TotalView 14 Deployment Guide

NetOps | SecOps | Telecom Ops | RemoteView

Contents

System Requirements 2
- Virtual Server Requirements 2
- Small Network Server Requirements 2
- Medium Network Server Requirements 2
- Large Network Server Requirements 3
- Web Browser Requirements 3
- Call Simulator Requirements 3

Installation 5
Installer 6
QuickConfig Wizard 9
- Activation 9
- Step 1: SMTP Server 10
- Step 2: Windows Domain Authorization 10
- Step 3. Monitor Network Devices 11
- Step 4. Discovery Methods 12
- Step 5. SNMP Security 13
- Step 6: Emailed Reports: “Daily Network Weather Report” 13
- Step 7: Nightly Security Report 14
- Step 8. Start Discovery 14
- Complete 15

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System Requirements

The TotalView service installs on a Windows server (or workstation acting as a server), and can be viewed from web browsers on the network. The following are requirements for the server, client web browser, and Call Simulator.

Virtual Server Requirements

Running the solution on a virtual server is fully supported for deployments below 100,000 interfaces. The server should be configured with a fixed (static) MAC address for licensing purposes.
Windows Service Account Required for Active Directory Authentication, DHCP/IPAM Integration and Server Monitoring:

Active Directory Authentication:

- Member of “Domain User” Global Security Group (Read Only)
- AD Security Group Created for TotalView UI access

Microsoft DHCP/IPAM Integration:

- Member of “DHCP Users” Global Security Group (Read Only)

Server Monitoring:

- Member of “Domain Admin” Global Security Group or Local Administrator on Servers

Small Network Server Requirements

For networks 25,000 interfaces or less, the following hardware is required:

- ✓ Virtual Machine supported
- ✓ Multi Core Processor (2 VM Cores if Virtualized)
- ✓ 40 GB of free disk space
- ✓ 6 GB of RAM of free disk space
- ✓ 100 MBPS Network Interface Card
- ✓ Runs on both 32 and 64 bit Windows deployments

  Operating systems:
  Windows 10
  Windows Server 2012
  Windows Server 2016
  Windows Server 2019

Medium Network Server Requirements

For networks with more than 25,000 interfaces, but less than 100,000 interfaces, the following hardware requirements are suggested:

- ✓ Virtual Machine supported
- ✓ Multi Core Processor (4 VM Cores if Virtualized)
- ✓ 60 GB of free disk space
- ✓ 8 GB of RAM for the service
- ✓ 1 GbpsNetwork Interface Card
- ✓ Runs on both 32 and 64 bit Windows deployments

- ✓ Operating systems:
  Windows Server 2012 (including Server 2012 R2) 64 Bit
  Windows Server 2016
  Windows Server 2019

Large Network Server Requirements

For networks with more than 100,000 interfaces, the following hardware requirements are suggested:

- ✓ Dedicated hardware (Virtual machine not recommended)
- ✓ Dual-core 2 GHz processor or faster
- ✓ 100 GB of free disk space (Fastest Disk/Flash Storage)
- ✓ 8 GB of RAM
- ✓ 1 Gbps Network Interface Card
- ✓ Operating systems:
  Windows Server 2012 (including Server 2012 R2) 64 Bit
  Windows Server 2016
  Windows Server 2019

Web Browser Requirements

Any modern HTML5-compliant browser can be used to view the web pages including Chrome, Firefox, and Microsoft Edge. Internet Explorer 11 is not supported. This is due to IE not being fully compliant with W3C and WHATWG standards, and Microsoft discontinuing support for this browser.

Call Simulator Requirements

The call simulator is a stand-alone executable that does not require software installation or uninstallation. It requires local administrator rights to be able to run.

- ✓ Dedicated hardware (Virtual machines are not recommended*)
- ✓ Pentium 1 GHz processor or faster
- ✓ 10 MB of free disk space
- ✓ 1 GB of RAM**
- ✓ 10 MBPS Network Interface Card (Wireless not recommended***)
- ✓ Runs on both 32-bit and 64-bit Windows deployments
- ✓ Operating systems:
  Windows Server 2008
  Windows Server 2012
  Windows Server 2016
  Windows Server 2019
  Windows XP Professional
  Windows Vista
  Windows 7
  Windows 8
  Windows 10

* The call simulator will run on a virtual machine, but the latency and jitter measurements may be wildly incorrect because the physical hardware is shared with other servers/applications.

** More memory is recommended if multiple call simulators are run on the same computer, and/or if call simulations are run for more than 24 hours

*** Wireless networks will have a certain amount of packet loss induced by the fact that WiFi is a shared media channel. Additional loss may be created by environmental factors like access point locations and loading, as well as building materials and equipment.

