PAESSLER
THE NETWORK MONITORING COMPANY

The Ultimate Guide
to Network Mapping Tools

9 Different Tools at a Glance

Contents

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A Full Overview for IT Employees

Network mapping tools play a crucial role in all network environments, since they help administrators stay on top of things. For instance, they provide basic information about which devices are on the network, what their addresses are, which other components they directly communicate with, which communication methods they use and much more. Consequently, an up-to-date and detailed network map is indispensable for most IT managers. This post will present different tools that can be used to create such a map. It starts with free diagram programs that administrators can use to easily depict small networks and even includes powerful, fully automated tools that scan large networks and depict them in a map with a wide variety of information.

**NETWORK MAPS:
ESSENTIAL FOR
TROUBLESHOOTING**

Administrators depend on network maps for a variety of reasons. In addition to the aforementioned points, such maps also help perform successful troubleshooting in the network and keep track of changes in the network configuration. Even the information that network maps can provide to auditors plays an increasingly crucial role.

Features of Network Maps

Good network maps can be effortlessly edited; furthermore, they should also have the ability to add additional information to them, such as documentation on existing devices. In addition, the ability to integrate non-administrated devices into the map, such as unmanaged switches, is also helpful, just like logical links. Furthermore, drill-down functions and the ability to create device groups help improve transparency. The same holds true for optionally adding images that depict devices or could contain a floor plan of the office, which shows which systems can be found at which locations. Tools such as traceroute between the devices, port scans, pings or even sending wake on LAN packets round off the range of functions of a good network mapping solution with reporting features. Exceptionally powerful products even save snapshots of the network status and allow the responsible employees to keep track of changes in the network.

Technology

**MANUAL WORK:
DESIGNING NETWORK
OVERVIEW**

As already mentioned, there are two distinct types of tools for creating network maps. First come diagram programs, which provide administrators with icons for switches, servers, printers, and the like, thereby allowing them to draw a map of their network. These tools—such as the widespread program Visio by Microsoft—include a very wide range of capabilities, but they require IT employees that either have fully memorized the network's entire structure or can access all the information required to create the map. Maps created with these tools are generally of excellent quality and accurate since they are reviewed by a human being. However, creating and maintaining them is very time-consuming, since all changes need to be manually entered as well. Furthermore, manual maintenance is a potential source of errors.

**ASSET SCANNER:
AUTOMATED NETWORK
DEVICE AGGREGATION**

**9 SELECTED NETWORK
MAPPING TOOLS**

Scannable Solutions

In contrast, asset scanners can independently search through the company's networks, find existing components (e.g. via ping and ARP scans) and subsequently query them—such as via SNMP. Next, they use the information obtained from the scan to automatically create a map with the systems found. The advantage of this approach is that the map can be created without human interaction. If the administrators configure the scan job as a recurrent task with the help of a scheduler, the tool automatically keeps their network maps up-to-date. Furthermore, the tools often provide the option to display the device and link status live on the map. However, there's no guarantee that all the components will really appear on the map, and it is not certain either that the asset scan tool will actually detect all systems properly for what they are.

Our Selection Criteria

For this entry, we have selected a total of nine tools that you can use to create network maps. They range from free diagram programs to very powerful asset scanners for enterprise environments. Every single tool has a raison d'être in their target market. We have excluded tools that do not run on Windows and products based in the cloud. We also omitted solutions, which, although they are capable of creating maps, focus on completely different fields, like Grafana, OpenNMS and the like.

The Function Matrix

In addition, we have created a function matrix that offers a quick overview of the individual products' feature set. This matrix shows both the range of functions of the diagram programs and that of the asset scanners. Here we will summarize information that goes beyond features in short comments on the individual solutions, along with our overall impression. Now let's move on to the candidates.

