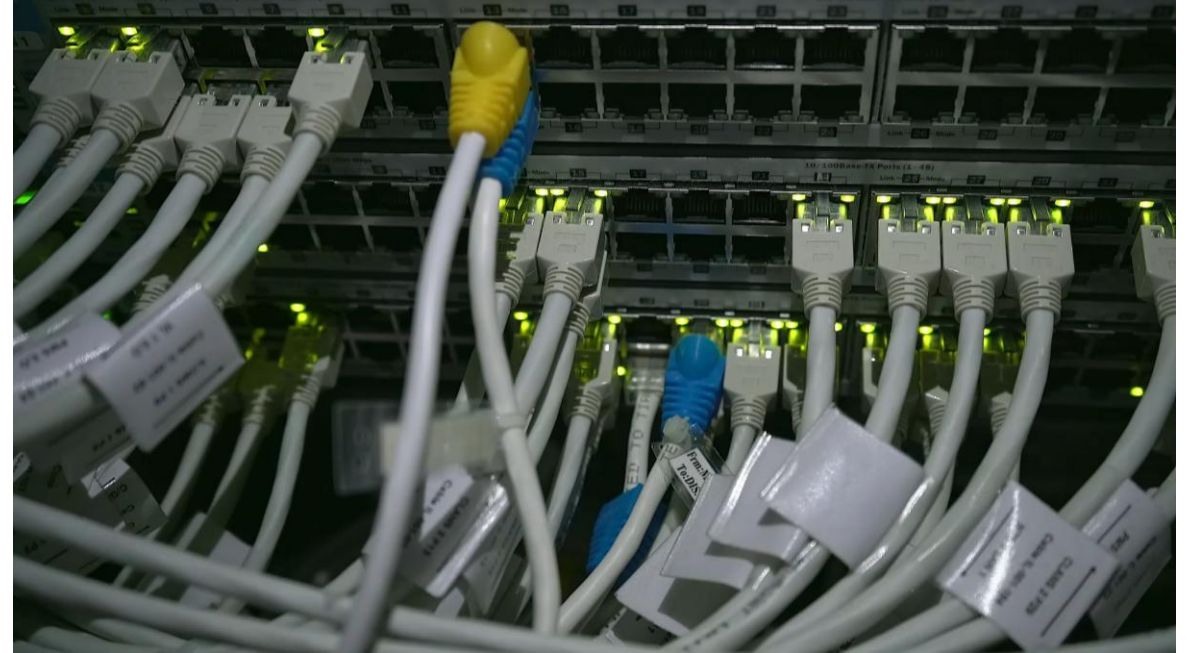By: Ramon Lopez Jr

NTW216: Foundations of System Administration

August 2nd, 2023

# Network Upgrade Presentation

# Assignment Overview

- In this assignment, I will be providing expert advice on upgrading the network infrastructure for a company with two buildings.
- The network on each building will acquire new things, such as:
