

VMware vRealize Network Insight

KEY BENEFITS

- Accelerate micro-segmentation planning and deployment
- Audit changes to the security posture and ensure compliance
- Troubleshoot quickly across virtual and physical network and security infrastructure
- Manage and scale VMware NSX® deployments with confidence
- Manage network and security across private and public clouds consistently

LEARN MORE ABOUT vREALIZE NETWORK INSIGHT

- [Read the datasheet](#)
- [Take it for a test-drive](#)
- [Watch the video overview](#)

WATCH USE CASE OVERVIEW VIDEOS

- [Plan security](#)
- [360-degree visibility](#)
- [NSX operations](#)

VMware vRealize® Network Insight™ delivers intelligent operations for software-defined networking and security. It helps customers build an optimized, highly available, and secure network infrastructure across multi-cloud environments. It accelerates micro-segmentation planning and deployment, enables visibility across virtual and physical networks, and provides operational views to manage and scale VMware NSX deployments.

This document provides a step-by-step guide focused on the key capabilities and benefits gained throughout a typical one- to two-week deployment.

Solving the virtual and physical network puzzle

When it comes to managing, troubleshooting, and securing the network, many network administrators face a puzzling, and frustrating, visibility gap across the virtual and physical network. vRealize Network Insight can help you with the following use cases.

Plan application security and migration:

- Accelerate micro-segmentation deployment
- Troubleshoot security for the software-defined data center (SDDC), native AWS, and hybrid applications
- Minimize business risk during application migration

Optimize and troubleshoot virtual and physical networks:

- Reduce mean time to resolution for application connectivity issues
- Optimize application performance by eliminating network bottlenecks
- Audit network and security changes over time

Manage and scale NSX:

- Scale across multiple NSX Managers
- Boost uptime by proactively detecting misconfiguration errors
- Ensure compliance for NSX



End-to-end troubleshooting



Best practices



Security with micro-segmentation



Network health and performance



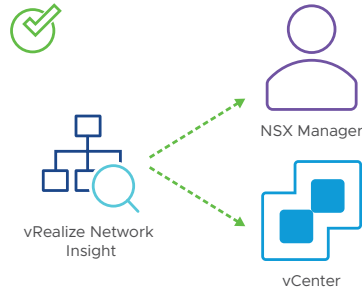
360-degree visibility and analytics



Compliance

Phase 1: Enable infrastructure components access and define networks

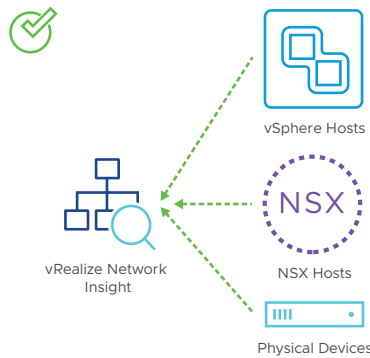
Step 1: Connect vRealize Network Insight to vCenter and NSX Manager™



Key benefits

- Gain visibility into all VMware vCenter® objects and performance metrics
- Discover all NSX security groups, firewall rules, virtual networks, and infrastructure components

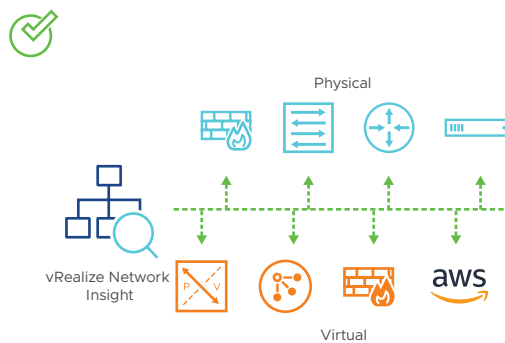
Step 2: Enable IPFIX (NetFlow) on devices



Key benefits

- Gain visibility into all intra- and inter-host traffic for firewall policy planning (micro-segmentation) and flow monitoring
- Extend visibility into application flows that include bare-metal servers and devices supporting NetFlow versions 5, 7, and 9, and IPFIX
- Analyze flows that are blocked, protected, and unprotected by the NSX Distributed Firewall

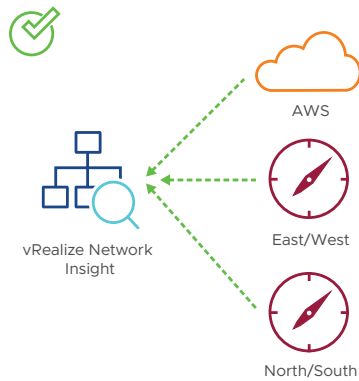
Step 3: Add network and security data sources (read only: SSH/SNMP/HTTPS)



Key benefits

- Collect configuration and performance data from physical and virtual network devices; vRealize Network Insight stitches together this information for a single, end-to-end view of your data center
- Get support for physical devices (firewalls, switches, routers, servers) and virtual devices (VMware vSphere®, NSX Controller™, NSX Edge™ gateway, partner firewall vendors)
- Gain support for VMware Cloud™ on AWS, AWS, and VMware® Enterprise PKS

