SolarWinds Toolset
Quick Start Guide

About SolarWinds

SolarWinds, Inc develops and markets an array of network management, monitoring, and discovery tools to meet the diverse requirements of today's network management and consulting professionals. SolarWinds products continue to set benchmarks for quality and performance and have positioned the company as the leader in network management and discovery technology. The SolarWinds customer base includes over 45 percent of the Fortune 500 and customers from over 90 countries. Our global business partner distributor network exceeds 100 distributors and resellers.

Contacting SolarWinds

You can contact SolarWinds in a number of ways, including the following:

Team	Contact Information
Sales	1.866.530.8100 www.solarwinds.com
Technical Support	www.solarwinds.com/support
User Forums	www.thwack.com

Conventions

The documentation uses consistent conventions to help you identify items throughout the printed and online library.

Convention	Specifying
Bold	Window items, including buttons and fields.
Italics	Book and CD titles, variable names, new terms
Fixed font	File and directory names, commands and code examples, text typed by you
Straight brackets, as in [*value*]	Optional command parameters
Curly braces, as in {*value*}	Required command parameters
Logical OR, as in *value1|value2*	Exclusive command parameters where only one of the options can be specified

<u>Toolset Documentation Library</u>

The following documents are included in the SolarWinds Toolset documentation library:

Document	Purpose
Administrator Guide	Provides detailed setup, configuration, and conceptual information.
Quick Start Guide	Provides installation, setup, and common scenarios for which Toolset provides a simple, yet powerful, solution.
Release Notes	Provides late-breaking information, known issues, and updates. The latest Release Notes can be found at www.solarwinds.com.

<u>Contents</u>

Chapter 1

Introduction

SolarWinds Toolsets contain desktop applications ranging from configuration management, bandwidth and network performance monitoring to discovery and fault management. The size and complexity of your network will determine which Toolset solution that best meets your needs.

Editions

The Toolset comes in different editions that include different tools. The following table provides an easily scanned breakdown of editions and the tools included in each.

Tool	Standard Edition	Engineer's Edition
Advanced CPU Load		X
Advanced Subnet Calculator	X	X
Bandwidth Gauges	X	X
CPU Gauges		X
Compare Configs		X
Config Editor/Viewer		X
Config Uploader		X
Config Downloader		X
DHCP Scope Monitor		X
DNS Audit		X
DNS Analyzer		X
DNS/WhoIs Resolver	X	X
Edit Dictionaries		X
Enhanced PING	X	X
IP Address Management		X

Tool	Standard Edition	Engineer's Edition
IP Network Browser Standard	X	
IP Network Browser Professional		X
MAC Address Discovery		X
MIB Browser		X
MIB Updates System Fields		X
MIB Walk		X
MIB Viewer		X
NetFlow Configurator	X	X
NetFlow Realtime		X
Network Monitor		X
Network Performance Monitor		X
Network Sonar		X
PING	X	X
PING Sweep	X	X
Proxy PING		X
Port Scanner		X
Realtime Interface Monitor		X
Remote TCP Reset		X
Router CPU Load	X	X
Router Password Decryption		X
SNMP Brute Force Attack		X
SNMP Dictionary Attack		X
SNMP Graph		X
SNMP Sweep		X

Tool	Standard Edition	Engineer's Edition
SNMP Trap Editor		X
SNMP Trap Receiver		X
Spam Blacklist		X
Subnet List	X	X
Switch Port Mapper		X
Syslog Server		X
TFTP Server	X	X
Trace Route	X	X
Wake-on LAN	X	X
WAN Killer		X
Watch It!	X	X

Benefits of SolarWinds Toolset

Consider some of the following benefits of SolarWinds Toolset:

Advanced Troubleshooting

Toolset enables deep troubleshooting capabilities that go far beyond basic up/down status monitoring or network statistics.

Broad Functionality

Toolset provides a rich set of applications to address virtually every network engineering challenge from configuration management, network discovery/mapping and fault management to bandwidth and network performance monitoring.

Ease-of-Use

While Toolset provides comparable functionality, cost and maintenance of your Toolset installation is less than the initial cost of most other solutions.

Scalable

Toolset is friendly enough for even the smallest networks but powerful enough to manage the largest, most complex multi-vendor networks.

