server disk drives:

The AdminTool includes a tool that enables hiding the server disk drives to prevent users from accessing folders through My Computer or standard Windows dialog boxes. On the Sessions tab, click on "Hide Disk drives" :

TSplus - Administration Console		- 🗆	×
		Nite M English	lode T
<b>М</b> НОМЕ			
	Session Management settings		
	Session Opening Preference     Session prelaunch configuration		
S web			
FARM	Open Files on Client Side		
	C Open URLs on Client Side		
SYSTEM TOOLS			
<b>段</b> ADVANCED	🥸 Hide Disk Drives		
값 ADD-ONS	ΞC Contextual menu		
ତିଳ୍ଫ LICENSE	2, Permissions		
	Client Generator		

This tool works globally. This means that even the administrator will not have a normal access to drives after the settings have been applied. On the example below, all drivers have been selected with the "select all" button, which will check all the boxes corresponding to drives that will be hidden to everybody:

👖 Hide server	drives	×
Disks		
A:\ B:\	✓ N:\ ✓ O:\	Select all
✓ C:\	✓ 0.\(	Unselect all
✓ D:\ ✓ E:\	☑ Q:\ ☑ R:\	Reset
✓ F:\	∑ S:\ ∑ T:\	
✓ H:\	✓ U:\	
/:\ \\ !	<ul> <li>✓ V:\</li> <li>✓ W:\</li> </ul>	
	∑ X:\ ∑ Y:\	
✓ M:\	✓ I.\ ✓ Z:\	
Selected drives	s will be hidden, unselect to	Apply
diffide.		Apply

**Notes:** This functionality is powerful and does not disable the access to the disk drives. It just prevents the user to display it.

## 

The tool flags the disks drives as hidden, but it also adds the HIDDEN property to the entire root folders and users list in Document and Settings.

If the administrator wants to see these files he must:

- 1. Type the disk drive letter. For example: **D**:\ which will take you to the D: drive.
- 2. Turn on SHOW HIDDEN FILES AND FOLDERS in the folder view properties.

## Administrator Pin Code

The Administrator can secure the Administrator Tool access by setting a pin code which will be asked at every start, on the Advanced tab of the AdminTool, under the Product Settings:

APPLICATIONS	🕣 🛛 Backup / Restor	e your Server Parameters		
	Advanced Settings			
<b>-</b>	Product	Name	👖 TSplus - Edit Setting	×
Session Use RDS AdminTo	Administrator pin code Use RDS role AdminTool background col	Administrator pin code		
	AdminTool Language	AdminTool will ask for a password if this value is not empty.	^	
SESSIONS				
SYSTEM TOOLS				
ADVANCED			Value:	
			1234	
ADD-ONS				
			Save	

## **TSplus Advanced Security Ultimate**

Since TSplus 11.40 version, you will find a one-of-a-kind Security Add-on Tool, which you can launch on the Add-Ons tab:

18	TSplus - Administration Console			- 0	×
PL	REMOT	EAC	CESS ®+	Nite Melp English	1ode T
ŵ	НОМЕ		TSplus Advanced Security - Protect your server		٦
口 令	APPLICATIONS PRINTER		Protect your server from bute-force attacks and foreign intrusions. Block ransomwares before they destroy your files. Restrict users access and lock them in a highly secured environment.		
Q	WEB		Two-Factor Authentication - Confirm your users' identity		
∎	FARM		Passwords can be lost, stolen by phishing attacks, and very often they can even be cracked in a matter of min Two-Factor Authentication solves this problem simply and effectively, and provides an additional security laye the user mobile device.		
ୁ ଅ	SESSIONS SYSTEM TOOLS				
墩	ADVANCED		TSplus Remote Support - Remotely connect to your client PCs and provide instant assistance A secure, web-based screen sharing and remote control solution designed for today's flexible support teams. Securely connect to remote computers, take control of their mouse, access files and applications, and troubleshoot pro		
ස	ADD-ONS				
©7	LICENSE	1.	TSplus Server Monitoring - Monitor your server		
			TSplus Server Monitoring helps to optimize software resources and to reduce unnecessary costs. Give facts and data about server usage (CPU, Memory, I/O, Disks). Track changes, resources usage and events with real-time email alerts.		

Which brings powerful features, documented on this page.

🖤 TSplus Advanced Security	-
	TSplus Advanced Security - Ultimate Protection
<b>М</b> номе	Keep threats away from your Windows system.
	Prevent, protect and fight cyber attacks.
	21 Oct 16:52:53 🔇 A logon request has been granted for user WIN-A1L00CN0E56\Laura because WIN-A1L00CN0E56\Laura is whitelisted
	21 Oct 16:52:53 A connection has been authorized for user WIN-A1L00CN0E56\Laura from computer because this feature is not enabled for this user
IP ADDRESSES	21 Oct 16:52:53 7 No session configuration was applied to user's session WIN-A1L00CN0E56(Laura because the feature is not enabled for WIN-A1L00CN0E56(Laura
· ·	🥝 21 Oct 16:52:53 🧏 No session configuration was applied to user's session WIN-A1L00CN0E56(Laura because the user is whitelisted
	1 21 Oct 16:52:36 D Protection against Ransomware is up and running
	System audit - No issue found on 10/21/2019 5:09:36 PM
	Version 4.3.10.16 - You are using the latest version
<b>跤</b> SETTINGS	Virial License 10 days - Ultimate Protection edition
	English

The Brute-Force Attacks Defender role on the Web Portal is described on this page.

### Two Factor Authentication

Since TSplus 12 Version, you can enable two-factor authentication as an add-on for your TSplus Web Portal.

Protect your account with 2-step verification	x
Click to configure your authentication app	
<ul><li>Open the authenticator app on your mobile phone.</li><li>Scan the QR code displayed below:</li></ul>	
Secret key: TMPCKUPCDGJWZOHISPHS32S456W4ERIA Validate your verification code obtained by SMS, e-mail or via your 2FA app	
Validate	

More information on this amazing new feature can be found on this page.

#### **SSL** Certificates

SSL Certificates process is detail on these pages:

- TSplus provides an easy-to-use tool to generate of a free and valid SSL certificate: Free and Easy-to-install SSL Certificate

- HTTPS & SSL Third Party Certificates.

- Choose your Ciphers Suites to enhance Security.

## TSplus access program security options:

The TSplus client generator gives the capability, on its Security tab, to lock the TSplus client to:

• A specific PC name. It means this program will not be able to start from any other PC.

• A physical drive serial number (PC HDD or USB stick). This is a very easy and powerful way to set a high level of security.

The only way to connect is with a specific client, and this specific client can only start on a specific USB stick or PC HDD.

Some of our customers are delivering fingerprint-reading USB sticks to each of their users and each generated program is locked to the device serial number.

This way, they can restrict access to the client's program itself, as well as ensuring it cannot be copied off the USB stick and used elsewhere.

Wind	dows	Client Genera	tor				_ ×
General	Display	Remote Desktop client	Local resources	Program	Security	Load-Balancing	
Advanc	ed client	security options					
	Lock	it on PC name		cit on seria	l number		
	DESKT	OP-204950	196133	31728			
	No limit	it: Disable this generated of Number of days from v user from saving credent Save usemame only yption V2	the first use date o 	f this gener		• •	
- Advanc	Use f	ection options the targeted server as a R pe sure to use the specifie as a valid SSL/TLS certifi	d server's Domain				sure the
Client loca		C:\Users\admin\Desktop		Brov	vse		Create Client
		L					

For more security feature informations, check TSplus Portable Client Generator documentation and our FAQ.

# Long Term Support versions

Customers who have subscribed to TSplus Support & Update Services and are not interested in TSplus latest features and improvements can install a TSplus LTS (Long Term Support) version.

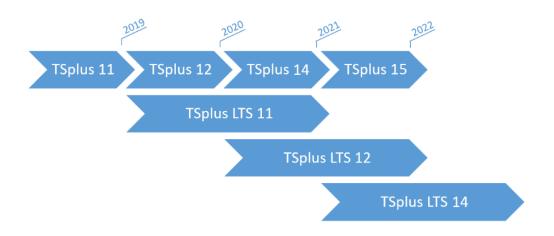
TSplus LTS (Long Term Support) version extends the period of software maintenance; it also reduce the frequency of software updates to reduce the risk, expense, and disruption of software deployment, while promoting the dependability of the software.

Moreover, TSplus LTS (Long Term Support) does not receive any new features.

## TSplus lifecycle

TSplus standard versions are published quite often and the latest release is always the best solution available to our customers: all known bugs are fixed and new features are available very often.

A new major TSplus version is released at the start of every year: TSplus 11 in January 2018, TSplus 12 in January 2019 and so on, as shown in the diagram below.



Starting January 2019, TSplus is also available in a Long Term Support version, named "LTS". Every new major version, TSplus will publish a stable LTS version of the previous version which will be supported for 2 years.

## Benefits and Limitations of TSplus LTS

TSplus LTS has several benefits:

- No updates except for security fixes and Windows updates compatibility
- No changes in behavior and no changes in features when you update
- Less risk when updating between two minor versions of a given LTS
- Supported for at least 2 years

TSplus LTS also has limitations and constraints:

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- Customer must purchase Support & Update Services (a license cannot be activate without active Support & Update Services)
- No new features at all (compared to TSplus standard version which constantly receives a lot of updates and new features)

We recommend our customers to use TSplus standard version to benefit from our state-of-the-art solution.

## **TSplus LTS Links**

TSplus LTS 16 (supported from 2024-01 to 2026-01):

- Changelog
- <u>Setup</u> (to install TSplus on a new server)
- UpdateRelease (to update an existing TSplus installation)
- LTS16 Documentation

TSplus LTS 15 (supported from 2023-01 to 2025-01):

- Changelog
- <u>Setup</u> (to install TSplus on a new server)
- UpdateRelease (to update an existing TSplus installation)
- LTS15 Documentation

TSplus LTS 14 (supported from 2021-12 to 2023-12):

- Changelog
- Setup (to install TSplus on a new server)
- UpdateRelease (to update an existing TSplus installation)
- LTS14 Documentation

TSplus LTS 12 (supported from 2019-12 to 2022-12): End Of Support.

TSplus LTS 11 (supported from 2018-12 to 2021-12): End Of Support.

# Server Management

On the Home tab of the AdminTool, you can see all the needed information about your TSplus server:

TSplus - Administration Console		- 🗆 X
TSPLUS	Remote Access Management Console	
С номе		
	Ţ	$\bigcirc$
	Computer name: WIN-A1L00CN0E56 Private IP 192.168.	http://localhost
S WEB	Public IP 78.193. RDP port 3389	► □ 5 The built-in HTTP server is listening on port 80
FARM	Connections: 1	The HTTPS server is listening on port 443
SESSIONS	Q Session Manager	
SYSTEM TOOLS	System Audit - No issues found on 1/7/2020 4:27:20 PM	
없 advanced	Version 12.60.1.4 - You are using the latest version	() Read changelog
값 ADD-ONS	O License Activated - Enterprise edition - Unlimited users	
ତ୍ମ୍ୟ LICENSE	Send of support date: 7/11/2022	
	English	🕐 Help

## Changing the RDP port number and setting up the firewall

With the AdminTool, you can select a different TCP/IP port number for the RDP service to accept connections on. The default one is 3389. You can choose any arbitrary port, assuming that it is not already used on your network and that you set the same port number on your firewalls and on each TSplus user access programs.

TSplus includes a unique port forwarding and tunneling capability: regardless the RDP port that has been set, the RDP will also be available on the HTTP and on the HTTPS port number!

If users want to access your TSplus server outside from your network, you must ensure all incoming connections on the port chosen are forwarded to the TSplus server.

TSplus - Administration Console	- 15.	- 🗆 X
	EACCESS	🌯 Lite Mode
HOME     APPLICATIONS     PRINTER     WEB	Computer name: DESKTOP-QVTJFVE Private IP 192. Public IP 176. RDP port 3389	http://localhost > 0 5 The built-in HTTP server is listening on port 80
SESSIONS	Connections: 1 Q Session Mar Enter a port number B389 System Audit - No issues foun Save Cancel	The HTTPS server is listening on port 443
ĝ advanced 公 add-ons ⓒ규 License	Version 15       • You are using the latest version         Permanent license activated. Enterprise edition. Unlimited users.	i Read changelog
	Cond of support date: 2024-12-08	

## Management of users and sessions

The session manager is located right below the RDP port:

TSplus - Administration Conso	le -	×
TSPLUS	Remote Access Management Console	
<b>М</b> НОМЕ		
	Ţ.	$\bigcirc$
	Computer name: DESKTOP-SCVIIVH Private IP 192.168.1.22	http://localhost
S WEB	Public IP 78. RDP port 3389 🧨	The built-in HTTP server is listening on port 80
FARM	Connections: 1 Q	The HTTPS server is listening on port 443
SESSIONS		
SYSTEM TOOLS	System Audit - No issues found on 1/28/2019 11:39:01 AM	
ADVANCED	Version Version You are using the latest version	
값 add-ons	C License Activated - Enterprise edition - 25 users	
ତିଙ୍ଗ LICENSE	Control of support date:	
	English	() Help

You can display your server's task manager, and you have the possibilities to active a remote control, disconnect, logoff or send a message to your users.

)	User	Domain	Status	Session	Client Name	Client Address
	Administrator		Active	Console		
	john		Active	RDP-Tcp#0	ADMIN-PC	192.168.1.212
	julia		Active	RDP-Tcp#1	DESKTOP-PRDBQT3	192.168.1.244

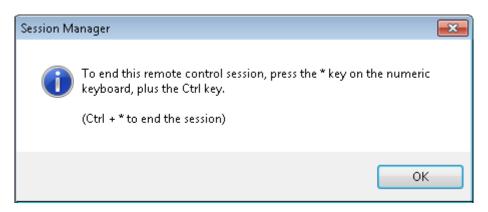
You can activate the remote control via a remote session with an admin account on the following Operating Systems:

- Windows Server 2008 R2
- Windows Server 2012 R2
- Windows Server 2016
- Windows Server 2019
- Windows 7
- Windows 8.1
- Windows 10 pro and above

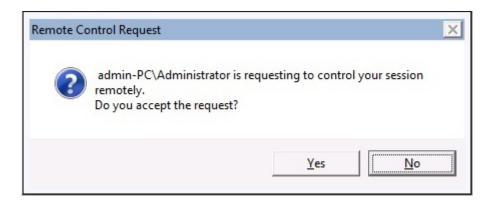
On Windows XP, 2003, Vista, and 2008 there is no remote control button.

On Windows 2012 and 8 a message appears advising you to update to 2012 R2 or 8.1.

When you activate the remote control for a user's session, this message appears, indicating the keyboard shortcut to end the session:



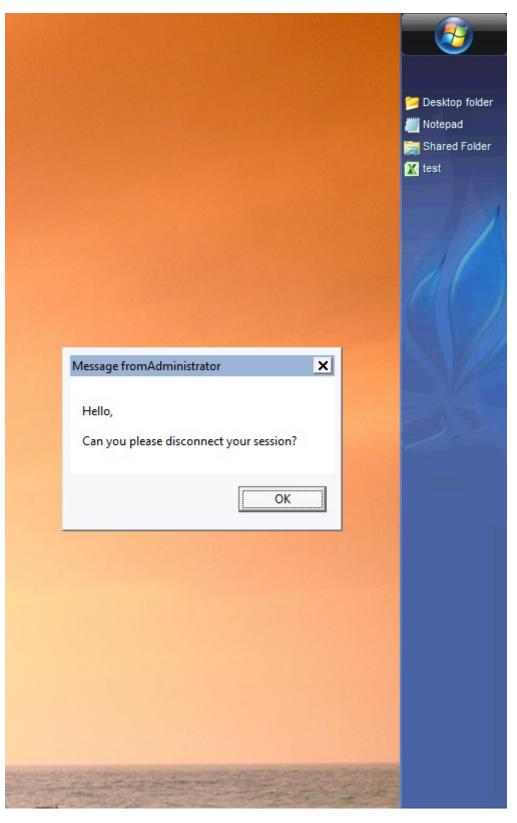
On the client side, this message appears to accept the remote control:



You can also send a message to your user:

D	User	Domain	Status	Session	Client Name	Client Address
1	Administrator		Active	Console		
2	john		Active	RDP-Tcp#0	ADMIN-PC	192.168.1.212
		Me	Session Manager- ssage title: essage fromAdministra	, , , , , , , , , , , , , , , , , , ,		
		He	ssage: illo, n you please disconr	nect your session?		
				ОК	Cancel	

Message sent on Server Side



Message appearing on Client Side

The Users and Groups tab allows you to add/edit or delete users.

TSplus - Administration Console - 15.	6.8		- 🗆	×
	ACCESS	Help	Nite Ma	ode •
	Services			
	Users and Groups			
S WEB	Image: Server Properties           Image: Windows System Toolkit			
은 sessions	Local Group Policy Editor			
SYSTEM TOOLS	Event Viewer			
값 ADD-ONS				
ତିନ୍ଦ LICENSE				
	C Reboot the Server			

See this documentation for more information.

• With the Session Management Settings (GPO) tab, you can set various connection settings for each session and user:

TSplus - Administration Console		- 0	×
		Nite Mod English	ie •
<b>М</b> НОМЕ			
	Session Management settings  Session Opening Preference		
	Session opening release     Session prelaunch configuration		
S web			
E FARM	Open Files on Client Side		
	C Open URLs on Client Side		
SYSTEM TOOLS			
段 ADVANCED	V Hide Disk Drives		
값 ADD-ONS	Contextual menu		
	Permissions		
	Client Generator		

🛺 Session Management and Local Group Policies (GPO)			_	×
Session Management options				
Session Time limit settings				
Terminate any disconnected session after	60000 <b></b>	milliseconds	Never	
Maximum time allowed for any user session	0	minutes	Never Never	
Maximum time for any inactive / idle session	0	minutes	🗹 Never	
All disconnected session will be automatically terminated				
User Reconnection options				
Only one session per user: The second session will capture the				
Only one session per user: The second session will be logoff				
Multiple session per user: At each logon the user will open a	new session			
The user must reconnect from the same device				
on W10 or 2016 server: To speed up user logon, you can disa	ble 'Per user services	ŕ		
Start the Local Group Policies	Management Conso	ble		

Windows Server 2016 introduced a new "Per user service", which makes services start all processes per users, which slows the users logons time.

Since TSplus 11.70 release, you can disable per user services in order to speed up users logons.

Services and Properties

• The Windows Toolkit is an enhanced control panel, summarizing all the Windows Administration tools.

TSplus - Administration Cons	sole -	- 0	×
TSPLUS	Remote Access Management Console		
<ul><li>     HOME     APPLICATIONS     PRINTER     </li></ul>	Services Users and Groups		
S WEB	Server Properties		1
SESSIONS	Local Group Policy Editor		1
SYSTEM TOOLS	Event Viewer		
슈DD-ONS C규 LICENSE			
	🗘 Reboot the Server		

🖭 C:\Program Files (x86)\TSplus\UserDeskto	op\file	s\godmode	_	×
← → · · ↑ 🖭 « Program Files (x86)	> 1	Splus → UserDesktop → files → V Ō		٩
Organize 🔻		E	-	?
Organize         TSplus         Clients         UserDesktop         files         apilangs         est         ico         icons         themes         Windows Defender         Windows Mail         Windows Multimedia Player         Windows nt         Windows Photo Viewer	^	Name <ul> <li>Administrative Tools (12)</li> <li>Create and format hard disk partitions</li> <li>Defragment and optimize your drives</li> <li>Diagnose your computer's memory problems</li> <li>Edit group policy</li> <li>Free up disk space by deleting unnecessary files</li> <li>Manage computer certificates</li> <li>Schedule tasks</li> <li>Set up ODBC data sources (32-bit)</li> <li>Set up ODBC data sources (64-bit)</li> <li>View event logs</li> <li>View local services</li> </ul> <li> <ul> <li>AutoPlay (3)</li> <li>Change default settings for media or devices</li> <li>Play CDs or other media automatically</li> <li>Start or stop using AutoPlay for all media and devices</li> <li>Backup and Restore (Windows 7) (2)</li> </ul> </li>		
Windows Portable Devices WindowsPowerShell		Restore data, files, or computer from backup (Windows 7)		, v
208 items	Ŷ			> ==

- You can also launch the "Server Properties" tab to have an overview of the control panel.

TSplus - Administration Cons	isole -	- 0	×
TSPLUS	Remote Access Management Console		
<b>М</b> НОМЕ	Services		
	Semices		
	2 Users and Groups		
<b>©</b> web	Server Properties		
FARM	🖏 Windows System Toolkit		
	Local Group Policy Editor		
SYSTEM TOOLS	Event Viewer		
ស៊្លា advanced			
값 ADD-ONS			
	C Reboot the Server		

- You can see all the services on your server and their status on the Services tile.

TSplus - Administration Console		- 🗆	×
TSPLUS	Remote Access Management Console		
<b>М</b> НОМЕ	Services		1
	Jennes		1
	S. Users and Groups		
S web	000 Server Properties		
FARM	Nindows System Toolkit		
	:= Local Group Policy Editor		
SYSTEM TOOLS	Event Viewer		
없 advanced			
었 add-ons			
ලැ LICENSE			
	C Reboot the Server		

## Session Opening Preference

The session opening preference allows you to choose your shell session preference, your logon preferences, the background color of your sessions, add your own logo and rename it to your liking.

🐺 TSplus - Administration Console			-	-	×	
	REMOTEACCESS			💐 Lite Mode		
		· 0	Help	English	•	
<b>М</b> номе						
	*	Session Management settings				
-	ſ.	Session Opening Preference			1	
	4	Session prelaunch configuration			1	
S WEB						
FARM	D	Open Files on Client Side				
	Ð	Open URLs on Client Side				
SYSTEM TOOLS						
	<u>R</u>	Hide Disk Drives				
Հ굿 ADD-ONS	Ξ×	Contextual menu				
ତିନ୍ଦ LICENSE	2/	Permissions				
	G	Client Generator				

By default, on these logon preferences are enabled:

- The "Display progress bar during logon".
- "Enable Time Zone Redirection" which enables the client computer to redirect its time zone settings to the Remote Desktop Services session. If you enable this policy setting, clients that are capable of time zone

## 

redirection send their time zone information to the server.

Session Opening Preference	e	_		×
	-			~
Logon Preferences				
All users have a full Desktop				
Display last connected users				
Enable Time Zone Redirectio	n			
Paskground Color Profesence				
Background Color Preference			_	
10841658	Choose col	or		
Background Logo Preference				
Select a logo		Rei	move logo	)
Session Name Preference				
RDP-Tcp	]			
	]			
	Save		Cancel	I

You can also **set a full Desktop** for all your users and **get a display the last connected users** by ticking the corresponding boxes. You can **customize your users sessions** by adding a new Background Color, another logo or none and use the session name of your choice.

• Since TSplus 11.70 release, you can use **TSplus WinXshell** as an alternative to the Windows shell. Following the October 10 Windows Update, administrators allowing their users to start a Remote Desktop saw the Windows shell as an issue.

The main problem resides in the session opening/black screen issue when a complete desktop is assigned to multiple users on Windows 10 and Server 2016.

It provides features and graphical experience similar to Windows 2016 Windows shell, such as the display of the 2016 Start button and taskbar.

It is especially useful if you use Windows 10 or Windows 16 Operating systems, manage 10 users or more and wish to assign them a full desktop.

#### Backup and restore your server parameters

You can backup or restore your server parameters by clicking on the tile of the same name, on the Advanced tab:

	TEACCESS			0	0	
				(?) Help	English	
Номе	☆ > Advanced					
APPLICATIONS	📀 🛛 Backup / Restore yo	ur Server Parameters				
PRINTER	Advanced Settings					
WEB	Reduct Security Session	Name Administrator pin code Use RDS role	Value Default () Default (No)			
FARM	♀ Lockout ≪ Virtual Printer ≕ Contextual menu	AdminTool Language Contribute to improve product by sending a	English			
SESSIONS	🅸 Logs					
SYSTEM TOOLS	The TSplus - Backup / Res Backup your Server Paran	tore your Server Parameters neters	×			
ADVANCED		Backup				
중 ADD-ONS	Restore your Server Paran	neters Restore				
	<u>.</u>					

Click on the Backup button to make a backup, which will be dated and added to the list of your restore points:

	Backup		
Restore your Server Paramet	Backup X		
2019-02-07_12-57-36	Backup completed	Restore	

The backup file can be found on the C:\Backupparam folder:

## 

🏪   🛃 📕 🖛   Local Disk (C:)						-		×
File Home Share View								~
← → ~ ↑ 💺 > This PC > Local Disk (	(C:) >		,	v 0	Search Local [	Disk (C:)		P
🧊 3D Objects	^	Name	Date modified	Туре		Size		
🦲 Desktop		Backupparam	2/7/2019 12:57 PM	File f	older			
Documents		inetpub	2/6/2019 5:29 PM	File f	older			
🕂 Downloads		PerfLogs	4/12/2018 1:38 AM	File f	older			
TSplus_AdminTool_v12_PREVIEW_1			11/15/2018 12:08	File f	older			
Freebox Server		Program Files (x86)	3/1/2019 2:03 PM	File f	older			
Music		Shared Folder	2/7/2019 12:18 AM	File f	older			
Fictures		tmp	2/21/2019 11:34 PM	File f				
Videos		Users	11/29/2018 1:18 PM	File f				
		Windows	2/22/2019 12:47 AM	File f				
Local Disk (C:)		wsession	2/21/2019 11:36 PM	File f				
Backupparam		🔊 lang	11/13/2018 8:16 PM	Conf	iguration sett		1 KB	
backup-2019-02-07_12-57-36								
inetpub								
- PerfLogs								
Program Files								
Program Files (x86)								
Shared Folder	~							
11 items 1 item selected								]== 

Copy the folder to the new server after installing TSplus Remote Support and restore the backup.

You can then check with the trial for 15 days that the functioning of the accounts and access is correct before migrating your license definitively.

More information on this documentation.

#### **Reboot your server**

The "Reboot the server tab" allows you to reboot your server.

TSplus - Administration Console	le - 1 = 1 = 1	-	×
TSPLUS	Remote Access Management Console		
HOME APPLICATIONS PRINTER WEB FARM	Services Users and Groups Userver Properties Windows System Toolkit		
SYSTEM TOOLS	Event Viewer		
ô Advanced 산 Add-ons ⓒ구 License			
	C Reboot the Server		

# **Session Prelaunch**

Access the Session Prelaunch configuration menu from the Sessions > Settings tab of the Admintool, by clicking on the "Session Prelaunch configuration" tile.

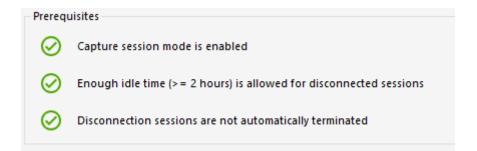
TSplus - Administration Console -	15.40.3.24		- 🗆	×		
	EACCESS	🕐 Help	Nite Ma	ode •		
<b>Ф</b> номе						
	Session prelaunch is enabled - click to disable 🔶 Try prel	aunch now				
	Session prelaunch enables TSplus Administrators to start user sessions at a scheduled time. With prela active session without waiting for it to load on the server.	unch enabled, users c	onnect to an			
🕤 WEB	This feature requires user credentials to be known by TSplus services to open a new session. When en every time a configured user authenticates through the TSplus Web Portal. Prelaunch sessions won't work unless the user credentials have been saved and are valid.	abled, user credential:	s will be saved			
FARM	Enabling session prelaunch will automatically apply the following session settings to the chosen users	and groups.				
	Prerequisites Capture session mode is enabled					
SYSTEM TOOLS	Enough idle time (> = 2 hours) is allowed for disconnected sessions					
<b>贷</b> ADVANCED	Disconnected sessions are not automatically terminated					
Հ구 ADD-ONS	Users and Groups					
CT LICENSE	User/Group name Always prelaunch Prelaunch before Q+ Add us	er or group				
	DESKTOP-I5300CE\benjamin No 08:00					
	() Schedu	le				

# Overview

The session prelaunch feature enables Tsplus Remote Access administrators to configure user sessions to launch before a scheduled time. The idea is to prepare and load the session of every configured user ahead of time, so that once a user connects, they capture their specific session. This can cut connection wait times from minutes to seconds.

#### Prerequisites

Prelaunch requires multiple prerequisites to be met.



1 - In order to capture a session, **capture session mode must be enabled.** This means you won't be able to benefit from this feature if the multi-session configuration is mandatory for your users.

2 - Since the prepared session loaded ahead of time needs to be present (not logged of) when the user connect and captures it, **a minimum of 2 hours of idle time for disconnected session must be allowed.** You can of course also set the session settings so that it never logs off a disconnected session.

3 -Since the prepared session is disconnected once loaded to reduce the overall resource usage, **the session settings must be configured not to automatically log off disconnected sessions.** 

Important note! Each configured user will need to authenticate at least once through the TSplus Web Portal after the session prelaunch feature is enabled to make the TSplus services able to open the configured user session.

#### Session Prelaunch compatibilities

Session prelaunch is compatible with HTML5 sessions and generic RDP sessions opened via generated client or mstsc.

It is however not compatible with the Remote App connection or custom RDP connections made for opening a specific program.

As a result, connections coming from the TSplus Web Application Portal are not supported.

#### Enable the feature

To enable the session prelaunch feature, simply click on the tile labeled "Session prelaunch is disabled - click to enable" near the top of the window.



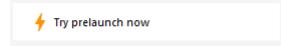
Session prelaunch is disabled - click to enable

## 

If any of the prerequisites aren't met when enabling Session Prelaunch, you will be asked if you want to automatically configure session settings to meet the prerequisites and use the feature. Note that changing session settings may require a reboot.

## Test the session prelaunch

Once enabled, you will be able to quickly test the feature by clicking on the button "Try prelaunch now" at the top.



In the windows that appears, enter user credentials so that TSplus services can prelaunch the session for this specific user.

🔸 Try prelaunch now		—		$\times$
Try prelaunchin Please fill out				
User credentials				
Domain				
Usemame				
Password				
🗲 1. Prelaunch				
2. Wait for the session t	o be loaded			
This can take up to 1 m and assigned application		ling on the	e user set	ttings
The session is waiting to	be prelaund	hed.		
→ 3. Connect				

Click on "Prelaunch" to start and load a new session for this user.

Wait until it is fully loaded, and then click on "Connect" to capture the freshly loaded session.

## Manage configured users and groups

To add session prelaunch users and groups, simply click on "Add user or group".

To edit or remove a configured user, select the matching user/group in the configured user/group list, then click on "Schedule" to change the 'prelaunch before' time, or the "Remove" button to remove the user.

## 

Users and Groups			
User/Group name Users	Always prelaunch	Prelaunch before	2+ Add user or group
Users DESKTOP-I530OCE\benjamin No	08:00	O- Remove	
			C Schedule

After clicking on "Add user or group", you will be asked the user/group name to configure as well as the time before which the session needs to be loaded, called "prelaunch before" here.

You can also configure this user/group to always have a session prelaunched when connecting instead of having to schedule it by selecting "Yes" on the "Always prelaunch" option.

≗+ Add user or group		-		×
C Find user or gro	oup in local compute	er or AD		
User/Group name Enter a user/group name or a	l	oup from AD		
Туре	O User	Group		
Always prelaunch If you want this user/group t	<ul> <li>Yes</li> <li>always have a prela</li> </ul>	No unched session av	vailable	
Prelaunch before Enter the hour before which	00:00 the session needs to be	e prelaunched eve	<b>₽</b> ryday	
	Save			

# **Application Publishing**

### Overview

TSplus supports 4 different kinds of Application Publishing:

- <u>Microsoft Remote Desktop</u>. The user will see the full Windows Remote Desktop in the session.
- TSplus Taskbar.

Any application, folder, shortcuts, documents... copied on the user's Desktop folder will be published with the TSplus Remote Taskbar.

In this case, the user does not have any access to applications other than those decided by the administrator. Application Control has a much finer grain.

- **The Floating and Application Panels.** All the applications can be published on a mini drop-down list or on a <u>folder</u> which you can customize.
- Assigning one, two, three, or more specific applications to a user/group. In this case the user will only see their assigned applications when opening a session.

**There is a priority rule to remember:** The Microsoft Remote Desktop has the highest priority, then the TSplus Taskbar, then specific applications.

If a user has a specific application assigned and TSplus taskbar or Microsoft Remote Desktop, they will not see the specific application because they have a lower priority.

## Managing Applications using the Admin Tool

You will add, edit or remove applications using the AdminTool, by clicking on the "Applications" tab -> "Publish":

TSplus - Administration Console	1		- 0	$\times$
	EACCESS	Help	Ҳ Lite Mo	ode •
<b>М</b> НОМЕ	Applications			
	+ Add Application / Edit Application X Remove Application	> O Assi	gn Application	
	Select an Application to Edit or Assign users/groups to it Display Mode: Large Icons Desktop, Taskbar, Floating Panel and Application Panel	<ul> <li>✓ Order by:</li> </ul>	① Date added	~
S WEB	Microsoft TSplus Remote FloatingPanel Application Desktop folder	2 User	s	
FARM	Remote Desktop Taskbar Panel Panel			
	2			
💐 SYSTEM TOOLS	Notepad			
ත්ර advanced				
슈D-ONS				
ତଳ LICENSE				

Click on the "Add Application" tile in order to publish an app:

1 New Application	_		Х
Path/Filename:			
C:\Program Files (x86)\Foxit Software\Foxit Reader\FoxitReader.exe			D
Start Directory:			
C:\Program Files (x86)\Foxit Software\Foxit Reader			B
Display Name:			
Foxit Reader			
Command line option:			7
Window State:			
Default (Maximized if single application on Web/Mobile client)		~	*
Folder:			
(top-level)		~	· 🕒
Save Test	Car	ncel	

- 1. Foxit is published as an example. To publish an application, click on the **''Add application''** button, then locate the path of the executable of your application by clicking on browse, then set a name for this application in the dedicated field.
- 2. You must click on the "Save" button to store any modification.
- 3. After declaring a new application, we recommend to use the **"Test (start selected)"** button to check that the application is functional before assigning it to your users.

- 4. You can specify for each application if it will be **launched maximized**, **minimized**, **assigned to all the users or if it will be hidden after launch**.
- 5. You can add a **command line option** if you need to add some extra parameters which are usually set in the shortcut properties of the application.
- 6. Since TSplus 12.40 version, you can now **create a new folder in which you can publish your applications.** (See below for more information) By default, they are published on the top-level folder.

*Note:* You can change the orders of applications by clicking on the left or right arrows, next to the "Assign Application" button:

+ Add Application	🧪 Edit Application	X Remove Application	<.	>	Assign Application

#### Managing Applications Folder using the Admin Tool

You can add, edit or remove Applications Folder on the same dashboard. First by publishing an application, then by clicking on the "+" button at the bottom-right under the "Folder" selection:

1 New Application —	Х
Path/Filename:	
C:\Program Files (x86)\Foxit Software\Foxit Reader\FoxitReader.exe	E=
Start Directory:	
C:\Program Files (x86)\Foxit Software\Foxit Reader	
Display Name:	
Foxit Reader	]
Command line option:	
	]
Window State:	
Default (Maximized if single application on Web/Mobile client) $\sim$	
Folder:	
(top-level) ~	$\bigcirc$
Save Test Cancel	

Then enter the name of your new folder:

👖 New Application	1				$\times$
Path/Filename:					
C:\Program Files (x86)	)\OpenOffice 4\program\scalc.exe				Þ
Start Directory:					
C:\Program Files (x86	🛺 TSplus - New Folder	×			6
Display Name: Spreadsheets Command line optic Window State: Default (Maximized if Folder:	Folder name: (Please use only letters, digits, spaces, dots, hyphens and underscores) Office Programs Save Cancel			~	]
(top-level)				~	$\bigcirc$
Save	Test		Cancel	I	

The Folder then appears under your published Applications:

1 TSplus - Administ	tration Console	- 0	×
	MOTEACCESS	Ҳ Lite Mo	ode •
П номе	+ Add Application / Edit Application × Remove Application <	Assign Application	
	Select an Application to Edit or Assign users/groups to it Display Mode:	✓ Order by:	~
	Desktop, Taskbar, Floating Panel and Application Panel	<b>S</b> Users	
S WEB	Microsoft tsplus FloatingPanel Application Desktop Remote Remo Panel folder Desktop		
FARM	Published Applications		
	Notepad Office Programs		
SYSTEM TOOLS			
ADVANCED			
↔ ADD-ONS			

Double-click on it to see, edit or remove each published application:

+ Add Applicatio	on 🥖	Edit Application		X Remove Application	<	>	$\stackrel{O}{=}_{\checkmark}$ Assign Application
Published Applica	tions - Office Prog		2		Select an	Applicatio	n to Edit or Assign users/groups to it
s	5preadsheets	Writer Pre	esentation	ns			

Each time you publish an application, you can select or create the folder in which it will be published:

🗃 Databases Settings	_		$\times$
Path/Filename:			
C:\Program Files (x86)\OpenOffice 4\program\sbase.exe			6
Start Directory:			
C:\Program Files (x86)\OpenOffice 4\program			B
Display Name:			
Databases			
Command line option:			
Window State:			
Default (Maximized if single application on Web/Mobile client)		,	~
Folder:			
Sales		,	~ 🕒
(top-level)			
Office Programs Sales			
Web			

You can then assign the Folder to users or groups as an application, and publish it, like any application with the <u>TSplus</u> <u>Remote Taskbar</u>, the <u>The Floating Panel and Application Panel</u> or the <u>Web Portal</u>.

See this documentation for more information on applications assignments.

#### Important remarks

- After installation, the default setting is: Any RDP user will see the complete Microsoft Remote Desktop.
- The TSplus Taskbar publishes all shortcuts copied in the user's Desktop folder. When selecting TSplus Remote Taskbar, you can request to automatically copy any of the shortcuts available in the All Users Desktop folder and/or, to automatically create shortcuts from applications assigned to the users with Application Control.

See this video on how to publish applications.

# Assigning Applications to Users or Groups

#### Overview

Once you have <u>published some applications</u>, you can publish them to one or more users and/or groups. To do so, double-click on the application you wish to assign or click on the application, then on the "Assign Application" tile:

TSplus - Administration Console		- 🗆 X
	EACCESS	🔾 Lite Mode
<b>С</b> НОМЕ		
	+ Add Application / Remove Application < >	$\mathcal{O}_{\mathcal{A}}$ Assign Application
	Select an Application to Edit or Assign users/groups to it Display Mode: Large Icons Desktop, Taskbar, Floating Panel and Application Panel	✓ Order by: ④ Date added ✓
S WEB		<b>Sers</b>
FARM	Microsoft TSplus Remote FloatingPanel Application Desktop folder Remote Desktop Taskbar Panel Published Applications	
SESSIONS		
SYSTEM TOOLS	Notepad	
ស៊្វែ ADVANCED		
슈 ADD-ONS		

The following window will be displayed. It allows you to assign applications to a selected user or group:

🛺 TSplus - Administration Conso	le	- 🗆 X
	TEACCESS	🌯 Lite Mode
<b>М</b> НОМЕ	+ Add Applicativ and Notepad User Assignment	> 2 Assign Application
	Select which users and groups will be able to see and run this application application:	✓ Order by:
	Desktop, Taskbar, O All authenticated users	😫 Users
S WEB	Microsoft ts Remote Re Remote Re	
FARM	Published Applica	
SESSIONS	Notepad	
SYSTEM TOOLS		
ADVANCED	Add Remove	
값 ADD-ONS	Save Cancel	

#### How to Assign an Application to a user (or a group)

You can either assign an application for all authenticated users or to specified users and groups. If you wish to assign an application to a specific user or group, just click on "Add", then enter the name of the user or group you wish to assign the application: On this example, Foxit will be assigned to the Remote Desktop Users Group. Click on 'Ok":

TSplus - Administration Co	onsole			- 🗆 X
		ESS		🗞 Lite Mode 🥐 Help English 🔹
<b>Ф</b> НОМЕ	+ Add Application	a) Notepad User Assignment —	× <	> 2 Assign Application
	Select an Application	Select Users or Groups	×	✓ Order by: ⊕ Date added ✓
	Desktop, Taskbar,	Select this object type: Users or Groups	Object Types	O) Users
S WEB	Microsoft ts Remote Rer	From this location: DESKTOP-NQIKIV1	Locations	
FARM	Published Applica	Enter the object names to select ( <u>examples</u> ): power users	Check Names	
	Notepad			
SYSTEM TOOLS		Advanced	DK Cancel	
ADVANCED		Add Remove		
දඌ add-ons		Save Cance	el	

Then on Save:

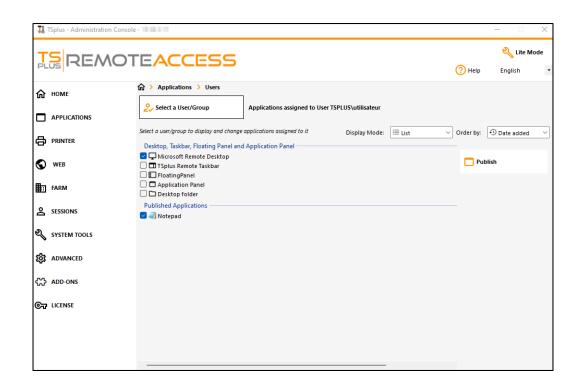
Notepad User Ass	ignment	-	_		×
Select which users and application:	groups will be abl	e to see a	nd run	this	
<ul> <li>All authenticated us</li> </ul>	sers				
Specified users and	groups				
Users and Groups					
DESKTOP-NQIKIV1\Ed	gar				
DESKTOP-NQIKIV1\Po	wer Users				
Add	Remove				
					_
	Save			Cancel	

#### Manage applications per Users/Groups in bulk

The Applications - Users submenu allows you to see which applications are assigned per user or per group, by clicking on the "Select a User/Group" tile, then entering its name:

TSplus - Administration C	onsole			- 🗆 X
		ESS		🔾 Lite Mode
HOME     APPLICATIONS	Select a User/	Group	Display Mode: 🗮 List	✓ Order by: <sup>①</sup> Date added ✓
	Microsoft [	Select a User/Group Select User or Group	-  ×  ×	Publish
S WEB	tsplus Rem	Select this object type:		
FARM	Desktop fo	User or Group From this location:	Object Types	
	🗌 💐 Notepad	DESKTOP-NQIKIV1 <u>Enter the object name to select (examples)</u> :	Locations	
SYSTEM TOOLS		Edgar	Check Names	
ADVANCED	L	Advanced	OK Cancel	
값 ADD-ONS				
ලිදා LICENSE				

On this example, you can see that the Microsoft Remote Dekstop, Notepad, Foxit and OpenOffice where all assigned to the user "Edgar":



#### Rules for Microsoft Remote Desktop, TSplus Remote Taskbar, Floating Panel and Application Panel

- You can customize your user's work environment by assigning one application out of these four: Microsoft Remote Desktop, TSplus Remote TaskBar, Floating Panel and Application Panel.
- If no application is assigned to one user, he will see the Microsoft Remote Desktop which will display the Desktop folder shortcuts.
- If one user has several allocations plus the Microsoft Remote Desktop, he will see a remote desktop.
- If a user has several applications plus the TSplus TaskBar, he will see the TaskBar displaying his Desktop folder' shortcuts.

For more information on the Remote Taskbar, Floating and Application Panels, see these documentations: <u>Remote</u> Taskbar, Floating and Application Panels

#### Running scripts/programs on session opening

- If you want to start a script when the session opens, you must name it LOGON.BAT or LOGON.CMD and copy this script:
  - $\circ\,$  In the Application Data folder of All Users if this script applies to all users,
  - In the Application Data of the user if this script applies to this user.
- If you want to start a script on the client side when a session is opening, you just have to name a program STARTUP.EXE and to copy it at the home drive of the user PC (C:\startup.exe).
- If you want a program to be started as a service when the TSplus server reboots you have to name this program STARTUP.EXE and copy it in the folder: C:\Program Files\TSplus\UserDesktop\Files\.

See this video on how to Assign Applications.

# Assigning Applications to Users with Azure Active Directory

#### Overview

To assign an Azure Active Directory user to an application from the AdminTool > Applications > Users :

Select a User	/Group
Select a user/group t	to display and change applications assigned to it
	Floating Panel and Application Panel
🔲 🞯 Microsoft	Select a User/Group
TSplus Re	Find local or Active Directory users or groups
Applicatic	
Published Appl	Or type directly the name of an Azure Active Directory user:
🗖 💐 Notepad	AzureAD\ThomasMontalcino
🗖 🛱 My Applic	
	Select user or group

Local or Active Directory users must be selected using the Find Local or Active Directory Users or Groups button. Only external users can be entered directly into the text box.

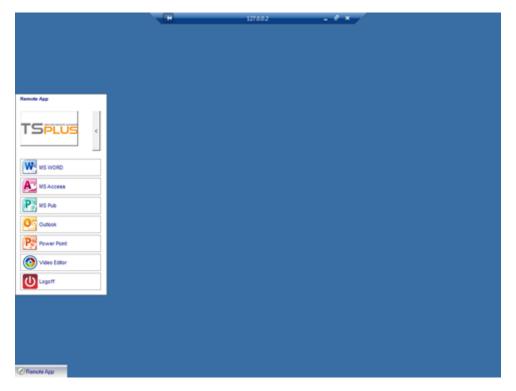
# RemoteApp On Client Feature

In the past the generated TSplus Portable client was the usual method for a user to start applications. The 10.50 release introduces **an icon in the notification area** which gives to each user the list of all of his Remote Applications. Within this application list, the user can select the one he wants to start.

This is a new way for administrators to deliver remote applications (referred to as "RemoteApps") to their users. Specifically, RemoteApp On Client enables a straightforward publishing process that allows applications installed directly on the server to be provided to users, allows RemoteApp programs to run side-by-side with local programs, and offers integration with a custom "launcher" application to make it simple for users to find and launch RemoteApp programs.

The user Application list will also appear in the **Start menu** under **All Programs** in a folder called **My Remote Applications**. To deploy this new amazing TSplus capability is simple: The Administrator have generated new connection clients and allowed it with the AdminTool. This guide will explain step by step what will happen when the administrator will enable this new feature and will deliver to his users a new generated connection client.

Example: The user "Laura" is using TSplus to access her remote application. To do so, she is using a generated client named **LauraPortableClient.exe**. When she runs it on her PC she gets the following result:



However, the administrator did provide her a new one, created with the TSplus 10.50 release. She will have to run it at least once to benefit from the new **RemoteApp On Client feature**. When the administrator is adding/removing application to a user, such change will be set on the server side at the next logon. It means that the current session will not reflect such modification. The Advanced tab of the AdminTool has an option to enable or to disable this RemoteApp On Client feature, by default, it is enabled:

🚺 TSplus - Administration Consol	e - HCNCH			- 0	1
	TEACCESS	5			
п номе					
	Backup / Restore you	ur Server Parameters			
APPLICATIONS					
	Advanced Settings				
	Reduct	Name	Value		^
	Security				· ·
WEB	Session	Desktop for all users	No		
	Dockout	Application Command Line	No Defeuth (fee)		
	Contextual menu	Remote Application Menu Remote Application Menu Title	Default (Yes) Default (My Remote Appli		
FARM	🕸 Logs				
		Background Color Use "All Users" desktop shorcuts	Default (10841658) Default (No)		
SESSIONS		Fallback application path if no assigned applicat			
		Disable Notification Center	Default (Yes)		
		Disable the daughter process handler	Default (No)		
SYSTEM TOOLS		Force logoff if no assigned application	Default (No)		
		Printer: Reset User Settings on logon	Default (No)		
ADVANCED		Allow screen saver	No		
		Download Target Folder	Default (%DESKTOP%)		
		Upload Target Folder	Default (%DESKTOP%)		
ADD-ONS		URL on Client - Enable "tel:" protocol	Default (No)		
		Use Windows Shell	Default (Yes)		
		Force WinXshell	Default (No)		
- Herbe		Add a delay when the session is opening	Default (0)		
		Daugther Process Wait Duration	Default (2000)		
		File Browser	Default (Use Windows Ex		
		Delete file after transfer	Default (No)		
		Use WinXshell when required	Yes		~

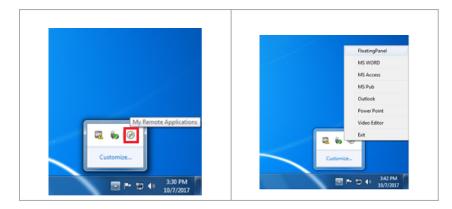
You can change the menu name as you wish, by clicking on the Remote Application Menu Title below, and adding it on the value box:

TSplus - Administration Console	Remote Access Mana	igement Console	(-) [
	G Backup / Restore y	your Server Parameters	
	Advanced Settings		
PRINTER	Noduct	Name	Value
WEB	Security Session	Desktop for all users Application Command Line	No Default (Yes)
		Remote Application Menu	Default (Yes)
FARM		Remote Application Menu Title	Default (My Remote Applicati
SESSIONS		Til TSplus - Edit Setting Remote Application Menu Title Description:	× (vo) vo) vo)
Advanced		Title to display in Remote Application Menu	6DESKTOP%) 6DESKTOP%) (es)
겄 ADD-ONS			No) )) 2000)
CENSE		Value: My Remote Applications	Jse Windows Explo
		Save	Cancel

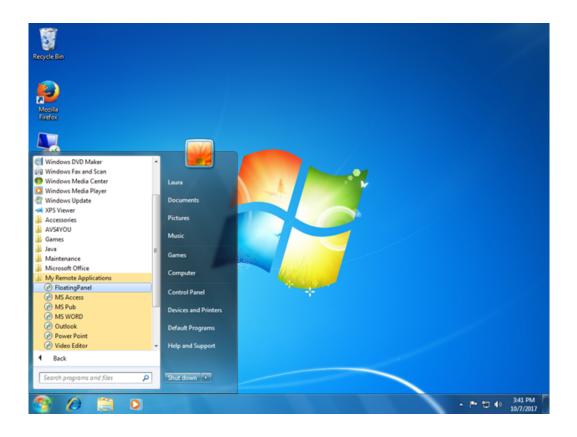
What will happen on her PC when she will run once her new generated client: She will see a new icon in the Notification Area of her local task bar.

