Network Documentation

Nsubidde Hafiswah

hnsubidde@renu.ac.ug

Outline

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- Introduction
- Key Documentation Elements
- Why Document?
- Documentation Tools
- Q&A

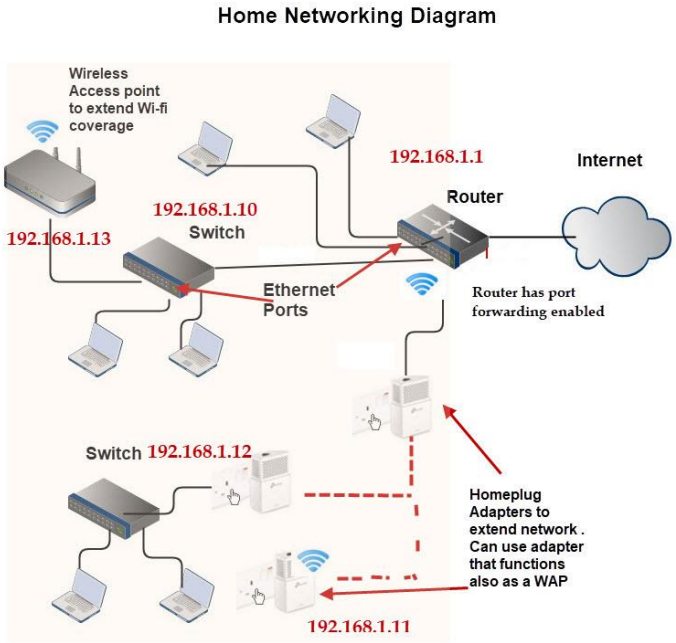
Problem Statement

Introduction

Network documentation is a technical record of the hardware, software, user profiles, and how it all works together.

Purpose

- It aims to comprehensively understand the network's architecture, devices, configurations, and policies.



Why Document?

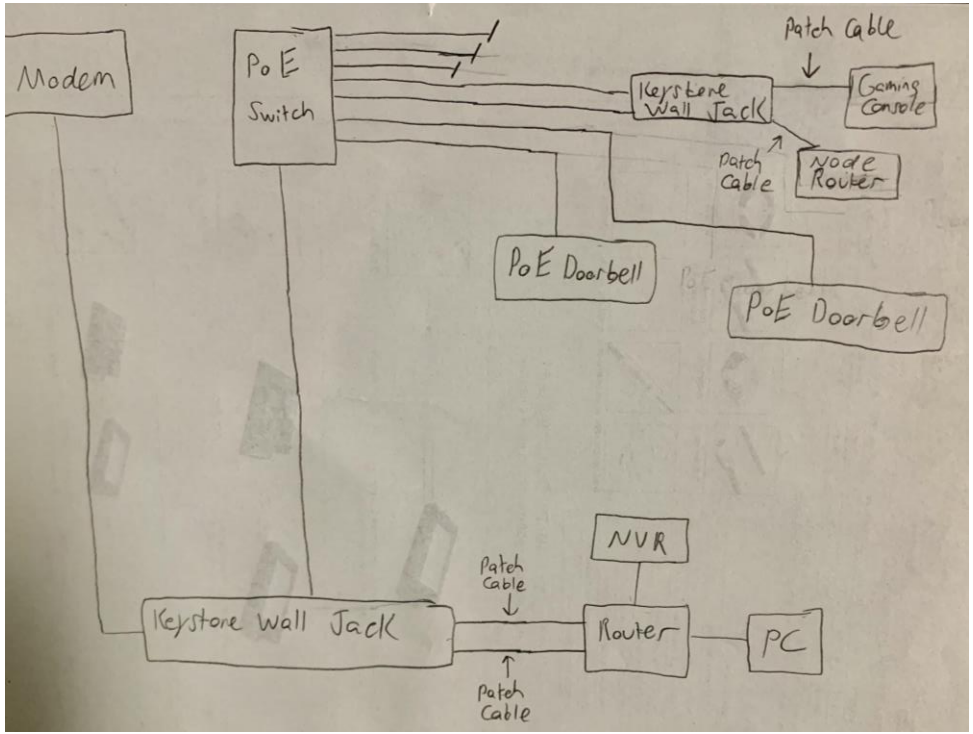
- Easy troubleshooting
- Succession planning
- Facilitate network planning and expansion
- Data Validation
- Tracking progress
- Enhance operational efficiency

Key Documentation Elements

- Physical Network Inventory: devices, racks, cabling, location, and placement.
- Logical Network Topology: Network Maps, VLANs, Routing Protocols
- IP Address Management: IP Addresses, IP Utilization.
- Device Configurations: Configuration Files, Firmware and OS Versions, Hardware Details, and Interface Configurations.
- Network Services: DNS and DHCP, NTP, Proxy and VPN.
- Change Management: Change Logs, Change Requests, Approval Workflows, Rollback Procedures.

