



ZSCALER AND SKYBOX DEPLOYMENT GUIDE

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Terms and Acronyms

The following table defines acronyms used in this deployment guide. When applicable, a Request for Change (RFC) is included in the Definition column for your reference.

Acronym	Definition
CA	Central Authority (Zscaler)
CASB	Cloud Access Security Broker
CSV	Comma-Separated Values
CVSS	Common Vulnerability Scoring System
DLP	Data Loss Prevention
DPD	Dead Peer Detection (RFC 3706)
GRE	Generic Routing Encapsulation (RFC2890)
IKE	Internet Key Exchange (RFC2409)
IPS	Intrusion Prevention System
IPSec	Internet Protocol Security (RFC2411)
OAM	Operation, Administration, and Management
OT	Operational Technology
PFS	Perfect Forward Secrecy
PSK	Pre-Shared Key
SCIM	System for Cross-Domain Identity Management
SSL	Secure Socket Layer (RFC6101)
TLS	Transport Layer Security (RFC5246)
XFF	X-Forwarded-For (RFC7239)
ZIA	Zscaler Internet Access (Zscaler)
ZPA	Zscaler Private Access (Zscaler)

About This Document

The following section provides an overview of the partners in this integration.

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. 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. To learn more, see [Zscaler's website](#).

Skybox Overview

Skybox lets customers visualize and analyze hybrid, multi-cloud, and OT networks to gain full context and understanding of their attack surface. Skybox provides a platform that aggregates essential data from a wide range of security, cloud, and network technologies to create a network model that visualizes all security controls and network configurations. With the model, Skybox conducts exposure analysis to determine which attack vectors or network paths can be used to gain access to vulnerable systems. Next, Skybox calculates risk scores by factoring in CVSS severity, exploitability, asset importance, and asset exposure. Then, Skybox offers remediation options based on risk and business impact assessments. To learn more, refer to [Skybox's website](#).

Prerequisites

ZIA

- A working instance of ZIA 5.7 or later.
- Administrator login credentials to ZIA.
- ZIA API enabled (if you have not previously enabled API support, open a Zscaler Support ticket requesting this be enabled).

Skybox

- Administrator login credentials to Skybox.
- License for Skybox Firewall Assurance.
- Enable Skybox to use NTP.

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, refer to:

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

Software Versions

This document was written using ZIA v5.7 and Skybox 10.0.203 (Build 98).

Request for Comments

- **For prospects and customers:** Zscaler values reader opinions and experiences. Contact partner-doc-support@zscaler.com to offer feedback or corrections for this guide.
- **For Zscaler employees:** Contact z-bd-sa@zscaler.com to reach the team that validated and authored the integrations in this document.

Zscaler and Skybox Introduction

This deployment guide provides UI examples for configuring Zscaler Internet Access (ZIA) and Skybox Firewall Assurance. This guide is intended for standing up proof-on-concept topologies and demos, evaluating interoperability, and joint integration. Do not use this guide to configure either vendor platform for production use. For production deployments, contact Zscaler or Skybox for post-sale deployment assistance.

The next sections describe Zscaler and Skybox applications referenced in this deployment guide.



If you are using this guide to implement a solution at a government agency, some of the content might be different for your deployment. Efforts are made throughout the guide to note where government agencies might need different parameters or input. If you have questions, please contact your Zscaler Account team.

ZIA Overview

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 Isolation, allowing you to start with the services you need now and activate others as your needs grow.

Zscaler Resources

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

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

The following table contains links to Zscaler resources for government agencies.

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

Skybox Firewall Assurance Overview

[Firewall Assurance](#) improves cyber hygiene and risk management with centralized, optimized firewall management.

- **Connect and centralize:** Centrally manage traditional, next-gen, virtual, and cloud-based firewalls and secure access service edge (SASE) solutions from multiple vendors, as well as manage east-west and north-south traffic easily and effectively.
- **Automate and optimize:** Automate and improve cyber hygiene tasks, including logging, configuration, and change tracking. Find and eliminate redundant, shadowed, or overly permissive firewall rules. You can conduct rule usage analysis, optimize rules, and complete faster ruleset audits, as well as automate and customize firewall reporting.
- **Improve security and reduce compliance risk:** Detect access policy violations, rule conflicts, and misconfigurations. You can ensure compliance for configurations, rules, and firewall access, as well as identify vulnerabilities within your firewalls and mitigate potential exploits leveraging Skybox Threat Intelligence.

Skybox Resources

The following table contains links to Skybox support resources.

Name	Definition
Skybox Website	Skybox platform and company website.
Skybox Support	Submit a help ticket for Skybox products.

Configuring ZIA for Skybox

This section documents configuring ZIA for use with Skybox.

Log In to ZIA

First, set up the Zscaler side of this service. Log in to Zscaler using your administrator account. If you are unable to log in using your administrator account, [contact Zscaler Support](#).