My Remote Applications new icon

Application list menu

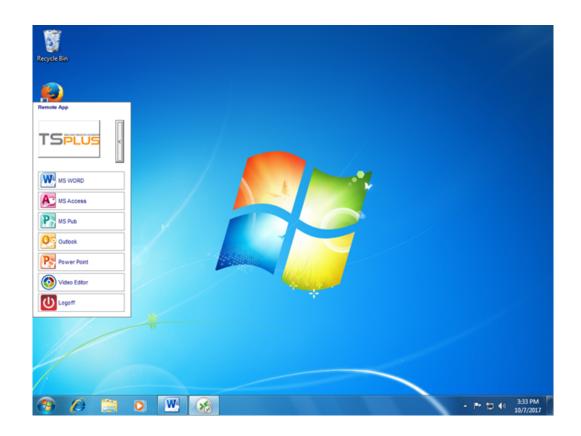


She will also see a new entry within her Start menu Program list named "My Remote Applications":



She will now be able to select one of these listed applications and to start it as a RemoteApp. She will not need to use the provided LauraPortableClient.exe generated client.

For example, if she selects the Floating Panel, she will get this result:



#### Technical background behind this new technology.

The new generated client of the 10.50 release is adding several files within C:\Users\%UserName%\RDP6 folder of the local PC's user profile.

*MyRemoteApp.exe* and *MyRemoteApp.bin* are the program codes which are started to create the new icon in the notification area and the new entry in the All Programs list of the Start button.

*MyRemoteApp.ini* is a file received from the server. It is providing the details of each application which are assigned to this user on the server side. It is updated at each new connection to the server. Usually, it takes 30 secondes after each logon to receive this file from the server. RemoteApp.txt is providing the name of the last generated client started on this PC.

					х
🕒 🕞 🗢 ] 🕨 Compute	er 🕨 Local Disk (C:) 🕨 Users 🕨 Laura 🕨 RDP6	<b>▼</b> 49	Search RDP6		۶
Organize 👻 📄 Open	Share with 👻 New folder		8	= • î	0
🔆 Favorites	Name	Date modified	Туре	Size	
Nesktop	🛃 bkgsc.bmp	4/2/2016 4:16 PM	Bitmap image	8 KB	
📜 Downloads	S bkgscblue.bmp	4/2/2016 4:16 PM	Bitmap image	8 KB	
Recent Places	🛃 bkgscgreen.bmp	4/2/2016 4:16 PM	Bitmap image	8 KB	
	🛃 bkgscpink.bmp	4/2/2016 4:16 PM	Bitmap image	8 KB	
🥽 Libraries	ConnectionClient.bin	10/2/2017 6:52 PM	BIN File	568 KB	
Documents	S ConnectionClient.exe	7/7/2017 4:19 PM	Application	96 KB	
J Music	S ConnectionClientold.exe	7/7/2017 4:19 PM	Application	96 KB	
Pictures	DroidSansFallback.ttf	10/16/2015 9:51 AM	TrueType font file	3,749 KB	
🚼 Videos	No ico2.ico	4/2/2016 4:16 PM	Icon	161 KB	
	🐼 icon.ico	4/2/2016 4:16 PM	Icon	54 KB	
F Computer	laura-PortableClient.txt	10/7/2017 3:20 PM	Text Document	1 KB	
🚮 Local Disk (C:)	libmupdf.dll	11/2/2015 8:52 AM	Application extens	5,061 KB	
	MyRemoteApp.bin	10/2/2017 6:52 PM	BIN File	6 KB	
📬 Network	MyRemoteApp.exe	7/7/2017 4:19 PM	Application	96 KB	
	MyRemoteApp.ini	10/7/2017 3:28 PM	Configuration sett	2 KB	
	PdfFilter.dll	11/2/2015 8:53 AM	Application extens	188 KB	
	PdfPreview.dll	11/2/2015 8:53 AM	Application extens	196 KB	
	RemoteApp.bt	10/7/2017 3:28 PM	Text Document	1 KB	
	5 Session.rdp	10/7/2017 3:32 PM	Remote Desktop	2 KB	
(mark) the second second	SumatraPDE eve	11/2/2015 8-53 AM	Application	1 588 KR	
4 items select	ed Date modified: 7/7/2017 4:19 PM - 10/7 Date Size: 102 KB	created: 10/2/2017 1:52	: AM - 10/7/2017 3:25 P	м	

#### **Comments:**

If the user has administrator right on his own PC, **MyRemoteApp.exe** will be started automatically at each reboot and the Start button will be updated too. Else, the administrator must run once the new generated client "As Administrator" to enable the new feature. Doing so he will create the proper registry entries in HKLM. If a user is connecting to only one server, this new system is perfect. However, if he is using several connection clients to open sessions on different servers you should keep in mind that the file **MyRemoteApp.ini** will be updated with the values of the last connection. It can be confusing for the user and in such deployment case we recommend no to use this new feature.

## Remote Taskbar and Desktops themes

#### Administrator tools on the server

With the AdminTool, the Administrator can choose between 4 display modes when he assigns applications: <u>The</u> <u>Microsoft Remote Desktop</u>, <u>The Remote Taskbar</u>, <u>The Floating Panel</u> or <u>The Application Panel</u>. The Remote Taskbar, Floating and Application Panels are available for any connection method.

#### TSplus Remote Taskbar

When you assign applications to an user, you can enable the TSplus remote taskbar. The user can launch remote applications with one click on the TSplus taskbar and still have the full local Desktop available. You can assign the Remote Taskbar to your users or groups by double-clicking on it or by selecting it, then clicking on the "Assign Application" tile:

👖 TSplus - Administration Console	e – 🗆 X
	Lite Mode           Ite Mode           Press           Press
П номе	+ Add Application Catt Analication Company Analication Company Analication Company Analication Company Analication
	Select an Application to Edit o Select which users and groups will be able to see and run this application:
	Desktop, Taskbar, Floating () All authenticated users () Specified users and groups Users
<b>©</b> WEB	Microsoft tsplus Remote Remo DESKTOP-NQIKIV1Edgar
FARM	Published Applications -
SESSIONS	Notepad
SYSTEM TOOLS	
ADVANCED	
없 ADD-ONS	
	Save Cancel
දිරි ADD-ONS	Add Remove

The Administrator can easily decide what will be the default Remote Desktop theme the user will see when opening a session. Select the TSplus Remote Taskbar, then click on "Edit Application":

🗐 Remote Taskbar Settings	-			×
Select your preferredTSplusTaskbar theme				
_	Application working area within the	electe	d them	e
Use Blue taskbar theme as default	Full screen			
<ul> <li>Use Silver taskbar theme as default</li> </ul>	Do not overlap the local taskbar			
<ul> <li>Use OnTop taskbar theme as default</li> </ul>	Do not overlap the Blue or Silver b	ar		
<ul> <li>Use Desktop theme one as default</li> </ul>				
<ul> <li>Use Desktop theme two as default</li> </ul>				
○ Use Logon theme as default				
Minimize buttons preference				
<ul> <li>Justify left</li> </ul>	On the screen top			
○ Center	On the screen bottom			
○ Justify right				
Notification area (Systray) Preference				
Display the Notification area				
○ Hide the Notification Area				
Security Preference				
O Display log off button				
Hide log off button				

- Only the Administrator can choose the themes for his users.
- He can choose to display the maximized applications in full-screen mode or not to overlap the TSplus taskbar as well as the Silver or Blue taskbars.
- Minimized buttons position on the taskbar can be changed (on top of the screen, on the bottom, on the right, the left side, or in the center).
- The administrator can even decide to display it on top of the user screen instead of the default bottom side.
- Systray icons can be hidden by ticking the "Hide the Notification Area" circle.
- Since TSplus 12.60 version, the Logoff button can now be hidden.

By editing the users menu, the Administrator can add/suppress applications and functionalities. Customization of the users menu is easy.

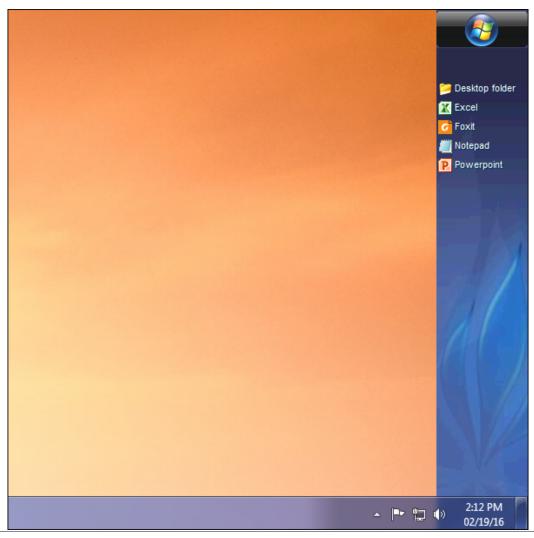
The content of the users menu (located in Program Files/TSplus/UserDesktop/mainmenu.mnu) is modifiable by the administrator using Notepad:

<pre>Eile Edit Format View Help [[menu] -= Logoff=%C:\Program Files (x86)\TSplus\UserDesktop\files\runlogoff.exe%\$icon\$exit.ico -= = = [menusettings] type=23 showicons=1 iconsize=1 itemheight=34 color1=15395562 color2=13666616 color3=12632256 color4=8289918 fontcolor1=0 fontcolor1=0 fontcolor1=0 fontcolor1=0 fontcolor1=0</pre>	📄 mainmenu.mnu - Notepad	x
<pre>-= Logoff=%C:\Program Files (x86)\TSplus\UserDesktop\files\runlogoff.exe%\$icon\$exit.ico -= = = [menusettings] type=23 showicons=1 iconsize=1 itemheight=34 color1=15395562 color2=13666616 color3=12632256 color3=12632256 color4=8289918 fontname=Arial fontsize=8 fontcolor1=0 fontcolor2=16777215</pre>	<u>File E</u> dit F <u>o</u> rmat <u>V</u> iew <u>H</u> elp	
Logoff=%C:\Program Files (x86)\TSplus\UserDesktop\files\runlogoff.exe%\$icon\$exit.ico -= = = = [menusettings] type=23 showicons=1 iconsize=1 itemheight=34 color1=15395562 color2=13666616 color3=12632256 color3=12632256 color4=8289918 fontname=Arial fontsize=8 fontcolor1=0 fontcolor2=16777215	[[menu]	
<pre>= = [menusettings] type=23 showicons=1 iconsize=1 itemheight=34 color1=15395562 color2=13666616 color3=12632256 color3=12632256 color4=8289918 fontname=Arial fontsize=8 fontcolor1=0 fontcolor2=16777215</pre>	Logoff=%C:\Program Files (x86)\T5plus\UserDesktop\files\runlogoff.exe%\$icon\$exit.icc	• 🗍
type=23 showicons=1 iconsize=1 itemheight=34 color1=15395562 color2=13666616 color3=12632256 color4=8289918 fontname=Arial fontsize=8 fontcolor1=0 fontcolor2=16777215		
type=23 showicons=1 iconsize=1 itemheight=34 color1=15395562 color2=13666616 color3=12632256 color4=8289918 fontname=Arial fontsize=8 fontcolor1=0 fontcolor2=16777215		
type=23 showicons=1 iconsize=1 itemheight=34 color1=15395562 color2=13666616 color3=12632256 color4=8289918 fontname=Arial fontsize=8 fontcolor1=0 fontcolor2=16777215	=	
Toncscy re=n	type=23 showicons=1 iconsize=1 itemheight=34 color1=15395562 color2=13666616 color3=12632256 color4=8289918 fontname=Arial fontsize=8 fontcolor1=0	E

On the applications tile of the AdminTool the administrator can select 3 different styles of Remote Desktop TSplus Taskbar.

The user can launch remote applications with one click on the TSplus taskbar and still have the full local Desktop available.

#### **Right-side Blue theme taskbar**



#### **Right-side Silver theme taskbar**



#### On Top taskbar



Back To Top

#### Thin-client or any RDP based connection program

With the AdminTool, the Administrator can easily decide what will be the default Remote Desktop theme the user will see when opening a session. He has the choice between 4 different styles of full screen Remote Desktop. The standard Microsoft Remote Desktop can also be used if preferred.

Because these TSplus Desktops are full screen desktops, the user's display is entirely filled when a session is opened from dedicated thin-clients, any RDP based client, or accessed from a web page or TSplus Remote Desktop clients.

There are benefits over a standard Remote Desktop. It enhances the server security (no START button neither full control of the Desktop).

#### Standard Microsoft Remote Desktop

🕄 TSplus - Administration Consol	ie	- 🗆 X
	TEACCESS	Lite Mode ??? Help English +
<b>М</b> НОМЕ	+ Add Applicati Notepad User Assignment X	Assign Application
	Select which users and groups will be able to see and run this application:	ions V Order by: 🕑 Date added V
	Desktop, Taskbar, O All authenticated users  O Specified users and groups Users and Groups Users and Groups	<b>Users</b>
S web	Microsoft ts Remote Re	
FARM	Published Applica	
	Notepad	
SYSTEM TOOLS		
ADVANCED	Add Remove	
↔ ADD-ONS	Save Cancel	



- The user has a complete desktop including Start Button and full control of the desktop
- To assign to complete desktop, just assign the Microsoft Remote Desktop application.

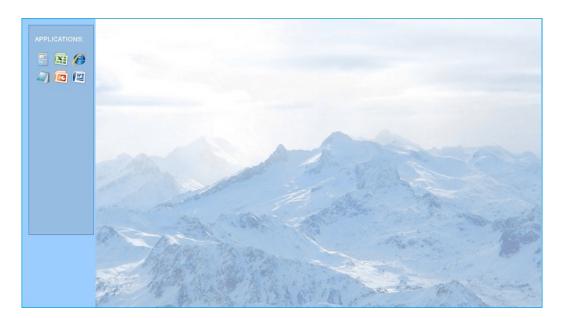
In order to change the Desktop themes, you will have to assign the TSplus Remote Taskbar and choose between the 3 suggested themes:

🗐 Remote Taskbar Settings				×		
Select your preferredTSplusTaskbar theme						
	Application working area wi	thin the sele	cted then	ne		
O Use Blue taskbar theme as default	Full screen					
O Use Silver taskbar theme as default	Do not overlap the local	taskbar				
O Use OnTop taskbar theme as default	Do not overlap the Blue of	Do not overlap the Blue or Silver bar				
Use Desktop theme one as default	Replace logo/wallpaper on t	the Desktop t	hemes			
O Use Desktop theme two as default	Browse	R	eset			
O Use Logon theme as default						
Minimize buttons preference						
<ul> <li>Justify left</li> </ul>	<ul> <li>On the screen top</li> </ul>					
O Center	On the screen bottom					
○ Justify right						
Notification area (Systray) Preference						
Display the Notification area						
○ Hide the Notification Area						
Security Preference						
<ul> <li>Display log off button</li> </ul>						
Hide log off button						

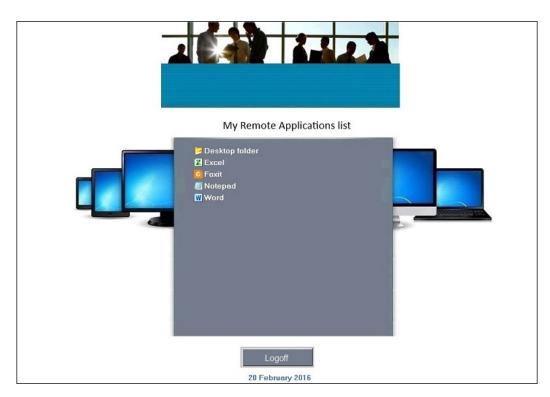
#### **TSplus Desktop theme one**



**TSplus Desktop theme two** 



#### **TSplus logon theme**



#### **Customized theme**

For each theme, the Administrator can customize it and for example, display the Corporate logo. He can also add his own Desktop wallpaper by selecting one of the Desktop themes and by clicking on the Replace logo/wallpaper button to select your .jpg file, for example:

Remote Taskbar Settings	- 🗆 X			
Select your preferredTSplusTaskbar theme				
Select your preferreur splustuskour theme	Application working area within the selected theme			
O Use Blue taskbar theme as default	Full screen			
○ Use Silver taskbar theme as default □ Do not overlap the local taskbar				
O Use OnTop taskbar theme as default     Do not overlap the Blue or Silver bar				
Use Deskton theme two as default				
O Use Logon theme as default	Browse Reset			
Minimize buttons preference				
O Justify left	On the screen top			
⊖ Center	On the screen bottom			
O Justify right				
Notification area (Systray) Preference				
Display the Notification area				
O Hide the Notification Area				
Security Preference				
<ul> <li>Display log off button</li> </ul>				

• You can add your own Desktop wallpaper by selecting one of the Desktop themes and by clicking on the Replace logo/wallpaper button to select your .jpg file, for example:



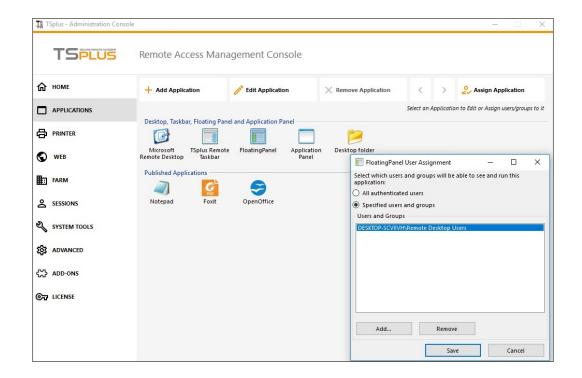
# Floating Panel and Application Panel

You can choose to enable the Floating or the Application Panel for your users or groups. These two ways of publishing applications are available for any connection method.

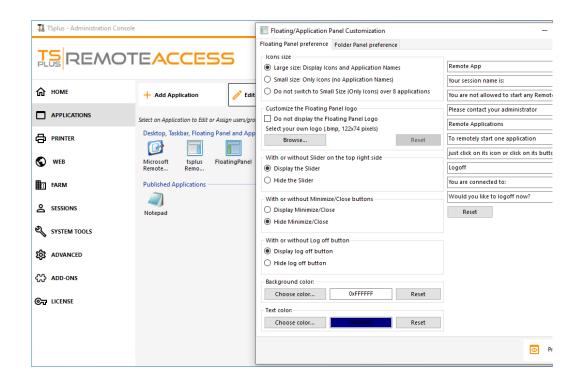
#### **Floating Panel**

If activated with the assigned applications, you can see on the middle-left of the user screen the mini drop-down list of applications or floating panel (very much appreciated by TSplus users):

Assign it as an application:



Select the Floating Panel, then click on the "Edit Application" tile you to customize the Floating Panel at your convenience:



Floating/Application Panel Customization	- 🗆 X
Floating Panel preference Folder Panel preference	
Icons size	
Large size: Display Icons and Application Names	Remote App
Small size: Only Icons (no Application Names)	Your session name is:
O Do not switch to Small Size (Only Icons) over 8 applications	You are not allowed to start any Remote Application so t
Customize the Floating Panel logo	
Do not display the Floating Panel Logo	Please contact your administrator
Select your own logo (.bmp, 122x74 pixels)	Remote Applications
Browse Reset	To remotely start one application
With or without Slider on the top right side	just click on its icon or click on its button
<ul> <li>Display the Slider</li> </ul>	Logoff
O Hide the Slider	
O mac the shaer	You are connected to:
With or without Minimize/Close buttons	Would you like to logoff now?
O Display Minimize/Close	Reset
Hide Minimize/Close	
With or without Log off button	
Display log off button	
Hide log off button	
Background color:	
Choose color 0xFFFFF Reset	
Text color:	
Choose color OxCCCCCO Reset	
	o Preview

These various options can allow you to customize the end user's experience.

### TS REMOTEACCESS

Here are the different Floating Panel display options, where you can set,

- Modify the displayed text,
- Choose your preferred size, between Large and small, where you can display only icons,
- Add your own Logo,
- Customize color for the background and for the text,
- Display the slider or not,
- Display the Minimize/Close buttons or not,
- Display the Logoff icon or not...

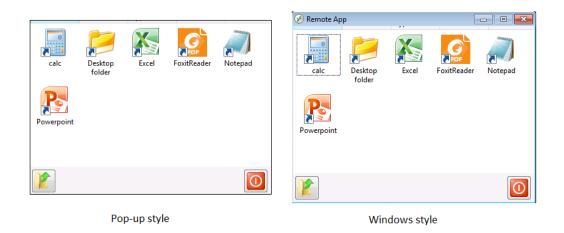
Remote App	Remote App			
	TSPLUS			
- U		Remote App 🗙	Remote App	
Desittop folder	Desktop folder	Desidop folder	Desktop folder	E
Notepad	Notepad	Notepad	Notepad	
Excel	Excel	Excel	Excel	X
G Faxt	Foxt	Foxt	Foxt	K C P
Powerpoint	Powerpoint	Powerpoint	Powerpoint	Ps
Ward Ward	Word	Word	Word	W
Outlook	Outlook	Outlook	Og Cutlook	W4
Logoff	Logoff	Logoff	Logoff	С

*Please note* that over 8 applications, the Floating Panel automatically switch to small-size. If you still want it to display the Applications names, select "Do not switch to Small Size (Only Icons) over 8 applications.

The **Folder Panel** is customizable as well and enables to display the assigned applications, the user Desktop folder or one specific folder content in your session with many display options:

Floating/Application Panel Customization		_		$\times$
Floating Panel preference Folder Panel preference				
Folder Panel				
Display only Assigned applications	Hide title bar			
<ul> <li>Display the user Desktop folder content</li> </ul>	Hide log off button			
O Display one folder specific folder content				
Browse				
Panel Size				
○ Small				
Medium				
🔿 Large				
O Full screen				
Panel position				
Center				
○ Top left				
○ Center aligned left side				
Panel Style				
Pop-up style				
○ Windows style				
		💿 Pre	view	

You can change the Folder Panel size, position and style (Pop-up or Windows) at your convenience:



#### **Application Panel**

The Application Panel gives you the possibility to organize the displayed applications, exactly like on the Web Application Portal, but by simply assigning it to one user or group:

👖 TSplus - Administration Cons	sole		- 0
TSPLUS	Remote Access Man	agement Console	
П номе	+ Add Application	Edit Application	X Remove Application X X Assign Application
	Desktop, Taskbar, Floating Pa	- I and Analization Devel	Select an Application to Edit or Assign users/groups to
			Application Panel User Assignment — — X Select which users and groups will be able to see and run this
S WEB	Microsoft TSplus Remot Remote Desktop Taskbar	e FloatingPanel Applicat Pane	application:
FARM	Published Applications	9	Specified users and groups     Users and Groups
SESSIONS	Notepad Foxit	OpenOffice	DESKTOP-SCVIIVH Vohn
SYSTEM TOOLS			
ADVANCED			
ADD-ONS			
ତିଙ୍ଗ LICENSE			Add Remove
			Save Cancel

The Administrator can customize it by choosing to display the TSplus logo or his own logo, display the line header below the logo and the footer, change the color or choose to not display any of it at all by unselecting the corresponding boxes. He can also adjust the number of displayed applications by lines and columns by entering the number of applications displayed per line, as well as the alignment and name of the Application panel.

🐺 TSplus - Administration Conso	le		- 🗆 X
	TEACCESS	🕜 Неір	Nite Mode
<ul> <li>MOME</li> <li>APPLICATIONS</li> <li>PRINTER</li> <li>WEB</li> <li>FARM</li> <li>SESSIONS</li> <li>SYSTEM TOOLS</li> <li>ADVANCED</li> <li>ADD-ONS</li> <li>ULCENSE</li> </ul>	<ul> <li>Add Application         </li> </ul> Select an Application to Edit or Assign users/groups to it            Desktop, Taskbar, Floating Panel and Application Panel            Directory         Directory           Microsoft         Splus           Published Applications           Directory           Notepad	Application Panel settings — X  Application Panel settings — X  Application Panel settings — X  Application Panel settings  Chaose color  Chaose color  Chaose color  Chaose color  Chaose color  Reset  Select your own logo (bmp, 122x74 pixels)  Browse  Reset  Number of application(s) displayed 'per line'  S  Application Panel display area  Application Panel display area  Applications	n Application

For example, display six Apps in one column, without logo; or displayed on 2 columns and 3 lines, with the TSplus logo:



# Fast and easy File Transfer between the User and the Server

#### Overview

TSplus includes a unique method of transferring files:

- from the local user workstation => to the user Remote Desktop
- from the TSplus server => to the local user Desktop

Because the file transfers are based on a Virtual Channel, it is a lot faster than a file copy, and it can be done **even** when the local user disk drives are not mapped.

#### FileTransfer program and Generated Clients

The File Transfer program is located in your TSplus program folder, under the name "FileTransfer.exe" into the following path: "UserDesktop\files"

🔾 🗢 🖉 🗢 Prog	gram l	Files (x86) → TSplus → UserDesktop → fil	es 🕨 🔻 😽	Search files		
Organize 👻 🗖	Open	New folder			····	(
쑦 Favorites	-	Name	Date modified	Туре	Size	
🧮 Desktop		📄 airection.jpg 😭 Documentation.chm	4/2/2010 10:10 AIVI 3/10/2017 10:13 PM	JPEG Image Compiled HTML	2 КВ 11.421 KB	
\rm Downloads			11/13/2016 9:05 AM	Icon	32 KB	
📃 Recent Places		FarmManager.exe	6/12/2018 10:54 PM	Application	338 KB	
	Ξ	FarmManager.exe.config	10/11/2016 9:50 AM	XML Configuratio	1 KB	
演 Libraries		fileacl.exe	4/2/2016 10:16 AM	Application	92 KB	
Documents		FileTransfer.bin	6/12/2018 10:52 PM	BIN File	698 KB	
👌 Music		S FileTransfer.exe	7/7/2017 10:19 AM	Application	96 KB	
Pictures		floating_panel_16.ico	4/2/2016 10:16 AM	Icon	2 KB	
🛃 Videos		floatingpanel.bin	6/12/2018 10:51 PM	BIN File	229 KB	
		🐼 floatingpanel.exe	7/7/2017 10:19 AM	Application	96 KB	
Computer		📄 folder.bin	6/12/2018 10:53 PM	BIN File	293 KB	
🐔 Local Disk (C:)	-	📁 folder.exe	7/7/2017 10:19 AM	Application	198 KB	
FileTransf Applicatio		e Date modified: 7/7/2017 10:19 AM Size: 95.6 KB	Date created: 3/16/2017 6:42	PM		

#### Transferring files

Transferring files is very easy.

First, launch the File Transfer (for instance by using TSplus Floating Panel):

Remote App	
FoxitReader	
Desktop folder	
File Transfer	
Excel	

Then navigate to your file using the folders tree:

- server's folders and files are on the left part of the window (server side)
- local workstation's folders and files are on the **right part of the window (client side)**

Server side: C:\Users\admin\Desktop			Go	Client side: C:\Users\Public\Pictures	Sample Pictures		G
⊕ - <mark>een</mark> Desktop				→ product → john → julia → Public → Documents → Downloads → Music → Pictures → Sample Picture → Recorded TV	ures.		[
Name	Size	Modified		Name	Size	Modified	
■ a-1.exe Admin Tool.Ink Portable Client Generator.Ink	2.66 MB 1.22 KB 1.28 KB	2015/01/28 17:05:02 2015/01/28 14:42:48 2015/01/28 14:42:49		Chrysanthemum jpg Desert jpg Hydrangees jpg Jellyfah jpg Koala jpg Upthouse jpg Penguins jpg Tuljes jpg	858.78 KB 826.11 KB 581.33 KB 757.52 KB 762.53 KB 548.12 KB 759.6 KB 606.34 KB	2009/07/14 05:52:25 2009/07/14 05:52:25 2009/07/14 05:52:25 2009/07/14 05:52:25 2009/07/14 05:52:25 2009/07/14 05:52:25 2009/07/14 05:52:25 2009/07/14 05:52:25	

Finally, right click on the file that you want to transfer to the other side, and click on "Send to server" (or "Send to client"):

Pictures     Sample Pictures     Recorded TV     Home Videos						
Name	Size	Modified				
🛅 []						
💼 Chrysanthemum. 📻		299/07/14 07:32:31				
🖻 Desert.jpg	Send to server	9/07/14 07:32:31				
🛐 Hydrangeas.jpg	Rename	9/07/14 07:32:31				
💼 Jellyfish.jpg	Remove	9/07/14 07:32:31				
💼 Koala.jpg 👘 👘	762.53 KB	2009/07/14 07:32:31				
🔟 Lighthouse.jpg	548.12 KB	2009/07/14 07:32:31				
💼 Penguins.jpg	759.6 KB	2009/07/14 07:32:31				
💼 Tulips.jpg	606.34 KB	2009/07/14 07:32:31				

File Transfer works from the local workstation to the server, as well as the other way around (from the server to the local workstation).

**Note**: When using the file transfer utility from an HTML5 session, you will be able to transfer your files from server to client only. Please prefer the <u>HTML5 Top Menu method</u>, where you can upload files to the server, download to client and manage your file transfer listing.

# Secured Folder Sharing - Folder.exe

The Folder application will securely display the content of a folder that you will make available for your users. First, create a folder on your server with Applications or documents that you want to share. Open an explorer.exe and locate the folder.exe application in C:\Program Files\tsplus\UserDesktop\files:

→ · ↑ 🔐 « Program Files (x86) >	TSplus > UserDesktop > files	✓ Ö Search	files 刘
TSplus		Date modified	
	Name	1/ 10/2019 11:39 AIVI	Type Si Text Document
Clients	🖬 exit	9/20/2018 2:22 PM	ICO File
UserDesktop	🙀 FarmManager	2/4/2019 9:01 AM	Application
files	FarmManager.exe.config	9/20/2018 2:20 PM	CONFIG File
ico	1 fileacl	9/20/2018 2:22 PM	Application
icons	FileTransfer.bin	2/4/2019 9:00 AM	BIN File
themes		9/20/2018 2:22 PM	Application
Windows Defender	📄 floatingpanel.bin	2/4/2019 9:00 AM	BIN File
Windows Mail	🐼 floatingpanel	9/20/2018 2:22 PM	Application
	🗋 folder.bin	2/4/2019 8:58 AM	BIN File
Windows Media Player	📁 folder	9/20/2018 2:22 PM	Application
Windows Multimedia Platform	🖻 folder_go	9/20/2018 2:22 PM	ICO File
windows nt	FreeCertificateManager.bin	2/4/2019 8:59 AM	BIN File
Windows Photo Viewer	🛺 FreeCertificateManager	9/20/2018 2:22 PM	Application
Windows Portable Devices	🗋 FullDesktop.bin	2/4/2019 8:58 AM	BIN File
WindowsPowerShell	🐼 FullDesktop	9/20/2018 2:22 PM	Application
ProgramData	GatewayReverseProxySetup.bin	2/4/2019 8:59 AM	BIN File
Recovery	穏 GatewayReverseProxySetup	9/20/2018 2:22 PM	Application
	📓 group_16	9/20/2018 2:21 PM	ICO File
tmp	group_refresh	9/20/2018 2:21 PM	ICO File
Users	groups.dll	9/20/2018 2:22 PM	Application extens
Windows	groups_x64.dll	9/20/2018 2:22 PM	Application extens
wsession	hidedrives.bin	2/4/2019 9:00 AM	BIN File

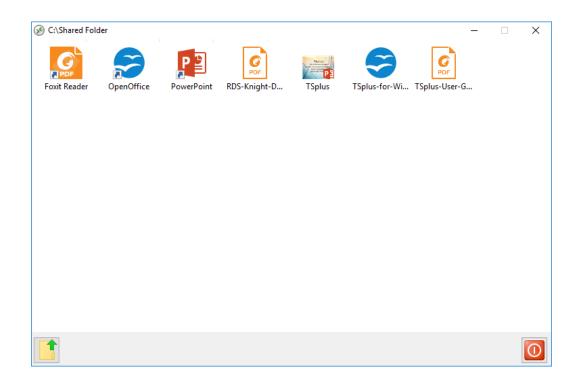
Create a shortcut of this file. Edit the properties of this shortcut by right clicking on it.

Then modify the target path of the shortcut by entering the path of your applications folder on the "Target" line, after the original target path, for example:

"C:\Program Files\tsplus\UserDesktop\files\folder.exe" "C:\Shared Folder"

📁 folder - Short	cut Properties	×				
Security	Details	Previous Versions				
General	Shortcut	Compatibility				
folder - Shortcut						
Target type:	Application					
Target location:	files					
<u>T</u> arget:	UserDesktop\files\folder.	exe" "C:\Shared Folder"				
<u>S</u> tart in:	"C:\Program Files (x86)\7	TSplus\UserDesktop\file:				
Shortcut key:	None					
<u>R</u> un:	Normal window	~				
Comment:						
Open <u>F</u> ile Lo	cation Change Icon	n A <u>d</u> vanced				
	ОК	Cancel <u>A</u> pply				

When you open the folder.exe shortcut, it should look like this (with your own documents and applications):



This shortcut can be copied to a user's profile desktop folder or you can publish the folder.exe for a user as an application. If you do the latest, you will have to indicate the path of your folder in the Command Line option section:

🐺 TSplus - Administration Conse	le	- 🗆 X
	TEACCESS	🌏 Lite Mode
<b>М</b> НОМЕ	+ Add Application Remove Application	> 🔑 Assign Application
	Select Path/Filename:	✓ Order by: ⊕ Date added ✓
	Des C:\Program Files (x86)\tsplus\UserDesktop \files \folder.exe  Start Directory: C:\Program Files (x86)\tsplus\UserDesktop \files	2 Users
S WEB	Rem Display Name:	]
FARM	Pub [cocuments] Command line option: Command line option: C:\Shared Folder	
SESSIONS	Not Window State: Default (Maximized f single application on Web/Mobile client) ✓	
SYSTEM TOOLS	Folder: top-ievel) ✓	a
or advanced (강 add-ons	Test Save Cancel	
Gr ticlior		

There is an alternative way of sharing a Folder of documents.

#### Publishing a shared folder as a unique application :

Add a new application. In the display name type in the name of the shared folder or any name you want. Click on the browse button located on the right side of the "Path/Filename" field and locate C:\Windows\explorer.exe. The start directory will be filled in automatically with the path of explorer.exe. In the Command line option field, type in the path of the shared folder, it can be a local folder or a network shared folder using a UNC path (example : \data\shared folder) Fill in the field below with your shared folder information:

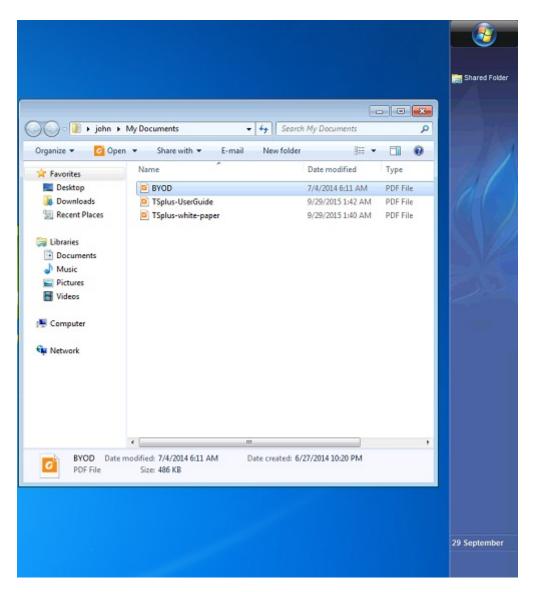
🛺 New Application	—		×
Path/Filename:			
C:\\Windows\explorer.exe			<b>₽</b>
Start Directory:			
C:\\Windows			E=
Display Name:			
Windows Explorer			
Command line option:			
C:\Shared Folder			
Window State:			
Default (Maximized if single application on Web/Mobile client)		`	~
Save Test	Ca	ancel	

Then click on "Save".

Click on the "Users" tab. Select your user and check the TSplus Remote Taskbar and Shared Folder boxes:

🐺 TSplus - Administration Con	sole				- 🗆 X
	TEACCES	<b>_</b>			🌯 Lite Mode
PLUS RE/VO		<b>_</b>		(?) Help	English •
<b>М</b> НОМЕ	Select a User/Group	Applications assigned to Use	r DESKTOP-NQIKIV1\Edg	jar	
	Select a user/group to display and	change applications assigned to it	Display Mode:	Large Icons V Order by:	$\textcircled{1}$ Date added $\checkmark$
	Desktop, Taskbar, Floating Pa	inel and Application Panel		Pu	ıblish
S WEB	Microsoft tsplus Remote Remote	FloatingPanel Application Panel	Desktop folder		
FARM	Taskbar Published Applications				
SESSIONS	Notepad Shared Folder				
SYSTEM TOOLS					
ADVANCED					
값 ADD-ONS					
ତିଙ୍ଗ LICENSE					

Here is the result, when you open a session with an rdp client, you will see the TSplus taskbar with the shared folder application:



You can also do this with the floating panel. Open an admin tool and click on the "Assign application" tab. Check the Floating Panel and the Shared Folder boxes.

Here is the result:

Favorites         Name         Date modified         Type           Desktop         Desktop         BVOD         7/4/2014 6:11 AM         PDF File           Downloads         DTSplus-UserGuide         9/29/2015 1:42 AM         PDF File		00	<ul> <li>My Documents</li> </ul>		rch My Documents	۶,
Remote App   Image: Computer   Image: Computer <th></th> <th>Organize 💌 Include</th> <th>-</th> <th>New folder</th> <th> ≡ •</th> <th></th>		Organize 💌 Include	-	New folder	≡ •	
Remote App   Image: Documents   Image:		🔆 Favorites			Date modified	Туре
Remote App     Image: Decements		E Desktop	BYOD		7/4/2014 6:11 AM	PDF File
temote App			TSplus-UserGuide		9/29/2015 1:42 AM	PDF File
Computer Computer Computer Computer Computer Computer Computer Computer Computer Computer Computer Computer Computer		🔢 Recent Places	TSplus-white-paper		9/29/2015 1:40 AM	PDF File
Computer   Icooff	emote App	tilensies				
Music   Pictures   Videos   Computer   Network						
Shared Folder Computer Network						
Shared Folder  Computer  Network		E Pictures				
Shared Folder		🚼 Videos				
Shared Folder						
	Shared Folder	M Computer				
	Loooff	Ge Maturali				
		Network				
3 items			<			
		3 items				
		(PA)				
		· /// ·				

# Open Files on Client Side

#### Overview

This feature is a powerful one. It allows to open documents located on the server on the client side depending on its file extension.

#### For instance, you can open a Microsoft Office Word document without having Office installed on your server.

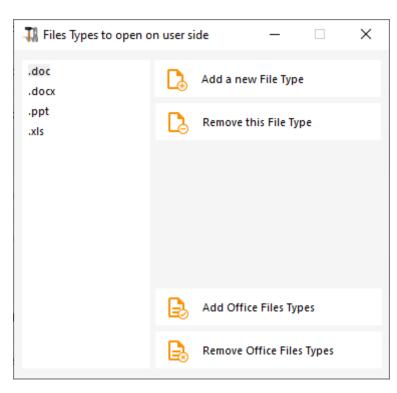
The .docx (or .xlsx) document is automatically uploaded on the user side where the local Office will be used to open it.

If you are hosting your application on a Cloud server and if your application is generating an Excel, Access or Word document, this feature prevents to care about Office licenses on the server.

#### Configuring a File Type to open on the client side

The tile "Open Files on Client Side" is located in the "Sessions - Settings" tab of the AdminTool. Click on it to display the configuration window:

TSplus - Administration Console		- 🗆	Х
	ACCESS	🔍 Lite Moo English	de •
	Session Management settings		
PRINTER	Session Opening Preference Session prelaunch configuration		
FARM	Open Files on Client Side		
SESSIONS	C Open URLs on Client Side		
없 ADVANCED 값 ADD-ONS	Wilde Disk Drives       ➡     Contextual menu		
ତିଲ୍ୟ LICENSE	<ul> <li>Permissions</li> <li>Client Generator</li> </ul>		



The button "Add a new File Type" allows you to add an extension (such as ".docx" for Microsoft Office Word 2007-2010) to the list.

All the files having an extension in this list will then be opened on client side, provided that you use one of Terminal Service Plus connection clients:

- Any generated Terminal Service Plus Client (RemoteApp or RDP)
- Any Windows connection from the Terminal Service Plus Web Portal
- <u>Any HTML5 connection from Terminal Service Plus Web Portal</u>

Warning: this feature is not supported for:

• Any RDP client (mstsc for example)

#### Troubleshooting

If you have configured a file type to open on client side, and it is not working (i.e. the file is still opened on its own computer), then we advise you to check the "Open With" list in Windows context-menu:

- right-click on the file.
- click on the "Open With" menu item.
- if there is more than one application in this list, click on "Choose default program" and select "OpenOnClient.exe".

This Terminal Service Plus great tool applies its configuration to all users using the computer, however please keep in mind the following rules:

- Windows allows each user to change this default opening program with another program of its choice.
- Using HTML5 connection client, the file will be downloaded and managed by the local browser. Some browsers treat some file types in specific ways, so browser's settings should also be checked twice.

These rules explain most of the issues when using the Open On Client feature, that is why we advise you to start by checking the default program:

- for the logged user on the server
- for the user on the client
- for the browser on the client (when using HTML5)

# Open URLs on Client Side

#### Overview

This feature is a powerful one. It allows to open on the client side every websites links and websites shortcuts located on the server.

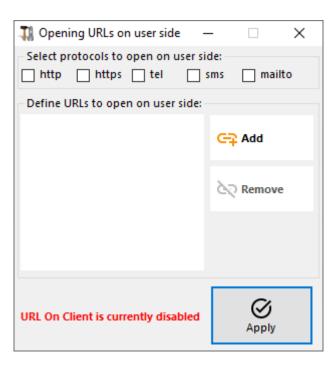
# For instance, you can open YouTube videos directly on the client, thus saving lots of bandwidth and CPU power on your server.

The web address (URL) is automatically transferred on the user side where the local default browser will be used to open it.

#### Enabling this Feature on a server

The "Open URLs on Client Side" tile is located in the "Sessions - Settings" tab of the AdminTool. Click on it to display the configuration window:

TSplus - Administration Console		-	□ X
	ACCESS	Help Englis	Lite Mode
<ul> <li>☆ HOME</li> <li>△ APPLICATIONS</li> <li>→ PRINTER</li> <li>◆ WEB</li> </ul>	<ul> <li>Session Management settings</li> <li>Session Opening Preference</li> <li>Session prelaunch configuration</li> </ul>		
FARM	Open Files on Client Side Open URLs on Client Side		_
SYSTEM TOOLS	Nide Disk Drives		
값 ADD-ONS	Contextual menu		
©⊋ LICENSE	<ul> <li>Permissions</li> <li>Glient Generator</li> </ul>		



Http and https protocols boxes are not ticked by default.

You can also activate tel, sms and mailto protocols by ticking the corresponding boxes.

Then click on the "Apply" button, which allows you to activate this feature for all users on the server.

In order to fully enable this feature, every user will have to restart its session (logoff then login) before they can use this feature.

All the web links and shortcuts will then be opened on client side, provided that you use one of Terminal Service Plus connection clients:

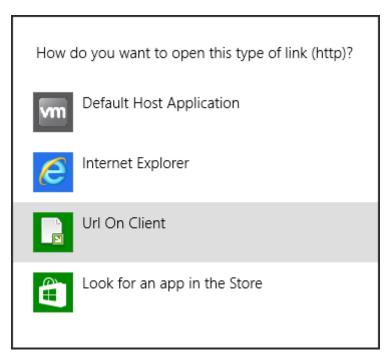
- Any generated Terminal Service Plus Client (RemoteApp or RDP)
- Any Windows connection from the Terminal Service Plus Web Portal

Warning: this feature is not supported for:

- Any RDP client (mstsc for example).
- Any HTML5 connection from Terminal Service Plus Web Portal.

#### Windows 8 and 8.1

Starting with Windows 8, Microsoft has forbidden automatic change of user's default browser. This is why, once the feature is activated on the server, every user will have to choose 'Url On Client' when asked for a default browser.



This window will only be displayed the first time a user opens a web link. Unfortunately, this is Microsoft Windows policy and we are not aware of any workaround.

# **TSplus Virtual Printer**

The TSplus virtual printer is a new alternative to classic remote desktop printing solutions, which can be unreliable, hardware dependent and difficult to manage. The virtual printer's unique compression algorithm improves the transit speed of remote print jobs by minimizing data transfer while maintaining image quality.

Note: The TSplus HTML5 client is not supported and it requires the TSplus Universal Printer.

#### Benefits

- Single-user and multi-user environment support.
- Zero configuration is required.
- Works with any virtual machines.
- Mixed 32 and 64-bit environment.

#### Pre Requisites

TSplus virtual printer OS compatibility list, in 32 and 64-bit::

- Windows Vista
- Windows 7
- Windows 8
- Windows 8.1
- Windows 10
- Windows 11
- Windows Server 2008
- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

The TSplus Virtual Printer is compatible with:

- The TSplus generated client
- The TSplus RemoteApp client
- The TSplus RemoteApp plug-in when using the Web Portal
- The Microsoft Remote Desktop client

It is not compatible with:

- The TSplus HTML5 client
- Hard Coded Thin-client devices where the client side setup cannot be installed.

#### Two Parts

The TSplus Virtual Printer is made up of two components:

- A server side component that comes installed on TSplus Remote Access.
- A Desktop component that is installed on the end-user's Windows Workstation.

Both setups are available directly in the server side in the "C:\Program Files (x86)\TSplus\UserDesktop\files\addons" folder and named "Setup-VirtualPrinter-Server.exe" and "Setup-VirtualPrinter-Client.exe":

Orgai	niser 🔻 Inclure dans la bibliothèque 👻 Partager a	vec 🔻 Nouveau dossier				) 🕂 🛨 🔁
		m *	Modifié le	Туре	Taile	
	Microsoft Silverlight	latest_vp_exe.log	28/04/2020 16:47	Fichier LOG	4 Ko	
	Microsoft SQL Server	latest_vp_exe.log	28/04/2020 16:48	Fichier LOG	120 Ko	
	- Microsoft Histar Staals					
		Setup-VirtualPrinter-Client.exe	04/05/2020 17:01	Application	9 205 Ko	
		Setup-VirtualPrinter-Server.exe	04/05/2020 17:01	Application	14 724 Ko	
	MSBuild					
	🕌 NuGet					
	pgAdmin 4 RDS-Tools					
	RUS-Tools Reference Assemblies					
	Reference Assemblies					
	TSplus					
	Clients					
	java					
	UniversalPrinter					
	UserDesktop					
	i files					
	lego					
	🍌 .lego - Backup avant MAJ lego ex					
	\mulego					
	🍌 addons					
	퉬 apilangs					
	ico 🗨					

The Client setup is also available from your TSplus web server, using the link below:

"yourtsplusserveriporpublicdomain"/addons/Setup-VirtualPrinter-Client.exe

You can also perform a silent install of the Client via a command line, by executing the setup with the following parameters:

/SUPPRESSMSGBOXES /VERYSILENT /SILENT /no\_ui

#### Getting started

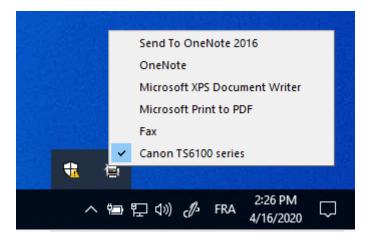
TSplus virtual printer is automatically installed during the first TSplus installation, and directly available during the trial period.

Once TSplus is installed, you will need to install the "Virtual Printer Client" on user's computer.

When you connect remotely to your TSPlus server using either **Microsoft RDP client** (mstsc), **TSplus generated client** or **Web Portal RemoteApp plug-in**, you will be able to print from your remote session to your local printer using the "Virtual Printer" printer. By default, the local printer selected is the local default printer.

