



Tenable and Fortinet Integration Guide

Last Revised: July 15, 2025



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Introduction

This document describes how to deploy Tenable Security Center and Nessus® for integration with the FortiGate next-generation firewall (NGFW) platform by Fortinet. Please email any comments and suggestions to Tenable Support.

Monitoring the security settings of your Fortinet firewalls is critical for maintaining your network's security posture. Unless your vulnerability management (VM) platform is equipped with configuration assessment checks specifically designed for Fortinet firewalls, your network may be exposed to unnecessary risk.

Additionally, better VM platforms offer continuous listening through passive vulnerability monitoring to help bridge the vulnerability intelligence gap in between periodic active scans and audits. However, placing passive monitors on every network segment throughout a global enterprise can be impractical. Although more organizations are turning to SIEMs (security information and event management) to uncover hidden threats, most SIEMs take months to deploy and are costly to acquire and maintain.

Benefits of integrating Tenable Tenable Security Center with Fortinet include:

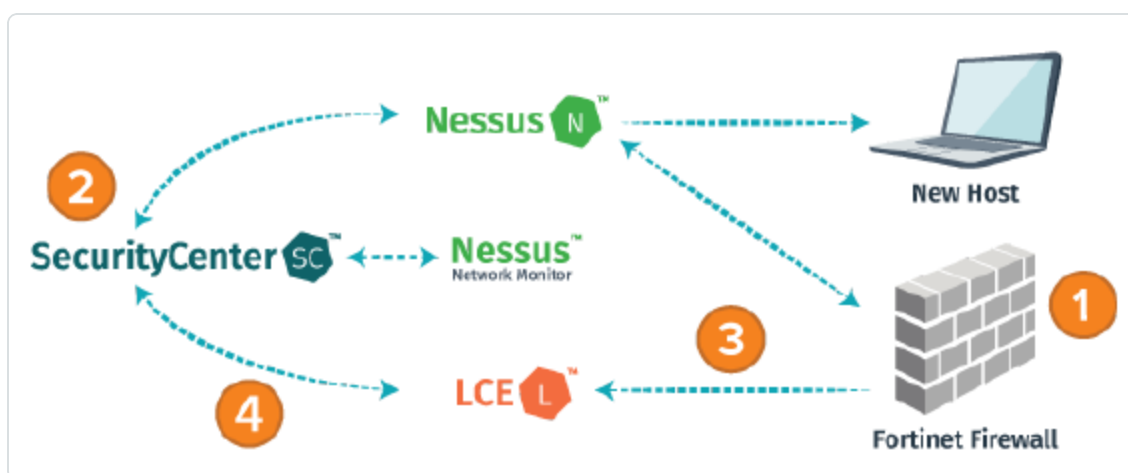
- Maintain compliance with industry best practices for firewall hardening
- Achieve real-time, 100% asset discovery by detecting new hosts connected to network segments not monitored by Nessus Network Monitor
- Discover system vulnerabilities and security misconfigurations of mobile devices and virtual machines not present during the last periodic full-network scan
- Maintain compliance with government and industry regulations that mandate log aggregation, such as PCI, HIPAA, FISMA and more
- Uncover advanced cyberthreats



Integration Overview

Tenable Security Center and Nessus offer a series of plugins specifically designed to audit Fortinet physical and virtual firewalls to identify security misconfigurations and ensure best-practice hardening guidelines are followed. To perform the audit, Tenable Security Center (via Nessus) initiates a credentialed scan of the Fortinet firewall, authenticating credentials through the Fortinet XML API. Once completed, detailed findings of the Fortinet audit can be reviewed within Tenable Security Center scan results, dashboards and reports.

In addition to configuration audits, Tenable can also import real-time log data from Fortinet firewalls into its Log Correlation Engine® (LCE®) to help identify assets on networks not monitored by Nessus Network Monitor. Once hosts are identified they can be automatically assigned to dynamic asset lists and audited with Nessus to detect any possible vulnerabilities or misconfigurations.



Nessus Manager version 6.x, Tenable Vulnerability Management, and Tenable Security Center version 4.8 and higher support Fortinet integration. Nessus, Tenable Vulnerability Management and Tenable Security Center solutions work with Fortinet FortiOS versions 4.3 and above.



Integrate with Fortinet

[Fortinet NGFW Configuration Audit](#)

[Import Fortinet NGFW Logs](#)

[Dashboards and Reports](#)

Fortinet NGFW Configuration Audit

To begin the integration configuration, log in to Tenable Security Center, click **Scans** and select **Audit Files**.