Traditional Ways of Documentation

- Spreadsheets
- Text files
- Checking the router, server
- Printouts
- Sticky notes

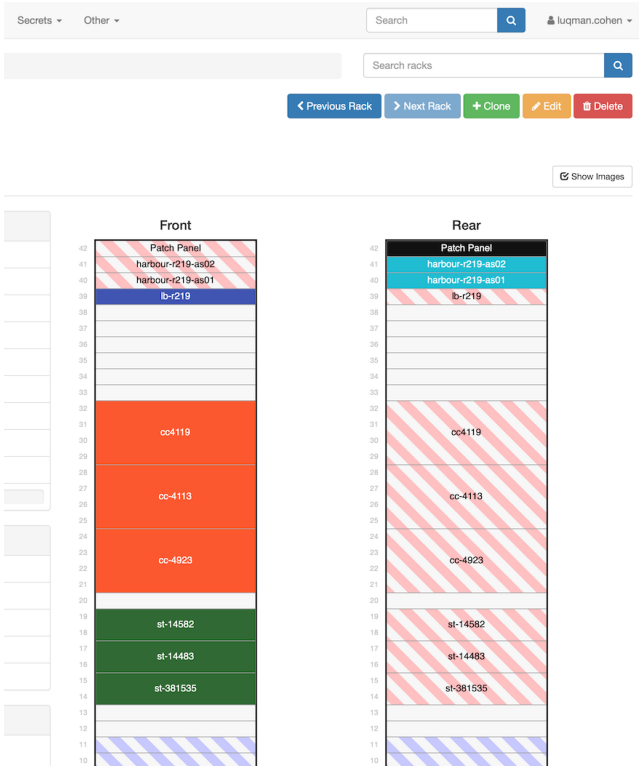


Documentation Tools

- phpIPAM
- draw.io
- NetBox
- RANCID
- SolarWinds
- Excel
- Word

Features of an Effective Tool

- User-Friendly Interface
- Real-Time Updates
- Search and Retrieval
- Security Features
- Scalability
- Collaboration and Sharing
- Reporting and Analytics
- Lightweight