It is recommended to quit all other applications on the computer to avoid having other software introduce testing anomalies. This should also include disabling background tasks like antivirus scans, disk defragmentation and other scheduled tasks like Windows updates.

Notes regarding Call Simulator load testing
When loading a network with more than one call, the following additional requirements should be considered:

- Laptops are generally designed for battery savings and do not have fast/wide busses for moving large amounts of data. In general, a low-end netbook PC should be able to generate 25 simultaneous calls from a call simulator before it becomes the limiting factor and starts to introduce latency/jitter/loss.
- High-end laptops should be able to safely generate up to 200 simultaneous calls if they have a dedicated Ethernet adapter, or a USB 2.0 or USB 3.0 Ethernet adapter.
- Desktops and dedicated servers should be able to generate up to 250 simultaneous calls

The target for an end-to-end test should also be considered, as the destination device might not be able to respond to a load:

- Network devices like switches, routers, and access points should be able to respond to 10 calls, but might have problems if additional traffic is sent to them, as their management processes are not designed to *respond* to large volumes of traffic.
- VoIP phones generally have small CPUs that are designed to handle traffic equivalent to 1-2 calls at the same time. They might fail to respond if more traffic is sent then they can process. Additionally, some VoIP phones may be configured with firewalls that block 90% of non-SIP-registered traffic.
- If the target computer is a virtual machine, it may show large latency and jitter spikes due to the virtualization process.

When running more than 1 call simulator on the same computer, the timing and bus bandwidth between the call simulators is shared, and an additional amount of resources are lost as a result of Windows task switching. This additional overhead loss may be significant depending on the computer's resources.

For example: 200 simultaneous calls might be able to be run with one call simulator just fine. If two call simulators run with 100 calls each, it may start to show latency/jitter/loss on one or both call simulators. This effect may be reduced by assigning processor affinity to each call simulator:
https://www.windowscentral.com/assign-specific-processor-cores-apps-windows-10

Installation

Installation and configuration of the PathSolutions TotalView takes roughly 12 minutes for most networks.

You must have a valid PathSolutions TotalView License to use the software. This will usually arrive in the form of an email from PathSolutions:

pathSolutions

Don't Turtle Your Network

PathSolutions License

Thank you for acquiring PathSolutions software.

```
Customer Name:   Cindytv8
Start date:      8/21/2017 12:00:00 AM
End date:        9/5/2018 12:00:00 AM
Interfaces:      10000
```

Requirements

- Make sure that the computer where the software is installed meets the system requirements.
- All network switches, routers, gateways, and servers should have IP addresses and SNMP read-only community strings configured. Contact support@PathSolutions.com if you need help with configuring SNMP on your network devices.

Installation

1. Download and run the installer:
   (use the email link in your email)
2. After the program is installed, the QuickConfig wizard will run. Enter the following information into the QuickConfig wizard to activate the license:

```
Customer number:   12850524
Customer location: hq
```

If you have any questions, please contact Support@PathSolutions.com or call us at 1-877-748-1444.

License information can be obtained from your PathSolutions reseller or directly from PathSolutions.

PathSolutions license support: 1-877-748-1777 Support@PathSolutions.com

To set up the PathSolutions TotalView on your machine, use the provided link in the email to download the latest version from the PathSolutions website.

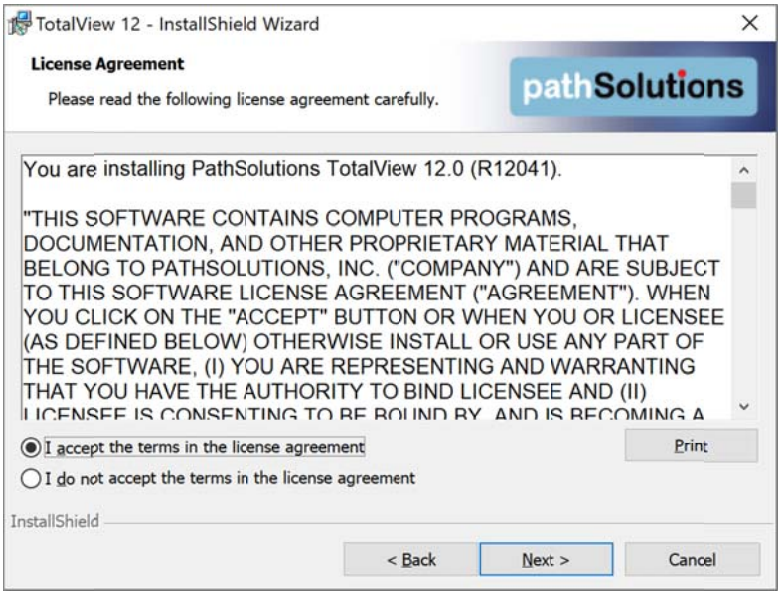
TotalView should be installed on a server or workstation that has a permanent connection to the network.