Features	Cade	Network Notepad	Edraw Network Diagram Manager	JNet-Map	Lan-sweeper	PRTG	UVexplorer	Total Network Monitor	Net Brain
Freeware	✓	✓	✗	✓	up to 100 assets	up to 100 sensors	✗	✗	✗
Asset scan is integrated	✗	✗	✗	✓	✓	✓	✓	✓	✓
Network map icon set included	✓	✓	✓	✓	✓	✓	✓	✓	✓
Map icons are movable	✓	✓	✓	✓	✓	✓	✓	✓	✓
Assets can be grouped	✗	✓	✓	✗	✓	✓	✓	✓	✓
Accepts additional documentation	✗	✓	✓	✗	✓	✓	✓	✗	✓
Accepts additional device information	✓	✓	✓	✓	✓	✓	✓	✓	✓
Drill down or zoom function	✓	✓	✓	✓	✓	✗	✓	✗	✓
Pictures can be inserted	✓	✗	✓	✗	✓	✓	✓	✗	✗
Export maps (When yes, where to?)	Autocad, Micro-Station, EMF, WMF, JPG, PDF, XAML, SHP	Bitmap	JPG, TIF, PDF, PS, EPS, Word, Powerpoint, Excel, HTML, SVG, Visio	PNG	✗	✗	Lucidchart, Visio, PDF, SVG	✗	Xmap, Visio, Word, Image
Map icons hyperlink to devices	✗	✗	✓	✓	✗	✓	✓	✗	✓
Insertable building plans / picture	✗	✗	Manually draw a background	✗	✓	✓	✓	✗	✗
Different hyperlink colors per connection type (fibre channel, copper etc.)	✓	✓	✓	✗	✗	✗	✓	✗	✓
Printable network maps	✓	✓	✓	✗	✓	✗	✓	✗	✗
Accepts dynamic information (weather, traffic)	✗	✗	✗	✗	✗	✓	✗	✗	✗

| Features	JNetMap	Lansweeper	PRTG	UVexplorer	Total Network Monitor	Net Brain
For tools with integrated asset scan:						
Automatically assigend device types can be changed	✓	✓	✓	✓	✓	✓
Shows device status	✗	✓	✓	In cooperation with PRTG	✓	✓
Viewable link status	✓	✗	✓	In cooperation with PRTG	✗	✓
Accepts manually added links	✓	✓	✓	✓	✓	✗
Saves network status for analysis functions	✗	✓	✓	✓	✗	✓
Track and show network changes	✓	✗	✓	✗	✗	✓
Show device services	✗	✓	✗	✗	✗	✗
Supported scan types (WMI, SNMP, etc.)	Ping	Windows domain, IP range	Ping, WMI, SNMP	Arp cache, Ping, SNMP, WMI	Ping, ARP	SNMP
Additional functions:						
IP/MAC finder	✗	✗	✗	✓	✗	✗
Trace	✗	✓	✓	✓	✗	✓
Port scan	✓	✗	✗	✓	✗	✗
MIB walker	✗	✗	✓	✓	✗	✗
Ping	✓	✓	✓	✓	✓	✗
Interface status	✓	✗	✓	✓	✗	✓
Reporting	✗	✓	✓	✓	✓	✓
Monitoring	✓	✓	✓	✓	✓	✓
Wake on LAN	✓	✓	✗	✓	✗	✗

