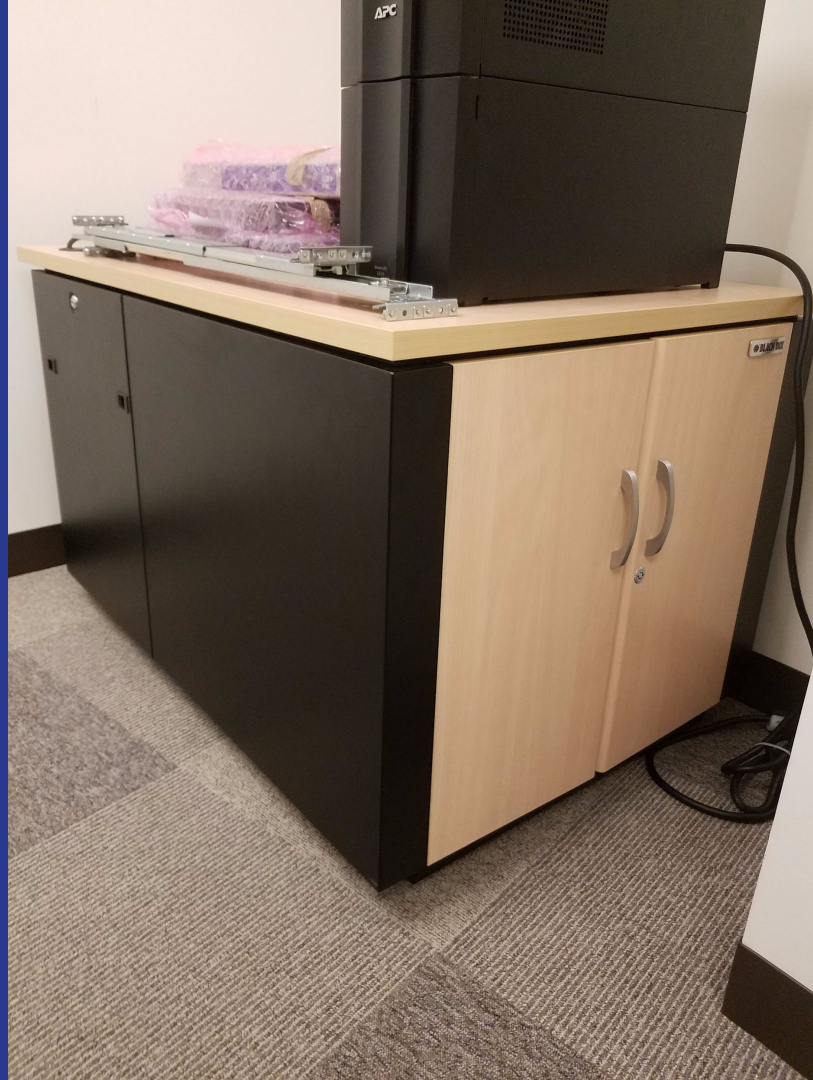# UC.yber;

News, Networking, Bash, and CTF's

Announcements

- **Robert Bathlter** has reached out to **Xavier High School** we will be working to set up an event with them, THANKS!
- **Alex** reached out to Lakota East, THANKS!
- We now have **lab space** on the **5th floor of ERC**
- If you are interested in **joining a committee** please fill out the form
- **October 27/28th ACM** programming challenge
- **Siemens** is officially donating a **server and server rack** to us

News in InfoSec

ROPEMAKER & #LeakTheAnalyst

- http://thehackernews.com/2017/07/data-breach-mandiant-fireeye.html
- https://www.bleepingcomputer.com/news/security/ropemaker-lets-attackers-change-your-emails-after-delivery/

Basics of Networking

Network Addressing

- A **MAC Address** is a unique identifier for every single electronic device that can connect to the internet (ex. FF:FF:FF:FF:FF:FF), a **physical address**

- **IP Addresses** are a network address and there are two primary types:
    - **Internal IP Addresses** deal with addresses on a local network (192.168.1.1)
    - **External IP Addresses** deal with connections to the outside world (Google is 172.217.0.14)

Ports

- **Port Forwarding** is a way to basically create a door into your network from the outside world. When a port is forwarded it is called an **Open Port.**

- Ports have **assigned numbers** according to what service they are providing
  - Port 22 is for SSH
  - Port 443 is for SSL
  - Port 80 is for HTTP
  - Port 8080 is for HTTPS

The Terminal and BASH

Terminal / Command Prompt

- Another way to interface with your computer through commands
  - Basically talking with your computer in a different way than using the GUI

- Linux (and MacOS) uses **bash commands** to tell the computer what to do
  - Using terminal may not seem efficient at first, but when you start writing scripts and making aliases it can make using your computer incredibly efficient

Basics of Bash

- Syntax
  - <u>pwd</u> (Print Working Directory)
  - <u>cd</u> (Change Directory)
  - <u>ls</u> (List of Files In a Directory)
  - <u>cd ..</u> ("the directory above" or the "parent directory")
  - HINT: Pressing <u>TAB</u> will attempt to autocomplete your commands
  - <u>Man <command></u> will show the manual of any command

SSH

- Combining what you just learned, **S**ecure**SH**ell is a way to open a terminal instance remotely letting you:
    - Remotely control computer once logged into ssh session
    - Copy files to or from computer host
    - Etc.

RaspberryPi Demo

Wargames!

Getting Started

- Navigate to http://overthewire.org/wargames/bandit/
- First we need to **SSH** (Secure Shell) into their server
- **DON'T WEB SEARCH THE ANSWER**