



# ZSCALER AND JUNIPER NETWORKS 128 TECHNOLOGY DEPLOYMENT GUIDE

# Contents

<b>Terms and Acronyms</b>	<b>4</b>
<b>About This Document</b>	<b>5</b>
Zscaler Overview	5
Juniper Overview	5
Audience	5
Software Versions	5
Request for Comments	5
<b>Zscaler and 128 Technology Introduction</b>	<b>6</b>
Zscaler Internet Access (ZIA) Overview	6
Zscaler Private Access (ZPA) Overview	6
Zscaler Resources	6
128 Technology SD-WAN Platform Overview	7
128 Technology Resources	7
<b>Zscaler Configuration</b>	<b>8</b>
Provision the Public IP Address(es) of the 128T	8
Provision VPN Credentials	8
Configure a Location	10
Find the Addresses of the Tunnel Termination ZENs	11
<b>128T Configuration</b>	<b>12</b>
Setup Zscaler IPSec	12
Install the libreswan Package	12
Create the 128t-ipsec systemd Service	12
Setup the Alternate UPDOWN Script	14
Create the zscaler ipsec Configuration File	14
Setup the IPSec Secrets File	17

Configuring 128T for IPSec SFC	17
Setup the Plugin Scripts	17
Add the Required 128T Configuration Elements	20
Zscaler Verification	23
<b>Appendix A: Requesting Zscaler Support</b>	<b>24</b>
Save Company ID	24
Enter Support Section	25

## Terms and Acronyms

Acronym	Definition
CA	Central Authority (Zscaler)
CSV	Comma-Separated Values
DPD	Dead Peer Detection (RFC 3706)
GRE	Generic Routing Encapsulation (RFC2890)
IKE	Internet Key Exchange (RFC2409)
IPSec	Internet Protocol Security (RFC2411)
PFS	Perfect Forward Secrecy
PSK	Pre-Shared Key
SSL	Secure Socket Layer (RFC6101)
XFF	X-Forwarded-For (RFC7239)
ZIA	Zscaler Internet Access (Zscaler)
ZEN	Zscaler Enforcement Node (Zscaler)
ZPA	Zscaler Private Access (Zscaler)

# About This Document

## Zscaler Overview

Zscaler (Nasdaq: [ZS](#)), enables the world's leading organizations to securely transform their networks and applications for a mobile and cloud-first world. Its flagship Zscaler Internet Access (ZIA) and Zscaler Private Access (ZPA) services create fast, secure connections between users and applications, regardless of device, location, or network. Zscaler delivers its services 100% in the cloud and offers the simplicity, enhanced security, and improved user experience that traditional appliances or hybrid solutions can't match. Used in more than 185 countries, Zscaler operates a massive, global cloud security platform that protects thousands of enterprises and government agencies from cyberattacks and data loss. For more information on Zscaler, visit [www.zscaler.com](http://www.zscaler.com) or follow Zscaler on Twitter @zscaler.

## Juniper Overview

Juniper (NYSE: [JNPR](#)) is dedicated to dramatically simplifying network operations and driving superior experiences for end users. Our solutions deliver industry-leading insight, automation, security, and AI to drive real business results. We believe that powering connections brings us closer together while empowering us all to solve the world's greatest challenges of well-being, sustainability, and equality. Additional information can be found at Juniper Networks ([www.juniper.net](http://www.juniper.net)) or connect with Juniper on Twitter, LinkedIn and Facebook.

Juniper Networks announced its acquisition of SD-WAN provider 128 Technology in October 2020.

## Audience

This guide is for network administrators, endpoint and IT administrators, and security analysts responsible for deploying, monitoring, and managing enterprise security systems. For additional product and company resources, please refer to:

- [Appendix A: Requesting Zscaler Support](#)
- [Zscaler Resources](#)
- [128 Technology Resources](#)

## Software Versions

This document was authored using the latest version of Zscaler Internet Access, 6.1.

## Request for Comments

- **For Prospects and Customers:** We value reader opinions and experiences. Please contact us at [partner-doc-support@zscaler.com](mailto:partner-doc-support@zscaler.com) to offer feedback or corrections for this guide.
- **For Zscaler Employees:** Contact [z-bd-sa@zscaler.com](mailto:z-bd-sa@zscaler.com) to reach the team that validated and authored the integrations in this document.

# Zscaler and 128 Technology Introduction

Below are overviews of the Zscaler and 128 Technology applications described in this deployment guide.

## Zscaler Internet Access (ZIA) Overview

Zscaler Internet Access (ZIA) is a secure Internet and web gateway delivered as a service from the cloud. Think of ZIA as a secure Internet on-ramp—just make Zscaler your next hop to the Internet via one of the following methods:

- Setting up a tunnel (GRE or IPSec) to the closest Zscaler data center (for offices).
- Forwarding traffic via our lightweight Zscaler Client Connector or PAC file (for mobile employees).

No matter where users connect—a coffee shop in Milan, a hotel in Hong Kong, or a VDI instance in South Korea—they get identical protection. ZIA sits between your users and the Internet and inspects every transaction inline across multiple security techniques (even within SSL).

You get full protection from web and Internet threats. The Zscaler cloud platform supports Cloud Firewall, IPS, Sandboxing, DLP, CASB, and Browser Isolation, allowing you to start with the services you need now and activate others as your needs grow.