Cade

Let's start with two simple diagram software programs that have specialized in creating network maps and are available as freeware. The first one is called Cade. Although the tool sports a rather old-fashioned design, it provides a multitude of functions and is not only suitable for network maps but also for creating—among other things—circuit diagrams, 3D maps and the sort. You can download the solution here http://www.wer-esc.com/cade.php. Administrators who are interested in a free diagram program with a broad range of functions and are not deterred by the tool's old-fashioned design, should definitely take a look at Cade.
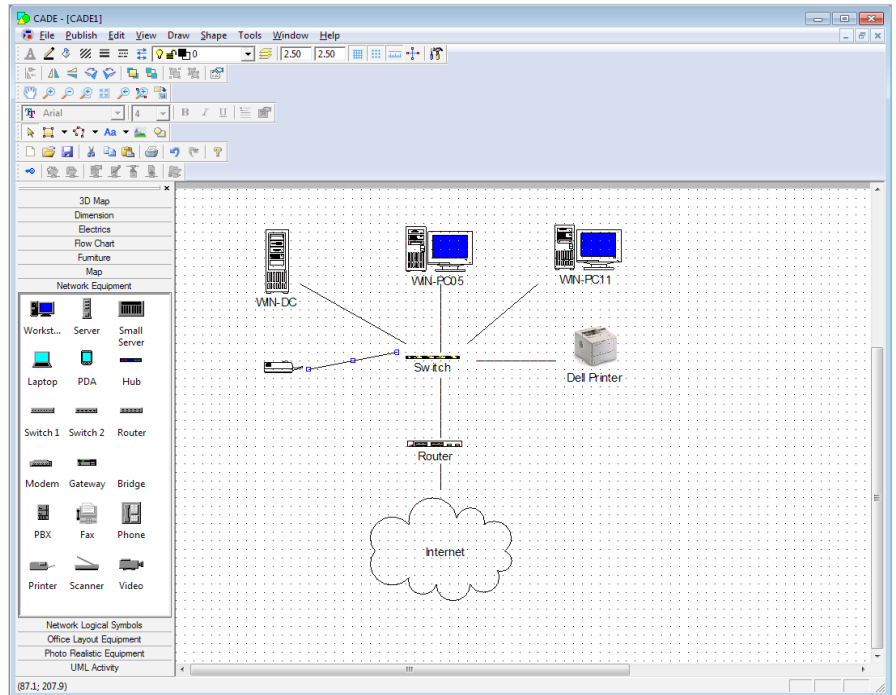
Network Notepad

For "quick and dirty" mapping with a relatively small freeware diagram program, Network Notepad is the right tool for the job (http://www.networknotepad.com/index.shtml). It can be used without any problems, although it does not include too many functions. However, a more powerful paid version is available. This solution is best suited for users who are looking for a diagram program with an exceptionally small footprint.
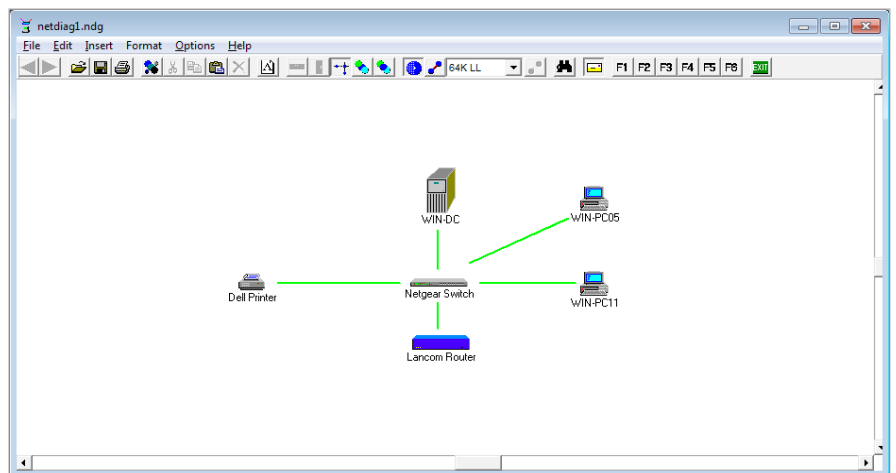
Edraw Network Diagram Manager

Edraw Network Diagram Maker is a very powerful diagram program with an Office interface that leaves little to be desired. It is also available in German and can create several types of diagrams in addition to network maps. It is priced at roughly €170. The software program is available at this link https://www.edrawsoft.com/download-network.php. They are most useful in companies where employees who otherwise work a lot with Microsoft Office create network maps. One similar program is Smartdraw (https://www.smartdraw.com).
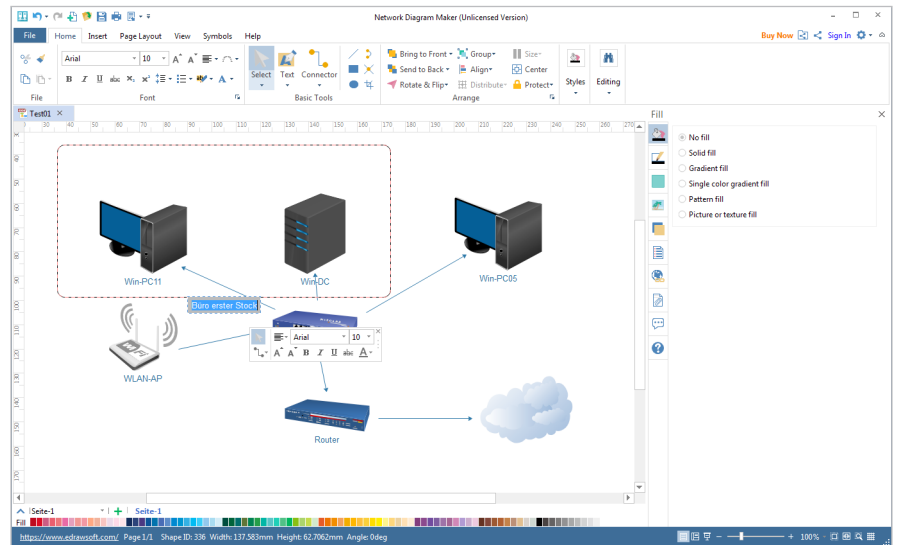