Step 4: Define network segment ranges

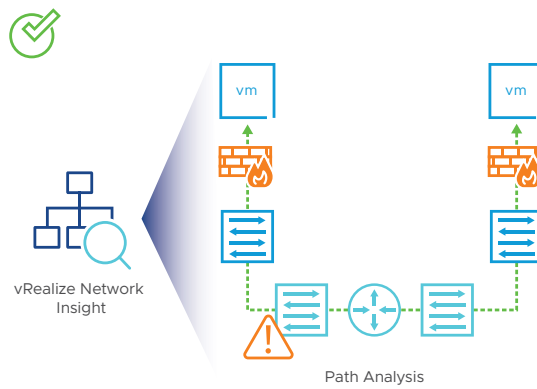


Key benefits

- Specify data center public IPs as non-Internet IPs while tagging flows and micro-segmentation
- Get a more accurate view of true North-South and East-West traffic for security planning and flow visualization
- Add in VMware Cloud on AWS and AWS security groups, subnets, virtual machines (VMs), and flows

Phase 2: Verify connectivity and plan security

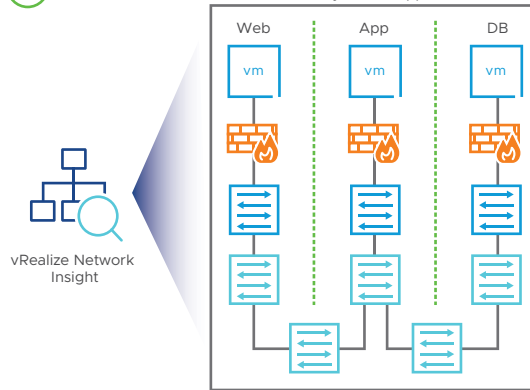
Step 1: Perform path analysis



Key benefits

- Test app-to-app connectivity with easy-to-use, Google-like searches to verify all virtual and physical network devices were discovered and are being managed
- Get a dynamic topology map based on application flow to easily pinpoint networking and security issues
- Save any of the searches for customizable alerts
- Troubleshoot VM-to-VM connectivity for VMs on premises, on VMware Cloud on AWS, on AWS, or across multiple clouds

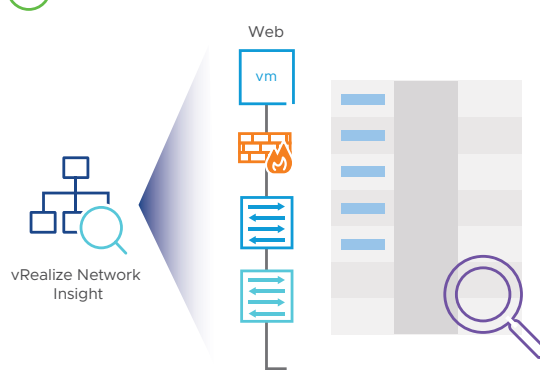
Step 2: Create application groups



Key benefits

- Plan security and migration, and troubleshoot connectivity in an application-centric manner by pulling in application definitions from ServiceNow or using regular expressions for app-tier VM names
- Use applications that are purely on-premises, public, or hybrid
- Perform custom alerts and/or pin boards that can easily be shared and searched against; if any component of the application group has issues, vRealize Network Insight will be aware and update the topology map and/or alert as configured

Step 3: Review recommended micro-segmentation firewall rules



Key benefits

- Since Day 0, vRealize Network Insight has been analyzing all East-West and North-South flows in the data center. As a result, a very precise firewall micro-segmentation allowlist policy is developed for review and export to NSX Manager.
- vRealize Network Insight recommended firewall groups and rules are based on actual traffic flows observed.
- AWS security group rules can also be determined using AWS flow data.

Source	Destination	Port	Protocol	Action
Internet	SG-Web	443 [HTTP]S	TCP	Allow

Phase 3: Perform a best practice check, and implement data center timeline and alerting

Step 1: Perform an NSX best practice check

NSX distributed Firewall default rule allows all traffic

The distributed firewall is configured to allow all traffic by default, which increases the potential attack surface of the network

Severity: Warning
 Manager: 192.168.13.82
 Defined By: System
 Event Tags: Best Practices, NSX Firewall
 Firewall: NSX Firewall
 Firewall Rule: Default Rule
 Recommendation: Configure the default firewall rule to block all traffic.

Key benefits

- Get an easy-to-read summary of NSX related issues and alerts against dozens of VMware's networking and security best practices
- Easily remediate identified issues with provided recommendations
- Automatically detect configuration errors in mismatch segment ID, IPset definitions, and so on

Step 2: Implement a network and security data center timeline

Timeline

Time Range: 1 week

Show Changes

October 2015

12:54

Sat 3

Managers

Network Port Resources

Storage

Audi VM

VM 437

VM 502

Key benefits

- The network and security timeline provides the ability to look at the configured state of the data center at a particular time in the past and a bird's-eye view of events that were detected across a selected time range.
- From the time range option, you can select the time range of the timeline that you want to view.
- A small gray horizontal bar denotes an event, and a small red horizontal bar denotes a problem.

Step 3: Set up custom alerting events and severity levels



Key benefits

- In addition to pre-defined system-level events, user-defined events enable custom-alerting capabilities by using any of the vRealize Network Insight searches as an event type. Users can define specific application, device, security, or network alerts based on their monitoring needs.
- The event is triggered when search results change or when no results are returned. If the event is marked as a problem, a severity designation will be associated.
- Events may also be created and monitored for AWS entities such as EC2 instances, VPC, security groups, and tags.

Step 4: Use pins to custom define a dashboard



Key benefits

- Every pane within vRealize Network Insight is available to be added to custom pin boards for easy access to network, security, and device information.
- A pin board can be defined for a specific critical application where a single dashboard can provide end-to-end connectivity, device metrics, problem alerts, and so on.
- Application owners, NOC users, and SOC users gain visibility with read-only access via a secure URL.