You have 2 ways to change the local printer mapped to the "Virtual Printer" printer based on your situation:

1.If you are using the full desktop, then you can select which local printer to be used by using the virtual printer icon in the systray:



2.If you don't have access to the full desktop, you will need to use the "Virtual Printer Tool" named "VirtualPrinterTool.exe" located in "C:\Program Files (x86)\TSplus\UserDesktop\files". Note: you can either assign the application to the user, or make it run automatically on logon through the Virtual Printer advanced settings:

合 Virtual Printer Tool - Select your default local print	_	×
5. Canon TS6100 series		$\sim$
0. Send To OneNote 2016 1. OneNote 2. Microsoft XPS Document Writer 3. Microsoft Print to PDF 4. Fax		
5. Canon TS6100 series		

#### Configuration

To access to the TSplus Virtual Printer control panel, please navigate through the AdminTool: Printer > Virtual Printer Manager

TSplus - Administration Consol	le - 15.50.5.10		- 🗆	×
TSPLUS		Help	Ҳ Lite M English	ode •
<b>Ф</b> номе	û > Printer			
	Universal Printer			
	The Universal Printer - Ghostscript PDF - is installed			
S web	The Universal Printer is Ready			
FARM	The Universal Printer is not set as Default printer. Click here to set as default printer.			
SESSIONS	🔾 Universal Printer Manager			
SYSTEM TOOLS	Virtual Printer			
ស៊្លា advanced	Virtual Printer is installed			
었 ADD-ONS	Vou are using latest version of Virtual Printer			
ତ୍ମ LICENSE				
	Virtual Printer is the default printer			
	💐 Virtual Printer Manager			

# Universal Printer

The TSplus Universal Printer allows you to preview or print documents from any PC or mobile device supported by TSplus Remote Access. Universal Printer is relevant from an HTML5 session and when connected using a generated client. Universal Printer is not relevant when using the standard RDP client (mstsc.exe) because printers can be shared between server and client. See the video tutorial to print with the Universal Printer.

Starting Remote Access version 17, Universal Printer leverages novaPDF (<u>https://www.novapdf.com/</u>) to produce 100% industry-standard PDF (Portable Document Format) files from the remote document. The generated PDF document is then sent to the desired local printer. The Universal Printer (novaPDF) replaces Universal Printer (CustPDF) and Universal Printer (GhostScript) which are discontinued and no longer available to install on your Remote Access server.

Two printers are available for remote printing: Universal Printer and Virtual Printer. Although Virtual Printer offers better printing performance, it is not compatible with the HTML5 client and requires to install a client application. Therefore, the Universal Printer is set as the default printer following Remote Access setup. See <u>TSplus Virtual Printer</u>.

#### Requirements

NovaPDF11Service service should be in the exlcusion list of any active firewall or antivirus.

#### **Configure the Universal Printer**

To configure your Universal Printer, open the AdminTool and click on the Printers menu.

🐺 TSplus - Administration Conso	ole - 17.0.12.8	- 🗆 ×
		义 Lite Mode English ▼
<b>П</b> НОМЕ	ŵ > Printer	
	Universal Printer	
	The Universal Printer (novaPDF) is installed	
<b>©</b> web	C The Universal Printer is Ready	
FARM	O The Universal Printer is set as Default printer	
	💐 Universal Printer Manager	
SYSTEM TOOLS	Virtual Printer	
ADVANCED	Virtual Printer is installed	
값 ADD-ONS	You are using latest version of Virtual Printer	
	<ul> <li>VirtualPrinter is not the default printer. Click here to set as default printer.</li> </ul>	
	Virtual Printer Manager	

The Universal Printer section displays fours tiles which enables administrators to:

• Check the Universal Printer setup status. If the Universal Printer is not installed, then clicking on the tile will install the Universal Printer.

- Check the Universal Printer printing status. If the Universal Printer is not ready to receive print jobs, the tile may display additionnal relevant information about the error.
- Check if the Universal Printer is set as the default printer. If the Universal Printer is not set as the default printer, then clicking on the tile will set it as the default printer. Please note that this behavior may be overriden by your users should they be allowed to do so.
- The tile named **Universal Printer Manager** leads to an more detailled screen which provides additonnal actions and properties, such as removing the Universal Printer.

#### **Universal Printer Manager**

The Universal Printer Manager allows administrator to check the Universal Printer status, remove the Universal Printer, access to the printing queue and printer properties.

In particular, the button located at the bottom of the page allow administrators to:

- Remove the Universal Printer: Uninstall the Universal Printer. It can be reinstalled later from this screen.
- View Printer: Opens a window where you can see the status of your printing documents, pause, resume or cancel the print job. You can also set your printing preferences and properties.
- Universal Printer Properties: Opens this window, where you can see all the printing properties. After the General Tab, there are tabs for sharing, ports, advanced, color management, security and device settings. At the bottom of the popup window, the printer **properties** allows administrators to set the page size for printing from A4 to any kind of printing format. You can also choose between two printing orientations: Portrait or Landscape.

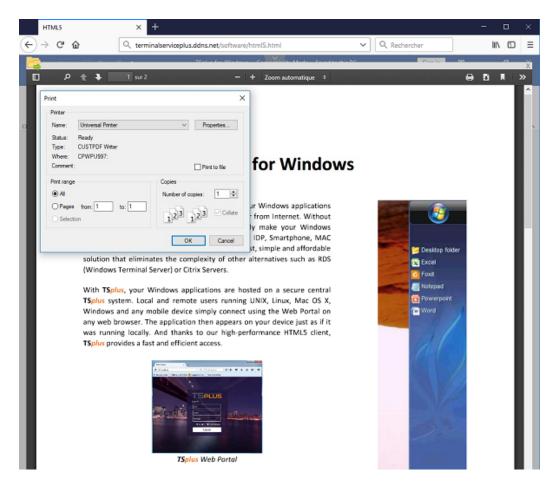
🖶 Universal Printer Properties X							
General Sha	aring Ports	Advanced	Color Management	Security	Device Settings		
50	Univers	al Printer					
Location:							
Comment:	<u>C</u> omment:						
M <u>o</u> del:	CUSTPD	F Writer					
Features Color: Ye	es		Paper availab	le:			
Double-	sided: No		Letter		^		
Staple: N	lo						
Speed: 4							
Maximu	m resolution	: 4000 dpi			~		
		Pr	<u>e</u> ferences	Print	<u>T</u> est Page		
			ОК	Cancel	<u>A</u> pply		

**Note:** The Universal Printer leverages novaPDF, which enables administrators to create profiles to define fonts, graphics, watermark, overlays and more through the **Manage profiles** button located below the Page size and Orientation sections on the printer properties popup window. Should a profile be selected by default, then the **Show Select Profiles dialog before printing** may be checked to allow user to select a profile before printing. Please refer to the novaPDF documentation for more details about profiles: Profile Manager.

#### Printing with the Universal Printer

While printing using this printer, the document in the print queue is automatically converted into a PDF file by the Universal Printer (novaPDF) printer.





The generated PDF file is then pushed to the local PDF reader of the user's workstation.

Each print job is opened as soon as it is ready on the user's local disk. The printing process starts once the PDF file has been transferred on the client' side, which guarantees the print job to start without delay.

	Print	t	
eneral			
Select Printer			
🖶 Microsof	t XPS Document Writer <b>#:</b> 1		
🧒 Universal	Printer		
<			>
Status: Location:	Ready	Print to file Prefere	ences
Comment:		Find Pr	inter
Page Range			
<ul> <li>All</li> </ul>		Number of copies: 1	<b>+</b>
Selection	Current Page		
Pages:			
UT ages.		11 22	33
3		] [	
		Print Cancel	Apply

#### Configuring Printing options with the Client Generator

You can choose from 3 printing options on the Local Resources tab of the Portable Client generator:

	-		Leaderser	-				
General	Display	Remote Desktop client	Local resources	Program	Security	Load-Balan	cing	
-Local d	levices –							
	🗹 Disk:	s all						
	Printe	ers						
	Sour	nd						
		l ports						
	🗸 Smar	rt cards						
	<mark>∠ US</mark> B	devices						
	Rem	oteFX USB devices						
	Play rem	note sound:	Local	y		otely	O N₀	
Univers	sal printer	option						
_	Action:			Printe	r scaling:			
		view with the local PDF R	eader		se original p	age sizes		
	O Print	t on default printer - local (	driver included	⊖ Fit	pages to p	rintable area		
	● Sele	ect the local printer - local	driver included	€S	nrink pages	to printable a	area (if necessary	)
		C:\Users\admin\Desktop	p	Brov	vse			
Client loc	ation:	C. Osers admin (Deskto)						
Client loc	ation:	C. (Users (dumin (Deskto)					Create Clie	nt

- Local PDF Reader preview: the document is pushed on the client's workstation and the local default PDF reader opens the received PDF file. The user can then print it, or save a copy on his local disk drive (this behaviour is expected when printing from an HTML5 session).
- **Print on the user's default printer**: the document is automatically printed by the user's default printer (this option is only available when using th TSplus connection client). This option is preferred for users who have a lot of print jobs to print during the day and use the same printer for this purpose.
- Select a local printer: the user can select one of his local printer (this option is only available when using th TSplus connection client).

For reading PDF files, these days many people get by without having to use an external application at all. Both Firefox and Chromium, the open source version of Google's Chrome browser, come bundled with in-browser PDF readers, so an external plugin is no longer necessary for most users.

#### Configure novaPDF printer

From **Printer Preferences** > **Tools** > **Password**, you can:

- Edit the default password
- Change the Profile Manager interface's language
- Monitor the progress of print jobs in real-time
- Check the printer history

#### Opening print job in a new tab

By default, print jobs from an HTML5 session are displayed inside a pop-up as before version 17.10.

It is possible to modify this behavior and open print jobs in a new browser's tab using the following setting: AdminTool > Advanced > Session > Open Print Jobs In New Tab

#### Profiles

Profiles enables to customize layouts, watermarks, compression level and much more. The Profile Manager allows you to manage profiles. Profiles consist of configurations utilized when printing using the Universal Printer. For instance, you can establish various printing profiles tailored to specific output requirements, such as distributing PDFs, high-quality printing, review purposes, or marking documents as confidential.

To open Profile Manager, open Devices and Printers, right click on Universal Printer and select Printing Preferences. Then, click on the **Manage Profiles** button. The default password is: pass@word1

#### Understanding the default profiles

- **Default Profile**: the default profile is intended to work for printing a single or multiple documents at a time. Suitable for most scenarios.
- **Print Opened Documents Profile**: Use this profile to automatically print a document when opened usign a PDF viewer. This profile is useful to gain a click when printing from an HTML5 session.

When opening an HTML5 session, the Print Opened Documents Profile is selected automatically for the current user. However, auto print in HTML5 session will be disabled if another session is currently opened for the same user in RDP mode. In this case, the Default Profile is applied by default.

**Note**: The Print Opened Documents Profile cannot be selected automatically for UWP applications such as Notepad in Windows 11 because these applications are designed to run in complete isolation with the system. However, it remains possible for the user to manually select the profile to use and to choose it by default for the next print jobs. There is no workaround at the moment. However, the redesign of the novaPDF printer scheduled for the next novaPDF major release due Q4 2024 will lift this limitation.

#### What profile can user choose?

By default, users can choose which profile to use among the two default profiles. Users are allowed to select one profile as active and do not show the Select Profile dialog box for the next print jobs. Administrators can define one or multiple profiles available for all users. This decision supersede any users' choices. See <a href="https://www.novapdf.com/printer-manager-profiles-help.html">https://www.novapdf.com/printer-manager-profiles-help.html</a>.

**Important**: It is recommended to copy the existing profiles to create more personilized profiles, as exisiting profiles embed several features required for most installation, such as embedded fonts in the generated PDF document.

#### Troubleshooting

Please find below troubleshooting tips to resolve Universal Printer (novaPDF) issues.

#### Staying up-to-date

- Updating the Connection Client may fix some issues occurring on the client side.
- Review the changelog to see if a newer version fixes your issue at https://dl-files.com/TSplus-changelog.html
- Remember that the development team can only support the latest code base.

#### Understanding which part of the printing process failed

• Has the print job been created in the print queue ? What is its status ?

#### Collecting logs for printing errors

- Session opening logs, especially useful for issues like failed retrieval of client print directory, located at C:\wsession\trace.
- AdminTool application logs located at C:\Program Files (x86)\TSplus\UserDesktop\files.
- Universal Printer logs, sending the print job to the client side, located at C:\wsession\UniversalPrinter\logs.
- Session events logs for the printing user, handling reconnections, located at %appdata%\UniversalPrinter\logs.

#### Collecting logs for printer installation issues

- Setup Log 2024-02-XX #XX.txt available in the %temp% directory.
- universalprintermanagement\_XX022024.txt located at C:\Program Files (x86)\TSplus\UserDesktop\files.
- All .txt files located in C:\Program Files (x86)\TSplus\UserDesktop\files\UniversalPrinter.

# Collecting logs for client-side printing errors, when using the Connection Client

- version.dat file. Please always advise to update Connection Client to latest version.
- Connection Client and Universal Printer Client logs. These logs can be enabled by creating the following key value in the registry: HKEYLOCALMACHINE\Software\Digital River\ConnectionClient\Debug'' = ''true''. The resulting logs are located here: C:\Users\\RDP6\logs.

# Printing with Standard RDP Printer-Mapping Feature

This is commonly used by Remote Desktop users and is equivalent to what you would have with Microsoft Terminal Services.

If you plan to use exotic printers, be sure to check the box for printers in the local resources tab of the client generator. See the <u>video tutorial</u> to print with Standard RDP Printer-Mapping Feature.

Windows	Client Generator
General Display	Remote Desktop client         Seamless client         Local resources         Program         Security         Load-Balancing
Local devices	
Disk:	ers ind
	1 ports
	rt cards I devices
- Universal printer	option
	view with the local PDF Reader
	t on default printer - local driver included
Sele	ect the local printer - local driver included
Client name:	john.connect Create Client

Most of the time it will require that you install the same version of the printer drivers on both the client and the server in order to work properly.

This means that if your server is Windows 2008 64 bit and your client computers are running Windows XP 32 bit, you will need to install the 32 bit XP Printer Drivers on the server.

Click on the Start Menu, then on Devices and Printers. Click on any printer to display the Print server properties button at the top of the window:

							×
	Control Panel + Hard	ware and Sound 🔸	Devices and Printers	<b>▼</b> 47	Search Devices and P	rinters	9
Add a device	Add a printer See	what's printing	Print server properties	Remove de	vice		0
Devices (3)     ADMIN-PC	Generic Non-PnP		Shows the server.	e properties for	this print		
• Printers and	Monitor Faxes (5) HP Photosmart C3100 series on 192.168.1.5#.4	Microsoft XPS Document Writer		Universal Printe	7		
	Catego	del: CUSTPDF Write ory: Printer us: 0 document(s)					

Once in the Print Server Properties, click on the Driver tab to manually add your client driver. (In this case, we are installing the Windows XP 32 bit driver)

🚍 Print Server Properties			×
Forms Ports Drivers Security Ac	lvanced		
ADMIN-PC			
Name	Processor	Туре	
CUSTPDF Writer	x64	Type 3 - User Mode	
Foxit Reader PDF Printer Driver	x64	Type 3 - User Mode	
Ghostscript PDF	x64	Type 3 - User Mode	
HP Color LaserJet 2700 Series P	x64	Type 3 - User Mode	
KONICA MINOLTA mc4650 XPS	хб4	Type 3 - User Mode	Ξ
KONICA MINOLTA pp4650 XPS	хб4	Type 3 - User Mode	
Microsoft XPS Document Writer	хб4	Type 3 - User Mode	
MS Publisher Color Printer	х64	Type 3 - User Mode	
MS Publisher Imagesetter	хб4	Type 3 - User Mode	
Remote Desktop Easy Print	хб4	Type 3 - User Mode	
Send To Microsoft OneNote 20	хб4	Type 3 - User Mode	_
		T	
A <u>d</u> d	<u>R</u> emove	Prop <u>e</u> rties	
	ОК	Cancel A	pply

You can also directly install your printer drivers using information and drivers from the Printer Manufacturer Website.

- It is recommended to check your hardware manual for an installation procedure in a terminal server environment.
- If you are using USB printers, make sure you updated the RDP protocol of your client computer to RDP version 6 or above to ensure maximum compatibility with redirected printers.

For the best results, it is recommended not to use USB printers. Compatibility and reliability are improved when using COM or LPT printers.

Some exotic printers, such as label or receipt printers, may not be suitable to be redirected in a TSplus session, you should always check with your hardware manufacturer for compatibility and installation procedures in an RDS or terminal server environment, which is very close to TSplus in this case.

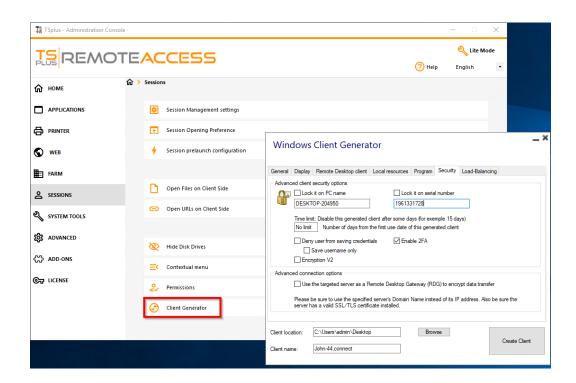
# Portable Client Generator

#### Overview

TSplus creates by default an icon for the Portable Client Generator:



It can also be accessed in the Sessions tab of the AdminTool:



It enables you to create 2 types of connection clients which can be copied to the users' Desktop or onto a USB stick for portable use.

Note: Connection Clients are not compatible with Mac computers.

Since TSplus 11.40 release, the client generator has been redesigned to be numerically signed and to avoid false/positive antiviruses reactions.

Instead of a ".exe" program, the new Client Generator is creating a flat encrypted file with the extension ".connect":



#### **Pre-requisite on Client Side**

On client side, each user will have to run a signed program named "Setup-ConnectionClient.exe" as a pre-requisite. This program is available on your server, in the TSplus program folder: TSplus\Clients\WindowsClient:

Coo Kara Kara Kara Kara Kara Kara Kara Ka	Clier	its ▶ WindowsClient ▶	<b>▼ 4</b> 4 Se	earch WindowsClient	<u>× □</u> _
Organize 🔻 📷 Open		lew folder		:==	• 🔟 🔞
Desktop	*	Name	Date modi	Туре	Size
i Downloads 🗐 Recent Places		鷆 ico	6/15/2017	File folder	
		ClientGenerator.bin	7/30/2018	BIN File	639 KB
🚍 Libraries		S ClientGenerator.exe	7/7/2017 1	Application	96 KB
Documents	=	Note: Setup-ConnectionClient.exe	7/30/2018	Application	9,389 KB
Music Pictures Videos		⊗ svcr.exe	7/3/2017 1	Application	947 KB
P Computer					4
Setup-Connect Application	ionCli	ent.exe Date modified: 7/30/2018 7:35 PM Size: 9.16 MB		d: 7/31/2018 7:55 PM	

or on the TSplus\Clients\www folder:

→ ✓ ↑ 🤤 « TSplus → Clien	ts > www	<ul> <li>ConnectionClient</li> </ul>	ٽ ~	Search Con	nectionClient	)
✓ Clients	^	Name	Date modified	Туре	Size	
> webserver		setup-ConnectionClient	6/25/2019 10:03 AM	Application	6,040 KB	
> 📙 WindowsClient						
✓ 🔤 www						
🔒 cgi-bin						
ConnectionClient	~					

or by downloading it.

#### Detailed Overview

Click on **a tab** to go to the corresponding information:

Portable<sup>f</sup>Chient<sup>t</sup>Generator

#### Main window - General Settings

When you launch the client generator, the first tab displayed is the general tab, Here you will find all of the essential connection settings that you need to get you started.

- Server Address: Enter the IP address of the server you would like the client to connect to.
- Port Number: Enter the server port number. The default is 3389.
- Username and Password: If you enter a username and password, the client program will not ask the user to retype it at each session.

To reset this logon/password saving, you must create and edit a shortcut of the Remote Desktop Client and add the *-reset on* switch at the end of the target field.

#### Credentials

- If you don't want to save credentials, enter "nosavecredential" in the logon field of the Portable Client Generator.
- If you don't want to display the logon window with the user name, password and domain name, simply enter "nopassword" on the password field.
- If you want to enable autologon, enter \*SSO in the username field, the client program will just ask for username and password during the very first connection. It will save this information on the user's workstation so that the user doesn't have to identify himself ever again.
- If you want the current local user's name to be displayed as a logon for the session, enter \*\*, or %USERNAME% in the logon field.
- **Domain name:** Enter a domain name if any.
- Preferred Display Mode: You can choose your preferred Display Mode from the following options:
  - The Classic Remote Desktop, displaying your remote session environment.
  - The *Microsoft RemoteApp connection client*, to display your remote applications as if they were installed locally. It has a better graphic performance over minimized applications.
- Network speed: You can choose between two options depending on your network speed:
  - Disable background display & graphic animations for low speed networks.
  - $\circ\,$  Enable background display and graphic animations for fiber optic or fast network.

- Client location: Define the location of your generated client.
- Client name: You can name your client as you wish.

#### Display

Wind	dows	Client G	ienera	tor					_ ×
General	Display	Remote Des	ktop client	Local resource	es Program	Security	Load-Balanc	ing	
Graphic	al settings	,							
1	16 bit	is color resolut is color resolut is color resolut is color resolut	ion ion						
	Dual	screen	Span			Г	Enable short	tout kevs	
	These se - Remo		all kind of	connection clie	nt:	L			
Client loca		C:\Users\adm John-44.conn			Brow	wse		Create Cli	ent

On this tab, you can change the color and the session screen resolution.

You can also adapt your session for dual-screens, with or without span. The span option allows you to stretch your session across both screens.

You can allow the use of the TAB key in the session.

#### Remote Desktop Client features

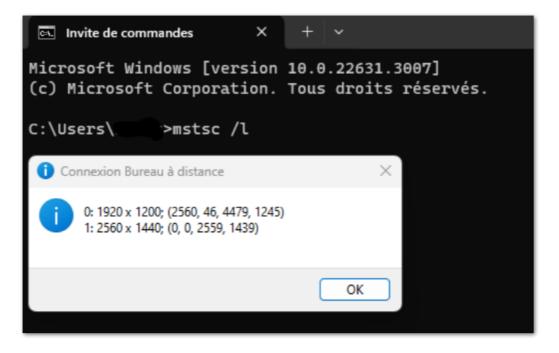
On this tab, you can choose which resolution you want to enable for the user:

Wine	dows	Client Genera	tor				_ 3
General	Display	Remote Desktop client	Local resources	Program	Security	Load-Balancing	
Remote	e Desktop						
<b>1</b>	⊖ User ⊖ Full s Scale fa	x 768 x 720 x 1024 com resolution: screen size screen	○ 1366× ○ 1600× ● 1920× ● 1920×	900 1024	ļ		
Г	Selected	<del>Remaio Bodito, milinoi l</del> 1 monitor numbers (e.g: 0,	1) 0,1				
	These s	ettings are only valid for th	e Remote Desktop	o client			
Client loc Client nar		C:\Users\admin\Desktop Client-01 connect		Brow	/se		Create Client

You can check the boxes to enable smart-sizing of the Remote Desktop, and if you want the Remote Desktop not to hide or overlap the local taskbar.

#### Screen selection option

This allows you to indicate the monitors you want to use for the RDP session. The field must be filled with the list of screen numbers to use (separated by a comma, a space or a semicolon)



To identify the screen numbers, simply run the command "mstsc /l"

#### Local Resources

Wind	dows	Client Genera	tor					_ ×
General	Display	Remote Desktop client	Local resources	Program	Security	Load-Balanc	ing	
Local d	Disk: Printo Sour COM Smar USB	ers nd I ports		,	⊖ Rem	otely	⊙No	
Univers	al printer	option						
-		view with the local PDF R t on default printer - local act the local printer - local	driver included	⊖Us ⊖Fit		orintable area	rea (f necessary)	
Client loca		C:\Users\admin\Deskto	p	Brov	vse		Create Clier	nt

The local resources tab gathers all the devices that you may redirect in your remote session.

The editable field next to the **disks** box allows to specify which disks are available in the remote session. You just have to separate each letter of disk (C :, E: ...) by a comma. When the disks box is ticked and no disk is specified, all the disks are included in the remote session.

**Printers** correspond to LPT ports, and COM Ports correspond to Serial Ports. Since TSplus 11.50 version, these local devices are selected by default.

Below, you can choose your option for printing, with the universal printer:

- Local PDF Reader preview: The document will be rendered as a PDF and the local Acrobat Reader will open the file. The user can print it, or save a copy on his local disk drive.
- **Print on the user's default printer:** the document will be automatically pushed to the user's default printer (the local print driver is included in the TSplus connection client).
- Select a local printer: The user can select one of his local printers (the local print driver is included in the TSplus connection client).

If you do not have a PDF Reader installed on your machine, we recommend the use of Foxit Reader. See our <u>video</u> <u>tutorial</u> on how to print.

#### Program

Windows Client	Generator					-	
General Display Remote	Desktop client Local resource	s Program	Security	Load-Balancing			
to assign Application	use the Admin Tool on (s) to users or to groups.	on to bo starts	d at logon				
However, you can specify here after one application to be started at logon.         Path/Filename       C:\Program Files (x86)\Foxit Software\Foxit Reader\Foxit Updater.exe         Start Directory       C:\Program Files (x86)\Foxit Software\Foxit Reader							
Command line option							
Client location: C:\Users\ Client name: John-44.c	admin\Desktop	Brow	se		Create Client		

You can set a startup application via the Portable Client Generator, and specify its path, directory and parameters, since the 11.30 release.

However, we recommend you to use the AdminTool to assign the desired applications.

#### Security

TSplus offers two extra layers of physical security to keep your users' connections safe. The connection can be locked to the ID of a USB key, locked to a computer name, or you can use both layers of security simultaneously.

#### Advanced client security option

- If locked to a USB key, the user can initiate a connection from any qualifying windows computer by inserting the USB key and using the connection program placed there by the administrator.
- If locked to a computer name, the user can only successfully connect from the computer whose name has been registered with the server for that user's portable client connection. If both security options are used, the user is limited to connecting from their specific device and only if the correct pre-configured USB key is in place.

In order to lock a connection client onto a USB key you can do so by copying the client generator located in : C:\Program Files (x86)\TSplus\Clients\WindowsClient

Now double click on the client generator and check the lock on serial number box located on the security tab. Once it is

done, you can delete the client generator from the USB key.

The newly generated connection client will be placed on the desktop, don't forget to copy it back to the USB key! You can delete the client generator that you copied on the USB key afterwards.

Wind	dows	Client Genera	tor				_ ×
General	Display	Remote Desktop client	Local resources	Program	Security	Load-Balancing	
Advanc	ed client	security options					
		t it on PC name		cit on seria	l number		
	DESKT	OP-204950	196133	31728			
	Time lim No limit	it: Disable this generated of Number of days from		• •			
		y user from saving credent Save usemame onlv	ials 🗹 Enal	ble 2FA			
		yption V2					
Advanc	Use Use	ection options the targeted server as a R pe sure to use the specifie as a valid SSL/TLS certifi	d server's Domain				sure the
Client loca		C:\Users\admin\Desktor		Broy	VED		
Client nan		John-44.connect		biov			Create Client

- You can define the **time limit** from the first use date of a generated client by entering the value on the time limit box. (which is by default set to "no limit").
- Boxes below enable you to:
  - Not display the ability to save credentials for a generated client.
    - Save username only.
    - Use Encryption V2.

#### Support for two-factor authentication

The client generator supports **two-factor authentication** since version 15.30.3.15. Two-factor authentication support also requires a **Mobile Web edition or greater**.

Please refer to <u>Two-factor Authentication documentation page</u> for more information on how to configure and enable two-factor autnentication for users and groups on your TSplus Remote Access installation.

Please note the following additional requirements to enable two-factor authentication for a generated client:

- Connection Client validates the authentication code against the Web Portal using the HTTPS port. Therefore, **Web portal must be up-and-running** and reachable through its HTTPS port from the client machine.
- If the HTTPS port of the Web portal is modified, then the generated clients enabled for two-factor authentication must be generated again. Previously generated clients will fail to validate any two-factor authentication.

Since version 15.30.3.15, any previously generated client and any new client generated without 2FA support enabled will behave the same as before. If a user enabled for two-factor authentication attempts to login using a client generated without explicit 2FA support, the login will be denied as two-factor authentication is not possible and therefore will fail.

To add support for two-factor authentication, check the **Enable 2FA** checkbox before generating your client file. As a result, two-factor authentication will be validated when connecting to the Remote Access application server. If two-factor authentication is enabled on the application server and the connecting user is not configured, then the connection will be denied.

Wind	dows	Client Genera	tor				_ ×
General	Display	Remote Desktop client	Local resources	Program	Security	Load-Balancing	
Advanc	ed client	security options					
	Lock	it on PC name		cit on seria	l number		
	DESKT	OP-204950	196133	31728			
	No limit	it: Disable this generated of Number of days from v user from saving credent Save usemame only yption V2	the first use date o	• •		• •	
Advanc	Use f	ection options the targeted server as a R pe sure to use the specifie as a valid SSL/TLS certifi	d server's Domain				e sure the
Client loca Client nan		C:\Users\admin\Desktop John-44.connect	>	Brov	vse		Create Client

Be mindful that adding 2FA support to a generated client later is not supported. For example, adding 2FA support through command line against the generated .connect file is not supported.

Once a user has configured his account in an authenticator app, he or she will be able to connect using its password and the code provided by its authenticator app or by SMS.

2FA authentication	×
Please enter your authentication	code.

#### **Advanced connection option**

If the targeted server possesses a specific and accessible domain name, as well as a valid SSL/TLS certificate installed, you can enable the "Use the targeted server as a Remote Desktop Gateway (RDG) to encrypt data transfer".

This option makes the RDP data transfer during the connection encrypted using TLS encapsulation, making it a suitable alternative to any VPN in term of data encryption.

#### In order to enable Windows SSO authentication for generated clients:

Update TSplus Remote Access to the latest version on a server joined to the domain.

Generate a client from the Client Generator, checking the "Enable Single Sign-On (SSO)" box in the "Security" tab.

Connect from a machine joined to the domain using the generated client.

General	Display	Remote Desktop client	Local resources	Program Se	curity	Load-Balancing		
Advand	ed client :	security options						
Q	Lock	it on PC name	C Loci	c it on serial nur	nber			
	WINDE	V2303EVAL	31955	6779				
	T	Discharden and	F 1 0 1		15	-1		
	No limit	<ol> <li>Disable this generated Number of days from</li> </ol>			S10272	ys)		
	TAO INTIR		the first use date c	i unis generated	Cilent			
	Deny	user from saving credent	iials 🗌 Ena	ble 2FA				
		ave username only						
	Encry	ption V2	🚽 🗹 Ena	ble Windows Si	ngle Si	gn-on (SSO)		
Advanc	ed conne	ction options						
	Uset	he targeted server as a F	Remote Desktop G	ateway (RDG) t	o encr	vpt data transfer		
		e sure to use the specifie as a valid SSL/TLS certifi		Name instead o	of its IP	address. Also be sure the		
			oute motuleu.					
Client loc	ation:	C:\Users\User\Desktop		Browse	)			
Client loc	ation:	C:\Users\User\Desktop		Browse	D	Create Client		

#### Configuring Group Policy for Windows Single Sign-On (SSO) via Remote Desktop Client

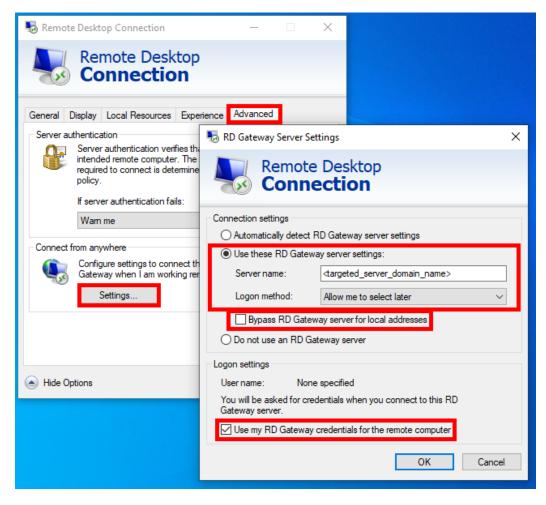
From the domain controller: 1. Open the Group Policy Management Console. 2. Right-click on the Organizational Unit (OU) where the Group Policy Object (GPO) should be applied and select "Create a GPO in this domain, and Link it here...". 3. Name the GPO (e.g., SSORDSMYSERVER) and click "OK". 4. Right-click on the created policy and select "Edit". 5. Navigate to the following location: "Computer Configuration / Policies / Administrative Templates / System / Credentials Delegation." 6. Double-click on "Allow delegating default credentials" to open the settings. 7. Enable the setting and click "Show..." 8. In the Value field, enter the server(s) in the format TERMSRV/serverfullyqualified domain\_name and click "OK". 9. Click "Apply" and "OK" to close the window. From the client machine: 10. Update group policies by running the following command as an administrator: gpupdate /force.

#### Use mstsc instead to connect to the RD Gateway

You can also use this feature through mstsc configuration without using a generated client if the prerequisites mentionned above are met.

To do so, go to the advanced tab first, then on the "Connect from anywhere" section click on "Settings" and configure the Remote Desktop Gateway by :

- Ticking the "Use these RD Gateway server settings" option
- Replacing the server name with the targeted server domain name (without https://)
- Selecting the Logon method "Allow me to select later"
- Unticking the "Bypass RD Gateway server for local addresses" option
- Ticking the "Use my RD Gateway credentials for the remote computer" option
- Clicking "OK" to save these settings



Then go to the "General" tab, and :

- Replace the computer name with "127.0.0.2:3389", and change the port "3389" if you are using a different one
- Replace the username with the username you want to connect with (**important: specifying the domain is mandatory**)
- Clicke on "Connect"

퉣 Remote	e Desktop Conr	nection		—		×	
	Remote Conne						
General [ Logon set			Experience note computer				
	Computer:	127.0.0.2	:3389		~		
	User name:	<domain></domain>	<usemame></usemame>				
You will be asked for credentials when you connect.							
Connectio	on settings						
	Save the curre saved connect Save		tion settings to Save As		or open a )pen		
Alide Op	otions			Connect	Hel	p	

#### Load-Balancing

You can also enable the Load Balancing to connect to one server of your farm.

Do not check the "Use Load-Balancing" box if you did not activate the Load-Balancing feature on your server. You will need to enter the Gateway Web port, which should be the same as the default web port used on all the servers of your farm.

General D	)isplay	Remote Desktop cli	ent Local resources	Program	Security	Load-Balancir	ng	
Enable Lo	ad-Bala	ncing ?						
E	Use L	.oad-Balancing	Gateway Web port nu	umber 80				
v	Vhen 'U	se Load-Balancing' is	s checked, it enables	using the Ga	teway			
			ect to an Application S					
W	Hun Load	a balancing to borning						
			ure, please read our o	locumentatio	n			
			ure, please read our o	documentatio	n			
			ure, please read our c	documentatio	n			
			rure, please read our o	documentatio	n			
			rure, please read our o	documentatio	n			
			ure, please read our c	documentatio	n			
			rure, please read our o	documentatio	'n			
			ure, please read our o	documentatio	'n			

Remote Desktop Client	×
The Remote Desktop client client has been copied on yo Client name: john.connect	our Desktop
	ОК

Client Customization is possible. See the corresponding documentation on <u>how to modify the client's icon</u> and <u>edit or</u> <u>delete its parameters</u>.

#### Logs for Connection Client

You can enable the logs for Connection Client on the client side by adding the following registry key:

#### [HKEYLOCALMACHINE\SOFTWARE\Digital River\ConnectionClient] "Debug"="true"

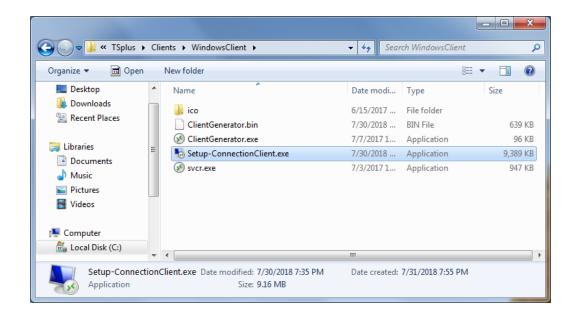
The logs are located in C:\Users\\RDP6\logs directory if installation is per user or in C:\Program Files (x86)\Connection Client\RDP6\logs directory if installation is for all users.

# **TSplus Client Setup program**

#### Installl

On client side, each user will have to run a signed program named "Setup-ConnectionClient.exe" as a prerequisite.

This program is available on your server, in the TSplus program folder: C:\Program Files (x86)\TSplus\Clients\WindowsClient:



It is also available in C:\Program Files (x86)\TSplus\Clients\www\ConnectionClient, so your users can just run the program once on your web server address: http://xxxxxxxx/ConnectionClient/Setup-ConnectionClient.exe

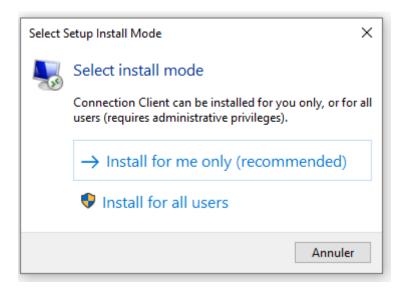
ConnectionClient					- 0	×
$\leftarrow$ $\rightarrow$ $\checkmark$ $\uparrow$ $\bigcirc$ « TSplus $\rightarrow$ Clients $\Rightarrow$	www	> ConnectionClient	ٽ ~	Search Con	nectionClient	Q
✓ Clients	^	Name	Date modified	Туре	Size	
> 🔒 webserver		network Setup-ConnectionClient	6/25/2019 10:03 AM	Application	6,040 KB	
> 📙 WindowsClient						
✓						
🔓 cgi-bin						
ConnectionClient	~					
1 item						

or by downloading it.

#### Install for all users

You can now install the Connection Client for all users. This means that once installed, any user on the computer will benefit from it, and will be able to connect in remoteApp mode from the Web Portal, as well as with a generated

#### .connect client file.



Note: For this pop-up to appear, you will need not to have the Connection Client installed already. You can also, during an installation using commandline, specify which mode you want to use with the argument /ALLUSERS or /CURRENTUSER to install respectively for all users, or for the current user.

*Note*: Since TSplus 12.40, The Client Setup Program and the <u>RemoteApp client setup</u> have been merged and can be deployed with one single setup - so if you download the Connection Client Setup, there will be no need to download the RemoteApp Client one.

# Edit or Delete the Parameters of a Generated Client

There are many reasons why you would want to change the parameters of your connection client: your TSplus server IP address changed, you need to add printer's redirection, to change the universal printer settings or so on...

• You first need to create a shortcut of the ConnectLauncher.exe file, located on the RDP6 folder of the user's profile:

Organize 🔻 🛛 溒 Op	en 🛛 Include in library 👻 Share wit	th 🔻 New folder	:= 🕶 🔟 🔞
🔆 Favorites	Name	Date modified	Type Size
🧮 Desktop	鷆 AppData	3/14/2017 3:17 PM	File folder
🐌 Downloads	🌗 applist	12/6/2017 12:29 PM	File folder
🖳 Recent Places	膭 Contacts	3/14/2017 3:33 PM	File folder
	膧 Desktop	7/3/2017 10:41 PM	File folder
🥃 Libraries	🝺 Downloads	3/14/2017 3:33 PM	File folder
Documents	🙀 Favorites	3/14/2017 3:33 PM	File folder
🎝 Music	👔 Links	3/14/2017 3:33 PM	File folder
Pictures	🏢 My Documents	3/14/2017 3:33 PM	File folder
🛃 Videos	🔰 My Music	3/14/2017 3:33 PM	File folder
	📔 My Pictures	3/14/2017 3:33 PM	File folder
🖳 Computer	📔 My Videos	3/14/2017 3:33 PM	File folder
🐔 Local Disk (C:)	👪 RDP6	8/1/2018 12:23 PM	File folder
-	🍺 Saved Games	3/14/2017 3:33 PM	File folder
📬 Network	🔐 Searches	3/14/2017 3:33 PM	File folder

					x
Compu	iter ♦ Local Disk (C:) ♦ Users ♦ john ♦ RDI	P6 🔻 4-9	Search RDP6	_	٩
Organize 🔻 🔳 Ope	en Share with 🔻 New folder			= •	0
☆ Favorites	Name	Date modified	Туре	Size	•
📃 Desktop	🛃 bkgsc.bmp	4/2/2016 10:16 AM	Bitmap image	8 KB	
〕 Downloads	🛃 bkgscblue.bmp	4/2/2016 10:16 AM	Bitmap image	8 KB	
📃 Recent Places	🛃 bkgscgreen.bmp	4/2/2016 10:16 AM	Bitmap image	8 KB	
	🛃 bkgscpink.bmp	4/2/2016 10:16 AM	Bitmap image	8 KB	
🥽 Libraries	ConnectionClient.bin	7/30/2018 7:35 PM	BIN File	570 KB	E
Documents	SonnectionClient.exe	7/7/2017 10:19 AM	Application	96 KB	
🁌 Music	SonnectionClientold.exe	7/7/2017 10:19 AM	Application	96 KB	
Pictures	ConnectLauncher.bin	7/30/2018 7:35 PM	BIN File	8,188 KB	
📑 Videos	SonnectLauncher.exe	7/8/2018 9:04 PM	Application	96 KB	
	🔗 ConnectLauncher.exe - Shortcut	8/1/2018 12:13 PM	Shortcut	2 KB	
🖳 Computer	DroidSansFallback.ttf	4/2/2016 6:13 AM	TrueType font file	3,749 KB	
🐔 Local Disk (C:)	🌄 ico2.ico	4/2/2016 10:16 AM	Icon	161 KB	
	🐼 icon.ico	4/2/2016 10:16 AM	Icon	54 KB	
📬 Network	💼 languk.ini	3/25/2017 8:27 AM	Configuration sett	7 KB	
	🚳 libmupdf.dll	8/14/2016 5:36 AM	Application extens	5,095 KB	
	MyRemoteApp.bin	7/30/2018 7:35 PM	BIN File	6 KB	
	🐼 MyRemoteApp.exe	7/7/2017 10:19 AM	Application	96 KB	
	🗿 MyRemoteApp.ini	8/1/2018 12:09 PM	Configuration sett	1 KB	-
ConnectLaun Shortcut	icher.exe - Shortcut Date modified: 8/1/2018 J Size: 1.09 KB	L2:13 PM Date crea	ted: 8/1/2018 12:15 PM		

- Then, right click on it and hit properties. Place your mouse at the end of the "target" field and type in the client's path followed by "/?", for example: "*C*:\*Users*\*John*\*Desktop*\*clientname.connect* /?":

🧭 ConnectLaur	icher - Shortcut Proper	ties >	×
Security General	Details Shortcut	Previous Versions Compatibility	
Co	nnectLauncher - Shortcut		
Target type:	Application		
Target location:	RDP6		
<u>T</u> arget:	her.exe C:\Users\John\[	Desktop\john.connect /?	
<u>S</u> tart in:	C:\Users\John\RDP6		
Shortcut <u>k</u> ey:	None		
<u>R</u> un:	Normal window	~	
Comment:			
Open <u>F</u> ile Lo	cation <u>Change Icor</u>	n A <u>d</u> vanced	
	OK	Cancel <u>A</u> pply	

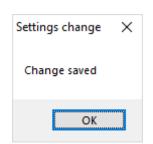
Now click OK and double click on the shortcut. A list of switch appears :

Remote Desktop possible parameters	×
/clean : to reset user workstation parameters	
Connection settings -user: user logon -psw: user password -server: server IP adress -port: RDP port number (3389) -domain: Domain name Display settings -color: Enter 8, 15, 16 or 24 (bits) -full: 2 for full screen, else enter 1 -width: enter 800, 1024 or 1280 -height: enter 600, 768 or 1024 -remoteapp: on/off to do Microsoft RemoteApp -seamless: on/off to do seamless Remote Application -dualscreen: on/off to use a dual screen -alttab: 0/1 - 0 means Alt-Tab on the client side -localtb: 0 or 42 - 0 means RDP will cover the local taskbar -apppath: path of a specific RemoteApp	
Local drives settings -disk: on/off Disks -printer: on/off Printers -com: on/off COM ports -smartcard: on/off Smart cards	
Universal Printer settings -preview: on/off Preview the prints on the local PC -select: on/off Select a local printer -default: on/off Print on the default local printer	
-defaultsystem: on/off Print on the default local printer with the system defined PDF reader	
Security settings -lock: lock the program on the workstation name -serial: lock the program on the device serial number -gatewayhostname: RD Gateway hostname -gatewayusagemethod: RD Gateway usage method	
ОК	

Click OK, the list of all the parameters appears in a small window.

You can now edit them to match your preferences, you will need to log off and log on again to apply the changes.

🐼 Changing the connection setti	ngs of this lo	_		×
To modify the local connection setting just replace the current ones.	gs			
altb 42 full 2 remoteapp off -seamles	ss off -width 1024	-height 7	768 -smarts	sizing (
ОК		Cano	el	



#### Clean the Parameters of a Generated Client

After having launched the client at least once, you can clean the parameters by deleting the client.txt file located in the RDP6 folder:

ile Home Share	View			~
• 🔿 * 🛧 📘 > Th	is PC → Local Disk (C:) → Users → John	RDP6 v	ට Search RDP6	\$
Videos ^	Name	Date modified	Туре	Size
🏪 Local Disk (C:)	📓 bkgsc	9/20/2018 2:21 PM	BMP File	8 KB
PerfLogs	🖻 bkgscblue	9/20/2018 2:21 PM	BMP File	8 KB
📙 Program Files	🖬 bkgscgreen	9/20/2018 2:21 PM	BMP File	8 KB
Program Files	🖬 bkgscpink	9/20/2018 2:21 PM	BMP File	8 KB
tmp	ConnectionClient.bin	11/14/2018 10:49	BIN File	580 KB
Users	😥 ConnectLauncher - Shortcut	11/29/2018 2:17 PM	Shortcut	2 KB
_	ConnectLauncher.bin	11/14/2018 10:49	BIN File	8,253 KB
admin	ConnectLauncher	9/20/2018 2:21 PM	Application	96 KB
Default.mig	DroidSansFallback	9/20/2018 2:21 PM	TrueType font file	3,749 KB
John	neo2	9/20/2018 2:21 PM	lcon	161 KB
Contacts	john	11/29/2018 2:14 PM	Text Document	1 KB
Desktop	languk	9/20/2018 2:21 PM	Configuration sett	7 KB

# RemoteApp Connection Client

You can choose between 2 display modes on the general tab of the client generator:

General	Display	Remote Desktop client	Local resources	Program	Security	Load-Balancing	
Server							
d	Server a			Port nun	nber		
	192.16	8.1.254		3389			
User	<b>1</b> 111			20.007	2		
	Logon			Passwor	ď		
$\bigcirc$	John			••••			
	Domain	name (without extension)		2			
	TC			1			
	TSplus						
	1 Spius						
Preferre	ed display						
Preferre	d display				C	) RemoteAPP client	t
Preferre	ed display	mode	ons for better perfo	mances		) RemoteAPP client ) Fast network or Fi	-
	ed display	mode ote Desktop client	· .	mances	C		-
Preferre Client loc	ed display	mode ote Desktop client ble background & animatic	· .	22	C	) Fast network or Fi	-

#### RemoteApp connection client

The RemoteApp connection client does not depend on the transparency color settings. This allows for perfect application display as well as native Windows behavior.

- On the Client side, the installation of RDP6 or above is required.
- On the Server side, TSplus must be installed on a machine running Windows 7 to Windows Server 2019. *Note*: RemoteApp is not supported on Windows 10 1803 et 1809 Home Windows 2019 Essentials Editions.

You can change the RemoteApp client display and Printing preferences on the Web tab of the Admintool:

TSplus - Administration Console - 17.	10		- 🗆 X
	ACCESS	🔒 Assist Me	🔾 Lite Mode English 🔹
ம் номе <sup>ம்</sup>	Web		
	Web Portal	_	
	Web Portal Customization	RemoteApp Client	
S WEB	TSplus Web App	HTML5 Client	
FARM	😌 Web Credentials	R HTML5 Top Menu	
	😯 нттрs		
SYSTEM TOOLS	Web Server		
ADVANCED			
슈가 ADD-ONS	• Lockout		

1 TSplus - Administration Console	- 17.10			- 0	×
	EACCESS	🔒 Assist Me	Help	Nite English	Mode •
<b>М</b> НОМЕ	ŵ > Web > RemoteApp Client				
	Display Connection Mode: RemoteApp				
	Pixel Depth: 32 bits				
S web	Web Printing Preferences Web Printer: Display local preview	~			
FARM	Web printer will be used for all web connections using RemoteApp client. Web printer will not be used for HTML5 connections.				
SESSIONS					
💐 SYSTEM TOOLS					
ADVANCED					
쑸 ADD-ONS					
			🔒 Ap	ply	

Minimized applications can be found directly inside the Windows taskbar, like a local application. In this example, Firefox and Paint are launched locally; Notepad, Word and Foxit are launched remotely.