## Zscaler Private Access (ZPA) Overview

Zscaler Private Access (ZPA) is a cloud service that provides secure remote access to internal applications running on cloud or data center using a zero trust framework. With ZPA, applications are never exposed to the internet, making them completely invisible to unauthorized users. The service enables the applications to connect to users via inside-out connectivity rather than extending the network to them.

ZPA provides a simple, secure, and effective way to access internal applications. Access is based on policies created by the IT administrator within the ZPA Admin Portal and hosted within the Zscaler cloud. On each user device, a piece of software called Zscaler Client Connector is installed. Zscaler Client Connector ensures the user's device posture and extends a secure micro-tunnel out to the Zscaler cloud when a user attempts to access an internal application.

## Zscaler Resources

The following table contains links to Zscaler resources based on general topic areas.

Name	Definition
<a href="#">ZIA Help Portal</a>	Help articles for ZIA.
<a href="#">ZPA Help Portal</a>	Help articles for ZPA.
<a href="#">Zscaler Tools</a>	Troubleshooting, security and analytics, and browser extensions that help Zscaler determine your security needs.
<a href="#">Zscaler Training and Certification</a>	Training designed to help you maximize Zscaler products.
<a href="#">Submit a Zscaler Support Ticket</a>	Zscaler support portal for submitting requests and issues.

## 128 Technology SD-WAN Platform Overview

128 Technology, which was founded by a team of network industry veterans and recently acquired by Juniper Networks, was the first company to apply session-based routing architecture to SD-WAN, which enables the creation of a simple platform that is tunnel free and has no hardware-centric components. It enables agility with centralized management and a zero-trust security model with the ability to scale to managing millions of segments simultaneously.

Components of the Juniper(128 Technology) platform include a centralized orchestration and policy management solution enabled by a Conductor and a Session Smart Router. Together, these components form a distributed control plane and a data plane, both of which are stateful and session aware. Juniper's Session Smart SD-WAN platform creates a fabric of stateful sessions for each connection, allowing for tunnel-free encryptions across a variety of connection types, including MPLS, LTE, internet, and private IP. The Session Smart Router and the distributed control plane enable a variety of capabilities, including granular visibility and control of individual user experiences and policies based on business decisions. The Juniper platform also does service chaining of network functions such as a network-stateful firewall, network address translation (NAT), encryption/VPN, plus link and server load balancing. The Session Smart Router solution can be deployed in datacenters, branch offices, or cloud locations, which, according to the company, allows for the creation of a multi-cloud fabric.

## 128 Technology Resources

The following table contains links to <Partner> support resources.

Name	Definition
<a href="#">128 Technology Online Help</a>	Online help articles for 128 Technology SD-WAN.

## Zscaler Configuration

The following sections describe how to configure Zscaler to work with 128 Technology SD-WAN.

### Provision the Public IP Address(es) of the 128T

First you must provision the public address from where the IPSec traffic is initiated towards Zscaler. The Zscaler endpoint tunnels are established to called Zscaler Enforcement Nodes (aka "ZENs").

A support ticket should be opened with Zscaler listing the public IP addresses of all sites connected to Zscaler so that they can be allowed on the Zscaler side. Once you have received word from Zscaler support that this work is completed, you can move forward with the next steps.

### Provision VPN Credentials

1. In the Zscaler portal, navigate to **Administration** > **VPN Credentials**.

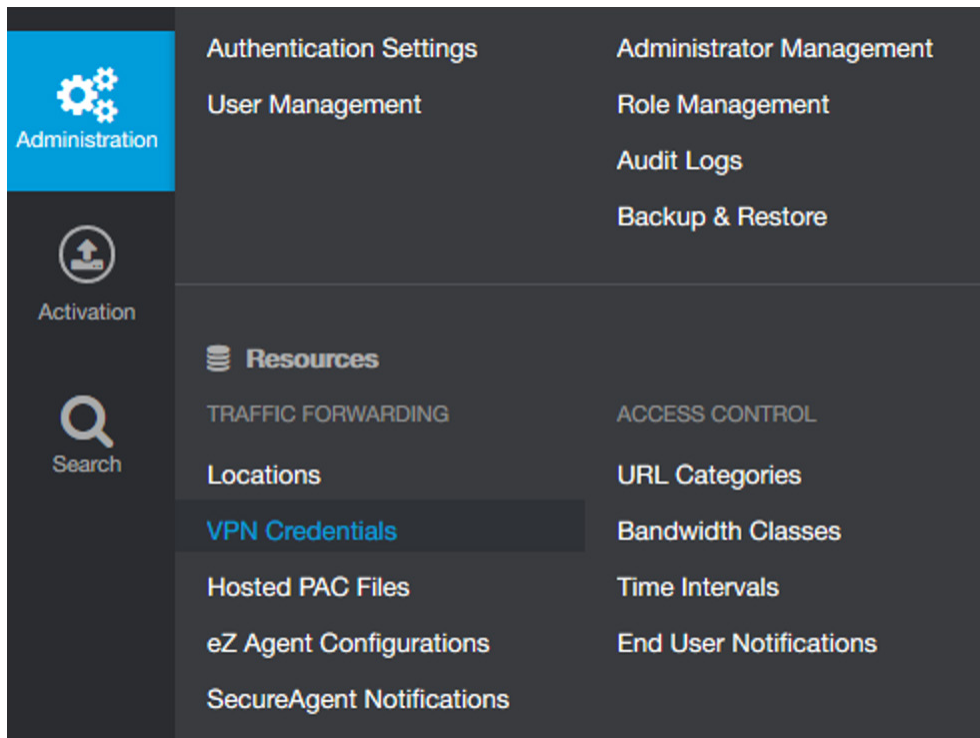


Figure 1. VPN Credentials



2. Select **VPN credentials**.
3. For the authentication type, select **IP**.
4. You are prompted with a list of the public IP addresses you submitted in the previous step. Select the address for the site you wish to setup.
5. Create a pre-shared key that is used on both ends of the connection. Create a random string that does not use dictionary words. One method for creating a random key is to issue following command on a Linux system with OpenSSL installed:  

```
[root@west ~]# openssl rand -base64 48
```
6. Enter and confirm your PSK and save it somewhere for reference when you configure the 128T side, then click **Save**.