Key Features of SolarWinds Toolset

Considering the previously mentioned benefits of Toolset, coupled with the following features, Toolset is a simple choice to make:

Performance Monitoring

Network performance monitoring is a critical component of a complete network management toolset. With SolarWinds Toolset you receive several tools that provide the ability to monitor everything from the traffic on a single port to the response time and availability of every server in your network. Several tools also provide graphical reporting and trending capabilities.

IP Address Management

Management of IP addresses is complex task. With the current rate of growth of many companies it is often difficult to eliminate errors much less go back and clean up addresses on decommissioned equipment. The IP address management tools from SolarWinds were designed with speed and ease of use in mind.

MIB Browsing

Using the MIB browser tools, you can view MIB values a number of different ways; you can browse through different MIB values on a device, display all MIB values, or find just one specific value. With more than 400,000 MIBs in the SolarWinds MIB database, you can view virtually any statistic stored on your network devices.

Diagnostic Tools

SolarWinds Toolset includes several diagnostic tools to evaluate network problems. You can analyze your DNS settings, graph response times, trace TCP/IP routes, PING devices from a remote router, and more.

Network Discovery

The network discovery tools were some of the first tools developed by SolarWinds. The majority of the discovery tools use SNMP protocol to collect information on the devices in the network. You can discover something as specific as a reverse DNS error to an entire enterprise of thousands of networks.

Chapter 2

Installing Toolset

Toolset provides a simple, wizard-driven installation process. For an enterprise-class product, the requirements are rather nominal.

Requirements

The following table provides the minimal requirements for a Toolset installation:

Software/Hardware	Requirements
Operating System	One of the following 32-bit operating systems is required: • Windows XP Pro SP2 or later • Windows Vista Business and Ultimate editions (IPv4 only) • Windows 2003 SP1 and later • Windows 2000 Server SP4 or later Note: 64-bit operating systems are currently unsupported.
CPU Speed	500 MHz or faster
Memory	128 MB or greater
Hard Drive Space	640 MB or more
Windows Account	Install requires an account with administrator privileges
Network	Must be accessible from the computer on which the Toolset is installed to successfully use any network tools
.Net Framework	Version 2 or later
Database	Syslog Server, used to capture and decode syslog messages sent from network devices, can support any of the following databases: • SQL 2000 Sp4 MSDE, Standard, or Enterprise • SQL 2005 Express, Standard, or Enterprise

Note: Microsoft Vista has implemented a layer of security (user account control (UAC)) that ensures hostile programs cannot run unnoticed with administrator privileges. When reinstalling Toolset or running Toolset applications, you may be prompted for administrator credentials, or you may be prompted to allow the application access to the computer. This is expected behavior.

Installing Toolset

Installing Toolset is very simple. Before beginning the setup program, ensure your computer meets or exceeds the requirements to run Toolset. For more information, see "Requirements" on page 5.

To install Toolset:

1. Log on to the computer on which you want to install Toolset with an administrator account.

2. *If you downloaded the product from the SolarWinds website,* navigate to your download location and launch the executable. The setup program has either an exe or msi extension.

3. *If you received physical media,* navigate the autorun and launch the setup program.

4. Review the Welcome text, and then click **Next**.

5. Accept the license agreement on the License Agreement window, and then click **Next**. If you do not agree to the license agreement, click **Cancel** to exit the setup program.

6. Specify the appropriate information on the Customer Information window, and then click **Next**. On this window, you can select whether the Toolset is installed to the currently logged on user account profile or made available to any user account with access to this computer.

7. Browse to a file system folder where you want to install the Toolset program files, and then click **Next**. The default location is
   \Program Files\SolarWinds.

8. Click **Install** on the Ready to Install the Program window. Before you click install on this window, nothing has been modified on your computer. If you want to change anything you designated before this window, click **Back**.

9. Review the Setup Status window as Toolset installs.

10. Click **Finish** on the Wizard Completed window.

11. Provide the appropriate information on the Install Software License Key window, and then click **Continue**. You need a customer ID and password to successfully install the key. For more information, see "Software License Key" on page 7.

Software License Key

After installing the program, the Toolset setup program displays the licensing window. Complete the following procedure to enable a software license key.

To license your product:

1. *If the computer on which you are installing Toolset NPM is connected to the Internet,* complete the following procedure:

    a. Enter the required information on the Install Software License Key window.

    b. Click **Continue**. The SolarWinds license registration server issues a license key allowing Toolset to operate.