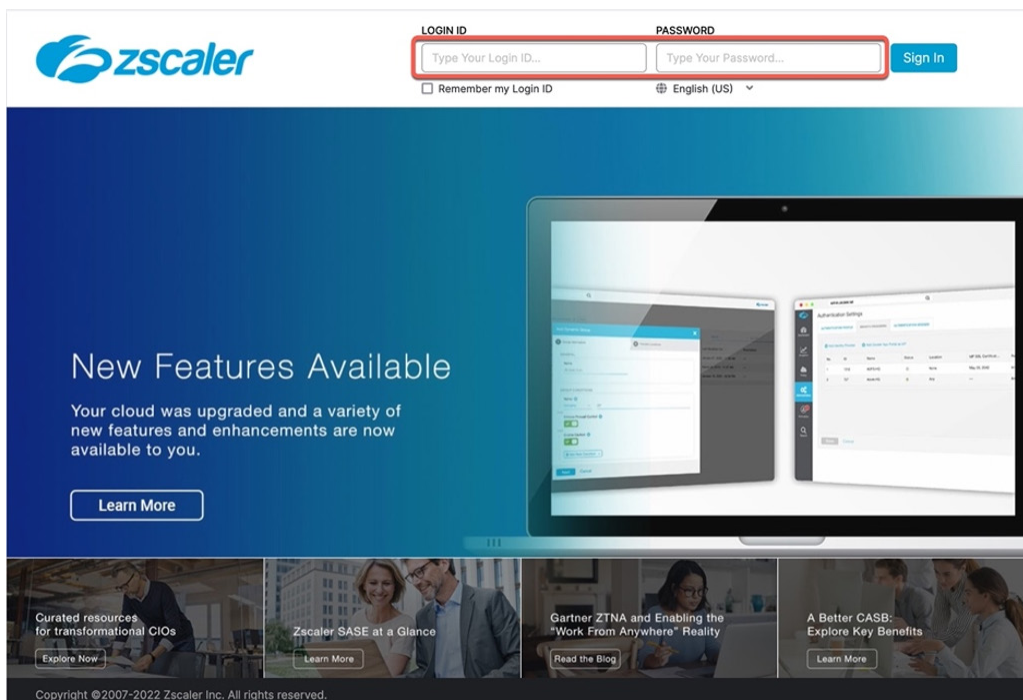


Figure 1. Logging in to Zscaler

Obtain ZIA API Key

Next, you must obtain an API key.

Navigate to API Key Management

To create an API key, go to **Administration** > **Cloud Service API Key Management**.

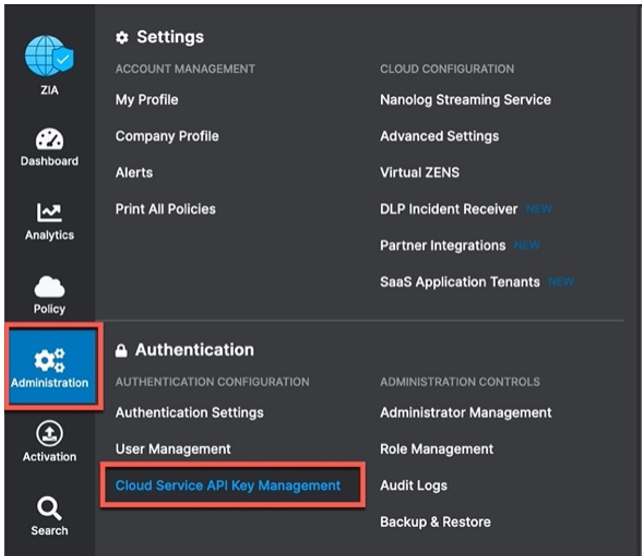


Figure 2. Cloud Service API Key Management



If you do not see **Cloud Service API Key Management**, it means you haven't enabled ZIA API support for your ZIA instance. Open a Zscaler Support ticket and request Cloud Service API Key Management be enabled.

Add API Key

Click **Add Cloud Service API Key**.

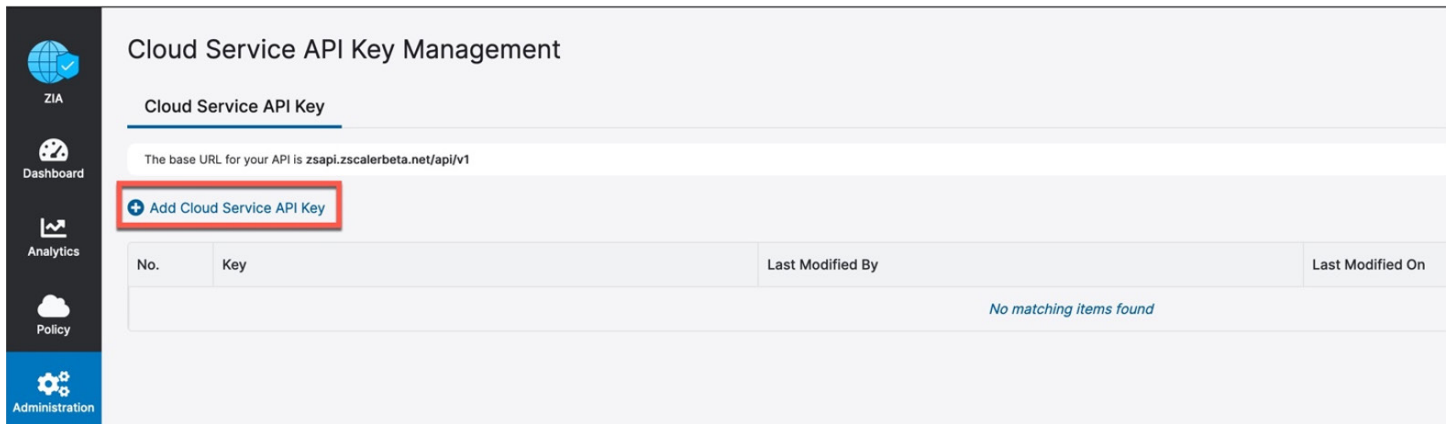


Figure 3. Add Cloud Service API key

Verify API Key

An API key is generated after clicking **Add Cloud Service API Key**. Your screen matches the following image.

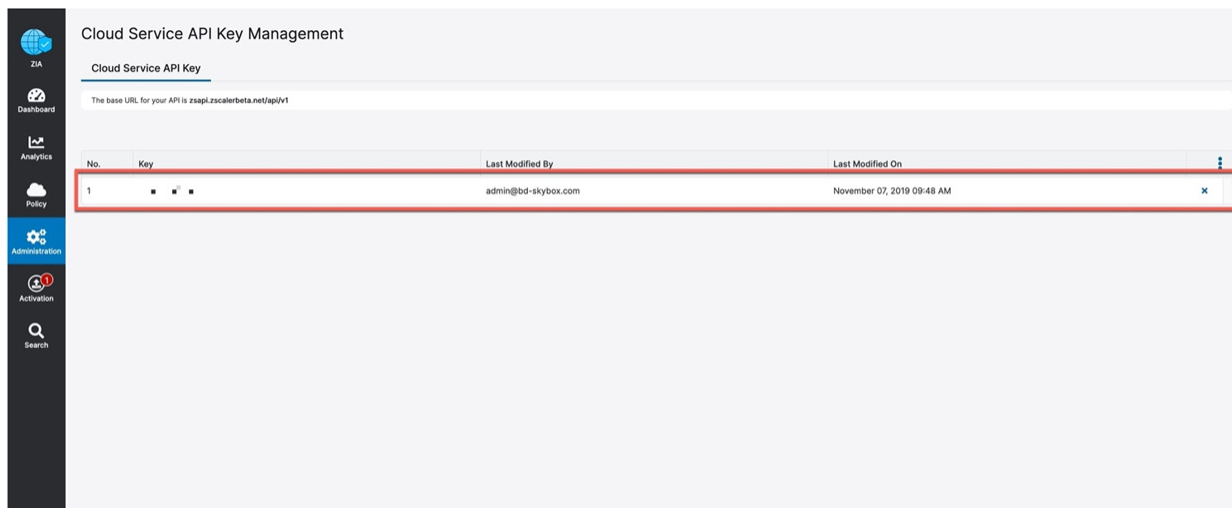


Figure 4. Obtain ZIA API key

Create ZIA Administrator for Skybox

You must create a ZIA administrator for Skybox.