Add VPN Credential

VPN CREDENTIAL

Authentication Type

FQDN

XAUTH

☒ IP

IP Address

NONE

Search...

Confirm New Pre-Shared Key

No matching items found

Comments

Save

Cancel

Figure 2. Add VPN Credential

## Configure a Location

Once you have created your VPN credentials, you can now create a location in the ZIA Admin Portal to correspond to the site where the 128T resides.

1. From the administration menu, select **Location**.
2. Enter the appropriate information for your site. Select this site's public IP address from the list of available addresses and select the corresponding VPN Credentials to map to this site.
3. Click **Save**.

Add Location

Notice! Thanks for evaluating the service - Please contact sales to purchase a license.

LOCATION

Name

Atlanta

Country

United States

State/Province

Georgia

Time Zone

America/New York

Group

None

ADDRESSING

Public IP Addresses

162.198.132.64

VPN Credentials

162.198.132.64

GATEWAY OPTIONS

Enable XFF Forwarding

☐

Enforce Authentication

☐

Enable AUP

☐

Enable SSL Scanning

☐

Enforce Firewall Control

☐

BANDWIDTH CONTROL

Enforce Bandwidth Control

Save

Cancel

Figure 3. Add Location

## Find the Addresses of the Tunnel Termination ZENs

Zscaler provides services on multiple cloud environments. When a customer is provisioned, a customer is provisioned in a specific cloud. For testing we were provided access to Betacloud <https://admin.zscalerbeta.net>.

In order to find the correct ZENs for your cloud environment, replace “admin” with “ips”, for example:

<https://ips.zscalerbeta.net>.

From there click the **Cloud Enforcement Node Ranges** option from the menu on the left.

Location	IP Address (CIDR Notation)	Proxy Hostname	GRE Virtual IP	VPN Host Name	Notes
Europe					<a href="#">Copy IP Addresses</a>
Frankfurt IV	165.225.72.0/22	fra4.sme.zscalerbeta.net	165.225.72.38	fra4-vpn.zscalerbeta.net	
US & Canada					<a href="#">Copy IP Addresses</a>
San Francisco IV	199.168.148.0/23	sunnyvale1.sme.zscalerbeta.net	199.168.148.131	sunnyvale1-vpn.zscalerbeta.net	
Washington DC	104.129.194.0/23	was1.sme.zscalerbeta.net	104.129.194.38	was1-vpn.zscalerbeta.net	

Figure 4. Cloud Enforcement Node Ranges

In this example, choose the **VPN Host Name** in region that is closest to our site as the primary **ZEN** (**was1-vpn.zscalerbeta.net**) and the other as the backup **ZEN** (**sunnyvale1-vpn.zscalerbeta.net**).

We need to convert these names into IP addresses for later in the process. This can be done from Linux by using the ping command:

```
[t128@localhost ~]$ ping was1-vpn.zscalerbeta.net
```

```
PING was1-vpn.zscalerbeta.net (104.129.194.39) 56(84) bytes of data.
```

## 128T Configuration

Use Linux to establish the IPsec tunnels. To pass the LAN traffic into the VPN tunnel and to allow the IPsec traffic out the WAN interface managed by 128T, we service function chain the traffic through KNI interfaces as shown in the drawing below.

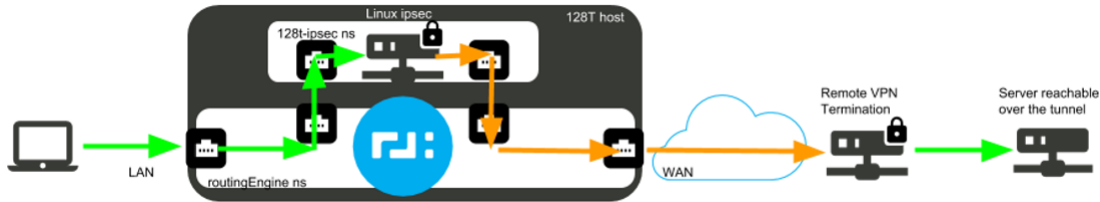


Figure 5. 128T traffic flow

To avoid conflicts with existing Linux routes, we create a new namespace for this traffic. We create two KNI host interfaces and move them into the new namespace: one for customer traffic in and one for IPsec traffic out.

The next section provides the low-level steps to setup and configure IPsec. This is the “phase 0” implementation of Zscaler support. In future software releases, Zscaler support will be more tightly integrated into the 128T product

## Setup Zscaler IPsec

This section describes the steps needed to setup Zscaler IPsec.

