Zoneminder – Open Source Video Security

STLLUG August 2017



Bats, Racoons, and Prowlers caught in the act

About Me

I have set up only one production Zoneminder server, but I have set up other Linux workstations and servers since about 1998.

I work as an independent consultant performing system and small network administration, and writing specialized technical documentation.

What is Zoneminder?

Zoneminder is a full-featured, open source, state-of-the-art video surveillance software system.

https://www.zoneminder.com

Acknowledgments

• The Zoneminder Developers.

 PassMark Software Pty. Ltd. for data at cpubenchmark.net.

• A visitor, who gave permission to use his photo.

Outline

- Zoneminder Capabilities
- Hardware Requirements
- Software Requirements
- Installation and Setup
- Demonstration
- Experience

Zoneminder Capabilities

- Motion Detection only save action
- Use nearly any camera
- Web interface; Android and iOS apps
- Use many distributions: Debian, Centos, Ubuntu, Mint, FreeBSD
- Multi-server support

Hardware Requirements

- Computer that boots your chosen OS
- Memory depends on camera count, image size, target color space, and frames/second.
- Disk space as memory
- CPU as memory, plus filtering

Hardware Example

- 3 Cameras: 640x480, 24bit color, 5fps
- Motion Detection, video kept 90 days
- AMD Phenom(tm) II X4 965 CPU Mark 4213, single thread 1185
- load average .45; 4/8 GB memory use
- 49 GB stored video

Software Requirements

- Pick an O/S no Windows support.
- Typical requirements: php, mariadb-server, apache2-mod-php7.0, vlc-plugin-base ... and many more packages brought in during install

Software Requirements - Demo Debian 9.1 on Virtualbox VM base webserver ssh server standard system utilities sudo & aptitude (personal taste)

Installation and Setup

Find the installation instructions for your O/S at the Zoneminder wiki

https://wiki.zoneminder.com/

Follow instructions

Installation and Setup

http://zoneminder.readthedocs.io/en/stable/userguide/ index.html

--'Getting Started' section

- Authentication
- Theme
- Monitors
- Filter to discard old captures

Demonstration

Zoneminder installed in Virtualbox VM

D-Link 932L IP camera

Experience

Camera angles and lighting matter.

Getting wiring where you want it can be timeconsuming and/or expensive.

There is a good chance you are in a hurry.

Make it your home page.





Prowler

Experience



A Friendly Visitor

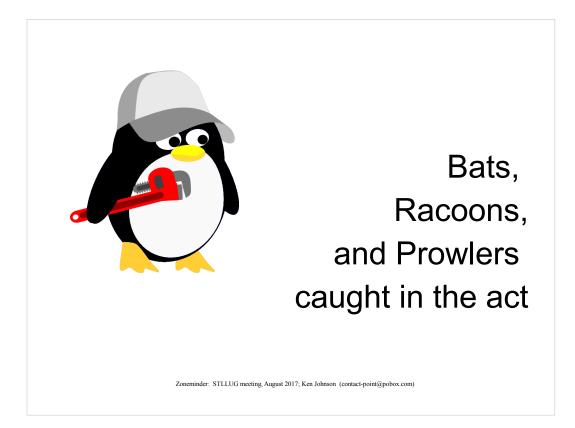
Questions?

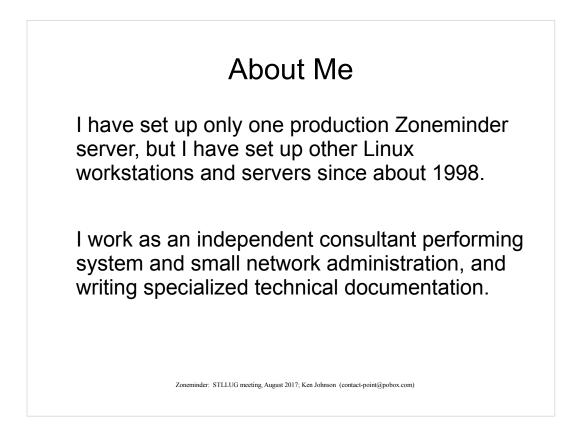


Bats, Racoons, and Prowlers caught in the act



Use View | Slide Master to change footing.