The screenshot shows the Tenable SecurityCenter interface. The top navigation bar includes 'Dashboard', 'Analysis', 'Scans', and 'Reporting'. The 'Scans' dropdown menu is open, showing options: 'Active Scans', 'Agent Scans', 'Scan Results', 'Policies', 'Audit Files', 'Credentials', and 'Blackout Windows'. The main content area displays the 'Executive 7 Day' dashboard with a table titled 'Executive 7 Day - Current Vulnerability Type Matrix'.

	Total	Active	Passive	Compliance
Critical	0	0	0	N/A
High	0	0	0	0
Medium	0	0	0	0

Click **+Add** and select **FortiGate FortiOS** from the list of available audit file templates.



SecurityCenter

Dashboard ▾Analysis ▾Scans ▾Reporting ▾AssetsWorkflow ▾Users ▾

Add Audit File

Templates

Adtran NetVanta

BlueCoat ProxySG

Brocade FabricOS

Check Point GAIa

Cisco IOS

Extreme
ExtremeXOS

FireEye

FortiGate FortiOS

HP ProCurve

Huawei VRP

NetApp Data
ONTAP

Palo Alto Networks
PAN-OS


RHEV

SonicWALL
SonicOS

Unix

Windows File
Contents

Custom


Advanced
Create a custom audit file.

In the “General” section, enter a name for the audit file and a description (optional).

SecurityCenter™

Dashboard ▾Analysis ▾Scans ▾Reporting ▾AssetsWorkflow ▾Users ▾

Edit FortiGate FortiOS Audit File

General

Name*

FortiGate Audit File

Description

FortiGate Audit File

Submit

Cancel

Click **Credentials** and click **+Add**.

SecurityCenter™

Dashboard ▾Analysis ▾Scans ▾Reporting ▾AssetsWorkflow ▾Users ▾

Audit Files

Active Scans

Agent Scans

Scan Results

Policies

Audit Files

Credentials

Blackout Windows

Name ▲	Type	Group	Owner
FortiGate Audit File	FortiGate FortiOS 1.13	Full Access	SC_Manager

In the “General” section, enter a name for the SNMP credentials and a description (optional). Under the “Credential” section, click the drop-down and select **SNMP**. In the “Community” box, enter the SNMP community string. Click **Submit**.

SecurityCenter™

Dashboard ▾Analysis ▾Scans ▾Reporting ▾AssetsWorkflow ▾Users ▾

Add Credential

General

Name*

FortiOS_SNMP_Credentials

Description

FortiOS_SNMP_Credentials

Credential

Type

SNMP ▾

Community*

public

Submit

Cancel

Next, create the scan policy by navigating to “Policies” and clicking **+Add**.

SecurityCenter™

Dashboard ▾Analysis ▾Scans ▾Reporting ▾AssetsWorkflow ▾Users ▾

Credentials

Active Scans

Agent Scans

Scan Results

Policies


Audit Files

Credentials

Blackout Windows

Name	Type	Group
PAN-OS_SNMP_Credentials	SNMP	Full Access

Select the **Policy Compliance Auditing** template.



SecurityCenter

Dashboard

Analysis

Scans

Reporting


Assets

Workflow

Users


Add Policy

Template




Host Discovery

A simple scan to discover live hosts and open ports.




Basic Network Scan

A full system scan suitable for any host.




Credentialed Patch Audit

Authenticate to hosts and enumerate missing updates.




Web Application Tests

Scan for published and unknown web vulnerabilities.




Windows Malware Scan

Scan for malware on Windows systems.




Policy Compliance Auditing

Audit system configurations against a known baseline.




Internal PCI Network Scan

Perform an internal PCI DSS (11.2.1) vulnerability scan.




SCAP and OVAL Auditing

Audit systems using SCAP and OVAL definitions.




Bash Shellshock Detection

Remote and local checks for CVE-2014-6271 and CVE-2014-7169.



GHOST (glibc) Detection


Local checks for CVE-2015-0235.



PCI Quarterly External Scan

Approved for quarterly external scanning as required by PCI.

Custom




Advanced Scan

Configure a scan without using any recommendations.

In the “Setup” section, enter a name for the audit policy and a description (optional). The options under “Configuration” can be left as “Default” or set to “Custom.” If the configuration options are set to “Custom,” the “Advanced” and “Host Discovery” categories will be enabled in the left-hand menu. Leaving the options as “Default” will keep those items hidden.

