

DCB, Inc. 2949 CR 1000 E Dewey, Illinois 61840

217.897.6600 Tel 800.432.2638 Toll Free 217.897.8023 www.dcbnet.com

UT-Soft Quick Start Guide

Installing UT-Soft

Only an administrative user may install UT-Soft.

1. Insert the CDROM and locate the installation program named UTSoftSetup_?_??.exe (where ?_?? is the version number).

2. Double click on the installation program to start the automated installation process.

3. The license agreement will be displayed. If the terms are acceptable, click on "Next".



4. The "Select Destination Location" window will be displayed. This is the folder that will contain the UT-Soft program. Select a destination folder if the default isn't appropriate, and press "Next".

r	_		×
Select Destination Location Where should UT-Soft be installed?			D
Setup will install UT-Soft into the following folder.			
To continue, click Next. If you would like to select a different folder, click	ck Brows	e.	
C:\Program Files (x86)\UTSoft	Brow	se	
At least 1.1 MB of free disk space is required.			
< <u>B</u> ack <u>N</u> ext >		Cance	el

5. The "Select Start Menu Folder" window will be displayed. This is the folder that will contain the program shortcut. Select a destination folder if the default isn't appropriate, and press "Next".

🕼 Setup - UT-Soft — 🗆 🗙	
Select Start Menu Folder Where should Setup place the program's shortcuts?	3
Setup will create the program's shortcuts in the following Start Menu folder.	
To continue, dick Next. If you would like to select a different folder, dick Browse.	
UTSoft Browse	
< Back Next > Cancel	

6. The "Select Additional Tasks" window will be displayed. Be sure "Create Virtual Ethernet Adapter" is selected if this is the first time you are installing the software or if you purchased a second key and wish to create a second virtual adapter. Note: If this is a re-install or update, do NOT check this box. If a desktop icon is desired, also select that check box. Then press "Next".

🚏 Setup - UT-Soft		—		
Select Additional Tasks Which additional tasks should be performed	?			3
Select the additional tasks you would like Se then click Next. Create Virtual Ethernet Adapter Additional shortcuts: Create a desktop shortcut	tup to perform t	while installing U	T-Soft,	
	< <u>B</u> ack	<u>N</u> ext >	Cancel	

7. The "Ready to Install" window is displayed. If all locations are correct, click on the "Install" button. If changes are required, click on the "Back" button and make appropriate changes before proceeding.

1륜 Setup - UT-Soft			×
Ready to Install Setup is now ready to begin installing UT-Soft on your computer.		¢	
Click Install to continue with the installation, or click Back if you want change any settings.	to review	or or	
Destination location: C:\Program Files (x86)\UTSoft Start Menu folder: UTSoft Additional tasks: Create Virtual Ethernet Adapter Additional shortcuts: Create a desktop shortcut <		~	
< Back	tall	Can	icel

8. The "Installing" informational window will be displayed while the program is automatically installed.

🗗 Setup - UT-Soft	
Installing Please wait while Setup installs UT-Soft on your computer.	
Creating shortcuts C:ProgramData\Microsoft\Windows\Start Menu\Programs\UTSoft\UT-Soft.lnk -	
	Cancel
I	Cancel

9. If you selected the "Create Virtual Ethernet Adapter" box, you will be asked to enter the Software Key. Enter the 16 alpha numeric key that came with the UT-Soft program. Then press "OK" to continue. Please note that each copy of UT-Soft must have a unique software key per the license agreement. Attempting to use the same key on multiple PCs will confuse the server device, resulting in frequent communication failures.

Install Virtual Adapter
Software Key
Each Virtual Ethernet Adapter requires a unique Software Key. One was included with the install media. Additional Software Keys may be purchased by contacting DCB.
Enter Software Key 1234-5678-9ABC-DEF0
OK Exit

10. You may see a screen that tells you that the software "has not passed the Windows Logo testing". Press "Continue Anyway".

11. After installation, the "Completing the UT-Soft Setup Wizard" screen will be displayed. Click on the "Finish" action button.



Installation is now complete. Before running UT-Soft, configure the DCB Virtual Ethernet Adapter with an IP address and subnet mask.

Configuring the DCB Virtual Ethernet Adapter

UT-Soft creates a Virtual Ethernet Adapter on your system. Before running UT-Soft, this Virtual Ethernet Adapter should be configured appropriately for your application. Configuring the Virtual Ethernet Adapter is similar to configuring a physical Network Adapter. However, it is recommended that the Virtual Ethernet Adapter have a static IPv4 configuration and NOT be configured to "obtain an address automatically". Trying to obtain an address automatically will override the physical Network Adapter's gateway resulting in a routing failure.

