



# Illumio Core<sup>®</sup>

Version 22.1.3

## What's New in This Release

June 2022

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## Product Versions

PCE Version: 22.1.1 (Standard release) | Illumio Core Cloud customers only

For the complete list of Illumio Core components compatible with Core 22.1.1-PCE, see the Illumio Support portal (login required).

## Standard versus LTS Releases

22.1.1-PCE is a Standard release. For information on Illumio software support for Standard and LTS releases, see [Versions and Releases](#) on the Illumio Support portal.

## Resources

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## Contents

<b>Chapter 1 Welcome to Illumio Core 22.1</b>	<b>4</b>
About This Release .....	4
Product Versions .....	4
General Advisories .....	5
Announcements .....	5
<b>Chapter 2 What's New and Changed in This Release</b>	<b>7</b>
What's New and Changed in Release 22.1.3 .....	7
Illumio Core 22.1.3 Maintenance Release .....	8
What's New and Changed in Release 22.1.2 .....	8
Illumio Core 22.1.2 Maintenance Release .....	8
What's New and Changed in Release 22.1.1 .....	9
22.1.1 Illumio Core Maintenance Release .....	9
What's New and Changed in Release 22.1.0 .....	9
PCE Platform New Features and Enhancements .....	10
What's New and Changed in the REST API in 22.1 .....	17
New Public Experimental APIs .....	17
Changed Public Stable APIs .....	18
Changed Public Experimental APIs .....	20

## Welcome to Illumio Core 22.1

This chapter contains the following topics:

About This Release .....	4
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Illumio is pleased to announce the general availability of version 22.1 of the Illumio Core for the PCE. This new release contains many improvements and changes as described in this document.

### About This Release

This documentation portal describes the new features, enhancements, platform support, and new and modified REST APIs for the Illumio Core 22.1.x releases.



**IMPORTANT:**

Illumio Core is available for Illumio Core Cloud customers only.

Illumio Core 22.1.3-PCE is not generally available across all Illumio Core Cloud environments.

To locate your Illumio Core Cloud release version, go to the drop-down menu in the top-right bar of PCE web console and view the About Illumio page.

### Product Versions

PCE Version: 22.1.3 (Standard release) | Illumio Core Cloud customers only

For the complete list of Illumio Core components compatible with Core 22.1.3-PCE, see the Illumio Support portal (login required).

## Standard versus LTS Releases

22.1.3-PCE is a Standard release. For information on Illumio software support for Standard and LTS releases, see [Versions and Releases](#) on the Illumio Support portal.

## Release Types and Numbering

Illumio Core release numbering uses the following format: “a.b.c-d”

- “a.b”: Standard or LTS release number, for example “22.1”
- “.c”: Maintenance release number, for example “.0”
- “-d”: Optional descriptor for pre-release versions, for example “preview2”

## General Advisories

The information in this section provides general advisories about important aspects of this release. To ensure proper operation of the system after upgrade, you might need to take account on these advisories.

## Supported Operating Systems

The 22.1.3 PCE is supported on operating systems detailed on the Illumio Support portal.

For information, see [PCE OS Support and Package Dependencies](#).

## Open Source Package Updates

Illumio updated several open source packages for the PCE in this release. See the “Change History” in [Illumio Open Source Licensing Disclosures](#) for information.

## The Upgrade to This Release

As part of the upgrade process, Illumio strongly encourages you to review the prior release notes from your previously installed version of Illumio Core to version 22.1.3.

You have the option to upgrade the VENs in your environment at any time. For information about the upgrade path and tools, go to the Illumio Support portal and review the [VEN Upgrade paths](#) (login required).

## Announcements

End of Support Announcements, Deprecations, Compatibility

## End of Support

Illumio REST API v1

The version 1 of Illumio REST APIs (API v1) is not supported effectively with the 21.1 and later releases. Illumio recommends that you upgrade to API v2.

### Internet Explorer 11

Illumio Core 19.1 was the last release to support Internet Explorer 11. Internet Explorer 11 is no longer supported in Illumio Core 19.2 and later releases. Illumio recommends Chrome, Edge, or Firefox for use with the PCE web console.