### Install the libreswan Package

Install Libreswan with yum. This setup was tested and validated with libreswan-3.20-5.el7\_4.x86\_64.

```
[root@zscaler-128t ~]# yum install libreswan
```

### Create the 128t-ipsec systemd Service

This service is used to launch the IKE daemon inside our 128t-ipsec namespace. Open the following file in your preferred text editor and paste in the contents:

```
/etc/systemd/system/128t-ipsec.service:

[Unit]

Description=Internet Key Exchange (IKE) Protocol Daemon for IPsec running in 128T managed namespace

Wants=network-online.target

Documentation=man:ipsec(8) man:pluto(8) man:ipsec.conf(5)

[Service]

Type=notify

Restart=always

# backwards compatible with pluto restart on crash=no
```

```

#RestartPreventExitStatus=137 143 SIGTERM SIGKILL

# Set WatchdogSec to the amount of time (in seconds) that systemd will wait
# before restarting an unresponsive pluto.

# EVENT_SD_WATCHDOG updates the heartbeat every 15 seconds, recommended values
# are 60, 90, 120. WatchdogSec=0 disables the action

NotifyAccess=all

WatchdogSec=200

# Check configuration file

ExecStartPre=/sbin/ip netns exec 128t-ipsec /usr/libexec/ipsec/addconn --config /etc/ip-
sec.conf --checkconfig

# Check for kernel modules

ExecStartPre=/sbin/ip netns exec 128t-ipsec /usr/libexec/ipsec/_stackmanager start

# Check for nss database status and migration

ExecStartPre=/sbin/ip netns exec 128t-ipsec /usr/sbin/ipsec --checknss

# Check for nflog setup

ExecStartPre=/sbin/ip netns exec 128t-ipsec /usr/sbin/ipsec --checknflog

# Start the actual IKE daemon

ExecStart=/sbin/ip netns exec 128t-ipsec /usr/libexec/ipsec/pluto --leak-detective
--config /etc/ipsec.conf --nofork

ExecStop=/sbin/ip netns exec 128t-ipsec /usr/libexec/ipsec/whack --shutdown

ExecStopPost=/sbin/ip netns exec 128t-ipsec /sbin/ip xfrm policy flush

ExecStopPost=/sbin/ip netns exec 128t-ipsec /sbin/ip xfrm state flush

ExecStopPost=/sbin/ip netns exec 128t-ipsec /usr/sbin/ipsec --stopnflog

ExecReload=/sbin/ip netns exec 128t-ipsec /usr/libexec/ipsec/whack --listen

[Install]

```

## Setup the Alternate UPDOWN Script

The default updown script doesn't re-establish the routes to the VTI interfaces if the tunnels go down and come back up. You must create a new version of this file and reference it in the Zscaler IPSec configuration file.

1. Copy the original `/usr/libexec/ipsec/_updown.netkey` file to a new location:

```
[root@zscaler-128t ~]# cp /usr/libexec/ipsec/_updown.netkey /usr/libexec/ipsec_up-  
down_route.sh
```

2. Using your favorite text editor, edit the new file and add the action `uproute` to the `up-client` command, which is called when the tunnel is re-established:

```
--- /usr/libexec/ipsec/_updown.netkey    2018-05-07  22:24:31.916720083  -0400  
+++ /usr/libexec/ipsec_updown_route.sh  2018-05-07  10:12:45.166477846  -0400  
  
@@ -676,6 +676,7 @@  
  
    addcat  
  
    addsource  
  
    notifyNM connect  
  
+    uproute  
  
    ;;  
  
    down-client)  
  
    # connection to my client subnet going down
```

Note that the above output is the Linux diff command output comparing the old and new file. Simply open the file `/usr/libexec/ipsec_updown_route.sh` in your favorite text editor, go to line 752, look for the line that reads `notifyNM connect` and add a new line below that containing the text `uproute` aligned with the indentation above it.

Do not include the `+` sign.

## Create the zscaler ipsec Configuration File

This file defines two tunnels, one to each Zscaler ZEN identified in the first section of this document. Configure the tunnels to use the Zscaler specified settings for encryption/authentication and phase2.

Setup **Dead Peer Detection** to the Zscaler specified minimum timer of 10 seconds.

1. Open the file `/etc/ipsec.d/zscaler.conf` using your favorite text editor. Copy and paste the contents of the following text and change the highlighted values to match your setup (there are four places that need to be changed). Each value for right must match one of the two remote ZEN IP addresses.
2. Give the IP address of the closer location in the section for `zscaler1` and the other IP address in the section for `zscaler2`. The value `leftid` in both locations must match this site's public IP address as configured in the VPN credentials portion of the Zscaler setup from the first section of this guide.

```
conn zscaler1  
  
    authby=secret  
  
    auto=start
```

```
ike=aes128-sha1;MODP1024
ikev2=insist
keyexchange=ike
ikelifetime=120m
salifetime=30m
phase2=esp
phase2alg=null-md5;MODP1024
replay-window=16384
compress=no
pfs=no
type=tunnel
mark=5/0xffffffff
vti-interface=vti01
vti-routing=yes
vti-shared=no
dpddelay=10
dpdtimeout=15
dpdaction=restart
leftupdown="/usr/libexec/ipsec_updown_route.sh --route y"

metric=100
right=104.129.194.39
rightsubnet=0.0.0.0/0
left=169.254.32.2
leftsubnet=0.0.0.0/0
leftid=162.198.132.64
```

```
conn zscaler2
authby=secret
```

```
auto=start
ike=aes128-sha1;MODP1024
ikev2=insist
keyexchange=ike
ikelifetime=120m
salifetime=30m
phase2=esp
phase2alg=null-md5;MODP1024
replay-window=16384
compress=no
pfs=no
type=tunnel
mark=6/0xffffffff
vti-interface=vti02
vti-routing=yes
vti-shared=no
dpddelay=10
dpdtimeout=15
dpdaction=restart
leftupdown="/usr/libexec/ipsec_updown_route.sh --route y"

metric=200
right=199.168.148.132
rightsubnet=0.0.0.0/0
left=169.254.32.2
leftsubnet=0.0.0.0/0
leftid=162.198.132.64
```



## Setup the IPSec Secrets File

1. Using your favorite text editor, open the file `/etc/ipsec.d/zscaler.secrets` and enter the following content, changing the highlighted values.

