EVALUATION GUIDE

IP Address Manager
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Purpose of the Document

We’re glad you’ve decided to evaluate SolarWinds® IP Address Manager (IPAM) for your network monitoring needs. You can download the free trial here. The trial version is a fully-featured version of the product, functional for 30 days. After the evaluation period, you can easily convert your evaluation license to a production license by obtaining and applying a license key.

This document will get you started with IP Address Manager and help you explore how IPAM’s features can work in your environment and the associated benefits. It will guide you through setting up IP Address Manager in your environment, and provide an overview of key features and functionalities.

To get a peek at a live install of IPAM (and other SolarWinds products) without introducing it to your environment, take a look at our live demo.

If at any time you would require further information or troubleshooting, do not hesitate to contact sales@solarwinds.com or visit our Success Center, making sure to check out the Getting Started Guide.

Why Invest in an IPAM Solution?

Poor IP address management can affect network performance and be a significant time sink for network administrators. Common symptoms indicating that you might need to consider a (new) IP address management tool are:

» Managing IP addresses using spreadsheets has become too time consuming and unreliable
 » You’re spending too much effort and time to monitor, troubleshoot, and fix IP-related problems
 » Managing DHCP, DNS, and IP addresses in silos takes too much time and limits visibility
 » You’re tired of using separate specialized administrative tools to manage DHCP and DNS servers
 » You need to be able to delegate IP administration tasks
 » You want centralized management and monitoring of both your cloud and on-premises IP address spaces
**IPAM KEY FEATURES** | **BENEFITS**
---|---
Automated IPv4 and IPv6 Address Scanning | IPAM is designed so you can easily set up scheduled, automatic scanning for both your IPv4 and IPv6 address space. This can reduce manual errors and help ensure that your network’s IP address information is always up to date.

Integrated IP, DHCP, and DNS Management | Admins can quickly find available addresses and easily configure them on DHCP and DNS systems.

Multi-Vendor DHCP and DNS Services | Admins can save time by managing Microsoft®, Cisco®, and ISC open source DHCP servers, as well as your BIND and Microsoft DNS servers, from a single management console.

Cloud DNS Monitoring | Be able to monitor both your Amazon Web Services™ (AWS) Route 53™, and Azure® DNS zones and records from a centralized console. This can enable the immediate troubleshooting of broken or missing DNS records in hybrid environments.

Infoblox® Monitoring | IP Address Manager can monitor your Infoblox DHCP and DNS resources, allowing you to view all subnets, DNS zones, and DHCP scopes in one place. Be able to surface DNS mismatches and IP address conflicts on the main dashboard.

IP Request Wizard | Gain the ability to automatically make reservations or enable users to request IP addresses utilizing the built-in IP request wizard to help speed up the deployment of devices.

vRO Integration | Automate IP address provisioning and update DNS records to help remove error-prone manual workflows. Automating these tasks can help enable virtual environments to scale dynamically.

API Support | IPAM can offer API support with CRUD (create, read, update, delete) operations to help enable two-way integration with third-party software, including automation, orchestration, inventory.

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“**The Excel sheets we were using were getting bulky and it was constantly not being updated when a project went up or down. With IPAM, it more or less takes care of itself. Even if a project goes up unexpectedly, I know that the IPAM will still capture the information we need.**”

— Network Administrator, Medium Enterprise Construction Company

“**IPAM has reduced IP conflicts to point that they rarely occur.**”

— Network Engineer, State & Local Government

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1 Source: TechValidate. TVID: 106-629-07F (Published: Sep, 2015)
2 Source: TechValidate. TVID: CFB-04E-9FC (Published: Sep, 2015)
Evaluation Guide

INSTALL AND CONFIGURE

To install SolarWinds IPAM, please follow the SolarWinds Orion Installer instructions. You should also review the IPAM system requirements overview to help ensure you have the right environment prepared for your IPAM install.

ADD IP ADDRESSES AND DHCP AND DNS SERVERS TO IPAM

After a successful installation, you can now log into the Orion Web Console.

You now have multiple ways to add IP addresses to IPAM. The easiest way is to run Network Discovery to help discover existing subnets and IP addresses.

The Network Sonar wizard guides you through the process: adding an Active Directory® Domain Controller, adding SNMP or WMI community strings or credentials, selecting scheduling options, and running the discovery.

After the Network Sonar wizard discovers your network, the Network Sonar Results wizard opens, enabling you to import network elements into the SolarWinds Orion database. Discovered elements do not count against your license count; only elements that you import into the Orion database count against your license.