### Organization Events

Since the 19.1.0 release, the older form of events, known as “audit or organization events,” is no longer supported or available.

Any versions of the former SIEM Integration Guide that are earlier than version 18.2.1 are valid only for their corresponding versions, not version 18.2.1 or later releases.

Customers should upgrade to the latest version of Illumio Adaptive Security and take advantage of the newly designed auditable events. See the *Events Administration Guide* for information.

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# What's New and Changed in This Release

This chapter contains the following topics:

What's New and Changed in Release 22.1.3 .....	7
What's New and Changed in Release 22.1.2 .....	8
What's New and Changed in Release 22.1.1 .....	9
What's New and Changed in Release 22.1.0 .....	9
What's New and Changed in the REST API in 22.1 .....	17

Before upgrading to Illumio Core 21.5.x, familiarize yourself with the following new and modified features in this release.

The information in this section describes the new and modified features to the PCE, REST API, and PCE web console.

## What's New and Changed in Release 22.1.3

Illumio Core 22.1.3 introduces the following enhancements.



**IMPORTANT:**

Not all Cloud environments are upgraded to this release and specific environments are still running an earlier release. To locate your Cloud release version, go to the drop-down menu in the top-right bar of PCE web console and view the About Illumio page.

## Illumio Core 22.1.3 Maintenance Release

Illumio provides regular maintenance updates for reported bugs and security issues, and to add support for new operating system versions. As a maintenance release, Illumio Core 22.1.3 solved software and security issues to refine the software and improve its reliability and performance.

For the complete list of improvements and enhancements to the PCE and VEN, see “Resolved Issue in 22.1.3” in the [Illumio Core Release Notes 22.1](#).

For more information about the Illumio software release types and software support, see Versions and Compatibility on the Illumio Support portal (login required).

## What's New and Changed in Release 22.1.2

Illumio Core 22.1.2 introduces the following enhancements.

### Illumio Core 22.1.2 Maintenance Release

Illumio provides regular maintenance updates for reported bugs and security issues, and to add support for new operating system versions. As a maintenance release, Illumio Core 22.1.2 solved software and security issues to refine the software and improve its reliability and performance.

For the complete list of improvements and enhancements to the PCE and VEN, see “Resolved Issue in 22.1.2” in the [Illumio Core Release Notes 22.1](#).

For more information about the Illumio software release types and software support, see Versions and Compatibility on the Illumio Support portal (login required).

Additionally, Illumio Core 22.1.2 added a few minor enhancements.

### Explorer Enhancements in This Release

- In Explorer, the **Allow Selected Connections** button provides a tooltip indicating when the rule-writing capability is available. In the previous release, the **Allow Selected Connections** button was grayed out when traffic flows were selected. This is expected behavior because the View and Connections drop-down menus must have the correct settings to enable rule-writing capability in Explorer. However, the widget design could cause confusion. In this release, the Allow Selected Connections button now includes tooltips to explain the requirements to enable the button. For example, the following image shows the tooltip displayed once the correct values are set and the button is enabled:

- In Explorer, you now have the option to refresh Draft policy. In previous releases, customers did not have an easy way to refresh the display of Draft policy in Explorer. To address this issue, Illumio has enhanced the Explorer page by providing a Refresh Draft Policy button.

## Reports Enhancement in This Release

Executive Summary report now includes a 90-day option for the time range. In this release, when you configure an Executive Summary report, you can now choose 90 days as the time range of the report. For information about configuring an Executive Summary report, see [Add a Report](#) in the *Visualization Guide*.

## What's New and Changed in Release 22.1.1

Illumio Core 22.1.1 introduces the following enhancements.

### 22.1.1 Illumio Core Maintenance Release

Illumio provides regular maintenance updates for reported bugs and security issues, and to add support for new operating system versions. As a maintenance release, Illumio Core 22.1.1 solved software and security issues to refine the software and improve its reliability and performance.

For the complete list of improvements and enhancements to the PCE and VEN, see “Resolved Issue in 22.1.1” in the [Illumio Core Release Notes 22.1](#).

For more information about the Illumio software release types and software support, see [Versions and Compatibility](#) on the Illumio Support portal (login required).