JNetMap

Now let's go over the asset scanners. JNetMap provides a Java-based graphic monitoring and documentation tool. It is an open-source solution with quite a small footprint that did some fine work in our network. (http://www.rakudave.ch/jnetmap/?file=introduction). If you can live with Java, then this solution will provide an unbeatable value for your money.
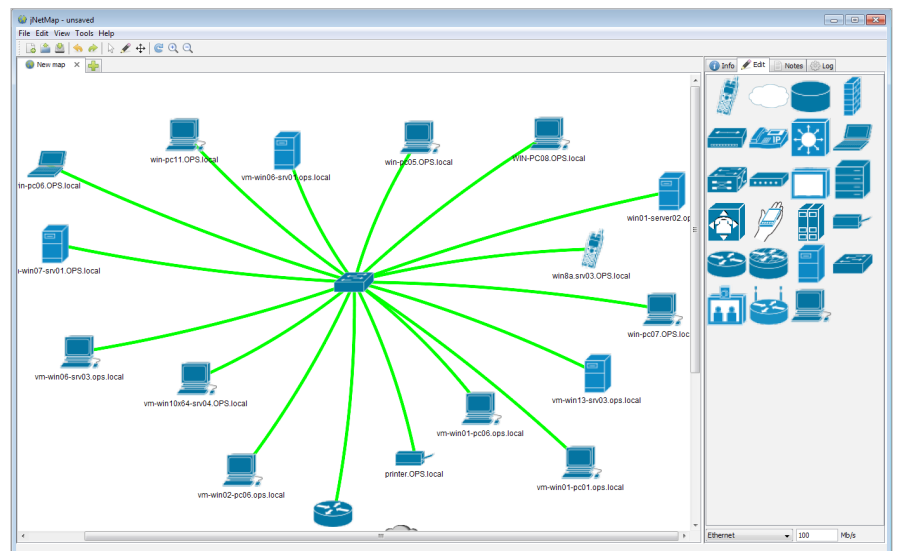
Lansweeper

The freeware version of Lansweeper is also free. It can manage up to 100 assets and is not only proficient in creating network maps, but also provides functions such as a help desk and a knowledge base (https://www.lansweeper.com/de). This product gave us a good impression, since it brings a lot of functionality, but was nevertheless given a clear design.
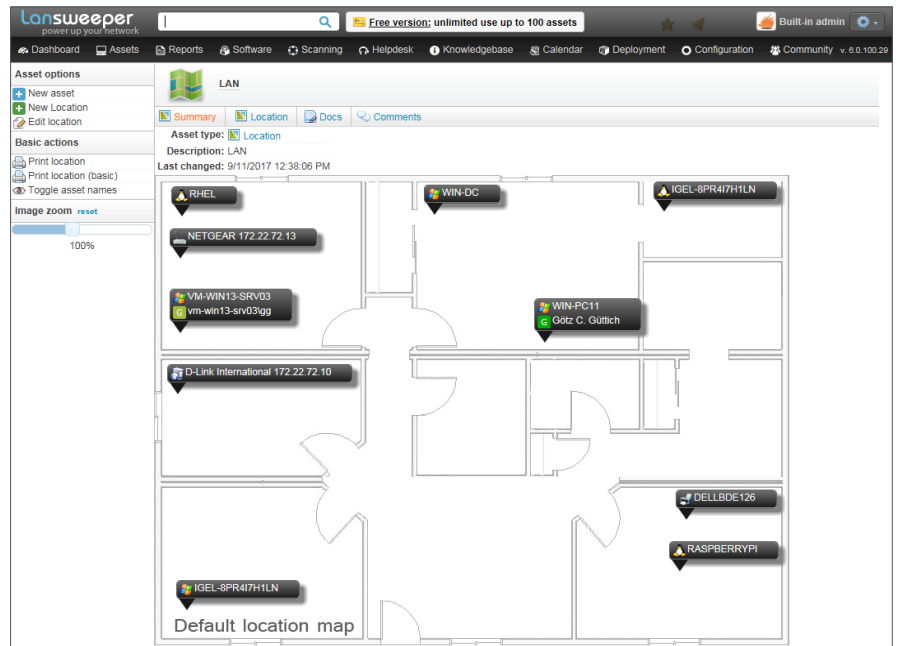

