



LAN OF ANYCOMPANY CORPORATION

Proposal of Installation

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Executive Summary

AnyCompany is a small company dedicated to the production, editing and marketing of film materials. It has eight permanent staff who as part of their daily work need to share resources such as information, files, emails and printers either in the office or remotely. To effectively achieve this exchange, the installation of a local network has been proposed.

The installation of a local network (LAN) is an easy and economical solution that would help the organization and efficiency of the company as it guarantees that in a safe, fast, and efficient way AnyCompany staff can send and receive emails, share network resources (printers, scanners), share files and applications and access to the Internet.

Our network proposal consists of a simple and economical design which has the following elements: a wireless router, a cable modem (supplied by the ISP), an ftp server, a network printer and 8 PCs (2 desktop and 6 laptop).

The wireless router is the network device responsible for connecting to the local network each of the computers, the FTP server, the network printer as well as the Internet connection. The connection of the FTP Server, the network printer and the two Desktop of the company will be by UTP Cat 6 wire (Ethernet) while the connection of the mobile devices will be Wireless (WIFI). So, it is recommended to acquire a strong wireless router with higher throughput to accommodate faster connections, with a network type 802.11ac for offering the strongest connections and greatest range, and that has the follow technologies QoS (Quality of service), Beamforming, and MIMO (Multiple input, multiple output) technologies. The wireless router will also be the gateway for the Internet connection of the PCs connected to the network, as well as for the connections to the FTP server from the Internet.

The FTP Server will be the place where all the files of the cinematographic material will be stored, both what is being edited and the final versions. This way of keeping information centralized will improve labor productivity, business management, and the accessibility and security of information.

The network printer is an excellent option to create simple printer environments that cover the needs of a worker groups. The main advantage of the network printer is lower energy

consumption and lower cost of ownership, since controlling and maintaining a printer is much easier and cheaper as well as buying cartridges for a single printer.

Our Project will have three fundamental stages:

- Phase 1:
 - Order the devices (laptops, PCs, Battery Backup) and necessary materials (UTP cables and RJ-45 connectors, power connector, Ethernet wall plate) to the suppliers.
 - Contract Internet service and Email accounts to ISP
- Phase 2:
 - Installation of Data Drop and outlet
 - Installation and Configuration of network and end devices (wireless router, FTP Server, Printer)
- Phase 3:
 - Installation and Configuration of end devices (laptops and desktops)

The execution of phases 2 and 3 will depend on the fulfillment of phase 1 which depends on the time it takes for the suppliers to supply and deliver the orders.

Many are the advantages that the installation and configuration of a Local Network will bring in AnyCompany Corporation. Among which we can mention the accessibility of the information both for remote workers and for those in the office, since the information will be available 24 hours a day, which entails an optimization of communication in real time. Another advantage is the centralization of the information, this is something especially valuable for AnyCompny because the latest version of all the materials and data will be available to the users of the network. In addition, a LAN brings savings in resources and investments.

Needs Statements

Needs listed by the AnyCompany Corporation:

1. Corporate Email provide by ISP for all employees (including temporary ones)
2. Powerful computer for Film Editor with the follow specifications:
 - a. Require more of 16 GB RAM
 - b. Motherboard with PCIe16 slot
 - c. Windows 10
 - d. Allow HD resolution
3. Require a laptop for each of the 6 mobile workers. These laptops must:
 - a. large hard drive
4. FTP Server must be available 24 hours
5. Battery Backup for the FTP Server and Film Editor Computer
6. Local Printer at Administrative Manager Office
7. All in one Network Printer for the whole office

Goals and Objective

Our goal is the design and implementation of a Local Network for AnyCompany Corporation that meet all client requirements with the lowest possible expenses.