The entries shown have word-wrapped because of length. Your file should contain only two lines, both starting with a `%` sign. On each line, you should replace the IP address with the IP address of one of the ZENs (also used for the values of “right” in the configuration file from the previous section).

2. Replace the long string between the quotation marks with the appropriate pre-shared Key for this connection as recorded from the [Provision VPN Credentials](#) section of this document:

```
%any 104.129.194.39 : PSK "FAR5a/
JbBfB0Wkt0y2kg5wJHTK4ELdk8p2+eVaBS5oZCa5xRxN9ra639Lg3RwuX5"

%any 199.168.148.132 : PSK "FAR5a/
JbBfB0Wkt0y2kg5wJHTK4ELdk8p2+eVaBS5oZCa5xRxN9ra639Lg3RwuX5"
```

## Configuring 128T for IPSec SFC

This section describes the steps needed to setup 128T IPSec.

### Setup the Plugin Scripts

Create two plugin scripts to make the `128t-ipsec` namespace, move the interface into the namespace, setup the interface address, and any required routes.

1. Using your favorite text editor, open the file `/etc/128technology/plugins/network-scripts/host/zscaler-in/init` (create any non-existent directories in this path) and paste in the following contents:

```
#!/bin/bash

NAMESPACE=128t-ipsec

KNI_NAME=zscaler-in

KNI_ADDRESS=169.254.31.2

KNI_GATEWAY=169.254.31.1

KNI_MASK=30


# create namespace if it doesn't exist

if [ ! -e "/var/run/netns/$NAMESPACE" ]; then

    echo "$NAMESPACE namespace does not exist...creating it."

    ip netns add $NAMESPACE

    ip netns exec $NAMESPACE ip link set lo up

    echo "$NAMESPACE created."

    echo "Setting ip_forwarding in namespace $NAMESPACE."

    ip netns exec $NAMESPACE sysctl -w net.ipv4.ip_forward=1
```

```

echo "Disabling send_redirects in namespace $NAMESPACE."
ip netns exec $NAMESPACE sysctl -w net.ipv4.conf.all.send_redirects=0
echo "Disabling accept_redirects in namespace $NAMESPACE."
ip netns exec $NAMESPACE sysctl -w net.ipv4.conf.all.accept_redirects=0
echo "Disabling Reverse Packet Filtering for $VPN_IN_KNI_NAME."
ip netns exec $NAMESPACE sysctl -w net.ipv4.conf.all.rp_filter=0
ip netns exec $NAMESPACE sysctl -w net.ipv4.conf.$VPN_IN_KNI_NAME.rp_filter=0
fi

# set up KNI if it exists in the default namespace
if [ -d "/sys/devices/virtual/net/$KNI_NAME" ]; then
    echo "$KNI_NAME found in default namespace."
    echo "Moving $KNI_NAME to $NAMESPACE namespace."
    ip link set $KNI_NAME netns $NAMESPACE
    ip netns exec $NAMESPACE ip a add $KNI_ADDRESS/$KNI_MASK dev $KNI_NAME
    ip netns exec $NAMESPACE ip l set $KNI_NAME up
    # Route RFC1918 space
    ip netns exec $NAMESPACE ip r add 10.0.0.0/8 via $KNI_GATEWAY dev $KNI_NAME
    ip netns exec $NAMESPACE ip r add 172.16.0.0/12 via $KNI_GATEWAY dev $KNI_NAME
    ip netns exec $NAMESPACE ip r add 192.168.0.0/16 via $KNI_GATEWAY dev $KNI_NAME
fi

```

- Using your favorite text editor, open the file /etc/128technology/plugins/network-scripts/host/zscaler-out/init (create any non-existent directories in this path) and paste in the following contents:

```

#!/bin/bash

NAMESPACE=128t-ipsec

KNI_NAME=zscaler-out

KNI_ADDRESS=169.254.32.2

KNI_MASK=30

KNI_GATEWAY=169.254.32.1

IPSEC_PEER1_ADDRESS=104.129.194.39

IPSEC_PEER2_ADDRESS=199.168.148.132

