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ISTM 310-502 Case

Group 1

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Executive Summary

Periveo, is a medical startup group whose goal is to help those in underprivileged areas receive new and specialized healthcare by physicians. They specialize in wellness checks, injury and illness rehabilitation, and consulting. Based in Houston, Texas, they conduct day to day operations in ten two-story buildings. Each building allows five hundred employees with half on each floor. Each healthcare professional has four employees helping them including a nurse, technician, receptionist, and scheduler. Each set of five employees has one office for the support staff and one office for the healthcare professional. In order to work on their day to day tasks they need to rely on their devices.

Each office for the supporting employees includes two IP phones and two computers. The nurses and technicians also have a tablet each. Their office for the healthcare professional includes one IP phone and one computer. Each set of five employees need their devices to not only connect to one another but also to their fellow employees in their building as well as the neighboring buildings, and Periveo's main data center.

In this paper we detail how we plan to set up a functioning network that is both efficient and conducive to the needs of the employees of Periveo. We hope that this network will help Periveo in the years to come to support the underprivileged people in Houston, specifically the 77050 postal area.

Details:

- 10 two-story buildings
- 500 employees per building (5000 total)
    - 250 per floor
    - 100 Healthcare Professionals
    - 400 Associated Professionals
- 400 IP phones per building (4000 total)
- 300 computers per building (3000 total)
- 200 tablets per building (2000 total)

Assumptions:

- Offices are 15' wide by 10' tall for wiring purposes
- Company has all devices already, such as tablets and computers, so we are just building a network to support those devices.

IP Address Plan

Building 1

Network IP	Description	VLAN	Dynamic Range	Static IPs
10.1.0.0/26	Building 1 First Floor 50 IP Phones for Health Care Providers	100	10.1.0.2 - 10.1.0.62	10.1.0.1- Router 10.1.0.2- Managed Switch
10.1.0.64/26	Building 1 Second Floor 50 IP Phones for Health Care Providers	101	10.1.0.66- 10.1.0.127	10.1.0.65-Router 10.1.0.66- Managed Switch
10.1.0.128/26	Building 1 First Floor 50 IP Phones for Treatment Rooms	102	10.1.0.130- 10.1.0.190	10.1.0.129-Router 10.1.0.130- Managed Switch
10.1.0.192/26	Building 1 Second Floor 50 IP Phones for Treatment Rooms	103	10.1.0.194- 10.1.0.254	10.1.0.193-Router 10.1.0.194- Managed Switch
10.1.1.0/26	Building 1 First Floor (Part 1) 50 IP Phones for Associates	104	10.1.1.2- 10.1.1.62	10.1.1.1-Router 10.1.1.2- Managed Switch
10.1.1.64/26	Building 1 First Floor (Part 2) 50 IP Phones for Associates	105	10.1.1.66- 10.1.1.127	10.1.1.65-Router 10.1.1.66- Managed Switch
10.1.1.128/26	Building 1 Second Floor (Part 1) 50 IP Phones for Associates	106	10.1.1.130- 10.1.1.190	10.1.1.129-Router 10.1.1.130- Managed Switch
10.1.1.192/26	Building 1	107	10.1.1.194-	10.1.1.193-Router

	Second Floor (Part 2) 50 IP Phones for Associates		10.1.1.254	10.1.1.194- Managed Switch
10.1.6.0/26	Building 1 First Floor 50 Computers for Health Care Providers	200	10.1.6.2- 10.1.6.62	10.1.6.1-Router 10.1.6.2- Managed Switch
10.1.6.64/26	Building 1 Second Floor 50 Computers for Health Care Providers	201	10.1.6.66- 10.1.6.127	10.1.6.65-Router 10.1.6.66- Managed Switch
10.1.6.128/26	Building 1 First Floor (Part 1) 50 Computers for Associates	202	10.1.6.130- 10.1.6.190	10.1.6.129-Router 10.1.6.130- Managed Switch
10.1.6.192/26	Building 1 First Floor (Part 2) 50 Computers for Associates	203	10.1.6.194- 10.1.6.254	10.1.6.193-Router 10.1.6.194- Managed Switch
10.1.7.0/26	Building 1 Second Floor (Part 1) 50 Computers for Associates	203	10.1.7.2- 10.1.7.62	10.1.7.1-Router 10.1.7.2- Managed Switch
10.1.7.64/26	Building 1 Second Floor (Part 2) 50 Computers for Associates	205	10.1.7.66- 10.1.7.127	10.1.7.65-Router 10.1.7.66- Managed Switch
10.1.11.0/26	Building 1 First Floor (Part 1) 50 Tablets for Nurses	300	10.1.11.2- 10.1.11.62	10.1.11.1-Router 10.1.11.2- Managed Switch
10.1.11.64/26	Building 1 First Floor (Part 2) 50 Tablets for Nurses	301	10.1.11.66- 10.1.11.127	10.1.11.65-Router 10.1.11.66- Managed Switch

10.1.11.128/26	Building 1 Second Floor (Part 1) 50 Tablets for Technicians	302	10.1.11.130- 10.1.11.190	10.1.11.129-Router 10.1.11.130- Managed Switch
10.1.11.192/26	Building 1 Second Floor (Part 2) 50 Tablets for Technicians	303	10.1.11.194- 10.1.11.254	10.1.11.193-Router 10.1.11.194- Managed Switch
10.1.16.0/26	Building 1 First Floor 50 Customer Devices	400	10.1.16.2- 10.1.16.62	10.1.16.1-Router 10.1.16.2- Managed Switch
10.1.16.64/26	Building 1 Second Floor 50 Customer Devices	401	10.1.16.66- 10.1.16.127	10.1.16.65-Router 10.1.16.66- Managed Switch

Building 2

10.2.0.0/26	Building 2 First Floor 50 IP Phones for Health Care Providers	100	10.2.0.2- 10.2.0.62	10.2.0.1- Router 10.2.0.2- Managed Switch
10.2.0.64/26	Building 2 Second Floor 50 IP Phones for Health Care Providers	101	10.2.0.66- 10.2.0.127	10.2.0.65-Router 10.2.0.66- Managed Switch
10.2.0.128/26	Building 2 First Floor 50 IP Phones for Treatment Rooms	102	10.2.0.130- 10.2.0.190	10.2.0.129-Router 10.2.0.130- Managed Switch
10.2.0.192/26	Building 2 Second Floor 50 IP Phones for Treatment Rooms	103	10.2.0.194- 10.2.0.254	10.2.0.193-Router 10.2.0.194- Managed Switch
10.2.1.0/26	Building 2 First Floor (Part 1) 50 IP Phones for Associates	104	10.2.1.2- 10.2.1.62	10.2.1.1-Router 10.2.1.2- Managed Switch
10.2.1.64/26	Building 2 First Floor (Part 2) 50 IP Phones for Associates	105	10.2.1.66- 10.2.1.127	10.2.1.65-Router 10.2.1.66- Managed Switch
10.2.1.128/26	Building 2 Second Floor (Part 1) 50 IP Phones for Associates	106	10.2.1.130- 10.2.1.190	10.2.1.129-Router 10.2.1.130- Managed Switch
10.2.1.192/26	Building 2 Second Floor (Part 2) 50 IP Phones for Associates	107	10.2.1.194- 10.2.1.254	10.2.1.193-Router 10.2.1.194- Managed Switch

10.2.6.0/26	Building 2 First Floor 50 Computers for Health Care Providers	200	10.2.6.2- 10.2.6.62	10.2.6.1-Router 10.2.6.2- Managed Switch
10.2.6.64/26	Building 2 Second Floor 50 Computers for Health Care Providers	201	10.2.6.66- 10.2.6.127	10.2.6.65-Router 10.2.6.66- Managed Switch
10.2.6.128/26	Building 2 First Floor (Part 1) 50 Computers for Associates	202	10.2.6.130- 10.2.6.190	10.2.6.129-Router 10.2.6.130- Managed Switch
10.2.6.192/26	Building 2 First Floor (Part 2) 50 Computers for Associates	203	10.2.6.194- 10.2.6.254	10.2.6.193-Router 10.2.6.194- Managed Switch
10.2.7.0/26	Building 2 Second Floor (Part 1) 50 Computers for Associates	203	10.2.7.2- 10.2.7.62	10.2.7.1-Router 10.2.7.2- Managed Switch
10.2.7.64/26	Building 2 Second Floor (Part 2) 50 Computers for Associates	205	10.2.7.66- 10.2.7.127	10.2.7.65-Router 10.2.7.66- Managed Switch
10.2.11.0/26	Building 2 First Floor (Part 1) 50 Tablets for Nurses	300	10.2.11.2- 10.2.11.62	10.2.11.1-Router 10.2.11.2- Managed Switch
10.2.11.64/26	Building 2 First Floor (Part 2) 50 Tablets for Nurses	301	10.2.11.66- 10.2.11.127	10.2.11.65-Router 10.2.11.66- Managed Switch
10.2.11.128/26	Building 2 Second Floor (Part 1) 50 Tablets for	302	10.2.11.130- 10.2.11.190	10.2.11.129-Router 10.2.11.130- Managed Switch

