



# Cisco Tetration Release Notes

## Release 3.3.2.33

This document describes the features, caveats, and limitations for the Cisco Tetration software, release 3.3.2.33.

The Cisco Tetration platform is designed to comprehensively address a number of data center operational and security challenges using rich traffic telemetry collected from servers, layer 4 through 7 service elements, and end-point devices (such as laptops, desktops, and smartphones). The platform performs advanced analytics using an algorithmic approach to offer a holistic workload protection platform. This algorithmic approach includes unsupervised machine-learning techniques and behavioral analysis. The platform provides a ready-to-use solution supporting the following use cases:

- Provide behavior-based application insight to automate allowed-list policy generation
- Provide application segmentation to enable efficient and secure zero-trust implementation
- Provide consistent policy enforcement across on-premises data centers, and private and public clouds
- Identify process behavior deviations, and software vulnerabilities and exposure to reduce attack surface
- Identify application behavior changes and policy compliance deviations in near-real time
- Support comprehensive telemetry processing in a heterogeneous environment to provide actionable insight within minutes
- Enable long-term data retention for deep forensics, analysis, and troubleshooting

To support the analysis and various use cases within the Cisco Tetration platform, consistent telemetry is required from across the data center infrastructure. Rich Cisco Tetration telemetry is collected using agents. There are different types of agents available to support both existing and new data center infrastructures. This release supports the following agent types:

- Software agents installed on virtual machine, bare-metal, or container hosts
- ERSPAN agents that can generate Cisco Tetration telemetry from copied packets
- Telemetry ingest from ADCs (Application Delivery Controllers) – F5, Citrix and AVI
- NetFlow agents that can generate Cisco Tetration telemetry based on NetFlow v9 or IPFIX records
- Embedded hardware agents in Cisco Nexus 9000 CloudScale series switches

In addition, this release supports ingesting endpoint device posture, context and telemetry through integrations with:

- Cisco AnyConnect installed on endpoint devices such as laptops, desktops, and smartphones
- Cisco ISE (Identity Services Engine)

Software agents also act as the policy enforcement point for the application segmentation. Using this approach, the Cisco Tetration platform enables consistent microsegmentation across public, private, and on-premises deployments. Agents enforce the policy using native operating system capabilities, thereby eliminating the need for the agent to be in the data path and providing a fail-safe option. **Additional product documentation is listed in the “Related Documentation” section.**

These Release Notes are sometimes updated with new information about restrictions and caveats. See the following website for the most recent version of this document:

<https://www.cisco.com/c/en/us/support/security/tetration/products-release-notes-list.html>

The following table shows the online change history for this document.

Table 1 Online History Change

Date	Description
May 16 <sup>th</sup> , 2020	Release 3.3.2.33 became available.

## Contents

This document includes the following sections:

- [New and Changed Information](#)
- [Caveats](#)
- [Compatibility Information](#)
- [Usage Guidelines](#)
- [Verified Scalability Limits](#)
- [Related Documentation](#)

## New and Changed Information

This section lists the new and changed features in this release and includes the following topics:

- [New Software Features](#)
- [Changes in Behavior](#)
- [Enhancements](#)

### New Software Features

The following new software features are available in this release:

- Software agent support added for Redhat Enterprise Linux 7.8 release and supports all the workload protection capabilities.

### Changes in Behavior

These are changes in behavior for this release:

- Changes to Slack connector for notification - Token based mechanism has been deprecated by Slack, after upgrading to this patch release, re-configure Slack connector with Slack webhook.
- The Checkpoint chart in data backup will now display total bytes instead of average.
- For querying agent stats in workload profile, interval input is limited to at most 1 day and granularity input is limited to a minimum of 30 mins.

## Enhancements

- **Performance enhancements to Segmentation's Application list page** - Improves rendering times for lists with more than 1000 applications.
- Tetration uses information delivered through a feed from Oracle to match and report CVEs against installed package versions in Oracle Linux.

## Caveats

This section contains lists of open and resolved caveats, as well as known behaviors.

- [Open Caveats](#)
- [Resolved Caveats](#)
- [Known Behaviors](#)

## Open Caveats

The following table lists the open caveats in this release. Click a bug ID to access Cisco's Bug Search Tool to see additional information about that bug.

No open caveats.

## Resolved Caveats

The following table lists the resolved caveats in this release. Click a bug ID to access Cisco's Bug Search Tool to see additional information about that bug.