RedHat, Pink Tie, Debian, Ubuntu, Mint

XML or SGML based mil-spec documents

Run the Visual C++ debugger or read a switchbox schematic.

Generate 'picture books' for custom test program sets using Python and MS Word.

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Zoneminder: STLLUG meeting, August 2017; Ken Johnson (contact-point@pobox.com)

Here's what we'll cover...

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Motion detection – saves disk space, saves time when looking for events of interest.

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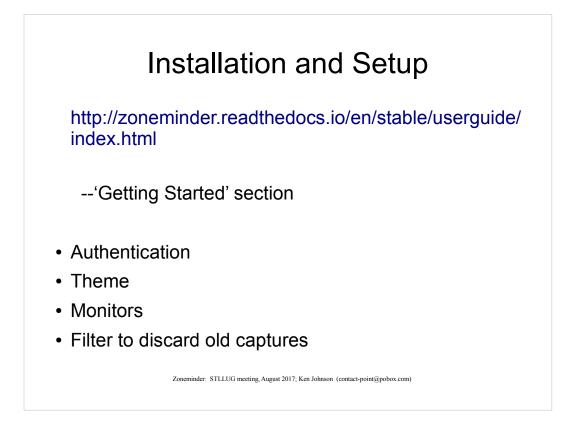
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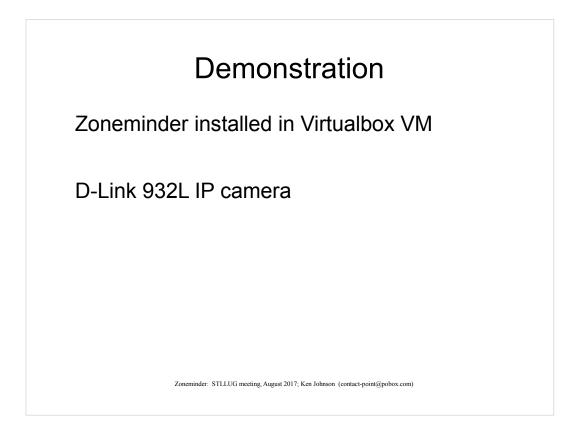
Follow instructions



I would not expose Zoneminder to the internet, but would put it behind a VPN or SSH tunneling gateway.

The default theme uses very small print.

'Monitors' is the Zoneminder word for cameras.



Host Ethernet 10.2.2.16VM Ethernet 10.2.2.32Camera 10.2.2.42

Camera password: zmdemo

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See the friendly visitor.

Home page alternative – some kind of automated monitoring so you know the cameras and the server are still running.

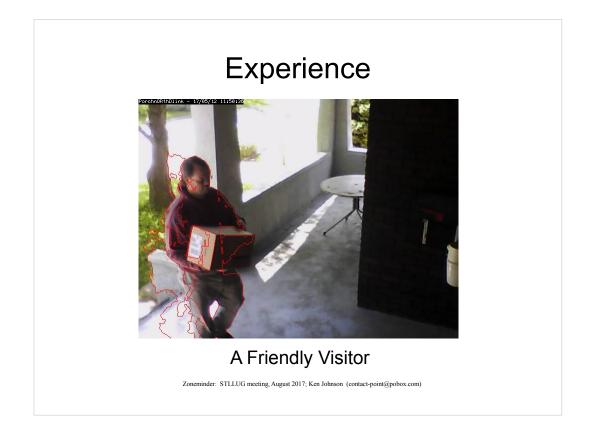


About 2 years ago, thefts from unlocked cars in my neighborhood.

Prowler ducked when lights came on, then resumed his business.

My car locked.

White male, slender build, aproximate height.



You also capture friendly visitors.

This person kindly gave permission.

Not everyone may be so comfortable with being on camera.

In the past, have captured bats whizzing by, and a racoon on the porch. Not saved, regrettably.