	Technicians			
10.2.11.192/26	Building 2 Second Floor (Part 2) 50 Tablets for Technicians	303	10.2.11.194- 10.2.11.254	10.2.11.193-Router 10.2.11.194- Managed Switch
10.2.16.0/26	Building 2 First Floor 50 Customer Devices	400	10.2.16.2- 10.2.16.62	10.2.16.1-Router 10.2.16.2- Managed Switch
10.2.16.64/26	Building 2 Second Floor 50 Customer Devices	401	10.2.16.66- 10.2.16.127	10.2.16.65-Router 10.2.16.66- Managed Switch

Building 3

10.3.0.0/26	Building 3 First Floor 50 IP Phones for Health Care Providers	100	10.3.0.2- 10.3.0.62	10.3.0.1- Router 10.3.0.2- Managed Switch
10.3.0.64/26	Building 3 Second Floor 50 IP Phones for Health Care Providers	101	10.3.0.66- 10.3.0.127	10.3.0.65-Router 10.3.0.66- Managed Switch
10.3.0.128/26	Building 3 First Floor 50 IP Phones for Treatment Rooms	102	10.3.0.130- 10.3.0.190	10.3.0.129-Router 10.3.0.130- Managed Switch
10.3.0.192/26	Building 3 Second Floor 50 IP Phones for Treatment Rooms	103	10.3.0.194- 10.3.0.254	10.3.0.193-Router 10.3.0.194- Managed Switch
10.3.1.0/26	Building 3 First Floor (Part 1) 50 IP Phones for Associates	104	10.3.1.2- 10.3.1.62	10.3.1.1-Router 10.3.1.2- Managed Switch
10.3.1.64/26	Building 3 First Floor (Part 2) 50 IP Phones for Associates	105	10.3.1.66- 10.3.1.127	10.3.1.65-Router 10.3.1.66- Managed Switch
10.3.1.128/26	Building 3 Second Floor (Part 1) 50 IP Phones for Associates	106	10.3.1.130- 10.3.1.190	10.3.1.129-Router 10.3.1.130- Managed Switch
10.3.1.192/26	Building 3 Second Floor (Part 2) 50 IP Phones for Associates	107	10.3.1.194- 10.3.1.254	10.3.1.193-Router 10.3.1.194- Managed Switch

10.3.6.0/26	Building 3 First Floor 50 Computers for Health Care Providers	200	10.3.6.2- 10.3.6.62	10.3.6.1-Router 10.3.6.2- Managed Switch
10.3.6.64/26	Building 3 Second Floor 50 Computers for Health Care Providers	201	10.3.6.66- 10.3.6.127	10.3.6.65-Router 10.3.6.66- Managed Switch
10.3.6.128/26	Building 3 First Floor (Part 1) 50 Computers for Associates	202	10.3.6.130- 10.3.6.190	10.3.6.129-Router 10.3.6.130- Managed Switch
10.3.6.192/26	Building 3 First Floor (Part 2) 50 Computers for Associates	203	10.3.6.194- 10.3.6.254	10.3.6.193-Router 10.3.6.194- Managed Switch
10.3.7.0/26	Building 3 Second Floor (Part 1) 50 Computers for Associates	203	10.3.7.2- 10.3.7.62	10.3.7.1-Router 10.3.7.2- Managed Switch
10.3.7.64/26	Building 3 Second Floor (Part 2) 50 Computers for Associates	205	10.3.7.66- 10.3.7.127	10.3.7.65-Router 10.3.7.66- Managed Switch
10.3.11.0/26	Building 3 First Floor (Part 1) 50 Tablets for Nurses	300	10.3.11.2- 10.3.11.62	10.3.11.1-Router 10.3.11.2- Managed Switch
10.3.11.64/26	Building 3 First Floor (Part 2) 50 Tablets for Nurses	301	10.3.11.66- 10.3.11.127	10.3.11.65-Router 10.3.11.66- Managed Switch
10.3.11.128/26	Building 3 Second Floor (Part 1) 50 Tablets for	302	10.3.11.130- 10.3.11.190	10.3.11.129-Router 10.3.11.130- Managed Switch

	Technicians			
10.3.11.192/26	Building 3 Second Floor (Part 2) 50 Tablets for Technicians	303	10.3.11.194- 10.3.11.254	10.3.11.193-Router 10.3.11.194- Managed Switch
10.3.16.0/26	Building 3 First Floor 50 Customer Devices	400	10.3.16.2- 10.3.16.62	10.3.16.1-Router 10.3.16.2- Managed Switch
10.3.16.64/26	Building 3 Second Floor 50 Customer Devices	401	10.3.16.66- 10.3.16.127	10.3.16.65-Router 10.3.16.66- Managed Switch

Building 4

10.4.0.0/26	Building 4 First Floor 50 IP Phones for Health Care Providers	100	10.4.0.2- 10.4.0.62	10.4.0.1- Router 10.4.0.2- Managed Switch
10.4.0.64/26	Building 4 Second Floor 50 IP Phones for Health Care Providers	101	10.4.0.66- 10.4.0.127	10.4.0.65-Router 10.4.0.66- Managed Switch
10.4.0.128/26	Building 4 First Floor 50 IP Phones for Treatment Rooms	102	10.4.0.130- 10.4.0.190	10.4.0.129-Router 10.4.0.130- Managed Switch
10.4.0.192/26	Building 4 Second Floor 50 IP Phones for Treatment Rooms	103	10.4.0.194- 10.4.0.254	10.4.0.193-Router 10.4.0.194- Managed Switch
10.4.1.0/26	Building First Floor (Part 1) 50 IP Phones for Associates	104	10.4.1.2- 10.4.1.62	10.4.1.1-Router 10.4.1.2- Managed Switch
10.4.1.64/26	Building 4 First Floor (Part 2) 50 IP Phones for Associates	105	10.4.1.66- 10.4.1.127	10.4.1.65-Router 10.4.1.66- Managed Switch
10.4.1.128/26	Building 4 Second Floor (Part 1) 50 IP Phones for Associates	106	10.4.1.130- 10.4.1.190	10.4.1.129-Router 10.4.1.130- Managed Switch
10.4.1.192/26	Building 4 Second Floor (Part 2) 50 IP Phones for Associates	107	10.4.1.194- 10.4.1.254	10.4.1.193-Router 10.4.1.194- Managed Switch

10.4.6.0/26	Building 4 First Floor 50 Computers for Health Care Providers	200	10.4.6.2- 10.4.6.62	10.4.6.1-Router 10.4.6.2- Managed Switch
10.4.6.64/26	Building 4 Second Floor 50 Computers for Health Care Providers	201	10.4.6.66- 10.4.6.127	10.4.6.65-Router 10.4.6.66- Managed Switch
10.4.6.128/26	Building 4 First Floor (Part 1) 50 Computers for Associates	202	10.4.6.130- 10.4.6.190	10.4.6.129-Router 10.4.6.130- Managed Switch
10.4.6.192/26	Building 4 First Floor (Part 2) 50 Computers for Associates	203	10.4.6.194- 10.4.6.254	10.4.6.193-Router 10.4.6.194- Managed Switch
10.4.7.0/26	Building 4 Second Floor (Part 1) 50 Computers for Associates	203	10.4.7.2- 10.4.7.62	10.4.7.1-Router 10.4.7.2- Managed Switch
10.4.7.64/26	Building 4 Second Floor (Part 2) 50 Computers for Associates	205	10.4.7.66- 10.4.7.127	10.4.7.65-Router 10.4.7.66- Managed Switch
10.4.11.0/26	Building 4 First Floor (Part 1) 50 Tablets for Nurses	300	10.4.11.2- 10.4.11.62	10.4.11.1-Router 10.4.11.2- Managed Switch
10.4.11.64/26	Building 4 First Floor (Part 2) 50 Tablets for Nurses	301	10.4.11.66- 10.4.11.127	10.4.11.65-Router 10.4.11.66- Managed Switch
10.4.11.128/26	Building 4 Second Floor (Part 1) 50 Tablets for	302	10.4.11.130- 10.4.11.190	10.4.11.129-Router 10.4.11.130- Managed Switch