“SolarWinds IP Address Manager is extremely easy to setup and use. It gives a useful snapshot of the IP address state.”
— John Barber, a Senior Network Engineer at Gloucestershire Hospitals NHS Foundation Trust

Source: TechValidate. TVID: 717-29E-06F (Published: May, 2015)
When you manually run discovery, by default, the system automatically selects all network elements to be monitored. You must clear the check boxes for elements you do not want monitored.

You can also manually import IP addresses and subnets to IPAM.

Now you're ready to add DHCP and DNS servers to IPAM.

**ORION WEB CONSOLE**

If this is your first time reviewing a SolarWinds product, this section will help you get familiar with the Orion Web Console, its features, and navigation.

The following terms will help as you explore SolarWinds IP Address Manager (IPAM):

- **Orion Web Console:** The web interface you see when you log on to the Orion Platform that’s used to view, configure, and manage all of your monitored objects. You can access the Orion Web Console from any computer connected to the internet.

- **View:** An individual page in the web console.

- **Resource:** The widgets or informational blocks that make up a view.

- **Element:** Anything that can be monitored by the Orion Platform.
The top menu, common to all SolarWinds products running on the Orion Platform, presents the starting point to drill deep into SolarWinds products. The tab My Dashboards ➔ IP Addresses contains various views to explore IP Address Manager (IPAM); all of them are customizable and you can create your own. To begin with, we recommend highlighting the following:

» **IPAM Summary** – An overview of IPAM data in a single pane of glass
» **Manage Subnets & IP Addresses** – Central point to handle IP addresses and subnets
» **DHCP & DNS Management** – Overview and tools for managing DHCP, DNS zones, and DNS servers
» **Admin** – Assign roles and permissions to view and edit subnets to specific users

Other menu items we would like to highlight for first evaluation are:

» **Alerts & Activity ➔ Alerts** – Starting area for managing and creating alerts, with hundreds of out-of-the-box alerts available for you to try
» **Reports ➔ All reports** – Manage and schedule your reports

**MANAGING IP ADDRESSES AND SUBNETS**

IP address management begins with a clear understanding of what address blocks and addresses are available for use. Not having accessible and reliable IP address data can create blind spots in IP address management. If an issue arises and you have no information on who changed what, troubleshooting can become unnecessarily time consuming. When dealing with an issue, ready access to reliable IP address data can help save time and effort.

Manual IP documentation is time-intensive, especially when your documentation has not been updated. Outdated documentation and obsolete data can lead to project delays and network errors. Moreover, duplicate IP addresses can cause IP conflicts, which can result in connectivity issues and network downtime.

You can use IPAM to efficiently manage your IP subnets and address blocks without spending time and effort building and maintaining IP documentation. Gain the ability to:

» Automate subnet discovery, and scan inventory IP subnets and address blocks
» Search IP blocks for addresses and statuses, including user device details
» Manage IPv6 address blocks
» View IP address changes from the event log
» Detect IP conflicts
» Scan the network to automatically discover subnets
Your main resource will be **My Dashboards > IP Address Manager > Manage Subnets & IP Addresses**.

![Manage Subnets & IP Addresses](image)

**IP Request Wizard**

Admins want to be able to quickly add devices to the network, enabling services to be delivered to customers. A common bottleneck in this process is waiting for a static IP reservation. The IP request wizard can solve this problem by automating IP address requests from users to help save time and enhance network reliability. It is built so those with the necessary permission to select the subnet on which they want their IP addresses, and then IPAM can automatically reserve them. It can also give restricted users a quick and dependable way to send requests to their administrator. In addition, SolarWinds® IPAM can offer automated reporting to track IP requests for compliance or change management purposes.

Your main resource will be **My Dashboards > IP Addresses > Request IP Address**.

» The IP address request wizard allows you to complete an IP reservation in three easy steps.

![IP Address Request](image)

Check out this quick video explaining the wizard in further detail.
Learn More:
Automatic Subnet Discovery Wizard
IP Address Details View
Searching for IP Addresses
IPv6 Monitoring

SIMPLIFIED IP CONFLICT DETECTION AND TROUBLESHOOTING

» IPAM can help to quickly detect IP conflicts. Integrating it with SolarWinds User Device Tracker (UDT), while optional, can help minimize disruptions to critical network services and applications. The advanced integration feature of IPAM and UDT, called SolarWinds IP Control Bundle (IPCB), allows you to quickly respond to alerts on IP conflicts and other IP-related issues.

» Employ troubleshooting strategies with real-time IP address information.

