NETWORK DOCUMENTATION

WHAT IS NETWORK DOCUMENTATION?

- Network documentation is the written charts, drawings, records, and instructions of networking procedures, layouts, and information on your l installed production network. It's not the technical documentation from a vendor on how a specific product works or how it's installed.
- Good network documentation is vital to a smooth-running organization. Getting it right can mean the difference between a network with minimal errors and downtime, and a network that costs someone their job.

KEY BENEFITS OF NETWORK DOCUMENTATION

- **Visualization**

- Keeping a good set of network documents with diagrams of server racks, architecture, and topology gives you network visibility so you can see what's happening on your network, understand traffic flows, and see bottlenecks.

KEY BENEFITS OF NETWORK DOCUMENTATION

- **Troubleshooting**

- Troubleshooting a network problem without good documentation is like shooting in the dark. You have to know what you have, where you're going, and where you've been to properly troubleshoot your network. Documentation does this for you. When you're in a problem situation and you need to resolve it fast, good documentation is going to help. Uptime on your network depends on this.

KEY BENEFITS OF NETWORK DOCUMENTATION

- **Standard operating procedures**

- Documentation is one of the critical elements to success with process and procedure. You can't maintain SOPs—the goal being to keep processes consistent, effective, and efficient—without good documentation. Everyone will do something in a slightly different way. If you don't follow good documentation, your procedures (and possibly your outcomes) will be different every time. The goal is to create success, document it, and then be able to recreate it consistently every time.

KEY BENEFITS OF NETWORK DOCUMENTATION

- **Budgeting and forecasting**
- Networking and network technology planning require the purchase of software, equipment, servers, and services. These are expensive technologies that are required to be planned and budgeted for in advance. These plans need to be justified to management. Without good network documentation, you're just guessing.

KEY BENEFITS OF NETWORK DOCUMENTATION

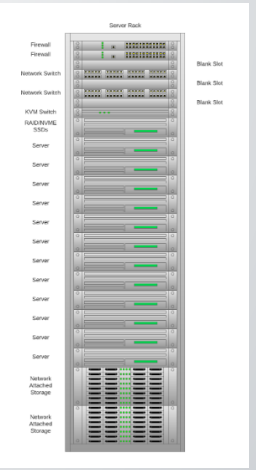
- **Saving money**

- Your resources are scarce, and the best use of them is going to rely on keeping detailed network documentation. This isn't a process that should be left to chance. The leaner you need to run, the more you'll need to save money. And that relies on good documentation.

ITEMS YOU SHOULD DOCUMENT

- **Server rack diagram**

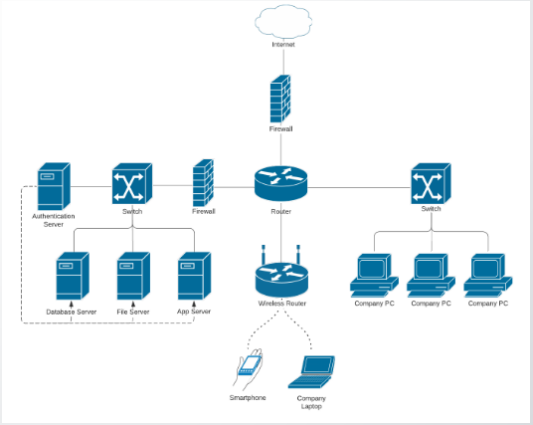
- All server racks should be completely documented so you always have an accurate picture of the data center, as most of the time you won't be there. Make sure you have all components including power strips and monitors. You should know exactly how you connect to the server rack.



ITEMS YOU SHOULD DOCUMENT

- **Network topology**

- Your network topology is the fundamental building block of all network architecture tasks. It's the one you start with, and it's the one that you'll build your other documentation components with. This will be your master plan. Its function is to allow you to visualize exactly how your network is set up. Once this is complete, it may show you things you weren't aware of.



