

VMware NSX Distributed IDS/IPS

AT A GLANCE

VMware NSX® Distributed IDS/IPS™ provides security operators with a software-based IDS/IPS solution that enables them to achieve regulatory compliance, create virtual zones and detect lateral movement of threats on east-west traffic.

KEY BENEFITS

- Elastic throughput – Eliminate hardware bottlenecks with inspection capacity that scales automatically with each workload.
- Simplified network architecture – Avoid the need to hair-pin traffic to centralized appliances, and reduce network congestion with a fully distributed architecture.
- Reduce false positives – Enjoy more zero false positive workloads with curated rule sets and higher fidelity signature matches based on the precise application context.
- Improve capacity utilization – Reuse existing stranded compute capacity, eliminating the need for dedicated appliances.

The growing need for east-west threat detection

With the rise of distributed applications and microservices, internal network traffic now dominates traditional north-south traffic. At the same time, the data center boundary has diffused with edge and cloud applications as well as with end-user devices. Modern-day attackers noticed these changes and learned to move laterally, aggressively, from their initial point of attack. As a result, inspecting internal east-west (server-to-server) traffic with an advanced threat detection capability is increasingly critical to securing workloads and enterprise data.

Distributed IDS/IPS breaks traditional security trade-offs

The VMware Service-defined Firewall¹ provides the only purpose-built internal firewall that secures east-west traffic. It virtualizes and distributes the entire security stack to every workload and delivers a rich set of firewalling capabilities, including layer 4 access controls and stateful layer 7 network controls. The Service-defined Firewall's capabilities now include an intrusion detection system and intrusion prevention system (IDS/IPS).

IDS/IPS have long been standard capabilities of the network security stack. However, cost and operational complexity have restricted their use to specific network segments, at the enterprise perimeter to public networks or at the boundaries of regulatory compliance zones.

VMware NSX Distributed IDS/IPS offers a fundamentally new architecture that breaks this traditional trade-off between breadth of security coverage and operational complexity. It embraces an all-software distributed approach, moving traffic inspection out to every workload and eliminating the need to hair-pin traffic to discrete appliances. The operational simplicity of deploying and managing IDS/IPS functionality at each workload ensures comprehensive coverage without any blind spots.

Product overview

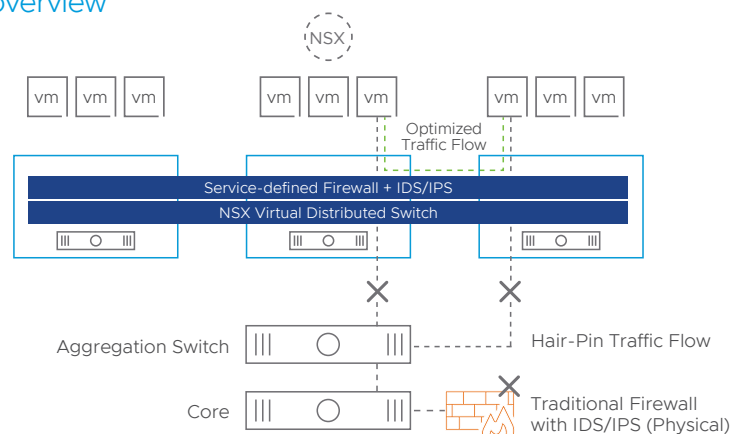


FIGURE 1: NSX Distributed IDS/IPS eliminates traffic hair-pins.

1. VMware Service-defined Firewall was renamed as NSX Distributed Firewall in 2021.

USE CASES



Easily achieve regulatory compliance – Turn on traffic inspection for sensitive applications by deploying software without needing to buy expensive appliances.



Virtualize security zones – Create and customize multiple virtual security zones for internal teams and partners without requiring physical separation of the network.



Replace discrete appliances – Leverage IDS/IPS capabilities native to NSX to replace traditional IDS/IPS appliances, reducing cost and complexity.



Detect lateral movement of threats – Inspect east-west traffic at each workload using signature-based techniques, anomaly-based detection and protocol conformance checks.

LEARN MORE

For more information about NSX Distributed IDS/IPS, reach out to your VMware sales representative or check out the following resources:

- Delve into technical details of the NSX Distributed IDS/IPS: vmware.com/go/ids-ips-whitepaper
- Read about the VMware Service-defined Firewall: vmware.com/security/internal-firewall
- Visit the NSX Data Center page: vmware.com/products/nsx
- Learn about automated policy discovery with NSX Intelligence™: vmware.com/products/nsx-intelligence

NSX Distributed IDS/IPS is an application-aware traffic inspection engine purpose built for analyzing internal east-west traffic and detecting lateral threat movements. The engine runs within the hypervisor to optimize packet inspection. NSX Distributed IDS/IPS combines industry-leading signature sets, protocol decoders and anomaly detection-based mechanisms to hunt for known and unknown attacks in the traffic flow. It also benefits from rich application context, driving lower false positive rates while incurring minimal computational overhead on the host.

Key capabilities



Distributed analysis

The IDS/IPS engine is distributed out to each workload, eliminating blind spots while maintaining a simple operational model. The inspection capacity scales linearly with the number of workloads, eliminating the throughput constraints typically experienced with discrete appliances.



Curated, context-based signature distribution

The management plane enables only the relevant threat signatures for evaluation at each workload based on knowledge of the running applications. This reduces computational overhead on the host and results in higher fidelity matches with lower false positive rates.



Application context-driven threat detection

The IDS/IPS engine has definitive knowledge of applications running on each host, eliminating guesswork regarding the source or target application context. This knowledge allows for better alert classification and operator ability to prioritize alerts for further investigation.



Policy and state mobility

When workloads move, the policies and the state move with the workload. Workloads are automatically secured at their new location without manual configuration or dropped flows.



Automated policy lifecycle management

The NSX policy model enables the automatic creation of security policies for new workloads and the tear down of old policies when workloads are decommissioned. Security policies remain consistent with deployed workloads, preventing the accumulation of stale policies, a common challenge with traditional network security appliances.

Extending intrinsic security

NSX Distributed IDS/IPS extends the Service-defined Firewall's intrinsic security approach by adding new threat detection capabilities. It embraces the Service-defined Firewall's foundational principles of building security into the infrastructure fabric and distributing it out to every workload, making security ubiquitous and easy. NSX Distributed IDS/IPS benefits from the unique application context from the hypervisor and network virtualization layers to make threat detection more accurate, efficient and dynamic.