» IPCB is designed to help you resolve network issues caused by IP conflicts in two simple steps:
  - View the IP Address Conflicts resource to see alerts on IP conflicts and comprehensive information on the IP address in conflict.
  - Click on the IP address to obtain further details, which can help you analyze the conflict and determine a resolution. You can also use the view to remotely shut down the switch port and remove the offending device from the network.
DHCP AND DNS MANAGEMENT

A common challenge that admins can face when managing DHCP/DNS services is the potential for too many DHCP and DNS servers to update and manage. This can make it difficult to maintain alignment between IP address documentation and DHCP and DNS settings. With no visibility into DHCP scopes running out of lease addresses, admins can find themselves without proper provisioning. This lack of relevant and timely information can lead to DHCP and DNS servers being unable to handle peak loads. As the network grows, the number of DHCP/DNS servers also grows, which can result in DHCP and DNS sprawl that requires time and skill to manage.

You can use IPAM to:

» Create and manage DHCP scopes, split scopes, DNS zones, and records
» Configure advanced DHCP settings
» Automate detection of DNS forward, and reverse record mismatches and creation of DNS/PTR records when registering new devices into DNS zones
» Find and reclaim unused reserved DHCP addresses, rather than expand a DHCP scope

Your main resource will be My Dashboards > IP Addresses > DHCP & DNS Management
Enhanced Microsoft DHCP Failover Support

IP Address Manager can monitor and manage your DHCP failover relationships (load balancing and hot standby configurations) within IPAM to help ensure continuous availability of DHCP service to clients. Key features include:

» IPAM can provide detailed information on failover relationships via a pop-up

» IPAM is built to consolidate cluster details into a single pop-up, whereas a Windows Server® only displays failover details one scope at a time
With IPAM, you can configure all failover relationships on a server on a single screen, whereas in Windows Server you can only configure one failover relationship one scope at a time (see the following link for more info on configuration within Windows Server).

Cloud DNS Monitoring

Be able to quickly verify if DNS records are the root cause of application failures in the cloud with IPAM. The process of migrating DNS records to the cloud can lead to broken or missing DNS records. IPAM can help alleviate this pain point by centrally monitoring Amazon Route 53 and Azure DNS services, which can enable quick record verification.

Your main resource for Cloud DNS Monitoring will be My Dashboards >> Cloud

DNS zones from multiple cloud accounts from both services can be displayed in a centralized view.
IPAM’s interface is searchable, and can be filtered based on record type.

Learn More:
Setup and monitor Windows DHCP server failover using SolarWinds IPAM
DHCP Management
DNS Management

THIRD-PARTY INTEGRATION

Integration with VMware vRO
IPAM can integrate with VMware vRealize Orchestrator (vRO) through a vRO plug-in. This extended functionality helps enable automated IP addresses provisioning and DNS record management.

Automating these processes can remove the need for manual IP address management workflows in virtual environments. This in turn can help eliminate handoffs between admin teams, which can be time consuming and error prone. These virtual environments can scale dynamically with compute, storage, and now network addresses provisioned automatically.

IPAM Integration with VMware vRealize Orchestrator Highlights:

» vRealize Orchestrator plug-in is designed to be easy to install for complete integration with SolarWinds IPAM

» The plug-in contains over a dozen workflows and actions you can leverage to script or seamlessly integrate with vRealize Automation and vCenter Server®.
IPAM can also add centralized monitoring and reporting of virtual environments and offers these benefits:

» Get help avoiding depleted IP address subnets or scopes by receiving high utilization alerts or by tracking utilization data to capacity plan. Tracking this data can help you project the point at which IP address pools in your virtual environment are likely to be depleted of their addresses.

» Utilize IPAM’s customizable out-of-the-box templates so you can achieve fast, flexible, and centralized reporting of your IP address space

Learn more about automating IP address management for virtual environments

API Support
You can manage IPv4 and IPv6 IP addresses in IPAM via API using Windows® PowerShell® and the Orion SDK or OrionSDK for Python. This can enable two-way integration with third-party software, including automation, orchestration, inventory management, and help desk systems.

The IPAM-specific API fields are documented on the IPAM API wiki page in the Orion SDK.