Timetable

Our Project will have three fundamental stages:

- Phase 1:
 - Order the devices (laptops, PCs, Battery Backup) and necessary materials (UTP cables and RJ-45 connectors, power connector, Ethernet wall plate) to the suppliers.
 - Contract Internet service and Email accounts to ISP

- Phase 2:
 - Installation of Data Drop and outlet
 - Installation and Configuration of network and end devices (wireless router, FTP Server, Printer)
- Phase 3:
 - Installation and Configuration of end devices (laptops and desktops)

Once the budget has been approved:

Day 1	<p>Order the devices (laptops, PCs, Battery Backup) and necessary materials (UTP cables and RJ-45 connectors, power connector, Ethernet wall plate) to the suppliers. Check the delivery date.</p> <p>Contract Internet service and Email accounts to ISP for a day after to the delivery</p>
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With all the resources delivered and checking the viability of the mobile workers we start all the installations of the data drop and power outlet that day, which we will call day X.

<p>Day X</p> <p>from 8:00 am- 5:00pm</p>	<p>Installation of the power Outlets at:</p> <ul style="list-style-type: none"> - Closet - Conference/Lounge Area - Temporary Worker Office - Office area for Mobile Workers - Main hallway <p>Installation of Wireless Router at the main hallway</p> <p>Installation of the modem for Internet Cable inside to the closet</p>
<p>Day X</p> <p>after 4:00 pm</p>	<p>Installation of the power Outlets and data drop at:</p> <ul style="list-style-type: none"> - Film Editor Office - Administrative Manager <p>Installation of the data drop at Conference/Lounge Area and Closet</p>

	Note: Always check the distance between the wireless router and final user do not be over of 100m
Day X+1	<p>In case that the work is not done continue day X+1 considering the scheduler of the workers.</p> <p>Install a Lock on the Conference/Lounge Area closet to restrict access.</p> <p>Installation and Configuration of Equipments:</p> <ul style="list-style-type: none"> ○ Wireless Router ○ Cable Modem ○ FTP Server ○ Network Printer
Day X+2	Installation and Configuration of the PC, User Laptops, and local printer and email account.




Computer System Planning Form

Work with video editing, visual effects, and animation requires a high-performing PC to keep things running smoothly and avoid wasting precious time waiting for projects to render and encode. That is why it is important to build a computer that will efficiently handle these tasks, without wasting money on extraneous features we do not need.

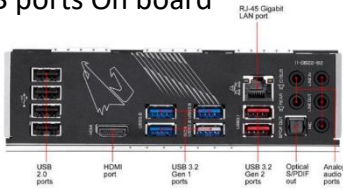

Computer for Film and Graphics Production Editor




The CPU is the foundation of an editing PC. The processor's core count and speed determine how quickly you can accomplish editing tasks. Modern editing software take advantage of many CPU cores and hyper-threading so serious builders should be considering a 6-core CPU at a minimum. The higher the resolution of the video you are editing, the more you will benefit from the bigger, faster CPUs.


Taking these requirements into account, this is the design proposal for Film and Graphics Production Editor's computer

Job Role: Film and Graphics Production Editor Location: Office	
Component	Specification/Recommendation
Processor: AMD RYZEN 5 3600X 6-Core 3.8 GHz  \$248.99	<ul style="list-style-type: none"> • 3rd Gen Ryzen • Socket AM4 • Max Boost Frequency 4.4. GHz • DDR4 Support • L2 Cache 3 MB • L3 Cache 32 MB • Thermal Design Power 95W with Wraith Spire cooler
Motherboard: GIGABYTE X570 AORUS ELITE  \$209.99	<ul style="list-style-type: none"> • Support for Ryzen 5000 Series with BIOS UPDATE • Supports AMD Ryzen 5000 Series / 3rd Gen Ryzen/2nd Gen Ryzen / 2nd Gen Ryzen with Radeon Vega Graphics/Ryzen with Radeon Vega Graphics Processors • Dual Channel ECC/Non-ECC Unbuffered DDR4, 4 DIMMs • 12+2 Phases Digital VRM Solution with DrMOS • Advanced Heatsink Design with Enlarge Heatsink • Dual Ultra-Fast NVMe PCIe 4.0/3.0 x4 M.2 & Single Thermal Guard • AMP-UP Audio with ALC1200 • Intel Gigabit LAN • RGB FUSION 2.0 with Multi-Zone Addressable LED Light • Smart Fan 5 - Hybrid Fan Headers with FAN STOP • Front Panel USB 3.2 Gen 2 Type-C • I/O Shield Armor • Q-Flash Plus Update BIOS Without Installing CPU, Memory, GPU
Memory: G.SKILL Ripjaws V Series 32GB (2 x 16GB) 288-Pin) Desktop Memory Model F4-3200C16D-32GVK  \$164.99	<ul style="list-style-type: none"> • DDR4 3200 (PC4 25600) • Timing 16-18-18-38 • CAS Latency 16 • Voltage 1.35V <p>Note: I chose 32 GB of RAM because the video card onboard used a maximum of 16GB that is requirement for the special editing software.</p>