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SecurityCenter
Dashboard ▾ Analysis ▾ Scans ▾ Reporting ▾ Assets Workflow ▾ Users ▾

Add Policy > Policy Compliance Auditing

Setup
Host Discovery
Report
Advanced
Authentication
Compliance

General

Name*
FortiOS_Audit_Policy
Description
FortiOS_Audit_Policy

Configuration

Advanced Custom ▾

Discovery Custom ▾

Choose your own advanced settings.
Choose your own discovery settings.

Submit
Cancel

Navigate to the “Compliance” section and click **+Add Audit File**. In the “Compliance” section, click the **Select a Type** drop-down and select **FortiGate FortiOS**. Next, click the **Select an Audit File** drop-down and select the previously configured FortiGate audit file. Click the checkmark to finalize the settings. Click **Submit**.

SecurityCenter
Dashboard ▾ Analysis ▾ Scans ▾ Reporting ▾ Assets Workflow ▾ Users ▾

Add Policy > Policy Compliance Auditing

Setup
Report
Authentication
Compliance

Compliance

FortiGate FortiOS ▾ FortiGate Audit File ▾

Submit
Cancel

In the “Policies” section, navigate to **Credentials**.

SecurityCenter™

Dashboard ▾Analysis ▾Scans ▾Reporting ▾AssetsWorkflow ▾Users ▾

Policies

Active ScansAgent ScansScan ResultsPoliciesAudit FilesCredentialsBlackout Windows

Name ▲	Type	Group	Owner
FortiOS_Audit_Policy	Policy Compliance Auditing	Full Access	SC_Manager

In the “General” section, enter a name and description (optional).

Within the “Credential” section, click the drop-down next to “Type” and select **SSH**. Click the **Authentication Method** drop-down and select the correct option for your environment. Enter the SSH username used to authenticate to the Fortinet firewall and then click **Choose File** to select the **Private Key** file. Next, enter the **Passphrase** and then click the **Privilege Escalation** drop-down and select **None**. Click **Submit**.



SecurityCenter Dashboard ▾ Analysis ▾ Scans ▾ Reporting ▾ Assets Workflow ▾ Users ▾

Add Credential

General

Name*

FortiOS_SSH_Credentials

Description

FortiOS_SSH_Credentials

Credential

Type

SSH ▾

Authentication Method

Public Key ▾

Username*

SSH_User

Private Key*

Choose File

Passphrase

.....

Privilege Escalation

None ▾

Submit

Cancel

To create an audit scan of Fortinet NGFWs, click on **Scans** and select **Active Scans**. Click on **+Add**.

In the “General” section, enter a scan name and description (optional). Click the **Select a Policy** drop-down and select the previously configured FortiGate FortiOS audit policy. In the “Schedule” section, the scan can be configured to run “On Demand” (default), or it can be configured to run on a custom schedule as required.

SecurityCenter™

Dashboard ▾Analysis ▾Scans ▾Reporting ▾AssetsWorkflow ▾Users ▾

Add Active Scan

General

Settings

Targets

Credentials

Post Scan


General

Name*FortiOS_Scan

DescriptionFortiOS_Scan

Policy*FortiOS_Audit_Policy ▾

Schedule

ScheduleOn Demand 

Submit

Cancel

Navigate to the “Targets” section and click the **Target Type** drop-down. Select **IP/DNS Name** and enter the Fortinet NGFW IP address or DNS name.

SecurityCenter™

Dashboard ▾Analysis ▾Scans ▾Reporting ▾AssetsWorkflow ▾Users ▾

Add Active Scan

General

Settings

Targets

Credentials

Post Scan

Target TypeIP / DNS Name ▾

IPs / DNS Names*172.1.1.1

Submit

Cancel



Navigate to “Credentials” and click **+ Add Credential**. Click the drop-down and select **SSH**. Once SSH is selected, a second drop-down box will appear. Click the box and select the previously configured SSH credentials for FortiOS. Click the checkmark to finalize the settings. Click **Submit**.

Note: Integrating Tenable Security Center and Fortinet to perform audit checks requires configuration in both Tenable Security Center and FortiOS. For detailed instruction on configuring FortiOS for integration, please refer to the [Fortinet FortiGate/FortiOS Admin Guide](#).