Add Administrator Role

1. Go to **Administration > Role Management > Add Administrator Role**. The Administrator role settings for Skybox matches those shown in the **Add Administrator Role** window.

The screenshot shows the 'Add Administrator Role' window with the following settings:

- ADMINISTRATOR ROLE**
 - Name:** Skybox
 - Enable Permissions for Executive Insights:** ☐
- PERMISSIONS**
 - Logs Limit (Days):** Unrestricted
 - Dashboard Access:** Full, ☒ View Only
 - Reporting Access:** Full, View Only, ☒ None
 - Policy Access:** Full, ☒ View Only, None
 - Administrators Access:** Full, View Only, ☒ None
 - User Names:** Visible, ☒ Obfuscated
 - Device Information:** Visible, ☒ Obfuscated

Figure 5. Configure Admin role permissions



This image only shows the top portion of this web form. You must scroll down to see all the settings, which are shown in the next step.

2. Match the settings shown in the **Functional Scope** section of the web form, and click **Save**.

FUNCTIONAL SCOPE

Advanced Settings <input type="checkbox"/> X	Data Loss Prevention <input type="checkbox"/> X
Security <input type="checkbox"/> X	SSL Policy <input type="checkbox"/> X
Virtual ZEN Configuration <input type="checkbox"/> X	Firewall, DNAT, DNS & IPS <input checked="" type="checkbox"/>
NSS Configuration <input type="checkbox"/> X	Partner Integration <input type="checkbox"/> X
Remote Assistance Management <input type="checkbox"/> X	

Access Control (Web and Mobile) <input type="checkbox"/> X	Traffic Forwarding <input checked="" type="checkbox"/>
<input type="checkbox"/> Policy and Resource Management	<input checked="" type="checkbox"/> Locations
<input checked="" type="checkbox"/> Zscaler Client Connector Portal	<input checked="" type="checkbox"/> VPN Credentials
<input type="checkbox"/> Custom URL Category Management	<input type="checkbox"/> Hosted PAC Files
<input checked="" type="checkbox"/> Override Existing Categories	<input type="checkbox"/> eZ Agent Configurations
<input type="checkbox"/> Tenant Profile Management	<input type="checkbox"/> Zscaler Client Connector Devices
	<input type="checkbox"/> Proxy & Gateway
	<input type="checkbox"/> Static IPs
	<input type="checkbox"/> GRE Tunnels

Authentication Configuration
☐ X

- ☐ Authentication Settings
- ☐ User Management
- ☐ Identity Proxy Settings
- ☐ API Key Management

Save **Cancel** **Delete**

Figure 6. Configure Admin role functional scope

Add Administrator for Skybox

After you add the Administrator Role, configure a new Administrator account and apply this role to it.

1. Go to **Administration > Administrator Management > Add Administrator**.
2. In the Add Administrator window, configure the following:
 - a. Enter the **Login ID**.
 - b. Select **Skybox** from the **Role** drop-down menu.
 - c. Set and confirm the **Password**.
3. Click **Save**.

Add Administrator [X]

ADMINISTRATOR

Login ID [] bd-skybox.com [v]

Email [] Name []

Role [Skybox] [v]

Scope [Organization] [v]

Executive Insights App Access ☐

Comments []

CHOOSE TO RECEIVE UPDATES

Security Updates ☐ Service Updates ☐

Product Updates ☐

SET PASSWORD

Password [] Confirm Password []

Save Cancel

Figure 7. Add Administrator

Activate

Activate all pending changes.

Go to **Administration** > **Activate** to activate the changes.

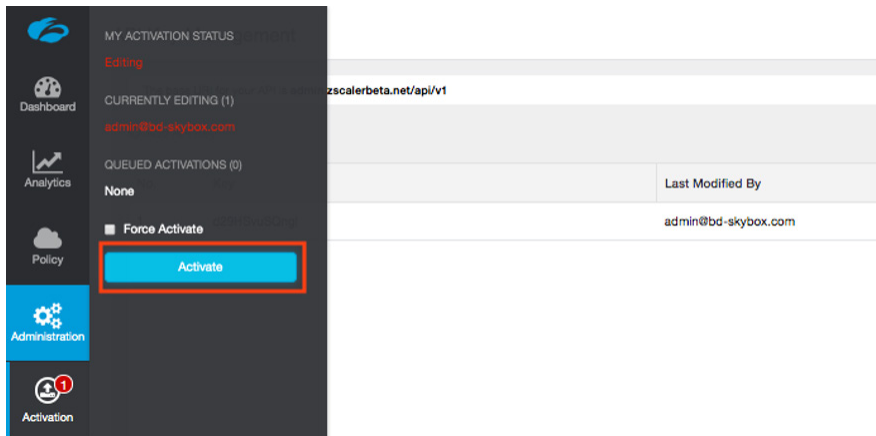


Figure 8. Activate pending configuration changes

After you have completed this step, configure Skybox.

Configuring Skybox

Skybox integration with ZIA allows Skybox users to collect information from the Zscaler web firewall to be used in the Skybox Security Policy Management (SPM) platform.

You can use the information collected from the ZIA service in Skybox in a variety of use cases:

- Access Policy Compliance: Administrators can create an access policy in Skybox and run access checks against the Zscaler firewall to ensure policy compliance.
- Access Analysis: Skybox users can create access queries to analyze the traffic that can traverse the Zscaler firewall solution.
- Easy Review: Users and firewall administrators can review their entire firewall policy from all vendors on a single screen.
- Rule Policies: Users can define an access rule policy that details how the rules are created in the organizational firewalls.
- Visualize the Cloud Firewall: Users can see the firewall with all connections (VPN/GRE tunnels) to on-premises equipment.