<p>Hard Drive: Segate BarraCuda ST2000M008</p>  <p>\$52.99</p>	<ul style="list-style-type: none"> • Capacities up to 2TB for desktop • Advanced Power modes help save energy without sacrificing performance • SATA 6Gb/s interface optimizes burst performance; 256MB Cache • 7200 RPM <p>Note: With 2 TB will be enough space because if the user need more the space will be provide for the FTP local server</p>
<p>CD-ROM/DVD: Lite-On DVD Burner Black SATA iHAS124-14-OEM</p>  <p>\$19.99</p>	<ul style="list-style-type: none"> • 24X DVD+R, 8X DVD+RW, 8X DVD+R DL, 24X DVD-R, 6X DVD-RW, 48X CD-R, 24X CD-RW • 16X DVD-ROM, 48X CD-ROM • 512 KB Cache
<p>Video Card: Onboard Video Chipset</p> <p>Graphics Card: EVGA GeForce GTX 980 Ti 06G-P4-4990-KR 6GB</p>  <p>\$820.00</p> <p>Elgato Game Capture 4K60 Pro MK.2- 4K60 HDR10 capture card</p>  <p>\$249.99</p>	<p>Integrated Graphics Processor:</p> <ul style="list-style-type: none"> • 1 x HDMI port, supporting a maximum resolution of 4096x2160@60Hz • Support for HDMI 2.0 version, HDCP 2.2, and HDR. • Maximum shared memory of 16GB <p>Graphics Card: (In case the user does not want to use the onboard video card)</p> <ul style="list-style-type: none"> • GameStream to NVIDIA SHIELD • 6GB 384-Bit GDDR5 • Core Clock 1000 MHz • Boost Clock 1076 MHz • 1 x DVI-I 1 x HDMI 3 x DisplayPort • 2816 CUDA Cores • PCI Express 3.0 <p>Capture Card:</p> <ul style="list-style-type: none"> • Immaculate 4K60 HDR10 capture and passthrough • PCIe Capture Card • Power your workflow with ultra low latency Instant Gameview technology • Enjoy 240 Hz passthrough on your dual-PC setup • Record unlimited 4K HDR10 footage directly to your hard drive

	<ul style="list-style-type: none"> • Use Flashback Recording to save video retroactively • Add and fine-tune your voice with Live Commentary • Simultaneously capture video in multiple apps • Slot several 4K60 Pro cards into one PC <p>This is required for the user</p>
<p>USB Ports: 10 USB ports On board</p> 	<p>Front Panel:</p> <ul style="list-style-type: none"> • 1 x USB 3.2 Gen 2 Type-C port • 2 x USB 3.2 Gen 2 support <p>Back Panel:</p> <ul style="list-style-type: none"> • 4 x USB 3.2 Gen 1 ports • 2 x USB 3.2 Gen 2 ports • 4 x USB 2.0/1.1 ports
<p>Audio: Onboard Audio Realtek ALC 1200</p> 	<ul style="list-style-type: none"> • 2/4/5.1-channel • Support for S/PDIF Out • High-End WIMA & Audio Capacitors • Audio Noise Guard • Ports <ul style="list-style-type: none"> ○ 1 x optical S/PDIF Out connector ○ 5 x audio jacks
<p>Modem</p> <p>This computer does not required modem for Internet connection.</p>	