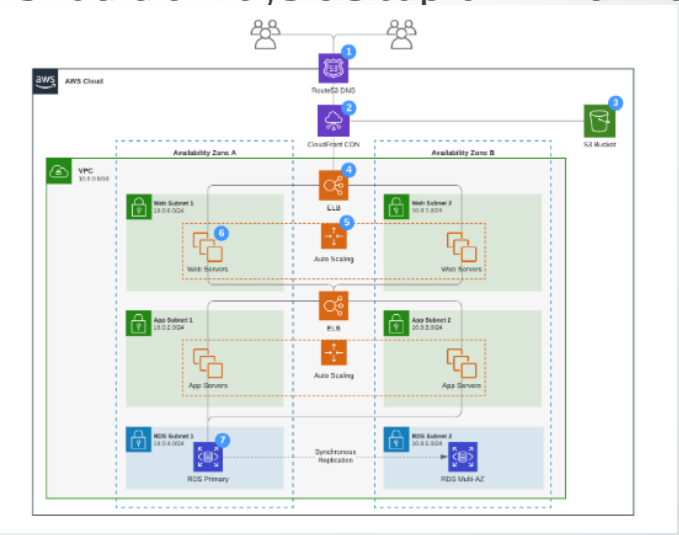
ITEMS YOU SHOULD DOCUMENT

- **IP address allocation**

- IP addresses are a critical resource for a network engineer and shouldn’t be left on a single spreadsheet on one person’s laptop. It needs to be an active, clean table of information that releases old, ghosted addresses and keeps these addresses ready for use. Taking into account subnets, subnet sizes, and dynamic address allocation. All of these functions allow for effective network planning.

ITEMS YOU SHOULD DOCUMENT

- **Cloud architecture diagram**
- This diagram will show you where you connect to your cloud services and how. You should show all connections and speeds. Remember, compliance and security should always be top of mind. Documentation of your cloud architecture will help with this.



ITEMS YOU SHOULD DOCUMENT

- **Recovery plan**

- The recovery plan is the responsibility of every IT and networking manager. It should also be an active part of the everyday activities of the networking engineer. These questions should always be top of mind, “What if that technician or this engineer was not here tomorrow? What would I do? How would a replacement do their job? How are backups done? How are they used? How are they restored? Has it been tested?” This extends all the way to the point of having lost all your personnel or your facility. How would you recreate a working production network again? All these documentation components feed into this recovery plan.

NETWORK DOCUMENTATION TOOLS

- Spiceworks
- NetBrain
- Docusnap
- SYDI
- NETBOX

NETBOX

NETBOX – THE NETWORK DOCUMENTATION APPLICATION

- **What is NetBox?**

- NetBox is an Open-Source Network Documentation application.
- Written in python with Django web-framework
- Provide integration with API, webhooks, plugins, custom python scripts, etc.
- Developed by Jeremy Stretch of Digital Ocean at late 2015.
- Serve at Django web framework with PostgreSQL.