Skybox collects the Zscaler secure web gateway information by the out-of-box collection task, which is launched on a regular schedule to ensure the Skybox platform is updated with the latest information from the Zscaler solution.

Log In to Skybox Firewall Assurance

Log in to Skybox Firewall Assurance with admin credentials.



Figure 9. Log in to Skybox

Open Operational Console

After you have your Skybox Appliance or Skybox Virtual Appliance installed and licensed, you can start configuring the Skybox software and adding the tasks needed to collect your Zscaler instances.

You must open the Operational Console, where you can begin to create the tasks necessary to collect the various devices on your network. Click **Operational Console** at the top of the **Firewall Assurance** window.

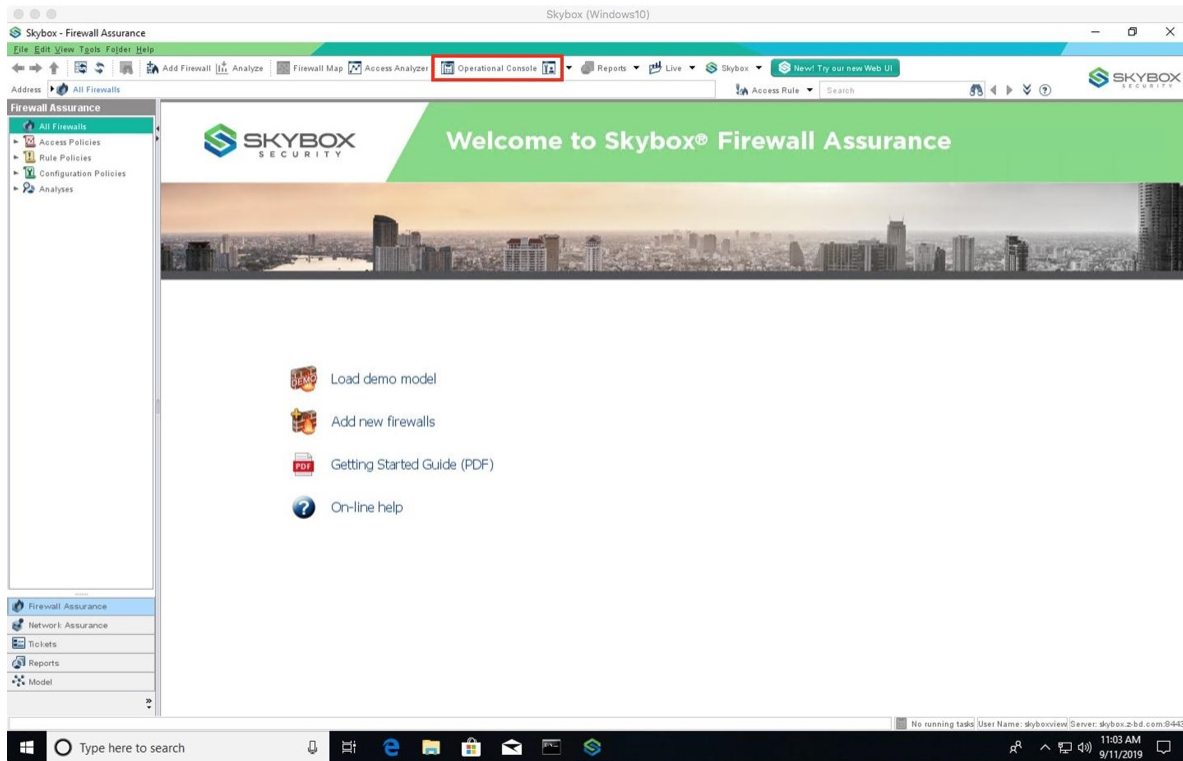


Figure 10. Open Operational Console

Create New Task: Python 2.7 Installation

Skybox is a task-driven solution. Script installations, necessary software installation, Analytics, Zscaler collection, and more are all driven by creating a task. Zscaler uses a Python script to collect from the Zscaler instance. As a result, you must install Python to proceed with collecting Zscaler into the Skybox model.

In the **Operational Console**, click **New Task** to open the **New Task** window to configure a task that installs Python on the Skybox Server.

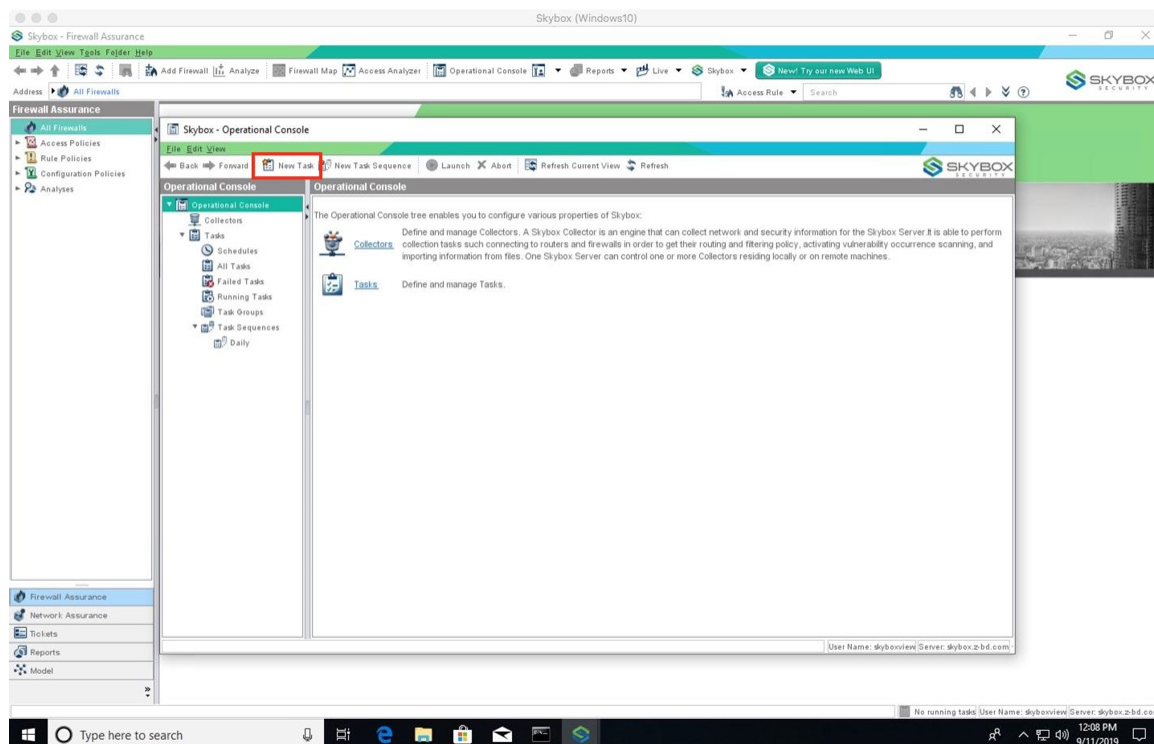


Figure 11. Install Python 2.7

Install Python



Only run the Python installation task once. After successfully installing Python, you do not need to re-run the task.