You can perform these supported operations:

» Get the first available IP address for a specified subnet

» Change IP node status

» Start, finish, and cancel an IP address reservation

» Create a new subnet

» Add a DNS ‘A’ record for an IP address
» Change a DNS ‘A’ record for an IP address
» Remove a DNS ‘A’ record for an IP address
» Add an ‘A’ record with an associated PTR for a zone
» Add PTR to a DNS ‘A’ record
» Create an IP address reservation on a DHCP server
» Remove an IP address reservation from a DHCP server
» Get an ‘A’ record and PTR records for a DNS zone
» Create a custom property
» Update a custom property
» Reorder a custom property
» Delete a custom property
» CRUD operations for subnets
» CRUD operations for IP addresses

Learn More:
SWISS API to perform IPAM operations

ACTIVE ALERTING AND MONITORING

It’s difficult to know where or how IP addresses are being used if you don’t have alerting and monitoring features in place. IP data can help admins make informed decisions. Without it, admins may not be aware of conflicts until users report connectivity issues. The frequency of IP duplication is higher in manual IP management because there is no means to know when IP resources are low, which can lead to a higher probability of network issues.

You can use IPAM to:

» Monitor and alert when there is an IP conflict in the network
» Monitor and alert when DHCP scopes exceed utilization thresholds
» Automatically detect DNS forward and reverse mismatches
» View real-time status of IP address availability and IP address details
» View event history to determine if an IP address has recently changed
» Perform active IP address conflict detection
Monitoring

Your main resource for monitoring will be My Dashboards > IP Addresses > IPAM Summary

The IPAM summary page is built to provide a single plane of glass for monitoring subnets, DHCP scopes, IP address conflicts, DNS records mismatches, and more.

Alerting

IPAM is designed to offer many predefined alerts for common problems, such as IP address conflicts or high subnet usage.

By default, alerts appear in the Active Alerts resource on the Orion Platform homepage.

To see all alerts, you can click the All Active Alerts button in the Active Alerts resource, or you can go to Alerts and Activities ➔ Alerts. On this page, you can:

» Click on any alert to go to the Alert Details page for more information

» Click Manage Alerts to enable/disable, add or edit any alert

Source: TechValidate. TVID: 8D8-04A-1A9 (Published: May, 2015)
COLLABORATIVE IP MANAGEMENT

IPAM allows each team to manage their own subnets, address blocks, and DHCP and DNS services without impacting each other. Role-based administration can help streamline user delegation and reduce downtime due to human errors.

You can use IPAM to:

» Grant varying privilege levels and custom roles for enhanced control and security

» Create and edit role definitions down to the subnet level to restrict user access

» Define user access roles per subnet, group, or supernet

To add or edit user roles or permissions go to Settings ➔ All Settings ➔ IPAM Settings ➔ Manage Roles and Permissions

Learn More:

User Role Delegation

IPAM Licensing

IPAM is licensed in accordance with the number of IP addresses you manage in one of three statuses: Used, Reserved, and Transient. Unused and available IPs do not count towards managed IP count. IPAM licensing works in the same way for both IPv4 and IPv6.

The following licensing tiers of IPAM are currently available:

<table>
<thead>
<tr>
<th>LICENSE</th>
<th>MANAGED IP ADDRESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPAM IP1000</td>
<td>Up to 1024</td>
</tr>
<tr>
<td>IPAM IP4000</td>
<td>Up to 4096</td>
</tr>
<tr>
<td>IPAM IP16000</td>
<td>Up to 16384</td>
</tr>
<tr>
<td>IPAM IPX</td>
<td>Unlimited</td>
</tr>
</tbody>
</table>
Ready to Buy?

Generate a quote online—easy and fast!

On our Contact Us page, you can find a listing of toll-free numbers for a number of countries, as well as a web form to contact our sales team. We will be more than happy to answer any of your questions.

For direct technical support with installation, configuration, setup, operation, or other product-related issues, you can Submit a Ticket via our Customer Portal (even without a SolarWinds Customer ID).

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Additional Resources

Getting Started Guide  
Release notes – latest, historical

Administrator’s guide  
IPAM Success Center
About SolarWinds

SolarWinds (NYSE:SWI) provides powerful and affordable IT management software to customers worldwide, from Fortune 500 enterprises to small businesses, managed service providers (MSPs), government agencies, and educational institutions. We are committed to focusing exclusively on IT, MSP, and DevOps professionals, and strive to eliminate the complexity that our customers have been forced to accept from traditional enterprise software vendors. Regardless of where the IT asset or user sits, SolarWinds delivers products that are easy to find, buy, use, maintain, and scale while providing the power to address key areas of the infrastructure from on-premises to the cloud. This focus and commitment to excellence in end-to-end hybrid IT performance management has established SolarWinds as the worldwide leader in both network management software and MSP solutions, and is driving similar growth across the full spectrum of IT management software. Our solutions are rooted in our deep connection to our user base, which interacts in our THWACK online community to solve problems, share technology and best practices, and directly participate in our product development process. Learn more today at www.solarwinds.com.