For the Remoteapp connection client, you can choose to publish one unique application to be launched seamlessly at the user's logon. You can also publish applications with the <u>TSplus Remote Taskbar</u>, the Floating Panel or the Application Panel.

# How to modify the TSplus client's icon

#### Change your client's icon

In order to change the generated client's icon, just create a shortcut of the client and go to the shortcut's properties:

~	
john.connet	Open
	Open with
	Share with
	Restore previous versions
	Send to 🕨
	Cut
	Сору
	Create shortcut
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Target type:	Connection Client File				
Target location:	Desktop				
<u>T</u> arget:	rs\Administrator.admin-PC\Desktop\john.connect				
<u>S</u> tart in:	C:\Users\Administrator.admin-PC\Desktop				
Shortcut <u>k</u> ey:	None				
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💉 john.com	nnect - Shortcut Properties		
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OK Cancel			

# Built-in Web Server Management

Your Remote Desktop Server must be available, easy-to-access and safe. That's why TSplus utilizes a built-in Web Server which helps you easily manage its status and operations.

A Management Console is available in the Administrator Tool. This Management Console enables you to view and configure the status of Terminal Service Plus built-in Web Server.

When you install TSplus, web servers are listening on ports 80 and 443 by default. Make sure that the defined ports are available and that Java is installed on the server.

See the video about Web Features.

#### Web Server Components Status

The status of the Web Server main components are displayed on the AdminTool Home dashboard.

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<b>М</b> НОМЕ		
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	Computer name: WIN-A1L00CN0E56 Private IP 192.168.	http://localhost
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FARM	Connections: 1	The HTTPS server is listening on port 443
SESSIONS	Q Session Manager	
SYSTEM TOOLS	System Audit - No issues found on 1/7/2020 4:27:20 PM	
👸 ADVANCED	Version 12.60.1.4 - You are using the latest version	i Read changelog
없 ADD-ONS	License Activated - Enterprise edition - Unlimited users	
	End of support date: 7/11/2022	
	English	() Help

#### Ports Considerations (Local Machine and Firewall / Router)

Terminal Service Plus only requires either Port 80 or Port 443 to be opened. Port 3389 can stay closed.

TSplus - Administration Console		- 🗆 X
TSPLUS	Remote Access Management Console	
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	Computer name: DESKTOP-SCVIIVH Private IP 192.168.1.22	http://localhost
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FARM	Connections: 1 Q	The HTTPS server is listening on port 443
💐 SYSTEM TOOLS	System Audit - No issues found on	
없 ADVANCED	Version - You are using the latest version	
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#### Restart / Stop the Web Server Service

If you see that a service is not running, you may need to restart the Web servers by clicking on the "Restart Web Servers button" which is represented by an arrow on the right, the Web Servers will be restarted and the service should be running again.

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TSPLUS	Remote Access Management Console	
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	Computer name: DESKTOP-SCVIIVH Private IP 192.168.1.22	http://localhost
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If you click on the "Stop Web Servers" button, placed on the middle, the Web servers will be stopped. The HTTP and HTTPS server status will now display in red indicating that the HTTP / HTTPS services are stopped:

TSplus - Administration Consol	le	- 🗆 X
TSPLUS	Remote Access Management Console	
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	Computer name: DESKTOP-SCVIIVH Private IP 192.168.1.165	http://localhost
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FARM	Connections: 1 Q	The HTTPS server is not listening on port 443
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#### Manage Web Servers

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			? Help	English	•
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	🕆 Web Portal Design	😌 Web Credentials			
	Web Portal Preferences	RemoteApp Client			
S WEB	Applications Portal	HTML5 Client			
FARM	tsplus Web App	R HTMLS Top Menu			
SESSIONS					
SYSTEM TOOLS	😯 нттрs				
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Հ갓 ADD-ONS	Lockout				-
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You can change the ports during installation or at any time by clicking on the Web - Web Server tab. On this tab, you can choose to use a different HTTP web server, modify the Web Server root path and the HTTP/HTTPS port numbers. Make sure that these ports are available before changing them: if a conflict occur TSplus web server will not work. Here is a non-exhaustive list of TCP port that might be used by an application on your server. Once these modifications done, click on save and the AdminTool will restart.

#### Disable http only or http on https

See <u>this documentation</u> for more information on this topic.

For more in-depth information about servers customization and preferences, see these pages:

Web Portal Customization, Web Applications Portal, Web Credentials.

# Web Applications Portal

#### Overview

Terminal Service Plus Web Application Portal provides a single, flexible solution that can streamline application and desktop deployment and life-cycle management to reduce IT costs. By centrally managing and web delivering ondemand applications, IT can improve the success rate of application deployment providing role-based management, application control, security and users support.

Terminal Service Plus Web Application Portal virtualizes and transforms Windows apps and desktops into a secure ondemand service.

# With Web Application Portal, you will be able to publish Microsoft Windows applications (business applications, Office applications...) to the web.

As in Citrix, your users can access their applications directly from the Internet, simply by clicking on the application icon in the Portal web page, directly inside their own Internet browser.

#### Managing your Web Applications

The Web Application Portal feature is **fully integrated** in Terminal Service Plus. It means that all the applications published by Terminal Service Plus Applications Publishing feature can be used in the Web Applications Portal.

If you would like to know more about this publication process, feel free to read our documentation about <u>Application</u> <u>Publishing and Assigning Applications to Users or Groups</u>.

#### Designing your Web Applications Portal

In the Admin Tool, open the "Web" tab and click on the "Web Portal Customization" tile and go to the "Application Portal" tile.

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<b>М</b> НОМЕ	✿ > Web		
	Web Portal		
	Web Portal Customization	RemoteApp Client	
	TSplus Web App	HTML5 Client	
S WEB	Veb Credentials	R HTML5 Top Menu	
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7 Web Anta Castomation Appearance Content Settings Credentials	File Transfer Application Portal		- 0 ×
Enable Applications Portal     Auto log-off after     off after			
Title: Remote Applications Box Title Applications	TS PLUS		
Box Log Off Test: Log Off	Applications		
			Log Off

To generate a web access page with the Web Applications Portal feature activated, **check the ''Enable Applications Portal'' checkbox.** You can customize your web access page to your liking, then click on "Save" to publish this new web access page.

*Note: You can change the box and the box border colors only for the Classic themes which can be changed on the Appearance tab.* 

#### Using the Web Applications Portal

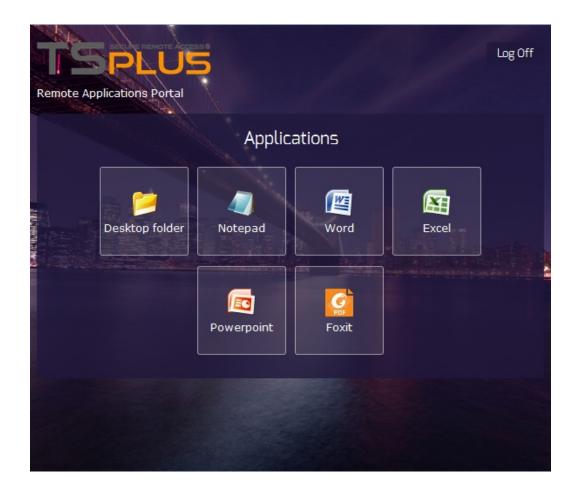
On this example we have published the new web access page with the default name "index".

To access it, open a web browser and go to http://your*server*name/ (in this example we use http://localhost , directly from the server itself).

The first web page displayed is the standard Terminal Service Plus web logon page:

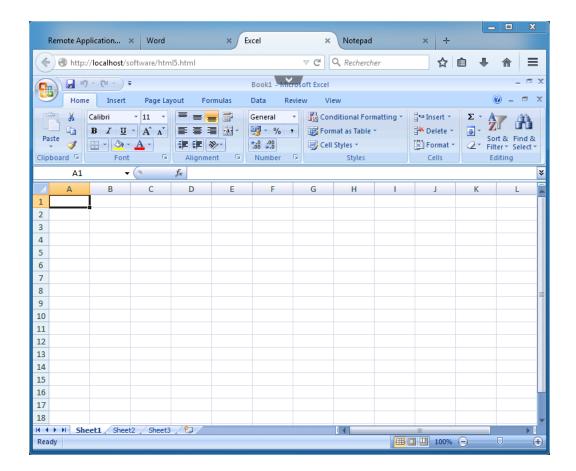
	TSPLUS Log on
	TSPLUS
	John 🗸
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Once logged in, a new web page is displayed, this is the Web Applications Portal:



As you can see, the user gets an icon for every published application that he has access to.

The user can now click on one or more icon, in order to remotely open the matching application in a new tab:



#### Web-Lockout

Since TSplus 11.40 release, brute-force attacks on the Web Portal are now blocked when users enter wrong credentials. After 10 attempts during a period of 15 minutes, the Web Portal will prohibit the user to logon for 30 minutes (customizable on the Advanced - Lockout tab of the AdminTool) :

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O HTML5 RemoteApp	
Too many failed attempts. Please retry later.	
Log on	

These are the default settings which are customizable on the hb.exe.config file located on the TSplus folder: TSplus\Clients\www\cgi-bin\hb.exe.config in the "appSettings" paragraph.

You can check all blocked connections and logs by users on the Lockout feature of TSplus:

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This functionality is visible and active after the first Web Portal connection.

#### Important Notes

- The Web Applications Portal feature is compatible with <u>Farm / Gateway configuration</u> and it also supports <u>load-balancing</u>.
- In a Farm / Gateway configuration, the Applications must be published and assigned on every server of the farm at the moment.
- In terms of Terminal Service Plus licensing, a user can open several applications at the same time without counting for more than 1 user.

# Remote App Plugin

Since the new 8.40 version of TSplus, there is no need anymore for a Java plugin to be installed on the client browser. You can now access the Windows RemoteApp client by downloading and installing a small Windows plugin via the Web Portal. This operation is fast and needed only once per client.

Domain: Log on	
Windows Plugin not found Download Plugin Install this plugin Then click on 'Log-on' again	

You can also install it on the C:\Program Files (x86)\TSplus\Clients\www\RemoteAppClient folder.

When using firefox, this message will be displayed on your first connection. If you choose the 'remember my choices' option, the notification will be disabled upon future connections

La	aunch Application						
This link needs to be opened with an application. Send to:							
Windows Connection Plugin							
	Choose an Application <u>C</u> hoose						
	Remember my choice for remoteann links						
	Remember my choice for remoteapp links. This can be changed in Firefox's preferences.						
	OK Cancel						

*Note*: Since TSplus 12.40, RemoteApp client setup and the <u>The Client Setup Program</u> have been merged and can be deployed with one single setup - so if you download the RemoteApp Client Setup, there will be no need to download the Connection Client one.

# TSplus Web App

TSplus Web App is a Progressive Web App (PWA) that leverages modern browser APIs to deliver a seamless remote access experience without cumbersome software installation or complicated connection clients. Designed to utilize industry standard HTML5 display and communication protocols, The TSplus Web App appears as a native connection solution, no matter what type of device you use.

#### Benefits

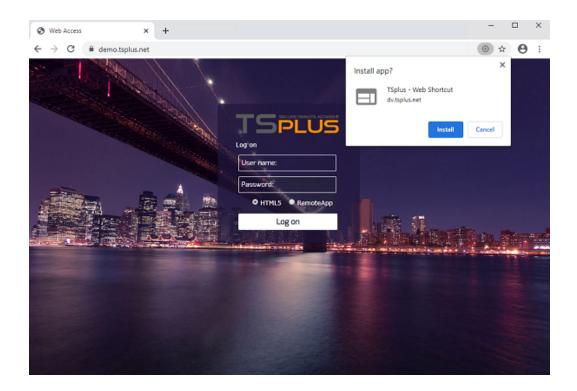
The new TSplus WebApp offers improved performance and value using the following improvements over legacy applications and connection clients:

- Faster load times due to the small software footprint.
- Lower data usage TSplus Web App leverages common browser based traffic management to minimize data usage.
- Seamless user experience from login display to application rendering, the TSplus WebApp offers the user the appearance of native application use.
- No more browser tabs or lost sessions due to too many open browser windows. The TSplus Web App behavior offers the same multitasking options as any other top level application.

#### Installation - PC

Navigate to your corporate TSplus Web Portal using your preferred common web browser (HTTPS configuration required).

Click on the + button located on the right side of the navigation bar. When prompted, click on 'Install'.



The installation only takes a second. It will create an icon on your desktop:

Screenshotn2 or type unknown

And the web app will open immediately upon completion:

TSPLUS John O HTMLS • RemoteApp
Log on
Log on

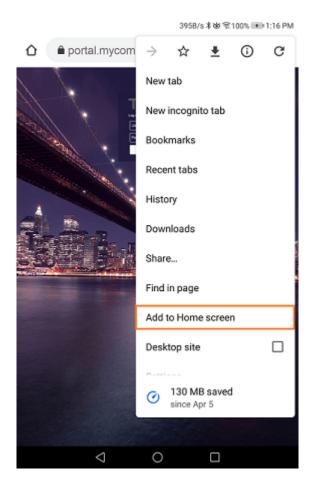
#### Installation - Android Mobile Device

Navigate to your corporate TSplus Web Portal using your preferred common mobile web browser. **HTTPS protocol is required on the TSplus server.** 

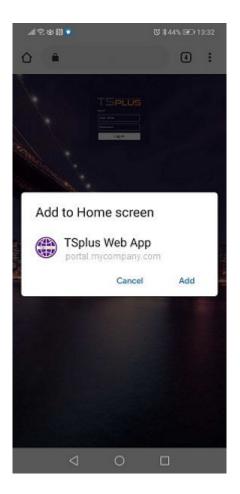
The Web Portal will offer the option to add the TSplus Web App to your home screen, by clicking on the "Add TSplus Web App to Home Screen" message at the bottom of the window:



Or by clicking on the 3 dots menu on the top right of the window and clicking on "Add After accepting the Add to Homescreen option, the user will see the following screen:



Tap on the 'Add' button and the process is complete:

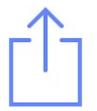


The TSplus Web App will now be accessible directly from the home screen of your mobile device.



#### Installation - Apple iOS Mobiles

The Web App installation process on iOS is similar to the Android process. Just navigate to the TSplus Web Portal using Safari Web Browser. Click on the Share button:



Then click on "Add to Homescreen".

Note: Chrome browser doesn't support the Web App feature on iOS.

#### Management

You can manage the Web App, by going to the TSplus Admin Tool Web - Web Portal section and clicking on TSplus Web App tile:

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The Web App is enabled by default, but you can disable it. It is possible to modify the Shortcut name, background and theme colors as well as the icon of TSplus Web App:

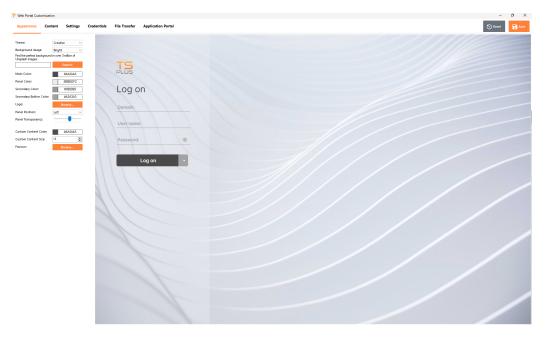
🌐 TSplus Web App Manag	ement	-		×
Web App is enabl	ed - Click to disable			
This functionnality requine from a domain using HTT	res your TSplus web server IPS protocol.	to be a	ccessible	
Shortcut name:	TSplus Web App			
Background color:	#2A3443	9	Select	
Theme color:	#2A3443	9	Select	
lcon (format .png/.svg/.webp >= 144x144 pixels):	\Clients\www\pwa_icon.png	B	rowse	
TSPLUS			Save	

Just click on "Save" to record your modifications.

# Creating and Customizing HTML Web Access pages using the Web Portal Customization

Using the Web Portal Customization, you will be able to create your own customized HTML Web Access pages - and there is *no need to be a web developer*!

#### Web Portal Customization - Appearance



With the Appearance tab, you will be able to customize all the graphic settings, as well as add your own logo.

You have the choice between a collection of photos, or you can add your own. You can also set any color theme with the background color of your choice or you can use one of the classic themes.

You can also type a keyword to search a background image from the Unsplash library:

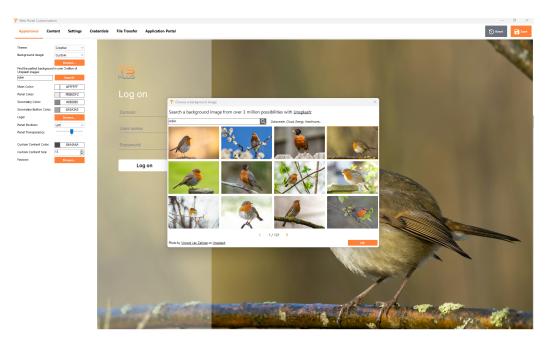
Web Portal Customization		- 0 ×
Appearance Content Settings Credentials	File Transfer Application Portal	🕤 Reset 📑 Save
Theme: Creative ~		
Background Image: Bright ~		
Find the perfect background in over 3 million of Unsplash images:		
obin Search!	TS PLUS	
Main Color: #4A4A4A	PLUS	
Panel Color: #EBEDF2		
Secondary Color: #999999 Secondary Button Color: #A3A3A3	Log on	
Logo: Browse		
Panel Position: Left ~	Domain:	
Panel Transparancy:		
	User name:	
Custom Content Color: #4A4A4A Custom Content Size: 13	Password: ©	
Favicon: Browse	Password:	
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I will display a collection of images to choose from.

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Select your favorite picture to see the result on your web portal:



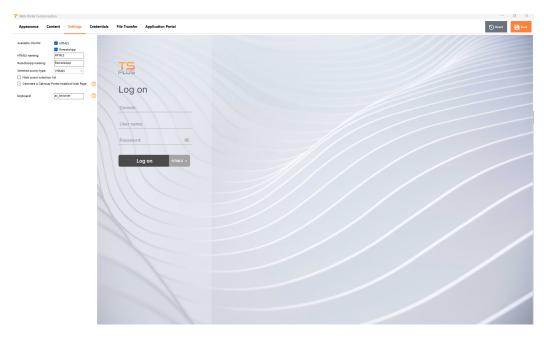


The theme colors will automatically adapt to the picture chosen once you validate your choice with the "Ok" button. Of course, you can still personalize the colors as you want.

#### Web Portal Customization - Content

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#### Web Portal Customization - Settings



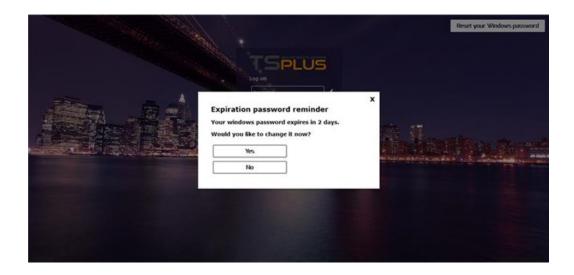
- "Available Clients": Choose between 2 types of web connection clients. If both are checked, the user will have the choice. You can change the name used for these options in your Web Portal. You can also choose which option is selected by default if both options are available.
- "Gateway Portal": Check it to activate a Gateway Portal enabled page. This feature adds an extra authentication step when you assign a server to a user or group.
- "Keyboard": Only for advanced administrators who have special keyboard requirements.

#### Web Portal Customization - Credentials

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Label: Passw Default value:	ard:	TS PLUS						
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2-step verification	verification	User name	e:					
Domain Show the Domain Labet: Default value:	n	Password	: Log on					
Recenter (ast login								

- "Label": You can change the text used to designate the user name, password, ...
- "**Default Values**": You can specify a default login, password and domain that will auto-populate the login fields. All of the settings present here are saved in the index.html file, which can be copied and renamed to your preference.
- "Show the Domain Field": When checked, the Domain field is included in the login information request.

• "**Password**": You can add an alert message showing during the connection through the web portal, to inform the user about his password expiring date. For example, the following pop-up will show if the user's windows password expires in less than 3 days:



As mentioned it gives him the possibility to change it directly from the Web Portal using the pop-up displayed just below:



You can also directly make the user able to change his windows at any time, by checking the option "Display windows password reset button".



#### Web Portal Customization - File Transfer

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• "Upload - Download": choose source and destination paths for file uploads and downloads.

#### Web Portal Customization - Application Panel



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More information on the Application Portal can be found here.

#### Saving typed values and Resetting to default ones

Don't forget to click on the "Save" button to save all your modifications.

If you want to reset these values to original values, click on the "Reset" button.

#### Web Credentials

The "Web Credentials" section allows you to enable (or disable) the Web Credentials feature.

When using Web Credentials, you might want to allow empty passwords. If you only have Web Credentials with empty passwords, we recommend that you uncheck the "Show Password Field" option, in order to simplify even more the web login page.

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#### Remote App tile

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	Web Portal		
	Web Portal Customization	RemoteApp Client	
<b>©</b> web	TSplus Web App	HTML5 Client	
FARM	G Web Credentials	R HTML5 Top Menu	
SESSIONS			
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This tile is for Windows clients specific settings.

You can choose your display between RemoteApp (remote connection without the remote desktop) or Standard RDP. You can also decide if you want documents to be printed on the user default printer, display a local preview or the local printer choice.

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	Display Connection Mode: RemoteApp V	
	Pixel Depth: 32 bits ~	
S WEB	Web Printing Preferences       Web Printer:     Display local preview     ✓	
FARM	Web printer will be used for all web connections using RemoteApp client. Web printer will not be used for HTML5 connections.	
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#### HTML5 client tile

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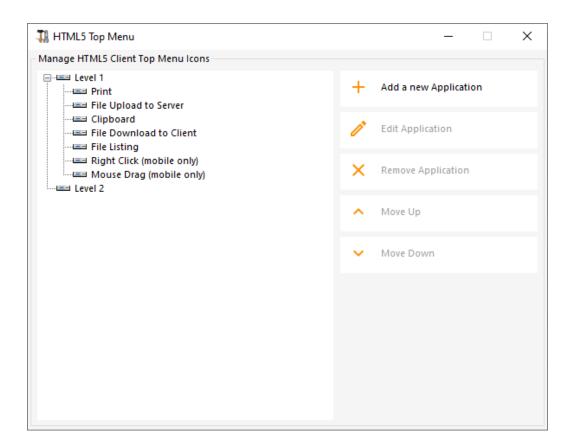
On this tile, you can edit the parameters for the HTML5 client web display. More information on this page.

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∩́ номе 1	☆ > Web > HTML5 Client		_					
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	Default Colors:	16 bits		Enable File Transfer	🗹 Play	Sounds		
S WEB	Appearance Background Color:	#FF8000		Logon GIF:		Browse		
FARM	Background Logo:	Browse		Display Time:		5000 ms		
	Logon Screen Message:	1						
SYSTEM TOOLS	Smartphone and tablets	nrafaransas						
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ADVANCED		Small pointer		🕑 Use Software Keyb	oard			
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#### HTML5 Top Menu Tile

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₩ номе 🔐	Web		
	Web Portal		
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S web	TSplus Web App	HTML5 Client	
FARM	😌 Web Credentials	8 HTML5 Top Menu	
SESSIONS	+ittps		
SYSTEM TOOLS	Web Server		
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This tile enables you to choose the applications to display on level 1 or 2 on the Top Menu of your generated remote web session. You can also edit these applications in order for them to appear on a specific client type : pc, mobile, ios... on or all of them.



#### Generating the HTML Web Access page

We advise you to try a "Preview" before generating a new HTML Web Access page.

Once you are pleased by the preview, then you can click on the "Publish" button to generate and publish the page to your web server's root folder.

You will be asked for a page name. If you want to overwrite your default page, use "index". In this case, the newly published web page will be accessible at: http://your-server.com/index.html

# Web Credentials

#### Overview

Terminal Service Plus Web Credentials is a state-of-the-art unique feature, which allows users to connect with just an e-mail address or a pin-code.

With Web Credentials, you can secure your server's access with the e-mail address of a user, or with a simple pin-code generated by your business application. One of the great benefits of this feature is that these credentials (e-mail or pin-code) are pure web credentials : the user will not know the Windows user account he is currently using, and he does not need to know a real Windows login/password to connect to his application!

With Web Credentials, you will be able to define custom pure web credentials and match them to any existing Windows / Active Directory user account. The user will then be able to connect using these custom credentials, instead of the Windows / Active Directory ones.

#### Managing your Web Credentials

In the Admin Tool, open the "Web" tab and click on the "Web Credentials" tile.

TSplus - Administration Console - 17.10	0			- 0	×
	ACCESS		🕞 Assist Me	Nite English	Mode •
ம் номе ம் >	Web				
	Web Portal				
	Web Portal Customization		RemoteApp Client		
S WEB	TSplus Web App		HTML5 Client		
FARM	😌 Web Credentials	8	HTML5 Top Menu		
	нттру				
SYSTEM TOOLS	Web Server				
ស៊្វា ADVANCED	-				
었 ADD-ONS	• Lockout				
ତଳ LICENSE					

The Web Credentials Manager will open and display this window:

🐺 Web Credentials			– 🗆 X
Manage Web Users and Match the	em to Windows / Active Directory Use	rs	
Web Login	Windows Login	<u></u> 2+	Add a new Web Credential
		2	Edit Web Credential
		2-	Remove Web Credential
Web Access Page			
Enable Web Credentials			
Allow empty Password			
Show the Password field Mask Username field		Preview	Save

You can now create a new Web Credential by matching a custom login and (optional) password with an existing Windows / Active Directory user account, as shown below:

🙎 Add a new Web C	redential X
Web Login:	Edgar
Web Password: (optional)	
	will match:
Windows Login:	Edgar
Windows Password:	•••••
Maximum number of c	oncurrent session: 3
	Save Cancel

Since TSplus 9.50 version, you can also decide the maximum number of concurrent sessions for a user.

You can also edit and remove an existing Web Credential, thus changing or disabling any custom credentials you configured.

Alternatively, you can create web credentials via a command line:

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- On the Windows Start Menu, on the execute field, type in: 'cmd.exe' (or in Programs/Acc

192

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- Then, in order to go to the right folder, type: cd "C:\Program Files (x86)\TSplus\UserI

validate

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- To add a new Web Credential, type: AdminTool.exe /webcredentials-add your\_web\_login you

195

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- To add a blank credential, type two double quotes: "" to indicate a blank text.

#### TS REMOTEACCESS

© TSplus - www.tsplus.net 197 - To delete a web credential, type: AdminTool.exe /webcredentials-remove your\_web\_login

#### Important Notes

Please note the following limitations:

- '[', ']' and '°' characters are not supported on the password fields.
- In a Farm / Gateway configuration, Web Credentials only support the <u>load-balancing mode</u> (it does not work with server-assigned mode).
- In a Farm / Gateway configuration with load-balancing mode, the Web Credentials must be defined on every server of the farm at the moment.
- 2FA is not compatible with the Web Credentials feature.

# How to use IIS rather than Terminal Service Plus default Web servers

#### Pre-requisites

It can be a good idea to Update Terminal Service Plus to be sure that you get the latest TSplus programs.

#### 1) IIS configuration

• Install IIS with the following modules : CGI, ISAPI Extensions and ISAPI Filters.

🛃 Windows Features	<u> </u>
Turn Windows features on or off	0
To turn a feature on, select its check box. To turn a feature its check box. A filled box means that only part of feature is turned on.	
Application Development Features	
.NET Extensibility	
ASP.NET	
CGI	
ISAPI Filters	
<ul> <li>Server-Side Includes</li> <li>Common HTTP Features</li> </ul>	-
ОК С	Cancel

• Configuring the IIS Port:

Access the IIS management console, expand the list below your server name, then Expand the "Sites" menu and right click on "Default Web Site" and click on "Edit Bindings":

8	h	nternet Informat	tion Services (	(IIS) Manager		
€ WIN-UR	FCTRSQGDF + Sites + Default we	bsite 🕨				
File View Help						
Connections		Dofa	ult website	Homo		
🔍 - 🔚   🖄   🔗			ant website	HUITE		
Start Page ▲ · · · · · · · · · · · · · · · · · · ·	VIN-URFCTRSQGDF\Administrator)	Filter:	- 7	Go 👒 🙀 Show Al	I Group by:	÷
Application Pools		ASP.NET				^ ^
⊿ Sites ▶  Befault website		: <u>o</u>		404	۲	
	Di Explore	.NET	.NET	.NET Error Pages	.NET	
	Edit Permissions	ithorizati	Compilation		Globalization	
	Add Application			<b>A</b>		=
ł	Add Virtual Directory	IET Profile	.NET Roles	.NET Trust	.NET Users	
	Edit Bindings			Levels		
	Manage Website	• 🏂	ab	7		
	🚱 Refresh	pplication	Connection	Machine Key	Pages and Controls	
	× Remove	Settings	Strings		Controls	
1	Install Application From Gallery		<b>\$</b>			
	Rename	Providers	Session State	SMTP E-mail		
	B C 31 L C L L LLC					

Click on "http" and "Edit". Change the port to 81 and click Ok, and then click Close:

		ite Bindings	
Host Name	Port IP Address	Binding Informa	Add
	80 *		
	Edit Site Bindir	ng ? x	Edit
IP address	5:	Port:	Remove
<ul> <li>All Unass</li> </ul>	signed	✓ 81	Browse
ww.contoso.com or r	narketing.contoso.cor	m	

Disable the 443 port or change this port for another free port.

Then, restart the IIS Manager.

#### 2) Create virtual directory for CGI

NB: All files from the default web root (C:\Program Files (x86)\TSplus\Clients\www) are not copied when the web root directory is modified.

You will need to check and copy them manually when migrating to the IIS web server.

In the left panel menu, expand the menu under your server, then "Sites," and right-click on your site to add a new "virtual directory", as shown in the image below:

Connections	
🔍 - 🔚   🖄   🕵	
Start Page WIN-URFCTRSQGDF (WIN- Application Pools Sites	-URFCTRSQGDF\Administrator)
Default websit	Explore
	Edit Permissions
1	Add Application
2	Add Virtual Directory
	Edit Bindings
	Manage Website
<b>4</b> 2	Refresh
×	Remove
8	Install Application From Gallery
	Rename
	Switch to Content View

On the window that will open fill in as follows:

Alias: cgi-bin

**Physical path:** "C:\Program Files(x86)\TSplus\Clients\www\cgi-bin"

	Add Virtual Directory ? X
Site name: Path:	Default website /
Alias:	
cgi-bin	
Example: imag	jes
C:\Program Fi	les (x86)\TSplus\Clients\www\cgi-bin
Pass-through	authentication . Test Settings
	OK Cancel

Then click "OK" and you will see that the "cgi-bin" virtual directory has been added to your IIS Web site. Now, rightclick this "cgi-bin" virtual directory and click on "Convert to Application". Click "OK" and accept the default settings.

Connections	
🔍 - 🔚   🖄   🤧	cg cg
Start Page Start Page WIN-URFCTRSQGDF (W Application Pools Sites Sites Construction Pools Construction Pools Construct	IN-URFCTRSQGI
⊳ 寣 cgi-bin	Explore Edit Permissions
1	Convert to Application
	Add Application Add Virtual Directory
() () ()	Manage Virtual Directory Refresh Remove
<b>a</b>	Switch to Content View

		Add Application	? X
Site name: I Path: /	Default website		
Alias:		App <u>l</u> ication pool:	
cgi-bin		Default website	Select
<u>P</u> hysical path: C:\Program File Pass-through a <u>C</u> onnect as E <u>n</u> able Prelo	Test Setting		
		ОК	Cancel

Then select the "Handler Mappings" icon for this folder on the right side of the Manager window:

<b>8</b>	Internet Information Services (IIS) Manager	_ 🗆 X
	ites → Default website → cgi-bin →	🏧 🛛 🟠 🔞 🗸
<u>F</u> ile <u>V</u> iew <u>H</u> elp		
Connections Connections Start Page Construction Pools Construction Pool Construction Pool	cgi-bin Home         Filter:          •          •          •	Actions         Open Feature         Explore         Edit Permissions         Basic Settings         Manage Virtual Directory         Browse Virtual Directory         Image Virtual Directory         Image Virtual Directory         Advanced Settings         Image Virtual Direct
Keady	Features View Content View	•=:

From the list of Handler Mappings, double click on "CGI-exe". Then, search the hb.exe executable from the Executable property box and click OK.

Ado	d Module Mapping	? X
Request path:		
*.exe		
Example: *.bas, wsvc.axd		
Module:		
CgiModule		~
Executable (optional):		
"C:\Program Files (x86)\TSplus	\Clients\www\cgi-bin\hb.exe"	
Name:		
CGI		
Request Restrictions		
	ОК	Cancel

A prompt for confirmation appears. Click "OK" to allow this ISAPI extension.

_	А	dd Module Map	ping	X
0	Do you want to allow extension with an "Al or to update an existi CGI Restrictions list.	lowed" entry to the	ISAPI and CGI Res	strictions list
		Yes	No	Cancel

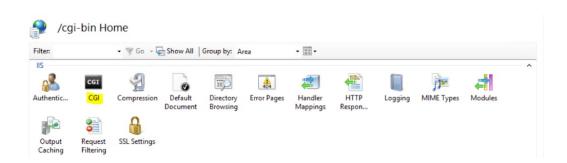
Now click on "Edit Feature Permissions":

Name 🔺		Path	State	Path Type	Handler	Entry Type
Disabled						
CGI-exe		*	Disabled	File	CgiModule	Local
ISAPI-dl		Add Managed Handler	Disabled	File	IsapiModule	Local
Enabled		Add Script Map				
Enabled		Add Wildcard Script Map		Unspecified	ProtocolSupportModule	Local
OPTIONSVerbHand	Hod Hoddie Happingth	Enabled				
TRACEVerbHandler		Edit	Enabled	Unspecified	ProtocolSupportModule	Local
StaticFile		Rename	Enabled	File or Folder	StaticFileModule,DefaultDocume	Local
	^	Remove				
	-	Edit Feature Permissions				
		Revert To Parent				
		View Ordered List				
	0	Help				
		Online Help				

Check the "Execute" checkbox and click OK:

Edit Feature Permissions	? ×
Permissions:	
Read	
Script	
Execute	
ОК	Cancel

Back to the "CGI-bin" Home, click on "CGI" to open the CGI properties:



Change the value of "Use New Console For Each Invocation" to "True". Then, click "Apply" to save the changes.

P CGI		Actions
Display: Friendly Names		Ex Cancel
4 Behavior		😢 Help
Time-out (hh:mm:ss)	00:15:00	
Use New Console For Each Invocation	True	▼
4 Security		
Impersonate User	True	

#### 3) Configure CGI extension permission

Now, the last step is to allow the CGI extension to run on the server. Click on the "ISAPI and CGI Restrictions" icon. This can be found by clicking on the machine name in the menu on the left side of the window.



On the "ISAPI and CGI Restrictions" page, click "Add ..." on the right side of the window. Now specify the full path to the "hb.exe" file hosted in the TSplus folder. Be sure to check the "Allow extension path to execute" option, as Illustrate the following images:

III III	specify the ISAPI and	<b>trictions</b> CGI extensions that can run on the Web :	serv
Group by: No Gr	ouping -		
Description 🔺	Restriction	Path	
		Add Edit Feature Settings	
		Help     Online Help	

Add ISAPI or CGI Restriction ? X
ISAPI or CGI path: C:\Program Files (x86)\TSplus\Clients\www\cgi-bin\hb.exe
Description:
Allow extension path to execute
OK Cancel

se this feature to	specify the ISAPI a	and CGI extensions that can run on the Web server.
Group by: No Gr	ouping 🔹	
Description	Restriction	Path
Active Server P	Allowed	%windir%\system32\inetsrv\asp.dll
ASP.NET v2.0.5	Allowed	%windir%\Microsoft.NET\Framework64\v2.0.50727\aspnet_isapi.dll
ASP.NET v2.0.5	Allowed	%windir%\Microsoft.NET\Framework\v2.0.50727\aspnet_isapi.dll
ASP.NET v4.0.3	Allowed	%windir%\Microsoft.NET\Framework\v4.0.30319\aspnet_isapi.dll
ASP.NET v4.0.3	Allowed	%windir%\Microsoft.NET\Framework64\v4.0.30319\aspnet_isapi.dll
CGI	Allowed	C:\Program Files (x86)\TSplus\Clients\www\cgi-bin\hb.exe

Make sure that in CGI section of your server, "Default Web Site" and "cgi-bin" the setting "Impersonate User" is set to "True".

<b>B</b>	Internet Information Services (IIS) Manager	_ 🗆 X
WIN-N2UEFVD2SBH	I → Sites → Default Web Site → cgi-bin →	😐 🖂 🟠 🕡 •
File View Help		
Connections		Apply Cancel Help
Configuration: 'localhost' applicationHost.	.config, <location path="Default Web Site/cgi-bin"></location>	¶.:

Give full permission to user "IUSR" in the directory "C:\Program Files (x86)\TSplus\Clients\www\cgi-bin" Give full permission to user "IUSR" in the directory "C:\Program Files (x86)\TSplus\Clients\webserver\twofa"

#### 4) Add Mime types in IIS

Open a command prompt as an administrator and run the following commands:

```
%SystemRoot%\system32\inetsrv\appcmd set config /section:staticContent
/+[fileExtension='.dat',mimeType='text/plain']
```

%SystemRoot%\system32\inetsrv\appcmd set config /section:staticContent /+[fileExtension='.',mimeType='text/plain']

Restart IIS.

#### 5) Configure IIS Directory Permissions

Give full permission to the group "Everyone" in the directory "C:\inetpub\wwwroot"

#### 6) Configure TSplus

Go to the Web Server tab of the AdminTool, then choose the "Use a Different HTTP server" option:

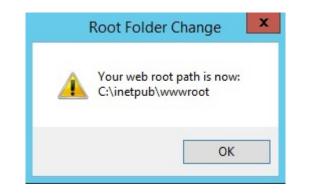
1 tsplus - Administration Console			- 🗆	×
	EACCESS	Help	Ҳ Lite Mo English	ode •
	Default HTTP web server A built-in HTTP Web Server is provided with tsplus However, you can use a different one IIIS or Apache for example). (a) Use the built-in HTTP web server Use a different HTTP web server When using IIS or Apache, its HTTP port number must be set to 81.			
S WEB	(Tunneling forwards this 81 port into the public HTTP port 80)			
FARM	Change the Web Server root path You can change the Web Server default root path. The current Web Server root path is: C:\Program Files (x86)\tsplus\Clients\www	Select a new Web Server root path		
SYSTEM TOOLS	Web servers options			
☆ add-ons	Change the HITP/HTIPS port numbers Will not change IIS or Apache port settings HTPP: 80 *			
		<b>Save and Restart Web Server</b>		

Then, in the same window, click on "Select a new Web Server root path", and put the path of the IIS directory, which should be something like: "C: \ inetpub \ wwwroot". Now click on "Save and Restart the AdminTool".

🛺 tsplus - Administration Console			- 🗆	×
	ACCESS	() Help	< Lite M English	lode •
	Default HTTP web server A built-in HTTP Web Server is provided with tsplus However, you can use a different one (IIS or Apache for example).			
	Use a different HTP web server     Use a different HTP web server     When using IIS or Apache, its HTTP port number must be set to 81.     (runneling orwards this 81 port into the public HTTP port 80)			
S WEB	(runneling rowards this or port into the public HTP port of			
FARM	Change the Web Server root path You can change the Web Server default root path. The current Web Server root path is:			
SESSIONS	C:\Program Files (x86)\tsplus\Clients\www	Select a new Web Server root path		
SYSTEM TOOLS				
C ADVANCED	Web servers options Change the HTTP/HTTPS port numbers			
Հ주 ADD-ONS	Will not change IIS or Apache port settings HTTP: 80			
ତିନ୍ଦୁ LICENSE	HTTPS: 443			
		Save and Restart Web Server		

The following messages will appear:

disabling	Built-in HTTP	×
	The built-in HTTP will not start anymore. Make sure that one other HTTP web server is active on port 81	
	ОК	



Wait. The Admintool will be closed automatically. Then open the Admintool again and click on the Web tile. Finally, restart the web servers:

Remote Access Management Console	
Ţ.	$\bigcirc$
Computer name: DESKTOP-SCVIIVH	http://localhost
Public IP 78.	The built-in HTTP server is listening on port 80
Connections: 1 Q	The HITPS server is listening on port 443
System Audit - No issues found on 1	
🧭 Version 💷 💶 - You are using the latest version	
License Activated - Enterprise edition - 25 users	
End of support date:	
English •	🤭 Help
	Computer name: DESKTOP-SCVIUH   Private IP: 192.168.1.22   Public IP: 78.   DP port: 329   Connections: 1   O System Audit - No issues found on   Image: Private

#### 7) Test with local host

Warning: Use a different user account.

If you try with your current user account from your own RDP session to the server, then you will be disconnected and not be able to reconnect.

		Þ
TSPLUS		
John	_ ] • ]	
HTML5      RemoteApp Log on		

#### Additional actions:

#### Configure RemoteApp

The "remoteapp" folder in the IIS web root (c:\inetpub\www\cgi-bin\remoteapp) must also have full permissions to the IUSR user, otherwise a 704 error will appear when attempting to use RemoteApp.

#### **Configure 2FA**

On a fresh install where 2FA has never been enabled, there is no folder named C:\Program Files (x86)\TSplus\Clients\webserver\twofa, or the twofactorauth.ini file.

It's necessary : - activate 2FA in AdminTool to create this folder and this .ini file - then deactivate 2FA - then apply IUSR user permissions to the newly created twofa folder.

Failure to complete this step (even if you don't intend to use 2FA) will prevent users from logging in with an error message stating that the credentials are invalid.

# How to use Apache rather than Terminal Service Plus default Web server

#### Pre-requisites

It can be a good idea to Update Terminal Service Plus to be sure that you get the latest TSplus programs.

#### 1) Start AdminTool and go to the Web Server Tab

Click On the Manage Web Servers tile, check Use a different HTTP web server because you want to use Apache.

tsplus - Administration Console			- 🗆	×
	ACCESS	🧿 Неір	Ҳ Lite M English	lode •
	Default HTTP web server A built-in HTTP Web Server is provided with tsplus However, you can use a different one (IIS or Apache for example).			
	<ul> <li>Use a different HTTP web server</li> <li>When using IIS or Apache, its HTTP port number must be set to 81. (Tunneling forwards this 81 port into the public HTTP port 80)</li> </ul>			
S WEB	Change the Web Server root path You can change the Web Server default root path. The current Web Server root path is:			
	C\Program Files (x86)\tsplus\Clients\www	Select a new Web Server root path		
	Web servers options Change the HTTP/HTTPS port numbers			
값 add-ons	Will not change list or Annex port values HTTP: 80 + HTTPS: 443 +			
		Save and Restart Web Server		

Then, use the button **Select a new Web Server root path** to tell TSplus where will be the new web folder root. TSplus will copy the requested files/folders into this new root folder and, at this point, the TSplus setting for Apache is near completion. A pop-up will recommend you to change Apache HTTP port to 81:

disabling	Built-in HTTP	×
	The built-in HTTP will not start anymore. Make sure that one other HTTP web server is active on port 81	
	ОК	

It's now time to set up Apache.

#### 2) Setting up Apache

Change the HTTP from 80 to 81.

The specific way of doing this depends on your Apache version and your current Apache settings.

We advise you to backup any Apache settings file before modifying them, so you will have a way to restore them if needed.

Usually you can change Apache listening port by editing the file httpd.conf found in "Apache\conf" directory:

Listen 81

Once it is done, restart the Apache service.

#### 3) Going back to TSplus Web Servers Management tool

You can set the HTTP and HTTPS ports in TSplus Web Management tool. We recommend using standard ports, but this feature can be handy when trying to avoid a conflict with an other process.

Web servers options	
Change the HTTP/HTTPS port numbers Will not change IIS or Apache port setting	s
HTTP: 80	
HTTPS: 443	

#### 4) Last steps

For the Universal Printer, we need to be able to write in the PRINTS folder.

So, verify that Everyone/Users... have full rights on .../prints folder.

Organize 🔻 🔚 Open Includ	de in library 👻 Share with 👻 New folder				• 🗊	6
	Name	Date modified	Туре	Size		
Favorites Desktop	De durante de la companya	6/24/2015 4:05 PM	File folder			
Downloads	🕌 Backupparam		File folder			
Recent Places	Boot	4/20/2015 12:45 PM				
E Recent Places	brook and Settings	7/14/2009 6:53 AM	File folder			
	MSOCache	1/29/2015 3:01 PM	File folder			
Libraries Documents	JefLogs	7/14/2009 4:37 AM	File folder			
	b prints	1/30/2015 11:50 AM	File folder			
J Music	Program Files	9/10/2015 5:03 PM	File folder			
Pictures	ProgramData	9/10/2015 5:03 PM	File folder			
Videos	a Recovery	2/24/2011 7:00 PM	File folder			
	Shared Folder	6/5/2015 5:28 PM	File folder			
Computer	software	7/10/2015 4:03 PM	File folder			
🚮 Local Disk (C:)	templates	7/10/2015 3:55 PM	File folder			
	imp 🕌 tmp	9/10/2015 5:03 PM	File folder			
📮 Network	impsetup 🕌	6/23/2015 5:12 PM	File folder			
	i Users	6/12/2015 3:11 PM	File folder			
	🎍 var	1/30/2015 11:50 AM	File folder			
	Windows	6/25/2015 11:54 AM	File folder			
	퉬 wsession	9/10/2015 5:03 PM	File folder			
	🚳 grldr	2/24/2011 7:02 PM	System file	200 KB		
	index html     Shared Shared with: Remote Desk	7/10/2015 4·03 PM	Firefox HTML Doc	14 KR		

🚶 prints Propertie	s			×				
General Sharing	Security	Previous Versions	Customize					
Object name: C:\prints								
Group or user nam	Group or user names:							
Système &				*				
& Administrator	-							
Users (admin			B 1. 11	-				
X Remote Deel	rton Heare	(admin_PC\ Remote	Deekton Hee	•				
To change permis	To change permissions, click Edit. Edit							
Permissions for Us	ers	Allow	Deny					
Full control		~		<u> </u>				
Modify		~						
Read & execute	e	$\checkmark$		=				
List folder conte	ents	$\checkmark$						
Read		$\checkmark$						
Write		~		Ŧ				
For special permissions or advanced settings, Advanced								
Learn about access control and permissions								
	0	K Cance		pply				

Then select the .html file you wish to use as a Web Access page in:

C:\Program Files (x86)\TSplus\Clients\www

and copy it as index.html in your web root folder, typically this is the "Apache\htdocs" directory.

# 5) Specific Settings for TSplus Gateway Portal, Load Balancing and/or HTML5 file transfer

If you want to use this Apache based system as a TSplus Gateway Portal and/or use TSplus Gateway Portal Load Balancing feature and/or use HTML5 file transfer feature, you will need to allow the execution of TSplus GCI scripts by Apache.

First, you must have the CGI module enabled in Apache.

Edit the file httpd.conf found in "Apache\conf" directory, and search for a line looking like:

;LoadModule cgi\_module modules/mod\_cgi.so

Remove the ";" to enable the CGI module:

LoadModule cgi\_module modules/mod\_cgi.so

Then, find a line starting by:

AddHandler cgi-script

And add the .exe extension to authorize .exe files to be handled as CGI programs by Apache:

AddHandler cgi-script .exe

Finally, you must tell Apache that the TSplus "cgi-bin" folder contains CGI programs. To do so, you must add the following line in the file httpd.conf found in "Apache\conf" directory:

ScriptAlias /cgi-bin/ "C:/Program Files (x86)/TSplus/Clients/www/cgi-bin/"

Once it is done, restart the Apache service.

#### If you face any issue setting up CGI on your Apache server, please refer to the Official Apache documentation

*Checking your settings:* To validate your settings, please open a web browser on your server and go to <a href="http://localhost/cgi-bin/hb.exe">http://localhost/cgi-bin/hb.exe</a>. If you get an Apache error page, you have an issue in your Apache configuration. If you get a line of text/numbers, everything is fine!

## **Two-factor Authentication**

#### Table of contents

- <u>Overview</u>
- <u>Requirements</u>
- <u>Activate your license</u>
- Enable two-factor authentication
- Add users and groups
- Edit users
- <u>Remove users and groups</u>
- Reset configuration for users
- Enroll User for two-factor authentication
- Receive codes with an authenticator app
- Configure SMS to receive authentication codes
- Login using two-factor authentication
- Time synchronization
- Settings

#### Overview

Two-factor authentication adds an extra layer of security and **prevents access to your users' session even if someone knows their password**.

A combination of two different factors is used to achieve a greater level of security:

- 1) something they know, a password.
- 2) something they have, a device such as a smartphone with an authentication app installed.

You can use one of the following authenticator apps to proceed. These apps are available across a wide range of platforms:

- Authy
- Google Authenticator
- Microsoft Authenticator

Each time a user sign in to its remote session it will need its password and a verification code available from its mobile phone. Once configured, the authenticator app will display a verification code to allow him or her to log in any time. It works even if its device is offline.

