

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 time-consuming and/or expensive.

There is a good chance you are in a hurry.

Make it your home page.

Experience



Prowler

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

Experience



A Friendly Visitor

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

Questions?



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Use View | Slide Master to change footing.



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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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Here's what we'll cover...

Zoneminder Capabilities

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

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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.

Demonstration

Zoneminder installed in Virtualbox VM

D-Link 932L IP camera

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Host Ethernet 10.2.2.16

VM Ethernet 10.2.2.32

Camera 10.2.2.42

Camera password: zmdemo

Experience

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Make it your home page.

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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.

Experience



Prowler

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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, approximate height.

Experience



A Friendly Visitor

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

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.

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