Network Discovery Tool

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Contents

1 Introduction

1.1 Purpose of this document

The purpose of this document is to explain the modifications proposed to the existing network discovery tool **netdisco**.

1.2 Scope of this document

This document discusses:

1. Need for a Network Discovery tool.
2. The functionalities provided by automatic network discovery tool: NetDisco.
3. Why the tool can't be used directly.
4. The modifications required to make full use of Netdisco tool.

2 Description

2.1 Need for Network Discovery Tool

If you're responsible for the core of the network, you probably want to know a lot about the switches and routers that provide the high-speed backbone. If you're responsible for server and desktop systems, you'd like to know server names and locations and the bandwidth available between important clients. When you need to move a desktop machine, or determine why a client can't access an important network resource, knowing where those clients connect to the network would be a big help.

So all this persons need to know network documentation in order to manage the network and do all the above tasks.There are two ways using which you can prepare the documentation. One is by manual ways doing scavenger hunting for device names, addresses, serial numbers and everything you need to know. Other way is to use a automatic network discovery tool. Preparing network documentation by manual ways is a very hard task. So we have to use network discovery tool. But this option also is not excempt from difficulties. We need to configure the tool to suit our needs. Sometimes the tool may be using protocols which the organization don't support.

2.2 Existing Tool: Netdisco

Netdisco is an Open Source web-based network management tool. Designed for moderate to large networks, configuration information and connection data for network devices are retrieved by SNMP. With Netdisco you can locate the switch port of an end-user system by IP or MAC address. Data is stored using a SQL database for scalability and speed.
Network discovery tool **netdisco** does the following tasks:

- Centralized control to enable/disable switch ports. No need to login into every switch to control that switch. We can directly control the switch from the netdisco server. Devices are controllable through Web Interface or Command Line Interface (CLI).
- Find device ports that are blocking (via Spanning Tree Protocol)
- Graphing of network topology. Clickable image-map of devices. Link speed shown
- Centralized database which stores all the network information.
- Layer two Traceroute
- Gather all the information necessary to help you understand your network as it exists today.
- Plan for future growth.
- Diagnose problems when they occur.
- Update the information with network changes.
- Work with the information to manage network assets. How many times has a supposedly simple configuration change produced an unexpected outage?
- Present the information visually and clearly so you can see your network structure, in as much detail as necessary for each task.

2.3 Enhancements to Netdisco tool

1. Netdisco uses SNMP protocol to identify the device information. But defaultly it assumes every device to support CDP protocol (Cisco Discovery protocol). In order to include other devices which does not support CDP we need to fill their networkrelated information in separate file network-topology.txt file. If the **netdisco** doesn't get information through CDP it will search in the network-topology.txt file.

2. Netdisco tool shows network topology in the form of a tree-graph. This tree shows routers, switches, nodes and their interconnection. If we click on any device it will show the network information of that device. It might have been even betterif it showed the network traffic information in the form of graph including the information of both incoming and outgoing traffic.

2.4 Proposed work

1. The topology information needed by netdisco is collected by using SNMP protocol for all devices and put it in the network-topology.txt in the specified format. Collecting information is not the only purpose. We need to collect information in less time. Everytime netdisco server is restarted this topology information is to be collected so that the new devices also find place in the topology.

2. Embede network traffic information of a particular device with its other relavant network information. Graphical display of the network traffic which is refreshed for every 5 minutes.