OR you can decide to receive verification codes by SMS. In this case, you will have to create a free account on Twilio.

The 2FA codes generated are TOTP (time-based one time password), and therefore are for single use.

Therefore, it is not possible to reuse a 2FA code that has already been used. This prevents the theft and then the use of a 2FA code by observing the user while he enters his code.

#### Requirements

Two-factor authentication requires TSplus Remote Access Mobile Web or Enterprise Editions.

Two-factor authentication is supported by:

- TSplus Remote Access Web portal, for both HTML5 and Remoteapp connections
- TSplus Connection Client, for clients generated since version 15.30.3.15, with 2FA support explicitly enabled. See Portable Client Generator Support for Two-factor Authentication
- 2FA is related to Windows Users and not Web credentials

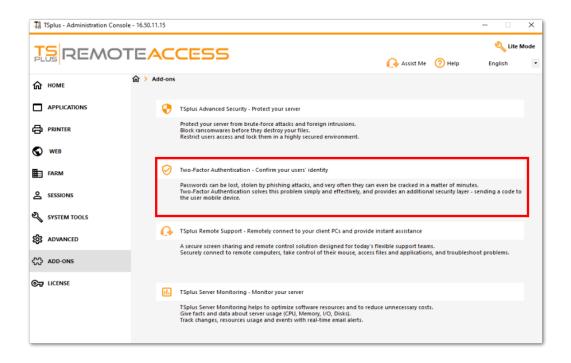
This authentication mode does not support login through standard Microsoft Remote Desktop client (mstsc.exe).

### In order to provide an even safer solution, RDP connections are denied for 2FA enabled users.

As a prerequisite, TSplus server and Devices must be on time. See the <u>Time Synchronization</u> and <u>Settings</u> sections for more configuration information.

# Activating Two-factor Authentication Add-On License

The Two-Factor Authentication feature can be found on the Add-On tab of the AdminTool:



# Enable Two-factor Authentication

Perform the following steps to enable two-factor authentication for your TSplus server or deployment. If your TSplus deployment is configured to use multiple servers, perform this task on the TSplus server exposed as the single point of entry for users or having the reverse proxy role.

1) Open the two-factor authentication administration application. The two-factor authentication status and the license status are displayed:

🤣 Two-factor Authentication Adm	inistration - 16.50.11.15	-		×
$\overline{\mathbf{O}}$	Two-factor Authentication Administration			
	O Disable two-factor authentication on this server.			
	Enable 2FA for the TSplus gateway and stand-alone application servers.			
	Enable 2FA for TSplus application servers only			
3 MANAGE 2FA REQUESTS				
ស្ត្រី settings				
	Permanent license activated.			
	Control of Support date: 2026-11-21			
		(?) He	Ip	

By default, 2FA is enabled for the TSplus gateway and stand-alone application servers.

You can enable it for TSplus application servers only, by entering the authentication server URL:

Two-factor Authenticatio	n Administration - 16.50.11.15	- 0
	Two-factor Authentication Administration	×
д номе	Authentication Server URL: [rest]dns.net	save
MANAGE USER		Jave
	Enter the URL of the logon Web page without the page name (e.g. https://app.mycompany.com), a network nam address.	ne or an IP
	Enable 2FA for TSplus application servers only	
MANAGE 2FA REQUEST	s.	
SETTINGS		
	Permanent license activated.	
	End of support date: 2026-11-21	
		Help

Or disable it:

0	🤣 Two-factor Authentication Administration - 16.50.11.15 — 🗌 🗆						
	$\overline{\mathbf{O}}$	Two-factor Authentication Administration					
ŵ	HOME						
8	MANAGE USERS	Disable two-factor authentication on this server.					
Ē	CONFIGURE SMS	O Enable 2FA for the TSplus gateway and stand-alone application servers.					
	CONFIGURE E-MAIL	Enable 2FA for TSplus application servers only					
5	MANAGE 2FA REQUESTS						
墩	SETTINGS						
©7	LICENSE						
		Permanent license activated.					
		C End of support date: 2026-11-21					
			🕐 He	lp			

# Add Users and Groups

Once two-factor authentication is enabled, you can configure users for two-factor authentication.

1) From the two-factor authentication administration application, click on the Manage Users tab.

2) Then, click on Add to select users and/or groups of users. The Select Users or Groups box opens.

0	Two-factor Authentication Admi	nistration - 16.50.11.	15				– 🗆 🗙
	$\bigotimes$	Two-factor A	Authentication Ad	ministratio	n		
ŵ	HOME	+ Add User	+ Add Group	🧷 Edit	🖄 Reset	imes Remove	
ది	MANAGE USERS	Domain Name		Activated	Receive Code By	Phone Number	Email
Ē	CONFIGURE SMS						
	CONFIGURE E-MAIL		2 Configure 2FA for a us	Pr	- 0	×	
5	MANAGE 2FA REQUESTS		-				
鐐	SETTINGS		Find in local use		-		
©7	LICENSE		Username	Sélectionnez un u			×
-			Enter a username (for exam	Sélectionnez le typ un utilisateur	e de cet objet :		Types d'objets
				À partir de cet emp	lacement :		Types a object
				DESKTOP-VHE80	011		Emplacements
				Entrez le nom de l'é	objet à sélectionner ( <u>exemp</u>	<u>es)</u> :	
				DESKTOP-VHE80	C1I\test		Vénfier les noms
				Avancé		(	DK Annuler
			L				-12
		۲.					>

3) Add as many users and groups as required and then click *OK*. The users and groups are added to the list and enabled for two-factor authentication.

### Here are commands to add users/groups

3 types of possible arguments:

#### just the domainName

*TwoFactor.Admin.exe /addusers domainName1* - adds the user with the default values (reception method = app, email and telephone fields not entered)

#### the domainName and the reception method

*TwoFactor.Admin.exe /addusers domainName1;SMS* - adds the user with the desired receive method, but does not attempt to activate it

#### the domainName, the reception method, the Phone field (even if empty), the Email field (even if empty)

TwoFactor.Admin.exe /addusers domainName1;SMS;+33606060606060606;username1@truc.net domainName2;Email;; username2@truc.net domainName3;SMS;+33606060607; domainName4

• Same behavior as in the HMI, when we add a user, then edit it with correct information: we try to activate the user

As shown in the last example, several users can be indicated (separated by a space). The different fields of a user are separated by a semicolon

For single groups: TwoFactor.Admin.exe /addgroups group1 group2 group3

### Edit Users

On the same tile, you can edit the way users receive verification codes by selecting a user and clicking on the "Edit" button:

🛛 Two-factor Authentication Adr	ninistration - 16.50.11.15	– 🗆 X
$\overline{\mathbf{O}}$	Two-factor Authentication Administration	
<b>Ф</b> номе	+ Add User + Add Group 🧪 Edit 🖒 Reset 🗙 Remove	
	Domain Name Activated Receive Code By Phone Number	Email
	Users DESKTOP-VHE8C11/test No User defined	
CONFIGURE E-MAIL		
3 MANAGE 2FA REQUESTS	⊘ Edit User — X	
ស្ត្រី settings	How to receive confirmation code ? User defined User defined Phone Number: Authentication app	
Ст LICENSE	SMS Email	
	E-mail	
	🥕 Edit User	
	·	
	٤	>

The user receives verification codes on the authentication app by default. You can choose that he/she receives it by SMS or EMAIL by selecting the option.

Selected SMS and added the user's phone number in the field or selected EMAIL and added the user's email.

# Remove Users and Groups

In order to remove users or groups, select the user or the group and then click on *Remove*. A confirmation message is displayed.

Stwo-factor Authentication Adr	ministration - 16.50.11.15					- 🗆 X
$\bigcirc$	Two-factor Au	thentication Ad	Iministratio	n		
<b>Ф</b> НОМЕ	+ Add User	+ Add Group	🧪 Edit	5 Reset	× Remove	
A MANAGE USERS	Domain Name		Activated	Receive Code By	Phone Number	Email
CONFIGURE SMS	Users DESKTOP-VHE	BC1I\test	No	User defined		
3 MANAGE 2FA REQUESTS		Permenting	wo-factor auther	distion	×	
ស្ត្រី settings						
		L E	o you really want he selected user o	to remove two-factor auth r group?	entication for	
				Oui	Non	
	<					>

Click Yes. The user or the group is removed from its list and won't connect using two-factor authentication anymore.

# Reset Configuration for Users

In the event of the loss of the authenticating device for a user, or if the user needs to display the secret QR code again, you must reset the user authentication settings.

1) From the two-factor authentication administration application, click on the Manage Users tab.

2) Select one or multiple activated users and then click on *Reset*. A confirmation message is displayed:

🤣 Two-factor Authentication A	dministration - 16.50.11.15					- 🗆 X
$\overline{\mathbf{O}}$	Two-factor Au	thentication Ac	dministratio	n		
<b>М</b> НОМЕ	+ Add User	+ Add Group	🧪 Edit	5 Reset	× Remove	
	Domain Name		Activated	Receive Code By	Phone Number	Email
CONFIGURE SMS	Users DESKTOP-VHE	8C11\test	Yes	E-mail		test@test.fr
CONFIGURE E-MAIL						
3 MANAGE 2FA REQUESTS		Resetting co	onfiguration for u	ser(s)	×	
ស្ត្រី settings		•	o you really want	to reset the configuratio	n of the selected	
		_! u	ser(s)? The selecte uthentication dev	d user(s) will have to con ice upon their next logor	figure their h	
				Oui	Non	
	¢					>

3) Click *Yes*. The selected users will be presented a new QR code at the next login and will have to scan it in their device's authentication app.

You can also modify the user's phone number, so that he can receive a verification code on his new device.

# Enroll User for Two-factor Authentication

Once a user has been enabled for using two-factor authentication, an activation message will be displayed at his next successful logon from the TSplus Web portal.

x Protect your account with 2-step verification					
Click to configure your authentication app					
<ul><li>Open the authenticator app on your mobile phone.</li><li>Scan the QR code displayed below:</li></ul>					
Secret key: TMPCKUPCDGJWZOHISPHS32S456W4ERIA					
Validate your verification code obtained by SMS, e-mail or via your 2FA app					
Validate					

In order to complete the required steps, you have two choices: either generate codes via an authenticator app, either make the user receive codes by SMS.

### **Receive codes with an Authenticator Application**

The user must install an authenticator app on a portable device, such as his smartphone.

You can use one of the following authenticator apps to proceed. These apps are available across a wide range of platforms: - Authy

- Google Authenticator
- Microsoft Authenticator

Please use each app documentation for more details on how to proceed to add your TSplus account.

#### **Configure SMS**

In order for the user to receive verification codes by SMS, you must first enable it. Click on the Configure SMS tab:

TSplus leverages Twilio in order to send verification codes by SMS. Twilio is a third-party cloud platform, not affiliated with TSplus.

1) Just create a free account on <u>Twilio</u> by clicking on the button below "Start your free trial with Twilio":

Two-factor Authentication A	Administration - TSplus — 🗌 🗙
$\overline{\mathbf{O}}$	Two-factor Authentication Administration
슈 HOME 온 MANAGE USERS	TSplus leverages Tivilio in order to send verification codes by SMS. Tivilio is a third party cloud platform not affiliated with TSplus. Start your free Tivilio trial
	Click here to create your Twilio free trial account. Trial accounts are granted a preloaded balance.
袋 settings	Once you finish signup, your Account SID, Auth Token and trial Number are displayed on your Twilio dashboard.
ତିଙ୍ସ LICENSE	SMS is disabled. Click here to allow users to receive their verification code via SMS.
	Auth Token:
	Phone Number:
	Save

2) On your <u>Twilio account dashboard</u>, you will need to activate your Trial Number:

(i) tw	vilio		
TRIAL	~		
<b>E</b>	Dashboard Billing Usage Settings Upgrade	Account Dashboard Project Info TRIAL BALANCE S15.50 ACCOUNT SID	
		A	ū
		AUTH TOKEN Show	Ū

3) The next step is only necessary for Trial versions. It allows Twilio to verify the actual phone number on which SMS will be sent.

Enter this number under the <u>"Phone Numbers" menu - "Verified Caller IDs"</u> tab :

+33 6	Thomas 🥒
NUMBER	FRIENDLY NAME
Number	Friendly Na
Verified Caller IDs	

4) You will then be able to enter your account SID, Authentication Token and **Trial Number** as the Phone Number on the *Configure SMS* tab of TSplus:

### Account Dashboard

Project Info	
TRIAL BALANCE <b>\$13.348</b>	TRIAL NUMBER
	Need more numbers?
ACCOUNT SID	<b>C</b>
AUTH TOKEN Hide b	C C

⊘ Two-factor Authentication Admi	inistration - TSplus — 🗌 🔿	<
$\overline{\mathbf{O}}$	Two-factor Authentication Administration	
Home     Amanage users	TSplus leverages Twilio in order to send verification codes by SMS. Twilio is a third party cloud platform not affiliated with TSplus. Configure SMS	
CONFIGURE SMS	SMS is enabled. Click here to force users to receive their verification code via an authentication app.	
說 Settings ⓒ규 License	Account SID:     A       Auth Token:     b       Phone Number:     +33	
	Save	
	Manage Twilio Subscription	
	Service Status ? Support Center	

Then, click on Save. The following message will be displayed:

### Configure SMS ype unknown

You can manage your Twilio subscription on the *Manage Twilio subscription* section, at the bottom of the *Configure SMS* tab. Administrate your account, see the Service Status or reach Twilio Support Center just by clicking on the corresponding buttons.

### **Configure EMAIL**

For the user to receive verification codes by EMAIL, you must first configure your SMTP email.

🤣 Two-factor Authentication Adm	inistration - 16.50.11.7		×
$\overline{\mathbf{O}}$	Two-factor Authentication Ad	ministration	
<b>М</b> НОМЕ	Email settings		
	SMTP configurationallows TSplus to send co	onfirmation codes by email, for enabling 2FA	
CONFIGURE SMS	SMTP Hostname	smtp.	
	SMTP Port	465	
5 MANAGE 2FA REQUESTS	Use SSL		
र्द्धि SETTINGS	SMTP Username	apikey	
	SMTP Password		
	Send Email From	admin®	
		Save	
	Send test Email To	test@"	
		Test	

# Login using Two-factor Authentication

Once a user has configured his TSplus account in his authenticator app, he or she will be able to connect using its password and the code provided by its authenticator app, by SMS or Email.

From the TSplus Remote Access Web portal:

	x
Protect your account with 2-step verification	
Validate your verification code	
Validate	

From the TSplus generated client:

×	
code.	
Cancel	
	code.

# Time Synchronization

TSplus application servers and client devices must share the same time. This means that the time and date of the server must be synchronized with a time server. Client devices must also have time synchronization, regardless of the time zone on which they are configured.

If an authentication request comes from a Device whose date and time are not synchronized, or if the server's date and time are not synchronized, this request may be rejected.

The validation of information between the Device and the server relates to UTC time. In the **Settings** section, the Discrepency parameter is used to manage the period of validity of the code, in intervals of 30 seconds.

Example of validation or valid authentication:

- the server is synchronized with a time server, the time zone is UTC + 2, it is 2:30 pm
- the Device is synchronized with a time server, the time zone is UTC + 1, it is 1:30 pm
- the Discrepency parameter is configured at 60, i.e. a code validity period of 30 minutes
- referred to UTC time, the Device time and the server time are identical.

Example of validation or invalid authentication:

- the server is synchronized with a time server, the time zone is UTC + 2, it is 2:30 pm
- the Device is not synchronized with a time server, the time zone is UTC-1, the time is manually set to 1:30 pm
- the Discrepency parameter is configured at 60, i.e. a code validity period of 30 minutes
- the server time referred to UTC time is 12:30 am
- the time communicated by the Device, referred to UTC time is 2:30 pm
- the difference is 120 minutes, the validation code is therefore refused.

### Settings

The Settings tab allows you to whitelist users, in order for them to connect using an RDP client, without the need to enter a two-authentication code.

Click on the "Add" button to add a user and remove a user by selecting it and clicking on the "Remove" button.

0	lwo-factor Authentication Adm	inistration - 16.50.11.15 —	×
	$\overline{\mathbf{O}}$	Two-factor Authentication Administration	
ŵ	HOME	+ Add × Remove	
ి	MANAGE USERS	Whitelisted users below are able to connect using an RDP client, without the need to enter a two-factor authentication code.	
Ē	CONFIGURE SMS	C DESKTOP-VHEBCINtest	
	CONFIGURE E-MAIL		
5	MANAGE 2FA REQUESTS		
鐐	SETTINGS		
	Users		
	Advanced		
©τ	LICENSE		

The Advanced tab allows you to configure Two-Factor Authentication in-depth settings.

🤣 Two-factor Authentication Adm	ninistration - 16.50.11.15		-	×
$\overline{\mathbf{O}}$	Two-factor Authenticati	on Administration		
	Product	Name	Value	
	錢 Security	Discrepancy Issuer	480 DESKTOP-VHE8C1I - TSplus	
CONFIGURE SMS		Validity After First Session Validity Before First Session Digits	480 3600 6	
CONFIGURE E-MAIL		SMS Verification Code Message Display Domain in the application	Your %ISSUER% verification c yes	
5 MANAGE 2FA REQUESTS		Allow HTML5 for not configured users	yes	
ත් settings				
Users				
Advanced				
ତିଙ୍ଗ License				

### Discrepancy

You can modify the Discrepancy value, which allows you to set the validation time of a verification code. A discrepancy of 3 means that the same verification code remains valid 90 seconds backward and forward its original 30 seconds validity period. Default is 480, which means 480 x 30 seconds= 4 hours.

Name	Value	
Discrepancy	480	
⊘ TSplus - Edit Setting	×	OQLLU9D - TSplus
Discrepancy		
Description:		UER% verification c
verification code. A discrepancy of 3 means that the same verification code remains valid 90 seconds backward and forward its original 30 seconds validity period. Default is 4		
Value:		]
Save	ncel	]
		_
	Discrepancy TSplus - Edit Setting Discrepancy Description: The allowed discrepancy (in both directions) when validati verification code. A discrepancy of 3 means that the same verification code remains valid 90 seconds backward and forward its original 30 seconds validity period. Default is 4 Value: Value:	Discrepancy       480                 TSplus - Edit Setting           Discrepancy         Description:                The allowed discrepancy (in both directions) when validating a verification code. A discrepancy of 3 means that the same verification code remains valid 90 seconds backward and forward its original 30 seconds validity period. Default is 480.          Value:

#### Issuer

A string indicating the name of the two-factor authentication service. The issuer is displayed on the client mobile app and identifies the service associated with the generated verification code. By default, it is composed of the server's name with TSplus.

Noduct	Name	Value
	Discrepancy	480
	Issuer	WIN-PJKGOQLLU9D - TSplus
	🤣 TSplus - Edit Setting	×
	Issuer	
	Description:	UER% verification c
	A string indicating the name of the two-factor authent service. The issuer is displayed on the client mobile app identifies the service associated with the generated ver code.	and
	Value: WIN-PJKGOQLLU9D - TSplus	
		Cancel
	Juve	cancer

#### Validity After First Session

Period during which a user can open a session without having to revalidate a previous two-factor authentication code. This setting allows users to open applications from the Web application portal successively. Default is 480 minutes.

Noduct	Name	Value
	Discrepancy	480
	Issuer	WIN-PJKGOQLLU9D - TSplus
	Validity After First Session	480
	Splus - Edit Setting	×
	Validity After First Session	SUER% verification c
	Description: Period during which a user can open a session with to revalidate a previous two-factor authentication co setting allows users to open applications from the V application portal successively. Default is 480 minute	ode. This Veb
	Value:	~
	480	
	Save	Cancel

### Validity Before First Session

Period during which a user can open a session after validating a two-factor authentication code from the Web portal or from the mobile app, in secondes. Default is 3600 seconds.

Noduct	Name	Value	
	Discrepancy	480	
	Issuer	WIN-PJKG	OQLLU9D - TSplus
	Validity After First Session	480	
	Validity Before First Session	3600	
	⊘ TSplus - Edit Setting	×	UER% verification c
	Validity Before First Session		
	Description:		
	Period during which a user can open a session after validati two-factor authentication code from the Web portal or from mobile app, in secondes. Default is 3600 seconds.		
	Value:		
	3600		
	Save	el	

### Digits

The number of digits to display to the user. Please note that this setting may not be supported by authentication apps. This number must be greater than or equal to 4 and lower or equal to 12. Default is 6.

duct	Name	Value	
	Discrepancy	480	
	Issuer	WIN-PJKGOQLLU9D - TSplus	
	Validity After First Session	480	
	Validity Before First Session	3600	
	Digits	6	
	🤣 TSplus - Edit Setting	× SUER% verification c	
	Digits		
	Description:		
	The number of digits to display to the user. Please not setting may not be supported by authentication apps number must be greater than or equal to 4 and lower to 12. Default is 6.	. This	
	Value:	~	~
	S S S S S S S S S S S S S S S S S S S		
	Save	Cancel	
	Save	Cancel	

### **SMS Verification Code Message**

Message sent to users requesting a verification code if they are configured to receive it via SMS. This message must contain the %CODE% placeholder which will be replaced by the actual verification code. Default is: Your %ISSUER% verification code is: %CODE%

Noduct	Name	Value
	Discrepancy	480
	Issuer	WIN-PJKGOQLLU9D - TSplus
	Validity After First Session	480
	Validity Before First Session	3600
	Digits	6
	SMS Verification Code Message	Your %ISSUER% verification c
	🤣 TSplus - Edit Setting	×
	SMS Verification Code Message	
	Description:	
	Message sent to users requesting a verification code if they configured to receive it via SMS. This message must contain %CODE% placeholder which will be replaced by the actual verification code. Default is: Your %ISSUER% verification cod %CODE%	the
		~
	Value:	
	Your %ISSUER% verification code is: %CODE%	
	Save Can	cel

# Web Lockout

TSplus Web lockout, introduced with Version 12.40, is a user interface for the Web Portal Lockout feature, to unblock accounts and edit advanced settings:

FAQ: about how to configure the HTML5 Web Portal lockout feature

TSplus - Administration Console	2					- 🗆	×
	EACCESS				Help	Nite N English	lode •
<b>М</b> номе	× Reset						
□       APPLICATIONS         □       PRINTER         □       PRINTER         ■       FARM         □       FARM         □       SESSIONS         ③       SYSTEM TOOLS         ③       ADVANCED         □       ADD-ONS         ⑤□       LICENSE	Name DESKTOP-NQIKIV1\admin DESKTOP-NQIKIV1\edgar DESKTOP-NQIKIV1\voot	Locked No No	Consecutive Failures 1 1 1 1	First Failure			
or cause							

Lockout monitors failed Web Login attempts on your TSplus server. It logs attempts and automatically blocks the corresponding user after the authorized number of failed attempts has been reached.

You will easily see if an Address has been locked under the "Locked" column. The next column indicates the numbers of consecutive failures for each user.

On the Web Portal, a message indicates the user that too many failed attempts were made:

Laura	✓
	x
● HTML5 ● RemoteApp	
Too many failed attempts. Please retry later.	
Log on	位置

Users can be quickly removed from this list, unblocked and whitelisted from the easy-to-use management console in the Web Tab of the AdminTool. Just click on the user you want to reset or unblock and then click on "Reset".

-18	TSplus - Administration Console							- 🗆	×
PL	REMOT	EACCES	55				Help	کې Lite I English	Mode •
	HOME	× Reset							
	APPLICATIONS	Name		Locked	Consecutive Failures	First Failure			
ð	PRINTER	DESKTOP-NQIKIV1\a	dmin	No	2				
Q	WEB	DESKTOP-NQIKIV1\e		No No	1				
	FARM								
ి	SESSIONS								
e,	SYSTEM TOOLS								
鐐	ADVANCED								
ది	ADD-ONS								
⊚⊽	LICENSE								

The threshold for users blocking can be configured by the administrator, on the Advanced Settings Tab of the AdminTool:

1 TSplus - Administration Console				- 🗆	×
TSPLUS	Remote Access Manage	ement Console			
<b>М</b> НОМЕ	Backup / Restore you	r Server Parameters			
	Advanced Settings	Name	Value		
S WEB	Security Session	Enabled Limit Login Interval	Yes 10 900		
FARM	E Contextual menu Cogs	Lockout Period	1800		
SYSTEM TOOLS					
2023 ADVANCED					
값 ADD-ONS					
ତିଙ୍କ License					

Check the Documentation to configure Lockout Settings.

# TSplus Advanced Security Integration with Lockout

If a failed login attempt has been detected on the Web Portal, TSplus Advanced Security will indicate the "Lockout Event", corresponding to a username on the Security Event Viewer:



"A failed login attempt was detected from Web Portal for user ... 1 Failed login attempt were detected for this user since..."

# **TSplus Advanced Security BruteForce Defender**

**TSplus Advanced Security Bruteforce Defender** covers the **Client I.P. addresses aspect**. Hence, it also works for RDP connections.

<u>Failed Brute-Force connections attempts</u>, are also visible on TSplus Advanced Security Event Log (private IP addresses are excluded to avoid blocking proxy):



"A failed connection attempt was detected from IP address ... . This IP address is not whitelisted and will be blocked following several failed attempts to connect. Provided username: Harry."

For More information about Lockout and BruteForce Defender, check this documentation and the Brute-Force Attacks Defender documentation

# **TSplus Advanced Security**

TSplus Advanced Security is available as an Add-On on TSplus AdminTool and is available on the Add-Ons tab of the 12 version:

🕄 TSplus - Administration Console		- 🗆	×
	ACCESS (?) Help	Nite Mo	ode •
П НОМЕ	2		1
	TSplus Advanced Security - Protect your server  Protect your server from brute-force attacks and foreign intrusions. Block ransomwares before they destroy your files. Restrict users access and lock them in a highly secured environment.		
S WEB	Two-Factor Authentication - Confirm your users' identity		
FARM	Passwords can be lost, stolen by phishing attacks, and very often they can even be cracked in a matter of minutes. Two-Factor Authentication solves this problem simply and effectively, and provides an additional security layer - sen	ding a code to	
SESSIONS	the user mobile device.		
SYSTEM TOOLS	TSplus Remote Support - Remotely connect to your client PCs and provide instant assistance		
ADVANCED	A secure, web-based screen sharing and remote control solution designed for today's flexible support teams. Securely connect to remote computers, take control of their mouse, access files and applications, and troubleshoot	problems.	
Հ子 ADD-ONS			
	II. TSplus Server Monitoring - Monitor your server		
	TSplus Server Monitoring helps to optimize software resources and to reduce unnecessary costs. Give facts and data about server usage (CPU, Memory, I/O, Disks). Track changes, resources usage and events with real-time email alerts.		

You can find its full documentation on this page.

# Lockout Event

<u>TSplus Lockout</u> monitors failed Web Login attempts on your TSplus server. TSplus Advanced Security will show a Lockout Event, after any Web Portal failed attempt like the example below:



"A failed login attempt was detected from Web Portal for user ... 1 Failed login attempt were detected for this user since..."

# Brute-Force Attacks Defense

The Brute-Force attack Defender enables you to protect your public server from hackers, network scanners and brute-force robots that try to guess your Administrator login and password. Using current logins and password dictionaries, they will automatically try to login to your server hundreds to thousands times every minute. Learn more about this feature on this page.

### **On the Web Portal**

Brute-force attacks on the Web Portal are blocked when users enter wrong credentials. After 10 attempts during a period of 10 minutes, the Web Portal will prohibit the user to logon for 20 minutes:

TSPL Log on	
TSPLUS	
John	<
	X
Headquarter	-
O HTML5 O Rer	noteApp
Too many failed atter Please retry later.	mpts.
Log on	

These are the default settings which are customizable on the BruteForce tab of TSplus Advanced Security AdminTool.

You can check all blocked connections and logs on the IP Addresses tile of TSplus Advanced Security Ultimate Protection:

TSplus Advanced Security					- 0	_
	TSplus Advanced	Security - Ultimate Prote	ction			
Номе	+ Add IP Address	Edit IP Address	X Remove IP Address(es)	Q WHOIS		
EVENT VIEWER	IPs in the whitelist will be ignor	ed by TSplus Advanced Security and will no	t be blocked by Homeland Access	Protection or Bruteforce Atto	icks Defender features	s.
HOMELAND	IP Address	Status	Date	Description		
BRUTEFORCE	213.148.201.59 178.34.152.180 58.244.117.214	Blocked - BruteForce Defende Blocked - BruteForce Defende Blocked - Homeland Protectio	er 11 Mar 2019 21:38:55			
IP ADDRESSES	49.14.98.70 105.14.32.99 202.133.54.73	Blocked - Homeland Protectio Blocked - Homeland Protectio Blocked - Homeland Protectio	n 11 Mar 2019 03:10:33 n 11 Mar 2019 00:50:07			
PERMISSIONS	42.51.217.61 201.158.104.100 2.182.5.87	Blocked - Homeland Protectio Blocked - Homeland Protectio Blocked - Homeland Protectio	n 10 Mar 2019 20:37:56 n 10 Mar 2019 17:35:18			
WORKING HOURS	196.189.44.50 42.202.33.232 117.224.202.156	Blocked - Homeland Protectio Blocked - Homeland Protectio Blocked - Homeland Protectio	n 10 Mar 2019 17:19:15 n 10 Mar 2019 15:16:59			
SECURE DESKTOPS	125.227.29.199 124.226.216.77	Blocked - Homeland Protectio Blocked - Homeland Protectio	n 10 Mar 2019 08:13:40 n 10 Mar 2019 07:56:32			
	109.188.131.204 190.60.108.18 190.60.108.18 191.68.145.140.120	Blocked - Homeland Protectio Blocked - Homeland Protectio Blocked - Homeland Protectio	n 10 Mar 2019 05:46:16			
	101.230.201.89 93.113.125.89 31.220.43.113	Blocked - Homeland Protectio Blocked - Homeland Protectio Blocked - Homeland Protectio	n 09 Mar 2019 18:55:01			
SETTINGS						
	blocked					-

This functionality is visible and active after the first Web Portal connection.

The complete TSplus Advanced Security documentation is available on this page.

# Free and Easy-to-install HTTPS Certificate

# Overview

Starting with version 9.20, Terminal Service Plus provides an easy to use feature to generate of a free and valid HTTPS certificate.

In 3 mouse clicks you will get a secured valid certificate, renewed automatically, and configured automatically into Terminal Service Plus built-in web server.

This feature uses Let's Encrypt to provide a free and secure HTTPS certificate for your HTTPS connections.

# Prerequisites

Please ensure that your Terminal Service Plus server meet these requirements before using the Free Certificate Manager:

- You must use Terminal Service Plus built-in web server listening on port 80 for HTTP. This is required by Let's Encrypt domain ownership validation process.
- Your **server's domain name must be accessible** from the public Internet. This is required as well to validate that you are the real owner of the domain.
- You must **run this program on the Gateway server or a Standalone server, not an Application server** (except if your Application Server is accessible from the public Internet and has a public domain name).

It is not possible to get a certificate for an IP address, be it public or private. It is not possible to get a certificate for an internal domain name (i.e. a domain which only resolves inside your private network).

# Free Certificate Manager GUI

To open Terminal Service Plus Free Certificate Manager GUI, open Terminal Service Plus AdminTool, click on the "Web - HTTPS" tab, then click on "Generate a free valid HTTPS certificate" as shown in the screenshot below:

TSDEMOT						🔍 Lite Mo	ode
		55			🕐 Help	English	•
П номе							7
	Generate a f	ree valid HTTPS certific	ate				1
	KTTPS Certif	icate Toolkit					
S WEB							
FARM	HTTPS Protocols an Protocols	d Ciphers					
	SSL v3	TLS v1	TLS v1.1	✓ TLS v1.2	TLS v1.3		
	Ciphers						
SYSTEM TOOLS	SSL_DHE_RSA_V	VITH_3DES_EDE_CBC_S VITH_3DES_EDE_CBC_S 3DES_EDE_CBC_SHA				^	
ADVANCED	SSL_RSA_WITH	RC4_128_MD5					
ADD-ONS		VITH_AES_128_CBC_SH VITH_AES_128_CBC_SH					
•		VITH_AES_128_GCM_SH VITH_AES_256_CBC_SH					
		VITH_AES_256_CBC_SH				~	
	Disable we	ak parameters			R Save		

The Free Certificate Manager GUI will open and remind you about the prerequisites, as shown in the screenshot below:

Prerequisites	×					
This feature uses Let's Encrypt (http://letsencrypt.org) to provide a free and secure HTTPS certificate for your HTTPS connections. Our Support Team might not be able to support this feature.						
Requirements: - You must run this program on the Gateway server or a Standalone server, not an Application server - You must useTSplus built-in web server listening on port 80 for HTTP - Your server's domain name must be accessible from the public Internet Please only click 'OK' if you fully understand the consequences.						
OK Cancel						

Please read carefully and check that your server meet all the requirements, then click on the "Ok" button.

# Step 1: Enter your Email

This email will not be used to spam you. Actually it will not even be sent to TSplus or any third party, except the certificate issuer: Let's Encrypt.

They will only contact you if needed, according to their Terms Of Service.

# Step 2: Enter the server's Domain Name

This is the public Internet accessible Domain Name, something like gateway.your-company.com. You can also add another domain name or a subdomain name after clicking on the "+" button.

As explained in the GUI, do not add a protocol prefix and/or a port suffix, just enter the clean domain name(s).

The certificate will be generated for this domain name, and it will only be valid on a web page hosted at this domain name. If your users connect to your Web Portal using https://server1.example.com:1234, then you must enter "server1.example.com".

# Step 3: Choose a Key Algorithm

It will be used to create key pairs and perform digital signature operations.

😌 Generate a free valid HTTPS certificate				– 🗆 X
Administrator Email				
				Please enter a valid address.
				Let's Encrypt will only contact you if required and only regarding the certificate.
Server Web Domain Name				
	•	+		Please enter the fully qualified domain name of the current server.
				This is the domain you are using to access this server from the Internet, without protocol ('http://') and without port (':443').
Key Algorithm				
ES256 (recommended)	-			Choose a signing algorithm.
				RSA-algorithm enjoys wide compatibility across multiple platforms. ES-algorithms provide the same security as the RSA-algorithm with smaller keys and a quicker process of signing and verification. Larger key sizes provide greater security strength but result in more data being stored and transmitted.
			Gener	ate a free valid HTTPS certificate Cancel

# Enjoy your Certificate!

Finished	×
Your free certificate has been installed successfully. It will be automatically renewed every 2 months, without any downtime. We strongly advise you to make a regular backup of the 'C:\Program Files (x86)\TSplus\UserDesktop\files\cert' folder, as it contains your Let's Encrypt account private key and your domain private key.	
ОК	

Terminal Service Plus Free Certificate Manager will now use all the data to connect with Let's Encrypt, validate that you really own the domain name you typed, and get the matching valid certificate.

Once the program receives the certificate, it will automatically handle all the required file format conversions and softly reload Terminal Service Plus built-in web server in order to apply the new certificate to every new connection. The web server is **not** restarted and no connection is stopped.

# Certificate Renewal

Let's Encrypt certificates are valid for 90 days.

Terminal Service Plus will automatically renew the certificate every 60 days for safety. A check is done at every reboot of the Windows server, and then every 24 hours.

You can manually renew your certificate by opening the Free Certificate Manager tool. It will display the domain name of the certificate and its expiration date, as shown in the screenshot below.

📧 Certificate Ren	ewal					$\times$
Email:	berganit.cel	ele@tpla.net				
Domain:	difight.rel					
Expire:	May 14 21:12	03 2022 GMT				
They will be auto We strongly adv		0 days.	iles (x86)\tsplus\UserDesktop	\\files\cert` folder,	, as it cont	ains
Reset [	Domain					
		Danau	an aviating catificate		Cane	
		Renew	an existing certificate		Cance	el

To manually renew your certificate, just click on the "Next" button.

The "Reset Domain" button on this window deletes the SSL certificate and reconfigure the Web Server to its original state before using the Certificate Manager.

# **Best Practices**

If no error occurs, Terminal Service Plus will renew the certificate automatically every 60 days. We recommend that you **check every 60-70 days** that your certificate has been automatically renewed.

We also recommend that you backup at least every month the following folder and its sub-folders:

C:\Program Files (x86)\TSplus\UserDesktop\files\.lego

This is an internal folder, containing your Let's Encrypt account private key, as well as the key pair of your certificate.

# Troubleshooting

In case of an error, please contact support and email them the following log file:

C:\Program Files (x86)\TSplus\UserDesktop\files\.lego\logs\cli.log

This log file (and maybe the other log files in the same folder) should help our support team to investigate and to better understand the issue.

If you want to restore a previously used certificate, go to the folder:

C:\Program Files (x86)\TSplus\Clients\webserver

It will contain every "cert.jks" files used. These are the "key store" files and we never delete them, we only rename them with the date and time of their disabling.

# Error Codes

- Error 801: Free Certificate Manager was not able to register your Let's Encrypt account. Check your Internet connection. Check that your email is not already registered at Let's Encrypt. Try again with another email.
- Error 802 & Error 803: Free Certificate Manager could not retrieve Let's Encrypt Terms Of Service URL address. This is a non blocking error: you can still continue and accept Let's Encrypt Terms Of Service - be sure to read them from your browser first of course.
- Error 804: Free Certificate Manager was not able to validate your agreement to Let's Encrypt Terms Of Service with Let's Encrypt servers. Check you Internet connection. Try again.
- Error 805 & Error 806: Free Certificate Manager was not able to validate that you own the domain you entered during certificate creation (Error 805) or certificate renewal (Error 806). Check again all the prerequisites. Check your Internet connection. Check that your web server is listening on port 80. Check that you do not use a third-party web server such as IIS or Apache. Check that your domain name is accessible from the public Internet.

# HTTPS Certificate Command Line

### Preparing the Certificate Configuration File

Inside the "C:\Program Files (x86)\TSplus\UserDesktop\files\cert" folder, create a file named "FreeCertificateManager.ini" if it does not already exist. Make sure your text editor and/or Windows file explorer does not add an ending ".txt" extension.

Edit the file and write or update it so it has the following format, then save it:

[settings]

email = your.email@company.com

domain = your-server- domain-name.company.com

### **Creating the Certificate**

As a server administrator, run the following command:

"C:\Program Files (x86)\TSplus\UserDesktop\files\cert\CertificateManager.exe" /create

In order for this command to be successful:

- The "FreeCertificateManager.ini" file must exist and use the expected format
- Your TSplus Remote Access server must be up and running
- Your TSplus Remote Access Web Portal must be available with protocol

HTTP on port 80 from the internet public network, as TSplus HTTPS certificate provider will use that to validate the server domain name

### **Renewing the Certificate**

Once the certificate is configured and created, TSplus Remote Access will automatically renew it every two months to make sure it never expires.

# HTTPS & SSL Third Party Certificates

### Add your own certificate

If you already have a valid HTTPS certificate you can add it to your web server.

Open TSPlus AdminTool, click on the "Web" tab, go to the "HTTPS" menu and then click on "Add my HTTPS certificate" as shown in the screenshot below:

	TEACCESS			🍳 Lite Mode
		G	🖡 Assist Me 🛛 🥐 Help	English
П номе	û > Web > HTTPS			
	Generate a free valid HTTPS certificate			
	Add my HTTPS certificate			
S WEB				
FARM	HTTPS Protocols and Ciphers			
	Protocols SSL v3 VI	TLS v1.1 TLS v1.2	U TLS v1.3	
SYSTEM TOOLS	Ciphers SSL_DHE_DSS_WITH_3DES_EDE_CBC_SHA			
ADVANCED	<ul> <li>SSL_DHE_RSA_WITH_3DES_EDE_CBC_SHA</li> <li>SSL_RSA_WITH_3DES_EDE_CBC_SHA</li> <li>SSL_RSA_WITH_RC4_128_MD5</li> </ul>			
값 ADD-ONS	SSL_RSA_WITH_RC4_128_SHA			
ତିଙ୍ଗ LICENSE	<ul> <li>TLS_DHE_DSS_WITH_AES_128_CBC_SHA256</li> <li>TLS_DHE_DSS_WITH_AES_128_GCM_SHA256</li> <li>TLS_DHE_DSS_WITH_AES_256_CBC_SHA</li> <li>TLS_DHE_DSS_WITH_AES_256_CBC_SHA256</li> </ul>			

A window will open where you can select your certificate:

G Add my HTTPS certificate		_		×
Certificate Path			Browse	
Password				
	Add my HTTPS certificate		Cancel	

Your certificate file must use the ".pfx" format.

If your certificate is protected by a password, you can enter it in the corresponding field.

Click on the "Add my certificate" button to add your certificate.

Please note that you will need to renew your certificate manually.

# Additional links

Trusted SSL Certificate vendors: - GoDaddy - DigiCert

You can convert your .pem in pfx format with Tools or online sites. For example, on this site: <a href="https://www.sslshopper.com/ssl-converter.html">https://www.sslshopper.com/ssl-converter.html</a>

You can use this <u>SSL Server Test tool</u> in order to validate the good quality of a web portal in HTTPS.

# Choosing your Ciphers Suites to enhance security

# Overview

TLS/SSL, the security behind HTTPS, can use several different algorithms to secure, encrypt and authenticate a connection.

The choice of the algorithm to use is decided by an agreement between the server and the client, depending on which algorithms are available on each side.

A cipher suite is a named combination of authentication, encryption, message authentication and key exchange algorithms.

Terminal Service Plus server can handle a lot of different ciphers suites. Some of them are more secure than others, but some old/legacy browsers might require relatively weak algorithms to connect.

This is the reason why Terminal Service Plus let you choose the ciphers suites you want to enable. Of course, Terminal Service Plus also has an easy setting to disable the weakest algorithms, thus enhancing your connections security.

# HTTPS Protocols and Ciphers Selection

To see Terminal Service Plus Ciphers Selection, open Terminal Service Plus AdminTool, click on the "Web - HTTPS" tab, where you will see HTTPS Protocols and Ciphers:

🕄 TSplus - Administration Console						- 🗆	×
	ACCES	s			() Help	💐 Lite M English	lode •
ф номе	Generate a fre	e valid HTTPS certificat	e		Thep	English	
	HTTPS Certific	ate Toolkit					
S WEB							
FARM	HTTPS Protocols and     Protocols     SSL v3	Ciphers TLS v1	TLS v1.1	TLS v1.2	TLS v1.3		
	Ciphers			V 113 VI.2	U 13 VI.3		
SYSTEM TOOLS		ITH_3DES_EDE_CBC_SH ITH_3DES_EDE_CBC_SH DES_EDE_CBC_SHA				^	
ស្ដែ Advanced	SSL_RSA_WITH_R	C4_128_MD5					
Հֆ ADD-ONS	TLS_DHE_DSS_W	ITH_AES_128_CBC_SHA ITH_AES_128_GCM_SHA					
		ITH_AES_256_CBC_SHA ITH_AES_256_CBC_SHA	256			~	
	Oisable weak	c parameters			<b>Save</b>		
	<u>.</u>						

# Enabling/Disabling a Cipher Suite

You can easily enable a cipher suite by checking its checkbox and disable a cipher suite by unchecking it.

When your selection is done, click on "Save".

This will save your selection and reload the new configuration in Terminal Service Plus built-in web server. Your new ciphers suites selection is instantly applied for every new connection to your server.

# **Recommended Ciphers Suites Selection**

We recommend to most administrators to use our recommended ciphers suites selection, by simply clicking on the "Disable weak parameters" button and then on the "Save" button.

This action will disable all ciphers suites which are currently known to be weak.

You can check with <u>SSL Labs Online Testing Tool</u>: without those weak ciphers suites you should get the maximum grade: A!

# Remote Connection from an iPhone / iPad / Android device

You can connect to your Terminal Service Plus server on any browser from any mobile device supporting the HTML5 technology, such as:

- an iPhone
- an iPad
- an Android smartphone
- an Android tablet

# Edit the preferences for Mobile devices

Since the 11.20 release, the TSplus HTML5 client has been greatly enhanced to offer the best possible user experience even from Smartphones or tablets. The keyboard has been redesigned to automatically pop-up when the focus is over an entry field. The mouse pointer has been redesigned to facilitate the selection of buttons and fields even if located on the left or the bottom borders of a Smartphone.

You can set up various different HTML5 settings for mobile devices or computers on the HTML5 client tile of the Web Tab:

-18	TSplus - Administration Console	17.10		- 0	×
PL		EACCESS	🕞 Assist Me 🛛 🧿 Help	Kite M English	Mode •
ŵ	НОМЕ	<mark>∂ &gt;</mark> Web			
	APPLICATIONS	Web Portal			
æ	PRINTER	Web Portal Customization	RemoteApp Client		
S	WEB	TSplus Web App	HTML5 Client		
₽	FARM	C Web Credentials	8 HTML5 Top Menu		
گ	SESSIONS	😯 HTTPS			
Ŋ	SYSTEM TOOLS	Web Server			
鐐	ADVANCED				
చి	ADD-ONS	• Lockout			
©	LICENSE				

	Top Menu Menu Bar:			0	Assist Me	e English	•
	Top Menu Menu Bar:						
-				ettings			
-		All devices and computers	~ (	Ctrl + Alt + Del:	None	~	
	Top Menu Preference:	Transparency	~ 0	Connection Timeout:	40	∼ min	
	Default Colors:	16 bits	× (	Enable File Transfer	🗹 Play Sounds		
WEB	Appearance Background Color:	#FF8000		Logon GIF:	Brow	rse	
FARM	Background Logo:	Browse		Display Time:	5000 ms	5	
SESSIONS	Logon Screen Message	:					
SYSTEM TOOLS	Smartphone and tablet	s preferences					
	Pointer settings	Small pointer		Software keyboard settin 🛃 Use Software Keyb			
중 ADD-ONS	T			<ul> <li>Automatically show in an entry field</li> <li>Transparency:</li> </ul>	v the software keyboard	d when the focus is	
	Transparency:		95%	ansparency:		50%	
					8	Apply	

- Display the menu bar for all devices and computers or for mobile devices only.
- Enable or Disable File Transfer.
- Allow the Ctrl + Alt + Del shortcut on a specific type of device.
- Choose your favorite Top Menu display between transparency and solid.
- The number of graphical color bits.
- The Connection Timeout.
- Show or Hide Warning Messages.
- Enable or disable sounds.
- Choose your favorite background color.
- Add a logo to the background.
- Change the logon screen message and animated gif, as well as its display time in milliseconds.

#### **Smartphone and tablets Preferences:**

- If the administrator uses the software keyboard, when it is hiding an entry field, the application is moved up and the user is still able to see what he is typing.
- The administrator can select a small, a medium or a large size for the mouse pointer or no mouse pointer at all. It makes intuitive for the user to navigate inside his application.
- He can also select the level of transparency for mouse and keyboard.

# Edit the HTML5 Top Menu

On the HTML5 Top Menu tab, you can add applications that will be displayed on the first or second level of the Top Menu in HTML5:

TSplus - Administration Console - 17.10	0		– 🗆 X
	ACCESS	🔒 Assist Me 🛛 🧿 Help	🧞 Lite Mode English 🔹
ம் номе மி	Web		
	Web Portal		
	Web Portal Customization	RemoteApp Client	_
S web	TSplus Web App	HTML5 Client	
FARM	😌 Web Credentials	R HTML5 Top Menu	
	💽 нттра		
SYSTEM TOOLS	-		
202 ADVANCED	Web Server		_
값 ADD-ONS	Lockout		

On level one, you can find the integrated HTML5 features: printing, file transfer and a clipboard. (For more information about these features, go to these pages:

Universal Printer for HTML5, Using file transfer and Using Clipboard.)

On this example, Foxit and Excel are published on level 2:

🛺 HTML5 Top Menu		- 🗆 X
Manage HTML5 Client Top Menu Icons		
Level 1     The Print     The Upload to Server		Add a new Application
Clipboard File Download to Client File Listing Mouse Drag (mobile only) Level 2	ľ	Edit Application
	×	Remove Application
	^	Move Up
	~	Move Down

And can be found under the integrated features on the top menu into the HTML5 session:



Furthermore, the top-right icon allows you to switch your session to fullscreen.

**Terminal Service Plus built-in HTML5 client** provides the user a completely new menu on tablets and mobile devices. With this new menu the user gets an easy access to mobile keyboard and right click, but also to file sharing and to our unique Universal Printing feature!



Please refer to this documentation for how to use the mini mouse and keyboard.