2. *If the computer on which you are installing Toolset is not connected to the Internet,* your system can not be authenticated by the SolarWinds license registration server. Complete the following procedure:

    a. Click **Skip This and Enter Software License Key Now** on the Install Software License Key window.

    b. Using another computer that is connected to the Internet, log in to the customer area of the SolarWinds website at www.solarwinds.com/keys.

    c. Click **Software Keys** from the Customer Area menu.

    d. Select the product for which you need a key, and follow the instructions on the page to obtain a key.

3. Click **Continue** to complete your software license key installation.

Upgrading Toolset

To upgrade to the current version of SolarWinds Toolset, find the upgrade path that matches your implementation in the following list:

- Upgrade Toolset from Engineer's Toolset version 8 to Engineer's Toolset version 9.1 can be done in place -- no manual uninstall required and no data lost.

- Upgrade Toolset from Standard Toolset version 8 to Standard Toolset version 9.1 can be done in place -- no manual uninstall required and no data lost.

- Upgrade Toolset version 9 to version 9.1 can be done in place (Standard to Standard, Engineer's to Engineer's, Evaluation to Evaluation) – no manual uninstall required and no data lost.

- Upgrade Toolset from Standard Toolset to Engineer's Toolset requires uninstalling the Standard version and installing the Engineer's version.

- Upgrade Toolset from an evaluation version to a licensed version of Toolset requires uninstalling the evaluation version and installing the licensed version.
- Downgrade Toolset from Engineer's Toolset, including the evaluation version, to Standard Toolset requires uninstalling the Engineer's version and installing the Standard version.

If you have determined that you need to uninstall before installing the newest version of Toolset, complete the following procedure.

To uninstall before upgrading toolset and keep your previously collected data:

1. Copy the files you want to preserve to a folder on your desktop. For more information about the files to copy, see "Backing Up or Migrating Your Toolset Implementation" on page 9.
2. Uninstall your older version of Toolset.
3. Install the new version of Toolset.
4. Copy the data files from the folder on your desktop to the new installation location. For more information about the files you will be copying, see "Backing Up or Migrating Your Toolset Implementation" on page 9.

Backing Up or Migrating Your Toolset Implementation

To back up your Toolset implementation after installing the newest version or to migrate your Toolset configuration and data files to another server, the following files should be considered integral to your success. Ensure you are installing the same version of Toolset as what was installed on the computer from which you copy these files. If you cannot find a file, you have not run the associated program. You can safely skip the file.

Files to backup or move	Purpose
*.BandwidthGauges	Bandwidth gauge settings files
Bandwidth-Monitor.cfg, dictionaries.cfg, DNS.cfg, IP-BrowserWeb.cfg, Network-Monitor.cfg, PortScan.cfg, SWDiscovery.cfg, SWNetPerfMon.cfg, TraceRoute.cfg, Watchit.cfg	Configuration settings files
*.IPDB	IP address management database
*. mdb	Syslog database
*.SNMP-Graph	SNMP Realtime graphs
*.SDB	Network Sonar databases

Chapter 3

Getting Started

A quick launching interface that provides immediate access to all Toolset applications has been added. Direct access is also provided to host network configuration, including IP configuration, ARP, DNS, and Route information for the local client.

The Toolset Launchpad should startup automatically after installation has completed. It can also be started by clicking **Start > All Programs > SolarWinds Toolset > SolarWinds Toolset Launchpad**.

Quick run through of Launchpad features:

1. Click **Recently Used Tools** to display the last 5 tools that were launched. On initial installation, a default set of the top 5 tools is displayed in this category. Click on a tool to display more details about the specific functionality.

2. Add, rename, and delete tool groups simply by right-clicking on any group and selecting the appropriate action.

3. Add tools to your new group by clicking on a tool in another group and dragging into the launching pane.

4. You can change the group listing order by clicking on a group and moving up or down in the list.

5. Click **Host Network Info** to quickly see ARP, DNS, IP configuration, and Route information for the local host.

6. Click **Settings** to configure automatic startup and to add Toolset Launchpad to your Windows Task Tray. Click **Reset settings** if you want to restore all out of the box settings, including tool groupings.
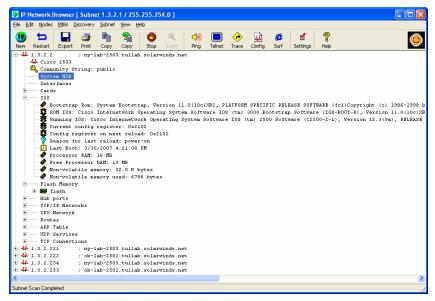
SNMP Communication

Because Toolset takes advantage of SNMP communication to collect inventory information, ensure all devices from which you want to collect detailed information have SNMP properly configured.