## What's New and Changed in Release 22.1.0

Illumio Core 22.1.0 introduces the following new features and enhancements.



**IMPORTANT:**

Illumio Core 22.1.0 was an unreleased version of the Illumio Core software.

Illumio Core Cloud customers will not see this version in their environments; however, the new features and enhancements in this release are available in Illumio Core 22.1.1-PCE.

## PCE Platform New Features and Enhancements

In Illumio Core 22.1.0, Illumio introduced the following new features and enhancements for the PCE platform.

### Rule Writing Available from Explorer

The Explorer feature now includes the ability to create rules from the feature.

In previous release, you used Explorer for visibility into your traffic flows; however, you used a different area (Rulesets and Rules) of the PCE web console to create rules for the traffic flows you viewed in Explorer. In these release, these two tasks are now able to be perform from the same UI location in Explorer.

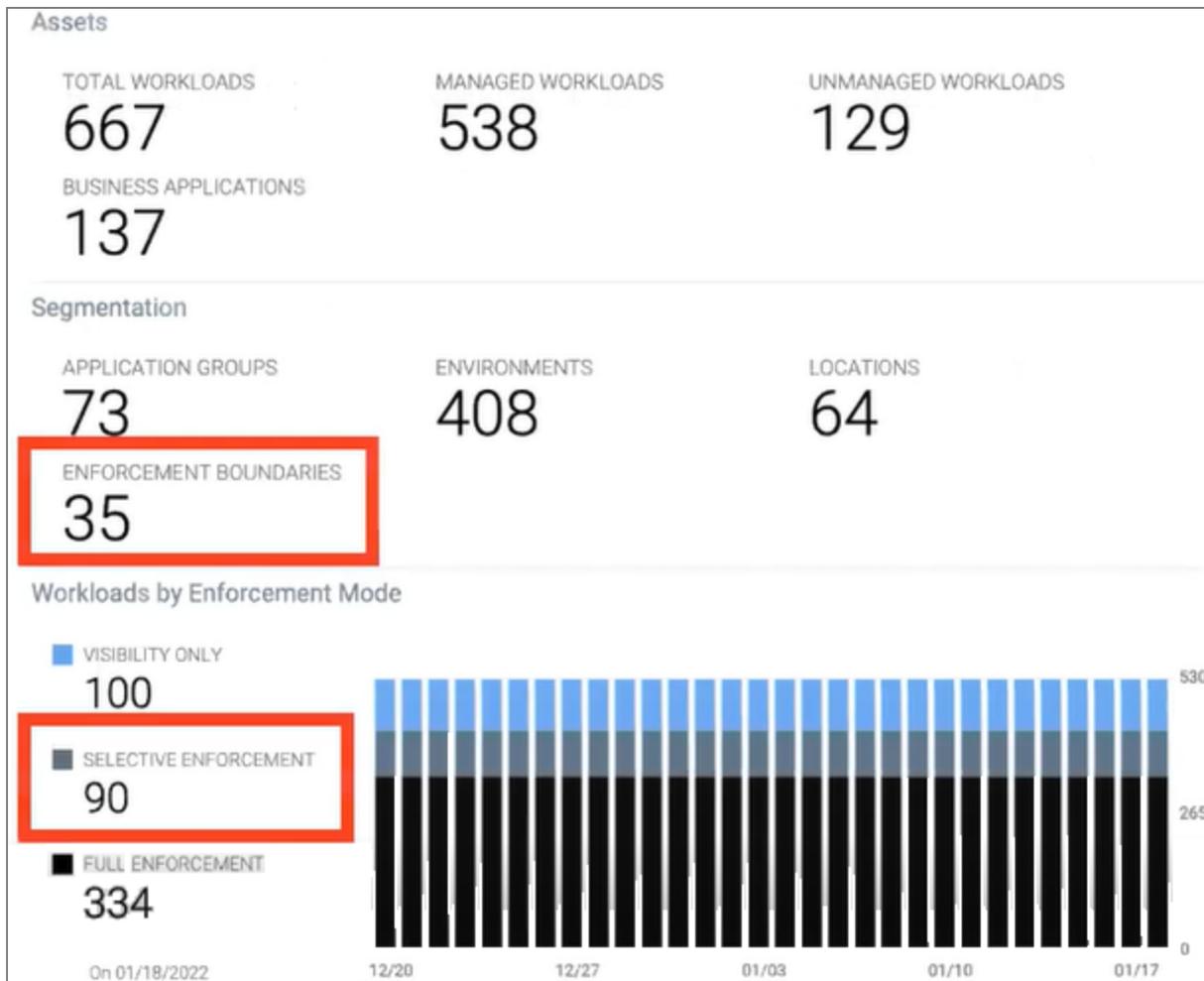
For information, see [Add Rules for Traffic Flows Using Explorer](#) in the *Visualization Guide*.