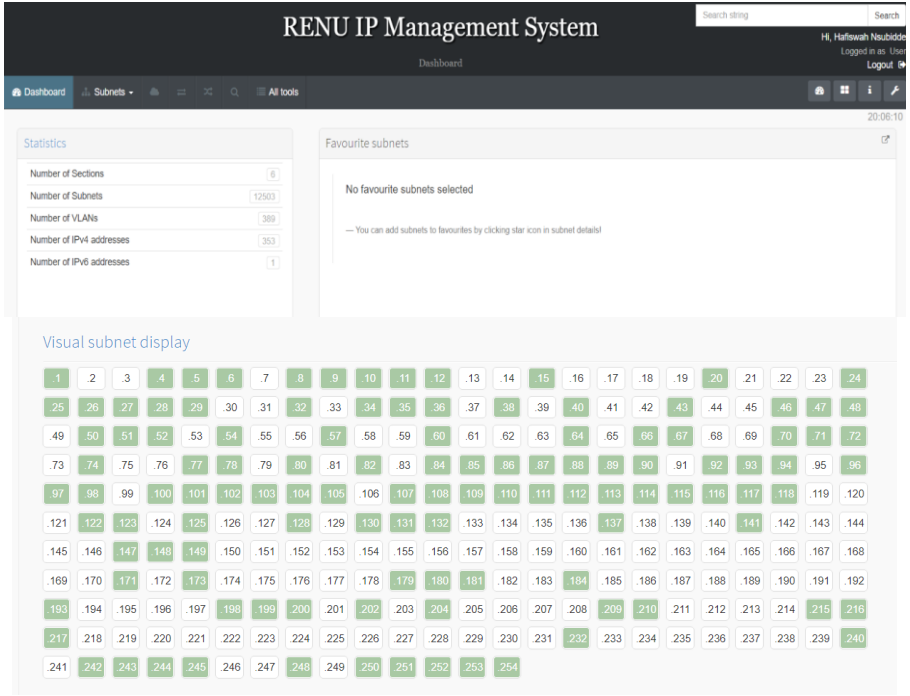


phpIPAM

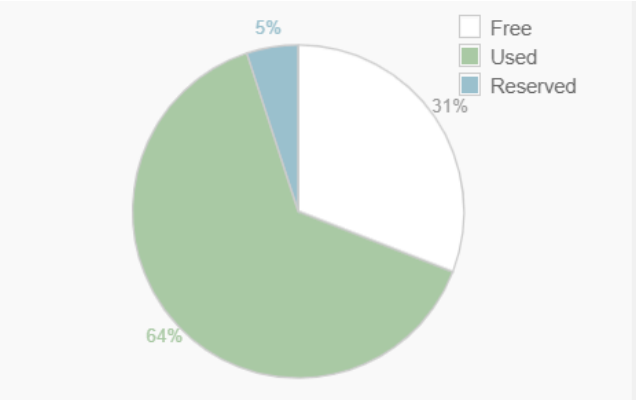
IPAM is a crucial aspect of network management that involves planning, monitoring IP allocation, assignment, and tracking IP addresses within a network.

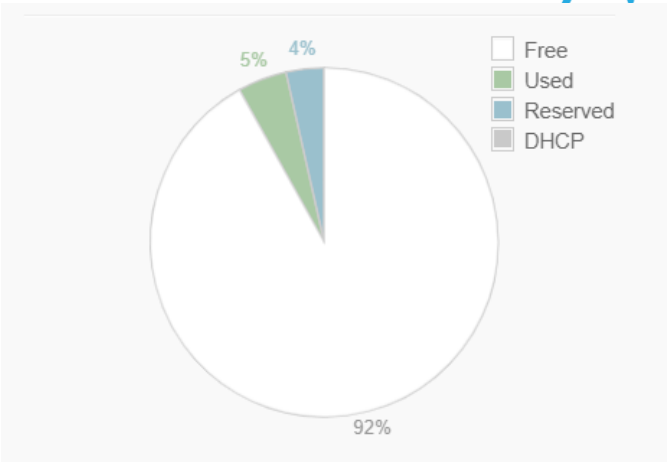
Features of phpIPAM

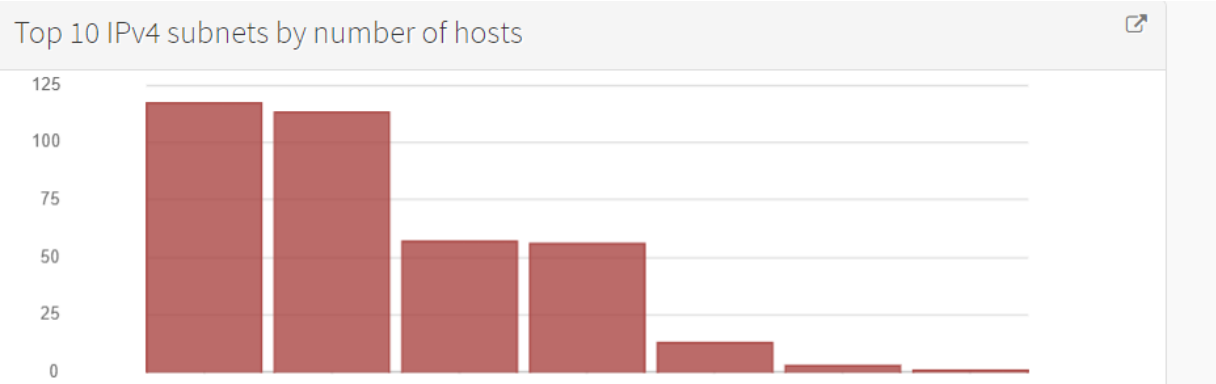
- Open Source
- Centralized Management
- IP Address Allocation and Assignment
- Subnet Management
- IPV6 Support
- IP Address tracking and monitoring