Insert the necessary task configurations for installing Python into the **New Task** window. After it opens:

1. Enter a **Name** in the corresponding field. A name that briefly describes what you are doing with this task is beneficial for future organization (e.g., Python Install Tool).
2. In the **Task Type** field, select the **Install Python Tools for Skybox Appliance**. If you type the first two letters of the word Python, the task selection automatically narrows down to tasks.
3. Choose the collector that collects the Zscaler instances. If you have only one Skybox Server, more than likely you are running both the Skybox Server and the Skybox Collector. In larger environments that use both a standalone Skybox Server and a standalone Skybox Collector, each appears in this field. Select the collector you want to use to collect Zscaler.

4. Leave the **Timeout** and **Enable Auto Launch** as their defaults:
 - The **Timeout** is the amount of time needed for the task to run before it times out. This can be increased for environments with high latency. Leave this as the default for the purposes of this collection.
 - **Enable Auto Launch** allows this task to launch on its own. You can schedule a specific time that this task launches under the **Schedule** tab at the top of the task window. Leave this as default (the time that it was created). If you want to change the time, click the **Schedule** tab and change the schedule to your preference.
5. Choose whether the device that is running Skybox is a **Collector** or a **Server**. If you have only one device, choose **Collector**, as the Skybox Server is probably running both the collector and server.
6. Select the Python version you want to run on the Skybox Server. Your options are Python 2.7 and Python 3.7 (Zscaler requires Python 2.7 installation).
7. Click **Launch**. The **Alerts**, **Comments**, and **Schedule** tabs at the top of the task are for the following additional configurations:
 - **Alerts**: You can configure email and error level preferences on this tab.
 - **Comment**: Insert comments regarding this task.
 - **Schedule**: You can specify, down to the minute, when you want to auto-launch this task.

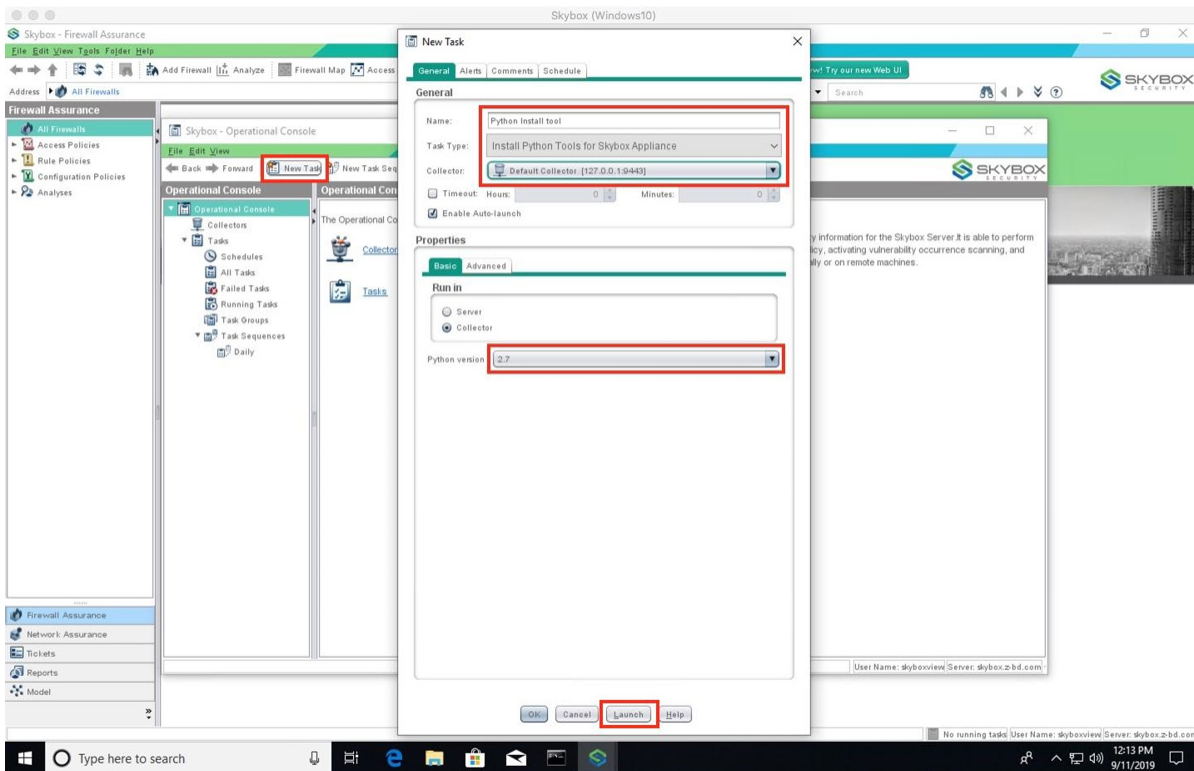


Figure 12. Install Python

Validate Python Install

The **Install Python Tools** task is only needed for virtual machine (VM) instances of the Skybox Server. If you want to install Zscaler and Python tools on a Windows machine (or various Linux machines), you must install Python at the OS level, not in the Skybox software.

After you have launched the **Install Python Tools** task, it runs for about 5 to 10 minutes (depending on the resources allocated for this VM).

