VIVOTEK
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IP Surveillance

Application Note

Time-Shift recording

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Revision History

Version	Issue date	Author	Comment
1.0	**2010/11/30**	**Howard**	**First release**

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Introduction

VIVOTEK provides an extremely useful feature called time-shift recording. This document on the feature is divided into five sections:

1. What is time-shift recording?
2. Setting up time-shift recording
3. Benefit of time-shift recording
4. Devices supporting time-shift recording
5. Integrating time-shift recording into your own software

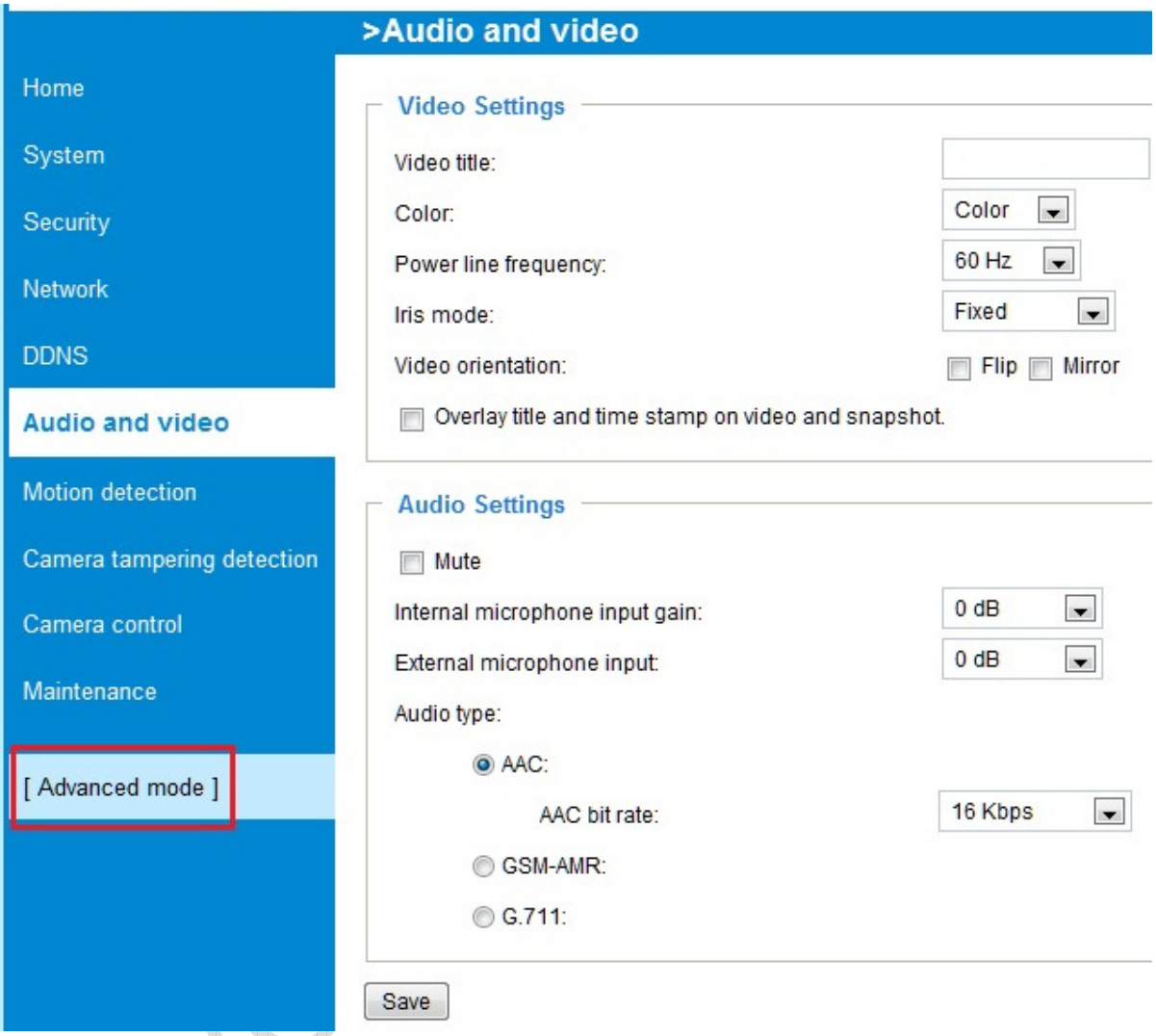
1. What is time-shift recording