<p>Network Card</p> <p>Onboard LAN Chipset: Intel GbE LAN chip Speed 10/100/1000 Mbps</p> 	<p>Intel® GbE LAN features cFosSpeed, a network traffic management application which helps to improve network latency and maintain low ping times to deliver better responsiveness in crowded LAN environments.</p>
<p>Speakers: Logitech - z533 Multimedia Speakers (3-Piece) - Black (980-001053)</p>  <p>\$135.00</p>	<p>Plug these Logitech z533 980-001053 multimedia speakers into your computer and enjoy rich, powerful audio for your movies, games, and music. The included front-facing subwoofer fills out the sound with deep bass.</p>
<p>Operating System</p> <p>Microsoft Windows 10 Pro</p>  <p>\$199.99</p>	<p>Right for business</p> <p>Join your Domain. You can connect to your business or school Domain or Azure Active Directory to use network files, servers, printer and more.</p> <p>Enhanced encryption. Get additional security with BitLocker to help protect your data with encryption and security management.</p> <p>Remote log-in. Windows 10 enables you to log in with Remote Desktop to sign in and use your Pro PC while at home or on the road.</p> <p>Virtual machines. Create and run virtual machines with Hyper-V so you can run more than one operating system at the same time on the same PC.</p> <p>Your apps in the Store. Windows 10 lets you create your own private app section in the Windows Store for convenient access to company applications.</p>

<p>Monitor</p> <p>GIGABYTE G27Q 27" 144Hz 1440P Gaming Monitor, 2560 x 1440 IPS Display, 1ms (MPRT) Response Time</p>  <p>\$309.99</p>	<ul style="list-style-type: none"> • 27" 2560 x 1440 IPS Display • 144Hz Refresh Rate, 1ms (MPRT) Response Time • Smooth Gameplay with AMD FreeSync Premium • Studio Grade VESA Display HDR400 and 92% DCI-P3 (120% sRGB) Color Gamut • GIGABYTE Classic Tactical Features with OSD Sidekick • GIGABYTE Auto-Update • Ergonomic Design with Tilt and Height Adjustments • Low Blue Light & Flicker-Free • VESA Wall Mount Compatible 100x100mm • 2 x 2W Speakers • 1x DisplayPort 1.2, 2x HDMI 2.0, 2x USB 3.0
<p>Printer</p> <p>This computer will use the network printer</p>	
<p>Internet Connection:</p> <p>Through Ethernet</p>	
<p>Total: \$1,596.92</p>	

Computers for Film Crew

Since the Film Crew are mobile workers, I have suggested that they should be assigned laptops with the following characteristics.



Job Role: Film Crew (6 Equipments)	
Location: Not Specified	
Component	Specification/Recommendation
Processor: Intel® Core™ i7-10750H Processor 12M Cache, up to 5.00 GHz (Manufacturer, Model, Speed) Price: \$444.00	CPU Specifications # of Cores 6 # of Threads 12 Processor Base Frequency 2.60 GHz Max Turbo Frequency 5.00 GHz Intel® Thermal Velocity Boost Frequency 5.00 GHz Cache 12 MB Intel® Smart Cache Bus Speed 8 GT/s Intel® Turbo Boost Max Technology 3.0 Frequency ‡4.80 GHz
Memory: 16 GB DDR4 RAM	
Hard Drive: 2TB HDD	
CD-ROM/DVD: Not Required	In case of requiring additional storage, an external hard disk or a flash memory can be used through the USB ports
USB Ports: MIN 3 USB port 2 x USB 3.2 Gen 2 ports	
Video Card: Nvidia GeForce RTX 3080, 10 GB Memory	Memory (VRAM): 10GB Memory bandwidth: 760GB/s Boost clock: 1710MHz Shader processors: 8704 Power consumption: 320w
Sound Card Onboard Stereo Speakers with Waves MaxxAudio	
Modem: This computer does not required modem for Internet connection.	
Network Card: 10/100/1000Mbps Ethernet	
Operating System: Windows 10 Pro	
Monitor:	