PRTG

The freeware version of PRTG works with up to 100 sensors and allows administrators to monitor all the assets on their network. Among other things, the monitoring tool offers a ticket system, comprehensive alert functions, and a powerful central web interface. (https://www.paessler.com). PRTG scans the network during operation and depicts the devices it finds in a tree structure. You can easily create clear network maps using a drag-and-drop editor. Thanks to its comprehensive monitoring functionality, PRTG also provides detailed information on devices' state and data traffic in the map. HTML is used to augment the maps with additional information such as weather and traffic services.
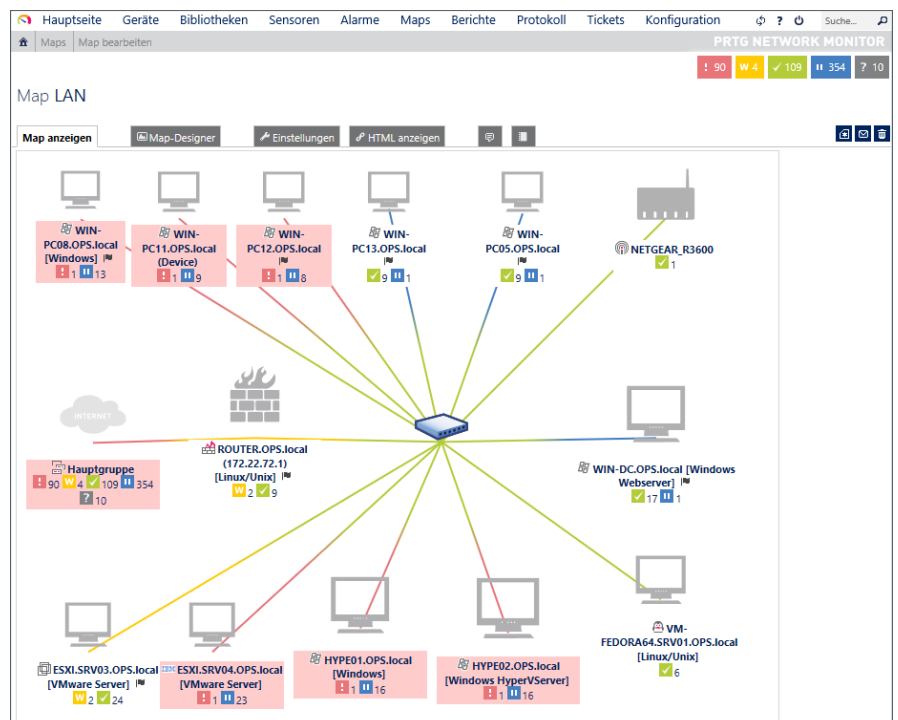
UVexplorer