### Enforcement Boundary Information in Reports

Boundary Reports are now available in the PCE web console Reports page.

In this release, the Executive Summary report and the App Group Summary report now include information about Enforcement Boundaries.

For example, you can see the addition in the following example from an Executive Summary report:



See [Reports](#) in the *Visualization Guide* for more information.

## Explorer Reported View Displays Traffic Blocked by Enforcement Boundaries

The Reported view of Explorer now displays traffic blocked by Enforcement Boundaries.

In previous releases, you could detect that traffic was blocked in Reported view; however, Explorer did not distinguish between traffic that was blocked because of full enforcement or because an Enforcement Boundary was in place. You could distinguish when Enforcement Boundaries were blocking traffic from the Draft view of Explorer and use it for troubleshooting.

In this release, you can view information in Explorer about Enforcement Boundaries and where allowed traffic passes through a boundary:

- In selective enforcement, you can see whether traffic flows are blocked by Enforcement Boundaries.
- In full enforcement, you can see whether traffic flows are blocked by Enforcement Boundaries.
- In visibility only mode, you can see whether traffic flows are potentially blocked by Enforcement Boundaries.

Additionally, you can filter traffic flows that are blocked by Enforcement Boundaries in both Draft and Reported views.



**NOTE:**

The enhancements to Explorer in this release did not change the ability to pinpoint the exact allow rule that is blocked by an Enforcement Boundary. This action is not supported. To view that information, switch to the Draft view of Explorer. In Draft view, you can locate the allow rule blocked by an Enforcement Boundary.

### Updates to Explorer in Reported View

The screenshot shows the Explorer interface with the following details:

- Filters:** Consumers (All Workloads), Providers (All Workloads), Services (Select Included/Excluded Services), Time (Anytime).
- Reported Policy Decision:** A dropdown menu is open, showing 'Potentially Blocked By Boundary' as the selected option.
- View Settings:** Reported View, Label-Based Connections, Timestamp: 02/09/2022, 07:44:34, Format: Table.
- Table:**

Reported Policy Decision	Consumer	Consumer Labels	Consumer Process [User]	Provider	Provider Labels	Provider Port/Process [User]	Flows/Bytes	First Detected	Last Detected
Potentially Blocked by Boundary	1 Consumer IP Visibility Only perf-workload-188	Role2817 App2817 Env2817 Loc2817	60000/udp [root]	1 Provider IP Unicast Visibility Only perf-workload-187	Role2817 App2817 Env2817 Loc2817	60000 UDP 60000/udp [root]	1 Connections 10 Flows 77.5 KB → 78.3 KB ←	01/23/2022 14:07:04	02/01/2022 08:08:08

### Filters in Reported Policy Decision

Based on the new ability to view traffic blocked by Enforcement Boundaries, the Reported Policy Decision drop-down menu now includes the following complete set of options:



## Explorer Usability Enhancements

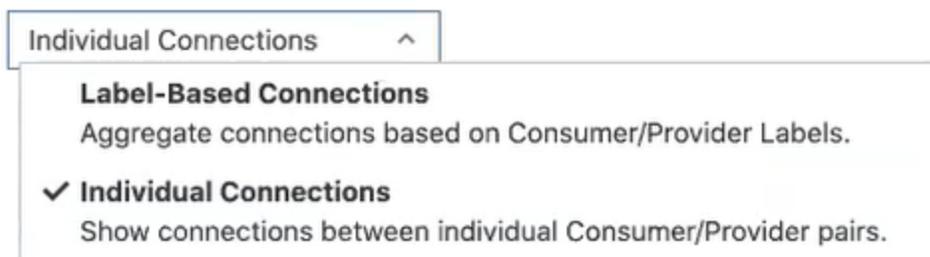
In this release, Illumio has enhanced Explorer in the following key ways:

- Displays the policy mode for the traffic flows; namely, Visibility Only, Selective Enforcement, or Full Enforcement.