Time-shift recording is an extremely useful feature that allows VIVOTEK's ST7501/VAST to request and record video cached on devices (cameras and video servers) only when an event occurs. It can thus save network bandwidth when no events are occurring.

After the stream cache is enabled on a device, it will store video/audio in the device's embedded memory for as long as there is capacity available (when memory is full, the oldest recorded video will be deleted to free capacity). This function works seamlessly with ST7501/VAST, which requests and records video/audio from the stream cache only when an event occurs.

2. Setting up time-shift recording

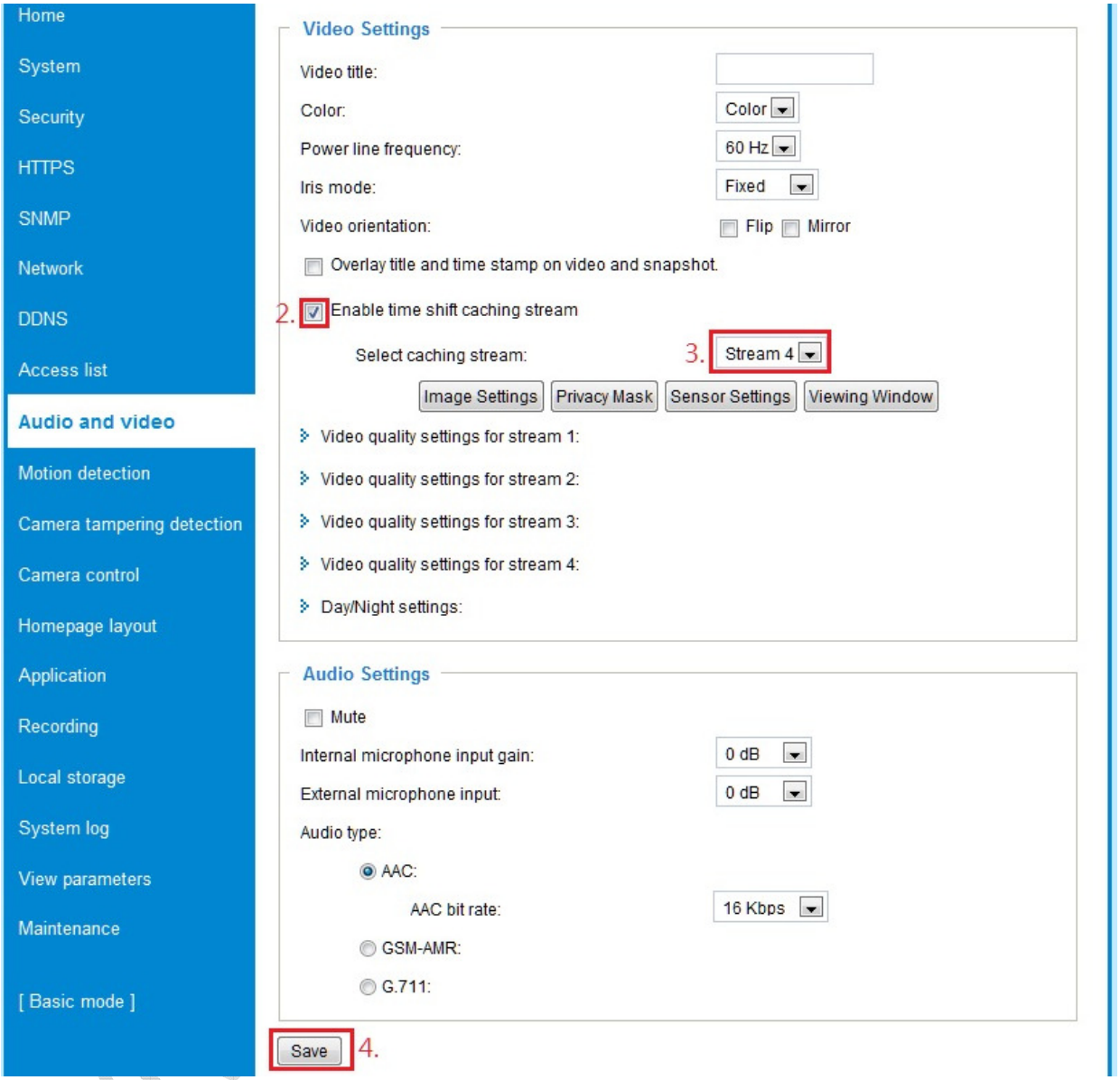
Step 1. Go to the **Audio and video** page for the device and click **Advanced mode** to view its settings (see the figure below).