	Technicians			
10.4.11.192/26	Building 4 Second Floor (Part 2) 50 Tablets for Technicians	303	10.4.11.194- 10.4.11.254	10.4.11.193-Router 10.4.11.194- Managed Switch
10.4.16.0/26	Building 4 First Floor 50 Customer Devices	400	10.4.16.2- 10.4.16.62	10.4.16.1-Router 10.4.16.2- Managed Switch
10.4.16.64/26	Building 4 Second Floor 50 Customer Devices	401	10.4.16.66- 10.4.16.127	10.4.16.65-Router 10.4.16.66- Managed Switch

Building 5

10.5.0.0/26	Building 5 First Floor 50 IP Phones for Health Care Providers	100	10.5.0.2- 10.5.0.62	10.5.0.1- Router 10.5.0.2- Managed Switch
10.5.0.64/26	Building 5 Second Floor 50 IP Phones for Health Care Providers	101	10.5.0.66- 10.5.0.127	10.5.0.65-Router 10.5.0.66- Managed Switch
10.5.0.128/26	Building 5 First Floor 50 IP Phones for Treatment Rooms	102	10.5.0.130- 10.5.0.190	10.5.0.129-Router 10.5.0.130- Managed Switch
10.5.0.192/26	Building 5 Second Floor 50 IP Phones for Treatment Rooms	103	10.5.0.194- 10.5.0.254	10.5.0.193-Router 10.5.0.194- Managed Switch
10.5.1.0/26	Building 5 First Floor (Part 1) 50 IP Phones for Associates	104	10.5.1.2- 10.5.1.62	10.5.1.1-Router 10.5.1.2- Managed Switch
10.5.1.64/26	Building 5 First Floor (Part 2) 50 IP Phones for Associates	105	10.5.1.66- 10.5.1.127	10.5.1.65-Router 10.5.1.66- Managed Switch
10.5.1.128/26	Building 5 Second Floor (Part 1) 50 IP Phones for Associates	106	10.5.1.130- 10.5.1.190	10.5.1.129-Router 10.5.1.130- Managed Switch
10.5.1.192/26	Building 5 Second Floor (Part 2) 50 IP Phones for Associates	107	10.5.1.194- 10.5.1.254	10.5.1.193-Router 10.5.1.194- Managed Switch

10.5.6.0/26	Building 5 First Floor 50 Computers for Health Care Providers	200	10.5.6.2- 10.5.6.62	10.5.6.1-Router 10.5.6.2- Managed Switch
10.5.6.64/26	Building 5 Second Floor 50 Computers for Health Care Providers	201	10.5.6.66- 10.5.6.127	10.5.6.65-Router 10.5.6.66- Managed Switch
10.5.6.128/26	Building 5 First Floor (Part 1) 50 Computers for Associates	202	10.5.6.130- 10.5.6.190	10.5.6.129-Router 10.5.6.130- Managed Switch
10.5.6.192/26	Building 5 First Floor (Part 2) 50 Computers for Associates	203	10.5.6.194- 10.5.6.254	10.5.6.193-Router 10.5.6.194- Managed Switch
10.5.7.0/26	Building 5 Second Floor (Part 1) 50 Computers for Associates	203	10.5.7.2- 10.5.7.62	10.5.7.1-Router 10.5.7.2- Managed Switch
10.5.7.64/26	Building 5 Second Floor (Part 2) 50 Computers for Associates	205	10.5.7.66- 10.5.7.127	10.5.7.65-Router 10.5.7.66- Managed Switch
10.5.11.0/26	Building 5 First Floor (Part 1) 50 Tablets for Nurses	300	10.5.11.2- 10.5.11.62	10.5.11.1-Router 10.5.11.2- Managed Switch
10.5.11.64/26	Building 5 First Floor (Part 2) 50 Tablets for Nurses	301	10.5.11.66- 10.5.11.127	10.5.11.65-Router 10.5.11.66- Managed Switch
10.5.11.128/26	Building 5 Second Floor (Part 1) 50 Tablets for	302	10.5.11.130- 10.5.11.190	10.5.11.129-Router 10.5.11.130- Managed Switch

	Technicians			
10.5.11.192/26	Building 5 Second Floor (Part 2) 50 Tablets for Technicians	303	10.5.11.194- 10.5.11.254	10.5.11.193-Router 10.5.11.194- Managed Switch
10.5.16.0/26	Building 5 First Floor 50 Customer Devices	400	10.5.16.2- 10.5.16.62	10.5.16.1-Router 10.5.16.2- Managed Switch
10.5.16.64/26	Building 5 Second Floor 50 Customer Devices	401	10.5.16.66- 10.5.16.127	10.5.16.65-Router 10.5.16.66- Managed Switch

Building 6

10.6.0.0/26	Building 6 First Floor 50 IP Phones for Health Care Providers	100	10.6.0.2- 10.6.0.62	10.6.0.1- Router 10.6.0.2- Managed Switch
10.6.0.64/26	Building 6 Second Floor 50 IP Phones for Health Care Providers	101	10.6.0.66- 10.6.0.127	10.6.0.65-Router 10.6.0.66- Managed Switch
10.6.0.128/26	Building 6 First Floor 50 IP Phones for Treatment Rooms	102	10.6.0.130- 10.6.0.190	10.6.0.129-Router 10.6.0.130- Managed Switch
10.6.0.192/26	Building 6 Second Floor 50 IP Phones for Treatment Rooms	103	10.6.0.194- 10.6.0.254	10.6.0.193-Router 10.6.0.194- Managed Switch
10.6.1.0/26	Building 6 First Floor (Part 1) 50 IP Phones for Associates	104	10.6.1.2- 10.6.1.62	10.6.1.1-Router 10.6.1.2- Managed Switch
10.6.1.64/26	Building 6 First Floor (Part 2) 50 IP Phones for Associates	105	10.6.1.66- 10.6.1.127	10.6.1.65-Router 10.6.1.66- Managed Switch
10.6.1.128/26	Building 6 Second Floor (Part 1) 50 IP Phones for Associates	106	10.6.1.130- 10.6.1.190	10.6.1.129-Router 10.6.1.130- Managed Switch
10.6.1.192/26	Building 6 Second Floor (Part 2) 50 IP Phones for Associates	107	10.6.1.194- 10.6.1.254	10.6.1.193-Router 10.6.1.194- Managed Switch

10.6.6.0/26	Building 6 First Floor 50 Computers for Health Care Providers	200	10.6.6.2- 10.6.6.62	10.6.6.1-Router 10.6.6.2- Managed Switch
10.6.6.64/26	Building 6 Second Floor 50 Computers for Health Care Providers	201	10.6.6.66- 10.6.6.127	10.6.6.65-Router 10.6.6.66- Managed Switch
10.6.6.128/26	Building 6 First Floor (Part 1) 50 Computers for Associates	202	10.6.6.130- 10.6.6.190	10.6.6.129-Router 10.6.6.130- Managed Switch
10.6.6.192/26	Building 6 First Floor (Part 2) 50 Computers for Associates	203	10.6.6.194- 10.6.6.254	10.6.6.193-Router 10.6.6.194- Managed Switch
10.6.7.0/26	Building 6 Second Floor (Part 1) 50 Computers for Associates	203	10.6.7.2- 10.6.7.62	10.6.7.1-Router 10.6.7.2- Managed Switch
10.6.7.64/26	Building 6 Second Floor (Part 2) 50 Computers for Associates	205	10.6.7.66- 10.6.7.127	10.6.7.65-Router 10.6.7.66- Managed Switch
10.6.11.0/26	Building 6 First Floor (Part 1) 50 Tablets for Nurses	300	10.6.11.2- 10.6.11.62	10.6.11.1-Router 10.6.11.2- Managed Switch
10.6.11.64/26	Building 6 First Floor (Part 2) 50 Tablets for Nurses	301	10.6.11.66- 10.6.11.127	10.6.11.65-Router 10.6.11.66- Managed Switch
10.6.11.128/26	Building 6 Second Floor (Part 1) 50 Tablets for	302	10.6.11.130- 10.6.11.190	10.6.11.129-Router 10.6.11.130- Managed Switch