Reported Policy Decision	Consumer	Consumer Labels	Consumer Process [User]	Provider	Provider Labels	Provider Port/Process [User]	Flows/Bytes	First Detected	Last Detected
<input type="checkbox"/> Potentially Blocked by Boundary	1 Consumer IP <b>Visibility Only</b> <input type="checkbox"/> perf-workload-188	<ul style="list-style-type: none"> <li>Role2817</li> <li>App2817</li> <li>Env2817</li> <li>Loc2817</li> </ul>	60000/udp [root]	1 Provider IP Unicast <b>Visibility Only</b> <input type="checkbox"/> perf-workload-187	<ul style="list-style-type: none"> <li>Role2817</li> <li>App2817</li> <li>Env2817</li> <li>Loc2817</li> </ul>	60000 UDP 60000/udp [root]	1 Connections 10 Flows 77.5 KB → 78.3 KB ←	01/23/2022 14:07:04	02/01/2022 08:08:08

- Includes an aggregated view of the Consumer and Provider labels for the traffic flows

Using this new feature, you can see a more concise view of your traffic flows in Explorer. For this feature, Explorer contains a new drop-down menu that you use to toggle between the aggregated, more concise view and the regular view to display all traffic flows.




**NOTE:**

The drop-down menu to toggle between label-based and individual connections has replaced the drop-down menu to display the quick response versus the deep rule analysis.

The view for label-based connections displays the draft rules based on the label queries; whereas, the view for individual connections displays the workload-to-workload rules, which can take longer to display the list but can be more accurate. Toggling back to a label-based connections view after displaying the individual connections does not reload the page so that the page displays quickly.

- Displays whether traffic flows have associated service-policy objects.

Reported Policy Decision	Consumer	Consumer Labels	Consumer Process [User]	Provider	Provider Labels	Provider Port/Process [User]	Flows/Bytes	First Detected	Last Detected
<b>Blocked</b>	1 Consumer IP Visibility Only ven1	Web App3289 1 Production Amazon	[root]	1 Provider IP Unicast Selective Enforcement ven2	Web App3289 1 Production Amazon	22 TCP sshd [root] Service - 22 TCP	1 Connections 8 Flows	01/28/2022 10:16:18	02/08/2022 15:43:23

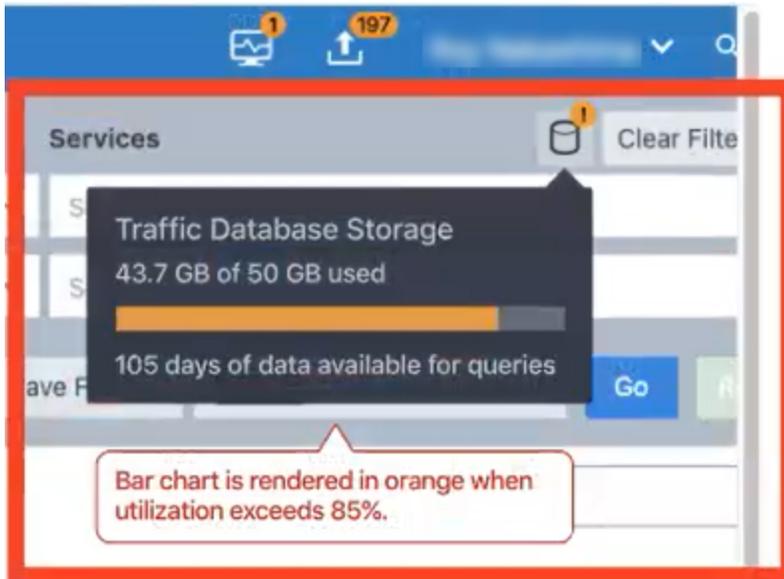
The service-policy object for a matching port and protocol is now visible for each traffic flow. The service-policy object is designated by the service icon.