Discovering Your Network

IP Network Browser is an interactive network discovery tool that provides the ability to scan an IP address range or a subnet and show details for discovered devices, including System MIB, ARP table, interfaces, IOS, drives, flash memory, and more.

To discover your network:

1. Launch from Toolset Launchpad by clicking **Network Discovery** and then double-clicking **IP Network Browser**.

2. Type the required information to scan a single device, a subnet, or an IP address range and then click the associated **Scan** button.

3. Use the browsing tree to expand node information categories and initiate real-time discovery of details.

4. Click **Discovery > Expand and Discover Details for Selected Node** to initiate real-time discovery of all node details at once.
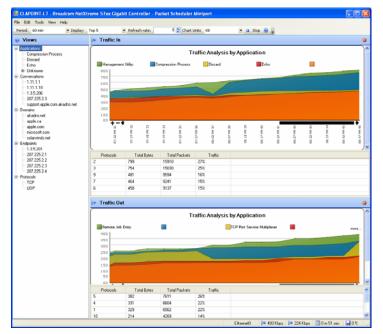
Analyzing Your Network Traffic

SolarWinds Engineer's Edition Toolset includes a realtime capture and analysis tool that allows for storage of up to 1 hour of Cisco NetFlow data. It displays inbound and outbound traffic separately for granular analysis and troubleshooting.

To view realtime NetFlow data:

1. Launch from Toolset Launchpad by clicking on **Cisco Tools** and then double-clicking **NetFlow Realtime**.

2. If you have Cisco routers configured properly to send NetFlow data to the Toolset host machine, you will see them listed in the dialog with green check marks next to the interfaces the tool is receiving NetFlow data about. Select an interface and then click **Start Flow Capture** to begin analyzing NetFlow data.

3. From here, you can granularly analyze NetFlow data being received by navigating the view categories in the left pane.

4. ***If you want to view application data,*** complete the following procedure:

   a. Click **Applications** to display the distribution of traffic utilization of the Top XX applications (Top 5 is default).

   b. Expand this category to display a list of all applications in the NetFlow data being received.

   c. Select an application in this list to display the distribution of traffic utilization of all the nodes that are utilizing the selected application or port.

   d. Map unknown ports to application names by right-clicking on the port and then clicking **Map Port**.

5. ***If you want to view conversation data,*** complete the following procedure:

   a. Click **Conversations** to display the distribution of traffic utilization among the Top XX nodes that are the source of conversations (Top 5 is default).

   b. Expand this category to display a complete list of all the source nodes of the conversations. The entries will display the host name of the node if reverse DNS resolution is successful, otherwise the IP address will be displayed.

   c. Select a host or IP address to display the distribution of traffic utilization of all the hosts with which the selected host is communicating.

6. ***If you want to view domain data,*** complete the following procedure:

    a. Click **Domains** to display the distribution of traffic utilization among the Top XX domains (Top 5 is default).

    b. Expand this category to list all the domains that have been resolved. If reverse DNS resolution is unsuccessful, an IP address will be displayed.

    c. Select a domain or IP address to display the distribution of traffic utilization of all the domains with which the selected domain is communicating.

7. ***If you want to view endpoint data,*** complete the following procedure:

    a. Click **Endpoints** to display the traffic utilization distribution across the Top XX nodes (Top 5 is default).

    b. Expand this category to list all nodes. The entries will typically display the host name of the node if reverse DNS resolution is successful, otherwise the IP address will be displayed.

    c. Select an endpoint to display the traffic utilization distribution of all nodes that transmitted to and from the selected node.

8. ***If you want to view protocol data,*** complete the following procedure:

    a. Select and view this category to display the traffic utilization distribution by protocol (e.g., TCP, UDP, etc.) for the Top XX nodes utilizing the protocol (Top 5 is default).

    b. Expand this category to list the individual protocols in the NetFlow data being received.

    c. Select one of the protocols to display the traffic utilization of nodes that utilized the protocol.
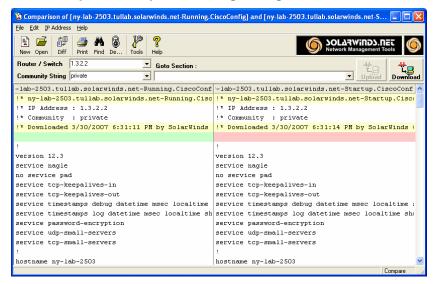
Viewing and Comparing Router Configurations

SolarWinds Toolset includes a collection of Cisco router and switch configuration tools for downloading, modifying, comparing, and uploading device configurations using SolarWinds TFTP Server.