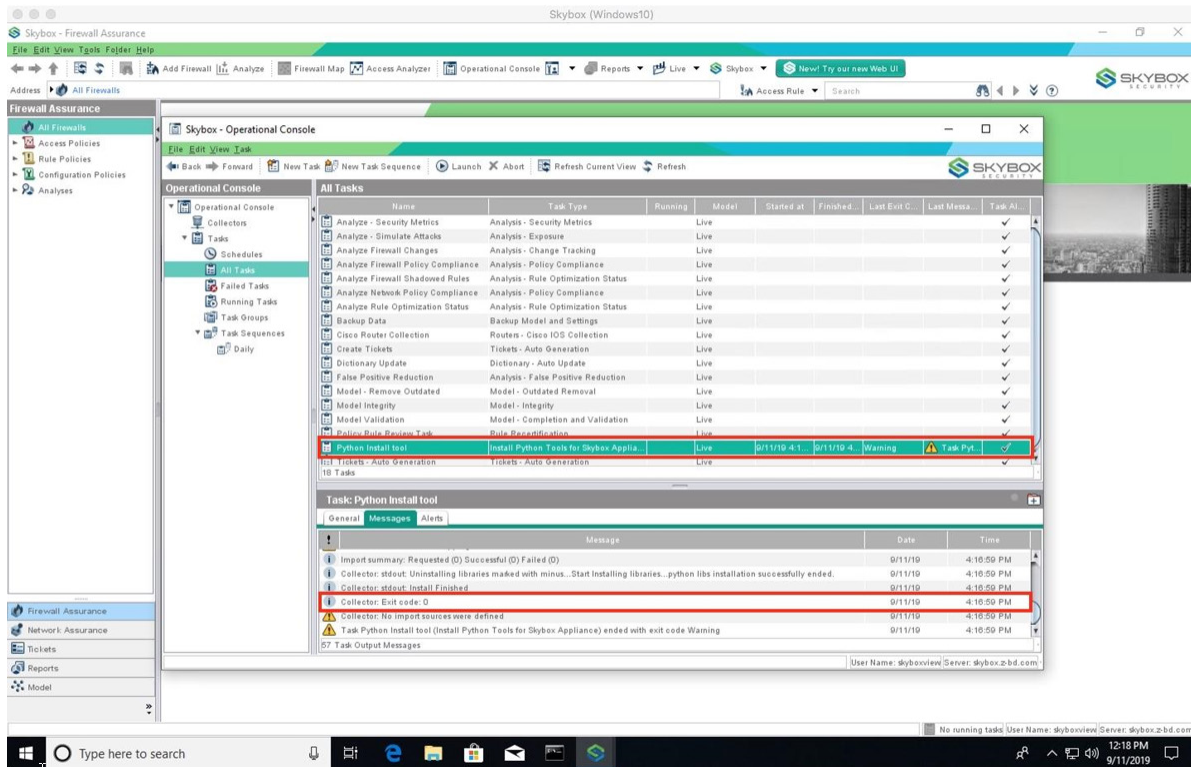


Figure 13. Validate Python install

Create New Task: Zscaler Collector

To create a new Zscaler Collector task:

1. Open the **Operational Console**.
2. Click **New Task**.
3. In the **Name** field, enter the name of the task you're creating (e.g., Zscaler collection).
4. Add Zscaler as the **Task Type**. If you type the first two letters of the task type (such as zs) the Zscaler task appears in the drop-down menu. The Zscaler task is located in the **General** folder and is named **Secure Web Gateway – Zscaler**. Select the **Secure Web Gateway – Zscaler** task.
5. Leave **Timeout** as default.
6. Leave **Enable Auto Launch** as default.
7. Choose **Server** or **Collector**. If you have only one Skybox Server, choose **Collector**, as you are typically running both on a single instance of Skybox.
8. Choose Zscaler for the **Cloud** (provided by Zscaler and indicated as the host of the URL from your ZIA Admin Portal).
9. Add the admin **Username**.
10. Add the admin **Password** (click the ellipsis ... to insert in a secure database).
11. Add the **API Key** (located in ZIA Admin Portal under **Administration** > **API Key Management**).
12. Click **Launch**.

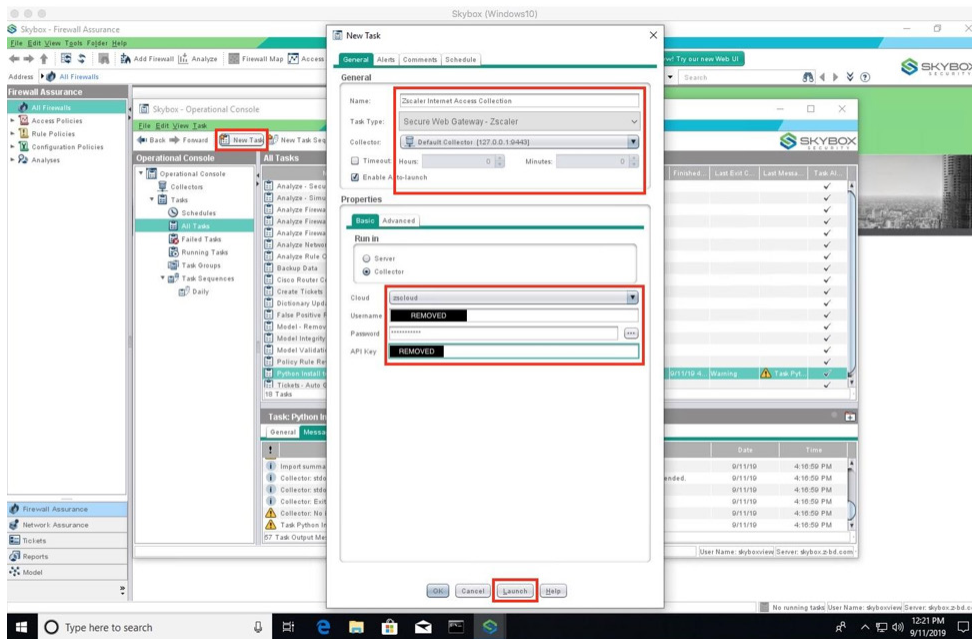


Figure 14. Install Zscaler Collector

Validate Zscaler Collector Install

A check mark in the **Running** column indicates that the Zscaler task is still running and collecting data from your Zscaler instance. After the check mark disappears from the column, the Zscaler collection is complete. You can watch the progress of the collection by viewing the **Messages** tab located in the bottom half of the screen. In the messages window, a line appears with **Success**, indicating that the collection was successful and is being incorporated into your Skybox model.

