

HOME



Remote Surveillance over the Internet using Your Cell Phone

Is it real?

<http://www.kintronics.com>

by Kristy Hill and Sri L. Palasamudram

A number of years ago, it would have cost you an arm and a leg to carry a portable device that allowed you to watch and control surveillance cameras from a remote location over the Internet. Today's technology is not perfect, but it has gotten a lot better.

It is relatively easy to view your IP camera using your laptop computer. It gets more complicated to view the same camera using your cell phone. Thanks to cell phone companies such as ATT, Sprint and Verizon who have been building the wireless infrastructure, cell phones can bring a stream of video images (3 to 8 fps) from your home or small business security cameras.

The Technology Required

Watching and controlling surveillance camera over the Internet is a neat idea, but making it happen is not easy. You need to have the following things in place to view the video on your cell phone.

IP Camera

First you need a camera that attaches to your home or business network. These cameras are referred to as [IP cameras](#) because they use the TCP/IP network. Your computer connects to the Internet using the same protocol as the IP camera. In a way the IP camera is just like another computer on the network. The camera needs to be compatible with the video cell service that connects the digital video from the camera to your cell phone (see more below).



Internet Connection

Your home or business network must also be connected to the Internet. If you have an Internet connection through DSL, ADSL, cable, T1 or other modem, you are connected to the Internet.

Internet Address

To be able to contact the camera in your home or business you also need to know the address of the modem that connects to the Internet. It's like trying to give someone directions to your house. You need to provide your address. In the computer world, this can be a static IP address or a dynamic IP address. Since a dynamic IP address can change, you will need to use a service (dynamic DNS service) that provides a domain name that can be used even when the IP address changes.

Enough Bandwidth

Bandwidth is important. Bandwidth defines how many frames per second you will see on your phone. At your home or business you need to have an outbound bandwidth of at least 512Kbits/sec to view about 5 fps at a resolution of 320 x 240. This assumes MPEG4 compression. If your camera only supports MJPEG compression, you will require about 2 X the

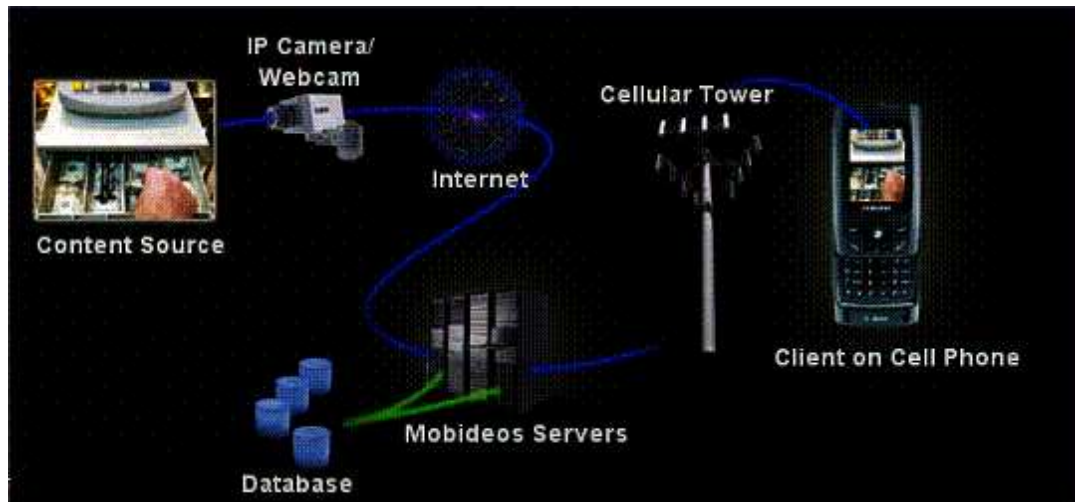
bandwidth.

If you want to view the cameras over the Internet using your laptop or other remote computer stop here, but if you want to view the cameras using your cell phone continue on.

Video Service Provider

You will need to purchase the cell phone video service that provides the connection from your home or business to the cell phone.

www.MobileIPCamViewer.com provides this service. It changes the video signal so it can be used by your specific telephone. It costs about \$10/month to \$30/month depending on the number of cameras and features.



Things that Affect Quality of Service

There are several variables that affect the quality of the video on your cell phone.

1. Your cell phone is connected to the central video processing point using one of the mobile communication standards. You can be connected using 3G, EDGE, or GPRS. 3G is the fastest while GPRS is the slowest type of connection service.
2. The number of users on the cell phone tower is very important because everybody in a same geographic area shares the same cell phone tower. The available bandwidth is split up among them. For example if a tower has capacity of 10MB and there are 1000 users, then each gets 10KB. If there are 10,000 users sharing the tower, then available bandwidth for each users reduces to 1KB
3. Type of cell phone device you carry – newer phones come with faster processing chips which can process and decompress the video images faster providing better experience
4. Compression used to deliver the video from the IP camera to the service providers server. This typically depends on camera manufacturer and service provider
5. Data connection from camera to the internet – DSL, ADSL, Cable, T1, T3 etc.

The Future

New services and technology are becoming available. At the moment you may experience a bottleneck from the cellular tower to cell phones, however these are getting better and soon you will be able to see continuous motion video.

Today's cell phone services don't store the video, so if you get an alarm from home, you can't look at the historic or stored video to see what happened. Future video cellular service providers are expected to offer this storage service. Today you can do this by purchasing additional [software](#) which stores the video on your home computer, but this is somewhat more complicated and expensive.

So if you want to look at your children or your pets in real time, contact us and we can help you select the right equipment and service. We can be reached at 914-944-3425 or use our [contact](#) form.

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