### Language selection

You can now change the language with the language button at the right of the top menu:



You can choose the language for the specific country you wish to on this menu:

	Language	Locale	Value
$\odot$	Portal	as_portal	
$\bigcirc$	Browser	as_browser	
$\bigcirc$	Gateway	as_gateway	
$\bigcirc$	Arabic	ar_ar	1025
$\bigcirc$	Belarusian	be_be	1059
$\bigcirc$	Bulgarian	bg_bg	1026
$\bigcirc$	Bengali	bn_bn	1093
$\odot$	Bosnian (Cyrillic)	bs_cyrl_ba	8218
$\odot$	Bosnian (Latin)	bs_latn_ba	5146
$\odot$	Catalan	ca_ca	1027
$\odot$	Czech	cs_cs	1029
$\odot$		cs_cz	1029
$\odot$	Welsh	cy_gb	1106
$\bigcirc$	Danish	da_da	1030
$\bigcirc$		da_dk	1030
$\bigcirc$	German (Swiss)	de_ch	2055
$\bigcirc$	German	de_de	1031
$\bigcirc$	Divehi	dv_dv	1125
$\odot$	Greek	el_el	1032
$\bigcirc$		el_gr	1032
$\bigcirc$	English (Canada)	en_ca	4105

## HTML5 Client: Supported Browsers

#### If your browser shows red warning on start by using HTML5 client

It means that your browser does not support Websockets or your browser does not support Canvas. Such browsers that do not support these technologies are IE6, IE7, IE8, IE9 and need FLASH to emulate these features.

#### Browsers supporting Websocket and Canvas

Browsers	Canvas	Websocket
FireFox	Full	Full starting with version 4
Chrome	Full	Full in most known versions on PC's
Opera	Full	Full in newest versions
IE6	Flash	Flash (emulated and no proxy support)
	Flash	XHR (with proxy support)
IE7	Flash	Flash (emulated and no proxy support)
	Flash	XHR (with proxy support)
IE8	Flash	Flash (emulated and no proxy support)
	Flash	XHR (with proxy support)
IE9	Flash	Flash (emulated and no proxy support)
	Flash	XHR (with proxy support)
IE10	Full	Full
Android native	Full	XHR
Opera mobile	Full	Full in newest versions
Firefox mobile	Full	Full
Safari mobile	Full	Full in newest versions up iOS4, else emulated via XHR

Also see: What's the difference between websockets and XHR?

#### If your browser automatically reloads the pages to HTTPS address

It means that Websockets transport is not supported. This is the case on several Android native mobile browsers. It is due to the fact that the browser automatically switches to XHR transport.

But because this transport layers on long distances with HTTP protocol, each request creates new connection. It is very slow and unstable to create new connections (up to 20 new connections per second), therefore to avoid this instability the program is conceived so that the page reloads automatically to HTTPS address to enforce HTTPS connection.

Physically you also get mostly persistent secured connection and much more stable on long distances. So the logic of browser reuses already established SSL connection instead of creating a new connection like by the use of HTTP protocol.

This behavior can be changed by the following option on the setting.js file located in the TSplus program folder under this path: Clients\www\software\html5\settings.js:

forcesslforxhr = false;

But it is absolutely not recommended to disable the use of SSL in XHR mode.

\*If you do not have a file named "settings.js" in the "C:\Program Files (x86)\TSplus\Clients\www\software\html5" folder, then your TSplus version is older and this documentation does not apply. Please update your system first or contact support.

# HTML5 Client: Using Gestures on mobile devices (Touch)

#### Using screen area:

- 1. Easy touch on screen = mouse move to touched position and left mouse click
- 2. Fast double tap on screen = mouse move to touched position and left mouse double click
- 3. Touch and hold for one second on screen = mouse move to touched position and right mouse click
- 4. Touch and move outside of cursor area = scrolling the visible session frame (this is native browsers behavior for scrolling especially after pinch-zoom)
- 5. Touch in cursor area and move = mouse cursor moving only
- 6. Double tap inside cursor area and move = left mouse down and mouse moving Useful for moving window, moving elements, resizing.
- 7. Double tap on screen(outside of cursor area) and move finger down/up = middle mouse scrolling Useful for scrolling pages or view pdf's.
- 8. Pinch zoom with two fingers = zoom the RDP session frame (this is native browsers behavior)

#### Using mouse pad area - additional functions in the middle point of mouse pad:

- 1. Easy touch in the middle = left mouse click
- 2. Double tap in the middle = left mouse double click
- 3. Touch and move in the middle = mouse move and mouse pad moving
- 4. Touch and hold for one second = right mouse click

#### Keyboard mode on:

- 1. Easy touch on screen = focus lose, keyboard disabled (this is native browsers behavior) but this will fire mouse move and left mouse click.
- 2. Fast double tap = mouse move and left mouse click (without keyboard disabling) Useful to reposition the cursor, set focus on different character and stay at the same time in keyboard mode.
- 3. +Functions of mouse pad described above

# HTML5 Client: Using File Transfer

File Transfer can be done in multiple ways on TSplus: since Version 12.50, a contextual menu is available to download files from the server to the local pc:

IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII			_	□ × □ √ 0		
$\leftarrow \rightarrow$ $\checkmark$ $\uparrow$ $\blacksquare$ > Documents > I	Products Nom	~ ♂ ₹	echercher dans : Prod			
Logs PerfLogs Products	S TSplus-Products-	-18	TSplus Open		>	Download
Products			Open Print			

More information can be found on this documentation.

#### Using the top menu for file transfer:



Unlike real RDP session the browsers do not allow to access the hard drives directly, the file transfer is emulated.

The sub-folder of gateway gets mounted as a WebFile device into your RDP session. Inside the RDP session you can access it via Explorer by clicking on "WebFile" or call "\\tsclient\WebFile" directly:

select one remote file to be transferred From Server> To your local PC						
$\leftarrow \rightarrow \checkmark \uparrow \blacksquare $ This PC		ٽ ~	Search This PC		P	
Organize 🔻				•	?	
This PC	^	$\sim$ Devices and drive	es (4)		^	
Desktop Documents		WebFile on	.0KUW2A5W9THQKN			
Downloads Music	i	Floppy Disk	Drive (A:)			
<ul><li>Pictures</li><li>Videos</li></ul>		Local Disk (				
🛫 WebFile on .0KUW2A5W9THQKN 🏪 Local Disk (C:)	~	GD Drive (D:			~	
File name:		~	All (*.*)		~	
			Open	Cancel		

🖵   🔄 📙 🖛   \\tsclient\WebFile						×
File Home Share View						~ 🕐
$\leftarrow$ $\rightarrow$ $\checkmark$ $\uparrow$ $$ « tsclient » \\tsclient\We	bFil	e ~	Ō	Search \\tsclient\V	/ebFile	Q
💻 This PC	^	Name	^ -for-	BYOD-era	Date m	odified
<ul> <li>Documents</li> <li>Downloads</li> <li>Music</li> </ul>	ļ					
E Pictures Videos WebFile on .PLNC6PQ5K9ZUO4						
Local Disk (C:)						
1 item	*	<				>

There are 3 different possibilities to transfer a file:

• From the local computer to the server:



	Den Open					×	:
🗋 127.0.0.1/socket.io/upl — 🗆 🗙	← → ~ ↑ 🕅	« Users	> john > Documents ~	5	Search Documents	م	
127.0.0.1/socket.io/uploadb?path=PLN	Organize 🔻 Ne	w folder			8==		
Click here to select your file!	This PC	^	Name		Date modified	Туре	
127.0.0.1/socket.io/uploadb?path=PLNC6PQ5K9	Desktop		TSplus-for-Windows		3/15/2016 7:55 PM	Microsoft Word	1 D
121.0.0.1/socket.lo/uploadospatt=rencorcosos.	Documents		TSplus-get-started		3/15/2016 6:52 PM	Microsoft Word	I D
	Downloads		Splus-solutions-for-BYOD-era		3/15/2016 7:55 PM	Foxit Reader PD	١F
	Music	11	📓 TSplus-User-Guide		3/15/2016 7:52 PM	Foxit Reader PD	F
	Pictures						
A REAL OF STREET, STRE	Videos						
	🏪 Local Disk (C:	)					
	A	~ <					>
and the second second		File name	e: TSplus-get-started	~	All Files	~	
					Open	Cancel	

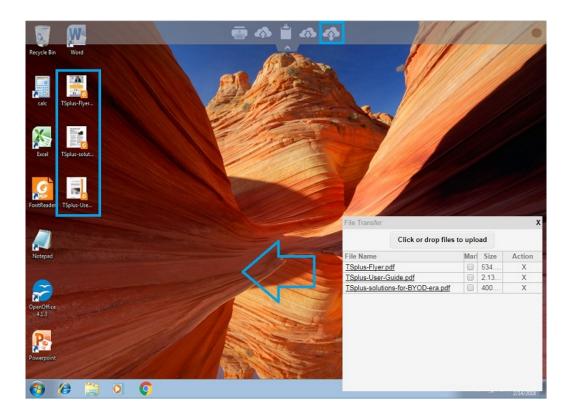
• From the server to the local computer:



→ 🗸 🛧 🗎 🗠 Loc	al Disk (C:) > Users > john > Documents	✓ <sup>™</sup> Searce	h Documents	
ganize 👻 New folder	r			-
🔓 john 🔷 🔨	Name	Date modified	Туре	Size
Contacts	TSplus-for-Windows	3/15/2016 7:55 PM	Microsoft	60
📃 Desktop	TSplus-get-started	3/15/2016 6:52 PM	Microsoft	7
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¥	<			
File na	me: TSplus-for-Windows	~ All (	<sup>•</sup> .*)	

• The file manager which enables you to transfer files from the local computer to the server, with an history of the transferred files:





On the browser side the files are showed inside the browser's list menu. It can be opened via action menu or with Shift + F12.

• When you copy files with Explorer into the WebFile folder, this triggers automatically the event about the creation of a new file in the WebFile folder and the browser menu opens/refreshes automatically to show the new file:

$\leftarrow \rightarrow$	C 127.0.0.1/software/html5.htm				☆ =
	🛫 🗌 🔁 📙 🗧 🛛 WebFile on .PLNC6PQ5K9ZU	04	-		
Recycle	Bir File Home Share View			~ 📀	
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TS	Splus-solutions-forpdf			👲 Show all dow	nloads ×

When using a custom folder, make sure this folder exists on client and server sides. You can set the upload/download destination folder on the Web Portal preferences tile on the web tab of the Admin Tool:

Preferences			_ ,		
Default Values					
Login:					
Password:					
Tubbrora.					
Domain:					
	Show the Dom	ain field 🔽	Remember last login		
Advanced					
Keyboard:	as_browser				
Access Type					
Available Clients:	V HTML5 (	Pad, iPhone, And	roid devices, computers)		
	RemoteApp (				
Gateway Portal: - Upload: Folder to selec		eway Portal enab	der for all received files		
<ul> <li>User Desktop (defa</li> </ul>	ault)	O User Deskt	top (default)		
My Documents		My Docum	ents		
WebFile folder		WebFile for	lder		
Custom folder:		Custom fold	der:		
······	Select	1	Select		
Folder path from where the user will select files to be uploaded. Folder where all downloaded files will be stored on the Server.					
	es from the users PC v n the user PC, Downlo				
Ose Explorer to select	ect files	O Use TSplu	s GUI		

If you want to avoid this behavior, set the following line on the setting.js file which path is by default: C:\Program Files (x86)\tsplus\Clients\www\software\html5\settings.js :

dropboxonnewfile = 0;

Additionally you can set:

sharedfolder = "yes";

to show shared folder and share your files with other users (disabled by default).

If you do not have a file named "settings.js" in the "C:\Program Files (x86)\TSplus\Clients\www\software\html5" folder, then your TSplus version is older and this documentation does not apply. Please update your system first or contact support.

• By default, explorer is used to transfer files. You can also directly download your files from server to client by checking the "use TSplus GUI", and copy any files into the webfile folder:

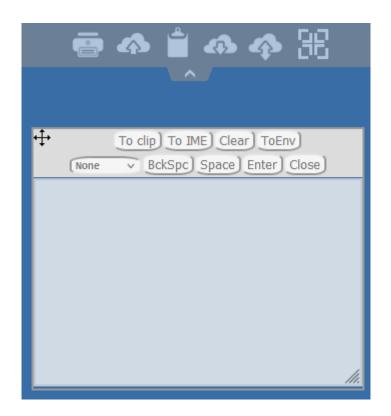
Preferences			_ ×			
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Keyboard:	as_browser					
Access Type						
Available Clients:	V HTML5	(iPad, iPhone, Android dev	ices, computers)			
Gateway Portal:	RemoteApp (	(Windows PCs) teway Portal enabled Web	Page			
Upload: Folder to selec		Oownload: Folder for a	_			
<ul> <li>User Desktop (def</li> </ul>		Output User Desktop (defailed)	ault)			
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WebFile folder		WebFile folder				
Custom folder:		Custom folder:				
	Select		Select			
Folder path from where the user will select files to be uploaded. Folder where all downloaded files will be stored on the Server.						
Downloaded files from the users PC will be stored in the specified folder. (Drag/Drop from the user PC, Download button or File Transfer button)						
O Use Explorer to se		Use TSplus GUI				
Pelp	Reset	Q Preview	Save			

### HTML5 Client: Using Clipboard

The clipboard can be found on the HTML5 Top menu, with this icon:



Most browsers except older MSIE browsers do not support the direct clipboard reading and writing due to security reasons.



#### Here are the different actions:

- **To Clip**: sends TO RDP SESSION the content of the TEXT AREA and produces Ctrl+V on the end to put the text INSIDE RDP SESSION (your OWN ENVIRONMENT is not touched!!!)
- **To IME**: converts chars from TEXT AREA to keystrokes and sends it so as if you have used keyboard. (this button is necessary when you want to put the text where clipboard text input is not supported inside rdp session app)
- **ToEnv**: TRIES to put text from TEXT AREA to YOUR OWN CLIPBOARD outside of your browser (not to RDP session but your own ENVIRONMENT!!!!) Because adding text to own clipboard is priviledged action it must be executed by click.

- To Clip: as mentioned, handles putting of text to rdp-clip+ctrl/v action without adding text outside of own browser due security since it would be pretty dumb to put text inside own clipboard when not really wished to do, so use for it "ToEnv", this behavior will stay so and won't be changed since requested so.
- **BckSpc**: sends to RDP session BACKSPACE button command (your app must be focused and support Backspace button action)
- Space: sends to RDP session Space button command (your app must be focused and support Space button action)
- Enter: sends to RDP session Enter button command (your app must be focused and support Enter button action)

To copy the text from session to clipboard use Ctrl+C and to insert the text from clipboard use Ctrl+V.

But pay attention when you copy the text with Ctrl+C, wait some time before releasing the pushed Ctrl+C buttons, because if the requested clipboard text arrives after you release this key combination, the text will not be added to your environment clipboard. This way uses a native browser clipboard copy support initiated by Ctrl+C.

Alternatively you can use the clipboard menu to copy from and to insert the text into RDP session clipboard.

There you can just insert the text into RDP session clipboard or add it to clipboard and auto-initiate Ctrl+C on RDP session side to insert text. The clipboard menu can be opened via action menu or Shift + F11.

• When you copy the clipboard with mouse inside a RDP session, the text gets sent to browser and as soon as you go out of browser focus, the clipboard menu appears automatically to inform you that there was a clipboard text and that you did not add it to your clipboard environment.

To avoid this behavior set the following line on the Clients folder, by default, the path is: C:\Program Files(x86)\tsplus\Clients\www\software\html5\settings.js :

```
openonclipblur = false;
```

\*If you do not have a file named "settings.js" in the "C:\Program Files (x86)\TSplus\Clients\www\software\html5" folder, then your TSplus version is older and this documentation does not apply. Please update your system first or contact support.

### HTML5 Client: Using two languages

By default the HTML5 client tries to recognize browsers default language and then use it inside RDP session. This behavior is controlled by tag "asbrowser" However you may find the full list of available language tags in http://\*\*\*your server\*\*\*/software/language.html under "Locale"

You have the choice to set fixed language either A: per client directly from HTML5 top menu.

	Language	Locale	Value
0	Portal	as_portal	
0	Browser	as_browser	
	Gateway	as_gateway	
$\bigcirc$	Arabic	ar_ar	1025
$\bigcirc$	Arabic (Algeria)	ar_dz	5121
$\bigcirc$	Assamese	as_as	1101
Ο	Azeri (Cyrillic)	az_cy	2092
$\bigcirc$	Azeri (Latin)	az_lt	1068
$\bigcirc$	Belarusian	be_be	1059
$\bigcirc$	Bulgarian	bg_bg	1026
$\bigcirc$	Bengali	bn_bn	1093
$\bigcirc$	Tibetan	bo_bo	1105
$\bigcirc$	Bosnian (Cyrillic)	bs_cy	8218
$\bigcirc$	Bosnian (Latin)	bs_lt	5146
$\bigcirc$	Catalan	ca_ca	1027
Ο	Czech	cs_cs	1029
$\bigcirc$		cs_cz	1029
$\bigcirc$	Welsh	cy_gb	1106
$\bigcirc$	Danish	da_da	1030
$\bigcirc$		da_dk	1030
$\bigcirc$	German (Swiss)	de_ch	2055
000000	German	de_de	1031
$\bigcirc$	Divehi	dv_dv	1125
Ο	Greek	el_el	1032
$\bigcirc$		el ar	1032
$\bigcirc$	English (Canada)	en_ca	4105
$\frown$			4000

**B:** or from portal by setting it in AdminTool GUI which will be effective for everyone.

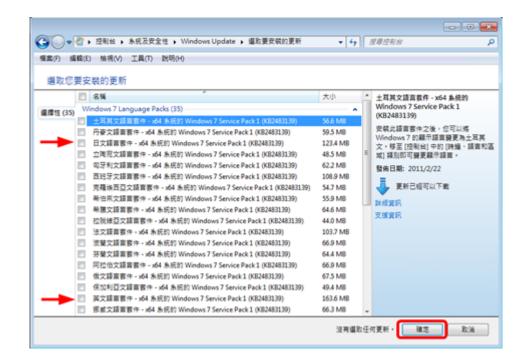
A: A: en_us de_de more Preferences Default Values Login: Password: Domain:	👘 📩 📣	- <b>4</b>		frca
A: en_us de_de more Preferences B:* Default Values Login: Password:				fr_ca
more       Preferences     B:       Default Values       Login:       Password:       Domain:		A:		en_us
Preferences     B:       Default Values       Login:       Password:       Domain:				de_de
Preferences     B:       Default Values       Login:       Password:       Domain:				more
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Login: Password: Domain:	Preferences	B:	- / -	. ×
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Show the Domain field Remember last login	Domain.	L		
		Show the Dømain field	<ul> <li>Remember last login</li> </ul>	
Advanced	Advanced			
Keyboard: as_browser		as_browser		

You should restart session if setting another language as main.

Remember: when using **HTML5 client** in mulitple language scenario go sure that language used inside Web-HTML5-RDP session is synchronized with the language actually set on your PC/Laptop/Mac etc. Else some chars that are represented and crossing in every language map may produce wrong char by sending scan code actual for another language. Also that means, if you changed the language from English to German inside web-session then change it to German on PC/Laptop/Mac too.

# HTML5 : Changing language to Chinese

You need Windows 7 Enterprise or Ultimate / Windows 8 Enterprise or Professional to use multi-language on one system. You can install every language on the system if you need.



You could publish a language applet for users to change their own O/S language of UI and add IME (Input Method Editor).

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三 最小化数数结据数	明程式	🔄 股動並錄就這個應用程式	
			<b>16</b> 74

For Windows 7: control /name Microsoft.RegionAndLanguage

For Windows 8: control /name Microsoft.Language

Complete List: http://pcsupport.about.com/od/tipstricks/tp/control-panel-applets-list.htm

Optional : this is how to restrict the Control Panel behavior for users by GPO :

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<ul> <li>(開始) 功能表和工作列</li> <li>Microsoft Excel 2013</li> </ul>	D 陸線地理位置爆弾	<b>創用</b> 1	其他動作	_
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Microsoft PowerPoint 20	(1) 計對爆取的使用者來限制 Windows 應使用的 UE 語言	向朱殿定 (	其他動作	
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Users can change O/S language of UI after logon system. (Users have to logout and logon again to take effect after changing this setting)

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The user has to select Chinese IME first to input Chinese chars.

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### HTML5 Server Memory Usage

Terminal Service Plus HTML5 Server runs on JAVA. Understanding how JAVA handles memory help to understand Terminal Service Plus HTML5 Server memory usage.

#### Assigned memory

When Java runs, it tries to allocate 25% of the computer physical memory. This memory is "assigned" but not directly used - it is not the real memory usage that one can see in Windows Task Manager.

#### JAVA platform: 32-bit vs 64-bit

There is one big difference between these two platforms:

- JAVA 32-bit cannot handle more than 4GB of RAM by definition. Since it will allocate 25% of all available memory, it will allocate at most 1GB, assuming there is 4GB physical memory. If there is only 2GB physical memory, it will only allocate 500MB, etc.
- JAVA 64-bit can handle a lot more than 4GB (theoretically up to 16 *exa*bytes), so the allocated memory will only depend on physical memory.

#### JAVA memory management

JAVA is a "virtual machine". It means that JAVA handles memory management on its own. Once JAVA allocates some memory, even when it does not need it anymore, it will not automatically give it back to the system. This is for performance reasons, as memory allocating and de-allocating are CPU intensive tasks.

JAVA will usually wait until it has a big chunk of unused memory before giving it back to the system. The size of this big chunk directly depends on the size of the computer physical memory. The more physical memory on a computer, the more memory is allocated by JAVA.

#### **Terminal Service Plus HTML5 Server Memory Usage**

All these technical details are the reason why one can open Windows Task Manager and think that Terminal Service Plus HTML5 Server uses a lot of memory, or that JAVA 32 bit uses less memory than JAVA 64 bit.

Actually, the memory really used by Terminal Service Plus HTML5 Server is directly related to the number of opened HTML5 sessions. The more available memory on the computer, the more HTML5 sessions you can open.

#### HTML5 Session Memory Usage

The memory used by an HTML5 session depend on the user activities (applications and programs used, Word/Excel versus drawing-intensive programs) and the connectivity method established between the Terminal Service Plus HTML5 Server and the client computer.

In the general use case, an HTML5 session will use 30 MB of memory (standard use, binary websockets connectivity). In the worst case, a session will use up to 100 MB of memory (intensive use, "XHR" fallback connectivity for older browsers).

# TSplus App

The TSplus App allows you to connect to your TSplus server from any device, anywhere!

Just like TSplus, it provides fast and stable remote connections from tablets and smartphones to Windows desktops and business applications.

Access your applications and business data in real time and easily print any document and photo you need on the nearest local printer.



For more information and download links, go to the App page on our website.

#### Hardware Requirements and Operating Systems

The TSplus App is available on PCs, mobiles and tablets with the following OSs: Windows, iOS, Android from 4.4 version and Linux.

#### **Pre-requisites**

- The host site must be a TSplus Mobile Web or Enterprise system.
- The 11.30 release (and over) must be installed on this host.

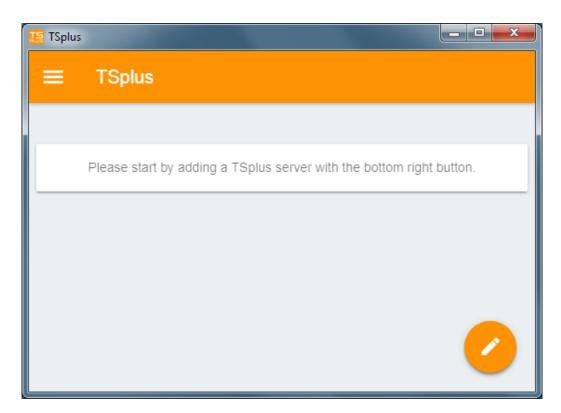
# **TSplus App Configuration**

#### Manage your servers

The user interface and configuration are simple and intuitive.

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My Home PC	¢ =
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First, add a TSplus server by clicking on the bottom right button:



Then, add your server information and configure it:

- Enter its its host name or IP address.
- SSL is disabled by default, but you can choose to enable it.

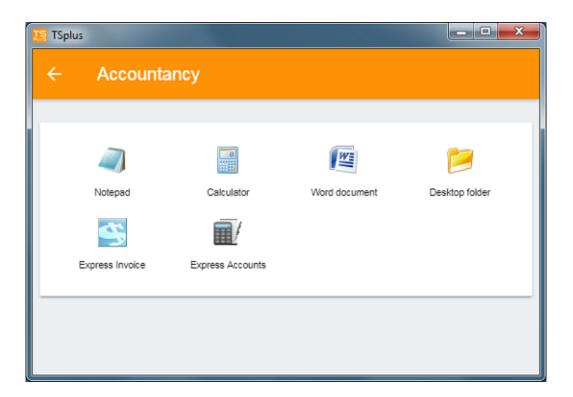
*Warning:* SSL Activation only works if you installed a valid SSL Certificate on your TSplus server. See <u>this</u> <u>documentation</u> for more information.

- Enter its display name, which is optional.
- Enter your user's credentials with the domain or user name and its password.

👪 TSplus	
← Edit TSplus server	8
TSPLUS SERVER	
Host name or IP address accountancy.tsplus.net	
Use SSL?	
Display name (optional) Accountancy	
CREDENTIALS	
Domain\username John	
Password	

Then click on the top right button to save. You can now click on your server to access your applications:

TSplus	
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#### Printing

Easily print on your local printer by using the <u>Universal Printer</u>. Since TSplus App 11.40 version, printed documents open with the default PDF reader app.

#### Settings and Version

Under the top left menu, you can:

- Manage your servers
- Manage your settings
- See the legal information on the About section, and your TSplus App version.



#### Settings

Various settings are available on the Settings window:

≡ Settings	
GLOBAL	
Language	English -
DISPLAY	
Zoom level	50% -
Reduce network us	sage 🕖
Mouse pointer size	e Medium 💌

- You can change the language.
- Modify the display settings by changing the zoom level at your convenience, reduce network usage or choose between 3 mouse pointer sizes: small, medium or large.

#### Version

On the About window, you can see the legal information as well as your current TSplus App version :

15 TSplus	
≡	About
	TS PLUS
	TSplus
	11.40.1
	Copyright 2017-2018 JWTS
	All rights reserved

### Overview

#### Overview and Naming

The goal of TSplus Farm features is to allow the Administrator to manage all his TSPlus servers from a single server. This server can be referred as the **Farm Controller**.

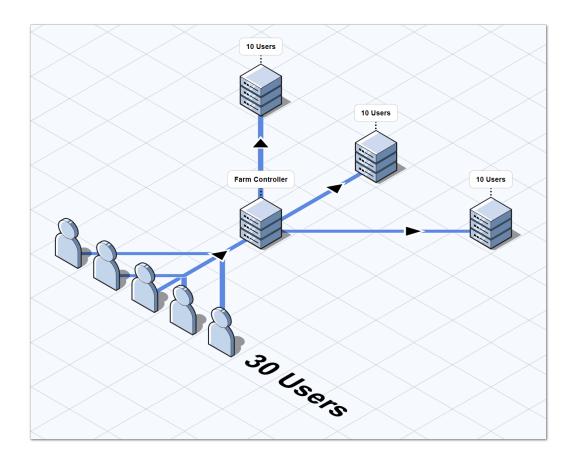
The TSplus servers in the Farm are named the Application Servers, or just Servers.

This Farm Controller, once having its farm populated with Application Servers, will also become a **Gateway Server** once you enabled any of the Farm features such as:

- Load balancing
- Reverse Proxy
- Assign Servers

This Gateway Server will basically become the main entry point of all your users when either "Load Balancing" or "Assign Servers" is enabled.

Finally, this Farm Controller will also allow you to monitor any Applications Servers, and easily push TSplus related settings such as Applications and Advanced settings from your Farm Controller to your Application Servers.



#### **TSplus Farm of Servers Architecture**

There are 2 options to deploy a TSplus farms of servers:

Option 1: All your servers have public IP addresses and can be reached from the Internet.

OR

**Option 2**: Only the Gateway Portal can be reached from the Internet. The Gateway Server is providing a "Reverse Proxy Role".

In both options:

- Every server has the same TSplus configuration.
- Every server has the same HTTP/HTTPS ports.
- To publish a new Application just add it to your users/groups of users on the AdminTool.

Of course, make sure that this application is installed on the targeted Application Servers. All Web Access types are available without any specific configuration: RemoteApp and HTML5 clients.

# Option 1 - All Servers have their own Public IP Address and can be reached from the Internet.

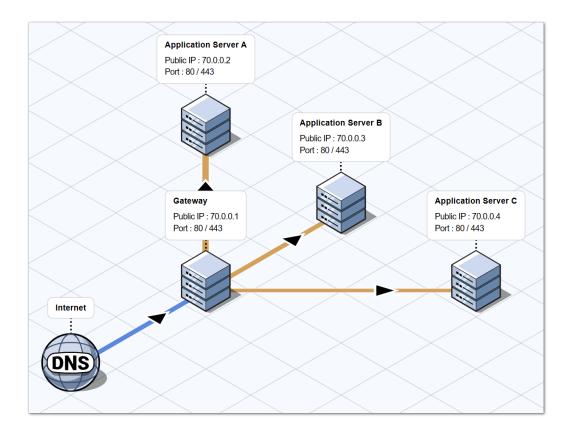
This is the recommended architecture to use Terminal Service Plus Gateway.

This architecture follows best practices and allows the IT Administrator to industrialize its environment:

- Every server has the same Terminal Service Plus configuration
- Every server has the same HTTP/HTTPS ports
- Deploying a new Application server is only a matter of minutes (just add the server to the farm in the AdminTool on the Gateway server)

With this architecture, all access types are available without any specific configuration: Remoteapp and HTML5 clients.

This architecture is described in the diagram below:



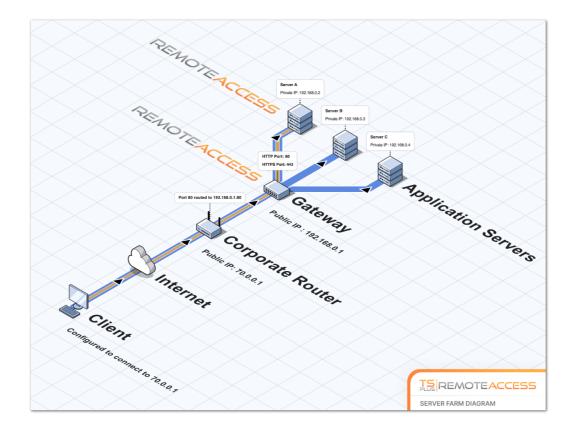


# Option 2: Only the Gateway Portal can be reached from the Internet and includes a "Reverse Proxy Role".

Terminal Service Plus Gateway can also be set up with only 1 Public IP Address.

The Gateway redirects any external connection request to any available server. If you do not use the load balancing feature, users will connect to their assigned server(s).

This architecture is described in the diagram below:



For more information about the Reverse Proxy Role, see the <u>Reverse Proxy Feature documentation</u>.

#### **Releases History**

- API 1.5 (released with TSplus 15.50)
  - Integrated Reverse-Proxy, Load-balancing and application server assignment configuration
  - Added synchronisation between applications/settings of the farm controller and every application servers
- API 1.4 (released with TSplus 10.10)
  - $\circ\,$  Load-Balancing centralized monitoring
  - $\circ~$  Enable/Disable a Server in TSplus Load-Balancing Manager
  - Translations in multiple languages (TSplus language will be used)
  - $\circ~$  Several settings added + display bugs fixed
- API 1.3 (released with TSplus 9.70)
  - Settings centralized monitoring and management (Global settings / Floating Panel / RemoteApp Client / HTML5 Client)
- API 1.2 (released with TSplus 9.60)
  - Farm Manager
  - Servers centralized management (add/remove)
  - Sessions centralized monitoring and management (messages/disconnect/logoff)
- API 1.1 (released with TSplus 9.30)
  - Load-Balancing internals
  - Load-Balancing Sticky-Sessions

# Prerequisites

#### Hardware Requirements

Farm Controller and Application Servers have the standard Terminal Service Plus requirements for hardware.

#### **Operating System Requirements**

Farm Controller and Application Servers must use one of the following Operating System:

- Windows 7
- Windows Server 2008 R2
- Windows 8
- Windows Server 2012
- Windows 8.1
- Windows Server 2012 R2
- Windows 10 Pro
- Windows Server 2016
- Windows Server 2019

32 and 64-bit platforms are supported.

#### Network Requirements

Every Application Server must be accessible from the Farm Controller.

More specifically, the Farm Controller will issue requests to every Application Server on its API port (19955 by default) and this port must be opened on any firewall standing between the Farm Controller and Application Servers.

The network latency must be low between the Farm Controller and Application Servers. A latency under 200 ms is recommended, a latency under 2 000 ms is required.

#### Software Requirements

.NET 2.0 or higher is required - this should not be a problem as a compatible .NET version is enabled by default on every Operating System supported for Terminal Service Plus Farm.

#### Terminal Service Plus License and Version Requirements

Terminal Service Plus must be in "Enterprise" edition on the Farm Controller and on all the Application Servers.

All the servers must also run the same version of Terminal Service Plus.

#### **Configuration Requirements**

Farm Controller and Application Servers must have the same date/time configured. It is highly recommended to synchronize the Windows clock of all servers with an Internet Time Server if not already done.

#### Users Requirements

An Active Directory is **not** required, however if you do have an Active Directory, then your Domain Administrators must also be Local Administrators of the Farm Controller to be able to use Terminal Service Plus Farm Manager.

# Farm Setup

#### Overview

To create a farm, you simply need to add application servers from the TSplus AdminTool.

You will be able to manage application servers in the section "Farm" of the AdminTool.

TSplus - Administration Consol	le - 15,40	- 0 X
	TEACCESS	🌯 Lite Mode English 🝷
П номе	Applications Servers	
	Name         Hostname         Status         Internal Name         Private IP Address           Enabled	Add
	server1     up server1     server2     server3     server3     verver3	Edit
S web	server3 Up server3	Remove
FARM		Disable
SESSIONS		Connect
SYSTEM TOOLS	- Legend	
203 ADVANCED	The server has joined to accept the invitation to join the farm Update needed to version >= 15:50 to to invite the server.	Cannot invite the server.
紎 ADD-ONS		
ତ୍ମ LICENSE	Reverse-Proxy (2) Monitor Sessions	
	م Load Balancing ب Synchronize Applications a	nd Settings
	Assign Servers . Reset Farm	

From this window, you will be able to perform several actions:

- "*Add*": add a new application server
- "*Edit*": edit the selected server.
- "*Remove*": permanently remove the selected server from the farm (you can still add it again later with the "Add" button).
- "Disable/Enable": temporarily disable or enable the selected server (users will not be able to connect to this server).
- "*Connect*": open the default RDP client and connect automatically to the selected server. If your credentials are saved in MSTSC they will be used, otherwise you will have to enter your credentials.

You can also access these actions from the contextual menu displayed with a right click on a server.

On the bottom panel you will find a quick access to the main farm features available once application servers have been added:

- "Load Balancing": allows you to redirect users connecting from the gateway server to the least loaded server of the farm
- "Reverse Proxy": allows you expose only the gateway server, and makes application servers accessible using URL such as https://gateway-server-domain-or-ip-address/~~application-server-internal-name
- "Assign Servers": allows you to restrict user and groups available application servers when connecting from the gateway server, making them able to choose the server they want to connect if multiple servers are assigned.

- "Monitor Sessions"\*: allows you to monitor current session and quickly perform actions such as disconnected, logoff, send message, view session or control session.
- "Synchronize Applications and Settings"\*: allows you to push every advanced settings and published application to the selected application servers
- "Reset Farm": allows you to reset the farm, which will remove every servers and reset every farm feature configurations e.g the "Reverse Proxy", the "Load Balancing" and the "Assign Servers" configurations

\*: These features are accessible only for application servers which completely joined the farm for security reasons, meaning you will need to accept first the invitation sent by your farm Controller, on the application server side.

#### Add an Application Server to the Farm

To add an application server, click on the "Add" button. The following window will be displayed:

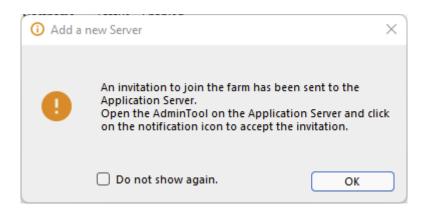
Add a new Server		_		×	
General server information					
Display Name:					
Hostname:	eg: 1.1.1.1	eg: 1.1.1.1 or server1.mycompany.com			
Ports information					
Web Port:	443	🔽 Use HTTP	s		
RDP Port:	443	🕑 Use the V	Veb Port		
Reverse-Proxy information					
Filling the Reverse Proxy Information is optional if you don't intend to use it.					
Private IP address (LAN):	eg: 192.168	eg: 192.168.10.101			
Internal server name:					
			Save		

You will need to specify its Display Name and Hostname (you can type an IP or a domain name, without a port number). Filling the Reverse Proxy information fields is optional only if you are not currently using the Reverse Proxy feature. *The internal name will be automatically filled with an available display name if empty to ease the overall server configuration*.

**IMPORTANT:** the RDP port option "Use the web port" specify that you want to leverage the RDP port forwarding feature (enabled by default) offered by the application server's web server.

As a result, If you want to use the "Use the web port" option, please make sure that on the application server added, the "Disable RDP forwarding" option in the AdminTool > Advanced > Security is set to "No".

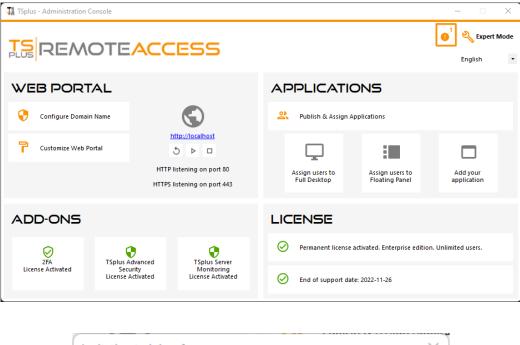
Enter the Application Server details, then click on the "Save" button. An invitation to join the Farm will be sent to the Application Server added:

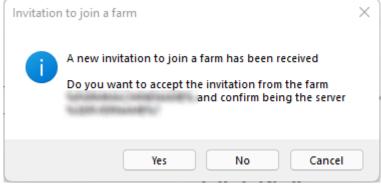


Accepting this invitation on the application server side is required if you want to be able to use the "Monitor Sessions" and "Synchronize Applications and Settings" for security reasons.

It is however not required if you only need to use the "Reverse Proxy", "Loadbalancing" and "Assign Servers" features.

To accept the invitation, open an Administrator session **on the Application Server** you added to the Farm. Click on the alert button at the top right corner of the TSplus AdminTool, then click on "Yes":





On the Farm Controller side, you can see the list of Application Servers in the Farm. They can have three states represented by colored icons:

- Joined to Joined The Application Server has fully joined the Farm by accepting the invitation
- Pending<sup>foun</sup>Pending<sup>n</sup>The<sup>n</sup>Application Server has partially joined the farm, waiting for the application server to accept the invitation
- Update freeded type un Update needed: The Application Server has partially joined the farm, but the invitation cannot be sent because the server is using a TSplus Remote Access version 15.50
- Unreachable or typUnreachable: The Application Server has partially joined the farm, but the invitation cannot be sent because the server is unreachable

	Name	Hostname	Status	Internal Name	Private IP Address
En	abled -				
	srv1	Up	101841	107.841	
	srv2	Up	101641	107.841	
R	srv3	Down	101841	101841	

# **Reverse Proxy**

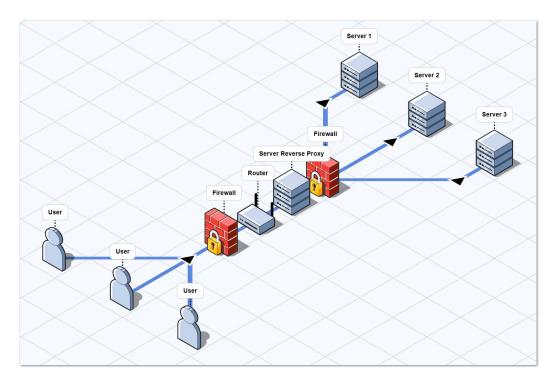
#### Overview

This feature is available in the TSplus Enterprise Edition.

The Reverse Proxy system acts as an intermediary for its associated servers to be contacted by any client.

The advantage of using a reverse-proxy is simple: you will no longer need to create as many port redirection rules as your number of TSplus servers.

Whether or not you are using the load balancing feature, you need to activate it in order to connect using the reverse proxy. In TSplus, it provides a unique access point to a farm of load-balanced TSplus servers:



This unique access point will be your Gateway Server TSplus Web Portal.

Since this server is going to be accessed remotely, you will need to set up one port redirection rule on your router, including the http or https ports depending on your preference (80 being the default port for http and 443 for https).

## Configuration

You can access the Reverse Proxy configuration interface through the FARM tab:

-18	TSplus - Administration Console	- 15.40	– 🗆 X
PL	REMOT	EACCESS	🌯 Lite Mode English 🔹
ŵ	номе	Applications Servers	
	APPLICATIONS	Name Hostname Status Internal Name Private IP Address Enabled	Add
8	PRINTER	server1 Up server1 server2 Down server2 server3 Up server3	Edit
Q	WEB	server3 Up server3	Remove
₽	FARM		Disable
۵	SESSIONS		Connect
ez,	SYSTEM TOOLS	Legend	
鐐	ADVANCED	He server has joined the farm     He	Cannot invite the server.
ది	ADD-ONS	to join the raim invite the server.	
©7	LICENSE	Reverse-Proxy	
		د معنا المعنانية Load Balancing ي Synchronize Applications a	and Settings

#### Click on the Reverse-Proxy button.

TSplus - Administration Console		- 0	×
	EACCESS	Nite Moo	de •
Ф номе	Arm → Farm → Reverse-Proxy		
	Reverse-Proxy is disabled		
	Gateway Server Gateway Public IP / DNS:		
S WEB	Protocol: O HTTP O HTTPS		
FARM	Poply Apply		
SYSTEM TOOLS			
ស្ដែ advanced			
紎 ADD-ONS			
ତିନ୍ଦ୍ର LICENSE			
	The reverse-proxy system acts as an intermediary for its associated servers to be contacted by any client: you will no longer need to create as many port redirection rules as your number of servers.		

- Click on the "Reverse-Proxy is disabled" button to activate it.
- The Gateway Public IP must be set with a fixed valid IP address or domain name.
- Select HTTP or HTTPS for your preferred connection method, the servers of your farm must be able to communicate with eachother on either port 80 or 443, depending on which connection method you use. It is also important that your windows firewall don't block these ports.

Once you completed your configuration, click on "Apply" to save these Reverse Proxy settings.

#### Access to application servers through Gateway Server

Once enabled and operational, the Reverse Proxy feature allows you to access to the application server using a special URL formatted as follow:

(1)://(2):(3)/~~(4) with:

- (1): the Reverse Proxy protocol configured
- (2): the Gateway Server public IP address or domain name
- (3): the Gateway Server web port associated to the configured Reverse Proxy protocol
- (4): the application server's internal name used by Reverse Proxy

For example, assuming that:

- the reverse proxy protocol configured is HTTPS
- your Gateway Server has public IP 1.1.1.1
- your Gateway Server is using the HTTPS port 443
- the targeted application server you want to connect uses the internal name "srv2"

The special URL to use in order to reach the targeted application server will be 1.1.1.1:443/~~srv2

As a result, you can access the web portal of this application server using this special URL.

You can also generate a Connection Client which will connect to this specific Application Server through the Gateway Server using this same method Simply use the special URL in the server address field of the Connection Client Generator.

For example:

Win	dows Client Generator			_ ×
<u>General</u>	Display Remote Desktop client Seamless clie	nt Local resources	Program Security	Load-Balancing
Server	Server address	Port number		
	246.14.245.12:443/~~srv2	3389		
User	Logon	Password		
	john	••••		
	Domain name (without extension)			
Preferre	ed display mode	PP client	Seamless client	
	Disable background & animations for better period	fomances	Fast network or	Fiber optic
Client nar	ne: john.connect			Create Client

# Load Balancing

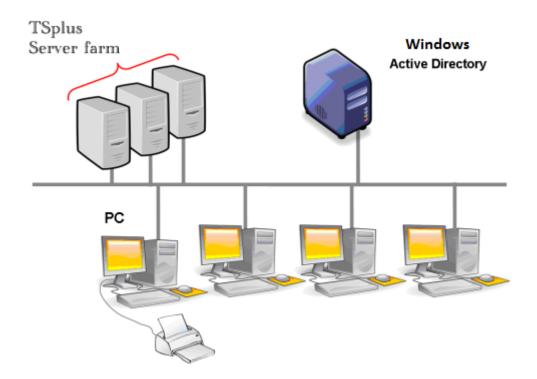
## Pre-requisites

Using this feature, you will be able to manage a load balanced environment.

It means that the load of all your users will be distributed between your servers. The workload will be shared between all the servers of your farm.

Load Balancing enables to use an unlimited number of servers with load balancing, and is available with the Enterprise edition (one valid license per server). This very powerful and advanced capability is to be used when a large number of users/servers has to be deployed.

Important : Simply enabling Load Balancing will redirect users to the least loaded server of the farm regardless of any assigned servers configured for the users. If you intent to use Load Balancing AND Server Assignment, make sure to tick the checkbox "Load balance on assigned servers"



Usually we recommend using one server for 50 concurrent users. For standard commercial application written in VB, C, C++, Delphi or Uniface you can go up to 100 concurrent users.

## Generated Clients and Web Access

There are three ways to connect to a Load Balanced cluster:

• Using a Generated Client (executable program, created by the Portable Client Generator)

- Using a Web Portal Access by activating it on the Web Portal Preferences window.
- With the <u>TSplus App</u> from your mobile device.

## Load Balancing Main Window

The Load Balancing Manager can be found under the Farm Tab of the AdminTool:

TSplus - Administration Console	- 15.40	– 🗆 X
	EACCESS	🌯 Lite Mode English 🔹
<b>Ф</b> номе	Applications Servers	
	Name Hostname Status Internal Name Private IP Address	 E⊕ Add
	server1     Up server1     server2     server3     Up server3	Edit
S WEB	by servers	Remove
FARM		Disable
		Connect
SYSTEM TOOLS	Legend	
🛱 ADVANCED		Cannot invite the server.
ՀՇ ADD-ONS		
ତିଙ୍ଗ LICENSE	Reverse-Proxy Omnitor Sessions	
	🛐 Load Balancing	Settings
	Assign Servers 📀 Reset Farm	

This window allows you to configure Load Balancing. It lists all the servers in your Load Balanced server farm and allows you to enable, disable and configure the Load Balancing (more on this below).

Click on the buttons in the picture below to access the corresponding information:

Inoad Balancingype unknown

## Enabling/Disabling Load Balancing

On top of the Load Balancing window, you will see a big button:

- This button displays the current state of the Load Balancing.
- If you click on it, it will enable or disable the Load Balancing depending on its current state.

Here is the button when the Load Balancing is Disabled. A click on it will activate it.



Here is the button when the Load Balancing is **Enabled**. A click on it will deactivate it.



## How does Load Balancing choose a server?

When Load Balancing is enabled, the user will be sent to the less loaded server at the time of his connection.

## Configuring the Computation of Servers' Loads

To determinate which is the less loaded server, the load of every server is computed using a weighted average between several performance indicators:

- number of connected users
- processor usage
- memory usage
- disk usage

You can modify the weight (importance) of these indicators by using the following sliders:

Load Bala	ancing Weights				
Users:	0%	100%	Memory:	0% 100%	
	50%			70%	Back to Default Settings
CPU:	0%	100%	I/O:	0% 100%	<b>_</b>
				1 <mark>.</mark>	
	20%			30%	

Using these sliders, you will be able to fine-tune the Load Balancing, and to optimize it to your own needs. For instance if your users launch a business application with big memory requirements, it might be a good idea to increase the impact of the RAM in the load computation using the "Memory" slider.

You can also reset these values by clicking on the "Back to Default Settings" button.

## How is Server's Load computed?

The load of each server is computed when needed in order to decide on which server the user must be sent.

For this computation, we use a weighted average between 4 hardware metrics.

The 4 sliders allow you to give more (or less) weight on each of these metrics, which are:

- Users : number of connected users
- CPU : percentage of non-idle processor time
- Memory : percentage of used memory
- I/O : percentage of non-idle disk time

For example, if you put the "Memory" slider on its right side and all the other sliders on their left side, the load of each servers will be computed using almost only the percentage of used memory - and your users will be sent to the server having the most available memory.

• When a slider is completely on the left, the weight used in load computation will be 1.

• When a slider is completely on the left, the weight used in load computation will be 100.

Moreover, the load of a given server depends on the ratio [ used resources / total resources ]; so if a server A is twice as powerful as a server B, twice more users should be sent to server A than to server B (all other things being equals).

#### Servers

You can see the list of Load-Balanced Servers Status and details on the performances indicators of each server.

The servers are sorted from the less loaded to the most loaded according to your configuration.

The list of Load-Balanced Servers Status is automatically refreshed. This automatic refresh stops if the connection becomes unavailable. You can change the refresh rate at the top right corner of the "Server" box.