    - New servers
    - New equipment to streamline operations
    - New tools for employees to use
    - And even new devices for employees to use
- All of this will be shown on the next slide
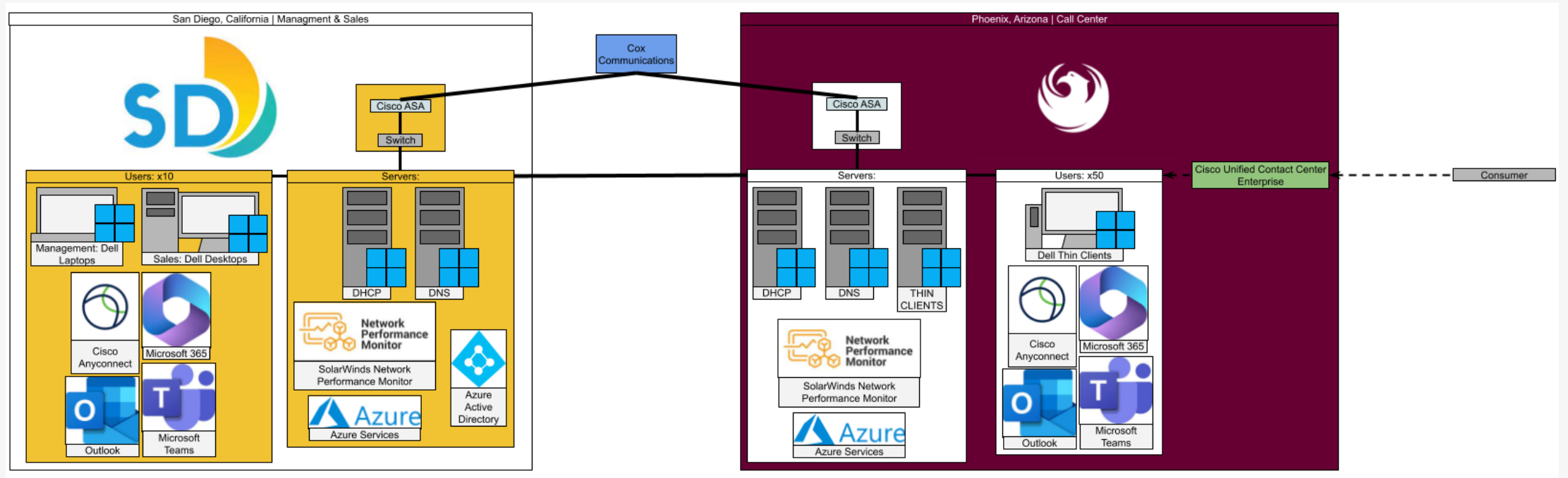
# Updated Network
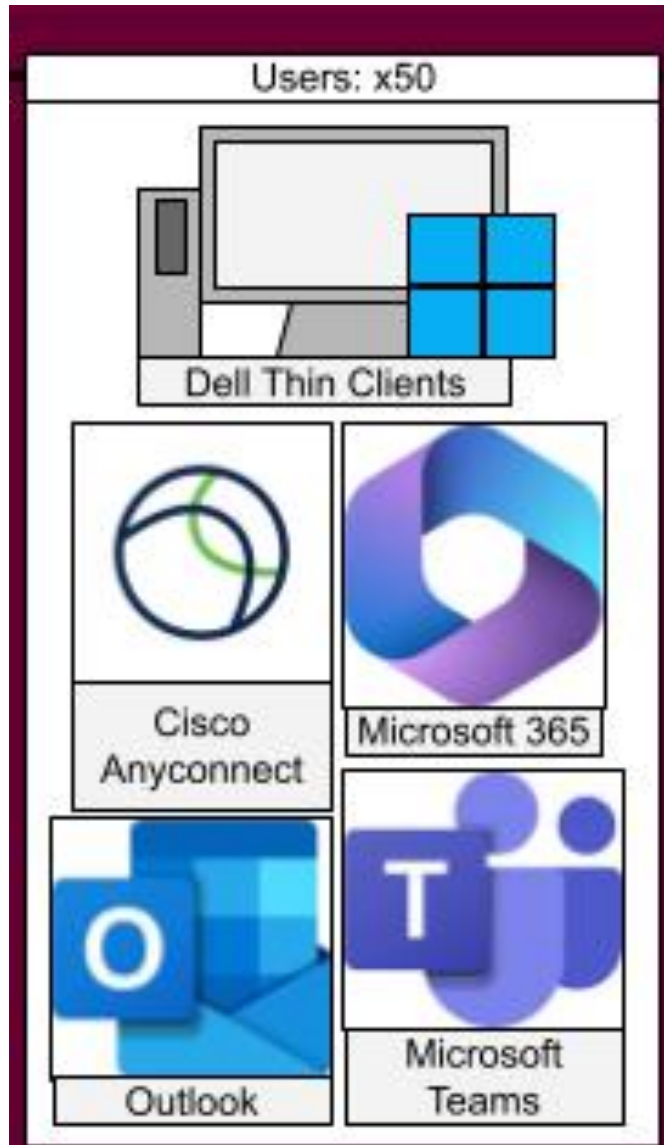
# Call Center: Users