```

```

# create namespace if it doesn't exist
if [ ! -e "/var/run/netns/$NAMESPACE" ]; then
    echo "$NAMESPACE namespace does not exist...creating it."
    ip netns add $NAMESPACE
    ip netns exec $NAMESPACE ip link set lo up
    echo "$NAMESPACE created."
    echo "Setting ip_forwarding in namespace $NAMESPACE."
    ip netns exec $NAMESPACE sysctl -w net.ipv4.ip_forward=1
    echo "Disabling send_redirects in namespace $NAMESPACE."
    ip netns exec $NAMESPACE sysctl -w net.ipv4.conf.all.send_redirects=0
    echo "Disabling accept_redirects in namespace $NAMESPACE."
    ip netns exec $NAMESPACE sysctl -w net.ipv4.conf.all.accept_redirects=0
    echo "Disabling Reverse Packet Filtering for $VPN_IN_KNI_NAME."
    ip netns exec $NAMESPACE sysctl -w net.ipv4.conf.all.rp_filter=0
    ip netns exec $NAMESPACE sysctl -w net.ipv4.conf.$VPN_IN_KNI_NAME.rp_filter=0
fi

# set up KNI if it exists in the default namespace
if [ -d "/sys/devices/virtual/net/$KNI_NAME" ]; then
    echo "$KNI_NAME found in default namespace."
    echo "Moving $KNI_NAME to $NAMESPACE namespace."
    ip link set $KNI_NAME netns $NAMESPACE
    ip netns exec $NAMESPACE ip a add $KNI_ADDRESS/$KNI_MASK dev $KNI_NAME
    ip netns exec $NAMESPACE ip l set $KNI_NAME up
    ip netns exec $NAMESPACE ip r add $IPSEC_PEER1_ADDRESS via $KNI_GATEWAY dev $KNI_NAME
    ip netns exec $NAMESPACE ip r add $IPSEC_PEER2_ADDRESS via $KNI_GATEWAY dev $KNI_NAME
    systemctl start 128t-ipsec
fi

```

3. Change the two highlighted IP addresses to match the IP addresses of the two remote Zscaler ZENs you are using.
4. After you have saved both files, run the following two commands to ensure these scripts are executable:

```
[root@zscaler-128t ~]# chmod 744 /etc/128technology/plugins/network-scripts/host/
zscaler-in/init
```

```
[root@zscaler-128t ~]# chmod 744 /etc/128technology/plugins/network-scripts/host/
zscaler-out/init
```

## Add the Required 128T Configuration Elements

1. Through the 128T CLI, add the following configuration elements to the “authority” level of your configuration.

```
tenant    zscaler
```

```
    name    zscaler
```

```
exit
```

```
service   zscaler-internet
```

```
    name                                zscaler-internet
```

```
    security                            internal
```

```
    address                             0.0.0.0/0
```

```
    access-policy                        lan
```

```
        source    lan
```

```
exit
```

```
    share-service-routes    false
```

```
exit
```

```
service   zscaler-ipsec
```

```
    name                                zscaler-ipsec
```

```
    security                            internal
```

```
    address                             199.168.148.132/32
```

```
    address                             104.129.194.39/32
```

```
    access-policy                        zscaler
```

```
        source    zscaler
```

```
exit
```

```

        share-service-routes    false
    exit

```

2. Your access policy under the zscaler-internet service should match the name of the tenant (or tenants) on your LAN to which you want to grant access to the Internet. Also, the two IP addresses in the zscaler-ipsec service should match the addresses of the two Zscaler ZENs to which you are connecting.
3. Next, configure the 128T KNI interfaces that connect to the 128t-ipsec namespace in order to service function chain with IPSec. Enter the following items under the node element in the router associated with the site you are configuring:

```
device-interface zscaler-out
```

```
    name          zscaler-out
```

```
    type          host
```

```
network-interface zscaler-out
```

```
    name          zscaler-out
```

```
    tenant        zscaler
```

```
    address        169.254.32.1
```

```
        ip-address 169.254.32.1
```

```
        prefix-length 30
```

```
        gateway    169.254.32.2
```

```
    exit
```

```
exit
```

```
exit
```

```
device-interface zscaler-in
```

```
    name          zscaler-in
```

```
    type          host
```

```
network-interface zscaler-in
```

```
    name          zscaler-in
```

```
    address        169.254.31.1
```

```

ip-address 169.254.31.1
prefix-length 30
gateway 169.254.31.2
exit
exit
exit

```

4. Finally, create service routes to route the traffic associated with the zscaler-internet and Zscaler-ipsec service out the appropriate interfaces. Enter the following entries under the router object associated with the location you are configuring. Replace the highlighted IP address with the value for the next hop gateway to your ISP at this location. Also replace the node name with the correct node name for the system you are configuring.

```

service-route internet
    name internet
    service-name zscaler-internet

    next-hop zscaler-test-128t zscaler-in
        node-name zscaler-test-128t
        interface zscaler-in
        gateway-ip 169.254.31.2
    exit
exit

service-route zscaler-ipsec
    name zscaler-ipsec
    service-name zscaler-ipsec

    next-hop zscaler-test-128t wan
        node-name zscaler-test-128t
        interface wan
        gateway-ip 172.25.0.1
    exit
exit

```

## Zscaler Verification

Once the configuration has been completed, verify that your Internet traffic is flowing through Zscaler. From a client on the LAN of your 128T router and browse to <https://ip.zscaler.com>.

If traffic is successfully flowing through Zscaler, you should see a page that looks like the image below.