1. Right-click on *Start* and select *Run*. Run the command "ncpa.cpl" to open the Network Connections window.





2. Locate and right-click on the DCB Virtual Ethernet Adapter. Select "Properties".



3. Highlight "Internet Protocol Version 4" and click on "Properties".

Networkin	9 Sharing				
Connect	using:				
🕎 D(CB Virtual Ethe	ernet Adapter			
			Configu	ure	
This con	nection uses t	he following items:			
🗹 🏪	Client for Micr	osoft Networks		^	
🗹 🚰	File and Printe	er Sharing for Microso	ft Networks		
I 🗹 🐙	VirtualBox ND	IS6 Bridged Network	ing Driver		
🗹 🖳	QoS Packet	Scheduler			
🗹 🔔	Internet Proto	col Version 4 (TCP/IF	Pv4)	1) Cli	ck once to highlight
	Microsoft Net	work Adapter Multiple	xor Protocol		
Image: A state of the state	Microsoft LLD	P Protocol Driver		\sim	
<				>	
In	stall	Uninstall	Propert	ies <	2) Click on propertie
Descrip	otion				
Trans	mission Contro	l Protocol/Internet Pr	otocol. The def	ault	
wide a	rea network p	protocol that provides	communication		
across	diverse intere	connected networks.			

4. Configure the Virtual Adapter with a static address on your private UT network. The IP address and Subnet mask shown below is for demonstration purposes and will likely differ for your application. However, do NOT set a default gateway. Doing so will interfere with the active default gateway setting for the physical network adapter.

Internet Protocol Version 4 (TCP/IPv4)	Properties >	<
General		
You can get IP settings assigned auton this capability. Otherwise, you need to for the appropriate IP settings. Obtain an IP address automatical	natically if your network supports o ask your network administrator Configure a sta your trusted (l	itic address on JT) network.
• Use the following IP address:		1
IP address:	192 . 168 . 10 . 125	
Subnet mask:	255 . 255 . 255 . 0	
Default gateway:		
Obtain DNS server address autom	natically	-
Use the following DNS server add	resses:	
Preferred DNS server:		
Alternate DNS server:		
Validate settings upon exit	Advanced	
	OK Cancel	

5. Exit the IPv4 properties by pressing "OK", then exit the Ethernet properties by pressing "OK".

Configuring UT-Soft

Start the UT-Soft application using the desktop icon or by finding UT-Soft in the start menu. The first time UT-Soft is run, it is necessary to create a configuration file. You may choose to create a new configuration file or to modify the default configuration.

🔛 DCB UT-Soft		— — ×
Menu		
	Select Configuration File	×
		Create a new config
	Select Configuration File	New Config
	C:\Program Files (x86)\UTSoft\default.cfg	Edit Config
	Set as default Connect	Browse
		Evit
	auto-connect	
1		

Enter the Tunnel Configuration information for your UT/ET/XT network. The configuration must correspond with the UT/ET/XT Server's configuration. The initial screen will appear to have data already entered. This is just place holder data. When done, press the "Save" button to save the configuration in the currently selected configuration file. Optionally, press the "Save as" button to save the configuration under a new file name.

Tunnel Configuration		
Virtual Interface	Ethernet 3	2
Shared Secret	******************	TPv4
Encryption	● none ○ AES-128 ○ AES-192 ○ AES-256	Bautas
Protocol	• UDP C TCP	Routes
Client Name	client1	Filters
Client Password	******	
	pas	sword
Remote Server IP	192.168.0.1	DP Max
Remote Server Port	22	
Idle Disconnect	45 Send Keep-Alives 15	
VLAN Tag		
Encrypt Config File	e Save SaveAs	Cancel

Virtual Interface is the DCB virtual interface to use when connected. Typically there is only one DCB virtual interface and it is automatically selected. If this field is blank, then there was an error during installation. UT-Soft will need to be reinstalled. Make sure UT-Soft is installed by an administrator and that a valid software key was provided. Otherwise the virtual adapter driver will fail to install.

Shared Secret is a system-wide shared secret. The server tunnel and all clients connected to the server use the identical shared secret.

Encryption type is the system-wide encryption choice. The server tunnel and all clients connected to the server must use the identical encryption (or no encryption).

Protocol selects the transport protocol to use for communication between UT-Soft and the server device. If the server is a UT device, then UDP must be selected. If the server is an ET device, the TCP must be selected. If the server is an XT device, then it must match the XT Server's protocol configuration.

Client Name is the name of this UT-Soft client – it must be configured in the UT/ET/XT Server's remote client table.

Client Password is the password associated with this client – it must also be configured in the UT/ET/XT Server's remote client table.

