VPN Solutions for
Zerto Virtual Replication to Azure
SoftEther Installation Guide
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1. Overview

This document provides an outline of how to use Zerto Virtual Replication (ZVR) with the open source VPN product SoftEther. This guide includes step-by-step instructions on how to configure an example non-production SoftEther VPN solution to Azure.

The configuration steps are intended for virtual machine administrators that want to do a quick VPN configuration for a Proof of Concept (POC) or Lab without requiring significant corporate network changes with dedicated networking resources.

1.1 Use Cases

The VPN solution included in this guide deploys quickly and establishes reliable connections for testing and lab usage. For production use cases, Zerto recommends using a commercial VPN product.

The target use cases covered in this manual include:

- Proofs of Concept or Labs – Quickly establish a VPN for validation testing.
- Lab Usage – Build ZVR to Azure lab without making any network changes.

2. Proofs of Concept and Lab Usage

For short term functionality testing of ZVR to Azure such as a proof of concept, open source VPNs are a perfect solution. They provide robust performance without having to modify or purchase commercial VPN licenses for limited use, or limited duration needs.

2.1 General Requirements

The SoftEther VPN solution highlighted in this guide requires the following:

1. An Azure subscription - Microsoft offers a free Azure trial subscription that provides everything necessary to do a POC or short-term lab.
2. A server that is running in the on-premises site for testing VPN.
3. Available IP addresses for networking components.

The links to the Azure and other relevant content are in the References section of this guide.

3. SoftEther VPN

SoftEther is a powerful open source VPN that was created and maintained by the University of Tsukuba, Japan. More information on the history of the SoftEther VPN project is located here: https://www.softether.org/9-about.

3.1 SoftEther Requirements
In Azure, you need the common infrastructure elements in place just like what you would find in an enterprise data center.

1. Resource Group in Azure
2. Vnet
3. Subnet
4. Network Security Group

### 3.1.1 Deploy a simple network in Azure with Azure Quickstart Templates

If you do not have the Azure elements listed above already in place, you can use an Azure Quickstart Template to get started. The *Multi tier VNet with NSGs and DMZ Quickstart Template* is here: [https://azure.microsoft.com/en-us/resources/templates/201-nsg-dmz-in-vnet/](https://azure.microsoft.com/en-us/resources/templates/201-nsg-dmz-in-vnet/) This template will auto deploy the network, subnets and security groups simply by clicking “Deploy to Azure.” While it automates the configuration of the networks, you are still able to select the IP address scheme and have custom names for the components.

*Figure 1: Azure Quickstart Template*
3.2 Install SoftEther

The SoftEther installation consists of two parts:

1. The SoftEther server, running on a Windows or Linux VM.
2. The SoftEther client, running on a Windows or Linux VM. In Azure, you can use the Zerto Cloud Appliance VM.

![Figure 2: SoftEther Deployment](image)

The SoftEther server and client installation steps are straightforward, and you can complete them in about thirty minutes. You need a Windows or Linux server at each site. The instructions in this guide use Windows servers.

Place the SoftEther server at the production site in a subnet that is accessible to the virtual machines in the Zerto virtual protection groups.

Install the SoftEther client software in an Azure Windows VM and add a static IP address from the production subnet to the virtual network VPN adapter in the SoftEther client.

If you plan on deploying the Zerto Cloud Appliance (ZCA), you can use the Zerto Azure Marketplace VM and install the SoftEther client on the ZCA.

3.2.1 SoftEther Server Installation Steps:

The SoftEther server runs in the on-site production data center and accepts SoftEther client connections on Windows or any other location. The SoftEther server does not require a public IP address because it uses a dynamic DNS server that runs on Azure. The dynamic Azure DNS service configuration is automated and part of the VPN server installation.

*Note: Make sure to enable promiscuous mode on the virtual switch of the SoftEther VPN VM server in the production site so the server can build the local subnet IP table.*

2. Launch the installation wizard. Click “Next.”

3. Choose “SoftEther VPN Server” and finish the installation wizard.
4. Double-click on “Localhost VPN Server” and create a password.

5. Choose Remote Access VPN Server

By using this setup you can easily setup a SoftEther VPN Server or VPN Bridge for the following use and purpose. After exiting the setup, you can use the VPN Server Manager to finely configure more advanced settings.

Select the type of VPN server you want to build. Multiple types can be selected together.

- **Remote Access VPN Server**
  - The Remote Access VPN Server allows VPN Client computers in remote locations to access to the existing Ethernet segments, for example company LAN.
  - Any VPN Clients who is connecting to the VPN Server will be able to access to the network as if they are connected directly and physically to the network.

