

# Network Changes SOP (pfSense):

## Purpose:

Process to make hardware or software changes and how to implement pfSense to configure organizations network topology.

## Scope:

This SOP covers the steps for any changes to hardware or software in the organization's network infrastructure

Pfsense will be used to create subnets, DHCP ranges, and to assign roles and IP addresses for all important devices within the organization's network infrastructure.

## Responsibilities:

Information Technology (IT) department has sole responsibility for configuring the organization's network and overseeing hardware & software changes.

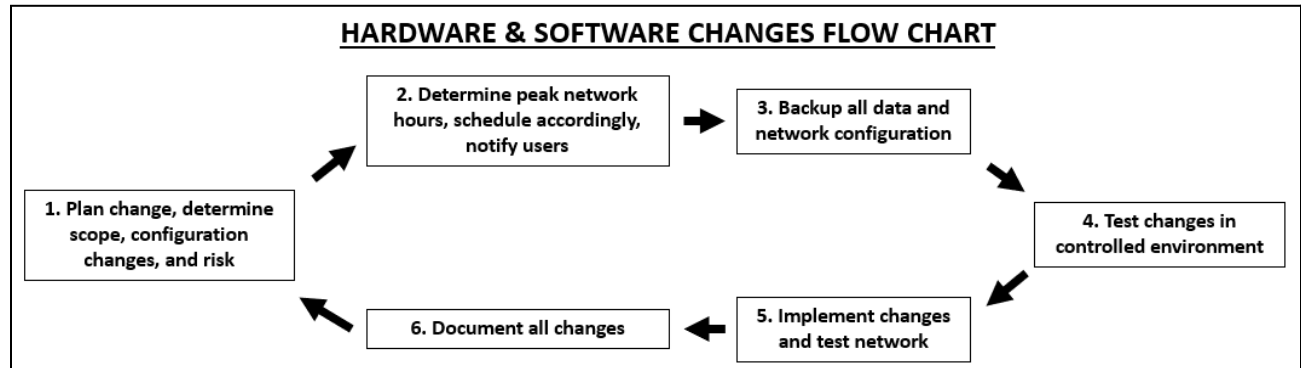
IT Department is required to create and update subnets, DHCP ranges, and IP addresses for important shared resources.

## Prerequisites:

[pfSense](#) - world's most trusted open source network security solution.

# Procedures:

## Hardware & Software Changes:



### **1. Plan change, determine scope, configuration changes, and risk**

- Plan change well in advance
- Determine how many devices in the networks infrastructure the change will affect (scope)
- Identify any risks associated, and have a contingency plan and mitigation strategy in place in the event something goes wrong

### **2. Determine peak network hours, schedule accordingly, notify users**

- Schedule changes during times with low network traffic
- Notify all users of changes and how they may affect access

### **3. Backup all data and network configuration**

- Ensure all data and the network configuration are backed up locally and to an offline device.

### **4. Test changes in controlled environment**

- Recreate the organization's network environment to the best of your ability
- Test new hardware within the confines of this environment prior to deployment

### **5. Implement changes and test network**

- Implement changes and compare previous network baseline to current condition to identify any changes resulting from change

### **6. Document all changes**

- Develop detailed documentation regarding changes
- Ensure proper secure storage of all network configuration and network device information

## References:

- [Protect home network using subnets with pfSense](#)
- [What is a subnet? | How subnetting works](#)
- [Dynamic Host Configuration Protocol \(DHCP\)](#)
- [What is a Firewall?](#)
- [Static IP address](#)

## Definitions:

- **Subnet** - smaller network inside a large network
- **DHCP** - client/server protocol, automatically provides IP)host with its IP and other related configuration information such as subnet mask and default gateway
- **Firewall** - network security device, monitors and filters incoming and outgoing network traffic based on an organization's previously established security policies
- **Static IP** - unique identifier for a device that connects to the internet

## Revision History:

4/4/2023 -- "Network Configuration SOP" created by Rob Gregor

4/5/2023 – "Network Changes SOP" updated by Rob Gregor