FAQs

What is the Illumio Adaptive Security Platform (ASP)^{TM}?

Illumio ASP is a software system that secures any computing platform (bare-metal servers, virtual machines, and containers) in any environment (enterprise data center, private cloud, public cloud – like Amazon Web Services, Google Compute Engine, Microsoft Azure, OpenStack, – or hybrid cloud) without any dependency on the underlying network.

It does this by providing:

- Live visibility of applications, their components, and traffic flows across all environments, including private data centers and public and hybrid clouds
- Adaptive segmentation that continuously adjusts to changes in the application environment to keep segmentation enforcement intact
- On-demand, policy-driven encryption of data in motion between workloads

Illumio ASP understands all the ports, processes, and connections among an application's workloads and their interrelationships, and uses this information to compute and enforce accurate security. Illumio ASP adapts to computing environment changes, the movement of workloads across data centers and clouds, and IP address changes. It also adapts to application and infrastructure changes and prevents the lateral spread of attacks.

Illumio ASP User Segmentation capabilities can control the communications between desktops and applications running in the data center.

How is Illumio ASP different from existing security solutions?

Illumio ASP enforces security policies for workloads running in any bare-metal server, virtual machine, or containerized host without any dependencies on the underlying network (VLANs, subnets, zones, physical or software defined, etc.), hypervisor, or environment (data centers and private, public, or hybrid clouds). Illumio does not simply automate or repurpose existing security capabilities, it applies security in a unique and innovative way.

Illumio ASP enables IT to write policies in natural language based on the Role, Application, Environment, and Location of the workload. These policies are then translated into granular security rules, without the need to specify IP addresses, subnets, VLANs, or zones. The security policies can be applied at the beginning of the application life cycle by integrating with configuration management and orchestration tools such as Chef, Puppet, Ansible, and ElasticBox—or they can be applied to an existing environment.

What is a workload?

A workload equates to a discrete operating system instance. It can run on a bare-metal server, in a virtual machine, on a containerized host, or in a cloud environment.

What is Illumio's product?

The Illumio Adaptive Security Platform (ASP)^{TM} secures dynamic data centers, providing a compelling solution that dramatically enhances security and compliance, while increasing business velocity and operations.

What does Illumio mean by “workload context”?

Workload context includes system properties (operating system, IP address, ports, running processes, etc.), relationships and dependencies to other workloads within the application and beyond, and the ecosystem (location, application details, life cycle, environment, etc.). The context of a workload changes as the application that the workload is a part of moves, changes, and scales up or down.

Why does security need to be “adaptive”?

Without adaptive security, businesses are slowed down due to the overwhelming number of firewall rules, manual changes required to policies, and the possibility of errors leading to outages or serious vulnerabilities and breaches. Adaptive security automatically accounts for moves, scale, and changes to applications and infrastructure that are typical of modern data centers.

Illumio ASP is a software solution built around the specific and accurate context of the workload and application. Illumio listens to and understands the services and active network connections that are running on a workload.

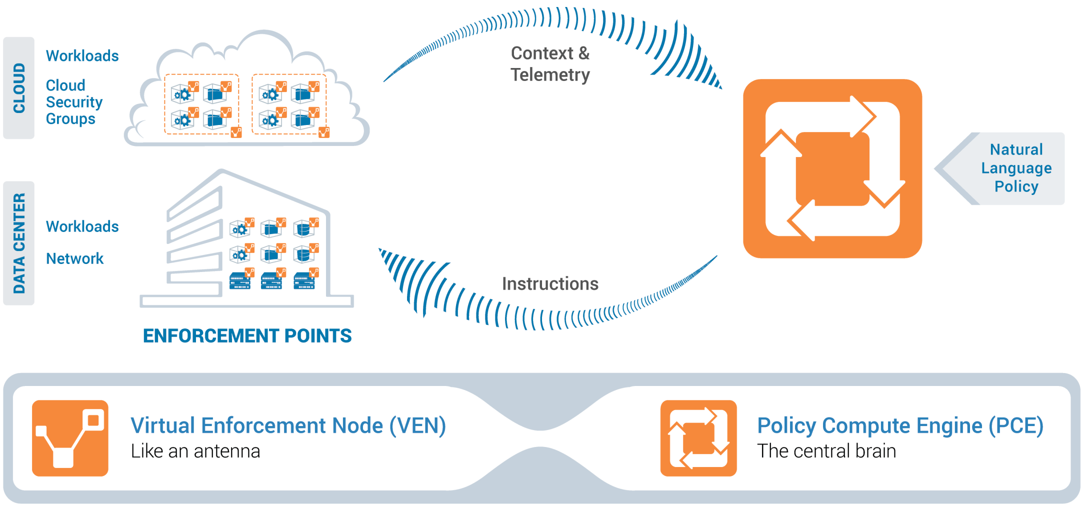
Illumio ASP constantly computes workload relationships and adapts to any changes in context. Administrators specify the desired interactions between workloads using natural-language terms. Then, Illumio ASP computes and enforces the precise security for each workload in the application by combining workload context with the defined policies. As workload context changes (moves, scale up, scale down, IP address changes, etc.), Illumio ASP computes and distributes the incremental policy changes to the impacted workloads.