17.3" Anti-Glare LED-Backlit FHD (1920 x 1080) Display	
Printer: This computer will use the network printer when the user be at the office	
Speakers: Stereo Speakers with Waves MaxxAudio	
Internet Connection: Through the wireless connection	WLAN 802.11ac Wireless LAN
Total: \$ 799.99	

Computer for Administrative Manager

In the case of the Administrative Manager, due to the type of work he does, he will continue to use one of the PCs that currently exist in the office, and the other PC we will use as a spare part, because we will take the RAM memory and will update the Administrative Manager's PC to 4 GB since the AMD Athlon 64 X2 supports up to 16 GB of RAM, then we will update the operating system of this computer to Windows 10 and will be added a color laser printer Lexmark C3326dw Wireless



Price: 279.99

Network Printer

A Xerox VersaLink C405 / DN All-in-One Network Color Laser Printer will also be purchased and will be available to all users in the office through the network or WIFI.

Xerox VersaLink C405 / DN All-in-One Color Laser Printer features:

- Print, Scan, Copy, Fax

- Print Resolution: 600 x 600 dpi
- Print Speed: 36 ppm (Simplex)
- Maximum Document Size: 8.50" x 14.00"
- Optical Scan Resolution: 600 x 600 dpi
- 50-Sheet 1-Pass Duplex ADF
- 150-Sheet Bypass & 550-Sheet Input Trays
- 5" Touchscreen LCD; Easy-Access USB Port
- Monthly Duty Cycle: 80,000 Pages
- USB 3.0 and Ethernet Connectivity

Price: \$799.00

Wireless Router

ASUS AC3100 WiFi Gaming Router (RT-AC88U)

- Dual Band Gigabit Wireless Router,
- WtFast Game Accelerator,
- Streaming,
- AiMesh Compatible,
- Included Lifetime Internet Security,
- Adaptive QoS, MU-MIMO

Price \$132.40

FTP Server



Job Role: FTP Server	
Location: Office	
Component	Specification/Recommendation
Processor: Intel® Xeon® E-2124 Processor 8M Cache, up to 4.30 GHz Price: \$193.00 - \$198.00	CPU Specifications # of Cores 4 # of Threads 4 Processor Base Frequency 3.30 GHz Max Turbo Frequency 4.30 GHz Cache 8 MB Intel® Smart Cache Bus Speed 8 GT/s Intel® Turbo Boost Technology 2.0 Frequency [†] 4.30 GHz TDP71 W
Memory: 2 x 8GB 2666MT/s DDR4 ECC UDIMM Price: \$132.73 /ea.	
Hard Drive: 3 X 4TB 7.2K RPM SATA 6Gbps 3.5in Cabled Hard Drive Price: \$259.74 /ea.	3 Hard Driver for install RAID 5 and protect the data
CD-ROM/DVD: Not Riquired	In case of requiring additional storage, an external hard disk or a flash memory can be used through the USB ports
USB Ports: MIN 3 USB port 2 x USB 3.2 Gen 2 ports	
Video Card: Super VGA (1024 x 768) or higher-resolution (optional)	No special video feature needed
Sound Card: Onboard Audio	No special audio feature needed
Modem: This computer does not required modem for Internet connection.	
Network Card: 2 X 100/1000Mbps Ethernet	two network cards for Load-Balance
Operating System: Windows Server 2019 Essentials	Windows Server 2019 because we can install the Active Directory and we can restrict the network resources by user.
Monitor: Regular we can use the monitor of the older PC	

Printer: This computer will use the network printer when needed	
Speakers: No speakers needed	
Internet Connection: Through the Ethernet connection	
Total: 1,442.68	

Local ISP Providers. Comparison

From all the ISP of the State only two ISP (Verizon and Spectrum) provide cable Internet to the area where AnyCompany is located, other ISP provide Internet through DSL but then I will need to contract a line phone service, and this would make more expensive the service.