Installer

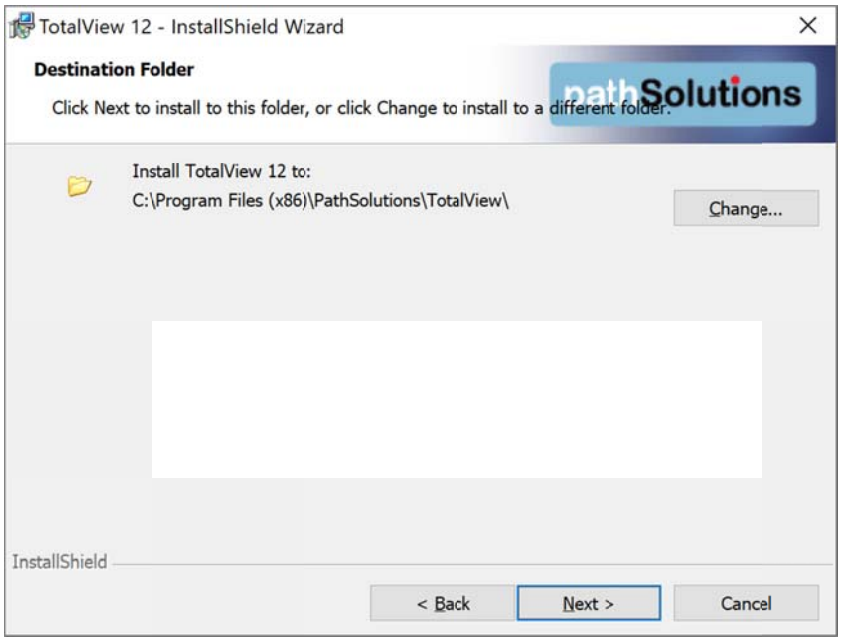
The software installer is a Microsoft MSI file. You will need local administrator privileges to install the software on a computer. Open and click “next”:

Click on “I accept the terms in the license agreement, and then click the “Next” button:

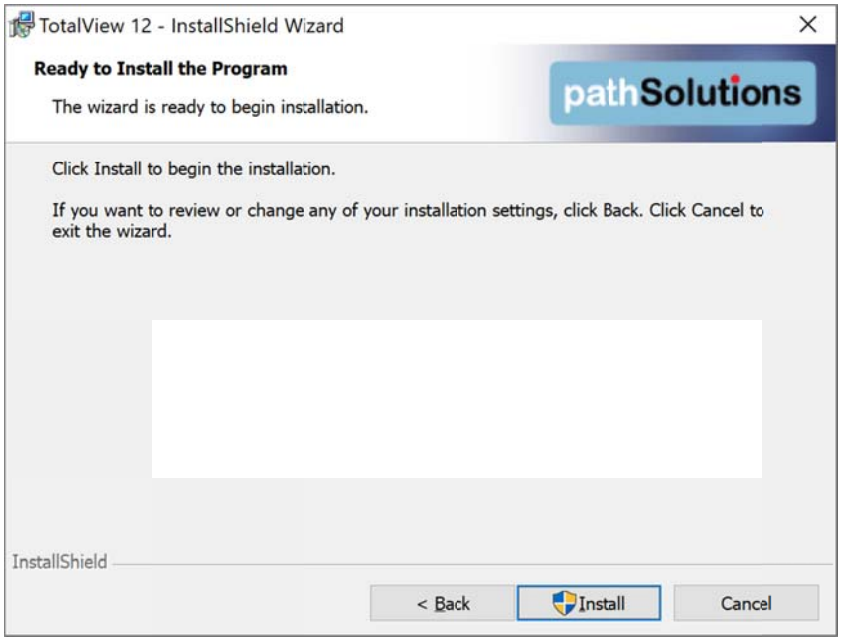
Follow the steps of installation as instructed on screen.