What are the core components of Illumio ASP?

There are two main components to Illumio ASP:

- The **Policy Compute Engine (PCE)** is the central point of visibility and policy that is deployed on premises or available as a SaaS service hosted by Illumio. The PCE continually collects and aggregates workload context (IP addresses, services, ports, traffic flows) from all VENs across application environments and uses it to build and display the live Illumination application map. The PCE translates declarative, natural-language policy into instructions used to program pre-existing firewalls on the workloads, Access Control Lists (ACLs) in data center switches, or cloud security groups in cloud services for enforcement – eliminating the need for administrators to use network constructs, such as IP addresses or VLANs, in the creation of adaptive segmentation policy. The PCE adapts to changes across the application environment by updating the Illumination view and automatically recalculating policy to ensure consistent and continuous protection.
- The **Virtual Enforcement Node (VEN)** is a lightweight agent deployed in a workload (a.k.a. operating system) or on a networking device. The operating system (e.g., Linux, Windows) could be running on bare-metal servers, virtual machines on any hypervisor, or container platforms in a private data center or any public cloud. The VEN is in continuous contact with the Illumio PCE to provide up-to-date workload context across the application environment. The VEN receives up-to-date instructions from the PCE to program the pre-existing local firewall on the workloads (iptables or Windows Filtering Platform), or ACLs in

data center switches to enforce the adaptive segmentation policy at every enforcement point in or across private data centers or the cloud.



Illumio offers three core services to protect applications inside and across the data center and cloud environments:

- Visibility with Illumination providing a live Application Dependency Map across environments that shows workloads, applications, and traffic flows to quickly see how applications communicate and identify violations. In addition to being an important cybersecurity tool, Illumination is a tightly integrated component of the Illumio ASP workflow used to discover applications, build better, more efficient policies without breaking applications and confirm enforcement of policy.
- Enforcement of Illumio adaptive segmentation is designed to apply the exact level of protection needed to the environment, application, or workload by providing a range of segmentation granularity options applied in the workload, network, or through cloud security controls. With Illumio, you can segment large environments like production and development with a single rule, micro-segment a specific critical high-value application, and even define granular policy for control down to the process level – all without changes to applications or the network.
- Encryption of data in motion with SecureConnect for on-demand, policy-driven encryption between workloads without the headaches of manual configuration or expensive, complex hardware solutions. With one click of a button in the Illumio management console, IPsec tunnels between any two workloads can be instantly instantiated wherever they are running in private data centers, public cloud or hybrid environments.

Read our data sheet »

Does Illumio work with my existing security solutions (firewall, IPS/IDS, etc.)?

Yes. Illumio ASP works alongside existing firewall and network security solutions. No changes to the network technology or topology are required to integrate Illumio ASP into a data center or cloud environment.

Is there any dependency on specific hardware or software infrastructure?

No. Illumio ASP secures a broad range of operating systems on bare-metal servers, virtualized servers, or containerized hosts in private data centers or private, public, or hybrid clouds. Read our data sheet for details on supported platforms.

Does Illumio ASP change server or VM configuration?

No. Illumio ASP does not require any changes to standard OS or VM configurations.

Is the VEN installed inside the hypervisor or as a VM?

The VEN resides in the guest OS. Both Linux and Windows workloads are supported. See this video for more details on the VEN.

How secure is this solution?

Illumio ASP performs enforcement using the native capabilities within the host operating system – iptables in Linux servers and the Windows Filtering Platform in Windows servers. If the Illumio VEN is tampered with, an alert is sent to the PCE. The PCE will attempt to reestablish control of the VEN. If attempts to reestablish control of the VEN are unsuccessful, the PCE can update security rules to instruct all other workloads in the environment to shun the workload in question.

What visibility is provided by Illumination?

Illumination enables administrators to visualize communications within and between applications in data centers and clouds. With Illumination you will gain live visibility into the layer-4 connections between workloads, including details about the flows – source, destination IPs, port protocol, and process names.

What do you mean by "natural-language" policy?

Illumio ASP allows administrators to assign four dimensional labels to workloads to identify their Role, Application, Environment, and Location. These labels can then be used to apply security policies to specific parts of the application environment. The Illumio PCE converts these label-based policies into rules that can be applied to the OS level firewall of the workload..

Why is label-based policy better than my traditional policy?

Once you define a label-based policy, the PCE dynamically computes the appropriate rules for each workload in the environment. The PCE also dynamically re-computes a policy when new workloads are added to or removed from an environment or when workload IP addresses change. This enables the freedom and flexibility to design security policies without relying on networking details that may change. This also helps to drastically reduce the complexity of rules, the number of rules created, and the number of rules managed.