Step2. Place a check by the item **Enable time shift caching stream**.

Step3. Select the stream wish to record, which will then be cached.

Step4. Click the Save button.

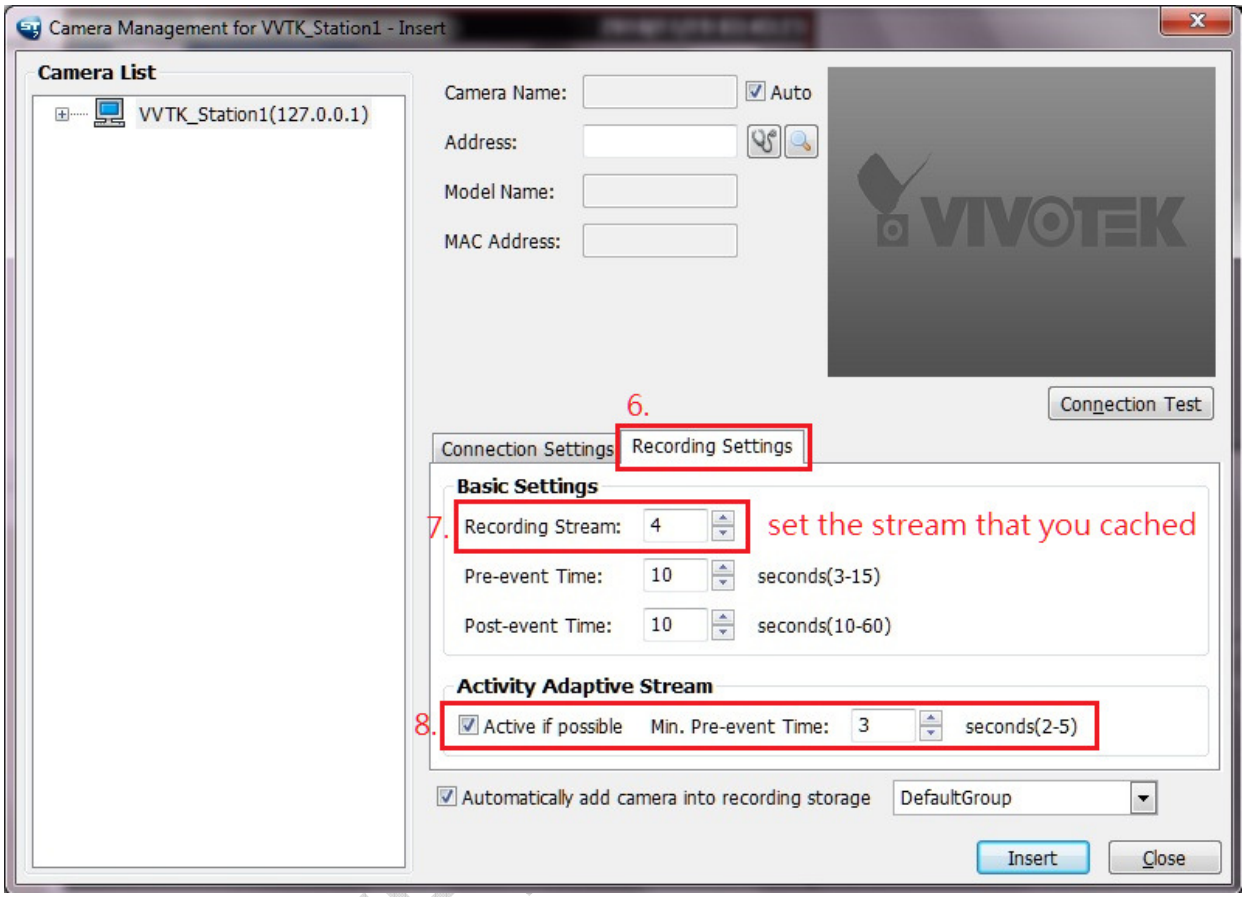


Step5. Add to ST7501/VAST's device list.

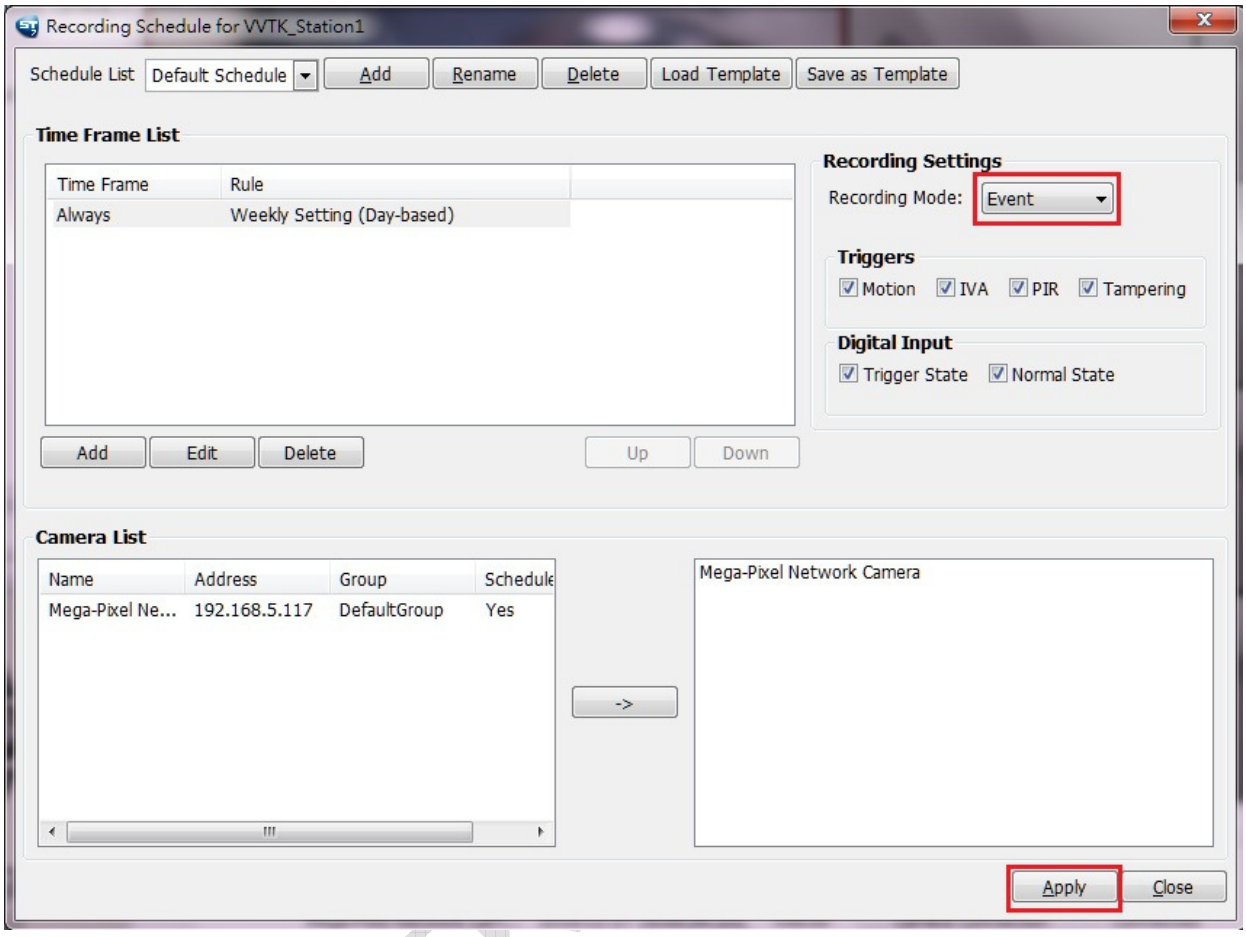
Step6. Go to **Recording Settings** (see the figure below)