	Verizon	Spectrum
Cable Internet	<p>Fios 200Mbps- \$69/mo plus taxes and fees</p> <p>Fios 400Mbps - \$99/mo plus taxes and fees</p> <p>for 2 years contract</p> <p>\$49 activation fee applies based on speed tier. Wireless router available for \$299.99 purchase and \$15/mo rental, subject to change.</p>	<p>200 Mbps – \$49.99/mo for a1 year</p> <p>Free Modem and Wiresless Router \$5/mo rental</p> <p>\$49 Activation</p>
Web Mail (yes/no, Price)	<p>No, but we can make a contract with google for Business email.</p> <p>Domain name \$12 per year + taxes</p> <p>\$12 per user account per month + taxes</p>	<p>Free Business Email up to 25 accounts</p>
Access Time to FTP Server	Yes	yes
Technical Support	24hr- \$20/mo	24hr-\$20/mo

Budget

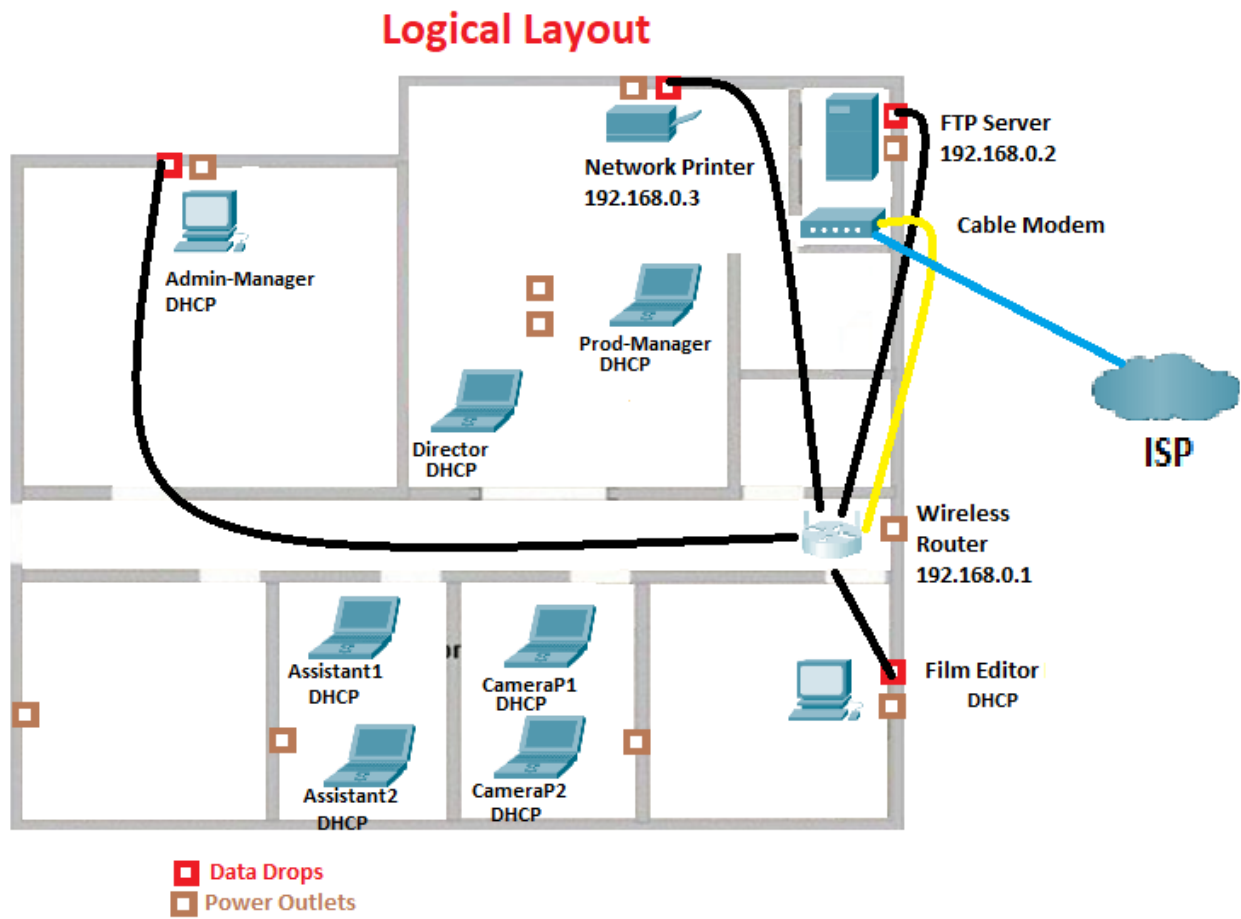
Items	Price	Total
Film Editor PC	1,596.92	\$1,596.92
Film Crew Laptops (6)	6*799.9	\$4,799.94
Administrative Manager PC		
Install new OS+update	60.00	
Local Printer	279.99	\$339.99
FTP Server	1,242.68	\$1,242.68
Wireless Router	132.40	\$132.40
Network Printer	799.00	\$799.00
Spectrum		
Activation	49.00	
Email Accounts	0.00	
Cable Internet	49.99	
Technical Support	20.00	218.99
Design, Implementation	1,500	1,500.00
Total		10,629.92