What types of enforcement do you support?

Illumio ASP is built on a whitelist enforcement model where only connections that are explicitly defined by policy are accepted and allowed. All other connections are inherently blocked. Policy can be defined at various levels of granularity including environment, application, and port/process level allowing for the right level of policy to be defined and applied for the use case. With this model policy might protect an environment like development by controlling the connections into and out of that environment but allowing all workloads in development to communicate.

Will my workload traffic be blocked as soon as I install the VEN?

No. The VEN can be installed in a mode that allows you to gain live visibility of the application environment without having to enforce any rules. You can use this option to model/build policy and move to enforcement after you are confident of the results.

How do I deploy Illumio ASP? How long does it take?

The Illumio ASP is available in three deployment types:

- Illumio ASP Cloud: Illumio hosts and manages the PCE infrastructure used to provide Illumio ASP services.
- Illumio ASP On Premises:
    - PCE Virtual Appliance: Illumio ASP is deployed as a virtual appliance in the customer's data center.
    - PCE Software: Illumio ASP is deployed as software on the servers in the customer's data center.

Workloads in the customer data center, or in any cloud environment, are secured by installing the VEN software agent on the workload and establishing a connection to the PCE. Most customers are up and running in hours.

What are the key benefits of using Illumio ASP?

Illumio key benefits include:

- Eliminating blind spots inside data centers and the cloud, and regaining control of your application environment.
- Protecting the 80 percent of data center and cloud traffic that is invisible to perimeter firewalls.
- Immediately detecting unauthorized activity and stopping breaches in their tracks.
- Eliminating service delivery delays and deploying applications with security in hours versus days to weeks.
- Decreasing the number of firewall rules inside the data center by over 95 percent.
- Making your investments in security detection solutions more effective by reducing investigations of unauthorized communications.
- A single solution to protect your applications running in bare-metal, virtualized, or containerized environments on premises, in the cloud, or across hybrid cloud deployments.

Read more at: www.illumio.com

How are customers using Illumio?

Organizations are using Illumio ASP to stop cyber threats, improve understanding of risk, and simplify security operations for applications in and across data center and cloud environments. Below are the seven primary ways organizations are improving security and IT efficiencies with Illumio.

- Application Micro-Segmentation to secure your most valuable applications and data in hours versus days or weeks – within or across any data center or public cloud. Read More
- Environmental Segmentation to address challenges of separating and securing environments without impact or dependencies on the network or underlying infrastructure. Read More
- User Segmentation to dynamically enforce user connectivity to applications so users can only see the applications they're authorized to access. Read More
- Nano-Segmentation to create and enforce adaptive segmentation policy tied to a specific process for the ability to secure dynamic applications without compromising functionality or protection. Read More
- Map Application Dependencies to visualize relationships across your application environment to better understand risk and improve adaptive segmentation policy creation. Read More
- Secure A New Data Center with the ability to bypass the restrictions, complexity, and expense of legacy segmentation solutions with adaptive segmentation that meets your requirements for security and agility. Read More
- Securely Move To Public Cloud by creating adaptive segmentation policy that moves with your applications to any data center or cloud infrastructure. Read More

What is User Segmentation?

User Segmentation builds on Illumio's earlier capabilities of workload- and process-level segmentation to control which data center applications a user can see and connect to. It extends VEN coverage to include Windows 7 workloads and creates new user-based policies within the PCE.

What are the benefits of User Segmentation?

Organizations are worried about the "inside man" problem where a laptop can connect to a range of unauthorized servers/applications in a data center or public cloud.

For example, a company that has its VDI implementation located in its data centers would like to control what a user can connect to, thereby limiting the ability of a bad actor to steal credentials or leverage weak passwords to gain access to sensitive applications and data.

Why would I need User Segmentation?

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Why is User Segmentation better than conventional approaches?

Traditionally, there are limited ways to stop unauthorized access to servers and applications since a user’s IP addresses can change. Many VDI deployments are stateless (meaning that a VDI instance is set up, torn down, and changed between users). Introducing network segmentation to solve the problem can be extremely difficult.

Illumio ASP ties the PCE into Microsoft Active Directory to determine a user’s entitlements. The VEN then checks user identity at login and downloads the permitted whitelist connections to the VEN. This with this information policy is enforced using the native capabilities within the Windows OS.

How is Illumio ASP sold?

Illumio is offered as an annual subscription.

Who uses Illumio ASP?

Our customers span organization of all sizes, verticals, and geographies. This includes nine of the largest 15 financial institutions in the US, and four of the top seven global Software-as-a-Service companies. Our customers include the likes of Morgan Stanley, Salesforce, NetSuite, Plantronics, NTT, Creative Artists Agency, King Entertainment and Oak Hill Advisors.

How do I get a demo of and purchase Illumio ASP?

Contact Illumio Sales at sales@illumio.com.