	Technicians			
10.6.11.192/26	Building 6 Second Floor (Part 2) 50 Tablets for Technicians	303	10.6.11.194- 10.6.11.254	10.6.11.193-Router 10.6.11.194- Managed Switch
10.6.16.0/26	Building 6 First Floor 50 Customer Devices	400	10.6.16.2- 10.6.16.62	10.6.16.1-Router 10.6.16.2- Managed Switch
10.6.16.64/26	Building 6 Second Floor 50 Customer Devices	401	10.6.16.66- 10.6.16.127	10.6.16.65-Router 10.6.16.66- Managed Switch

Building 7

10.7.0.0/26	Building 7 First Floor 50 IP Phones for Health Care	100	10.7.0.2- 10.7.0.62	10.7.0.1- Router 10.7.0.2- Managed Switch

	Providers			
10.7.0.64/26	Building 7 Second Floor 50 IP Phones for Health Care Providers	101	10.7.0.66- 10.7.0.127	10.7.0.65-Router 10.7.0.66- Managed Switch
10.7.0.128/26	Building 7 First Floor 50 IP Phones for Treatment Rooms	102	10.7.0.130- 10.7.0.190	10.7.0.129-Router 10.7.0.130- Managed Switch
10.7.0.192/26	Building 7 Second Floor 50 IP Phones for Treatment Rooms	103	10.7.0.194- 10.7.0.254	10.7.0.193-Router 10.7.0.194- Managed Switch
10.7.1.0/26	Building 7 First Floor (Part 1) 50 IP Phones for Associates	104	10.7.1.2- 10.7.1.62	10.7.1.1-Router 10.7.1.2- Managed Switch
10.7.1.64/26	Building 7 First Floor (Part 2) 50 IP Phones for Associates	105	10.7.1.66- 10.7.1.127	10.7.1.65-Router 10.7.1.66- Managed Switch
10.7.1.128/26	Building 7 Second Floor (Part 1) 50 IP Phones for Associates	106	10.7.1.130- 10.7.1.190	10.7.1.129-Router 10.7.1.130- Managed Switch
10.7.1.192/26	Building 7 Second Floor (Part 2) 50 IP Phones for Associates	107	10.7.1.194- 10.7.1.254	10.7.1.193-Router 10.7.1.194- Managed Switch
10.7.6.0/26	Building 7 First Floor 50 Computers for Health Care Providers	200	10.7.6.2- 10.7.6.62	10.7.6.1-Router 10.7.6.2- Managed Switch

10.7.6.64/26	Building 7 Second Floor 50 Computers for Health Care Providers	201	10.7.6.66-10.7.6.127	10.7.6.65-Router 10.7.6.66-Managed Switch
10.7.6.128/26	Building 7 First Floor (Part 1) 50 Computers for Associates	202	10.7.6.130-10.7.6.190	10.7.6.129-Router 10.7.6.130-Managed Switch
10.7.6.192/26	Building 7 First Floor (Part 2) 50 Computers for Associates	203	10.7.6.194-10.7.6.254	10.7.6.193-Router 10.7.6.194-Managed Switch
10.7.7.0/26	Building 7 Second Floor (Part 1) 50 Computers for Associates	203	10.7.7.2-10.7.7.62	10.7.7.1-Router 10.7.7.2- Managed Switch
10.7.7.64/26	Building 7 Second Floor (Part 2) 50 Computers for Associates	205	10.7.7.66-10.7.7.127	10.7.7.65-Router 10.7.7.66-Managed Switch
10.7.11.0/26	Building 7 First Floor (Part 1) 50 Tablets for Nurses	300	10.7.11.2-10.7.11.62	10.7.11.1-Router 10.7.11.2-Managed Switch
10.7.11.64/26	Building 7 First Floor (Part 2) 50 Tablets for Nurses	301	10.7.11.66-10.7.11.127	10.7.11.65-Router 10.7.11.66-Managed Switch
10.7.11.128/26	Building 7 Second Floor (Part 1) 50 Tablets for Technicians	302	10.7.11.130-10.7.11.190	10.7.11.129-Router 10.7.11.130-Managed Switch
10.7.11.192/26	Building 7 Second Floor (Part 2) 50 Tablets for	303	10.7.11.194-10.7.11.254	10.7.11.193-Router 10.7.11.194-Managed Switch

	Technicians			
10.7.16.0/26	Building 7 First Floor 50 Customer Devices	400	10.7.16.2- 10.7.16.62	10.7.16.1-Router 10.7.16.2- Managed Switch
10.7.16.64/26	Building 7 Second Floor 50 Customer Devices	401	10.7.16.66- 10.7.16.127	10.7.16.65-Router 10.7.16.66- Managed Switch

Building 8

10.8.0.0/26	Building 8 First Floor 50 IP Phones for Health Care Providers	100	10.8.0.2- 10.8.0.62	10.8.0.1- Router 10.8.0.2- Managed Switch
10.8.0.64/26	Building 8	101	10.8.0.66-	10.8.0.65-Router

	Second Floor 50 IP Phones for Health Care Providers		10.8.0.127	10.8.0.66- Managed Switch
10.8.0.128/26	Building 8 First Floor 50 IP Phones for Treatment Rooms	102	10.8.0.130- 10.8.0.190	10.8.0.129-Router 10.8.0.130- Managed Switch
10.8.0.192/26	Building 8 Second Floor 50 IP Phones for Treatment Rooms	103	10.8.0.194- 10.8.0.254	10.8.0.193-Router 10.8.0.194- Managed Switch
10.8.1.0/26	Building 8 First Floor (Part 1) 50 IP Phones for Associates	104	10.8.1.2- 10.8.1.62	10.8.1.1-Router 10.8.1.2- Managed Switch
10.8.1.64/26	Building 8 First Floor (Part 2) 50 IP Phones for Associates	105	10.8.1.66- 10.8.1.127	10.8.1.65-Router 10.8.1.66- Managed Switch
10.8.1.128/26	Building 8 Second Floor (Part 1) 50 IP Phones for Associates	106	10.8.1.130- 10.8.1.190	10.8.1.129-Router 10.8.1.130- Managed Switch
10.8.1.192/26	Building 8 Second Floor (Part 2) 50 IP Phones for Associates	107	10.8.1.194- 10.8.1.254	10.8.1.193-Router 10.8.1.194- Managed Switch
10.8.6.0/26	Building 8 First Floor 50 Computers for Health Care Providers	200	10.8.6.2- 10.8.6.62	10.8.6.1-Router 10.8.6.2- Managed Switch
10.8.6.64/26	Building 8 Second Floor 50 Computers	201	10.8.6.66- 10.8.6.127	10.8.6.65-Router 10.8.6.66- Managed Switch

	for Health Care Providers			
10.8.6.128/26	Building 8 First Floor (Part 1) 50 Computers for Associates	202	10.8.6.130-10.8.6.190	10.8.6.129-Router 10.8.6.130-Managed Switch
10.8.6.192/26	Building 8 First Floor (Part 2) 50 Computers for Associates	203	10.8.6.194-10.8.6.254	10.8.6.193-Router 10.8.6.194-Managed Switch
10.8.7.0/26	Building 8 Second Floor (Part 1) 50 Computers for Associates	203	10.8.7.2-10.8.7.62	10.8.7.1-Router 10.8.7.2- Managed Switch
10.8.7.64/26	Building 8 Second Floor (Part 2) 50 Computers for Associates	205	10.8.7.66-10.8.7.127	10.8.7.65-Router 10.8.7.66-Managed Switch
10.8.11.0/26	Building 8 First Floor (Part 1) 50 Tablets for Nurses	300	10.8.11.2-10.8.11.62	10.8.11.1-Router 10.8.11.2-Managed Switch
10.8.11.64/26	Building 8 First Floor (Part 2) 50 Tablets for Nurses	301	10.8.11.66-10.8.11.127	10.8.11.65-Router 10.8.11.66-Managed Switch
10.8.11.128/26	Building 8 Second Floor (Part 1) 50 Tablets for Technicians	302	10.8.11.130-10.8.11.190	10.8.11.129-Router 10.8.11.130-Managed Switch
10.8.11.192/26	Building 8 Second Floor (Part 2) 50 Tablets for Technicians	303	10.8.11.194-10.8.11.254	10.8.11.193-Router 10.8.11.194-Managed Switch
10.8.16.0/26	Building 8 First	400	10.8.16.2-	10.8.16.1-Router

	Floor 50 Customer Devices		10.8.16.62	10.8.16.2- Managed Switch
10.8.16.64/26	Building 8 Second Floor 50 Customer Devices	401	10.8.16.66- 10.8.16.127	10.8.16.65-Router 10.8.16.66- Managed Switch