phpIPAM - IP Utilization

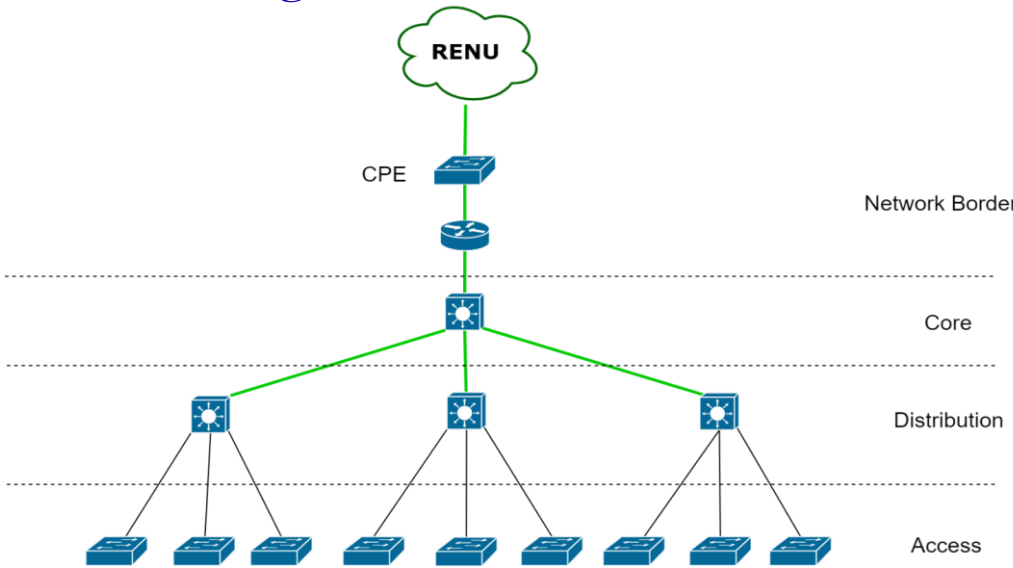






draw.io

draw.io is a free, web-based diagram tool that allows users to create a variety of diagrams including network diagrams, flowcharts, and more.



Features

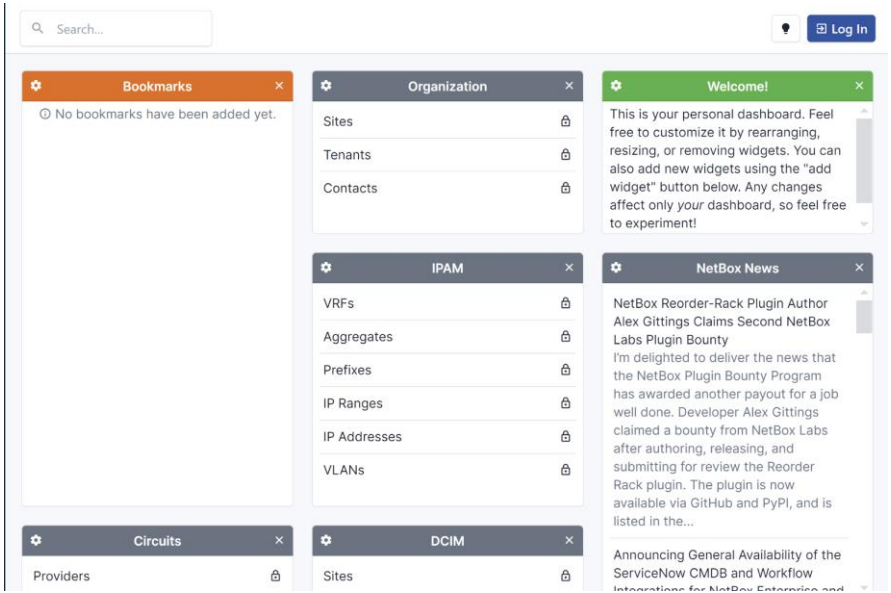
- Open source
- User-friendly interface
- Extensive Shape Library
- Collaboration and sharing
- Offline access
- Integration with other tools

NetBox

NetBox is an open-source web application designed to help manage and document computer networks.