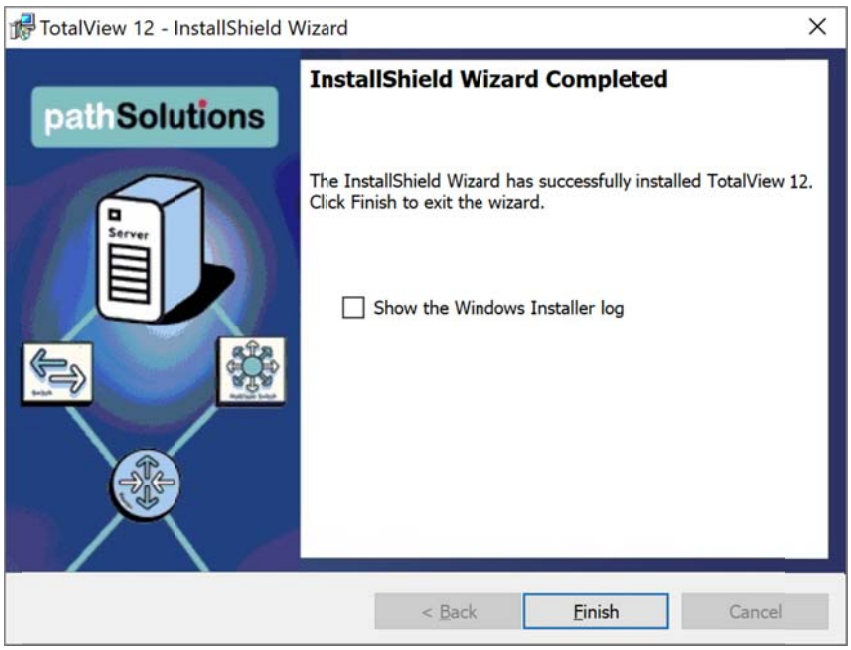
On the next screen, note the destination folder where the program will install. If you wish to change the location, click on “Change”. When finished, click on “Next”:



Click on “Install” to install the program:



Click Finish to begin your Activation:



Note: The QuickConfig Wizard will begin automatically after you finish these steps.

QuickConfig Wizard

The TotalView Quick Config Wizard has been redesigned to work faster and make it easier to do large scale deployments. This now includes a seed-router spider device discovery method in addition to the subnet scanning method.

Double-click on the installation program and follow the instructions on the screen. The QuickConfig Wizard will auto-configure the PathSolutions TotalView for you and begin monitoring in just a few minutes.

The QuickConfig Wizard has seven steps after activation:

Step 1: SNMP Server
Step 2: Windows Domain Authorization
Step 3: Daily Network Weather Report (Email report configuration)
Step 4: Alerts for Standard Configuration
Step 5: Nightly Security Report (Email report configuration)
Step 6: Security Alerts
Step 7: Servers
Step 8: Server Alerts

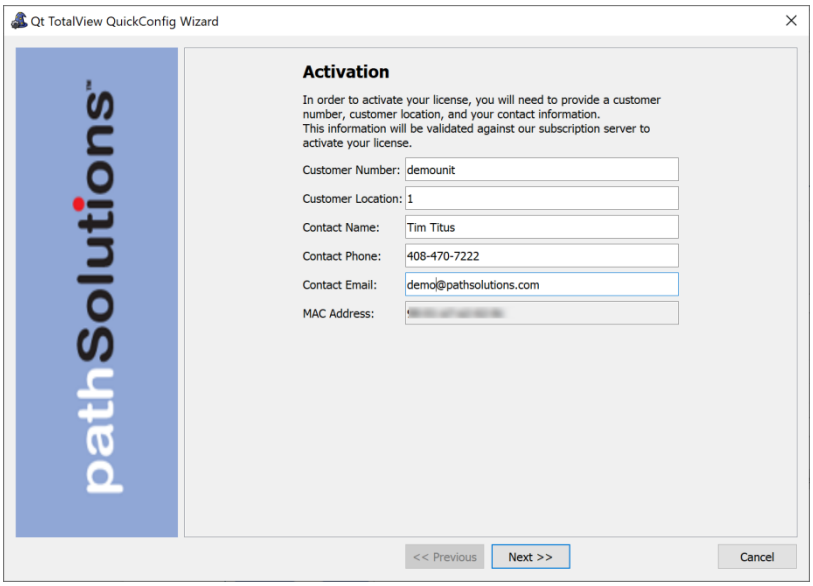
After installation is complete, the PathSolutions TotalView will scan your network for devices and begin monitoring.

Activation

You will be asked to enter your subscription information to activate your subscription.

Enter all fields from your subscription email.