Building 9

10.9.0.0/26	Building 9 First Floor 50 IP Phones for Health Care Providers	100	10.9.0.2- 10.9.0.62	10.9.0.1- Router 10.9.0.2- Managed Switch
10.9.0.64/26	Building 9 Second Floor 50 IP Phones for Health Care	101	10.9.0.66- 10.9.0.127	10.9.0.65-Router 10.9.0.66- Managed Switch

	Providers			
10.9.0.128/26	Building 9 First Floor 50 IP Phones for Treatment Rooms	102	10.9.0.130- 10.9.0.190	10.9.0.129-Router 10.9.0.130- Managed Switch
10.9.0.192/26	Building 9 Second Floor 50 IP Phones for Treatment Rooms	103	10.9.0.194- 10.9.0.254	10.9.0.193-Router 10.9.0.194- Managed Switch
10.9.1.0/26	Building 9 First Floor (Part 1) 50 IP Phones for Associates	104	10.9.1.2- 10.9.1.62	10.9.1.1-Router 10.9.1.2- Managed Switch
10.9.1.64/26	Building 9 First Floor (Part 2) 50 IP Phones for Associates	105	10.9.1.66- 10.9.1.127	10.9.1.65-Router 10.9.1.66- Managed Switch
10.9.1.128/26	Building 9 Second Floor (Part 1) 50 IP Phones for Associates	106	10.9.1.130- 10.9.1.190	10.9.1.129-Router 10.9.1.130- Managed Switch
10.9.1.192/26	Building 9 Second Floor (Part 2) 50 IP Phones for Associates	107	10.9.1.194- 10.9.1.254	10.9.1.193-Router 10.9.1.194- Managed Switch
10.9.6.0/26	Building 9 First Floor 50 Computers for Health Care Providers	200	10.9.6.2- 10.9.6.62	10.9.6.1-Router 10.9.6.2- Managed Switch
10.9.6.64/26	Building 9 Second Floor 50 Computers for Health Care Providers	201	10.9.6.66- 10.9.6.127	10.9.6.65-Router 10.9.6.66- Managed Switch

10.9.6.128/26	Building 9 First Floor (Part 1) 50 Computers for Associates	202	10.9.6.130- 10.9.6.190	10.9.6.129-Router 10.9.6.130- Managed Switch
10.9.6.192/26	Building 9 First Floor (Part 2) 50 Computers for Associates	203	10.9.6.194- 10.9.6.254	10.9.6.193-Router 10.9.6.194- Managed Switch
10.9.7.0/26	Building 9 Second Floor (Part 1) 50 Computers for Associates	203	10.9.7.2- 10.9.7.62	10.9.7.1-Router 10.9.7.2- Managed Switch
10.9.7.64/26	Building 9 Second Floor (Part 2) 50 Computers for Associates	205	10.9.7.66- 10.9.7.127	10.9.7.65-Router 10.9.7.66- Managed Switch
10.9.11.0/26	Building 9 First Floor (Part 1) 50 Tablets for Nurses	300	10.9.11.2- 10.9.11.62	10.9.11.1-Router 10.9.11.2- Managed Switch
10.9.11.64/26	Building 9 First Floor (Part 2) 50 Tablets for Nurses	301	10.9.11.66- 10.9.11.127	10.9.11.65-Router 10.9.11.66- Managed Switch
10.9.11.128/26	Building 9 Second Floor (Part 1) 50 Tablets for Technicians	302	10.9.11.130- 10.9.11.190	10.9.11.129-Router 10.9.11.130- Managed Switch
10.9.11.192/26	Building 9 Second Floor (Part 2) 50 Tablets for Technicians	303	10.9.11.194- 10.9.11.254	10.9.11.193-Router 10.9.11.194- Managed Switch
10.9.16.0/26	Building 9 First Floor 50 Customer Devices	400	10.9.16.2- 10.9.16.62	10.9.16.1-Router 10.9.16.2- Managed Switch

10.9.16.64/26	Building 9 Second Floor 50 Customer Devices	401	10.9.16.66- 10.9.16.127	10.9.16.65-Router 10.9.16.66- Managed Switch

Building 10

10.10.0.0/26	Building 10 First Floor 50 IP Phones for Health Care Providers	100	10.10.0.2- 10.10.0.62	10.10.0.1- Router 10.10.0.2- Managed Switch
10.10.0.64/26	Building 10 Second Floor 50 IP Phones for Health Care Providers	101	10.10.0.66- 10.10.0.127	10.10.0.65-Router 10.10.0.66- Managed Switch
10.10.0.128/26	Building 10 First Floor	102	10.10.0.130- 10.10.0.190	10.10.0.129-Router 10.10.0.130-

	50 IP Phones for Treatment Rooms			Managed Switch
10.10.0.192/26	Building 10 Second Floor 50 IP Phones for Treatment Rooms	103	10.10.0.194-10.10.0.254	10.10.0.193-Router 10.10.0.194-Managed Switch
10.10.1.0/26	Building 10 First Floor (Part 1) 50 IP Phones for Associates	104	10.10.1.2-10.10.1.62	10.10.1.1-Router 10.10.1.2- Managed Switch
10.10.1.64/26	Building 10 First Floor (Part 2) 50 IP Phones for Associates	105	10.10.1.66-10.10.1.127	10.10.1.65-Router 10.10.1.66-Managed Switch
10.10.1.128/26	Building 10 Second Floor (Part 1) 50 IP Phones for Associates	106	10.10.1.130-10.10.1.190	10.10.1.129-Router 10.10.1.130-Managed Switch
10.10.1.192/26	Building 10 Second Floor (Part 2) 50 IP Phones for Associates	107	10.10.1.194-10.10.1.254	10.10.1.193-Router 10.10.1.194-Managed Switch
10.10.6.0/26	Building 10 First Floor 50 Computers for Health Care Providers	200	10.10.6.2-10.10.6.62	10.10.6.1-Router 10.10.6.2- Managed Switch
10.10.6.64/26	Building 10 Second Floor 50 Computers for Health Care Providers	201	10.10.6.66-10.10.6.127	10.10.6.65-Router 10.10.6.66-Managed Switch
10.10.6.128/26	Building 10 First Floor (Part 1) 50 Computers for Associates	202	10.10.6.130-10.10.6.190	10.10.6.129-Router 10.10.6.130-Managed Switch

10.10.6.192/26	Building 10 First Floor (Part 2) 50 Computers for Associates	203	10.10.6.194- 10.10.6.254	10.10.6.193-Router 10.10.6.194- Managed Switch
10.10.7.0/26	Building 10 Second Floor (Part 1) 50 Computers for Associates	203	10.10.7.2- 10.10.7.62	10.10.7.1-Router 10.10.7.2- Managed Switch
10.10.7.64/26	Building 10 Second Floor (Part 2) 50 Computers for Associates	205	10.10.7.66- 10.10.7.127	10.10.7.65-Router 10.10.7.66- Managed Switch
10.10.11.0/26	Building 10 First Floor (Part 1) 50 Tablets for Nurses	300	10.10.11.2- 10.10.11.62	10.10.11.1-Router 10.10.11.2- Managed Switch
10.10.11.64/26	Building 10 First Floor (Part 2) 50 Tablets for Nurses	301	10.10.11.66- 10.10.11.127	10.10.11.65-Router 10.10.11.66- Managed Switch
10.10.11.128/26	Building 10Second Floor (Part 1) 50 Tablets for Technicians	302	10.10.11.130- 10.10.11.190	10.10.11.129-Router 10.10.11.130- Managed Switch
10.10.11.192/26	Building 10 Second Floor (Part 2) 50 Tablets for Technicians	303	10.10.11.194- 10.10.11.254	10.10.11.193-Router 10.10.11.194- Managed Switch
10.10.16.0/26	Building 10 First Floor 50 Customer Devices	400	10.10.16.2- 10.10.16.62	10.10.16.1-Router 10.10.16.2- Managed Switch
10.10.16.64/26	Building 10 Second Floor 50 Customer Devices	401	10.10.16.66- 10.10.16.127	10.10.16.65-Router 10.10.16.66- Managed Switch

