



Network IP Camera Buyers Guide:

What to Consider When Purchasing Your Network IP Camera



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Topic 1:Frames Per Second (FPS)



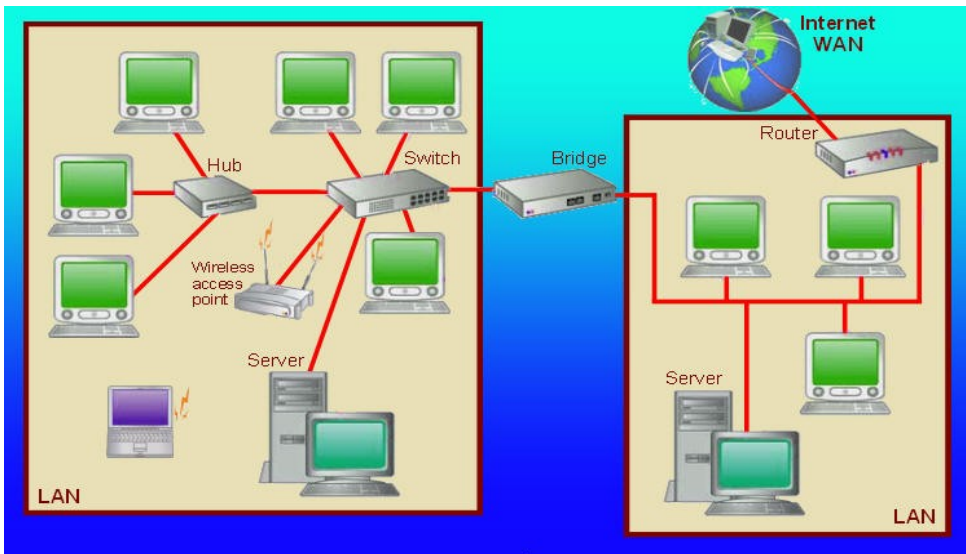
Above picture depicts 9 frames per seconds. Using this example you can see how a Network IP Camera converts frames into motion video.

Network cameras can provide video anywhere from 1 to 45+ frames per second. At 30 frames per second, frames will give the appearance of full motion video. Keep in mind this is not broadcast television or HD quality. It has been debated for years whether the human eye can distinguish between 30 FPS and above. Typical business grade network cameras will offer between 15 and 30 frames per second. Lets put it this way more FPS will not hurt your cause.

Topic 2:LAN vs. WAN

LAN (Local Area Network) and WAN (Wide Area Network) are sometimes confused and often times misunderstood. LAN is a computer network covering a small area such as your home or office. WAN is a computer network covering a broad area such as across cities, states, and nations. LAN Example: Network within an office. WAN Example: The Internet.

So how does a LAN versus WAN affect network IP cameras? LAN's have much higher data transfer rates than WAN's. Network IP cameras upload their images and those viewing the camera are download the images. Typical LAN networks are capable of 100 to 1000 Mbps data transfer rates (aggregate upload and download) and your typical WAN network is significantly lower. For example the average WAN upload speed in the United States is less than 2 Mbps. Your camera will only be as fast as its weakest link, which is typically upload speed.



Above picture is a pictorial view of LAN vs WAN.

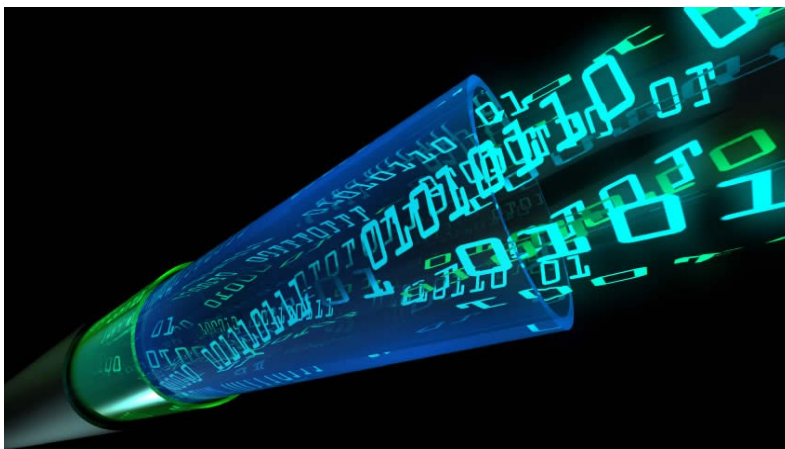
Viewing the camera from within the LAN will provide a much higher frame per second (FPS) rate and better image quality. If you are viewing your office camera from your house you can expect a much lower FPS and degradation in image quality. You will want to keep this information in mind if you are planning on recording your video images. Your best recording results will take place within the same LAN as your network IP camera.

