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## UT-3302 Encrypted Ethernet Tunnel Quick Start Guide

This document guides the new user through configuration of two UT-3302 encrypted tunnels and demonstrates tunneling encrypted data between two LAN segments by configuring a pair of units as the Server and a Client. Connect two PCs through two UT-3302 units with a simulated network between them, as diagrammed in Figure 1 below.

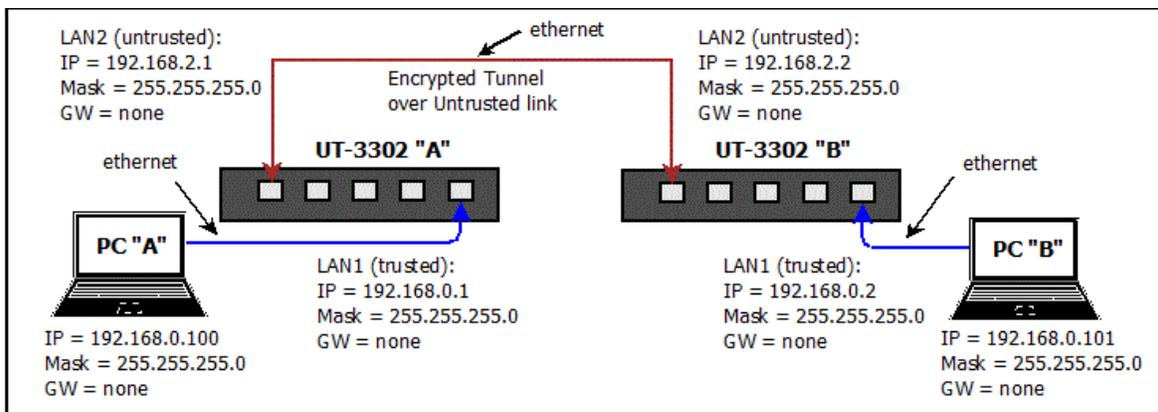


Figure 1 – Configuration for End-to-End Test, with Example IP Addresses

### Requirements

1. Two UT-3302 units and knowledge of basic TCP/IP networking
2. One PC (preferably two) with wired ethernet connections and any modern web browser

### Step-by-Step Procedure

**1:** Open the first box and note the contents: The UT encrypted tunnel, Power Adapter, CDROM containing manual and Application Notes, Black Straight-through ethernet cable with RJ-45 connectors, Red Crossover ethernet cable with RJ-45 connectors and 9-pin Female-to-Female Null Modem cable. *For this Quick Start procedure, the ethernet cables included with the UT-3302 may be used interchangeably: All 5 ethernet ports feature "Auto MDIX" which adapts to either cable configuration.*

**2:** Configure a PC for use on the default LAN1 subnet of the UT-3302. Use the IP address 192.168.0.100 with a Subnet Mask of 255.255.255.0. This will be PC "A".

**3:** Power up the first UT-3302, (UT-3302 "A") to be configured as the Server unit.

**4:** Connect PC A to UT-3302 A's LAN1 trusted port (far right jack).

**5:** Open the browser (Internet Explorer, Firefox, Chrome, Safari), then enter:

<https://192.168.0.1> (NOTE that "https" is used, not http)

**A security dialog may ask for approval of an Exception to complete this connection. Complete the dialog to give the PC permission to contact the UT.**

The **Authentication Required** dialog should appear:

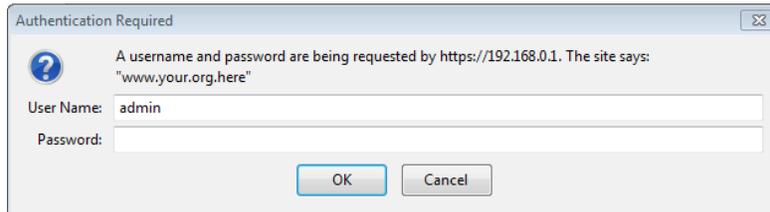


Figure 2 – Authentication Dialog

Enter default User Name “admin” and leave Password blank (nothing entered). Click “OK” to bring up the main menu for configuring the UT-3302.

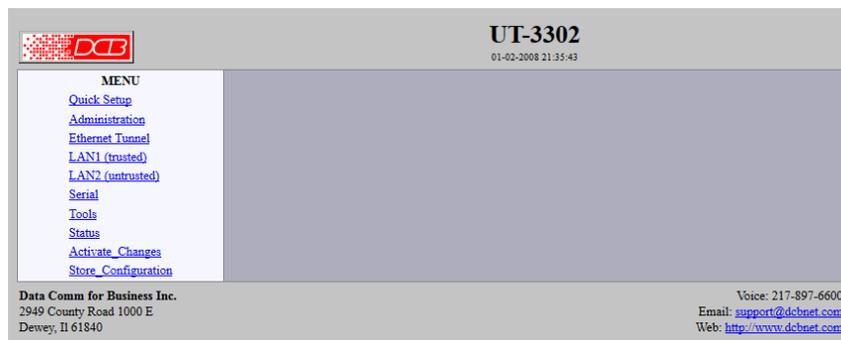


Figure 3 – Main Menu Screen

**6:** Click on **Quick Setup** from the menu and configure the LAN1 (trusted) and LAN2 (untrusted) portions of the screen with new IP addresses, as shown below. Click **Static-Configuration** for both.