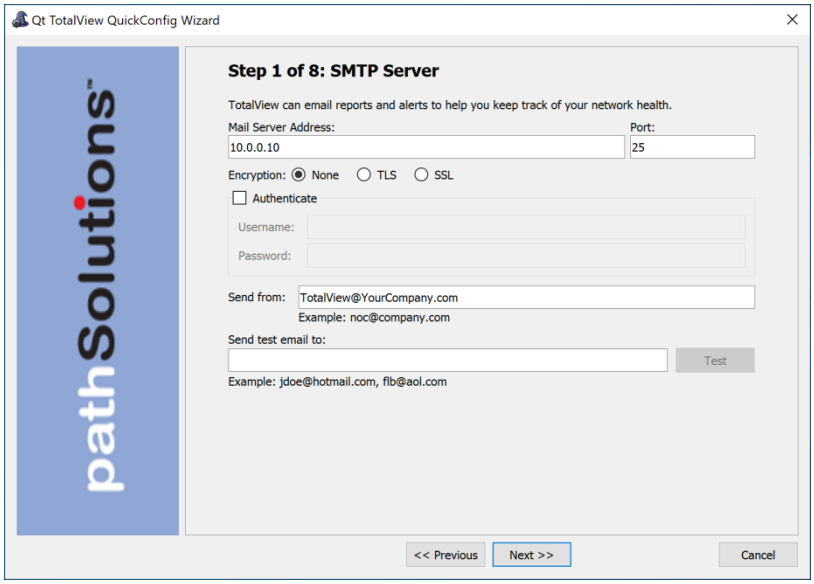
Note: Customer Number and Customer Location fields are case sensitive. These fields must be entered exactly as they are specified in the subscription email.



Step 1: SMTP Server

The first step sets up mail server address for email reports and alerts. Enter your Email SMTP Server information:

You will need to enter the IP address or DNS hostname of your SMTP mail server address or a mail relay server. This mail server should allow SMTP forwarding if you intend to send to individuals at other domain names. See The Administration Manual, "SMTP email Forwarding" for additional information on SMTP email forwarding. Then, test if it using the "Test" button.



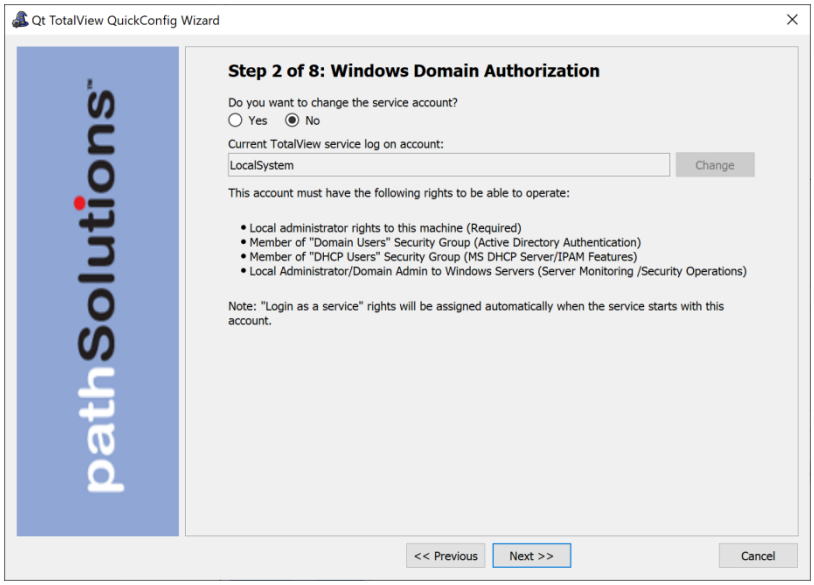
Click "Next" to continue.

Step 2: Windows Domain Authorization

Do you want to change the TotalView Services account? Select "Yes" or "No". This allows you to change the service login credentials to support Active Directory Integration, Microsoft DHCP servers queries for IPAM, Server Monitoring, and Security SOAR research information collection and analysis.

Note the service log on account is the LocalSystem. If you need to change that, select "Change".

Then enter the desired account and confirm your password.

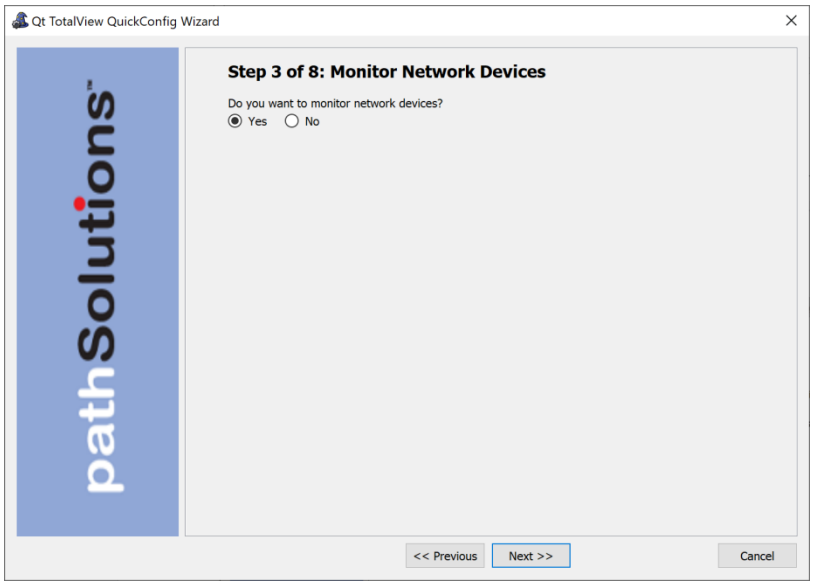


Click "Next" to continue.