- **Site-to-site VPN Server or VPN Bridge**
  - Site-to-site VPN is a VPN configuration to connect between two or more remote Ethernet segments.
  - Each of the sites are connected together, and become the same segment at Layer-2 level. It enables any computers of each sites to communicate to each other as if there is a single network.

- **Other Advanced Configuration of VPN**
  - Select this if you are planning to build a VPN system that provides advanced functions such as a clustering function and a Virtual Layer 3 Switch function.

Click Next to start Setup. Click Close if you want to exit the setup and manually configure all settings.
6. Click “Yes” to start the VPN server

7. Name the VPN virtual hub (e.g. MyLabVPN)

8. In the Modify the Setting section, add a unique DNS name (e.g. mylabvpn1.softether.net) and click “Set to Above Hostname”.
9. SoftEther uses a dynamic DNS service on Azure, so a dedicated IP is not required.

10. Once the DNS is set, click “Exit”.
11. No need for IPSec, click “OK”.
12. Enable VPN Server and click “OK”.

![SoftEther VPN Server Manager](image1)

**VPN Azure Service Settings**

**VPN Azure Cloud VPN Service (Free)**

VPN Azure makes it easier to establish a VPN Session from your home PC to your office PC. While a VPN connection is established, you can access to any other servers on the private network of your company.

You don’t need a global IP address on the office PC (VPN Server). It can work behind firewalls or NATs. No network administrator’s configuration required. You can use the built-in SSTP-VPN Client of Windows in your home PC.

VPN Azure is a cloud VPN service operated by SoftEther VPN Project. VPN Azure is free of charge and available to anyone. Press the right button to see details and how-to-use instructions.
13. Create at least one user in “Step 1. Create a User to Accept VPN Connection” and set the password.

14. Click “OK”.

15. Skip Step 2 of the 3 “VPN Easy Setup Tasks” steps.

16. Create local bridge on Server in Step 3: Set Local Bridge.
17. Set local bridging to the NIC in the drop-down box.

Step 3. Set Local Bridge

For an site-to-site VPN, use the Local Bridge Function to connect a bridge between the virtual Ethernet segment on the VPN side and the physical Ethernet segment on the local side. Select an existing Ethernet device (Network Adapter) that will be provide the bridge connection to the VPN.

Select the Ethernet device to establish the bridge connection.

Once the required settings are configured, click Close. An advanced management tool for VPN Server / VPN Bridge will be appeared. You can then configure any advanced settings as you wish.

18. Answer “Yes” when asked after clicking “Close”.

That completes the SoftEther VPN Server. It should be online and available.
3.2.2 SoftEther Client Installation Steps

The SoftEther client is installed and configured on the VM in Azure to connect to the SoftEther VPN installed in the previous steps.

1. From the Azure Marketplace search for “Zerto.”
2. The search result shows the Zerto Virtual Replication Azure Marketplace VM.
3. Deploy the Zerto Virtual Replication Marketplace VM.
5. Install the SoftEther client.

6. Choose the “SoftEther VPN Client” and finish the wizard.
7. Open the SoftEther Client from the desktop shortcut.

8. Add a VPN Connection.

9. Select “Yes” to install the VPN network adapter. Keep the name “VPN” for the adapter and click OK.

10. Once the previous configuration step completes, choose the “Add VPN Connection.”

11. Name the VPN connection in the settings name and add the DNS name of the VPN in the “Destination VPN Server” section. Click the virtual hub name drop-down box and wait for the name of the VPN server you created in the VPN Server section to show as a selection.
12. Add in the user name and password into the User Authentication Settings section.

13. Click “OK” to complete the “New VPN Connection Setting Properties” section.
14. Connect to VPN server using the connection you just created. (e.g. ZertoVPN at mylabvpn1.softether.net)
15. Using the username and password that was set up in the SoftEther VPN Server configuration step, log into the VPN Server.

16. The VPN connection attempts to get an IP address via DHCP. If DHCP is not in the subnet of the VPN server, you can change to a static IP address.
17. After installation, change VPN network interface IP address to an available IP address in the SoftEther VPN Server subnet. A default gateway is not necessary since the VPN IP is local to the VPN server subnet. The SoftEther server forwards IP traffic to and from the server subnet.

18. The VPN client and server should have established a connection at this point.

19. The VPN client can be set up to automatically connect when the virtual machine boots by right-clicking on the VPN connection (e.g. ZertoVPN) and selecting the “Set as Startup Connection” option.
4. References


SoftEther VPN - https://www.softether.org/

Zerto Virtual Replication - https://www.zerto.com/