UVexplorer is the first of the paid asset scanners. This tool brings a great deal of functionality and is relatively affordable at 45 dollars a month. There is also a PRTG-compatible version that can work together with PRTG thanks to a partner-ship with Paessler. It costs 1595 dollars. UVexplorer independently searches through the networks, allocates the as-sets it finds, reads information from the systems, creates maps, and keeps an eye on the network (https://www.uvex-plorer.com/uvexplorer). We would also like to point out the extensive range of functions in this solution.
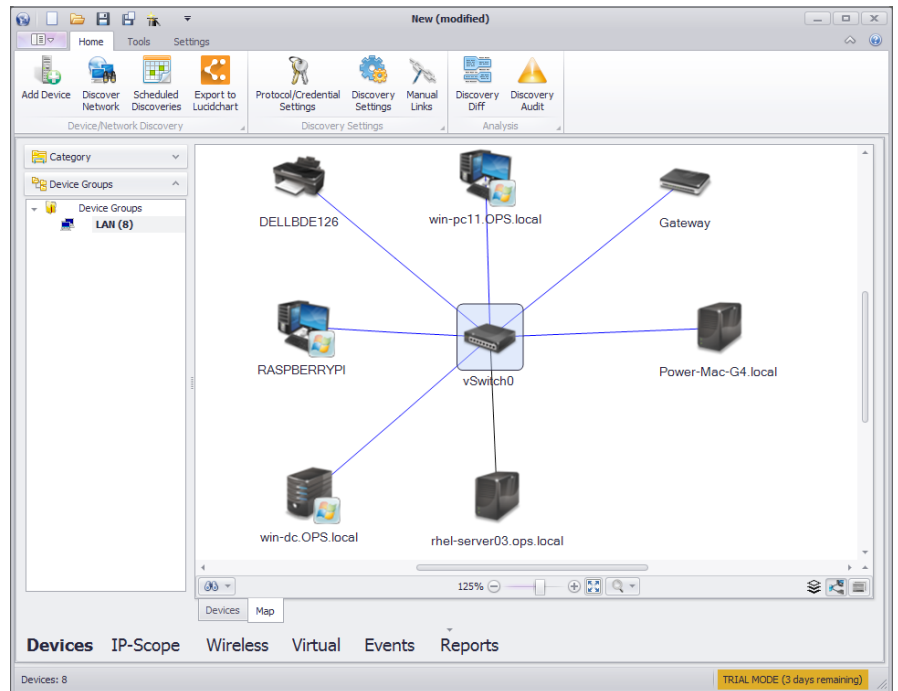
Total Network Monitor

Total Network Monitor (https://www.soft inventive.com/total-network-monitor/ #mapping) by Softinventive is also able to monitor assets and create maps. This solution, which costs 190 dollars, wor-ked wonderfully on our network.
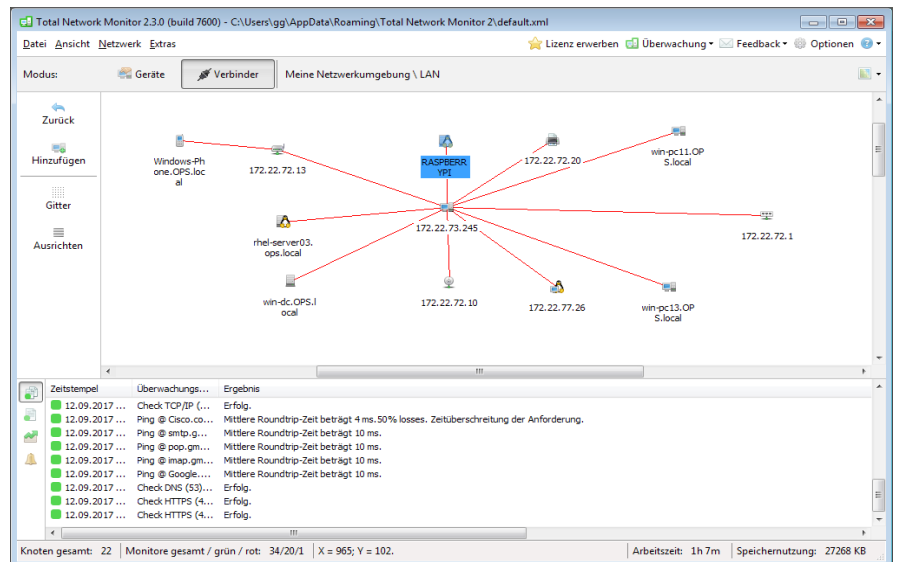
NetBrain

NetBrain is the Rolls Royce of network mapping tools. This solution offers an enormous range of functions, e.g. it can visualize the flow of application data between different devices or compare benchmarks before and after changes in the network. This product is mainly suitable for larger environments (https://www.netbraintech.com). NetBrain is licensed according to nodes and concurrent users. A node costs €63 and a license for a concurrent user costs €12,500. As such, the product is not appropriate for every environment.