Appended Information

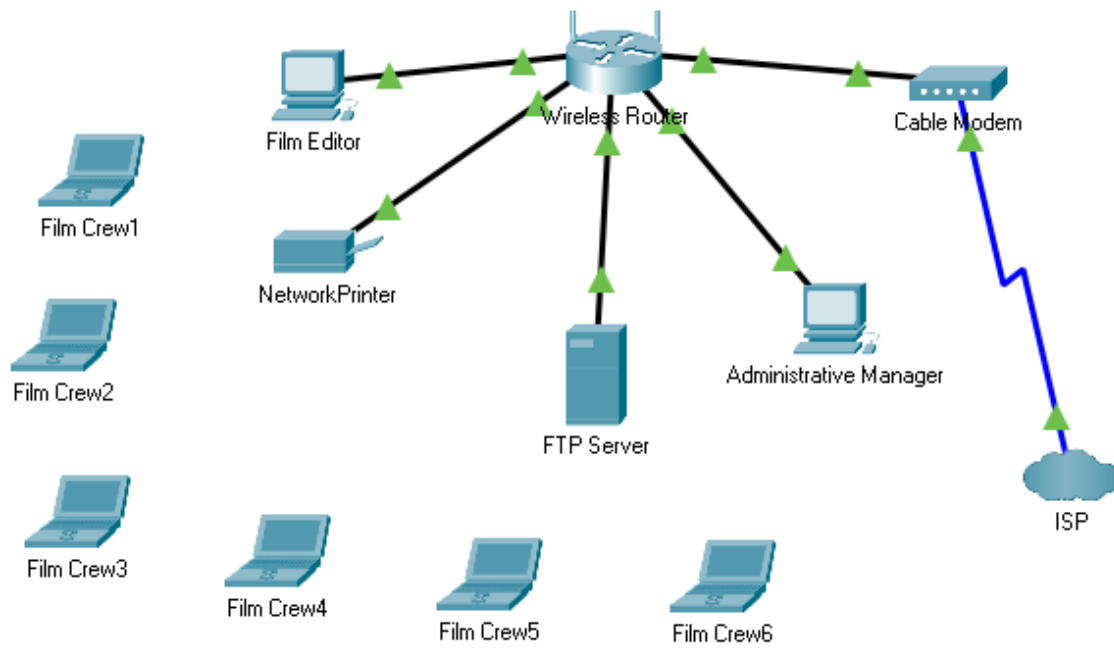
Physical Layout of all Equipment data drop and power outlets



Logical Layout



Network Layout



- Cover letter
- Title page and table of contents
- Execute Summary
- Project proposal, comprising needs statement; goals and objectives; methodology and timetable; evaluation; budget summary; detailed budget; future funding plans
- Appended information