- In this section of the building, there are 50 users.
- Each user will have the following:
  - Dell Thin Clients that connect to a dedicated server within the building
    - Having thin clients will:
      - Save money
      - Centralized the management
      - Enhance security
  - Have Cisco AnyConnect
    - Allow the employees to use a secure remote access to work
  - Will also include:
    - Microsoft 365
    - Microsoft Teams
    - Outlook
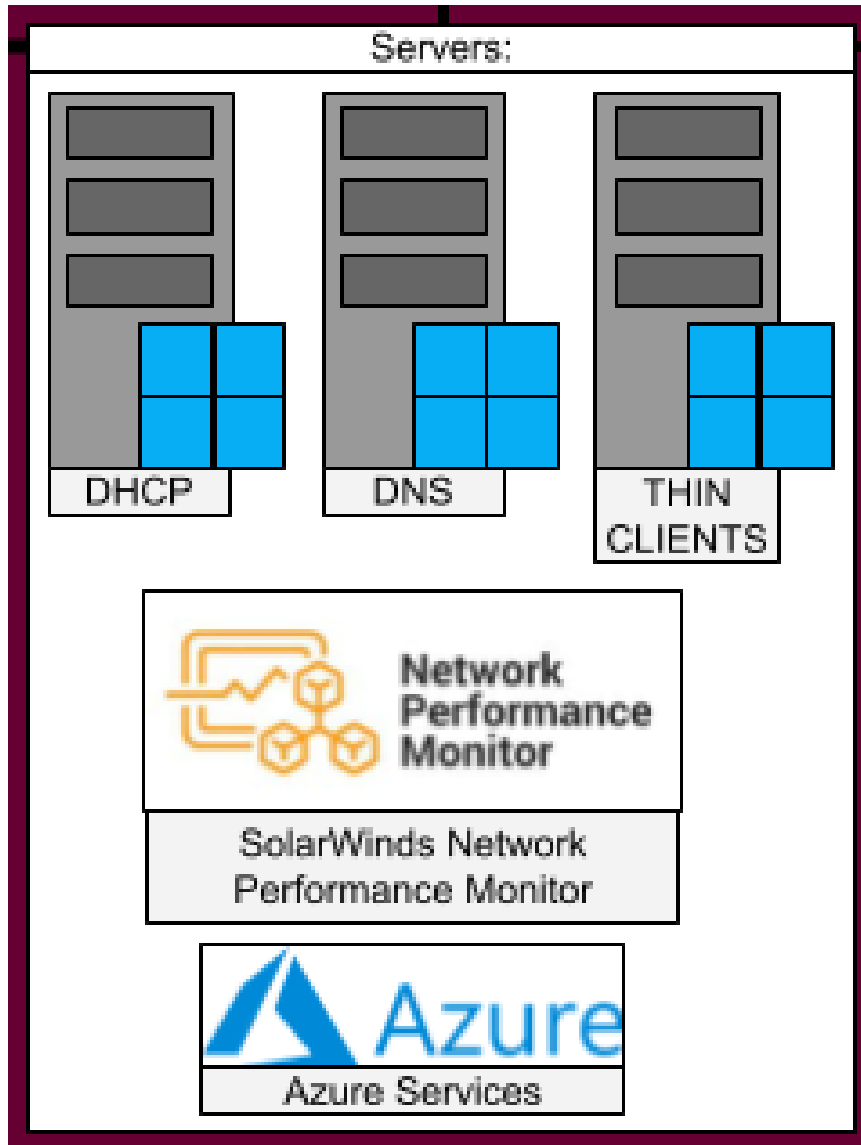
# Call Center: Servers