TSplus - Administration Console		– 🗆 X
	ACCESS	Lite Mode English 💌
ŵ ≻	Farm > Load_Balancing	
	Coad Balancing is Enabled Salance on user's assigned servers	Sticky Sessions are Enabled
	Users: 0% 100% Memory: 0% 100%	Back to Default Settings
🕤 WEB	CPU: 0% 100% 1/0: 0% 100%	back to Derault settings
FARM	20% 30%	
	Name Hostname Status Users CPU %) Memory %) 1/0 % Load %	Refresh rate (s): 5
SYSTEM TOOLS	Enabled	
	srv1         Up         3         13         11         0         11           srv2         Up         0         0         36         0         25           srv3         Up         1         0         61         0         43	
↔ ADD-ONS		

## Load-balance only on user's assigned servers

Load-balancing can also be done directly on user's assigned server using the **checkbox ''Balance on user's assigned** servers''.

As a result, you will be able to load-balance on accounting department servers only for accountant users, once these specific servers have been assigned to the accountant users.



## Activate the sticky session feature

You can activate the sticky session feature by clicking on the right button of the Load balancing window:

#### Activate the sticky session feature

You can activate the sticky session feature by clicking on the right button of the Load balancing window:

	Sticky Sessions are Enabled
It will allow you to reconnect to a disconnected session instead of opening a r	new session on a different server.

Enabling existing sessions web listing is required for Load Balancing Sticky Sessions feature.

It will allow you to reconnect to a disconnected session instead of opening a new session on a different server.

https://docs.terminalserviceplus.com/tsplus/advanced-features-security

TSplus - Edit Setting	×	
Disable existing sessions web listing		
Description:		
Do not list current sessions in public server heartbea listing is required for Load-Balancing Sticky Session:		
	~	
Value:		
Yes	~	

## Load Balancing using a Connection Client

If you want to generate a <u>Connection Client</u> for a user to connect to the less loaded server, you will need from the *Client Generator* in the "*Load-Balancing*" tab to:

- Check the "Use Load-Balancing" checkbox
- Fill in the "Gateway Web port number" field with the HTTP or HTTPS port used by your Gateway Server

ieneral	Display	Remote Desktop	client	Local resource	es Program	Security	Load-Balancing	
Enable	Load-Bala	incing ?						
- 1	🗹 Use I	.oad-Balancing	Gate	way Web port	number 80			
	When 'U	se Load-Balancing	g'is chea	cked, it enable	s using the G	ateway		
	with Loa	d-Balancing to cor	nnect to	an Application	Server of the	fam.		
	Prior usir	ng this advanced f	eature, p	lease read ou	r <mark>documentat</mark> i	on		
	Prior usir	ig this advanced f	eature, p	lease read ou	r <mark>docu</mark> mentati	on		
	Prior usir	ig this advanced fo	eature, p	lease read ou	r documentati	on		
	Prior usir	ng this advanced f	eature, p	lease read ou	r documentati	on		
	Prior usir	ng this advanced f	eature, p	lease read ou	r documentati	on		
	Prior usir	ng this advanced f	eature, p	lease read ou	r documentati	on		
	Prior usir	ig this advanced f	eature, p	lease read ou	r documentati	on		
	Prior usir							
Client loc.		ig this advanced fo			r documentati			Create Client

• Use the public IP address or hostname of your Gateway Server directly in the "Server" field.

dows	Client Genera	tor				_ 1
Display	Remote Desktop client	Seamless client	Local resources	Program	Security	Load-Balancing
			Port number			
Logon			Password			
John			•••••	•••••	••••	
Domain	name (without extension)		]			
d display	mode					
Rem	ote Desktop client	○ RemoteAPP	client	⊖ Seam	lless client	
🔿 Disa	ble background & animatio	ons for better perfo	mances	⊖ Fast r	network or	Fiber optic
ation:	C:\Users\John\Desktop		Browse			a . a
ne:	John.connect					Create Client
	Display Server a gatewa Logon John Domain Omain Omain Onsal ation:	Display Remote Desktop client Server address gateway.mycompany.com Logon John Domain name (without extension) d display mode	Server address gateway.mycompany.com Logon John Domain name (without extension) d display mode  Remote Desktop client Disable background & animations for better perforation: C:\Users\John\Desktop	Display       Remote Desktop client       Seamless client       Local resources         Server address       Port number         gateway.mycompany.com        Password         Logon       Password         John       •••••••••         Domain name (without extension)       •••••••••         d display mode       • Remote Desktop client       • RemoteAPP client         • Disable background & animations for better performances       Browse	Display       Remote Desktop client       Seamless client       Local resources       Program         Server address       Port number         gateway.mycompany.com	Display       Remote Desktop client       Seamless client       Local resources       Program       Security         Server address       Port number         gateway.mycompany.com        Password         Logon       Password         John       •••••••••         Domain name (without extension)       •••••••••         Id display mode       Image: Client       O Remote Desktop client       O Seamless client         Image: Original Disable background & animations for better performances       O Fast network or         ation:       C:\Users\John\Desktop       Browse

# Server Assignation

#### Overview

The farm controller can act as a Gateway Server, redirecting users upon connection to specific application servers of your farm. You will be able to assign one or several servers to a user / a local group / an Active Directory group. **Important: Assigning servers only works from the TSplus Web Portal, and not with connection clients.** 

If the user has more than one server assigned, he will be able to choose which server he wants to access in the list of servers assigned to him.

If the farm is within a Domain, the Gateway will use his AD credentials and the user will connect with Single Sign-On (SSO).

Otherwise, he must have the same local credentials on each server.

## Assign Application Servers to Users or Groups

To assign servers, please click on the "Assign Servers" button:

TSplus - Administration Console - 1	15.40	– 🗆 X
	EACCESS	Nite Mode
மி номе மி	Applications Servers	
	Name Hostname Status Internal Name Private IP Address Enabled	Add
	server1     Up server1     server2     server3     verver3     verver3	Edit
S WEB	server3 Up server3	Remove
FARM		Disable
		Connect
SYSTEM TOOLS	Legend	
ADVANCED	The server has joined the farm to accept the invitation to join the farm Update needed to version >= 15.50 to invite the server.	Cannot invite the server.
값 ADD-ONS	to join the farm invite the server.	
ତିନ୍ଦ LICENSE	Reverse-Proxy	
	Coad Balancing Synchronize Applications and	d Settings
	Assign Servers Reset Farm	

To assign a server to a user, simply select it with the "Select a User/Group" button and then check the server's checkbox in the "Servers" list.

To remove a server assigned to a user, simply uncheck the server's checkbox in the "Servers" list.

TSplus - Administration Console	🛄 TSplus - Administration Console — 🗌 🗙		
	TEACCESS	Number Numbe	
☆ Home □ Applications			
PRINTER	n/2 n/3 n/1		
FARM			
SYSTEM TOOLS			
ស៊្វី advanced			
값 add-ons			

## Important Notes

- The example above is for a Domain or a Workgroup.
- If you use a workgroup the users logins must be the same on each application server that you assign.
- This Server Assignation feature can be configured and used simultaneously with the Load Balancing feature, allowing the farm controller to load balance on assigned servers. To do so enable the Load Balancing and check the option "Load balance on assigned servers".
- If the Server Assignation feature and the Load Balancing are both enabled, unless the option "Load balance on assigned servers" in the Load Balancing configuration is enabled, the Gateway Server will redirect users to the least loaded server regardless of their assigned servers.

#### Example of what you will get when users connect to the Gateway

John can select the server. He wants and he will get an auto-logon to this server:

TSPLUS Log on			
	john	*	
	••••	-	
	Domain:		
22	Accounting		
	Accounting SAP server Headquarter R&D Office		

If he types a wrong password, John will have to retype his password:

	TSPLUS	
L	.og on	
	john	1
	••••	x
	Domain:	
100	Headquarter 🔽	
	◎ HTML5 ◎ RemoteApp invalid credentials	
	Log on	

Julia has a different list of possible servers:

	TSPLUS	
	julia	1
	•••••	
	Domain:	
25	Accounting	
	Accounting SAP server	
	Log on	

Someone tries to hack the Gateway. He does not see any server and the Gateway blocks his web access.

TSPLUS	
Log on	
hacker	
••••••	
Domain:	
HTML5 RemoteApp	
Log on	

# **Monitor Sessions**

## Overview

You can access the monitoring session interface through the FARM tab:

TSplus - Administration Consol	le - 15.40	– 🗆 X
	TEACCESS	🌯 Lite Mode English 🔹
П номе	Applications Servers	
	Name Hostname Status Internal Name Private IP Address Enabled	⊷ Add
	server1     server2     server2     server3     server3     server3	Edit
S WEB	server3 Up server3	Remove
FARM		Disable
		Connect
SYSTEM TOOLS	Legend	
ស៊្វា Advanced	The server has joined the farm	Cannot invite the server.
값 ADD-ONS	to join the farm invite the server.	
	Reverse-Proxy	
	5 Synchronize Applications an	d Settings
	Assign Servers 📀 Reset Farm	

Click on the "Monitor Sessions" button to display the following tab:

TSplus - Administration Con	sole	– 🗆 X
	TEACCESS	Nite Mode English
<b>М</b> НОМЕ	🏠 > Farm > Monitor Sessions	Refresh
	□-□         Farm         ID         User         Domain         Status         Session         Client Name           □         □         □         □         3         Active         Console	Client Address
S WEB		
FARM		
SYSTEM TOOLS		
ស្ត្រ advanced		
紎 ADD-ONS		

In this tab, you can see the list of User Sessions on any Application Server of the Farm.

Click on an application server on the left panel to select it and display its current active user sessions. Once displayed, you can select one or more sessions and perform several actions by clicking on one of the following buttons:

- "Disconnect": disconnect the selected user session(s) (the user will still be able to connect back to his session).
- "Logoff": log off the selected user session(s) (every unsaved modification will be lost, applications will be shut down abruptly).
- "Send Message": display a window to enter a title and a text, then send this message to the selected user session(s).
- "View": View a selected user session with/without\* permissions.
- "Remote Control": Remotely control a selected user session with/without\* permissions.
- "Refresh": perform a full refresh of the list of user sessions for the selected server(s).

## \*: To view or control a session without permissions, you will need to change the following GPO on the application server you want to view and/or control the sessions of.

GPO location: Computer Configuration> Administrative Templates> Windows Components> Remote Desktop Services> Remote Desktop Session Host > Connections.

GPO key: Set rules for remote control of Remote Desktop Services user sessions

The list of User Sessions is automatically refreshed every 5 seconds. This automatic refresh stops if the selected server becomes unavailable. A click on the "Refresh" button will resume the automatic refresh.

# Applications and Settings Synchronization

#### Overview

TSplus - Administration Consol	e	– 🗆 X
	TEACCESS	🌯 Lite Mode English 🔹
<b>М</b> НОМЕ	<mark>fጬੇ &gt;</mark> Farm	
	O This server is a farm controller	
	Applications Servers           Name         Hostname         Status         Internal Name         Private IP Address	 Add
S WEB	Enabled srv1 Up srv2 Up srv2 Down	Edit
FARM	site op	Remove
		Disable
SYSTEM TOOLS		
😥 ADVANCED		Connect
값 ADD-ONS		
	Reverse-Proxy Omnitor Sessions	
	Load Balancing     Synchronize Applications a	nd Settings
	Assign Servers	

Click on the "Synchronize Applications and Settings" button to display the following window:

0

Synchronize Applications and Settings	×
Servers	
Srv1	Select All
	Unselect All
Select the servers on which you want to apply the same applications and settings as the farm controller.	apply

Check all the servers on which you want to apply the same settings and publish the same applications as the Farm Controller's, then click on "Apply".

The following window will be displayed, allowing you to monitor the task progress:

Synchronize Applications and Settings	×
Servers	
∑ srv1	Select All
	Unselect All
	[→ Finish

# Manually enable/disable the Gateway Server

## Overview

**Based on your farm configuration, the Farm Controller will automatically change its own Web Portal settings to become a Gateway Server**, allowing users connecting from the TSplus Web Portal of the Farm Controller, not to connect directly to the Farm Controller itself, but to one of the application server of the Farm.

However, if you want to manually change this behaviour, you can do so by clicking on the "WEB" tile, then on the Web Portal Preferences button.

🐺 tsplus - Administration Console				- 0	×
	ACCESS		🕐 Help	Ҳ Lite M English	ode •
PLOS I CLANCO I LE APPLICATIONS PRINTER PRINTER VEB FARM SESSIONS SYSTEM TOOLS SW ADVANCED ADD-ONS	Web Portal  Web Portal Design  Web Portal Preferences  Applications Portal  Splus Web App  HTTPS  Web Server  Lockout	Web Credentials       RemoteApp Client       HTMLS Client       HTMLS Top Menu	Help	English	
©⊋ LICENSE					

- Check the "Generate a Gateway Portal enabled Web Page" box if you want the Gateway Portal of the Farm Controller (the current server you are configuring now) to become a Gateway Server and redirect users to application servers of the farm.
- Uncheck the "Generate a Gateway Portal enabled Web Page" box if you want the Gateway Portal of the Farm Controller to redirect to the Farm Controller itself, thus bypassing any farm configuration.

D (		_ 3
Preferences		_
Default Values		
Login:		
Password:		
Domain:		
	Show the Dom	ain field 🛛 🕅 Remember last login
Advanced		
Keyboard:	as_browser	
Access Type		
Available Clients:	HTML5	(Pad, iPhone, Android devices, computers)
	Remote App	(Windows PCs)
Gateway Portal:	Generate a Ga	teway Portal enabled Web Page
Upload: Folder to sele	ct files.	Download: Folder for all received files
Oser Desktop (der Desktop)	fault)	<ul> <li>User Desktop (default)</li> </ul>
My Documents		My Documents
WebFile folder		WebFile folder
Custom folder:		Custom folder:
	Select	Select
Folder path from where the user will select files to be uploaded.		Folder where all downloaded files will be stored on the Server.
		will be stored in the specified folder. oad button or File Transfer button)
Our Section Section 1 - Contract Section 1 - Contract Section 2 - Con	elect files	O Use TSplus GUI
PHEIP	Reset	Q Preview Q Save

Click on "Save" to save this setting.

# Prevent RDP access and allow HTTP on the Gateway Server

There are 2 ways to access the Gateway Server:

- HTML5 / HTML
- RDP Session (via the Gateway IP/DNS Port number)

#### How to LOCK DOWN HTML/HTML5

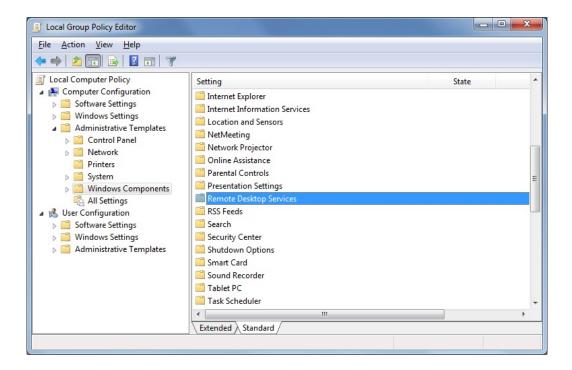
We can use mstsc with a PORT number and RDP into a TSplus Application / Gateway Server.

However, if we use these advanced Security tools located the TSplus Admin Console on the Gateway Server, by going on the Security tile/tab, then clicking on the Advanced Security options tile...:

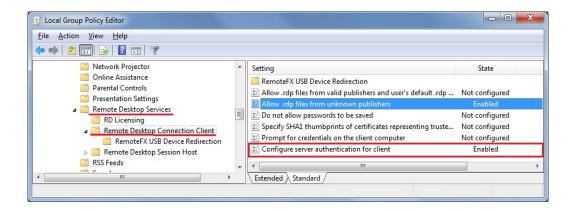
Server advanced security options
Microsoft Remote Desktop Client Restrictions
Deny access from Microsoft RDP client
Deny access from Outside (only LAN)
Limit access to the members of Remote Desktop Users
Encrypts end-to-end communications
Block all incoming access to this server
Disable UAC and enhance Windows access
Allow Windows Key
Allow only users with, at least, one assigned application
Allow CUT/PASTE within a session
Web Portal Access Restrictions
○ No Restriction
Web Portal Access is mandatory for everyone
Web Portal is mandatory, except for Admins
Prohibit the Web Portal for Admins accounts

...the access is denied when trying to connect with RDP. To avoid this behavior, on the Gateway Server, you will have to do the following:

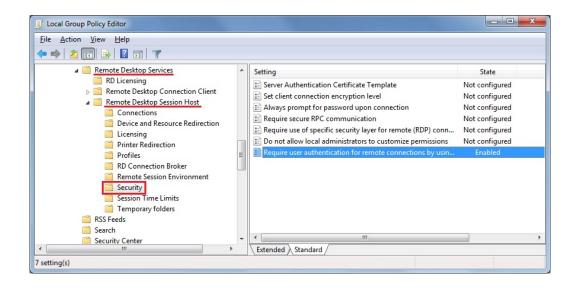
• Go to Gpedit.msc, then under Computer Configuration, click on the Administrative Templates folder, on the Windows Components folder and on Remote Desktop Services:



• Then, click on the Remote Desktop Connection Client folder, double-click on the "Allow .rdp files from unknown publishers" setting and enable it, as well as the "Configure server authentication for client":



• Under the Remote Desktop Client menu, click on the Remote Desktop Session Host folder, then on the Security folder. Enable the "Require user authentication for remote connections by using Network Level Authentication" setting.



# Using servers behind Reverse Proxy

It is possible to use servers behind reverse proxies via xhr-polling, with some limitations.

<u>As described</u>, Websockets are not part of HTTP protocol, even if first http request looks like http request, actually, it isn't, therefore most known reverse proxies do not support Websockets and drop many important areas of first Websocket request.

If you know that the server is behind reverse proxy, disable Websockets by setting this option in Clients\www\software\html5\settings.js :

disablewebsocket = true;

That will enforce the usage of XHR-polling and avoid time delay when connecting.

If you do not have a file named "settings.js" in the "C:\Program Files (x86)\TSplus\Clients\www\software\html5" folder, then your TSplus version is older and this documentation does not apply. Please update your system first or contact support.

Please note that the usage of XHR-polling is not as stable as Websockets due its connection nature.

The other limitation using Xhr polling via reverse proxy is the poor support on files upload. While working with XHR in direct connection, done for example via Apache reverse proxy, Apache can accidentally interrupt the file's upload.

## Logon Ticket and Load-Balancing

#### Logon Ticket creation on the Gateway Server

You can create a logon ticket on the gateway with:

/socket.io/LPW?WinUser=DOMAIN\LOGIN&WinPassword=PASSWORD

But it will only allow you to connect on the gateway server itself.

#### Logon Ticket creation on an Application Server

You can also create a logon ticket on a reverse-proxified application server with:

/~~srv4/socket.io/LPW?WinUser=DOMAIN\LOGIN&WinPassword=PASSWORD

(assuming ~~srv4 is the internal name of the application server as configured in TSplus reverse-proxy)

But it will only allow you to connect on this specific application server.

## Logon Ticket and Load-Balancing

So if you want to use logon tickets and load-balancing, you might want to do an additional HTTP request first:

https://your-gateway-server.com/cgi-bin/hb.exe?action=lb&l=LOGIN&d=DOMAIN&t=TIMESTAMP

This will return an answer like this one:

loadbalancing-on APP SERVER 4 your-gateway-server.com/~~srv4 https 443

You can parse this answer to retrieve the application server on which TSplus Load-Balancer would recommend you to connect this specific user.

i.e. it will recommend the less-loaded server on your TSplus farm, if sticky sessions are enabled on your TSplus gateway, it will take existing active sessions into account, etc.

You can then create a logon ticket on this specific application server and connect to user to it.

This is precisely the http request done on TSplus Web Portal logon page.

## Using a Logon Ticket to Open a User Session

Now that you have a valid logon ticket, you can open a user session using this ticket by opening a browser window to this URL:

https://your-gateway-server.com/~~srv4/software/html5.html?user=\*xxxxxxxx

where "xxxxxxx" is the logon ticket.

# **TSplus - Backup Settings**

On the TSplus tab, you can configure TSplus settings.

You can Backup or Restore TSplus data and settings by clicking on the button "Backup/Restore" on the top:

TEDEMO	TEACCEC				🔍 Lite N	Aode
	TEACCESS			Help	English	•
<b>М</b> НОМЕ	☆ > Advanced					
	📀 🛛 Backup / Restore yo	ur Server Parameters				
	Advanced Settings					
S WEB	Product Security	Name Administrator pin code Use RDS role	Value Default () Default (No)			
FARM		AdminTool Language Contribute to improve product by sending	English			
	🕸 Logs					
SYSTEM TOOLS	Tå TSplus - Backup / Res Backup your Server Parar	tore your Server Parameters neters	×			
ADVANCED		Backup				
값 ADD-ONS	Restore your Server Paran	neters 🗸 🗸 Restore				
W ADD-ONS	No backup round	Kestore				

	Backup		
Restore your Server Paramet	Backup X		
2019-02-07_12-57-36	Backup completed	Restore	

The command usage is described below:

• Backup:

admintool.exe /backup [optional path to a directory]

By default, the backup will be created in the archives directory located in TSplus TSplus Security setup folder. However, the backup may be saved in a specified folder. Relative and absolute paths are allowed.

#### • Restore:

admintool.exe /restore [path to a backup directory]

The specified backup directory must contain a data and a settings folder, as created by the /backup command.

Please follow the steps below to migrate TSplus from computer A to computer B:

- 1. On computer A, please click on the Backup button to create a new backup. Settings and data will be saved in the archives directory, located on the C:\Backupparam folder.
- 2. Copy the newly created backup folder (e.g. named backup-2021-01-29\_15-01-29), including all content, from the archives directory on computer A to the archives directory on computer B.
- 3. On computer B, from the Backup / Restore window, in the "Restore" section, select the relevant backup name to be restored.
- 4. Then, click on Restore Settings Only to restore the settings. Alternatively, it is possible to click on Restore to restore all data and settings, which is not recommended for a migration but useful to restore TSplus on computer A.
- 5. Please wait at most 2 minutes for the settings to be reloaded by TSplus features.

# Advanced Features - Product

## Overview

On this tab, you can modify TSplus settings by adding an AdminTool Pincode, use the Windows RDS role and customize the background color and language of the AdminTool.

🛺 TSplus - Admin	istration Console				-	×
TSP	LUS Remote Ad	ccess Managem	ent Console			
	IS	Backup / Restore your Sen ed Settings	ver Parameters			
PRINTER	≪ Pro ♥ Sec ≤ Ses: ♥ Loci	duct urity sion	Name Administrator pin code Use RDS role AdminTool Language	Value Default () Default (No) English		
FARM	≕ Con ŵ Log	itextual menu s	Adminioor Language	Linghisti		
SYSTEM TOOL	LS					
값 ADD-ONS						
ତିଙ୍ଗ LICENSE						

## Administrator Pin Code

The Administrator can secure the Administrator Tool access by setting a pin code which will be asked at every start, on the Advanced tab of the AdminTool, under the Product Settings:

<b>1</b> 8 T	Splus - Administration Console	- 10.00						-	$\times$
	TSPLUS	Rem	ote Access Mar	nageme	ent Console				
ŵ	HOME		Backup / Restor						
	APPLICATIONS		<b>J</b>	e your Serv	er Parameters				
¢	PRINTER		Advanced Settings —		Name		Value		
S	WEB		Security		Administrator pin code U 🎝 TSplus - Edit Setting		Default ()		
₽	FARM				A Administrator pin code				
۵	SESSIONS				Description: AdminTool will ask for a password if thi:	s value is not empt	y.		
Ŋ	SYSTEM TOOLS								
鐐	ADVANCED								
చి	ADD-ONS				Value:		~		
<b>©</b> 7	LICENSE				1234				
					Save	Ca	ncel		

## Use RDS role

Multi-session role and Windows RDS role are not compatible. You can either select the Windows RDS role, or TSplus Multi-session role.

- When using Multi-session role, the Windows RDS role must be uninstalled.
- When using the Windows RDS role, this Windows role must be installed.

**WARNING**: changing role requires to reboot the system. When selecting the Windows Remote Desktop, only one user at a time will be allowed on a workstation system.

You can eith session role - When usir uninstalled. -When usin installed.	ng Multi-session role, the Windows RDS role must be g the Windows RDS role, this Windows role must be	^
WARNING: (	changing role requires to reboot the system.	¥
Value:	changing role requires to repoot the system.	Y

To use the Windows RDS role, select the "Yes" value and Save.

## Modify the AdminTool Background color

Customize AdminTool's background color using an hexadecimal code (for example: 0xFFFFFF).

🗱 TSplus - Edit Setting	$\times$
AdminTool background color	
Description:	
Customize AdminTool's background color using an hexadecimal code (for example: 0xFFFFF).	^
	$\sim$
Value:	
0xFFFFFF	
Save Cancel	

## Modify the AdminTool Language

Select your preferred language for the AdminTool among the 21 available.

1 TSplus - Edit Setting	×
AdminTool Language	
Description:	
Set the AdminTool interface language.	~
	~
Value:	
English	~
English	
French	
German	
Dutch	
Spanish	
Italian	
Portuguese Polish	
Russian	
Ukrainian	
Hungarian	
Czech	
Turkish	
Chinese	
Traditional Chinese	
Japanese	
Korean	
Arabic Farsi	
Hebrew	
Amenian	
Amerian	

# Advanced Features - Security

## Overview

On the Security section of the Advanced features, you can block, disable or customize connection types for users.

	OTEACCESS			ዺ Lite	Mode
			🔒 Assist Me 🛛 🧿 Help	English	
<b>М</b> НОМЕ	☆ > Advanced				
	Backup / Restore y	your Server Parameters			
	Advanced Settings				
🕤 WEB	Product Security Session	Name Block standard RDP clients	Value No		
FARM	Contextual menu	Disable existing sessions web listing No Web for Admins Block WAN RDP clients	Yes No Default (No)		
SESSIONS	Scontextual menu Balans	Only Web Portal Only Web Portal for Users Only Users with Applications	No No Default (No)		
SYSTEM TOOLS		Whitelist Admin without Applications Disable RemoteApp Client auto update Encrypt Web Credentials	Default (Yes) Default (No)		
ADVANCED		Force HTTPS Disable RDP forwarding	Default (Yes) Default (No) Default (No)		
값 ADD-ONS					

## Block Standard RDP Clients

Select the "Yes" value if you wish to deny access to standard RDP clients such as mstsc to your users.

🚺 TSplus - Edit Setting	×
Block standard RDP clients	
Description:	
Deny access to standard RDP clients such as msts	c. ^
	~
Value:	
No	~
Save	Cancel
5470	Curreer

#### Disable existing sessions web listing

This listing is required for Load-Balancing Sticky Sessions feature and is enabled by default. If you wish to disable it, select the "No" value on this window, then click on save:

👖 TSplus - Edit Setting	×
Disable existing sessions web listing	
Description:	
Do not list current sessions in public server heartbeat. This listing is required for Load-Balancing Sticky Sessions feature.	^
	~
Value:	
Yes	$\sim$
Save Cancel	

#### No Web for Admins

Disable the Web Portal for Administrators by selecting the "Yes" value:

🚺 TSplus - Edit Setting	×
No Web for Admins	
Description:	
Web Portal is forbidden for Admins accounts.	~
	~
Value:	
No	~
Save	Cancel

#### Block WAN RDP clients

Deny access from standard RDP clients connected from outside the LAN by selecting the "Yes" value.

🛺 TSplus - Edit Setting	Х
Block WAN RDP clients	
Description:	
Deny access from standard RDP clients connected from outside the LAN.	^
Value:	Ť
No	$\sim$
Const.	
Save Cancel	

#### Only Web Portal

Make Web Portal access mandatory for every user by selecting the "yes" value.

🚺 TSplus - Edit Setting	×
Only Web Portal	
Description:	
Web Portal access is mandatory for every users.	~
	~
Value:	
No	~
C	Consul
Save	Cancel

#### Only Web Portal for Users

Make Web Portal access mandatory for every user, except the Admins by selecting the "yes" value.

TSplus - Edit Setting	×
Only Web Portal for Users	
Description:	
Web Portal access is mandatory, except for Admins.	^
Value:	
No	~

### Only Users with Applications

Allow access only for users with, at least, one assigned application by selecting the "yes" value.

🕻 TSplus - Edit Setting	×
Only Users with Applications	
Description:	
Allow access only for users with, at least, one assigned application.	^
Value:	~
No	~
Save Cancel	

#### Whitelist Admins without Applications

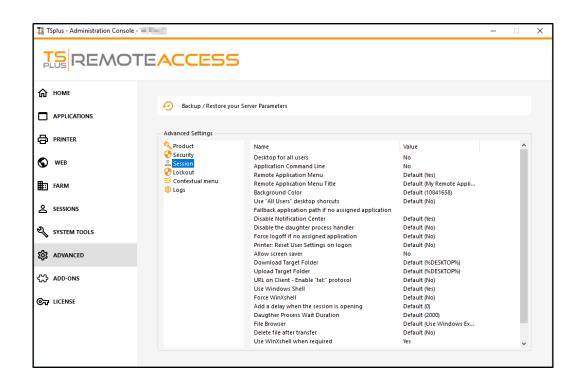
Allow access for admins even if they do not have any assigned application and "Only Users with Applications" is enabled. This feature is enabled by default. If you wish to disable it, select the "No" value on this window, then click on save:

👖 TSplus - Edit Setting	Х
Whitelist Admin without Applications	
Description:	
Allow access for admins even if they do not have any assigned application and "Only Users with Applications" is enabled.	^
	~
Value:	
Yes	~
Save Cancel	

## **Advanced Features - Session**

#### Overview

This section of the Advanced tab allows you to configure user rights and aspects on their sessions.



#### Desktop for all users

Enable a full Desktop for all users by selecting the "Yes" value on this window, then click on save:

ᠯ TSplus - Edit Setting	×
Desktop for all users	
Description:	
All the users will have a full desktop.	~
Value:	
No	~
Save	Cancel

#### Application Command Line

Application Command Line can be specified on client side. This feature is enabled by default. If you wish to disable it, select the "No" value on this window, then click on save:

TSplus - Edit Setting	×
Application Command Line	
Description:	
Application Command Line can be specified on client side.	^
	· ·
Value:	
Yes	$\sim$
Save Cancel	

#### Remote Application Menu

Remote Application Menu will be added on user's PC. This feature is enabled by default. If you wish to disable it, select the "No" value on this window, then click on save:

🕻 TSplus - Edit Setting	×
Remote Application Menu	
Description:	
Remote Application Menu will be added on user's PC.	~
Value:	
Yes	~
Save Can	cel

#### Remote Application Menu Title

You can modify the title of the Remote Application Menu. The default one is "My Remote Applications". If you wish to modify it, enter the desired title, then click on save:

🛺 TSplus - Edit Setting	×
Remote Application Menu Title	
Description:	
Title to display in Remote Application Menu	~
	~
Value:	
My Remote Applications	
Save	Cancel
Save	cancer

#### Background color

Customize the user sessions background color using a COLORREF code (for example, the default one is: 10841658).

1 TSplus - Edit Setting	×
Background Color	
Description:	
Customize the user sessions background color using COLORREF code (for example: 10841658).	a ^
	~
Value:	
10841658	
Save	Cancel

### Use "All Users" desktop shortcuts

Copy the shortcuts existing in Windows shared desktop in the Taskbar and Floating Panel. Enable this feature by selecting the "Yes" value on this window, then click on save:

1 TSplus - Edit Setting	×
Use "All Users" desktop shorcuts	
Description:	
Copy the shortcuts existing in Windows shared desktop in the Taskbar and Floating Panel.	^
	~
Value:	
No	$\sim$
Save Cancel	

Fallback application path if no assigned application

## 

Run this application if no application is assigned to the user when he logs in. There is no value by default. Enable this feature by entering a "Yes" value on this window, then click on save:

TSplus - Edit Setting	
- Topius - Edit Setting	×
Fallback application path if no assigned application	
Description:	
Run this application if no application is assigned to the user when he logs in.	^
	~
Value:	
Save Cancel	

#### Disable the daughter process handler

Skip daughter process search when launching applications. It will cause premature logoff if a published application uses daughter process. This feature is disabled by default. Enable this feature by selecting the "Yes" value on this window, then click on save:

🚺 TSplus - Edit Setting	×
Disable the daughter process handler	
Description:	
Skip daughter process search when launching applications. It will cause premature logoff if a published application uses daughter process.	^
Value:	~
No	$\sim$
Save Cancel	

## Force logoff if no assigned application

The user will be automatically logoff if he has no application assigned to him. This feature is disabled by default. Enable this feature by selecting the "Yes" value on this window, then click on save:

^
$\sim$
$\sim$

#### Allow screen saver

This feature is disabled by default. Enable Windows screensaver by selecting the "Yes" value on this window, then click on save:

🚺 TSplus - Edit Setting	×
Allow screen saver	
Description:	
Disable Windows screensaver when set to "no".	^
Value:	
No	~
Save	Cancel

#### Download target folder

Downloaded files will be put on the Desktop by default. If you wish to modify it, enter the desired download folder's path, then click on save:

1 TSplus - Edit Setting	×
Download Target Folder	
Description:	
Downloaded files will be put in this folder.	~
	~
Value:	
%DESKTOP%	
Save	Cancel

#### Upload target folder

Uploaded files will be put in this folder. If you wish to modify it, enter the desired upload folder's path, then click on save:

ᠯ TSplus - Edit Setting	×
Upload Target Folder	
Description:	
Uploaded files will be put in this folder.	^
	~
Value:	
%DESKTOP%	
Save	Cancel

#### Use Windows Shell

Define Windows Shell as default shell. This feature is enabled by default. If you wish to disable it, select the "No" value on this window, then click on save:

×
^
~
$\sim$
I

#### Force WinXshell

This feature is disabled by default. Force WinXshell alternate shell instead of the default shell by selecting the "Yes" value on this window, then click on save:

1 TSplus - Edit Setting	×
Force WinXshell	
Description:	
Force WinXshell alternate shell instead of the default shell.	^
Value:	
No	$\sim$
Save Cancel	

#### Add a delay when the session is opening

Add additional waiting time at user session logon to get everything initialized. Default value is 0. If you wish to modify it, enter the desired value (in seconds), then click on save:

🛺 TSplus - Edit Setting	×
Add a delay when the session is opening	
Description:	
Add additional waiting time at user session logon to get everything initialized.	^
	~
Value:	
0	
Save Cance	I

#### Daughter process wait duration

Time to wait (in milliseconds) before searching for a daughter process when lauching applications.

×
^
$\sim$

#### File browser

The selected application will be displayed to the user for file selection. Default browser is Windows Explorer. You can use the TSplus file browser by selecting it, then click on save:

🛺 TSplus - Edit Setting	$\times$
File Browser	
Description:	
The selected application will be displayed to the user for file selection.	^
	$\sim$
Value:	
Use Windows Explorer	$\sim$
Save Cancel	

Use WinXshell when required

## 

Authorize system to use WinXshell alternate shell instead of the default shell when recommended. This feature is enabled by default. If you wish to disable it, select the "No" value on this window, then click on save:

🛺 TSplus - Edit Setting	×
Use WinXshell when required	
Description:	
Authorize system to use WinXshell alternate shell instead of th default shell when recommended.	ie ^
	~
Value:	
Yes	$\sim$
Save Cancel	

# Advanced Features - Lockout

#### Overview

On this tab, you can enable/disable and configure TSplus Lockout settings.

1 г	Splus - Administration Console			-	- 🗆	×
		Remote Access Manag	ement Console			
	номе	Backup / Restore you	ır Server Parameters			
	APPLICATIONS					
₽	PRINTER	Advanced Settings	Name	Value		
D	WEB	Security Session	Enabled Limit Login Interval	Yes 10 900		
:	FARM		Lockout Period	1800		
•	SESSIONS					
\$	SYSTEM TOOLS					
3	ADVANCED					
þ	ADD-ONS					
J	LICENSE					

#### Enable/Disable Lockout Feature

The Lockout Feature is enabled by default. You can disable it by changing the value from "Yes" to "No" value on this window, then click on save.

ᠯ TSplus - Edit Setting	×
Enabled	
Description:	
TSplus prevents brute-force attacks by locking a following repeated failed login attempts throug portal.	
Value:	~
Yes	~
Save	Cancel

#### Limit

The Lockout Limit defines the number of allowed failed login attempts from the Web portal before the account is locked out (default is 10). You can modify this value by entering the desired value into the corresponding field and click on save.

🗱 TSplus - Edit Setting	×
Limit	
Description:	
The Lockout Limit defines the number of allowed failed login attempts from the Web portal before the account is locked out (default is 10).	^
Value:	~
10	
Save Cancel	

#### Interval

The Lockout Interval specifies an interval of time between failed login attempts. If a failed login attempt occurs after the Interval defined, then the counter of failed login attempts is reset for the relevant

## 

user (in seconds, default is 900 seconds). You can modify this value by entering the desired value into the corresponding field and click on save.

×
$\sim$
^
$\sim$

#### Period

The Lockout Period specifies the duration an account is locked out and unable to login (in seconds, default is 1800 seconds). The period of time a user is locked out is the greatest value between LockoutPeriod and LockoutInterval settings. Therefore, when changing LockoutPeriod's value, one should update the LockoutInterval setting with a smaller value to ensure a relevant behavior. You can modify this value by entering the desired value into the corresponding field and click on save.

-	🕻 TSplus - Edit Setting	×
	Period	
	Description:	
	The Lockout Period specifies the duration an account is locked out and unable to login (in seconds, default is 1800 seconds). The period of time a user is locked out is the greatest value between LockoutPeriod and LockoutInterval settings. Therefore, when changing LockoutPeriod's value, one should update the LockoutInterval setting with a smaller value to ensure a relevant behavior.	~
	Value:	
	1800	
	Save Cancel	

# Advanced Features - Contextual Menu

#### Overview

Since TSplus version 12.50, a new **"Send to Client" menu** can be enabled under the Advanced > Contextual Menu tab to easily send files to client workstation. This feature works with all connections methods.

🕻 TSplus - Administration Conso	ole - 📲	- 0
TSPLUS	Remote Access Management Console	
A HOME ■ APPLICATIONS	Backup / Restore your Server Parameters	
PRINTER	Advanced Settings	Value Default (No) Default (Top)
FARM	Octout     State     Contextual menu     State     State     Contextual menu     State     Contextual menu     State     State     Contextual menu     State     State     Contextual menu     State     State	
SYSTEM TOOLS		
ADVANCED		
ADD-ONS		

By default, this feature is disabled. Select the "Yes" value then click on "Save", in order to enable it :

🚺 TSplus - Edit Setting	×
Enabled	
Description:	
Add a button in the contextual menu displayed by right clicking on a file, folder or a multiple selection in the File Explorer. It allows users to quickly send selected objects to their local computer.	~
Value:	÷
Yes	$\sim$
Save Cancel	

You can also change its position. By default, it will show on top:

‡ TSplus - Edit Setting	×
Position	
Description:	
Position of the button in the contextual menu.	^
Value:	
Тор	~
Save	Cancel

This is a right-click contextual menu. Just select the desired folder or files, right-click on it, select the "TSplus" tab and simply click on "Download":

I     Image: Imag		- 0	× ~ 0	
← → ∽ ↑ 🔒 > Documents > F			Q	
Documents and Settings	Nom	Modifié le	Туре	
Logs	Splus-Products-Catalog			
PerfLogs		TSplus	>	Download
Products		Open		
Products		Print		

## 

You will find your download into the Webfile folder and into the "Downloads" folder of your web browser:

🛫 WebFile sur MITU7JBD7YQ7H2				-	
$\leftarrow \rightarrow$ $\checkmark$ $\uparrow$ $\blacksquare$ $\diamond$ Ce PC $\Rightarrow$ Web	File sur MITU	U7JBD7YQ7H2	ٽ ×	Rechercher dans : V	VebFile sur 🔎
Documents	^ Non	'n	Modifié le	Туре	Taille
📰 Images	Ç,	TSplus-Products-Catalog		Foxit Reader PDF	1 061 Ko
👌 Musique					
🕂 Téléchargements					
Vidéos					
🛫 WebFile sur MITU7JBD7YQ7H2	~				
1 élément					

# Advanced Features - Logs

#### Overview

On this tab, you can configure TSplus Logs settings.

By default TSplus doesn't create logs, to avoid performance issues.

Logs exist to find more easily the origin of the errors encountered on TSplus and you can enable them by doing so:

- go to C:\wsession
- create the folder 'Trace'. Logs will automatically be created there, per user.

You will need to activate the log generation in the AdminTool > Advanced > Logs

	TEACCES	-		ዺ Lite	Mode
			🕞 Assist Me ( ?) Help	English	
Номе	<b>命 &gt;</b> Advanced				
APPLICATIONS	Backup / Restore	your Server Parameters			
PRINTER	Advanced Settings				
SESSIONS	Product	Name Web portal log	Value WARN	View	
SYSTEM TOOLS	Session Cockout Virtual Printer	Session opening log Session control log Load-Balancing log	Disabled WARN WARN	<u>View</u> View	
3 ADVANCED	Contextual menu 🕸 Logs	AdminTool application log Contextual menu log	DEBUG OFF	View	
ADD-ONS		Universal Printer log Session events log	DEBUG Disabled		
LICENSE					

There are 5 types of logs:

- The Web Portal log,
- The Session Opening log,
- The Session control log,
- The Load-Balancing log and
- The AdminTool application (interface) log.

Log levels correspond to different components, our support team will tell you what value to put according to the problem encountered.

Here are the different log file names and locations:

- Web Portal log: "C:\Program Files (x86)\TSplus\Clients\www\cgi-bin\hb.log"
- Session Opening log: "C:\wsession\trace"
- Session control log: "C:\Program Files (x86)\TSplus\UserDesktop\files\APSC.log"
- Load Balancing log: "C:\Program Files (x86)\TSplus\UserDesktop\files\svcenterprise.log"
- AdminTool application log: "C:\Program Files (x86)\TSplus\UserDesktop\files\AdminTool.log"
- RDS-Knight / TSplus Advanced Security: "C:\Program Files (x86)\TSplus-Security\logs"

#### You can enable the logs for Connection Client on the client side by adding the following registry key:

#### [HKEYLOCALMACHINE\SOFTWARE\Digital River\ConnectionClient] "Debug"="true"

The logs are located in C:\Users\\RDP6\logs directory if installation is per user or in C:\Program Files (x86)\Connection Client\RDP6\logs directory if installation is for all users.

# Web Applications Portal: Parameters in URL address

If you want to bypass Terminal Service Plus standard logon Web Access page when using the <u>Web Applications Portal</u> and go directly to the Web Applications Portal page, you must specify several parameters in the URL address:

- user login
- user password
- user domain
- server
- port
- client type (HTML5 or Windows)

Here is an example of a full URL address for user "demo" with password "demo" on our demo server with an HTML5 client:

https://demo.tsplus.net/index\_applications.html?user=demo&pwd=demo&domain=&server=127.0.0.1&port=3389&type=html5

The domain, server, port and type parameters being optional, the following URL address has exactly the same behavior:

https://demo.tsplus.net/index\_applications.html?user=demo&pwd=demo

To use a Windows client, use:

&type=remoteaccess

Using those parameters in the URL address, you can go directly to the Web Applications Portal page.

You do not have to specify all these parameters at the same time: the parameters not specified will have their default configured value.

If you wish to bypass Terminal Service Plus standard logon when using the connect with the HTML5 client, check this page.

# Web logon page: How to close the Logon form after logon

#### Overview

On the Web logon page, when the user clicks on the "Log on" button, the chosen client (HTML5 or Windows) is opened in a new browser's tab.

Sometimes, and more specifically when using the Windows client, you might want to hide the logon form to the user, for instance in order to avoid the user to click again on the "Log-on" button.

Depending on the Internet browser used, you have two choices on how to change this default behavior. Both solutions requires you to modify a JavaScript file.

#### Solution A: Closing the Logon tab - For Internet Explorer only

In this solution, when the user clicks on the "Log on" button, the chosen client will be opened in a new browser's tab and the Logon tab will close itself. Depending on the Internet Explorer version, a small message window might be displayed to the user, asking him to confirm that he wants to close this tab.

Edit the file "common.js" file which is stored into the "C:\Program Files (x86)\TSplus\Clients\www\software" folder. We advise you to use a text editor such as Notepad or Notepad++ (do *not* use Word).

Search for these lines:

```
p = 'software/remoteapp.html';
window.name = " " + window.opforfalse;
if (cpwin != false) {
    cpwin.name = window.opforfalse;
    cpwin.location.replace(hostGateway + jwtsclickLinkBefore(getside(), p));
} else {
    window.open(hostGateway + jwtsclickLinkBefore(getside(), p), window.opforfalse);
}
```

And replace them by those lines:

```
p = 'software/remoteapp.html';
window.name = " " + window.opforfalse;
if (cpwin != false) {
    cpwin.name = window.opforfalse;
    cpwin.location.replace(hostGateway + jwtsclickLinkBefore(getside(), p));
} else {
    window.open(hostGateway + jwtsclickLinkBefore(getside(), p), window.opforfalse);
}
window.open('','_parent','');
window.close();
```

#### We recommend you clear your browser's cache after saving the changed JavaScript file.

# Solution B: Redirecting the Logon tab to another web page - For all browsers

In this solution, when the user clicks on the "Log on" button, the chosen client will be opened in a new browser's tab and the Logon tab will automatically navigate to another web page.

You are free to use any existing Internet address (URL) such as "http://google.com" or "http://your\_intranet/your/page.html", or you can create your own web page by using "thankyou.html" as the URL and creating a file named "thankyou.html" in the "C:\Program Files (x86)\TSplus\Clients\www" folder and putting HTML content in it.

Edit the file "common.js" file which is stored into the "C:\Program Files (x86)\TSplus\Clients\www\software" folder. We advise you to use a text editor such as Notepad or Notepad++ (do *not* use Word).

Search for these lines:

```
p = 'software/remoteapp.html';
window.name = " " + window.opforfalse;
if (cpwin != false) {
    cpwin.name = window.opforfalse;
    cpwin.location.replace(hostGateway + jwtsclickLinkBefore(getside(), p));
} else {
    window.open(hostGateway + jwtsclickLinkBefore(getside(), p), window.opforfalse);
}
```

And replace them by those lines:

```
p = 'software/remoteapp.html';
window.name = " " + window.opforfalse;
if (cpwin != false) {
    cpwin.name = window.opforfalse;
    cpwin.location.replace(hostGateway + jwtsclickLinkBefore(getside(), p));
} else {
    window.open(hostGateway + jwtsclickLinkBefore(getside(), p), window.opforfalse);
}
window.location.href = "http://google.com";
```

We recommend you clear your browser's cache after saving the changed JavaScript file.

# Web logon page: How to change the logon Splashscreen

#### Overview

When the remote connection is loading, the HTML5 client is displaying a default splashscreen such as the screenshot below:



You can customize this content by modifying a JavaScript configuration file.

#### HTML5 Client

#### Creating your customized Splashscreen content

Any content in text or HTML can be used for the Splashscreen.

Also, if you need to use simple quotes ( ') or double quotes ( ") you will have to write a backslash before ( $\langle and \rangle$ ") instead of just the quotes.

Finally, please note that the content must be written in only 1 line.

#### The following example is a valid content for the Splashscreen:

<hl>This is my customized splashscreen</hl>Please say \"hello\"!<img src='html5/imgs/ring

It will display a title ("This is my customized splashscreen"), a text ("Please say hello!") and the animated ring picture as in the standard TSplus Splashscreen.

#### Modifying the Splashscreen data to use your own content

If you do not have a file named "settings.js" in the "C:\Program Files (x86)\TSplus\Clients\www\software\html5" folder, then your TSplus version is older and this documentation does not apply. Please update your system first or contact support.

## 

Edit the file "settings.js" located in the "C:\Program Files (x86)\TSplus\Clients\www\software\html5" folder. We advise you to use a text editor such as Notepad or Notepad++ (do *not* use Word).

Search for the line starting by this:

W.splashscreencontent = "

Replace it completely by the following line:

```
W.splashscreencontent = "your customized content here";
```

Do not forget the ending double quotes and semi-colon ( "; ).

If you wish to lengthen the duration of the logon splashscreen in HTML5, you can do so by modifying the value in milliseconds:

W.splashscreentime = 5000; //splash screen play time.

We recommend you clear your browser's cache after saving the changed html page.

## HTML Pages and Customization

You can edit the provided HTML pages with Notepad or Notepad++ to customize it user interface.

#### index.html page

The index.html is located in Web Server root folder path.

C:\Program Files (x86)\TSplus\Clients\www

Index.html page is the default web page. It's like a front-end Portal page with links to the connection pages which are located in \www\ folder.