Data Center

192.168.0.0/26	Data Center	100	N/A	192.168.0.1-Router 192.168.0.2-251-Servers

Network Plan

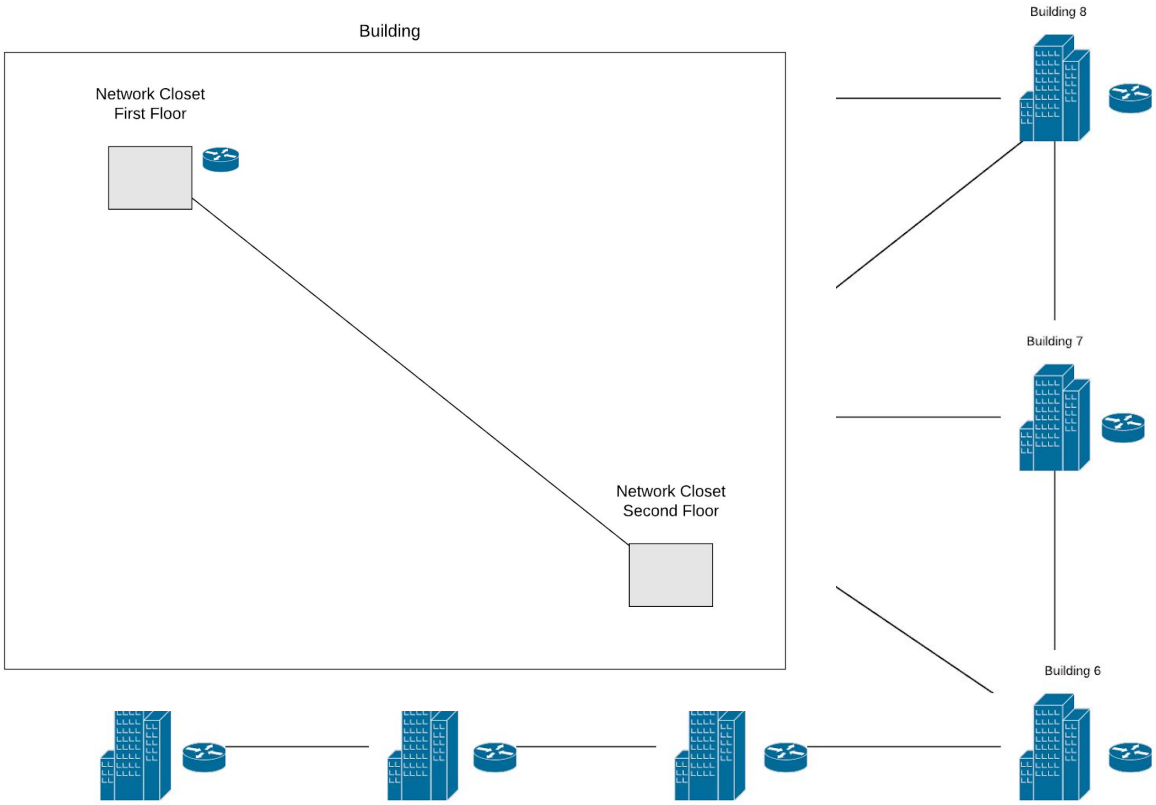
Router configuration:

20 Subnets 18 For Business Devices 2 For Customer Devices	Building 1 Router 1 10.1.1.1 Allows employees to connect to the internet and applications and data that is on the company data center.

Data center connects the private networks together to help store and send information, and allows the employees to access the company's system and applications.

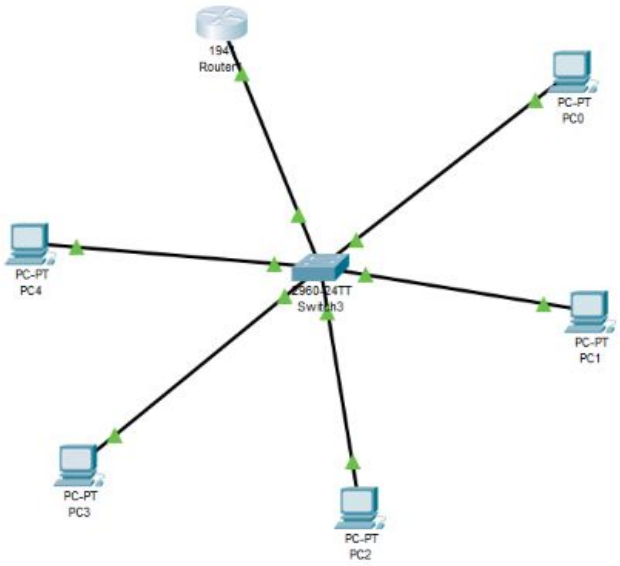
Wireless:
Private wireless access for employees is on a seperate subnet than public Wifi to increase security.
Wireless Access Points are placed 3 per floor to increase Wifi internet reliability speed.
Remote Access:
Telecommuters can connect to the network through the available wired subnets if needed.

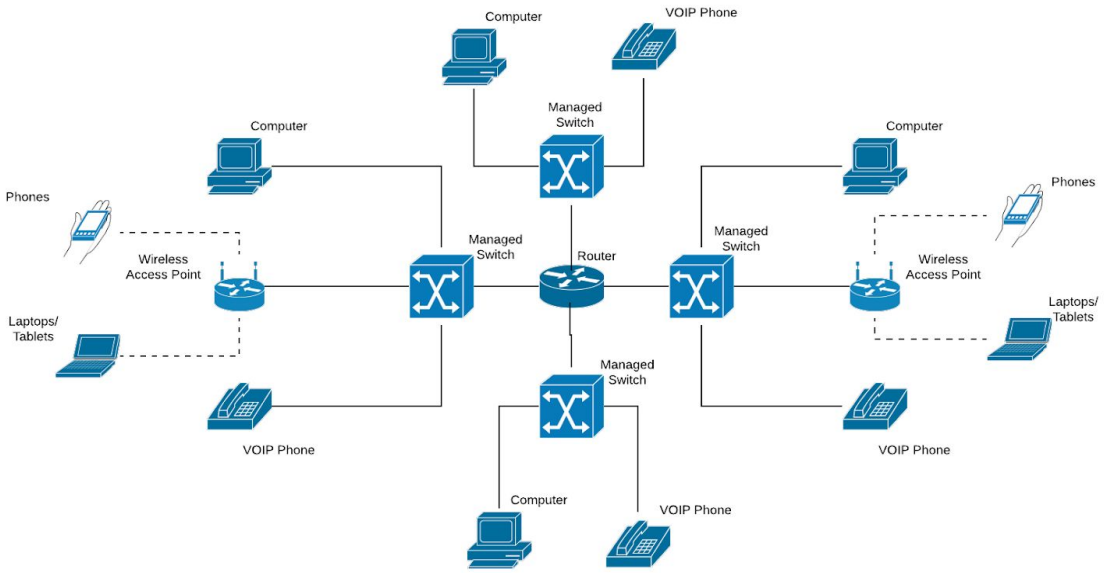
Campus Backbone Structure



Distribution Layer for each building.

Subnet Topology:





Depicted above (first topology under subnet topology) is an example of how we plan to set up our network. One of the main priorities we set was to have only one type of device on each subnet to help maintain the security of the system. Another plan we kept in mind whilst implementing the network was to keep the amount of devices on each subnet down to a minimum. In the example above each PC represents ten PCs for every ten usable IPs in our subnets.

Router Configuration:

System Bootstrap, Version 15.1(4)M4, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2010 by cisco Systems, Inc.
Total memory size = 512 MB - On-board = 512 MB, DIMM0 = 0 MB
CISCO1941/K9 platform with 524288 Kbytes of main memory
Main memory is configured to 64/-1(On-board/DIMM0) bit mode with ECC disabled

Readonly ROMMON initialized

program load complete, entry point: 0x80803000, size: 0x1b340
program load complete, entry point: 0x80803000, size: 0x1b340

IOS Image Load Test

_____
Digitally Signed Release Software
program load complete, entry point: 0x81000000, size: 0x2bb1c58
Self decompressing the image :
##
[OK]
Smart Init is enabled
smart init is sizing iomem
TYPE MEMORY_REQ
Onboard devices &
buffer pools 0x01E8F000

TOTAL: 0x01E8F000
Rounded IOMEM up to: 32Mb.
Using 6 percent iomem. [32Mb/512Mb]

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Use, duplication, or disclosure by the Government is
subject to restrictions as set forth in subparagraph
(c) of the Commercial Computer Software - Restricted
Rights clause at FAR sec. 52.227-19 and subparagraph
(c) (1) (ii) of the Rights in Technical Data and Computer
Software clause at DFARS sec. 252.227-7013.
cisco Systems, Inc.