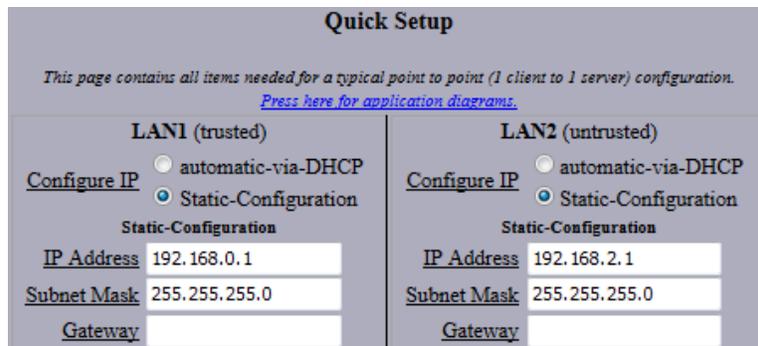


Figure 4 – LAN Settings for UT-3302 “A”

**7:** For this demonstration, the fields in the **Ethernet Tunnel** section of the screen are configured as shown in Figure 5, with this unit being the Server. The following values are used:

**Shared Secret** = tom  
**Encryption** = AES-256  
**Mode** = server

**Authorized Client Name1** = client1  
**Authorized Client Password1** = john

(The Client Password is entered in the **Server Mode Settings** portion of the page when UT-3302 A is configured as a Server: The values in the **Client Mode Settings** fields are ignored in this case.)

**Ethernet Tunnel**

Shared Secret: tom

Encryption: AES-256

Mode:  server  client  both

**Server Mode Settings**

Authorized Client Name1: client1

Authorized Client Password1: john

Server Port: 22

**Client Mode Settings**

Client Name: client1

Client Password: \*\*\*

Remote Server IP: [Empty]

Remote Server Port: 22

Interface: lan2

Buttons: Store&Activate, Cancel

Figure 5 – Ethernet Tunnel Settings for UT-3302 “A”

To make these changes active on UT-3302 A, click the **Store&Activate** button near the bottom of the screen. Wait a few seconds to make sure the changes have been applied.

**8:** Open the second box and apply power to the UT (UT-3302 “B”) to be configured as the Client unit.

*If there is a second PC (PC “B”) available, use it to configure this unit. If only one PC is available, then **before plugging the ethernet cable into this second unit**, reboot the PC or open a Command Window (as Administrator) and type the command **arp -d 192.168.0.1**, which should clear the ARP Cache and guarantee that there will not be an address conflict.*

**9:** Repeat steps 4 and 5 to access the Quick Startup screen.

**10:** Configure the IP addresses for LAN1 (trusted) and LAN2 (untrusted) as shown in Figure 6 below. Click **Static-Configuration** for both.

**Quick Setup**

*This page contains all items needed for a typical point to point (1 client to 1 server) configuration. Press here for application diagrams.*

LAN1 (trusted)	LAN2 (untrusted)
Configure IP: <input type="radio"/> automatic-via-DHCP <input checked="" type="radio"/> Static-Configuration	Configure IP: <input type="radio"/> automatic-via-DHCP <input checked="" type="radio"/> Static-Configuration
Static-Configuration	Static-Configuration
IP Address: 192.168.0.2	IP Address: 192.168.2.2
Subnet Mask: 255.255.255.0	Subnet Mask: 255.255.255.0
Gateway: [Empty]	Gateway: [Empty]

Figure 6 – LAN Settings for UT-3302 “B”

**11:** Configure the **Ethernet Tunnel** section using these settings, shown in Figure 7 below:

<b>Shared Secret</b> = tom	<b>Client Name</b> = client1
<b>Encryption</b> = AES-256	<b>Client Password</b> = john
<b>Mode</b> = client	<b>Remote Server IP</b> = 192.168.2.1

(The Client Password is entered in the **Client Mode Settings** portion of the page when UT-3302 B is configured as a Client: The values in the **Server Mode Settings** fields are ignored in this case.)

**Ethernet Tunnel**

Shared Secret tom

Encryption AES-256

Mode  server  client  both

**Server Mode Settings**

Authorized Client Name1 client1

Authorized Client Password1 \*\*\*\*

Server Port 22

**Client Mode Settings**

Client Name client1

Client Password john

Remote Server IP 192.168.2.1

Remote Server Port 22

Interface lan2

Store&Activate Cancel

Figure 7 – Ethernet Tunnel Settings for UT-3302 “B”

To make these changes active on UT-3302 B, click the **Store&Activate** button near the bottom of the screen. Wait a few seconds to make sure the changes have been applied.

**12:** Connect an ethernet cable between the untrusted ports (far left jack) of UT-3302 A and UT-3302 B.

### Testing the Link

If only one PC is available, it should be possible to connect to the LAN1 (trusted) network of UT-3302 A and open a web browser window displaying the main menu of UT-3302 A and a second browser window displaying the main menu of UT-3302 B. If the PC connection is moved to the LAN1 (trusted) network of UT-3302 B, the same two menu pages should be accessible as before. This verifies that the tunnel is configured properly and working.

In addition, if two PCs are available, allowing one to be on each side of the link, it should be possible for each PC to ping the other over the link as if they were connected to the same switch.