In previous releases, Explorer did not display the policy services, only port and protocol when you filtered "Include Services" by port and protocol.


**NOTE:**

The feature is only available in the PCE web console UI; and not available through the Illumio REST API or CSV export from async queries.

- The ability to monitor traffic database size and be alerted when you are close to capacity.



Using this feature, you can view the amount of disk space your traffic data is consuming and how much space you have available. The feature also displays how many days of traffic data you can query and how many more days of data you can store. You receive an alert when your disk space is within 15% of your available space.

**NOTE:**

The storage information is based on your customer organization limit and not the overall capacity of the PCE for your Cloud environment.

## Policy and Workload Incremental Usability Improvements

You can now view incremental policy and workload management changes.

## Removal of the Default ICMP Rule

In previous releases, the PCE by default included the following two rules:

- Allow all services outbound rule
- Allow ICMP/ICMPv6 outbound rule

Having the PCE include both rules by default meant that the second rule - allow ICMP/ICMPv6 outbound rule - was redundant with the first rule. Therefore, the PCE no longer creates an allow ICMP/ICMPv6 outbound rule by default.

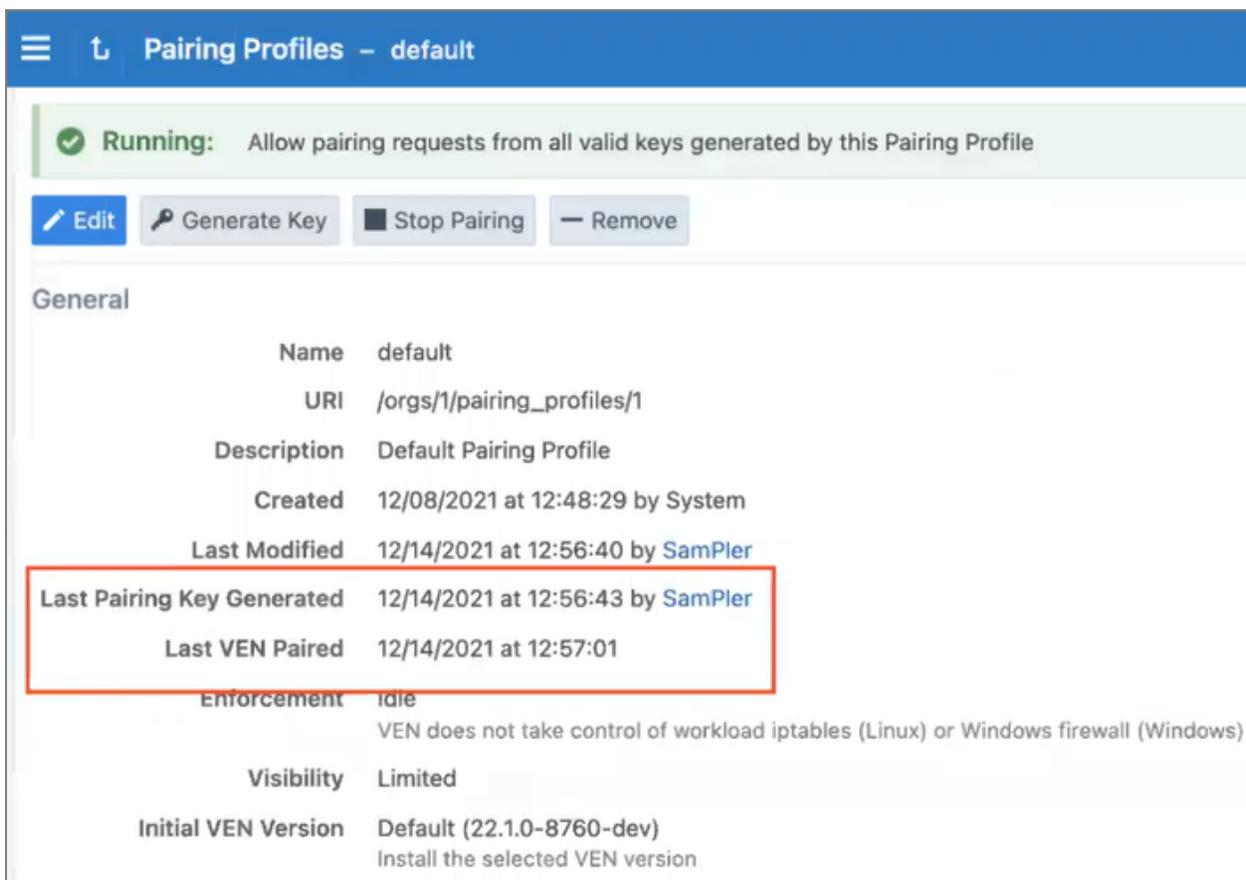


TIP:

You can still manually create an allow ICMP/ICMPv6 outbound rule in the PCE by creating the ICMP service and then creating and applying a rule for that ICMP service. For the steps to perform both these tasks, see [Services](#) and [Rules](#) in the *Security Policy Guide*.

## VEN Pairing Enhancement

In this release, the PCE now provides additional information on VEN pairing and pairing key generation timestamps.



**Pairing Profiles - default**

Running: Allow pairing requests from all valid keys generated by this Pairing Profile

[Edit](#) [Generate Key](#) [Stop Pairing](#) [Remove](#)

**General**

Name	default
URI	/orgs/1/pairing_profiles/1
Description	Default Pairing Profile
Created	12/08/2021 at 12:48:29 by System
Last Modified	12/14/2021 at 12:56:40 by SamPler
Last Pairing Key Generated	12/14/2021 at 12:56:43 by SamPler
Last VEN Paired	12/14/2021 at 12:57:01