Step 3. Monitor Network Devices

Do you monitor network devices? Select “Yes” or “No”.

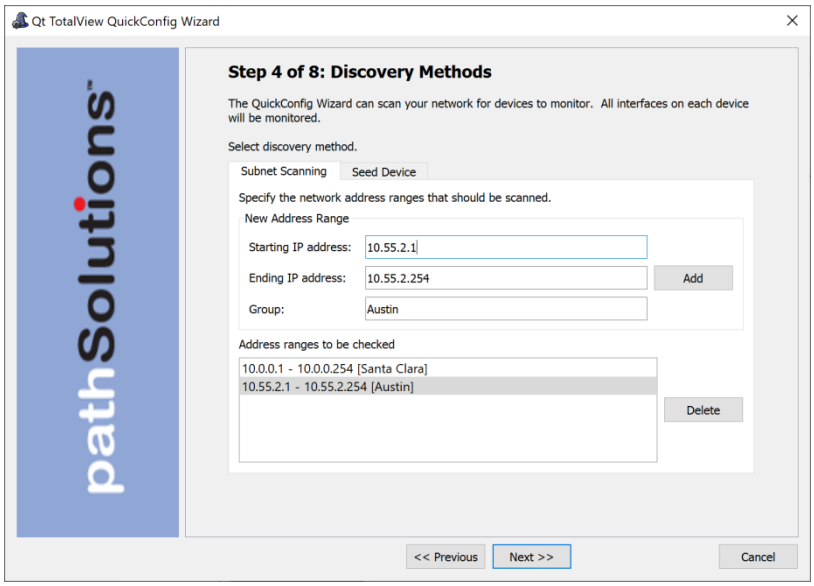
Click “Next” to continue.



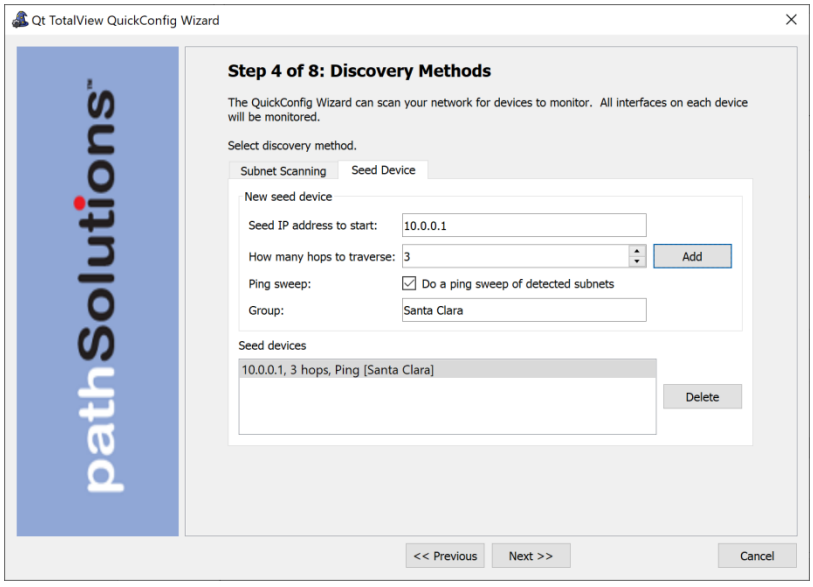
Step 4. Discovery Methods

Select the discovery method you want to use to scan your network for devices to monitor: either subnet scanning method or the Seed method? Then enter the details requested.