Don't Save Password when checked, will prevent the client password from being stored in the configuration file. At connect-time, UT-Soft will prompt for the password. This is a security feature to prevent unauthorized access to the tunnel. As an alternative, please see the "Encrypt Config File" option. Remote Server IP is the IP address of the remote UT/ET/XT server. The UT-Soft client connects to this server address. If a port-forwarding router is used at the server, you may be required to use public facing IP address of the router instead of the servers actual IP address.

Remote Server Port is the port number of the remote server – this must match the port number used by the UT/ET/XT Server. If a port-forwarding router is used at the server, you may be required to use public facing port configured for forwarding by the router, instead of the servers actual port.

Idle Disconnect Time is the number of seconds this client will wait, on an idle connection, before determining there is a connection problem. When this occurs, the current connection is closed and a new connection started. If set to zero, the client will never disconnect. Do not set to zero unless you really know what you are doing.

Send Keep-Alives is the time (in seconds) this UT will wait while idle before sending a keep alive packet. The keep alive value should be lower than the Idle Disconnect Time value. If set to zero, the client will never send a keep-alive packet. Do not set to zero unless you really know what you are doing.

VLAN Tag is an advanced feature and not needed for a typical application. It is for when the UT/ET/XT server is connected to an 802.1q VLAN trunk and sending/receiving tagged VLAN packets. See the in-application help for more information.

Limit UDP Packet Size: This feature refers to the communication between UT-Soft and the UT/XT server. When enabled, UT-Soft will break large UDP packets up into smaller packets before sending. This is to prevent IP fragmentation on the untrusted network. Some ISPs block or limit IP fragmentation, which can cause very poor performance when using UT-Soft.

UDP Max: This feature works in conjunction with Limit UDP Packet Size. It controls the maximum size of the UDP payload in the UDP fragments. Before choosing any value lower than 1412, make sure your UT/XT server also supports the smaller value. 1412 is a good choice when running over wired networks. 1316 is a good choice when running over an LTE network. Smaller values may be necessary when operating inside of another tunnel, such as IPSec.

IPv4 is an advanced feature and not needed for a typical application. This item allows modification of the IPv4 address at run-time. See the in-application help for more details.

Routes is an advanced feature and not needed for a typical application. This item allows modification of the IPv4 routing table at run-time. See the in-application help for more details.

IP Filters is an advanced feature and not needed for a typical application. It is similar in concept to the IP Filters feature in the UT/ET/XT hardware devices. See the in-application help for more details.

Encrypt Config File: When checked, the configuration file will be stored in an encrypted format, using a user-supplied password as the key. When an encrypted configuration file is used to make a UT-Soft connections, the user must supply the password in-order to decipher the file. This is a security feature to prevent unauthorized access to the tunnel and to the security keys stored within the file.

Connecting to the server

Select a configuration file and then press the "Connect" action button to connect to the UT/ET/XT server, or press Exit to exit the program.



If UT-Soft successfully connects with the server, the program will automatically minimize into the task bar. Pressing on the UT-Soft task icon will reopen the main UT-Soft window.



The main UT-Soft window will display logging information. This information can help with diagnosing any connection problems.



From the main UT-Soft window, clicking on the "Menu" drop down box will display options to reconfigure, access help, or exit the connection.

DCB UT-Soft	-		×
Menu			
Reconfigure			
Filter Activity			
Help			
About DCB UT-Soft			
Disconnect and Exit			
	2		
10-30-2010 00-02-11 Conf	figuration file. C.\Users\mschapk\Documents\UTSoftConfig\def	ault c	fa
10-30-2019 09:02:11 Virt	cual Interface MAC: 00:09:aa:f0:00:18		·g
10-30-2019 09:02:11 Uirt	ual Interface restarted.		
10-30-2019 09:02:12 Con	lected to remote server 205.166.54.134:22.		

Selecting "Reconfigure" will close the current tunnel connection and return to the "Select Configuration File" window.

Selecting "Disconnect and Exit" will close the current tunnel connection and exit the program. Pressing the "X" button, on the title bar, will also disconnect and exit.

To Create Additional Connections using desktop icons

For users that frequently connect to different servers, it is possible to create a desktop shortcut that automatically loads a specific configuration file. This is achieved by creating a shortcut and adding a command-line argument, specifying the full path to the configuration file, to the shortcut target.

On older versions of Windows, an easy way to do this was to simply copy the default UT-Soft desktop icon and then modify it. Do not use this method with Windows 8 and 10. Instead always create a new shortcut.

View Sort by Refresh Paste Paste shortcut Undo Delete Ctrl+Z	>> >> -
New Display settings Image: Comparison of the set of t	Folder Folder

Create a new shortcut by right-clicking on the desktop, selecting $New \rightarrow Shortcut$.