- In this portion of the building, there are going to be three servers.
  - DHCP Server:
    - Redundancy and High Availability
    - Load Balancing
    - Improved Performance
  - DNS Server:
    - Redundancy and High Availability
    - Load Distribution
    - Security
  - Thin Client Server
- On top of that, these servers will be running:
  - A network performance monitor
  - Azure Cloud Services
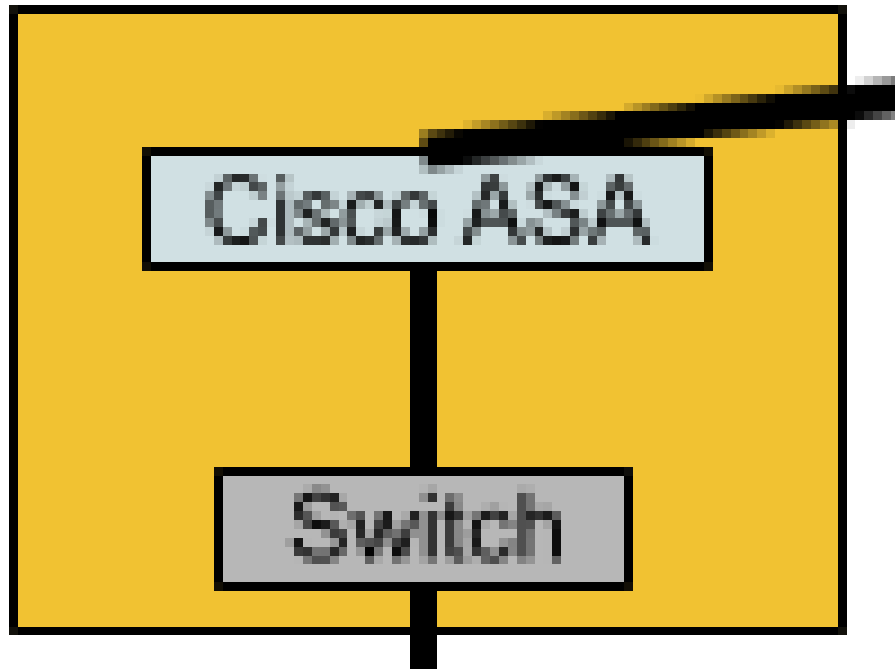
# Call Center: Network Connection
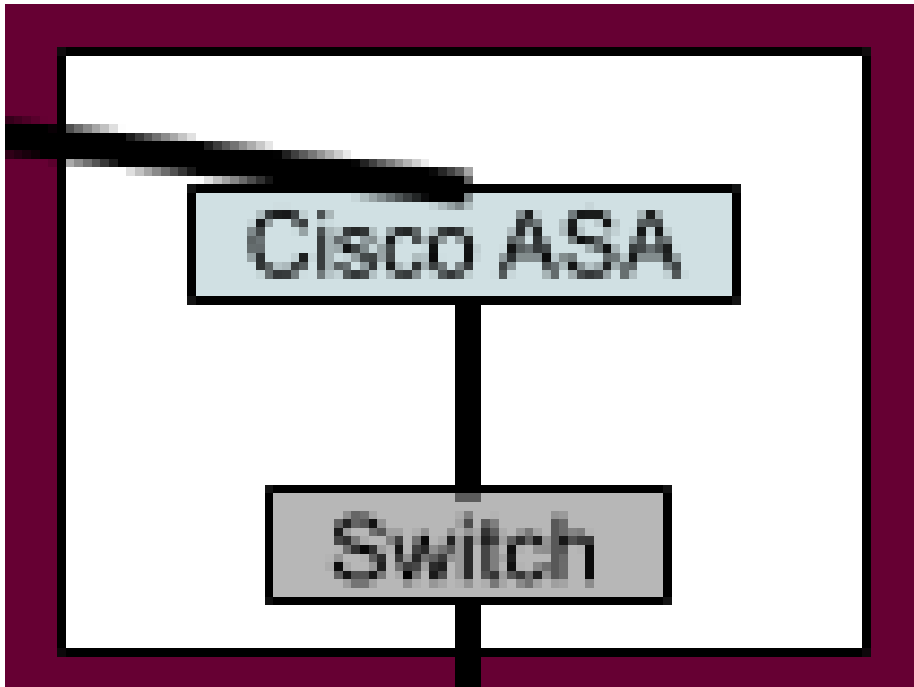
- In order to connect to the internet securely, this building must employ:
  - A commercial grade firewall:
    - For this, Cisco Adaptive Security Appliance should be used.
      - The reason why it should be used is because it is versatility and robust security features make it a compelling choice. With:
        - Intrusion Prevention
        - High Performance
        - Easy Management
        - Can be Integration with Other Cisco Products.
    - This solution would allow the business to same some money.
- On top of that, a switch will need to be used to connect all of the devices together within a building.