This web page can be copied and renamed to allow multiple configuration and / or logon information. For example let's copy and rename index.html into index2.html, this page will be available using this url http://localhost/index2.html

Organize 🔻 📵 Open	Print New folder			8= • 🔟
🔶 Favorites	Name	Date modified	Туре	Size
📃 Desktop	🎉 cgi-bin	1/27/2016 9:45 PM	File folder	
🐊 Downloads	🔒 downloads	1/27/2016 9:56 PM	File folder	
Recent Places	prints	1/27/2016 9:56 PM	File folder	
	RemoteAppClient	1/26/2016 12:12 AM	File folder	
🗃 Libraries	🎉 software	1/28/2016 12:58 AM	File folder	
Documents	🎉 templates	1/26/2016 12:12 AM	File folder	
J Music	🎉 var	1/26/2016 12:12 AM	File folder	
Pictures	index 💿	1/27/2016 10:30 PM	Firefox HTML Doc	15 KB
📑 Videos	index.html.bak	1/27/2016 9:56 PM	BAK File	15 KB
	index_applications	1/27/2016 10:30 PM	Firefox HTML Doc	5 KB
Computer	index_applications.html.bak	1/27/2016 9:56 PM	BAK File	5 KB
🚮 Local Disk (C:)	index_redirection	7/16/2015 5:52 PM	Firefox HTML Doc	1 KB
	index2	1/27/2016 10:30 PM	Firefox HTML Doc	15 KB
📮 Network	zjw.bin	1/26/2016 12:16 AM	BIN File	4 KB

Beware that if you change the "index.html" file name to "index2.html" and that you are using the Web Applications Portal, then you must change the following variable on this file: "page\_configuration["applications\_portal"] = "index\_applications.html" to "index2\_applications.html" then rename the "index\_applications.html" file into "index\_2applications.html".

The default index.html includes all possible options:

- RemoteApp access to applications, connection outside the Web Browser
- Connection using HTML5 from any device
- Local printing preferences

You will be able to change header and footer in the Web portal design feature on the web portal preferences tile of the Web tab.

By editing the index.html web page, you will have access to various settings.

// ----- Access Configuration -----

var user = ""; // Login to use when connecting to the remote server (leave "" to use the login typed in this page) var pass = ""; // Password to use when connecting to the remote server (leave "" to use the password typed in this page) var domain = ""; // Domain to use when connecting to the remote server (leave "" to use the domain typed in this page) var server = "127.0.0.1"; // Server to connect to (leave "" to use localhost and/or the server chosen in this page) var port = ""; // Port to connect to (leave "" to use localhost and/or the server chosen in this page) var lang = "as\_browser"; // Language to use var serverhtml5 = "127.0.0.1"; // Server to connect to, when using HTML5 client var porthtml5 = "3389"; // Port to connect to, when using HTML5 client var cmdline = ""; // Optional text that will be put in the server's clipboard once connected // ------- End of Access Configuration --------

For example I will preset demo/Psw as login/password by editing: var user = "Demo"; var pass = "Psw";

Doing so, pre-filled credentials are made visible at each visit of the portal.

Another very important configuration file is **settings.js**, located in C:\Program Files (x86)\TSplus\Clients\www\software\html5:

Organize 🔻 🛛 🍎 Open 🔻	Print New folder			8≣ • 🗂	-
🔆 Favorites	Name	Date modified	Туре	Size	
Nesktop	🎉 imgs	2/4/2016 7:15 PM	File folder		
Downloads	\mu jwres	2/4/2016 7:15 PM	File folder		
📃 Recent Places	locales	1/26/2016 12:12 AM	File folder		
	\mu own	2/4/2016 7:15 PM	File folder		
🥽 Libraries	🌌 autojump	7/29/2015 2:50 PM	JScript Script File	7 KB	
Documents	🖉 dt_scan	2/4/2016 7:16 PM	JScript Script File	3 KB	
👌 Music	📄 dynamicaudio	2/4/2016 7:16 PM	Shockwave Flash	2 KB	
Pictures	flash9canvas	2/4/2016 7:16 PM	Shockwave Flash	32 KB	
🔠 Videos	flash10canvas	2/4/2016 7:16 PM	Shockwave Flash	32 KB	
	🗭 flashcanvas	2/4/2016 7:16 PM	JScript Script File	14 KB	
🜉 Computer	👅 help	2/4/2016 7:16 PM	Firefox HTML Doc	15 KB	
🚋 Local Disk (C:)	🧝 jquery	2/4/2016 7:16 PM	JScript Script File	158 KB	
	😹 jquery-1.7.2.min	4/10/2015 5:38 PM	JScript Script File	112 KB	
🖣 Network	🧝 jws	2/4/2016 7:16 PM	JScript Script File	179 KB	
	📓 jwweb.core	2/4/2016 7:16 PM	JScript Script File	221 KB	
	🌌 language	2/4/2016 7:16 PM	JScript Script File	2 KB	
	📓 settings	2/4/2016 7:16 PM	JScript Script File	19 KB	
	🗷 socket.io	2/4/2016 7:16 PM	JScript Script File	40 KB	
	WebSocketMain	2/4/2016 7:16 PM	Shockwave Flash	176 KB	

This file contains various settings for the HTML5 web client like disabling sound, clipboard or allowing session reconnection if browser tab is closed.

• Disabling clipboard:

"W.clipboard = "yes"; //or "no" "

## 

• Disabling sound is done with this setting:

"W.playsound = false;"

• Changing default resolution for Mobile devices:

"W.viewportwidth = "1024" " - The height gets computed by browser.

• Forcing HTTPS for remote connection

"W.forcealways\_ssl = true;"

• Allowing session reconnection when browser tab is closed:

"W.send\_logoff = false;"

• Adding a warning pop up to prevent closing the browser tab:

search the "W.pageUnloadMessage = "" " parameter.

I have set an example of message to be used below :

W.pageUnloadMessage = "Closing this tab will disconnect your remote session, are you sure ?"; //Dialog to return when page unloads.

//1. Important notice, own dialogs are not supported in all browsers.

//2. HTML standard does not distinguish between page refresh and page close action, the dialog will popup on page refresh too.

Confirm Navigation
Closing this tab will disconnect your remote session, are you sure ?
Are you sure you want to leave this page?
Leave this Page Stay on this Page

The general settings for the RemoteApp web page is stored on the software folder, in two different files: **remoteapp.html** and **remoteapp2.js**.

Organize 👻 📵 Open	New folder			8= • 🗔	
🔆 Favorites	Name	Date modified	Туре	Size	
E Desktop	html5	2/4/2016 7:15 PM	File folder		
Downloads	java	2/4/2016 7:15 PM	File folder		
Recent Places	js	2/4/2016 7:15 PM	File folder		
_	elean	1/25/2014 3:11 PM	Firefox HTML Doc	7 KB	
词 Libraries	common	10/14/2015 9:01 AM	Cascading Style S	2 KB	
Documents	🖉 common	1/25/2016 10:54 AM	JScript Script File	22 KB	
J Music	common_applications	1/25/2016 10:54 AM	JScript Script File	15 KB	
Pictures	🖉 common-backup	1/14/2016 10:38 PM	JScript Script File	22 KB	
📑 Videos	html5	2/4/2016 7:16 PM	Firefox HTML Doc	12 KB	
	html5.html.bak	1/26/2016 12:16 AM	BAK File	12 KB	
🖳 Computer	html5-backup	1/26/2016 12:16 AM	Firefox HTML Doc	12 KB	
🚵 Local Disk (C:)	index 😸	7/22/2012 9:55 PM	Firefox HTML Doc	0 KB	
	🛋 inside	2/7/2015 5:12 PM	Firefox HTML Doc	19 KB	
🗣 Network	📓 insidech	7/22/2012 9:55 PM	JScript Script File	1 KB	
	🛋 insidex	2/21/2015 2:14 AM	Firefox HTML Doc	2 KB	
	insidexx	2/21/2015 2:13 AM	Firefox HTML Doc	10 KB	
	🥫 javaconnect	2/4/2016 7:15 PM	Firefox HTML Doc	15 KB	
	javaconnect.html.bak	1/26/2016 12:12 AM	BAK File	15 KB	
	💌 remoteapp	2/4/2016 7:15 PM	Firefox HTML Doc	17 KB	
	remoteapp.html.bak	1/26/2016 12:12 AM	BAK File	17 KB	
	remoteapp2	10/14/2015 9:01 AM	Firefox HTML Doc	2 KB	
	📝 remoteapp2	2/4/2016 7:15 PM	JScript Script File	14 KB	
	webprint	1/24/2014 10:10 PM	Firefox HTML Doc	7 KB	
	🐱 webprint_jwts	1/24/2014 10:11 PM	Firefox HTML Doc	5 KB	

Example of available settings present in **remoteapp2.js** :

```
// Remote Desktop Server
var remoteapp2_server = "; var remoteapp2_port = '443';
```

```
// Windows Authentication
```

```
var remoteapp2_user = "; var remoteapp2_psw = "; var remoteapp2_domain = ";
```

```
// Optional Command Line Parameters
var remoteapp2_apppath = ";
```

```
// RemoteApp mode
var remoteapp2_wallp = 'green'; var remoteapp2_remoteapp = 'on';
```

#### // Screen

```
var remoteapp2_color = '32';
var remoteapp2_full = '2';
var remoteapp2_width = ";
var remoteapp2_height = ";
var remoteapp2_scale = '100';
var remoteapp2_smartsizing = '1';
var remoteapp2_dualscreen = 'off';
var remoteapp2_span = 'off';
```

```
// Disks mapping (required for printing)
var remoteapp2_disk = '1';
```

// Printing
var remoteapp2\_printer = 'off';
var remoteapp2\_preview = 'off';
var remoteapp2\_default = 'on';
var remoteapp2\_select = 'off';

#### // Hardware

var remoteapp2\_com = '0'; var remoteapp2\_smartcard = '0'; var remoteapp2\_serial = 'off'; var remoteapp2\_usb = 'off'; var remoteapp2\_sound = 'on'; var remoteapp2\_directx = 'off';

#### // Miscellaneous

var remoteapp2\_alttab = '0'; var remoteapp2\_firewall = '1'; var remoteapp2\_localtb = '32'; var remoteapp2\_lock = 'off'; var remoteapp2\_rdp5 = 'off'; var remoteapp2\_reset = 'off';

# How to completely customize the Web Access Page beyond the Web Portal capabilities?

#### Overview

By using the Web Portal you can customize Terminal Service Plus Web Access Pages in an extensive way.

However, in some cases, this is not enough. In these cases, you can completely customize the Web Access Page, beyond the Web Portal capabilities, by modifying by yourself the Web Access Page generated by the Webmaster Toolkit.

Warning, this documentation is intended only for skilled Web developers.

#### Generating mandatory settings

In order to include the mandatory settings in your Web Access page, we recommend that you start by generating your Web Access Page by using the <u>Web Portal</u>.

#### Files location

The Web Access Page will be generated in the "C:\Program Files (x86)\TSplus\Clients\www" folder, for instance if you choose "index" as the page name, it will be the file named "index.html" in this folder.

It is a standard HTML file, so you can use all your knowledge of HTML, JavaScript and CSS programming languages to develop your custom page.

All the files inclusion are written relatively to the "C:\Program Files (x86)\TSplus\Clients\www" folder. For instance, the main CSS styles file is located at "C:\Program Files (x86)\TSplus\Clients\www\software\common.css", so it is included in the HTML Web Access Page file by the following line:

<link rel="stylesheet" type="text/css" href="software/common.css" />

#### Minimal Web Access Page

Starting from an HTML file generated by the Web Portal Preferences, we will reduce it down to a minimal Web Access Page. We advise you to use a text editor such as Notepad or Notepad++ (do *not* use Word).

After our work, it will look like the screenshot below:

Log on
HTML5 client

First, you must keep everything that is between the

and HTML tags: - meta tags to force browsers to clear their cache - .js files inclusions - JavaScript settings declarations Then, you can reduce the content between the 'body' and '/body' HTML tags down to these few lines:

Refresh the web page in your web browser, and you should get the minimal page of the above screenshot.

#### We recommend you clear your browser's cache after saving any changed file.

Finally, it is now up to you!

As long as you keep the calls to JavaScripts functions on specific events and the given identifiers (id="..."), your fully customized Web Access Page will be working fine!

# Web logon page: How to open the HTML5 client in the same tab

#### Overview

On the Web logon page, when the user clicks on the "Log on" button, the HTML5 client is opened in a new browser's tab.

You can change this behavior and have the HTML5 client to open in the same browser tab as the Web logon page by modifying a JavaScript file.

## Modifying the custom.js file

Edit the file "custom.js" file which is stored into the "C:\Program Files (x86)\TSplus\Clients\www" folder. We advise you to use a text editor such as Notepad or Notepad++ (do *not* use Word).

Add this line:

var openinsamewindow = true;

We recommend you clear your browser's cache after saving the changed JavaScript file.

#### Modifying the common\_applications.js file

If you are using Terminal Service Plus Web Applications Portal feature, then you need to edit a second file. Edit the file "common\_applications.js" file which is stored into the "C:\Program Files (x86)\TSplus\Clients\www\software" folder. We advise you to use a text editor such as Notepad or Notepad++ (do \*not\* use Word).

Search for these lines:

```
if (childurl != '') {
    child = window.open(childurl, childname);
    childrenWindows[childrenWindows.length] = child;
}
```

And replace them by those lines:

```
if (childurl != '') {
   window.name = childname;
   location.href = childurl + '#';
}
```

We recommend you clear your browser's cache after saving the changed JavaScript file.

## How To: Add a Custom HTTP Header

#### Prerequisites

This feature is very technical and this documentation is only for technical experts.

You should be familiar with HTTP protocol as well as HTTP Headers.

#### Overview

Some use case might require that Terminal Service Plus web server returns one or more custom HTTP Headers in addition to the standard ones.

This feature answers this specific need.

#### Setting up a custom HTTP Header

To add your own custom HTTP Header, you need to:

- Create the file "headers.bin" in the folder "C:\Program Files (x86)\TSplus\Clients\webserver"
- Add the custom headers separated by new line, for instance case: header1=X-Frame-Options
- Restart webserver (AdminTool > Web > Restart Web Servers) to apply changes

Terminal Service Plus server will now respond to all queries with this custom HTTP Header in addition to the standard ones.

## Enforce HTTPS protocol

#### Standard Case

Starting from Terminal Service Plus version 9.20, you can redirect every web request which uses HTTP to the HTTPS secure protocol.

To activate this feature on a server, edit (or create) the file "C:\Program Files (x86)\TSplus\Clients\webserver\settings.bin" and add the following line:

disable\_http\_only=true

Save the file and restart Terminal Service Plus web servers (AdminTool > Web > Restart Web Servers or reread configuration by accessing http://127.0.0.1/w0j3?settings.bin).

Once this feature is enabled, you can try to browse to the insecure web page at:

http://your-server

and it will automatically redirect your request to the secure Web Portal page at:

https://your-server

#### Special case: Custom Web Ports

If you are using a specific port to serve HTTPS, then edit the file "C:\Program Files (x86)\TSplus\Clients\webserver\settings.bin" and use the following line instead of the line described above:

disable\_http\_only="domain.com:4431"

where domain.com is your own server host name and 4431 is your HTTPS custom port.

Save the file and restart Terminal Service Plus web servers (AdminTool > Web > Restart Web Servers).

Once this feature is enabled, you can try to browse to the insecure web page at:

http://domain.com

and it will automatically redirect your request to the secure Web Portal page at:

https://domain.com:4431

Comment: Even if this is not secure but you wish to disable ssl/https on http port then edit the settings.bin file and add: disable\_ssl\_on\_http=true, save and restart the servers.

#### Disable http on https

By default it is allowed to access https://my-domain.com, https://my-domain.com:80, http://my-domain.com:443 So it allows http on port 443 or allow https on port 80, it does not have impact on security and makes it easy to fallback to

degraded xhr-connection when no websockets support is possible But if wished to disable it, edit the settings.bin file and add the following line:

disable\_http\_on\_https=true

Then restart Terminal Service Plus web servers (AdminTool > Web > Restart Web Servers or reread configuration http://127.0.0.1/w0j3?settings.bin)

#### HTTPS Enforcement and Free SSL Certificate Validation

Please note that this HTTPS Enforcement feature is fully compatible with our Free SSL Certificate feature.

# Enforce the use of web portal to connect to the server

Starting from Terminal Service Plus version 6.60, you can block/disable any attempt to connect using mstsc.exe (or any RDP clients) over the open/redirected port (80 or 443).

This feature only allows accesses from the Terminal Service Plus Web Portal and disables any other RDP connection on port 80/443.

To activate this feature on a server, edit the file C:Program Files (x86)TSplusUserDesktopfilesAppControl.ini and add/modify the following variable:

[Security] Block\_rdp\_splitter=yes

# Web Autologon: connect from web without portal

#### Overview

Terminal Service Plus Web Portal allows users to connect to their remote servers from any web browser simply by using their Windows credentials.

Sometimes however, you want to connect automatically when you launch a given URL address. This feature is called Web Autologon.

With Web Autologon, you will connect using the settings (login, password, ports, ...) specified in specific Terminal Service Plus files.

#### Web Autologon using HTML5 client

You will be able to connect directly by browsing to http://your-server/software/html5.html

You can modify the connection settings by editing the following file with Notepad or any text editor (such as Notepad++ - do not use MS Word):

C:\Program Files (x86)\TSplus\Clients\www\software\html5\settings.js

You will need to specify at least a login and a password in order to benefit from Web Autologon.

You might need to refresh the page on your web browser after modifying this file.

#### Web Autologon using the RemoteApp Web Client

You will be able to connect directly by browsing to http://your-server/software/remoteapp2.html

You can modify the connection settings by editing the following file with Notepad or any text editor (such as Notepad++ - do not use MS Word):

C:\Program Files (x86)\TSplus\Clients\www\software\remoteapp2.js

You will need to specify at least a login and a password in order to benefit from Web Autologon.

You might need to refresh the page on your web browser after modifying this file.

#### Enable multiple user sessions using the same credentials

If you want to enable multiple user sessions using the same credentials, then you can follow this procedure.

You can copy the index.html file located in:

### 

#### C:\Program Files (x86)\TSplus\Clients\www

as many times as your number of users. You can rename it and then access it with the url: http://nameofyourserver.com/renamedindex.html

Edit the paragraph corresponding to users credentials:

You can copy the index.html file as much time as you want, renaming it with the username will make it easier for you to provide a personal link.

## HTML5 Client: RDP session resolution on mobile devices

The common screen resolution by most devices, especially mobile phones is 320x480, but that is obviously not sufficient to create the RDP session.

Therefore the resolution was preset to 800 in width. The height of resolution gets recomputed by hidden browsers native logic. The higher the width the bigger the height.

• As an example, standard resolution is 320x480, now when you set the viewport to 800, the browser recomputes the value for height for example to 800x904, when you set the width to 1280, then it's 1280x1160 etc.

The height and width depend on landscape/portrait view of your device, like 800x904 or 904x800 etc. Each browser can recompute it on its own logic to fit the rdp screen into the viewport of your device and may differ depending on the browser even when used on same device.

If you set the height manually, then you will break the viewport ratio of your device and the final RDP session will be out of your port view, and to reach these areas you will have to scroll to wished positions.

• Therefore it is recommended not to set height manually, but let the device choose automatically the height.

If you need more height, increase the width!

By testing on mobile phone devices, the good value for width was 800. Though you must pay attention : the CPU's on most mobile phones are usually slow, therefore when you increase the height, it will increase the CPU load. On tablet devices the CPU's are faster, therefore it is recommended to set the width to higher value like 1280 and allow the device to recompute the value for height.

Because some browsers like FireFox mobile do not allow the setting of viewport after page loading, this value was set fixed into the Clients\www\software\html5.html file:

<meta name="viewport" content="width=800, maximum-scale=1.4">

For example change it to:

```
<meta name="viewport" content="width=1280, maximum-scale=1.4">
```

to increase width and at same time height recomputed by browsers native internal logic.

As a second example, changing it to :

```
<meta name="viewport" content="width=1280, height=1400, maximum-scale=1.4">
```

would break viewport area and RDP session would not fit the screen.

## HTML5 Client: How to maximize the browser window

#### Overview

The RDP protocol does not allow to resize while connected without a reconnection.

### Please note that you will get the best experience possible from Terminal Service Plus HTML5 client by connecting with a *maximized browser*.

However, if you want to force the browser window to be as big as possible, you can try to "force" the HTML5 window to open with the maximum size (but not as a "maximized" window, due to internet browsers security limitations).

#### Maximizing the browser window

You will have to modify the file "Clients\www\software\common.js" located in your Terminal Service Plus directory. We advise you to use a text editor such as Notepad++ (do *not* use Word).

In order to have a browser window which uses all the screen, you will have to modify the line(s) with "window.open" in it, and add the following text:

```
, "screenX=0,screenY=0,left=0,top=0,fullscreen=yes,width="+(screen.availWidth-5)+",height
```

This allows IE/Chrome/Firefox/Safari to open the window with a screen size (minus Windows bar). Unfortunately it is not possible to force a web browser to "maximize" the window in a "fullscreen" Windows type.

Open the file and search "window.open("

Then add the new at the end before the brackets, for example:

```
window.open(hostGateway + jwtsclickLinkBefore(getside(), p), window.opforfalse);
```

will become:

```
window.open(hostGateway + jwtsclickLinkBefore(getside(), p), window.opforfalse, "screenX=
```

And again:

tmpwin = window.open(p, '\_blank'); //Chrome needs \_blank

will become:

```
tmpwin = window.open(p, '_blank', "screenX=0,screenY=0,left=0,top=0,fullscreen=yes,width=
```

And again:

```
success = window.open(p, k);
```

will become:

```
success = window.open(p, k, "screenX=0,screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,left=0,top=0,fullscreen=yes,width="+(screenY=0,top=0,fullscreen=yes,width="+(screenY=0,top=0,top=0,fullscreen=yes,width="+(screenY=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0,top=0
```

#### 

#### And finally :

cpwin = window.open("about:blank", n);

will become:

cpwin = window.open("about:blank", n, "screenX=0,screenY=0,left=0,top=0,fullscreen=yes,within the compared of the strength of

## HTML5 Client: Parameters in URL address

When using Terminal Service Plus HTML5 client to connect to a remote server, you can specify several parameters in the URL address to override default parameters, such as:

- user login
- user password
- program to run
- startup directory for the program to run
- command line for the program to run

#### Run a Specific Application

Here is an example of a full URL address to open a remote session for user "demo" with password "demo" and by starting standard notepad upon session opening:

https://demo.tsplus.net/software/html5.html?user=demo&pwd=demo&program=c:\\windows\\system32\\notepad.exe&startupdir=c:\

Please note that in the URL address all slashes characters must be repeated 4 times.

You do not have to specify all these parameters at the same time: the parameters not specified will have their default configured value.

#### Connect with Web Credentials

If you want to use a Web Credential to connect, you can pass it in an URL by adding an "@" before the Web Login.

Here is an example of a URL address to open a remote session with the Applications Panel for Web Credentials "1234" with password "demo":

https://demo.tsplus.net/software/html5.html?user=@1234&pwd=demo

#### Restrict this usage to Users Default Applications

You can disable the Application Command Line for users by going on the <u>Advanced --> Session tab</u> of the AdminTool, double-clicking on the "Application Command Line" setting and setting the value to "No".

#### 

1 TSplus - Edit Setting	×
Application Command Line	
Description:	
Application Command Line can be specified on client side.	^
Value:	
Yes	$\sim$
Save Cancel	

## How to setup Apache reverse proxy support of Websockets

- 1. first of all change following variable to false www\software\html5\settings.js > W.xhrreverse = false; (if you don't change it to false, it will always try xhr instead websockets, what we don't want anymore)
- 2. install Apache with proxywstunnel support (older Apaches without proxywstunnel are unsupported!)
- 3. allow in Apache config (httpd.conf etc.) following modules. LoadModule proxymodule modules/modproxy.so LoadModule proxyhttpmodule modules/modproxyhttp.so LoadModule proxywstunnelmodule modules/modproxy wstunnel.so
- 4. let's assume you want to access html5 main portal via subfolder "/html5/" As example http://your*ip* or\_domain.net/html5/ And Tsplus is installed in intranet on server "intranetxyz" then add to the config (httpd.conf etc.) following

ProxyPass /html5 http://intranetxyz:80 ProxyPassReverse /html5 http://intranetxyz:80

ProxyPass "ws://intranetxyz:80/socket.io/websocket\_https"

ProxyPass "ws://intranetxyz:80/socket.io/websocket"

ProxyPass "ws://intranetxyz:80/socket.io/flashsocket\_https"

ProxyPass "ws://intranetxyz:80/socket.io/flashsocket"

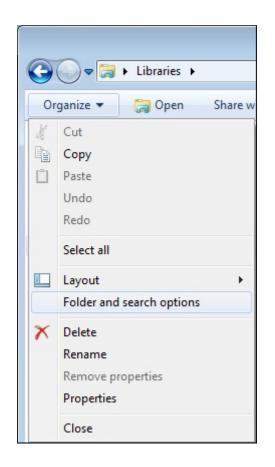
5. Restart Apache to take changes effect.

## How to mount a logical drive within a TSplus session

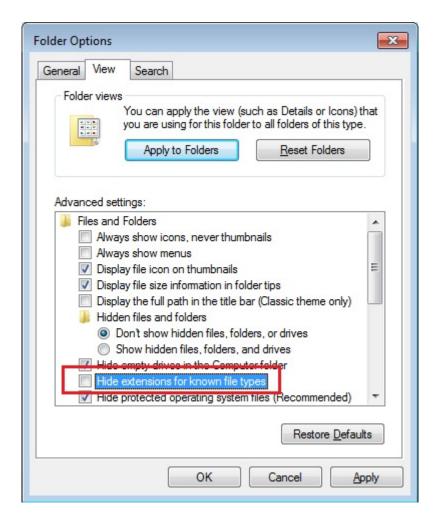
This tutorial will cover the following aspects:

- How to deploy a logon script and have multiple logon scripts scenarii.
- Mounting a specific folder within a session from client or server side.

If you wish to publish a folder on a logical virtual drive for your users, just follow this procedure: Prior to creating the script, open windows explorer and click on "Folder and search options".



Then, click on the view tab and uncheck the box "Hide extensions for known types":

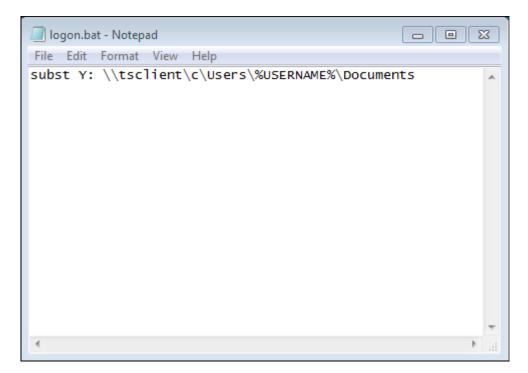


Create a text document and modify the extension by naming it "logon.bat":



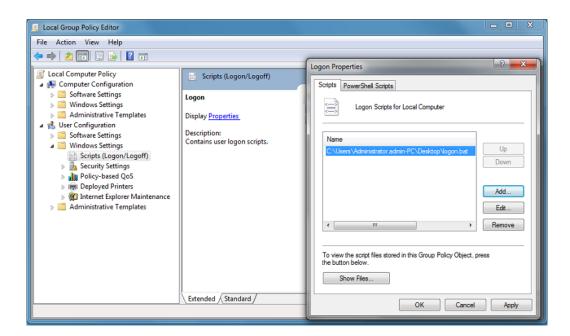
Inside the file, enter for example this command to publish the Folder.exe folder:

"subst Y: \tsclient\C\Users\%USERNAME%\Documents"



Then, on the start menu, type in gpedit.msc on the search taskbar. We are going to use local policy so that every user connecting to this server launches the script.

Go into the user's configuration menu, then into the Windows settings, and finally, into Scripts (Logon/Logoff) Double click on the Logon script, then click on "Add", then on "Browse".



Then, click on "Show Files" button on the Logon Properties window and copy your logon.bat script into the path given by the Policy Editor, i.e.: "C:\Windows\System32\GroupPolicy\User\Scripts\Logon"

🕥 - 🎍 « Windows 🕨 System32	2 → (	GroupPolicy → User → Scripts → Logo	on 🔻 🍫 Se	arch Logon	- 0	× م
Organize 🕶 🖻 Open Print	Ne	w folder		811	•	0
🔆 Favorites		Name	Date modified	Туре	Size	
Desktop		🚳 logon	2/21/2018 8:41 PM	Windows Batch File		1 KB
Downloads						
Libraries Documents Music Pictures Videos Computer Local Disk (C:)	E					
logon Date mo Windows Batch File		: 2/21/2018 8:41 PM Date created : 48 bytes	: 2/21/2018 8:44 PM			

- You can copy this logon.bat file in C:\ProgramData if you want this script to be executed for all of your users.
- If you need a specific logon script for each user then copy the script in C:\Users\Username\AppData\Roaming

Now how do we make this Y drive appear in the user session? There many ways to achieve this. You can create a new application within the admin tool and assign it to your users, doing so the shortcut will appear in the session:

🐂 Common Folder Settings	_		×
Path/Filename:			
C:\Windows\explorer.exe			
Start Directory:			
C:\Windows			
Display Name:			
Common Folder			
Command line option:			
Y:			]
Window State:			
Default (Maximized if single application on Web/Mobile client)		~	·
Folder:			
(top-level)		~	
Save Test	Can	cel	

### 



If you connect to a session with mstsc.exe, don't forget to go to the options menu, and on the Local Resources tab, under Local devices and resources, click on "More", then check the box "Drives".

If you want to assign this script only for non-admin users, follow this <u>tutorial</u>. If you want to secure the access of a folder, see our documentation to publish a <u>secured folder</u>.

# HTML5 Client: What is the difference between Websockets and XHR?

Websockets is the persistent connection that can be used to receive/send data without sequential order and without http header.

Xhr-polling creates new request with http header and waits for answer with http header, also sequential order.

Doing so, XHR data flow always looks like this:

HTTP\_HEADER\_REQUEST -> HTTP\_HEADER\_ANSWER HTTP\_HEADER\_REQUEST -> HTTP\_HEADER\_ANSWER and so on

also before the data can be downloaded, it must be requested with HTTP\_HEADER, therefore its name: xhr-polling.

Websockets data flow may look like this:

FRAME\_DATA\_SEND FRAME\_DATA\_SEND FRAME\_DATA\_RECEIVE FRAME\_DATA\_SEND FRAME\_DATA\_RECEIVE FRAME\_DATA\_RECEIVE

Also it is random data sending/receiving without special sequential order and without any http header data.

That makes the usage with reverse proxies impossible due to the lack of Websockets support by most known reverse proxies; but half of the xhr transport may work with Apache reverse proxy.

Also see: HTML5 Client: Supported Browsers

## How To: Bind Web Server to Several Network Cards

#### Overview

Some use case might require that Terminal Service Plus web server listens on more than one network card, for instance if the server belongs to several different networks.

This feature answers this specific need.

#### Binding Web Server to Several Network Cards

To bind Terminal Service Plus web server to several network cards, you need to:

- Create the file "settings.bin" in the folder "C:\Program Files (x86)\TSplus\Clients\webserver"
- Add the following line with all the local IP addresses for all the network cards you want to bind to, for instance:

bind\_nic="127.0.0.3","127.0.0.4"

• Restart webserver (AdminTool > Web > Restart Web Servers) to apply changes

Terminal Service Plus web server will now listen to all queries from all the binded network cards (in our example case the binding would be done to 127.0.0.3, 127.0.0.4 and 127.0.0.1 automatically).

### Run Windows client under Proxy environment

Usually the SSH package support HTTP(S) proxies and this should be sufficient to overcome most known proxies.

However, there are existing very difficult cases, where the proxy environment can not be properly recognized, is hidden from third party software or the target servers are behind reverse proxies.

For such difficult cases the software contains Non-SSH solution called "Rescue mode".

If you can establish HTML5 connection, then you can be sure this software will help you to establish native socket connections through Websocket(FF, Chrome, Opera, IE10 etc) or XHR (IE6-IE9).

Be careful, some proxies allow Websocket/XHR traffic only via HTTPS layer, so use https address instead of http.

If proxy does not ask for proxy authentication and you can access pages via browser:

- 1. Open http(s)://yourserver.com/software/html5/jwres/
- 2. Wait for successful connection (and authorize Java execution if asked)
- 3. Click on the red text "open the link" to open the working web access page
- 4. Use Windows client access as usual

If proxy requests proxy authentication and you can access pages via browser:

- 1. Open http(s)://yourserver.com/software/html5/jwres/
- 2. If the proxy requests for authentication for java applets, press "cancel"
- 3. Click on "Download LocalWebserver", and execute it after successful download, that will start local http server on port 18888
- 4. Click on "Force Applet loading from http://localhost:18888", this will reload the page with loading of jars from local http server
- 5. Wait for successful connection
- 6. Click on the red text "open the link" to open the working web access page
- 7. Use Windows client access as usual

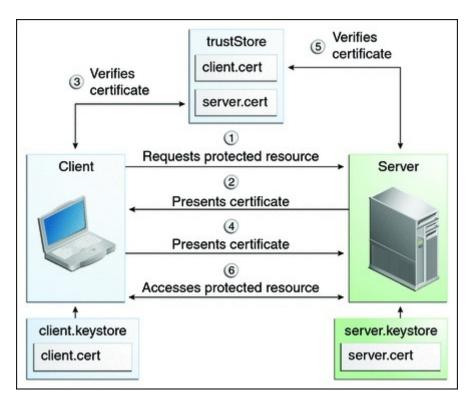
### Activating Mutual SSL Authentication

#### What is Mutual Authentication?

Many people are expecting extra security and Mutual authentication is already supported in Terminal Service Plus. It is usually implemented by banks or government bodies.

To understand what that is, we can compare it to a standard SSL process where you will add extra check to verify if the user web browser is allowing SSL connection. You know what your server-side SSL certificate is. Imagine that the certificate is imported into the web browser to ensure that this specific web browser is trusted to create a connection. In the first step of communication, the web browser is acting as a client and in the second step, it is the reverse. At the end both side, client web browser and web server, have accepted the authority and the connection can start.

A more complete definition: Mutual SSL authentication or certificate-based mutual authentication refers to two parties authenticating each other through verifying the provided digital certificate so that both parties are assured of the others' identity. In technology terms, it refers to a client (web browser or client application) authenticating themselves to a server (website or server application) and that server also authenticating itself to the client through verifying the public key certificate/digital certificate issued by the trusted Certificate Authorities (CAs). Because authentication relies on digital certificates, certification authorities such as Verisign or Microsoft Certificate Server are an important part of the mutual authentication process.



#### Activating it on TSplus

#### TSplus built-in web server enables to setup mutual authentication.

To enable the mutual authentication follow this process:

You will have to install the latest Java Development Kit (JDK), available from http://jav

```
1. Create and edit with Notepad the following file:
C:\Program Files (x86)\TSplus\Clients\webserver\settings.bin
```

Add these 3 lines:

disable\_http\_only=true
disable\_print\_polling=true
force\_mutual\_auth\_on\_https=true

2. Remove cert.jks

In "C:\Program Files (x86)\TSplus\Clients\webserver" you will see the file cert.jks
Copy it in "C:\Program Files (x86)\TSplus\Clients\"
Remove "C:\Program Files (x86)\TSplus\Clients\webserver\cert.jks"

3. Create the batch file

In 'C:\Program Files (x86)\TSplus\Clients' create a batch file, for example "createcertus

@rem uncomment next line, if you want to generate new self signed cert.jks @rem keytool -genkey -v -alias jwts -keyalg RSA -validity 3650 -keystore cert.jks -storeg @keytool -genkey -v -alias AliasUser1 -keyalg RSA -storetype PKCS12 -keystore forBrowserU ST=FR, C=FR" -storepass mypassword -keypass mypassword @keytool -export -alias AliasUser1 -keystore forBrowserUser1.p12 -storetype PKCS12 -store @keytool -alias AliasCertUser2 -import -v -file forCertUser1.cer -keystore cert.jks -store @del forCertUser1.cer

This will automatically import the cert key pair from the web browser into "cert.jks" aft

4. Restore the new created the modified "cert.jks"

Copy "C:\Program Files (x86)\TSplus\Clients\cert.jks" into "C:\Program Files (x86)\TSplus\Clients\webserver" and restart the Web Servers.

5. Certificate import and Testing

The provided batch example should have generated a test file "BrowserUser1.p12". When you will open the HTTPS address, you will get a security message and you will be una With Chrome or IE, you can click on this 'BrowserUser1.p12' file to import the certificat With FireFox, you have to go to Settings and to import this "BrowserUser1.p12" file under

As soon as you have properly imported it, you will be able to access the HTTPS address.

The administrator can create a separate key pair file for each user.

For example:

forBrowserUser1.p12
forBrowserUser2.p12
forBrowserUser3.p12

And he can export theses certificates into cert.jks. If he wants to disable the access to one user he will just have to delete this user from Doing so, the user will lose his authorization and will not be able to access the web ser

This mutual authentication only affects the HTTPS connections and HTTP connection will be settings.bin>disable\_http\_only=true

## Volume Licensing

Volume Licensing is a scripting licensing solution powered by TSplus for its solutions. The following products supports activation using Volume Licensing 2020 : Remote Access, Remote Work, Advanced Security (aka RDS-Knight), Remote Support or Server Monitoring (formerly Server Genius).

When your Volume Licensing account is created on the Licensing Management portal, the Volume Licensing team will provide:

- 1. Your Volume License Key (please keep this information confidential)
- 2. Your credentials to connect to the Licensing Management portal
- 3. This Volume Licensing 2020 Administrator Guide

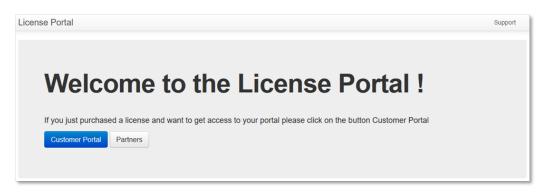
#### VIRTUAL PRINTER IS NO LONGER LICENSED

Please note that since 15th of March 2022 and version 15.40.3.14, Virtual Printer is no longer licensed and is included in all editions of TSplus Remote Access.

#### How to manage your Volume Licenses?

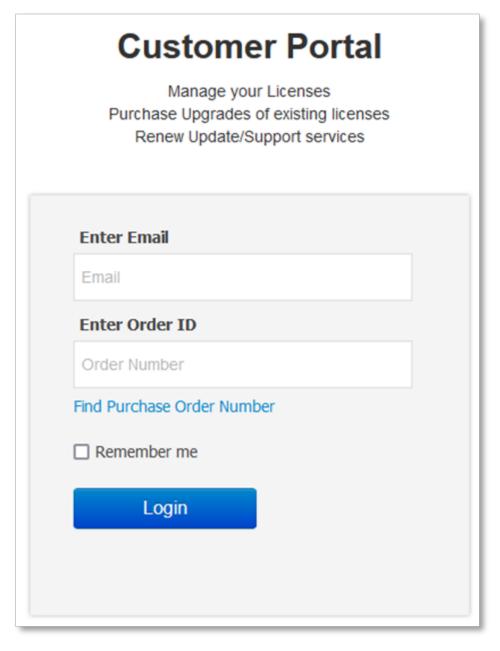
Your Volume Licenses and credit balance can be reviewed and managed in the TSplus License portal. The TSplus License portal is available at the following URL: https://license.dl-files.com

To connect and access to your account, start by clicking on Customer Portal to reach the customer's section:



Then, type your credentials to access your account:

### 



Once logged in, you will see the following table where all your Licenses are listed. It is the main page where you will be able to manage all your Licenses. If you have not yet activated any Volume License, this page will be empty.

License	S		x@y.co	m, @y.com	n, serial number, order n	ef. Q Glo	bal Search		Avail	able numbe	r of users/lice	enses	
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To review one License history details, click on the "Details" button of the License you want to study. You will get the License details page as shown on the picture below.

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Software	RDS-Knight Ultimate Protection	Please find attached to this email your license file (RDS-Knight Ultimate Protection permanent ).
Email	brendan janssen@honeywell.com	
Order Number/Reference		To activate this license, please save this file to your disk and do not rename it, then start the AdminTool.
Date	2018-06-11 02:43:19	Citck on the "License" button, then on the "Activate your License" button. Follow the prompts to install the license.
Rehosted?	×	If your trial period was over, you will need to reboot the server.
Status	Enabled Teacher	If the activation is done during the trial period, you do not have to reboot. This license is bound to the computer on which the software is installed.
Version		In case you acquire a new computer, you must uninstall the software from the previous computer before using the software on the new computer.

# How to install a Volume License Server in one step?

To install a Volume License server in one step, you will need to:

- Download the Product Setup program
- Use your Volume License Key
- Run the Setup program with your Volume License Key as a parameter

Your Volume License Key is the same one for any installation of any new server. If you do not remember it, connect to your account in the License portal. Your Volume License Key is displayed at the top on the home page (Licenses).

To install and activate a Volume License from a script, run the following command line as an elevated Administrator:

Setup-TSplus.exe /volumelicensekey=VOLU-MELI-CENS-EKEY /users=unlimited /edition=Enterprint

The scripted activation using Volume License 2020 is available for the following products and all their rebranded versions:

- Remote Access
- Advanced Security (aka RDS-Knight)
- Server Monitoring (formerly Server Genius)

#### Parameters

This command takes the following parameters:

Parameter and value	Expected value
Setup-PRODUCT.exe	The name of the setup program
/volumelicensekey=VOLU-MELI-CENS-EKEY	Your Volume License Key
/users=unlimited	Any number from 1 to 50 or "unlimited" for Remote Access Any number from 1 to 50 for Remote Work Any number from 1 to 25 for Remote Support Any number from 1 to 10 for Server Monitoring This parameter does not apply to Advanced Security and Server Genius
/edition=Enterprise	"Desktop", "MobileWeb" or "Enterprise" for Remote Access "Essentials" or "Ultimate" for Advanced Security "Startup", "Essential" or "Business" for Server Genius This parameter does not apply to Remote Work, Remote Support and Server Monitoring
/supportyears=3	Any number from 0 to 3 This parameter does not apply to Server Genius
/activatesecurityaddon=Ultimate	This parameter only applies to Remote Access "no" to ignore add-on activation "Ultimate" to activate an Ultimate edition "Essentials" to activate an Essentials edition
/comments="Your comments"	Specifies the comments to attach to the license on the License portal
/verysilent	Execute the setup program silently. This enables the integration of this setup program into your own initialization or automatization scripts.

#### Scripting Methods

To start Setup-PRODUCT.exe with its correct command line you can use 3 methods:

- 1. Use your own management scripts methods
- 2. Create a shortcut of Setup-PRODUCT.exe and edit the properties to add the command line at the end of the path.
- 3. Simply open a "Command line" by pressing the Windows key and the "R" key simultaneously, then typing "cmd" and pressing the "Enter" key to confirm. This method with the keyboard shortcut is working on every existing Windows version at the time of writing of this document.
- 4. Once the prompt appears, change the current directory to the directory where is found your setup program (usually your Downloads folder). For instance, type:

cd C:\Users\admin\Desktop

And finally type the full command to run the setup program with the following parameters, supplying the desired values:

Setup-TSplus.exe /volumelicensekey=VOLU-MELI-CENS-EKEY /users=unlimited /edition=Enterprint

# How to activate a Volume License from the Server after Setup?

If you have installed your product without any command line, then it is installed as a trial version.

To activate your Volume License, run the following command line as an elevated administrator:

AdminTool.exe /vl /activate VOLU-MELI-CENS-EKEY /users unlimited /edition Enterprise /sup

#### Parameters

This command takes the following parameters:

Parameter and value	Expected value
PRODUCT.exe	The name of the administration program (see section "Find the relevant administration program")
/volumelicensekey=VOLU-MELI-CENS-EKEY	Your Volume License Key
/users=unlimited	Any number from 1 to 50 or "unlimited" for Remote Access Any number from 1 for Remote Work Any number from 1 to 25 for Remote Support Any number from 1 to 10 for Server Monitoring This parameter does not apply to Advanced Security, 2FA addon and Server Genius
/edition=Enterprise	"Desktop", "MobileWeb" or "Enterprise" for Remote Access "Essentials" or "Ultimate" for Advanced Security "Startup", "Essential" or "Business" for Server Genius This parameter does not apply to Remote Work, Remote Support, 2FA addon and Server Monitoring
/supportyears=3	Any number from 0 to 3 This parameter does not apply to Server Genius
/comments="Your comments"	Specifies the comments to attach to the license on the License portal

### How to Disable a License from the Server?

To disable a server which was activated with a Volume License key, run the following command line as an elevated Administrator:

AdminTool.exe /vl /disable VOLU-MELI-CENS-EKEY

#### Parameters

This command takes one parameter:

VOLU-MELI-CENS-EKEY : use your own Volume License Key

### How to Enable a License from the Server?

To enable a server which was first activated with a Volume License key and was later disabled, run the following command line as an elevated Administrator:

AdminTool.exe /vl /enable VOLU-MELI-CENS-EKEY

#### Parameters

This command takes one parameter:

VOLU-MELI-CENS-EKEY : use your own Volume License Key

# How to Disable a License from the Licensing Portal?

You must first disable the License on the Licensing portal, then make sure that the new status is applied on your server by updating its status from the administration application or the command line.

First, from both the Licenses list and the License details pages, you can click on the "Disable" button to disable the selected License. The license will move from the "Enabled" status to the "Disabling..." status, meaning that it is currently waiting for the server to disable itself.

Then, the server will automatically disable itself following the next day if he has an internet access.

You can also do this manually by running the following command line as an elevated Administrator:

AdminTool.exe /license /refresh

Note that it is not necessary to run the refresh command line for all installed software. The refresh is supported by all products compatible with the 2020 licensing system.

The license will be accounted for in your license usage until your server has contacted the License portal and acknowledged its disabled status.

## How to Update the Users of a Volume License from the Server?

To change the number of users associated with your activated Volume License, run the following command line as an elevated Administrator:

AdminTool.exe /vl /update VOLU-MELI-CENS-EKEY /users 10

#### Parameters

This command takes two parameters:

- VOLU-MELI-CENS-EKEY : use your own Volume License Key

- /users unlimited : use any number from 1 to 50 or "unlimited"

Please note that:

- This command does not apply to Advanced Security and 2FA addon.
- ServerGenius only accept the numbers 1, 5 and 10 corresponding to the three available editions of ServerGenius.
- Only TSplus Remote Work accepts a count of users greater than 50.

### How to Update the Edition of a Volume License from the Server?

To change the edition associated with your activated Volume License, run the following command line as an elevated Administrator:

AdminTool.exe /vl /update VOLU-MELI-CENS-EKEY /edition Enterprise

#### Parameters

This command takes two parameters:

- VOLU-MELI-CENS-EKEY : use your own Volume License Key

- /edition Enterprise : use the name of the edition

Please note that:

- This parameter does not apply to Remote Work, Remote Support, Server Monitoring, 2FA addon and Server Genius
- Possible editions are "Desktop", "MobileWeb" or "Enterprise" for Remote Access
- · Possible editions are "Essentials" or "Ultimate" for Advanced Security

### Find the revelant Administration Program

The following programs supports Volume License commands. The program name and location depend on the product and its setup folder:

Program	Program name	Default location
Remote Access Remote Work	AdminTool.exe	C:\Program Files (x86)\TSplus\UserDesktop\files
Advanced Security	TSplus-Security.exe	C:\Program Files (x86)\TSplus-Security
RDS-Knight	RDS-Knight.exe	C:\Program Files (x86)\RDS-Tools\RDS-Knight
Remote Support	RemoteSupport.exe	C:\Program Files (x86)\TSplus-RemoteSupport
Server Monitoring	ServerMonitoring.exe	C:\Program Files (x86)\TSplus-ServerMonitoring
ServerGenius	ServerGenius.Admin.exe	C:\Program Files (x86)\RDS-Tools\ServerGenius
2FA addon	TwoFactor.Admin.exe	C:\Program Files (x86)\TSplus\UserDesktop\files

The program execution is silent. This enables the integration of your license activation process into your own initialization or automatization scripts.

# Troubleshooting activate, enable, disable and update commands

Should you want to investigate any issue and/or when prototyping your scripts, you can get success and error messages by looking at the **VolumeLicensing.log** file found at the root of the program.

## How to configure a Proxy Server for Internet Access

Proxy settings defined during the installation are remembered and will be used to perform operations on licenses. If no proxy settings were defined, then the Volume Licensing program will use Internet Explorer proxy settings (if any is configured in the running session and/or for the windows service).

You can also configure the proxy settings manually by running the following command line as an elevated Administrator:

AdminTool.exe /proxy /set /host proxy.company.org /port 80 /username dummy /password pass

#### Parameters

#	Parameter	Description
1	/set	Action to be performed on the proxy settings
2	/host (ie   none   custom)	The destination host can be a predefined value (e.g. "ie" or "none") or a user-defined value (ex. 127.0.0.1 or proxy.company.org). This parameter is mandatory.
3	/port 80	The port number used to connect to the proxy server. Required if the hostname value is a custom user-defined value.
4	/username dummy	The username to connect to the proxy server. This setting is optional.
5	/password pass@word1	The user's password must be supplied if a username has been defined. However, its value can be empty.

## How to get Support for Volume Licensing

Volume LicensingSupport & Services team will be more than happy to help you, should you face any issue or trouble when installing and running Volume Licensing on a server.

The easiest way to contact Volume LicensingSupport & Services team is to open a ticket on our online Helpdesk at: https://support.tsplus.net