The sys admin's daily grind: GIF animations

Trees and Clouds

Beyond flashing web emoticons, animated gif images can present trends that catch your eye in system monitoring. *By Charly Kühnast*

I recently started experimenting with building animated GIFs. Not because I wanted to add more kitty content to the web (our 16-year-old cat [1] is allergic to exercise, so a still – or prone image – would have done that job perfectly), but because I wanted to visualize cloud movements on the web. The idea came to me from a hurricane warning. By pointing a webcam at the treetops and clouds, I could assess from anywhere in the world whether my home was threatened.

Said and Done

Unfortunately, the Internet connection in the lowlands of the lower Rhine region of Germany is about as dynamic as my cat; you can forget all about streaming. I have the camera grab an image every few seconds and then concoct an animated GIF from the results. The bandwidth-saving results look good on the website for my amateur weather station (Figure 1) [2].

A myriad of tools can create animated pictures, but most of them are graphical rather than scriptable. I decided on `convert` from the ImageMagick toolkit because it does exactly what its name suggests, and more. In the simplest case, I can convert the images from my webcam to GIF like this:

```
convert image.jpg image.gif
```

I can even leave out this step because `convert` will also handle the conversion when I tell it to build the animated GIF:

```
convert -delay 100 -loop 1 ⤵
  ~/cam/ *.jpg animation.gif
```

The `-delay` parameter specifies the length of the pause between each animation step in hundredths of a second, which results in one second in this case. The `-loop 1` command means: Run the animation cycle once only and stop with the last picture; `-loop 0` creates an infinite animation, which starts again with the first image after showing the last.

Evaluate and Present

But, why am I writing about animated GIFs in a sys admin column? Well, I occasionally use this technology to animate the overview diagrams served up by monitoring tools such as Cacti, Icinga, or Munin. I like to use the results at meetings and for presentations, especially when some of the participants are from non-IT departments. Animations are perfectly suited for visualizing certain load conditions on a timeline in relation to the time of day or the course of a week.

The feature scope of the ImageMagick tools is gigantic. For an impression of the various fields of application, check out the ImageMagick Usage guide [3], which offers more than just gimmicks for homeowners; some of them could be useful for admins, too. ∎∎∎

INFO

[1] Charly's cat: *http://kuehnast.com/fun/wachkatze.jpg*

[2] Charly's weather station: *http://kuehnast.com/ws*

[3] Using ImageMagick: *http://www.imagemagick.org/Usage/*

Figure 1: Charly's complete weather report plays animated GIFs from his webcam on the top right. Directly left, he notes "low clouds" and "scattered clouds at about 425 meters." In the middle tier, he shows the temperature; wind speed, with surface speed and gusts; and barometric pressure, with movement in the last hour (here, it's rising). At bottom is the chance of rain, with precipitation in the last 24 hours, the UV index, and any weather alerts.

AUTHOR

Charly Kühnast is a Unix operating system administrator at the Data Center in Moers, Germany. His tasks include firewall and DMZ security and availability. He divides his leisure time into hot, wet, and eastern sectors, where he enjoys cooking, freshwater aquariums, and learning Japanese, respectively.