To view and compare configuration files:

1. Launch from Toolset Launchpad by clicking **Cisco Tools** and then double-clicking **Cisco Config Viewer**.

2. Type the hostname or IP address of your router or switch.

3. Type the read/write community string

4. Click **Download** to start transfer process.

5. Select the type of configuration you want to download, and then click **OK**.

6. To compare startup versus running configuration on a particular router, click **File > Compare Startup vs. Running Configs**.

7. To compare previously downloaded configuration files, click **File > Compare Two Config Files**.

Mapping Your Switch Ports

Switch Port Mapper is an automated tool used to remotely discover the devices connected to each switch/hub port, including the MAC address, IP address, and hostname of the connected devices as well as details about each port. Reports can be easily exported to Excel, PDF, CSV, and HTML.

Note: Only switches and hubs that support the BRIDGE-MIB can be mapped.

To map the ports of a switch:

1. Launch from Toolset Launchpad by clicking **Network Discovery** and then double-clicking **Switch Port Mapper**.

2. Click **Select Switch** and then type the target hostname or IP address of the switch/hub and a read/write community string.

3. Click **Select Router** and enter router/server hostname or IP address (must be directly connected to the same subnet as the target switch/hub) and a read community string. This device will be used to resolve MAC to IP address and then reverse DNS will be used to resolve IP address to hostname.

4. Click **Map Ports** to start the switch port mapping process.

5. *If you want to save the results,* click **Export** and select the format you want to use (CSV, text file, HTML, Excel, or Adobe PDF).
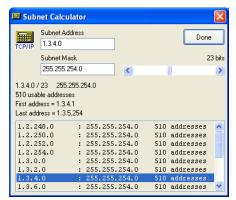
Managing Your Network IP Addresses

IP Address Management is a tool for actively monitoring which IP addresses are in use on your network, including:
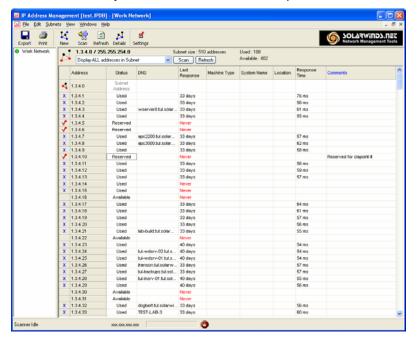
- IP address status

- DNS name

- Number of days since the last response

- Machine type

- System name

- Location

- Response time

- User-defined comments

To manage your IP addresses:

1. Launch from Toolset Launchpad by clicking **IP Address Management** and then double-clicking **IP Address Management**.

2. Click **New** to add a new subnet.

3. Type your subnet information in the New Subnet window. Click **Subnet Calculator** to get help on selecting the appropriate subnet mask and the number of IP addresses that will be included in the scan.

4. Click **OK** to save your subnet information, and perform a scan.

5. *If you want to save the results,* click **Export** and select the format you want to use (CSV, text file, HTML, Excel, or Adobe PDF).

Viewing Realtime Network Device Statistics

Realtime Interface Monitor is a network interface monitor capable of displaying statistics from multiple routers and switches simultaneously, including:

- Interface / port status

- Time of last change

- Current receive and transmit traffic rates

- Interface percent utilization

- Duplex settings

- Collisions

- Alignment errors

- Runts

- Giants

Note: This release supports over 400 standard and vendor proprietary statistics.

To view realtime network statistics:

1. Launch from Toolset Launchpad by clicking **Network Monitoring** and then double-clicking **Realtime Interface Monitor**.

2. Type the hostname or IP address and SNMP community string of your device.

3. Click **Monitor** to start network interface monitoring

4. To change the interface details being displayed, select a new group from the **Statistics Group** list.

5. You can add, new statistics groups by clicking **File > Settings** and then clicking the Statistics Groups tab

6. *If you want to launch a graphical bandwidth monitor,* click an interface and then click **Edit > Bandwidth Gauge**.