170 West Tasman Drive
San Jose, California 95134-1706

Cisco IOS Software, C1900 Software (C1900-UNIVERSALK9-M), Version 15.1(4)M4, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport

Compiled Thurs 5-Jan-12 15:41 by pt_team
Image text-base: 0x2100F918, data-base: 0x24729040

Cisco CISCO1941/K9 (revision 1.0) with 491520K/32768K bytes of memory.
Processor board ID FTX152400KS
2 Gigabit Ethernet interfaces
DRAM configuration is 64 bits wide with parity disabled.
255K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Press RETURN to get started!

```
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int g0/0
Router(config-if)#ip addr 10.1.0.1 255.255.255.192
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to
up
end
Router#
%SYS-5-CONFIG_I: Configured from console by console
copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
Router#ping 10.1.0.50

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.0.50, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 0/91/240 ms

Router#en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int g0/0
Router(config-if)#no shut
Router(config-if)#int g0/0.100
Router(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.100, changed state to up
```

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.100, changed state
to up
encapsulation
% Incomplete command.
Router(config-subif)#encapsulation dot1q 100
Router(config-subif)#ip addr 10.1.0.1 255.255.255.192
% 10.1.0.0 overlaps with GigabitEthernet0/0
Router(config-subif)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
wr
Building configuration...
[OK]
Router#sho ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 10.1.0.0/26 is directly connected, GigabitEthernet0/0
L 10.1.0.1/32 is directly connected, GigabitEthernet0/0

Router#ping 10.1.0.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.0.2, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 0/61/124 ms