Step7. Set the recording stream to the one you selected to be cached

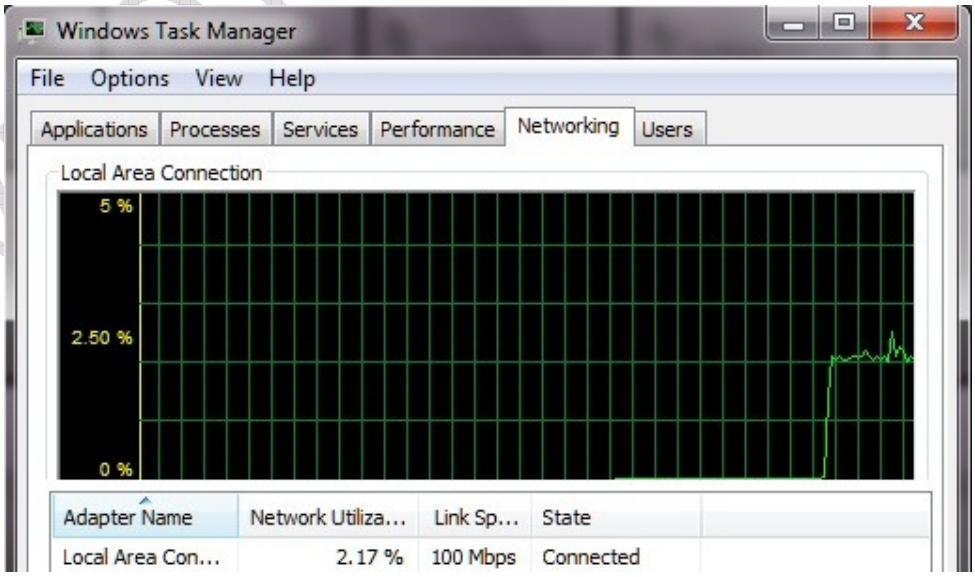
Step8. Enable the Activity Adaptive Stream feature.



