



Illumio Core[®]

Version 21.1

Illumio Core Upgrade: Why and How

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Product Version

PCE Version: 21.1 (Standard Release)

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

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

Upgrading Illumio Core: Why and How

Have You Been Missing Out?

Illumio adds new features constantly! We're always busy innovating and improving. If you've had your Illumio software up and running for a while without upgrading, we'd like to encourage you to consider moving to a newer version.

We understand the appeal of stability and the trustworthiness of your current deployment. Your applications are vital to your organization, and stability is crucial. It can seem like a big step to update software that's already working so well. But why not take a few moments to imagine how life could be if you had access to some of Illumio's recent features (not to mention the fixes to known issues and limitations). And if you're thinking the upgrade itself will be complicated, we've included a short summary below of how it's done, so you can see the path ahead.

Best Practice: Pick a Standard or LTS Release

Pick the release type that's right for your organization and maintain N-1 version status.

Standard Release

Standard releases of the PCE and VEN receive limited maintenance for 1 year. For customers who want to take advantage of the latest features as soon as they are available, and can commit to upgrading to the next release for bug fixes and security updates. Remember, you don't have to upgrade your VENs to use most new PCE features. Check [Versions and Compatibility](#) on the Illumio Support site.

Long Term Support (LTS) Release LTS

Long Term Support releases of the PCE and VEN receive active maintenance for 1 year and limited maintenance for another 2 years. For customers who wish to upgrade less frequently and stay on a version of the PCE or VEN with active maintenance support.

Features You've Been Missing

Here are just *some* of the things our tireless teams have engineered, tested, and sent out into the world, maybe while you weren't looking, to increase the capabilities of Illumio Core and keep your essential systems even safer.

21.1.0 PCE (Standard)

March 2021. Works with VEN 17.1.x - 21.1.0 (Standard)

- **LDAP authentication:** PCE supports LDAP authentication for users with OpenLDAP and Active Directory.
- **Label restrictions for Kubernetes namespaces:** Illumio administrators have a way to control which labels can be assigned by the developers managing their Kubernetes environments.
- **PCE hardening:** PCE now takes additional steps to ensure its own security.
- **VEN proxy support on Linux, AIX, and Solaris:** Extends VEN proxy support from Windows systems to Linux, AIX, and Solaris devices.
- **Aggressive tampering protection for nftables:** Provides support for nftables that runs on RedHat. Detection of external firewall configurations are called aggressive tampering and the VEN will log such errors. Now, the VEN can detect any configuration that is not explicitly configured on the VEN.

20.2.0 PCE (Standard)

October 2020. Works with VEN 17.1.x - 20.2.0 (Standard)

- **Selective enforcement:** Set enforcement policy to protect only a subset of applications or processes on a workload.
- **Access restrictions:** Restrict the usage of API keys and the PCE web interface by IP address and block API requests coming in from non-allowed IP addresses.
- **Multi-node traffic database:** Scale traffic data by sharding it across multiple PCE data nodes to store more data and improve read and write performance.
- **Centralized, automated VEN upgrade.**

20.1.0 PCE (Standard)

April 2020. Works with VEN 17.1.x - 20.1.0 (Standard)

- **RBAC for app owners:** Delegate policy writing to downstream teams; read-only access; per-app read/write. Think of this as zero-trust views into Illumination.
- **Reject connections:** Configure workloads to send reject messages if there is a policy violation.
- **Flow collection:** Windows broadcast traffic can clog up the system. Configure the PCE to drop or aggregate it.

19.3.3 PCE – 19.3.5 PCE (LTS)

September 2020 – January 2021. Works with VEN 17.1.x - 19.3.5 **LTS**

Regular maintenance releases that solved software and security issues to refine the software and improve its reliability and performance.

19.3.2 PCE (LTS) **LTS**

July 2020. Works with VEN 17.1.x - 19.3.2 **LTS**

- **Health Metrics:** Application metrics with configurable thresholds have been added to PCE health monitoring.
- **Workload clone alerts:** Filter workloads by whether a clone has been detected.
- Oracle Exadata support.
- Containers now available in Supercluster member regions.

19.3.1 PCE (Standard)

March 2020. Works with VEN 17.1.x - 19.3.1 **LTS**

- **Containers** are now supported with visibility and enforcement for **Kubernetes** and **OpenShift**.
- **UI:** The App Group map is enhanced; in Explorer, the Connection State and draft view are improved.

19.1.0 PCE (Standard)

June 2019. Works with VEN 17.1.x - VEN 19.1.0 (Standard)

- **Switch visibility and enforcement with Network Enforcement Node:** Secure workloads that are attached to network switches.
- **Use Rule Search** to search and analyze rules, so you can fine-tune them and optimize enforcement.
- **Internal PCE log file rotation:** To increase the amount of log data, customize the rotation of PCE log files.
- **Export reports** in JSON and CSV to share the information with anyone who doesn't have access to the PCE.
- **Workload Manager:** A new user role to manage workloads, pairing profiles, and API keys.