Enforcement	Idle VEN does not take control of workload iptables (Linux) or Windows firewall (Windows)
Visibility	Limited
Initial VEN Version	Default (22.1.0-8760-dev) Install the selected VEN version

In previous releases, a VEN pairing with a workload could impact the pairing profile timestamp. Also, other relevant information for a pairing profile wasn't easily visible in the PCE web console UI. In this release, these usability issues are addressed.

## Single Pane of Glass (SPOG) Enhancements

The Single Pane of Glass feature now includes support for Azure Active Directory (only) integration.

In Illumio Core, the PCE now supports endpoints that are joined only to Azure Active Directory (Azure AD). Prior Illumio Core releases required that the endpoints be joined to a local on-premises domain controller.

In this release, the VENs running on Azure AD joined endpoints perform network profile detection to determine whether endpoint interfaces are connected to corporate networks. On endpoints, the VENs report to the PCE and enforce the corporate firewall policies that are created in the PCE. The VENs enforce the policy from the PCE only for the interfaces connected to the corporate network. The existing firewalls on endpoints, such as the Windows Firewall, manage non-corporate or “external” interfaces on endpoints. In this release, you configure the corporate public IP addresses by using the PCE web console.

See the [Single Pane of Glass Segmentation Guide](#) for more information.

## Certificate Validation for SSO Configuration

When configuring single-sign on (SSO) for Illumio Core, the PCE provides certificate validation.

## Signing for SAML Requests

In previous releases, PCE did not sign SAML authN requests. In this release, you can use four new APIs to sign authN requests.

These APIs are covered in detail in the *REST API Developer Guide*. For information, see [Authentication Settings](#).

Signing of SAML requests is, however, disabled by default. To enable this new feature, go to the **Access Management > Authentication** page in the PCE web console. For the procedure to enable the feature, see [Signing for SAML Requests](#) in the *PCE Administration Guide*.

## What's New and Changed in the REST API in 22.1

The Illumio Core REST API v2 has changed in 22.1.0 in the following ways.

See the *REST API Developer Guide* for more information.