NETBOX – THE NETWORK DOCUMENTATION APPLICATION

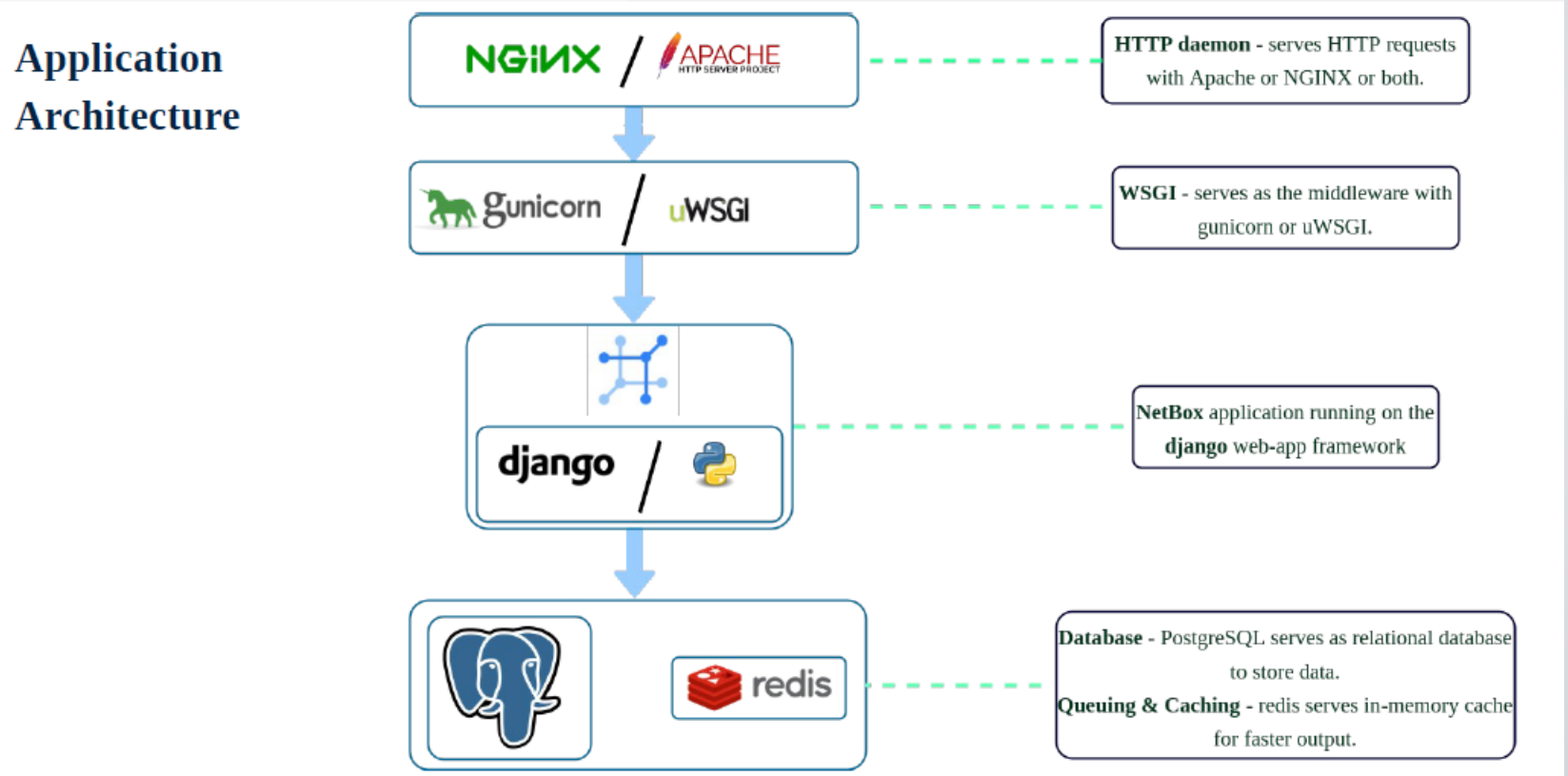
- **Features of NetBox**
- IP address management (IPAM) - IP networks and addresses, AS numbers, VLANs
- Data Centre Infrastructure Management
- Physical Infrastructure
  - Racks – Arranged by specific sites
  - Devices - Types of devices and where they are installed
  - Connections – KVM console, network and power connections among devices.
- Virtualization – Specifications of virtual machines.

NETBOX – THE NETWORK DOCUMENTATION APPLICATION

- **Few things that NetBox doesn’t do –**

- It does not do network monitoring.
- It doesn't have the mechanism to serve as a DNS server.
- Doesn’t have AAA mechanism to support RADIUS server. (AAA = Authentication, Authorization and Accounting)
- Configuration management
- Facilities management

NETBOX – THE NETWORK DOCUMENTATION APPLICATION



THANK YOU