You have successfully ingested your Zscaler instances into the Skybox model. Adding Zscaler allows you to run analytics on **Access Policy Compliance**, **Access Rule Compliance**, **Change Tracking**, and more.

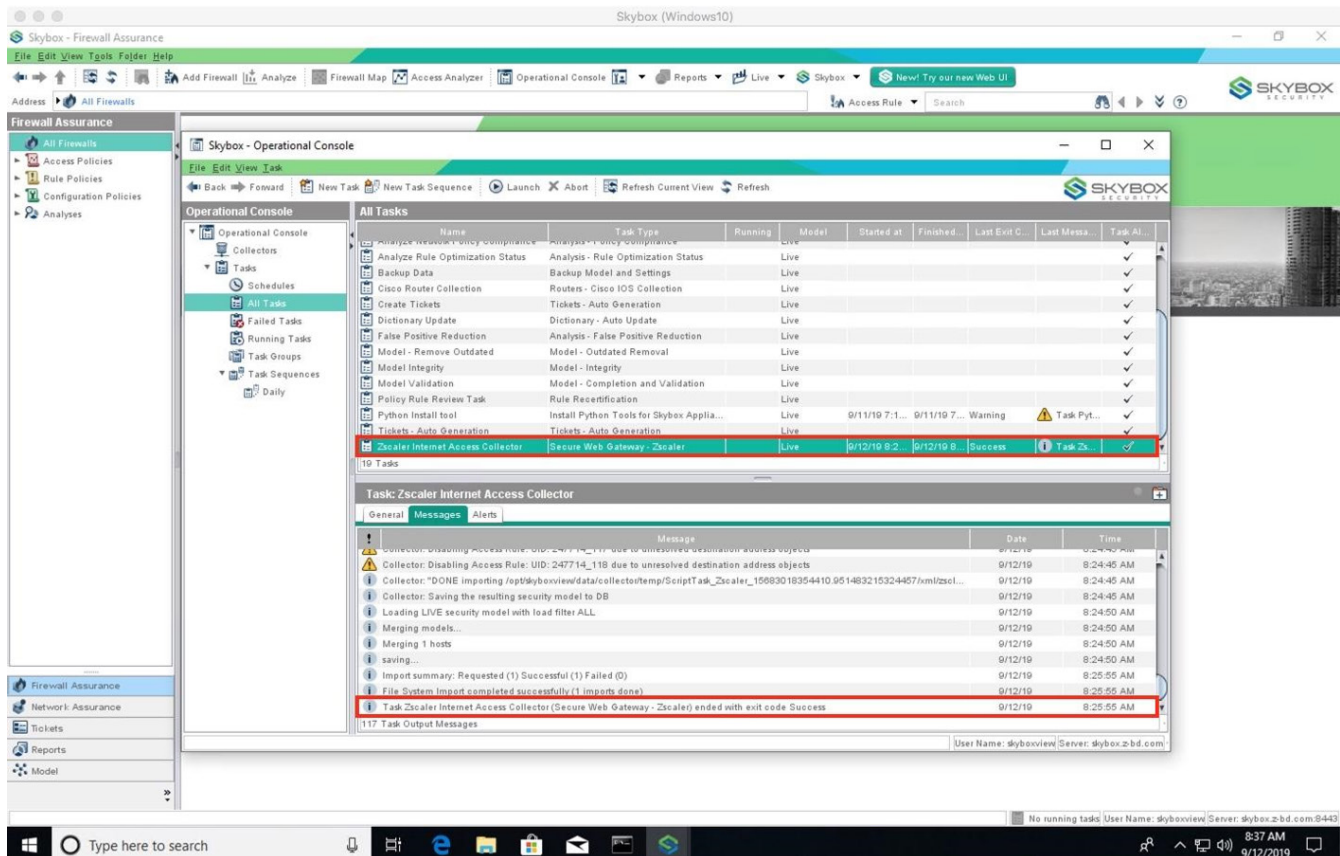


Figure 15. Validate Zscaler Collector install

Zscaler Firewall in the Skybox Network Map

Your Skybox network map looks like the following image.

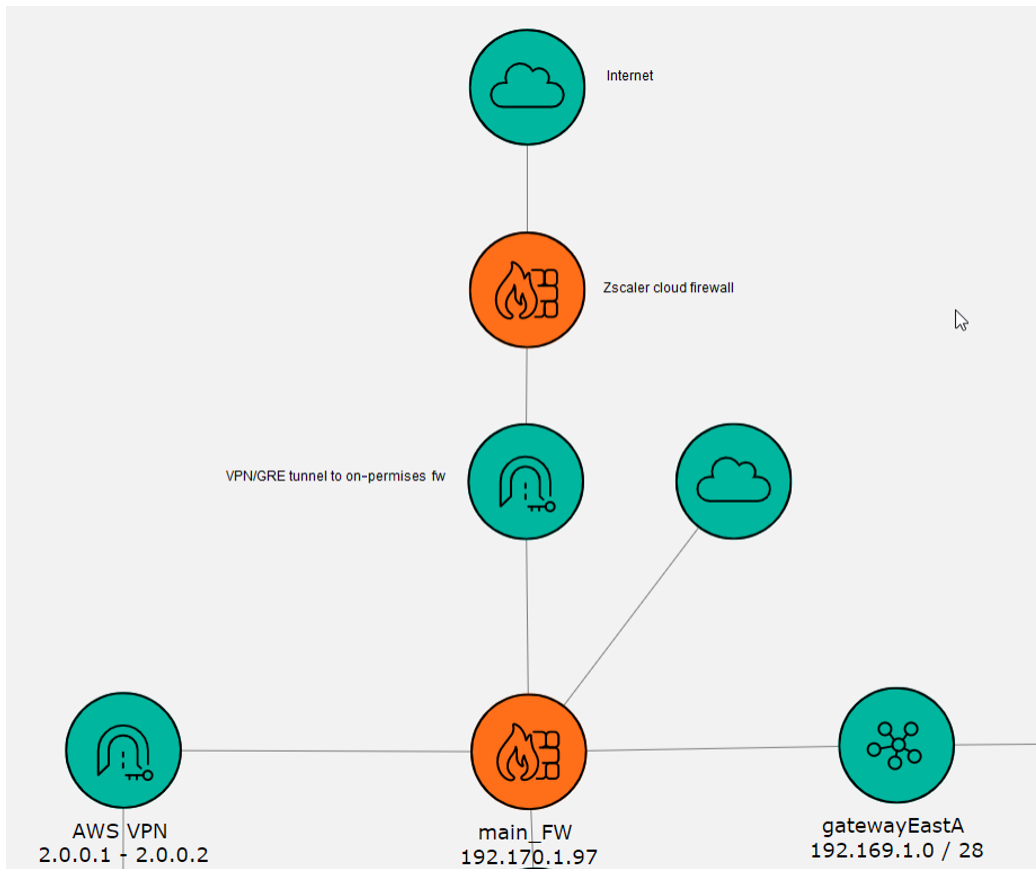


Figure 16. Skybox Network Map

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 24/7/365.