## New Public Experimental APIs

### SAML authN Requests

Currently, PCE does not sign SAML authN requests. These new API will provide customers an option to sign authN requests:

- GET `/authentication_settings/saml_configs`: This API gets all SAML configurations where any\_org\_owner is authorized to use it. The response now includes the PCE signing certificates used by IdP for the SAML authN request signature validation.
- GET `/authentication_settings/saml_configs/:uuid`: Gets the specified SAML configuration. The response now includes the PCE signing certificates used by IdP for the SAML authN request signature validation.
- PUT `/authentication_settings/saml_configs/:uuid`: Update the specified SAML configuration. API has been enhanced to enable/disable the signing of a SAML authN request.
- POST `/authentication_settings/saml_configs/:uuid/pce_signing_cert`: Generates a new certificate for signing SAML AuthN requests.

These APIs are covered in detail in the *REST API Developer Guide*. For information, see [Authentication Settings](#).

## Monitoring Traffic Database Size

This API is used to monitor the database size.

- GET `/orgs/:xorg_id/traffic_flows/database_metrics`: Returns the organization database usage metrics. Provides to customers organization-specific insight into current traffic database size (#days, #GB).

The required parameters are:

- `flows_days`: Organization's total number of days of flow data
- `flows_days_limit`: Organization's limit on the total number of days of flow data
- `flows_size_gb`: Organization's limit on the total number of gigabytes of flow data
- `flows_size_gb_limit`: Organization's limit on the total number of gigabytes of flow data

## Changed Public Stable APIs

### Two-factor Authentication

This Public Stable API has changed so that the property `one_time_password` was added to allow for two-factor authentication.

POST `/login_users_authenticate`

```
{
  "properties": {
    "one_time_password": {
```

```
"description": "The time-based one-time password for two-factor authentication.",
  "type": "string"
}
```

## Pairing Profiles

These changed APIs show when for the last time a pairing key was generated for a given pairing profile, and by whom it was generated for audibility. It is exposed both in the pairing profile API and UI.

- GET /api/v2/orgs/:xorg\_id/pairing\_profiles: Shows all pairing profiles
- GET /api/v2/orgs/:xorg\_id/pairing\_profiles/<pairing\_profile\_id>: Shows the specified pairing profile

The required parameters

last\_pairing\_key\_generated\_at and

last\_pairing\_key\_generated\_by have been added to the schema to add the timestamp when the last pairing key was generated and the user who generated the last pairing key.

## Security Policy Events

GET /security\_policy\_ip\_lists

This Public Stable API was changed so that the properties deleted\_at and deleted\_by both now have one more value: null.

```
},
  "deleted_at": {
    "description": "Time stamp when this IP List was deleted",
    "type": [
      "string",
      "null"
    ],
    "format": "date-time"
```

```
},
  "deleted_by": {
    "type": [
      "object",
```

```
    "null"  
  ],  
  "required": [  
    "href"  
  ],  
  "properties": {  
    "href": {  
      "description": "User who deleted this IP List",  
      "type": "string"  
    }  
  }  
}
```

## Traffic Collector APIs

For all Traffic collector APIs, the unicast transmission type was added to the properties.

- GET /settings\_traffic\_collector
- POST /settings\_traffic\_collector
- PUT /settings\_traffic\_collector

The transmission types are now broadcast/multicast/unicast.

## Workloads Changes

- GET /workloads

This Public Stable API was changed so that the new required property `managed` was added.

For the managed workloads, the Boolean property `managed` is TRUE, and for the unmanaged it is FALSE.

## Changed Public Experimental APIs

### Traffic Analysis Queries

These Public Experimental Explorer APIs allow you to search and analyze PCE traffic flows for auditing, reporting, and troubleshooting.

APIs used for the traffic flows search are:

- Asynchronous Queries for Traffic
- Traffic Analysis Queries

All APIs listed below have a new property named `boundary_decisions`:

- POST `/traffic_flows/async_queries`
- POST `/traffic_flows/traffic_analysis_queries`
- POST\_RESPONSE `/traffic_flows_traffic_analysis_queries`

## Traffic Flows Workload Changes

- `traffic_flows_workload.schema.json`

This Public Experimental API was changed so that the new required property `managed` was added.

For the managed workloads, the Boolean property `managed` is `TRUE`, and for the unmanaged it is `FALSE`.

## VENS Changes

- GET `/vens`

This Public Experimental API was changed so that the new required property `managed` was added.

For the managed workloads, the Boolean property `managed` is `TRUE`, and for the unmanaged it is `FALSE`.