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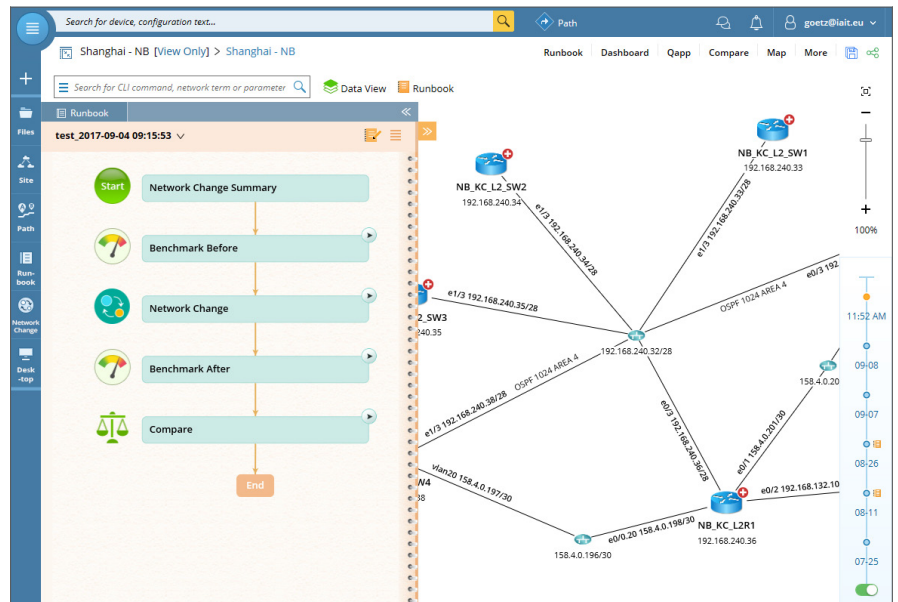
ABOUT DR. GUETTICH

Dr. Goetz Guettich operates an established IT specialist portal Sysbus (www.sysbus.eu) and performs qualified product tests at his institute for the analysis of IT components (www.iait.eu).

Summary

There is a great deal of different network mapping tools available. They use different technologies and furthermore have very different ranges of functions as well. However, there is definitely something for every budget and every network. Beforehand, administrators first need to precisely explain what they expect from their network mapping solution; afterwards, it should be no problem to find the right solution.

Out of the diagram programs, Edraw Network Diagram Manager, gave us the best impression. If an IT manager is looking for a free asset scanner with a useful range of functions, he should take a closer look at JNetMap. If administrators wish for functionality that goes beyond mapping, such as help desk features or a ticket system, Lansweeper or PRTG can be of use to them.

And now let's conclude with a tip. You have the option of taking an aforementioned diagram program and using it to create a static network map. You can then generally export it as a PNG or JPG. If administrators then import it as a background in a PRTG map and overlay it with sensors and information about the respective devices, they will create a map that shows both the spatial or organizational structure and the current status. This gives you the best of both worlds.

ABOUT PAESSLER AG

Paessler AG's award winning PRTG Network Monitor is a powerful, affordable and easy-to-use Unified Monitoring solution. It is a highly flexible and generic software for monitoring IT infrastructure, already in use at enterprises and organizations of all sizes and industries. Over 200,000 IT administrators in more than 170 countries rely on PRTG and gain peace of mind, confidence and convenience. Founded in 1997 and based in Nuremberg, Germany, Paessler AG remains a privately held company that is recognized as both a member of the Cisco Solution Partner Program and a VMware Technology Alliance Partner.

Freeware and Free Trial versions of all products can be downloaded from www.paessler.de/prtg/download.

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