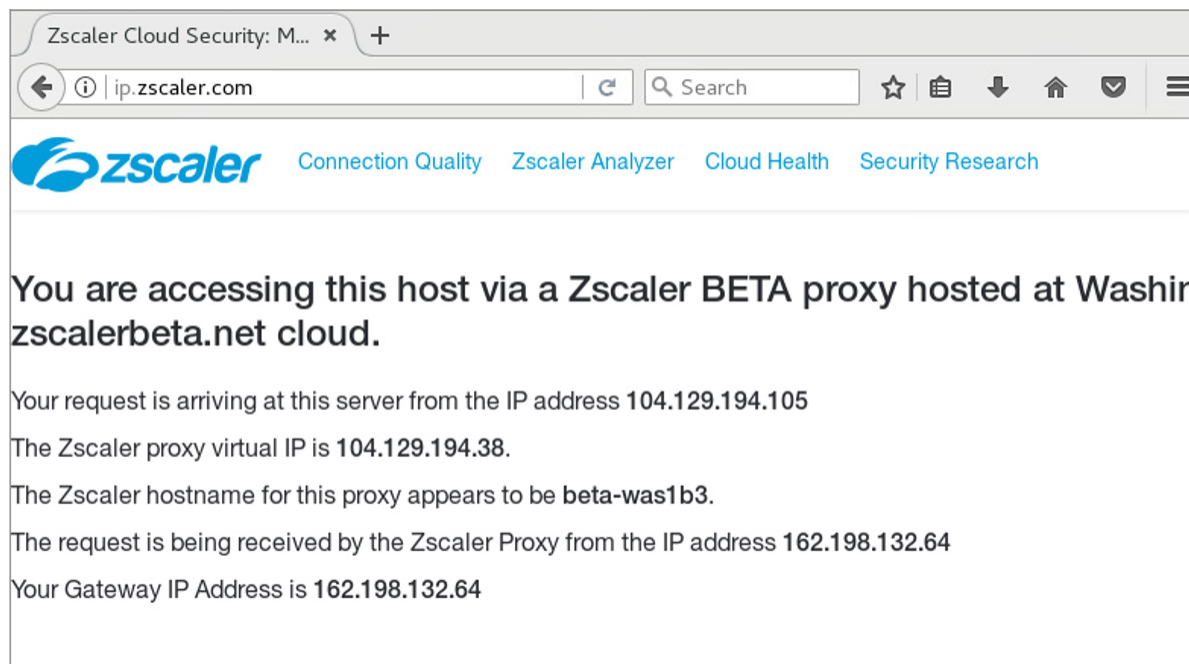


Figure 6. Zscaler verification

If the service is not working, the page won't load or you will see a page that looks like the following screenshot.

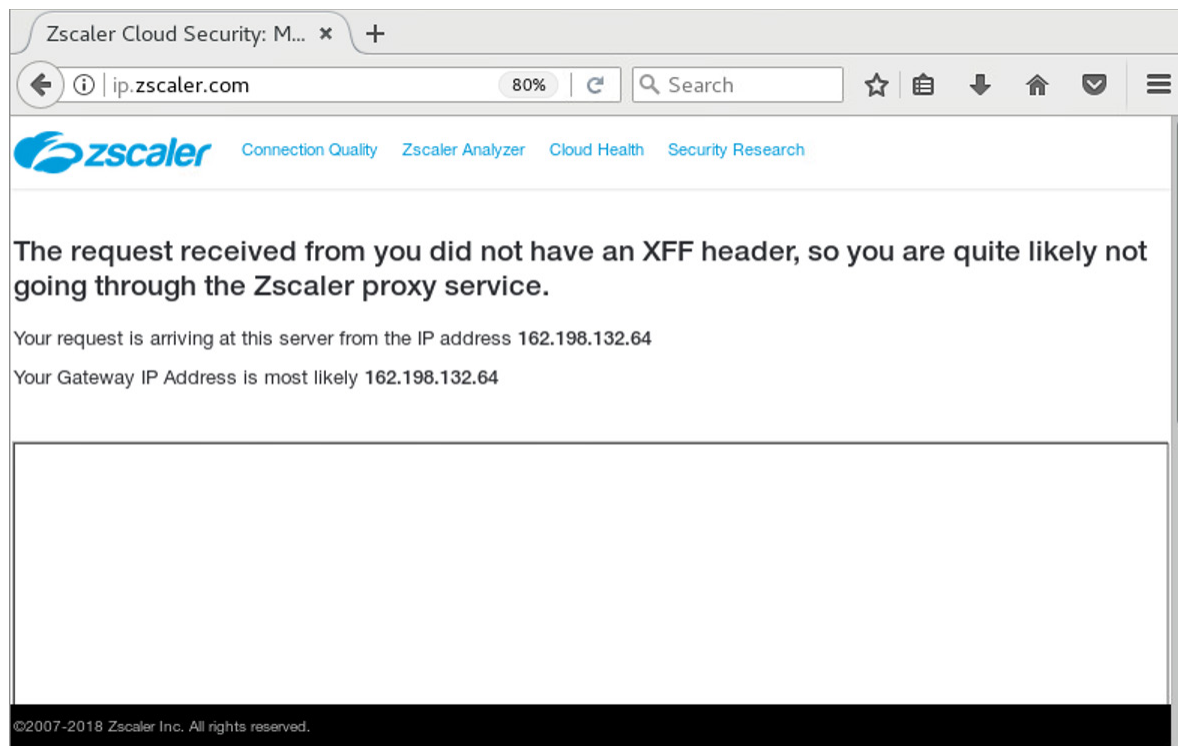


Figure 7. Service not working

## Appendix A: Requesting Zscaler Support

You might need Zscaler support for provisioning certain services, or to help troubleshoot configuration and service issues. Zscaler support is available 24/7 hours a day, year-round. To contact Zscaler support, select **Administration** > **Settings** > **Company profile**.

