# Don't RAT Me OUT!


Lilly Chalupowski
October 29, 2018

# whois lilly.chalupowski

Table: *who.is results*

| | |
|---|---|
| Name | Lilly Chalupowski |
| Status | Employed |
| Creation Date | 1986/11/29 |
| Expiry | A Long Time from Now |
| Registrant Name | GoSecure |
| Administrative contact | Travis Barlow |
| Job | Security Application Developer - Threat Intelligence |

# Agenda
What will we cover?

- Disclaimer
- What is a RAT?
- Brief History of the RAT
- Why build a RAT?
- The Laboratory RAT
  - CnC Server
  - Victim Sessions
  - Command Queue
  - NCurses
- Evasion
  - NIDS/NIPS
  - Debugging
  - Virtual Machines
- POC / Demo / Questions

# Disclaimer
## Don't be a Criminal

### disclaimer.log

The tools and techniques covered in this presentation can be dangerous and are being shown for educational purposes.

It is a violation of Federal laws to attempt gaining unauthorized access to information, assets or systems belonging to others, or to exceed authorization on systems for which you have not been granted.

Only use these tools with/on systems you own or have written permission from the owner. I (the speaker) do not assume any responsibility and shall not be held liable for any illegal use of these tools.

# What is a RAT?

# What is a RAT?
## The Animal


Figure: Army RAT!

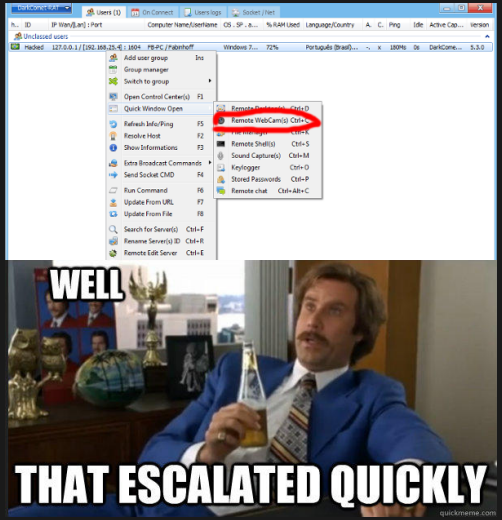

Figure: Swamp RAT

# History of the RAT

# History of the RAT
## System Administrators

- Central management
- Supporting larger user base
- Fixing issues remotely
- Solved user issues issues

# History of the RAT
## Well that Escalated Quickly



# Why Build a RAT?


Figure: Hackers IRL

# Why Build a RAT?
## Because Linux

- Linux
- C Programming Language
- Learning Experience
- Find Detection Limitations
- Research the Linux Malware Ecosystem
- It's Cool
- Because I Can

# The Laboratory RAT

# CnC Server
## In the C Programming Language

- Sockets
  - Create
  - Bind
  - Listen
  - Accept
  - Receive
  - Process
  - Send
- PThreads

# CnC Server

## It can be painful when written in C

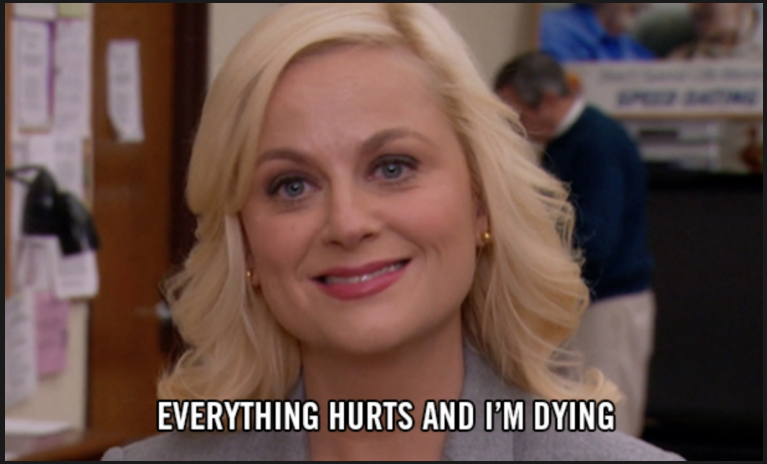



Figure: Leslie Knope