Browse and locate "utclient.exe", normally located in "C:\Program Files (x86)\UTSoft".

	×
n Create Shortcut	
What item would you like to create a shortcut for?	
This wizard helps you to create shortcuts to local or network programs, files, folders, computers, or Internet addresses.	
Type the location of the item:	
B <u>r</u> owse	
Click Next to continue. Press Browse and locate utclient.exe	
<u>N</u> ext Cance	el

Before pressing "Next", append the full pathname to your configuration file.

÷	n Create Shortcut	×
	What item would you like to create a shortcut for?	
	This wizard helps you to create shortcuts to local or network programs, files, folders, comput Internet addresses.	ers, or
	Type the location of the item:	
	"C:\Program Files (x86)\UTSoft\utclient.exe" Browse	
	Click Next to continue.	
	Next	Cancel

Make sure to add a space following the current target and to enclose the configuration file name between double quotes.

	×
← 😦 Create Shortcut	
What item would you like to create a shortcut for?	
This wizard helps you to create shortcuts to local or network programs, files, folders, computers, Internet addresses.	or
Type the location of the item:	
"C:\Program Files (x86)\UTSoft\utclient.exe" "C:\somepath\myconfig.cfg" Browse	
Click Next to continue. Before pressing Next, append the path connection specific configuration file.	to your
Next	Cancel

Press "Next" and assign the shortcut a unique name.

	×
Create Shortcut	
What would you like to name the shortcut?	
Type a name for this shortcut: myconnection	
Give unique name	
Click Finish to create the shortcut.	
	Finish Cancel

The resulting desktop icon will look something like the one below:



If needed, right-click the icon and select "Properties" to modify the shortcut target.

👖 myconnection	Properties	×
Security	Details	Previous Versions
General	Shortcut	Compatibility
myce		
Target type: A		
Target location: L	JTSoft	
<u>T</u> arget:	TSoft\utclient.exe" "C:\	somepath \myconfig.cfg"
<u>S</u> tart in:	'C:\Program Files (x86)\ None	UTSoft"
<u>R</u> un:	Normal window	~
Comment:		
Open <u>Fi</u> le Loc	ation <u>C</u> hange Ico	n A <u>d</u> vanced
	OK	Cancel <u>A</u> pply

Changing the Network Adapter IP Address and Subnet Mask to match different server connections

If you use UT-Soft to connect to different UT servers, and those servers are have different trusted-side subnets, you may need to change the Network Adapter IP address on your PC. For example, if one server is 192.168.1.x, the other is 192.168.100.x, you will likely have to change the IP Address of the DCB virtual network adapter.

UT-Soft can be configured to automatically change the IP address based on the selected configuration file. This is achieved pressing the "IPv4" button in the Tunnel Configuration window and entering the desired IP address and subnet mask. To use this feature, UT-Soft must be "run as an administrator".

🚰 DCB UT-Soft Menu	Tunnel Configuration
	IPv4 Address Override
	Override the Virtual Adapter's IPv4 properties and apply the following addresses. UT-Soft must be Run As an Administrator to use this feature.
	192.168.1.10 / 255.255.255.0
	Delete
	Address Mask
	192 · 100 · 1 · 10 235 · 255 · 255 · 0 Add
	Done
	Encrypt Config File Save SaveAs Cancel

How to configure UT-Soft to "run as an administrator"

The Windows system will not allow an application, running under non-administrator credentials, to modify an adapters configuration or to modify the system routing table. To use the IPv4 address or Routing Table features, UT-Soft must be running as an administrator. You can do this automatically by setting the "Run this program as an administrator" property for the "utclient.exe" executable. Each time UT-Soft is started, you will be presented with the UAC prompt and possibly need to enter the administrator's password.

Using the Windows file browser, locate the "utclient.exe" executable, usually installed in the "C:\Program Files (x86)\UTSoft" folder. The exact location may be different for your specific system since the install location can be modified during setup.

Right click on "utclient.exe" and select Properties. Choose the *Compatibility* tab and check the *Run the program as an administrator* box.



How to Connect a PC to 2 or more UT Servers at the same time

If there is a need for a PC to connect simultaneously to two or more different servers, the user should add an additional virtual interface for each connection.

Additional virtual interfaces can be added by running the installer again and checking the "Create virtual Ethernet adapter" box. See page 3 of this document for a screen shot of this choice.

The "Create virtual Ethernet adapter" box is automatically checked on the first install and automatically unchecked on subsequent installs. Installing additional virtual Ethernet adapters requires a unique key for each adapter instance.