Subnet Scanning Method:



Seed Method

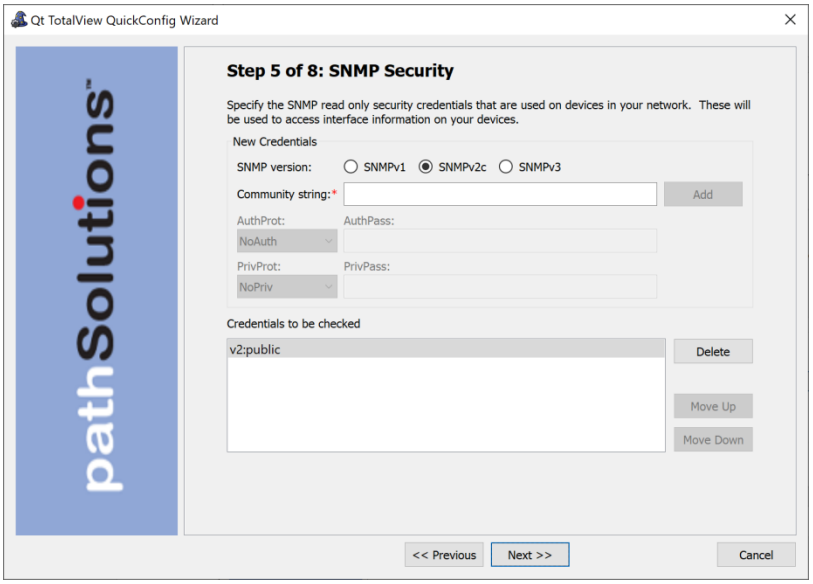


Click “Next” to continue.

Step 5. SNMP Security

Specify the security credentials that are used on the devices in your network.

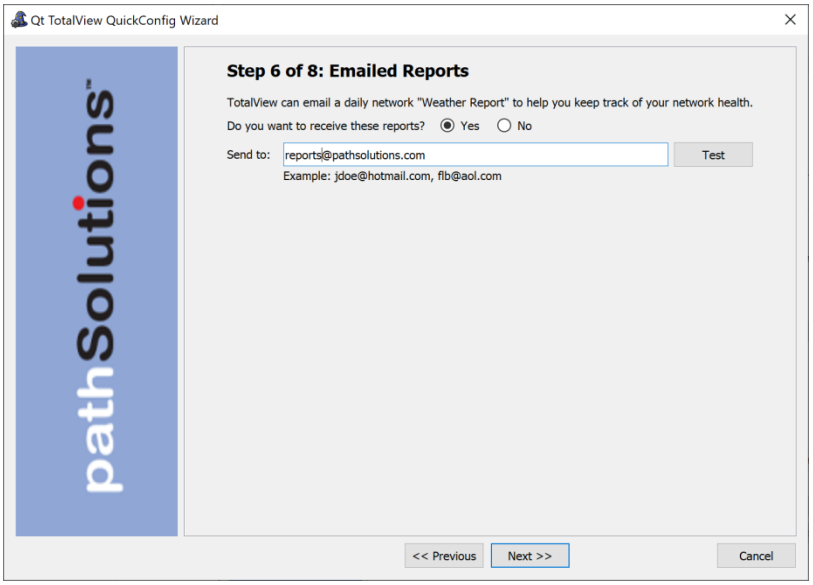
Click “Next” to continue.



Step 6: Emailed Reports: “Daily Network Weather Report”

Do you want to receive the daily network “Weather Report” via email, the daily email report on your network’s health? Select “Yes” or “No”.

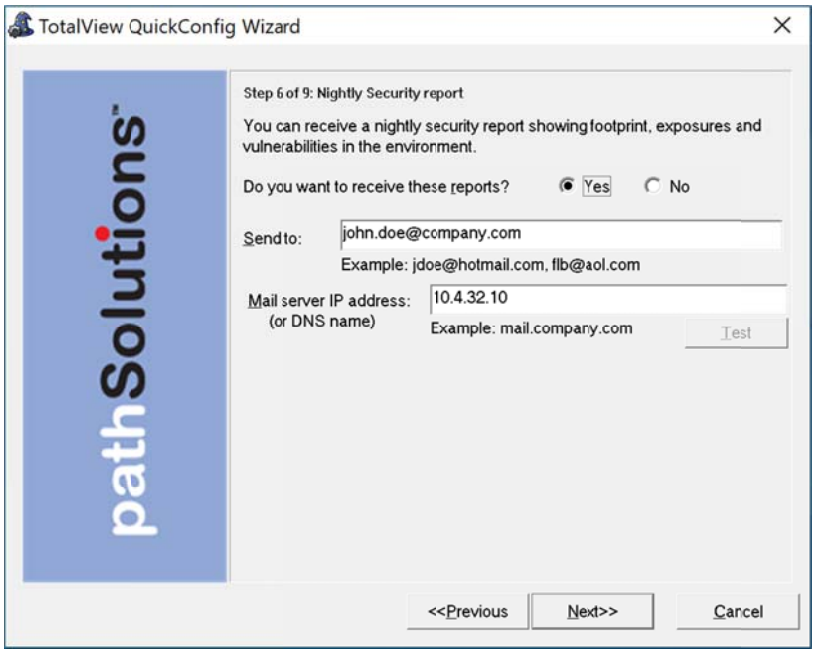
Enter the Internet SMTP email addresses that should receive the daily report. You can enter multiple email addresses by using a semicolon, comma or space character between each email address.