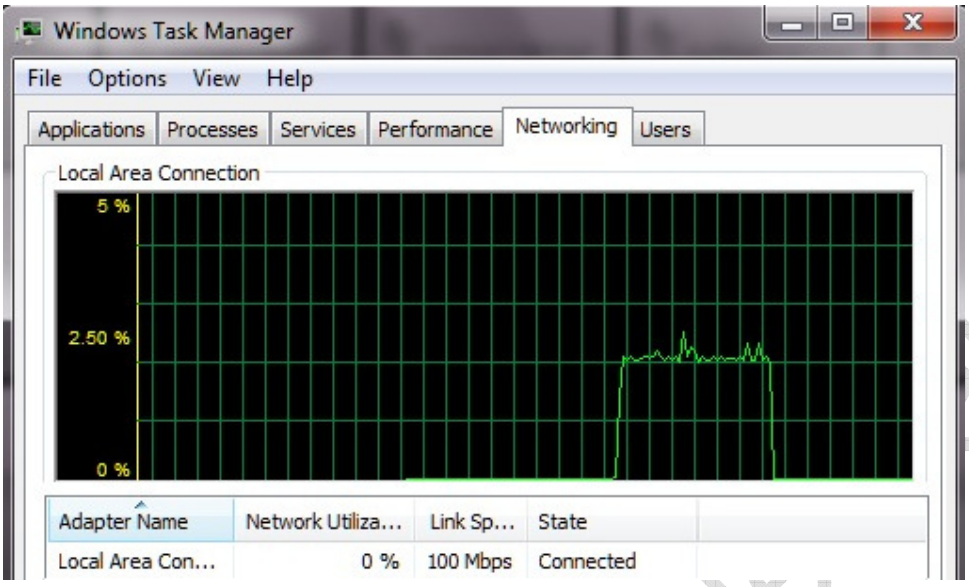
Step9. Go to the Recording Schedule settings for the device, and set Recording Mode to **Event**, then click Apply.



After the above steps have been completed, ST7501/VAST will begin utilizing network bandwidth to retrieve cached video from the device only when an event is triggered, as shown in the figure below.



After receiving the stream, bandwidth usage drops back to 0%.



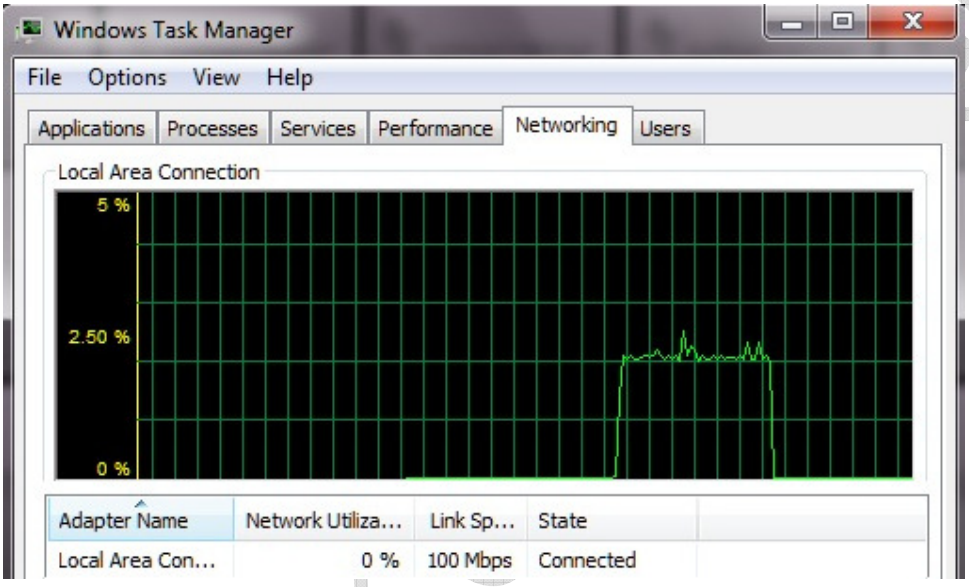
3. Benefit: Efficient use of bandwidth

When there are no events of interest occurring, time-shift recording can free bandwidth on the network on which the ST7501/VAST-Server and devices are located.