Import Fortinet NGFW Logs

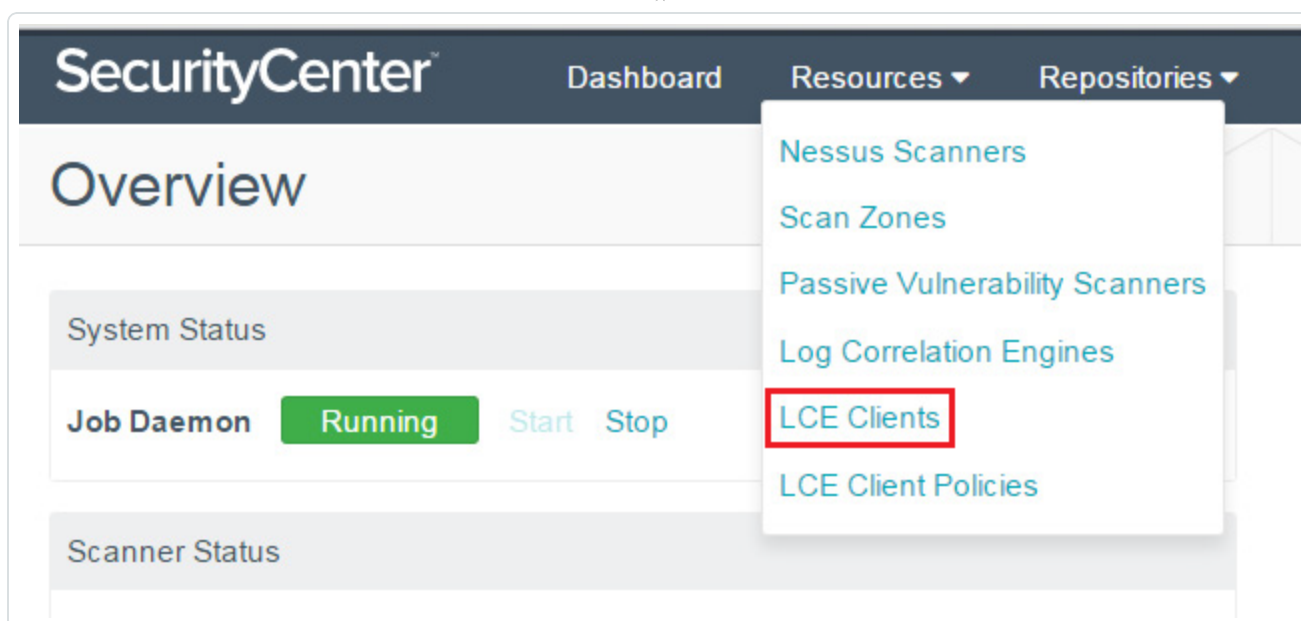
Real-time log data from Fortinet NGFWs can be imported into Tenable Security Center (via LCE). Integration requires configuration changes within FortiOS and within Tenable Security Center, as well as the installation and configuration of Tenable NetFlow Monitor.

To begin the integration, download the Tenable NetFlow Monitor LCE client from the [Tenable Downloads](#) page.

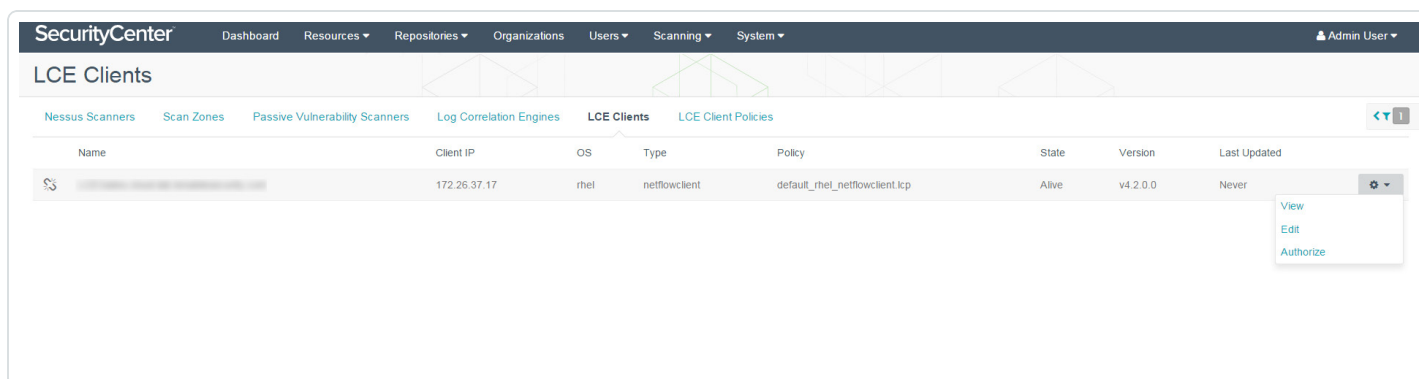
Install the Tenable NetFlow Monitor LCE client. Please refer to the [Log Correlation Engine 4.4 Client Guide](#) for detailed installation instructions.