After entering this information, you can click "Test" to send a test email. If there is a problem sending an email, you will be presented with detailed information how to resolve the problem.

Click "Next" to continue.

Step 7: Nightly Security Report



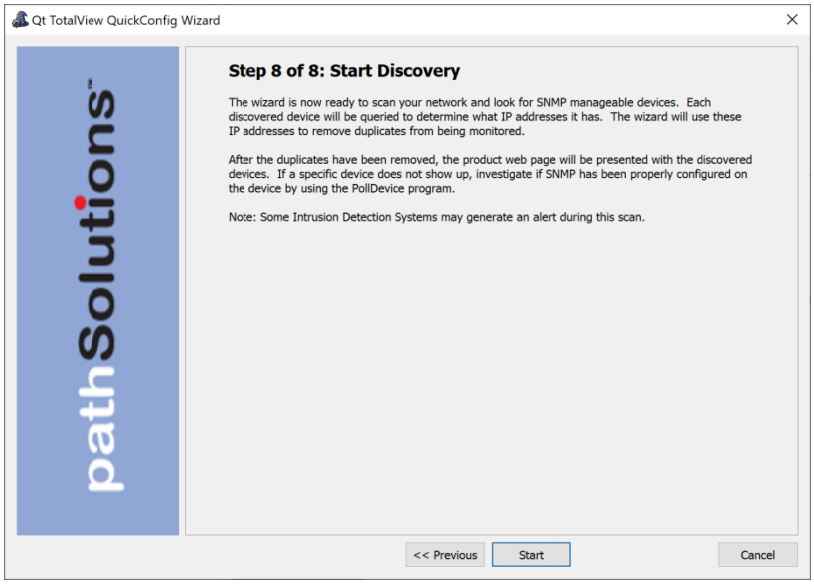
This step appears if you have a license to a TotalView Security Operations Manager:
Do you want to receive the Nightly Security Report, a nightly report via email that summarizes the footprint, exposures, and vulnerabilities in the environment? Select “Yes” or “No”.

Enter the Internet SMTP email address or addresses that should receive the alerts.

After entering this information, you can click "Test" to send a test email. If there is a problem sending an email, you will be presented with detailed information how to resolve the problem.

Select “Next” to continue.

Step 8. Start Discovery



Now the wizard is ready to scan your network and look for SNMP manageable devices. A few details appear here about how it is done.

Select “Next” to continue.

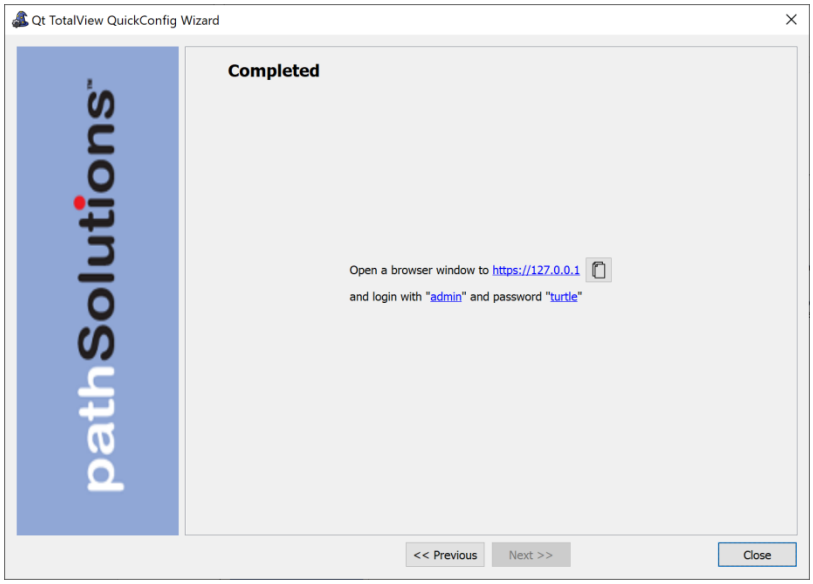
Now the wizard will scan the network ranges for network devices that support SNMP. The monitoring service will be started, and you will be presented with a web page displaying which devices are being monitored.

Complete

This screen appears when the scan of your network is done and the web pages are ready to view:

Click "Close" to complete the wizard.

That is all that is necessary to install and configure the program. You should be able to immediately start viewing your network and solving problems.



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