Router#
```

Network Components

Per Building:

Device:	Use:	Price per:	Total:
15 Cisco 550x Managed Switches	700 wired devices	$3,136	$47,040
6 Cisco Aironet Access Points	200 wireless tablets And customer devices	$350	$2,100
1 Cisco Integrated Services Router	All employee network use	$2,600	$2,600
615 Network Drops	Wall plug-ins	$100	$61,500
Cables	Cat-5 (5000 Feet)	$.50	$2,500
Total Per Building:			$115,740
1 Cisco Integrated Services Router	Data Center	$2,600	$2,600
Total (10 Buildings):			$1,160,000

Access Point:
https://www.cdw.com/product/cisco-aironet-1832i-wireless-access-point/3878392?pfm=srh

Switch:
https://www.cdw.com/product/cisco-550x-series-sg550x-48p-switch-48-ports-managed-rack-mountable/4875485?pfm=srh

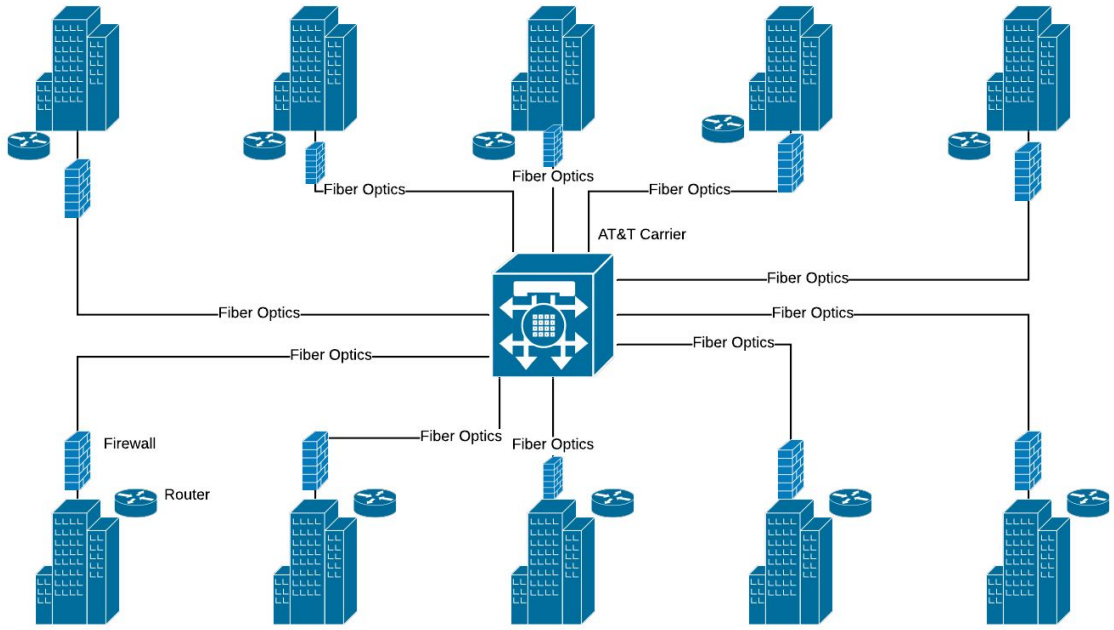
Employee Router:
https://www.cdw.com/product/cisco-integrated-services-router-4331-router-rack-mountable/3525865?pfm=srh

Backups: We will provide the company with more hardware than just the necessary amount as in the event of a disruption due to a malfunctioning device, Periveo can easily fix the situation with the necessary parts.

Internet Connections

When it comes to setting up an internet connection for the company, we plan on contacting a local internet service provider that is both reliable and relatively inexpensive. Assuming the location of the company is Houston, Texas we plan on contacting AT&T and setting up a direct fiber optic connection to each building. For our ten locations we believe that fiber is the best type of connection because a medical company needs reliable speeds and that is what fiber optics offers. The AT&T fiber optics service option is also very fast compared to most other services with speeds up to 1000 mbps. This service also comes with a 99.9% uptime guarantee for the business so there will be very little downtime if any at all. Fiber also provides a lot better security than most other services.

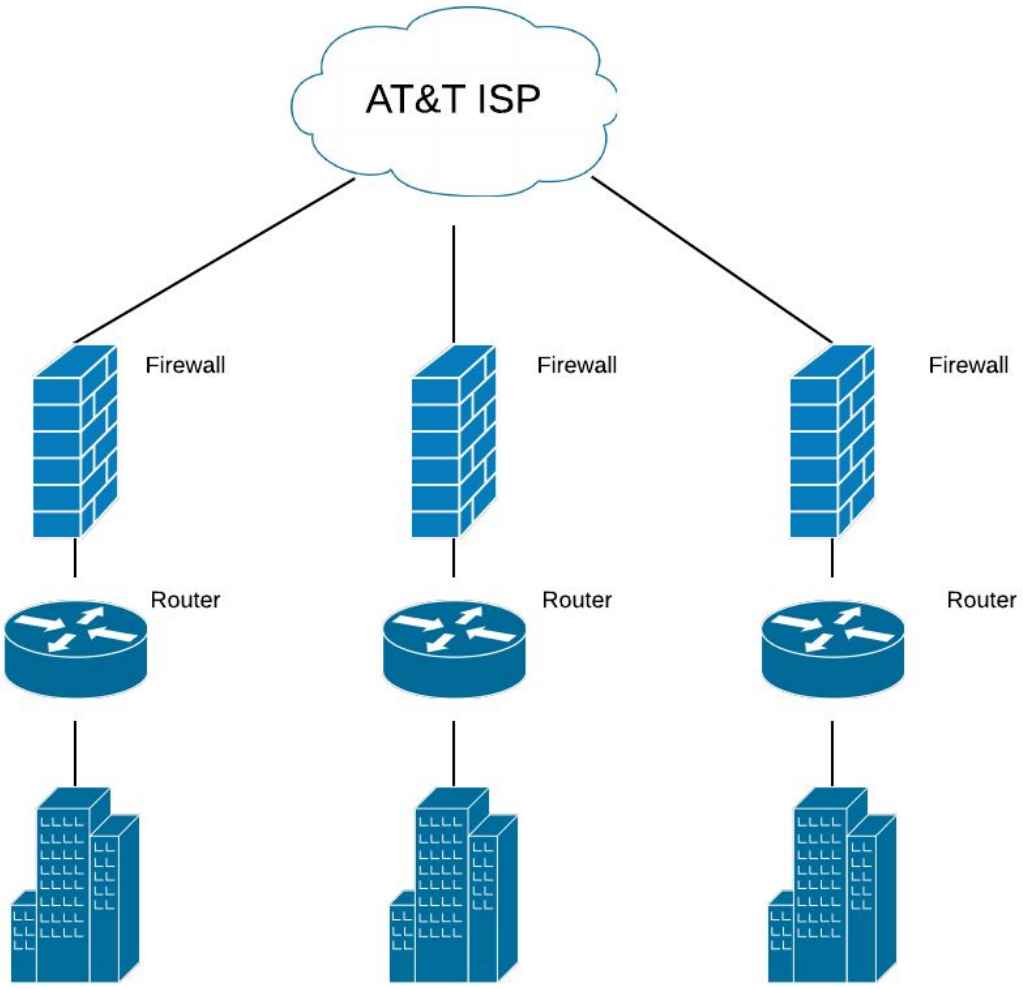
We would also have each building equipped with a VPN gateway so employees can access data and work from home through the internet on a VPN. This will be a secure and easy way for employees to telecommute. These gateways will also run through our AT&T fiber optics setup.

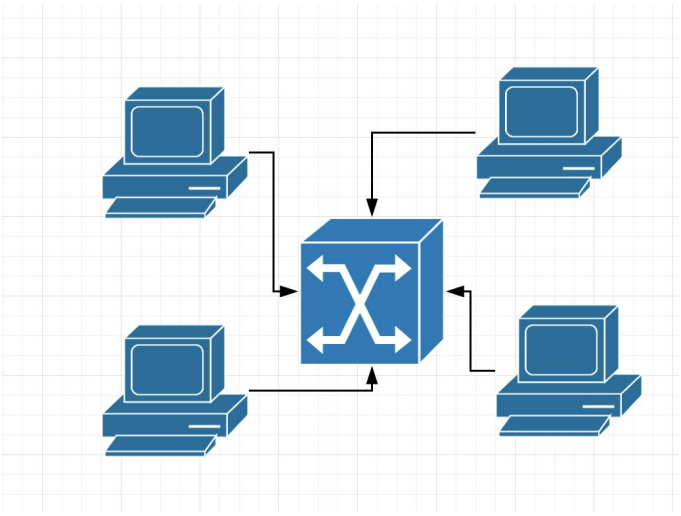


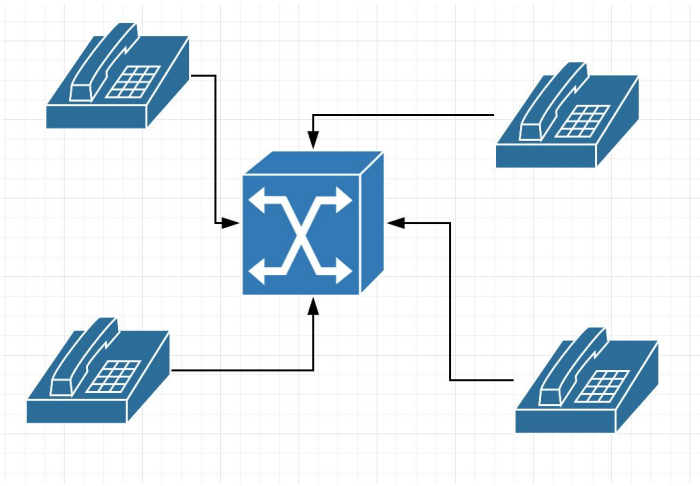
https://www.attsavings.com/internet/att-fiber/internet-1000

Network Security

In creating this plan for periveo we believe that it is vital to protect the information on the network especially since they are a medical company. One major way we plan on protecting the network is through the hardware. We plan on using subnets in the slash 26 form in order to lower the amount of devices in each subnet to avoid broadcast storms. We plan to include the latest software in VLANS that will allow us to further protect our system. Some procedures we will implement is that only a certain type of hardware device can be on its own subnet. For instance IP Phones will share a subnet with only other IP Phones. We will include policies such that to the discretion of the health care providers, we will determine who is allowed on what part of the network. For our data center we will provide increased security in a room that can only be accessed by senior management at periveo.







Due to Periveo being a medical company they must adhere to HIPAA rules and regulations. HIPAA regulations fall under the three main categories of physical, administrative, and technical safeguards.

When it comes to following the technical safeguards required by HIPAA we will include a firewall, access controls, and two factor authentication.

Firewall: We will also install a firewall in between our internet provider and our own network to ensure that traffic from the internet is filtered for viruses and other harmful things for the network. This firewall will be our primary source of all of our internet security.

Access Controls: Our main focus when it comes to access controls is the ability for Periveo to safeguard their data, especially the data of their patients in the event of an untimely internal attack, external attack, or natural disaster. We will go more in depth with this idea in our business continuity plan.

Two factor authentication: Any employee working for Periveo has to have two factor authentication on their company account. This will just add another layer of protection in case their account gets stolen.

For the physical safeguards required by HIPAA we will include Key cards for employees and workstation security.

Key Cards: Each employee for Periveo will be given a key card that only allows employees to access certain parts of the building based on their level of clearance. This will ensure that only authorized employees are allowed into their workstations, the network closets, and also the data center.

Workstation Security: To maintain that no unauthorized users can gain access to the network we will be placing all of our network devices in rooms that require a key card to gain entrance. As noted above only employees authorized to certain areas of the buildings may enter.

For the administrative safeguards required by HIPAA we will mandate an IT security brief and receive evaluations from a third party.

IT Security Brief: Employees will be required to attend an annual security briefing where they will be informed on the latest information to keep their account and data safe and protected. They will also be informed about things they should stay away from in emails and on the internet.

Third Party Evaluations: We will contact a third party that specializes in assessing the weak points within our network. Since third party involvement is not always as trustworthy we will employ a rotation of various third party firms to maintain a balance, instead of having the same firm look through our network multiple times.

An additional form of security we plan to implement is password changes.

Password changes: Employees will be required to change their password every 6 months. This will keep their accounts updated and better protected.

Business Continuity Planning

As a medical company needs to continue running at all times we will implement policies to ensure the continuity of the business. This includes business impact analysis, recovery, organization, and training.

Business Impact Analysis: We will look into the various different types of threat to a business, such as both internal and external attacks and natural disasters. From this we will determine how big of an impact that these potential threats can be to Periveo.

Recovery: From our impact analysis we will look into how we could solve the problems and figure out innovative ways to either keep Periveo running as usual or if necessary get back on track as soon as possible.

Organization: We will put together a team that will work to manage the threat or attack whilst the company is recovering.

Training: In order to protect Periveo as much as possible we will provide training for our team mentioned above so that they can respond to all types of attacks in a timely manner.

Disaster Recovery

In the event of a natural disaster or any other that disaster that occurs we plan to have multiple precautions in place to ensure that the company's data and patient data is safe and secure

1. The first and biggest precaution we will take is to back up our data multiple times. We plan to have another data center somewhere else in the country that all of our data can be backed up to to ensure that all the data is safe and secure if our current data center is destroyed
2. We will also have an agreement with our ISP that provides safeguards that ensures that our data will be protected and backed up.

Mays Transformational Leader Mindsets Reflection

Introduction- Overall the Mays Transformational Leader Mindsets helped us a lot when building our network. It helped us make sure that we look at everyone's needs while building the most cost efficient network possible. It also helped us manage each part of the project and the network while thinking about the big picture.

Global- Healthcare professionals will come from all different kinds of backgrounds and our system and network needs to be user friendly to everyone that interacts with it. We want to make the network in a manner that caters even to people of different languages so they can interact with the network as well. Overall we want people from all over the world to be able to use our network if needed.

Ethical- Healthcare professionals will be interacting and building relationships with patients and our system needs to help those professionals treat patients in an appropriate manner while also keeping their information secure and safe. Since it is a healthcare company safety is at the top of our priority list because people are trusting us to keep all of their personal information secure.

Analytical- The company's new network will allow the business to operate in a more efficient manner by helping employees keep records and data about patients all while doing this in the most cost efficient manner. If the network isn't being implemented in an efficient manner then it will not benefit the company.

Systems Thinking- Systems thinking helped us better view how all the components of the network will tie together. Building a new network for a business can be a very difficult task but it was beneficial to see how all the little pieces fit together to create the entire network. Without using systems thinking it would be very easy to get overwhelmed by the entire project.

Social Impact- Our network is being constructed for a healthcare company so helping these workers help other people would be very beneficial for the community. We also kept this in mind when looking for network components. We wanted to build the best network possible for the cheapest price so the healthcare company didn't have to spend a tremendous amount of money on the network and use it on other things that would be more helpful to their clients.

Inclusion- When creating the system we wanted to make sure to include all those that will be involved in the system, by catering to their specific needs. We wanted to make sure that all employees could access the system easily. We also wanted to make sure that the public has internet when at the healthcare company.

Entrepreneurial- The system we are implementing will allow periveo to access client information in a way that they have never been able to. Keeping an entrepreneurial mindset helped us develop unique things to implement into the network and it also helped us create this network design from nothing.

Conclusion- These mindsets helped us a lot when constructing this network. They will also help a lot as we go out into our careers because we can use them in anything we do. When working on projects and networks in the real world we will also think to take a step back and use these mindsets to see how we can improve the solution to a problem. The Mays Transformational Leader Mindsets will be useful for our entire careers.

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