Features

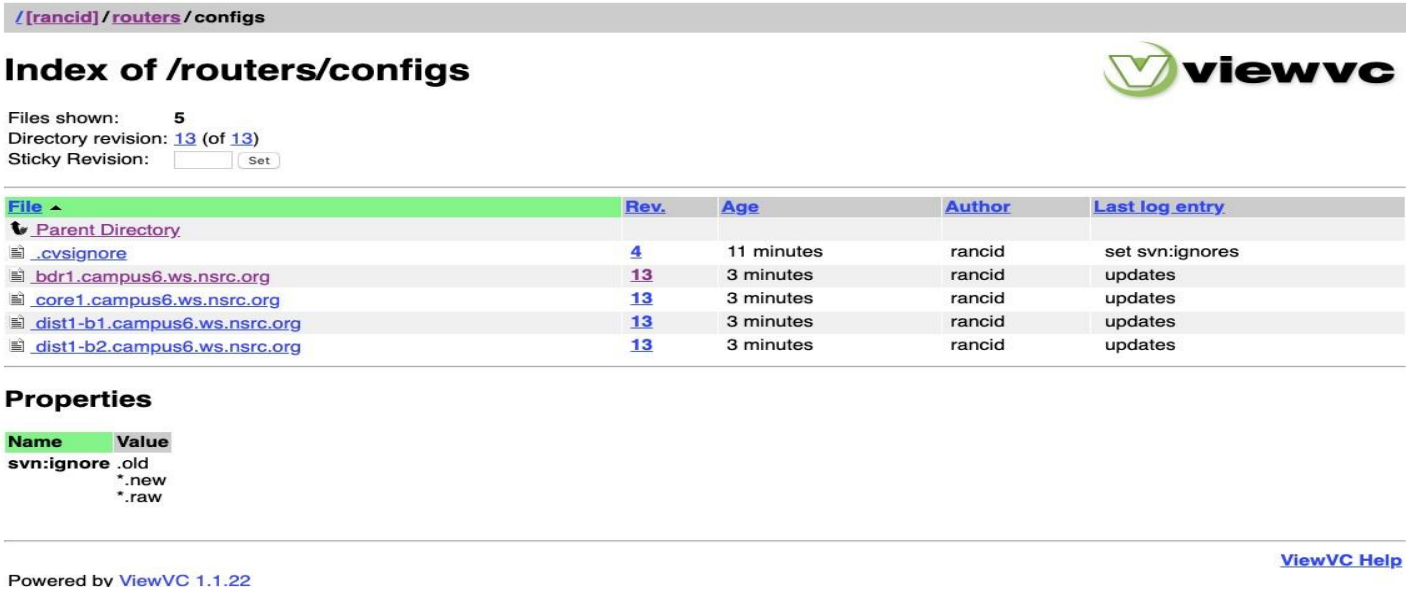
- IP Address Management
- Network Topology Visualization
- Advanced Search and Filtering
- Virtualization and Tenancy
- Device Lifecycle Management
- Inventory Management
- Data Center Management



RANCID

RANCID is an open-source tool designed to manage network device configurations.

RANCID monitors a router's configuration, including software and hardware.



Key Features

- Automated Configuration Backup
- Web Interface
- Multi-Vendor Support
- Troubleshooting and diagnostics
- Uses Concurrent Version System(CVS) to maintain history of changes.

```
set interfaces ge-0/0/15 unit 0 family ethernet-switching
set interfaces ge-0/0/16 unit 0 family ethernet-switching
set interfaces ge-0/0/17 unit 0 family ethernet-switching
set interfaces ge-0/0/18 unit 0 family ethernet-switching
set interfaces ge-0/0/19 unit 0 family ethernet-switching
set interfaces ge-0/0/20 unit 0 family ethernet-switching
set interfaces ge-0/0/21 unit 0 family ethernet-switching
set interfaces ge-0/0/22 unit 0 family ethernet-switching
set interfaces ge-0/0/23 description "Link to [redacted]
set interfaces ge-0/0/23 unit 0 family ethernet-switching port-mode ac
set interfaces ge-0/0/23 unit 0 family ethernet-switching vlan members
set interfaces ge-0/1/0 description "Link to [redacted]
set interfaces ge-0/1/0 mtu [redacted]
set interfaces ge-0/1/0 unit 0 family ethernet-switching port-mode tru
set interfaces ge-0/1/0 unit 0 family ethernet-switching vlan members
set interfaces ge-0/1/0 unit 0 family ethernet-switching vlan members
set interfaces ge-0/1/0 unit 0 family ethernet-switching vlan members
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set interfaces ge-0/1/0 unit 0 family ethernet-switching vlan members
set interfaces ge-0/1/0 unit 0 family ethernet-switching vlan members
set interfaces ge-0/1/0 unit 0 family ethernet-switching vlan members
set interfaces ge-0/1/1 description "Link to [redacted]
```

References

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https://docs.librenms.org/Extensions/Rancid/#ubuntu-rancid-install

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THE END