18.3.1 PCE (Standard)

March 2019. Works with VEN 17.1.x - VEN 18.3.1 (Standard)

- **Internal syslog:** You no longer need to manage the syslog and log rotation.
- **Policy revert:** Return to previous version if a policy rollout is unsuccessful.
- Session timeout can be set by organization owner to control timeout on user sessions.
- Firewall coexistence between Illumio firewall and existing firewalls that use WFP or IPTables (requires upgrade to VEN 18.3.1)

18.2.5 PCE (LTS) LTS

September 2019. Works with VEN 17.1.x - VEN 18.2.5 (Standard)

- **Common Criteria** certified.
- Risk & Compliance capability.
- **Vulnerability Maps:** tune your segmentation to reduce the exposure of unpatched workloads
- Events storage: Improved use of capacity in the events database.

18.1.1 PCE (Standard)

May 2018. Works with VEN 17.1.x - VEN 18.1.1 (Standard)

- **FIPs certified** IPsec.
- **PCE Health** dashboard.

17.3.0 PCE (Standard)

2018. Works with VEN 17.1.x - VEN 17.3.0 (Standard)

- **Stateless** rules.
- Network-based container configuration.

How to Upgrade the Illumio PCE

This is a quick summary. For full instructions, see the PCE Installation Guide for the version you are upgrading to.

Starting with Illumio Core 19.3.0, the PCE is shipped in two parts:

- PCE - Policy Compute Engine. This is the main processing engine.
- UI - Browser-based console.

Quick Summary

Before you begin, choose the PCE version you want to upgrade to. Check the [Upgrade Path](#) page to see whether you can upgrade directly from your current version in one step, or whether you need to upgrade to another intermediate version first. Then start the upgrade:

- Download the software, check [upgrade prerequisites](#), and do a few additional [preparation steps](#).
- Back up the PCE and stop it.
- Install the software.
- You might need to update the PCE's runtime environment file, depending on your currently installed version.
- Migrate the PCE database.

The upgrade is done! Set the PCE's runlevel to 5 to resume normal operations.

Steps

1. Download the two software packages (PCE and UI) from the [Illumio Support](#) portal to the /tmp folder on your PCE nodes. The UI package is only needed on core nodes, not data nodes.
2. Back up the PCE with these commands:
 - a. Find the node that is running `agent_traffic_redis_server`:

```
$ sudo -u ilo-pce illumio-pce-ctl cluster-status
```

- b. On the node that is running `agent_traffic_redis_server`:

```
$ sudo -u ilo-pce illumio-pce-db-management dump --file db-dump-file
```

- c. Store a copy of each node's `runtime_env.yml` file.

3. Stop the PCE on all nodes:

```
$ sudo -u ilo-pce illumio-pce-ctl stop --wait
```

4. On core nodes, install the UI and PCE. Specify both RPM files on the command line:

```
$ rpm -Uvh illumio_pce_rpm illumio_ui_rpm
```

5. On data nodes, install the PCE only:

```
$ rpm -Uvh illumio_pce_rpm
```

6. Check the [Release Notes](#) for all versions after the one you are upgrading from to see whether any of the changes require updates to `runtime_env.yml`. If so, update the file on all nodes, then check it:

```
$ sudo -u ilo-pce illumio-pce-ctl check-env
```

7. Start the PCE on all nodes:

```
$ sudo -u ilo-pce illumio-pce-ctl start --runlevel 1
```

8. Migrate the database (you can run this on any node):

```
$ sudo -u ilo-pce illumio-pce-db-management migrate
```

9. After database migration is complete, bring the PCE back up to its normal operational level:

```
$ sudo -u ilo-pce illumio-pce-ctl set-runlevel 5
```

10. VEN software can also be upgraded now. Go on to the next section to find out how.

How to Upgrade the Illumio VEN

This is a quick summary. For full instructions, see the [VEN Installation Guide](#) for the version you are upgrading to.

After you upgrade the PCE, earlier versions of the VEN will still work, but some of the newer PCE features only work with newer VENs (consult the Release Notes to find out exactly which ones). And, of course, each VEN version includes new features and fixed issues. If you want to upgrade your VEN software, follow these steps.

1. Download the software from the [Illumio Support](#) portal.
2. Run this command on any PCE core node:

(If you want to upgrade just some of the VENs, you can list them instead of using the `--all` flag. See the [VEN Installation and Upgrade Guide](#).)

```
$ sudo -u ilo-pce illumio-pce-ctl ven-upgrade venReleaseId --all
```

Congratulations – you have upgraded your PCE cluster and VENs to a newer version. Start enjoying the improved UI, better role-based access control, containerization, and other new capabilities of the upgraded PCE and VEN.

If you have questions, don't hesitate to reach out to your Customer Success Advisor. We will be happy to provide guidance.