# Internet Service Provider

- For both buildings to connect to the internet, they will need a good internet service provider.

- For this, I have chosen Cox Communications for their internet service provider.

- They provide:
    - Reliable and Fast Internet
    - Business-Focused Solutions
    - Business Support and Customer Service
    - Network Security

# Management/Sales: Network Connection

- In the Management/Sales building, it will also need to connect the internet securely.

- The same commercial grade firewall will be implemented into this building.
  - That being Cisco Adaptive Security Appliance:
    - Uniform Security Policies
    - Centralized Management
    - Easier Troubleshooting
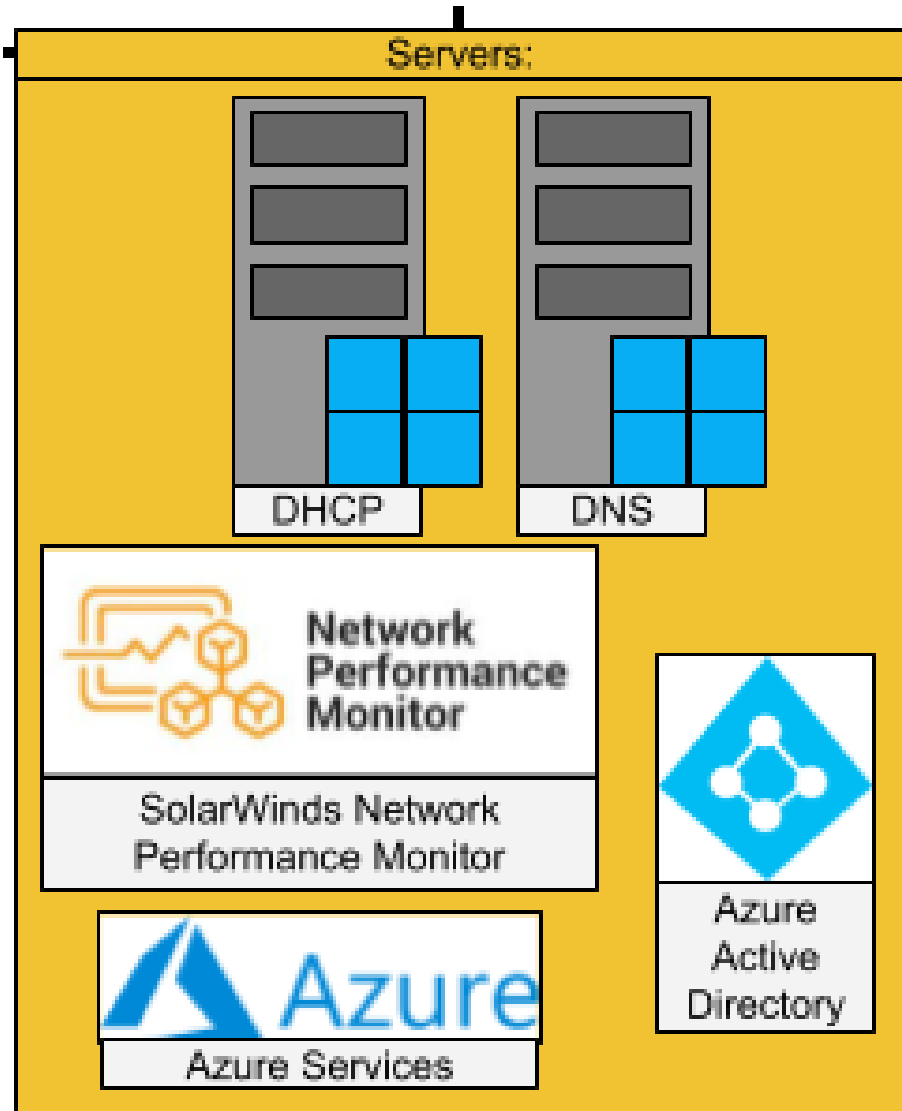
# Management/Sales: Servers

