Final Project IST166

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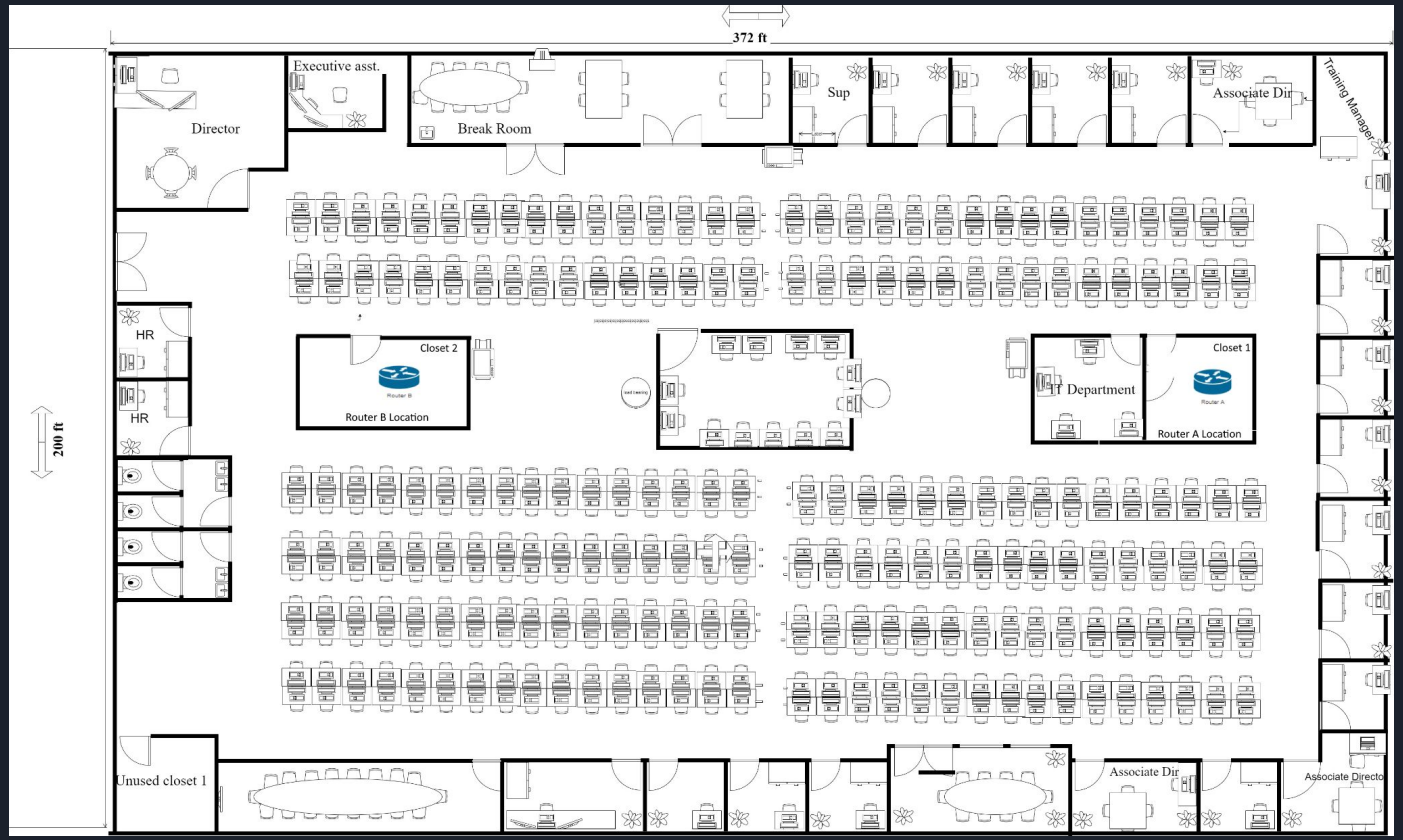
Scenario

- Horizon Mobile Technologies is expanding their operations and opening an new call center.
- The center will host:
  - 384 Customer Service and Tech Support Agents
  - 18 Supervisors
  - 3 Associate Directors
  - 4 IT Staff Members
- Amount of Machines:
  - 384 Workstations
  - 18 Supervisor Offices (2 For HR)
  - 13 Training Stations
  - 4 IT Workstations

Main Floor Plan



Network Setup

- The ISP Chosen will be Sprint Business Internet 1Gbps
- A Class B Network will be used
- 5 Networks are needed
- Hosts needed:
  - Network 1 needs 768 hosts (Customer Service)
  - Network 2 needs 41 hosts (Supervisors Offices)
  - Network 3 needs 14 hosts (Training Machines)
  - Network 4 needs 4 hosts (IT Machines)
  - Network 5 needs 2 hosts (4 in 1 Printers)

Host Ranges:

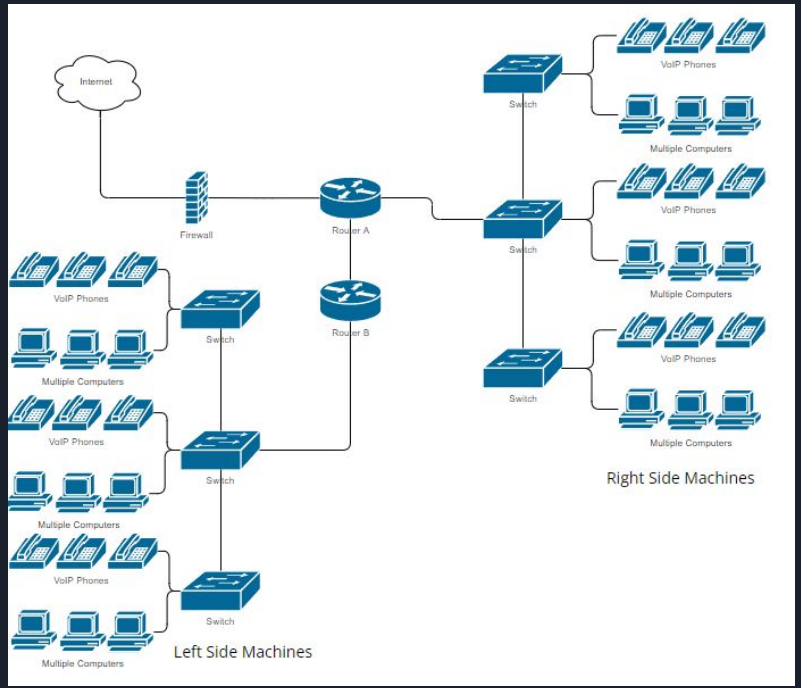
- Network 1:
  - 172.16.0.0 - 172.16.31.255/19
- Network 2:
  - 172.16.32.0 - 172.16.32.63/26
- Network 3:
  - 172.16.32.64 - 172.16.32.95/27
- Network 4:
  - 172.16.32.96 - 172.16.32.87/29
- Network 5:
  - 172.16.32.88 - 172.16.32.92/30

Network Infrastructure

- The building will be split into two sides where the left side of the floor will all route to Router B while the right side of the floor will route to Router A
- Router A will act as the core router or MDF that will connect the building to the outside world while Router B will act as an IDF that will extend the range to make a stable connection throughout the entire floor
- Closets numbered 1 and 2 will be used as network rooms
- Cipher Locks would be used to secure the rooms and prevent access to unauthorized personnel
- Access would be limited to only IT personnel to lower security risk
- The closet numbered 1 on the diagram will be where the main network router will be located in while closet 2 will be where

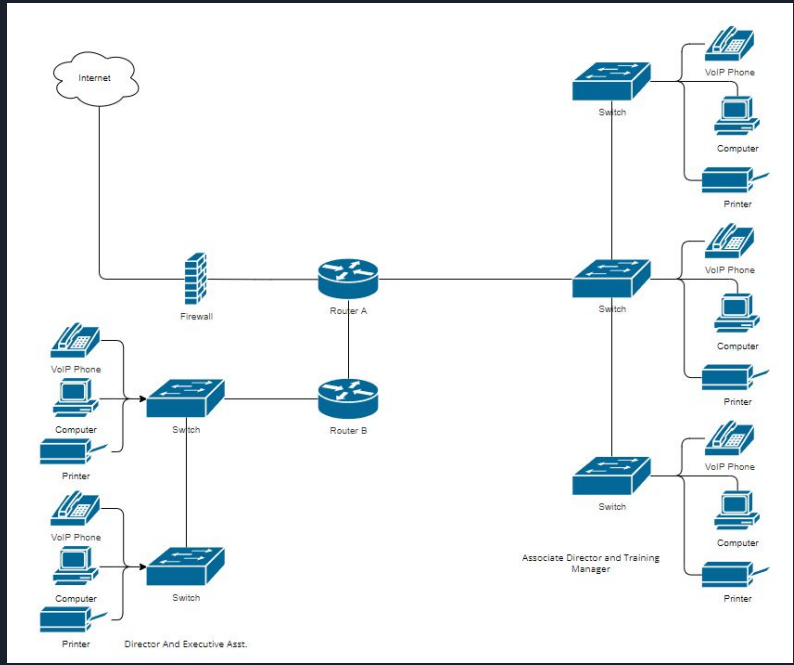
Customer Service Machines/VoIP Phones

- All Customer Service machines and phones will be split up into 24 smaller groups that house 16 machines and phones in each
- Any Customer Service workstations that are located on the left side of the floor will route to Router B
- Any Customer Service workstations that are located on the right side of the floor will route to Router A



Associate Director, Training Manager, And Director's Offices

- Each office space that holds one of the stated personnel will have 3 machines: A computer, a VoIP phone, and a printer.
- Most office rooms will be interconnected via switching that will eventually lead to a router in Closet 1 where Router A is located.
- The Director's office and Assistant Executive will be separate from the other offices and will lead to Closet 2 where Router B is located



Operations

- To prevent any attacks on the network or users of the building, there would be some kind of anti-malware on all machines that has good support for large businesses.
- Training to make sure all employees are aware of attacks and how to prevent said attacks from occurring would be vital as well to aid in prevention
- A planned form to make sure that the network is up for as long as possible would be by adding redundant paths in the network incase one path goes out due to any error, a secondary path could be in use while technicians can respond and fix problems without too much loss in terms of time and money
- To make sure data loss is kept at a minimum for the business as well, there would be a backup plan that goes as follows:
  - A full backup would occur once every two weeks
  - Incremental backups would occur once a day near the end of the day
  - A differential backup would occur at the end of the week at the end of the day
- To make sure that the Mean Time To Repair for any device failure is minimal, technicians should make sure that inventory is well incase the need for a replacement part due to any type of damage