Topic 3:Ease of Setup

I won't go too in depth into this subject as you would be reading all night. Network IP cameras can be complicated to setup if you don't have a lot of networking experience. There is router programming and IP addressing schemes which will need to be addressed.

Not a computer geek? Not a problem. PSIcompany.com sells network IP cameras which are a breeze to setup. Take for instance the Astak Mole Camera which practically sets its self up. PSIcompany.com also provides remote support at reasonable prices.

Topic 4:Compression

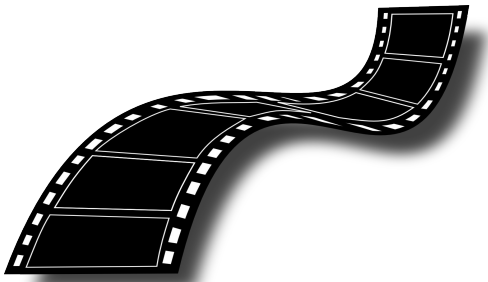


Above picture represents the "bandwidth pipe" described below.

There are three main types of compression in network IP cameras. They are MJPEG, MPEG-4, and H.264. With MJPEG a camera sends a full image frame and it is downloaded at the viewing computer. Lets say you are sending 30 images per second over a network with MJPEG compression, this could take up a lot of bandwidth on your network. With MPEG-4 the camera sends out a full image frame every so often to the viewing computer and the rest of the time it only sends out updates describing what parts and the image has changed, thus reducing the amount of data being sent and the bandwidth being consumed. H.264 is based on the same concept as MPEG-4 but is much more complicated and sophisticated in it's methodology and uses even less bandwidth.

The bottom line is MJPEG uses up the most bandwidth and H.264 uses the least bandwidth. If you could visualize your network bandwidth as a pipe and the data you are transmitting (in this case video) as water, you are restricted in the amount of water you can send through the pipe over a period of time by the size of the pipe. In a LAN the pipe is fairly large and in a WAN the pipe is smaller.

Topic 5:Recording



Some cameras record with software which is running on a computer either on the same LAN as the camera or via the Internet. With software which is recording on the LAN you can expect much better video quality and higher FPS than over the Internet. Some manufactures provide recording software free of charge and others will have you buy it separately, so be sure to inquire if this is a feature of interest to you.

A few network IP cameras are able to record video on an SD card on the camera. This allows for a stand alone recording method and if desired you can still run recording software for redundancy. With the SD card method you do not have to worry about having a computer which is dedicated to recording software, however SD cards are limited in recording space. Also, if you lose Internet connection you are still recording on the SD card and able to access the video at a later time when your Internet connection is back up and running.

Topic 6:Compatibility

With all things network and computer based you need to ensure compatibility. Network IP cameras come with setup software(s) that don't always work with all operating systems (including Microsoft Vista and Mac OS), web browsers, or phone models. So, buyer beware and be sure to do your homework.

I come back to the Astak Mole Camera as it works on both PC's and Mac's as well as multi browser capable (IE, Firefox, Safari, and Chrome). The Mole camera is also viewable from an iPhone!

Topic 7: Other Features to Consider

When narrowing down your network IP camera choice you may want to consider additional feature sets. Wireless capabilities allow for an easier installation but be wary of slower bandwidth. Pan, tilt, and zoom give you the flexibility to change your video image views. Night vision is perfect for low light installations. Audio is a great way to expand camera usage by allowing audio inputted through a microphone and/or outputted through speakers. If putting a camera outdoors please be sure to see if housings are available or there is an outdoor ready solution for you. Lastly, resolution can be important to your video quality expectations. Some cameras can only provide limited FPS at higher resolution settings.