- In the server section of the Management/Sales building, there will be:
    - DHCP Server
    - DNS Server
    - These servers will act the same as the others located in the call center.
    - This includes the same tools:
        - Network Performance Monitor
        - Azure Cloud Services
- However, unlike the call center, this section will include:
    - Azure Active Directory
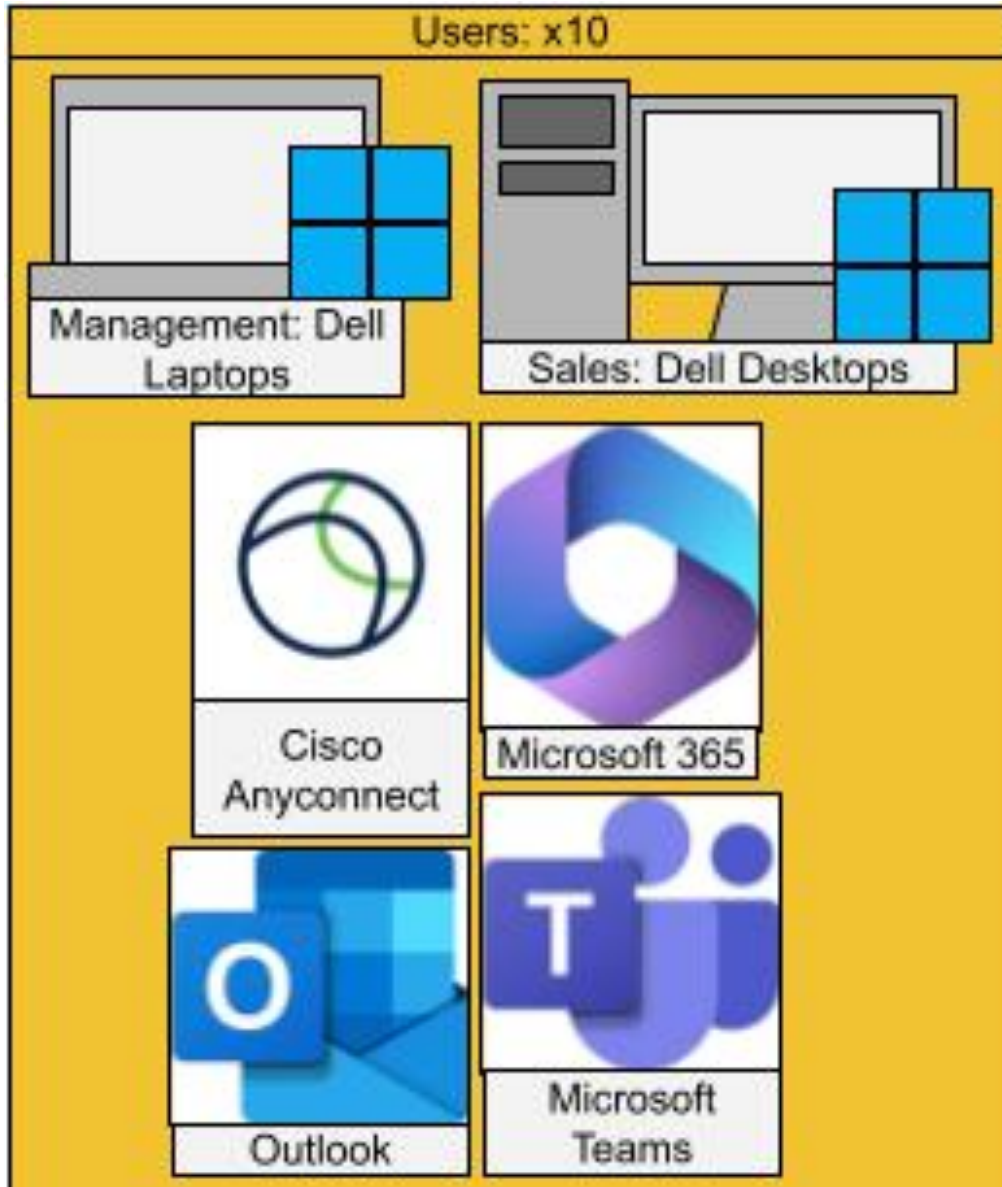
# Management/Sales: Users

- In the final portion of the Management/Sales, we have the employees of the building.