To contact Zscaler Support:

1. Go to **Administration > Settings > Company profile**.

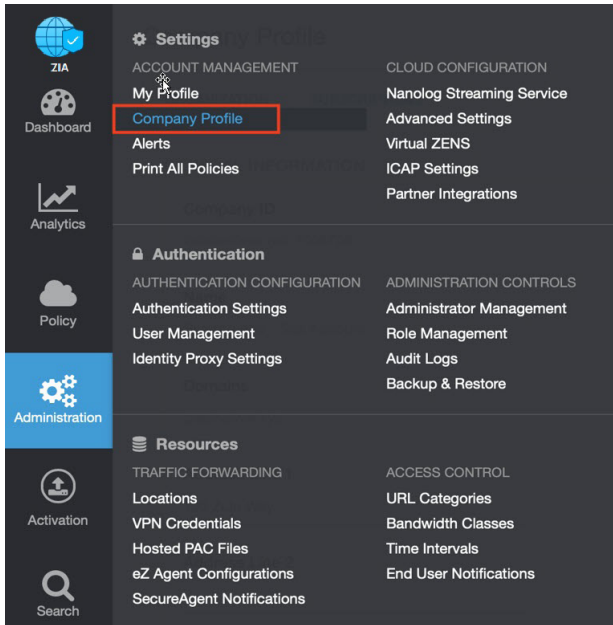


Figure 17. Collecting details to open support case with Zscaler TAC

2. Copy your Company ID.

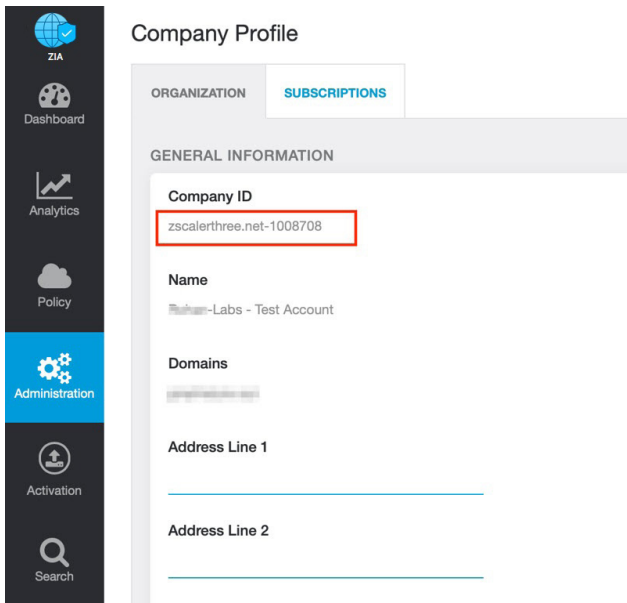


Figure 18. Company ID

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

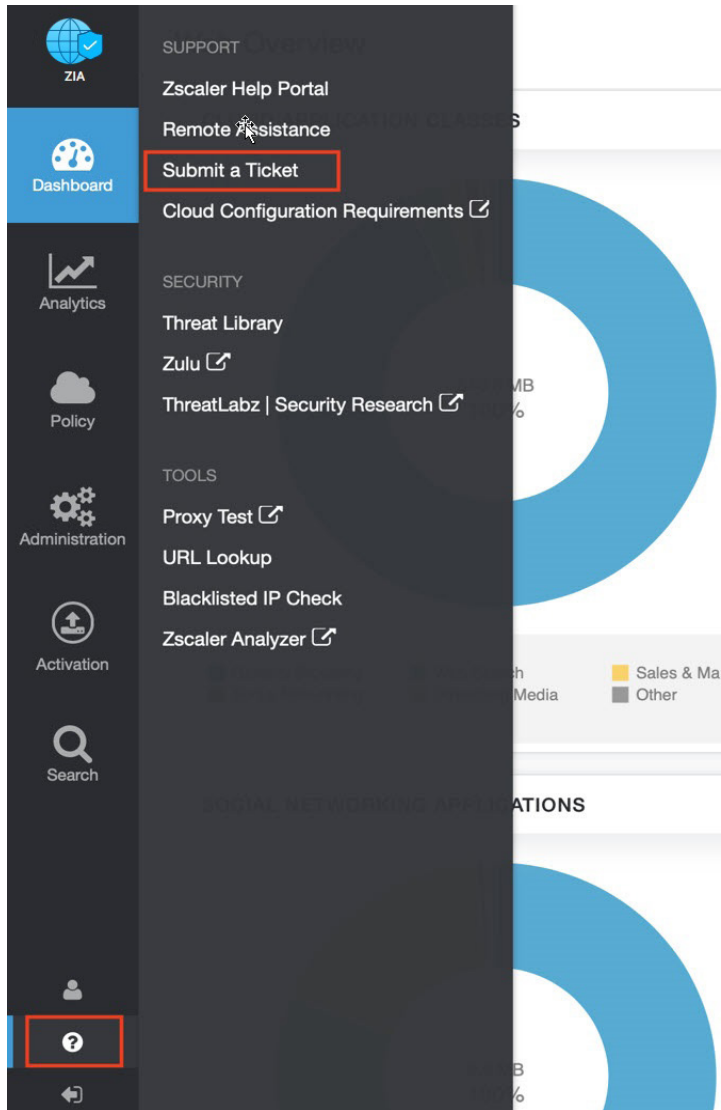


Figure 19. Submit a ticket