Note: The Tenable NetFlow Monitor LCE client can be run directly on the LCE server. It must be configured to connect to either the localhost (127.0.0.1) or the IP address of the LCE server. Multiple LCE Client types (such as the LCE Log Agent and the Tenable NetFlow Monitor) can be run at the same time as well.

Log in to Tenable Security Center using an admin account and navigate to “Resources.” Select **LCE Clients**.



Click the drop-down arrow to the right of the “netflowclient” and select **Authorize**. If successful, a pop-up message stating it has been successfully authorized will appear.



To complete the Tenable Security Center configuration, click on the **netflowclient** to edit the LCE client and assign a policy. Click the **Policy** drop-down to select the desired policy. Click **Submit**. If successful, a pop-up message stating “LCE Client Edited Successfully” will appear.



SecurityCenter Dashboard Resources ▼ Repositories ▼ Organizations Users ▼ Scanning ▼ System ▼

Edit LCE Client

Name*

Policy* default_rhel_netflowclien... ▼

Submit

Cancel

Note: To complete the integration, please refer to the [Fortinet FortiGate/FortiOS Admin Guide](#) for detailed instructions on how to configure a syslog server and enable log forwarding.

Once configured, log data from the Fortinet NGFW will be imported into Tenable Security Center to help achieve 100% asset discovery. The log data can also be correlated against other data sources to uncover any potential advanced threats and to help organizations meet compliance obligations.

Dashboards and Reports

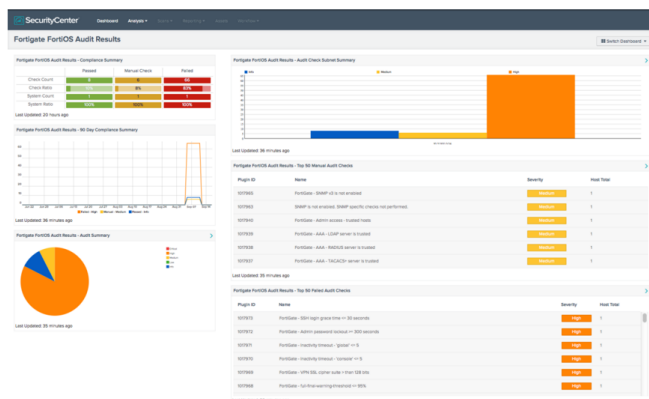
Information obtained through Fortinet NGFW configuration audits and the collection of log data can be easily viewed and analyzed through Tenable Security Center's pre-defined, customizable dashboards and reports.



Add Dashboard Template

← Back

Fortigate FortiOS Audit Results



Description

Governance, Risk Management, and Compliance (GRC) is a substantial part of any information assurance program. A GRC requires information systems to be audited, regardless of the standard to which the audit is performed. This dashboard provides the audit results for Fortigate FortiOS. One of the initial steps in a successful GRC program is to set configuration guidelines and establish a supportable set of security policies. SecurityCenter Continuous View (SC CV) can measure compliance using audit files that cover a wide range of major regulations and other auditable standards. Tenable provides over 500 audit files, which are available for download from the Tenable Support Portal [https://support.tenable.com/support-center], in categories such as operating systems, applications, databases, and network devices. Tenable products can be used to audit systems based on SCAP content, and many Tenable audit policies have been certified by the Center for Internet Security (CIS). More information about audit files can be found in the Tenable Discussion Forums [https://discussions.nessus.org], Tenable Support Portal

Category: Compliance & Configuration Assessment

Created: Dec 14, 2015 19:04

Updated: Dec 14, 2015 19:04

FortGate FortiOS Audit Results Dashboard Template



SecurityCenter™

Fortigate FortiOS Audit Report

February 20, 2016 at 12:07pm EST

[SC_Manager]
ORG_1

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FortiGate FortiOS Audit Report Title Page



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