- There are 10 employees:
    - Management:
        - They will have Windows 11 Dell Laptops
        - Portability and Flexibility
        - Remote Access and Collaboration
        - Enhanced Productivity
    - Sales:
        - They will have Windows 11 Dell Desktops
        - Performance and Power
        - Larger Display and Ergonomics
        - Easy Maintenance and Upgradability

- The tools that are installed on the devices will be the same as the ones installed on the call center devices.

# User Management

- Not shown on the diagram, the management of users will be discussed here.

- In the management/sales building, user management will be present.

- This will include:
  - Organization Units
  - User Accounts & Groups
  - Group Policy
  - Monitoring & Auditing
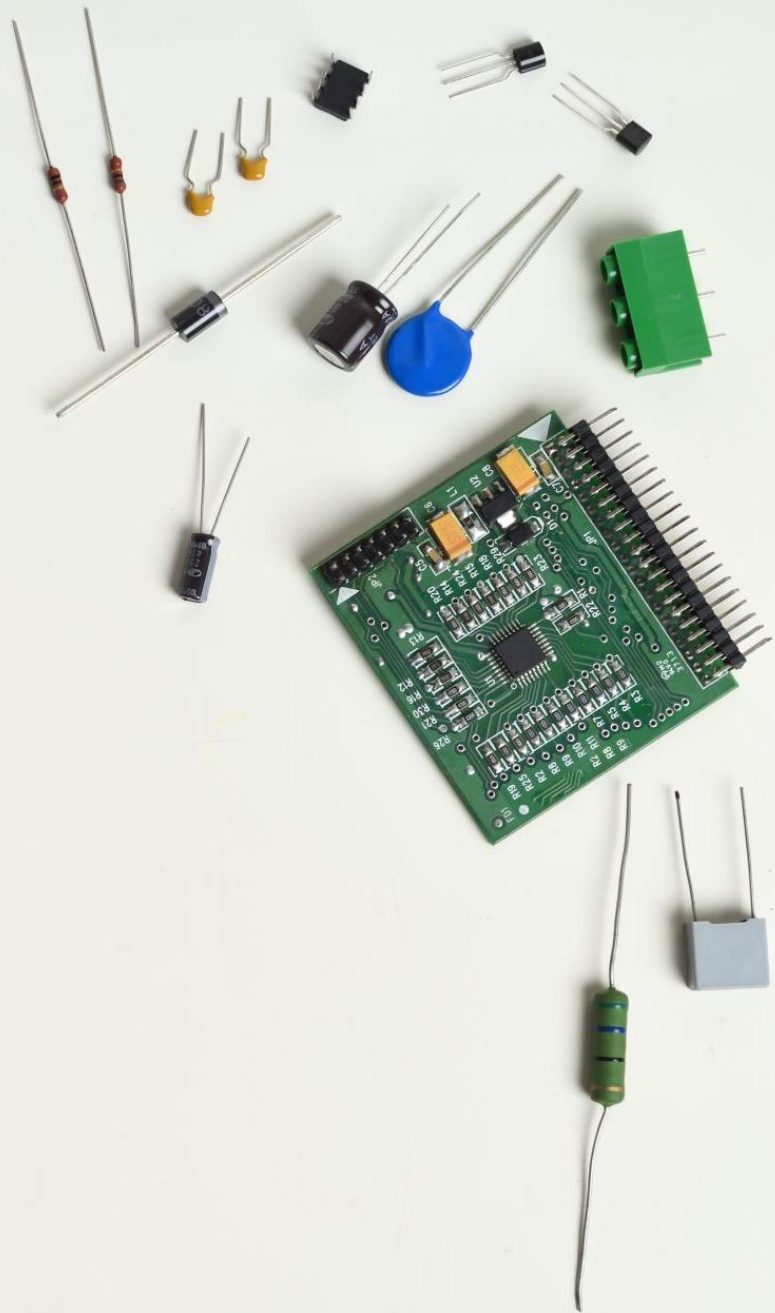
# Conclusion

- Now that everything has been presented, I think that the business will operate more efficiently than ever before.

- By implemented new machines, software, and tools in the business, the IT team could have more time to deal with more critical issues.

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