Table 3 Resolved Caveats

Bug ID	Description
<a href="#">CSCvt41632</a>	Tetration Edge appliance (running ISE connector) getting OOM
<a href="#">CSCvs58791</a>	If the active orchestrator is not orchestrator-1, snapshots will not include a snapshot manifest file.
<a href="#">CSCvr76625</a>	Provided an endpoint to retrieve exported flows for software sensors.
<a href="#">CSCvu16676</a>	Orchestrator rpm is not patched after commission on a patched cluster.
<a href="#">CSCvu16692</a>	tet-sensor to handle LF in HTTP proxy responses
<a href="#">CSCvu05298</a>	AIX Enforcement Agent may fail to apply ipfilter rules using ipools
<a href="#">CSCvu17176</a>	Support ESXi version 5.0 bios-uuid reporting change

## Known Behaviors

No known behaviors.

## Compatibility Information

The software agents in the 3.3.2.33 release support the following operating systems (virtual machines and bare-metal servers) for microsegmentation (deep visibility and enforcement):

- Linux:
  - CentOS-6.x: 6.1 to 6.10
  - CentOS-7.x: 7.0 to 7.7
  - Redhat Enterprise Linux-6.x: 6.1 to 6.10
  - Redhat Enterprise Linux-7.x: 7.0 to 7.8
  - Redhat Enterprise Linux-8.0
  - Oracle Linux Server-6.x: 6.1 to 6.10
  - Oracle Linux Server-7x: 7.0 to 7.7
  - SUSE Linux-11.x: 11.2, 11.3, and 11.4
  - SUSE Linux-12.x: 12.0, 12.1, 12.2,12.3, 12.4
  - SUSE Linux-15.x: 15.0, 15.1
  - Ubuntu-14.04
  - Ubuntu-16.04
  - Ubuntu-18.04
- Windows Server (64-bit):
  - Windows Server 2008R2 Datacenter
  - Windows Server 2008R2 Enterprise
  - Windows Server 2008R2 Essentials
  - Windows Server 2008R2 Standard
  - Windows Server 2012 Datacenter
  - Windows Server 2012 Enterprise
  - Windows Server 2012 Essentials
  - Windows Server 2012 Standard
  - Windows Server 2012R2 Datacenter
  - Windows Server 2012R2 Enterprise
  - Windows Server 2012R2 Essentials
  - Windows Server 2012R2 Standard
  - Windows Server 2016 Standard
  - Windows Server 2016 Essentials
  - Windows Server 2016 Datacenter
  - Windows Server 2019 Standard
  - Windows Server 2019 Essentials
  - Windows Server 2019 Datacenter
- Windows VDI desktop Client:
  - Microsoft Windows 8
  - Microsoft Windows 8 Pro

- Microsoft Windows 8 Enterprise
- Microsoft Windows 8.1
- Microsoft Windows 8.1 Pro
- Microsoft Windows 8.1 Enterprise
- Microsoft Windows 10
- Microsoft Windows 10 Pro
- Microsoft Windows 10 Enterprise
- Microsoft Windows 10 Enterprise 2016 LTSC
  
- IBM AIX operating system (Alpha):
  - AIX version 7.1
  - AIX version 7.2
  
- Container host OS version for policy enforcement:
  - Red Hat Enterprise Linux Release 7.1, 7.2, 7.3, 7.4, 7.7
  - CentOS Release 7.1, 7.2, 7.3, 7.4, 7.7
  - Ubuntu-16.04

The 3.3.2.33 release supports the following operating systems for visibility use cases only:

- Linux:
  - CentOS-5.x: 5.7 to 5.11
  - Redhat Enterprise Linux-5.x: 5.7 to 5.11
  
- Windows Server (64-bit):
  - Windows Server 2008 Datacenter
  - Windows Server 2008 Enterprise
  - Windows Server 2008 Essentials
  - Windows Server 2008 Standard
  
- Windows VDI desktop Client:
  - Microsoft Windows 7
  - Microsoft Windows 7 Pro
  - Microsoft Windows 7 Enterprise

The 3.3.2.33 release supports the following operating systems for the universal visibility agent:

- Redhat Enterprise Linux 4.0 (32-bit and 64-bit)
- CentOS 4.0 (32-bit and 64-bit)
- Redhat Enterprise Linux 5.0 (32-bit)
- CentOS 5.0 (32-bit)
- Windows Server (32-bit and 64-bit)
- Solaris 11 on x86 (64-bit)
- AIX 5.3 (PPC)

The 3.3.2.33 release supports the following Cisco Nexus 9000 series switches in NX-OS and Cisco Application Centric Infrastructure (ACI) mode:

Table 4 Supported Cisco Nexus 9000 Series Switches in NX-OS and ACI Mode

Product line	Platform	Minimum Software release
Cisco Nexus 9300 platform switches (NX-OS mode)	Cisco Nexus 93180YC-EX, 93108TC-EX, and 93180LC-EX	Cisco NX-OS Release 9.2.1 and later
	Cisco Nexus 93180YC-FX, 93108TC-FX, and 9348GC-FXP	Cisco NX-OS Release 9.2.1 and later
	Cisco Nexus 9336C-FX2	Cisco NX-OS Release 9.2.1 and later
Cisco Nexus 9300 platform switches (ACI mode)	Cisco Nexus 93180YC-EX, 93108TC-EX, and 93180LC-EX	Cisco ACI Release 3.1(1i) and later
	Cisco Nexus 93180YC-FX, 93108TC-FX	Cisco ACI Release 3.1(1i) and later
	Cisco Nexus 9348GC-FXP	Cisco ACI Release 3.1(1i) and later
	Cisco Nexus 9336C-FX2	Cisco ACI Release 3.2 and later
	Cisco Nexus 9500 series switches with N9K-X9736C-FX line cards only	Cisco ACI Release 3.1(1i) and later

## Usage Guidelines

This section lists usage guidelines for the Cisco Tetration software.

- You must use the Google Chrome browser version 40.0.0 or later to access the web-based user interface.
- After setting up your DNS, browse to the URL of your Cisco Tetration cluster: <https://<cluster.domain>>

## Verified Scalability Limits

The following tables provide the scalability limits for Cisco Tetration (39-RU), Cisco Tetration-M (8-RU), and Cisco Tetration Cloud:

Table 5 Scalability Limits for Cisco Tetration (39-RU)

Configurable Option	Scale
Number of workloads	Up to 25,000 (VM or Baremetal)
Flow features per second	Up to 2 Million
Number of hardware agent enabled Cisco Nexus 9000 series switches	Up to 100

Note: Supported scale will always be based on which ever parameter reaches the limit first

Table 6 Scalability Limits for Cisco Tetration-M (8-RU)

Configurable Option	Scale
Number of workloads	Up to 5,000 (VM or Baremetal)
Flow features per second	Up to 500,000
Number of hardware agent enabled Cisco Nexus 9000 series switches	Up to 100

Note: Supported scale will always be based on which ever parameter reaches the limit first

Table 7 Scalability Limits for Cisco Tetration Virtual (VMWare ESXi)

Configurable Option	Scale
Number of workloads	Up to 1,000 (VM or bare-metal)
Flow features per second	Up to 70,000
Number of hardware agent enabled Cisco Nexus 9000 series switches	Not supported

Note: Supported scale will always be based on which ever parameter reaches the limit first.

## Related Documentation

The Cisco Tetration Analytics documentation can be accessed from the following websites:

Tetration Datasheets: <https://www.cisco.com/c/en/us/products/security/tetration/datasheet-listing.html>

General Documentation: <https://www.cisco.com/c/en/us/support/security/tetration/tsd-products-support-series-home.html>

The documentation includes installation information and release notes.

Table 8 Installation Documentation

Document	Description
<i>Cisco Tetration Hardware Cluster Deployment Guide</i>	Describes the physical configuration, site preparation, and cabling of a single- and dual-rack installation for Cisco Tetration (39-RU) platform and Cisco Tetration-M (8-RU).  Document Link: <a href="https://www.cisco.com/c/en/us/td/docs/security/workload_security/tetration-analytcs/hw/installation_guide/Cisco-Tetration-M5-Cluster-Hardware-Deployment-Guide.html">https://www.cisco.com/c/en/us/td/docs/security/workload_security/tetration-analytcs/hw/installation_guide/Cisco-Tetration-M5-Cluster-Hardware-Deployment-Guide.html</a>
<i>Cisco Tetration Virtual Deployment Guide</i>	Describes the deployment of Tetration virtual appliance.  Document Link: <a href="https://www.cisco.com/c/en/us/td/docs/security/workload_security/tetration-analytcs/sw/install/b_Tetration_Analytcs_Virtual_Appliance_Deployment_Guide.html">https://www.cisco.com/c/en/us/td/docs/security/workload_security/tetration-analytcs/sw/install/b_Tetration_Analytcs_Virtual_Appliance_Deployment_Guide.html</a>
<i>Cisco Tetration Cluster Upgrade Guide</i>	<a href="https://www.cisco.com/c/en/us/td/docs/security/workload_security/tetration-analytcs/sw/install/b_Tetration_Analytcs_Upgrade_Guide.html">https://www.cisco.com/c/en/us/td/docs/security/workload_security/tetration-analytcs/sw/install/b_Tetration_Analytcs_Upgrade_Guide.html</a>
<i>Latest Threat Data Sources</i>	<a href="https://updates.tetrationcloud.com/">https://updates.tetrationcloud.com/</a>



Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: [www.cisco.com/go/trademarks](http://www.cisco.com/go/trademarks). Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

© 2020 Cisco Systems, Inc. All rights reserved.