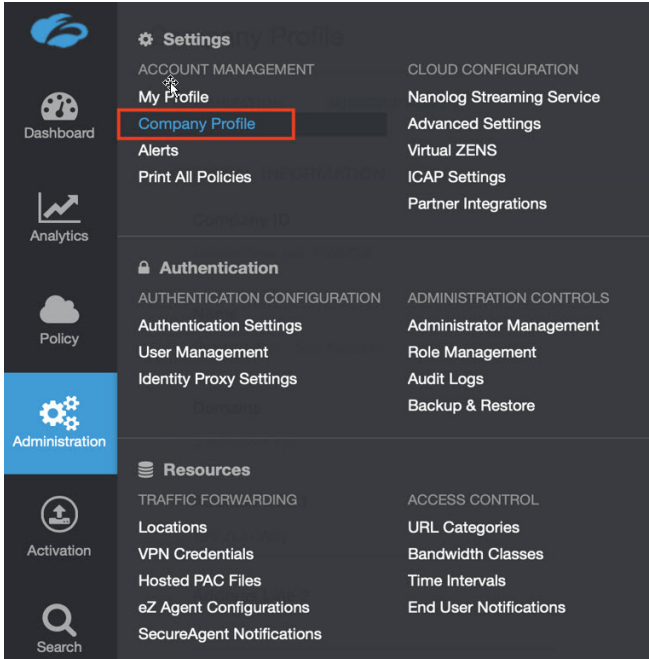


Figure 8. Collecting details to open support case with Zscaler TAC

### Save Company ID

Copy your Company ID.

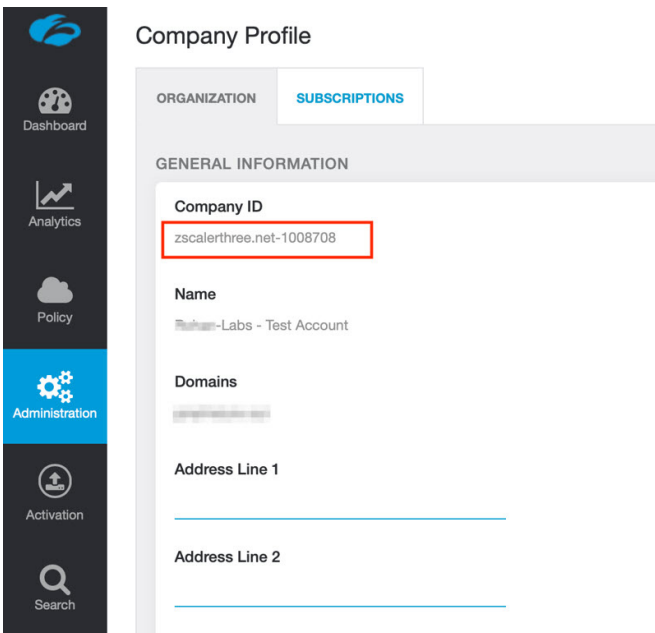


Figure 9. Company ID



## Enter Support Section

With your company ID information, you can open a support ticket. Navigate to **Dashboard > Support > Submit a Ticket**.

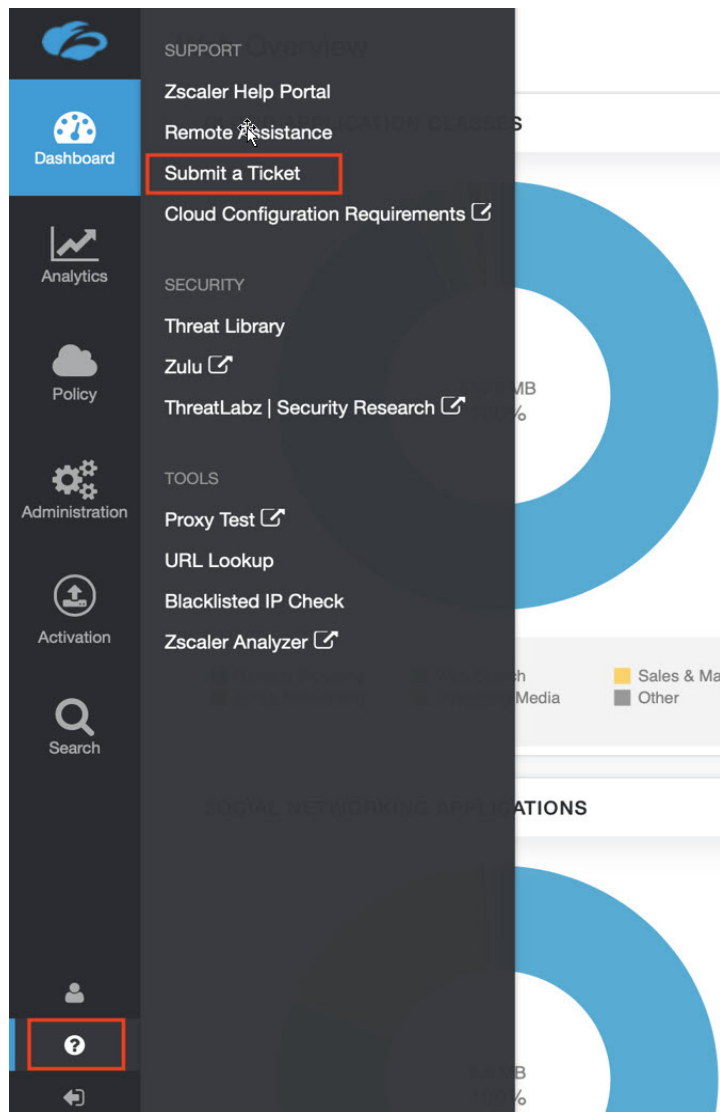


Figure 10. Submit a ticket