Here is a comparison of network bandwidth on ST7501/VAST-Server with time-shift recording enabled and disabled:

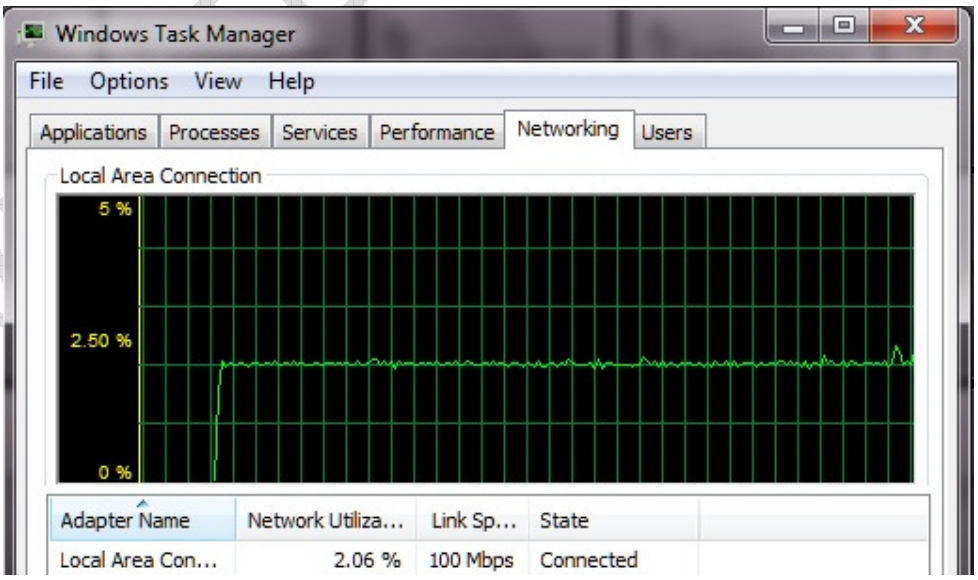
(1) Time-shift recording **enabled**:

Network bandwidth is used for streaming video from a device only when an event is occurring.



(2) Time-shift recording **disabled**:

Network bandwidth is used constantly for streaming video regardless of whether or not an event is occurring.



4. Which model supports time-shift recording

The following VIVOTEK devices support this feature (only currently available products listed):

IP7361, IP7161, IP7160, MD7530, MD7560

IP8151, IP8161, IP8330, IP8332, IP8172

SD8362, FD8133, FD8134, FD8361, FD8361L

SD81x1 (with 128MB RAM), VS8102 (with 128MB RAM)

In general, devices with 256MB of RAM or more support this feature.

Go to our website to check the specifications of your device if it is not listed above.

5. Integrating time-shift recording into your own software

Step1. Go to http://www.vivotek.com/support/sdk.php to register an account and sign the NDA.

Step2. After signing the NDA, download API document for **Control Channel** and **Timeshift Streaming**

High Profile	2000/3000/6000/7000/8000 ActiveX SDK	VitaminCtrl	3.0.0.15	2010.11.24	12.4MB
	Directshow Filter			2010.11.19	10.7MB
	Audio Video Capture Filter			2010.11.24	8.5MB
	URL Commands			2010.04.27	2.8MB
Main Profile (Low-level SDK)	Main Profile			2010.01.22	29.7MB
	There are two platforms: windows/linux, Please check it. ServerManager supports our all products, so I suggest you to use ServerManager to integrate.				
API documentation	Video audio stream user data format			2010.09.16	1.0MB
	Control Channel			2010.06.02	0.9MB
	Timeshift Streaming			2009.10.28	0.2MB
	PTZ Driver for Video Servers			2010.04.27	0.3MB
	Custom Script			2009.06.16	0.1MB

Step3. Unzip the **Control Channel** file to obtain the original file, “Control_Event_Channel_20100601.pdf”.

Step4. Please refer to ““Control_Event_Channel_20100601.pdf”” to build event tunnels between your software and devices.

Step5. After implementing the event tunnel, your software can monitor the devices for any events of interest.

Step6. If the software detects an event, it should request video/audio from the stream cache on device. Please refer to “timeshift_streaming.pdf” for information on how to do this.

Your software should now be able to record the stream that you designated.