# Using BRO to tattle on other tools

Patrick Cain

The Cooper-Cain Group. Inc.

pcain@coopercain.com

(@BC @APWG)

# Using <del>BRO</del> ZEEK to tattle on other tools

Patrick Cain

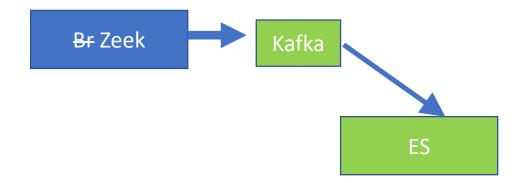
The Cooper-Cain Group. Inc.

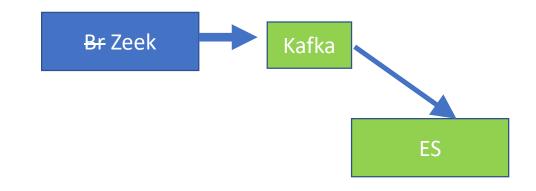
pcain@coopercain.com

(@BC @APWG)

I don't do BIG data, I do LARGE data!

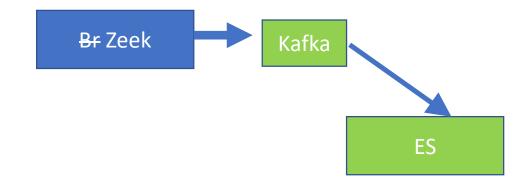
### A hypotethical environment...

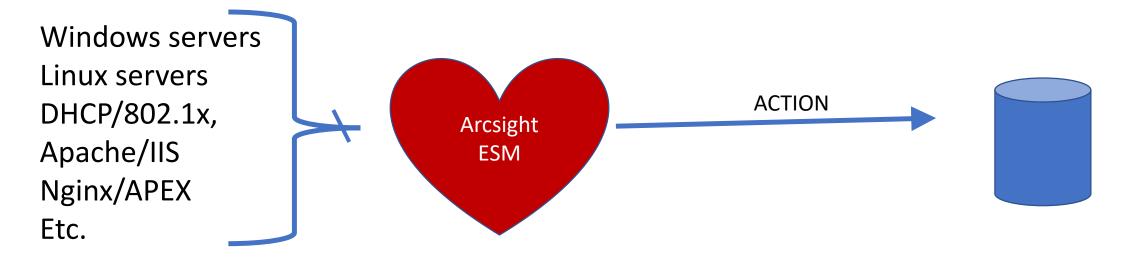


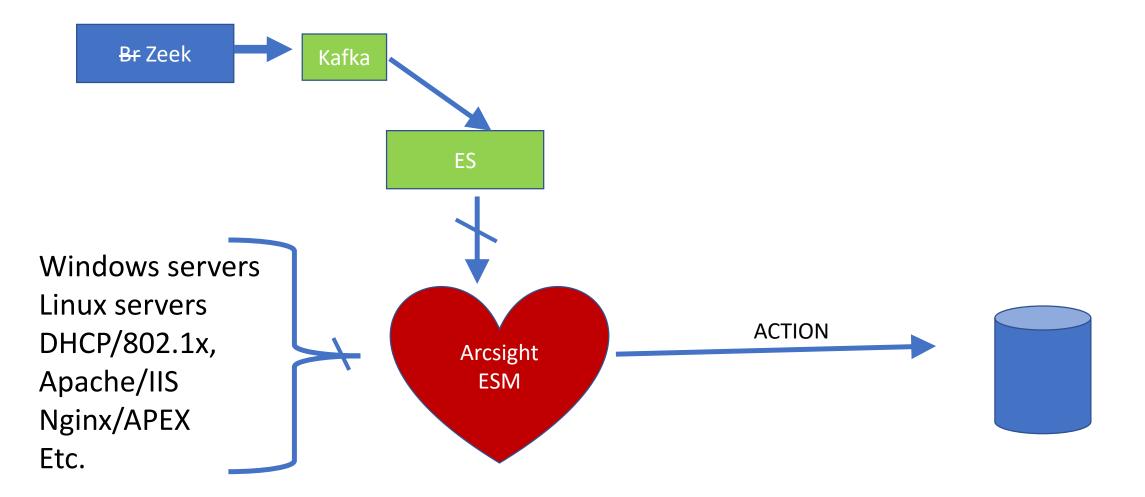


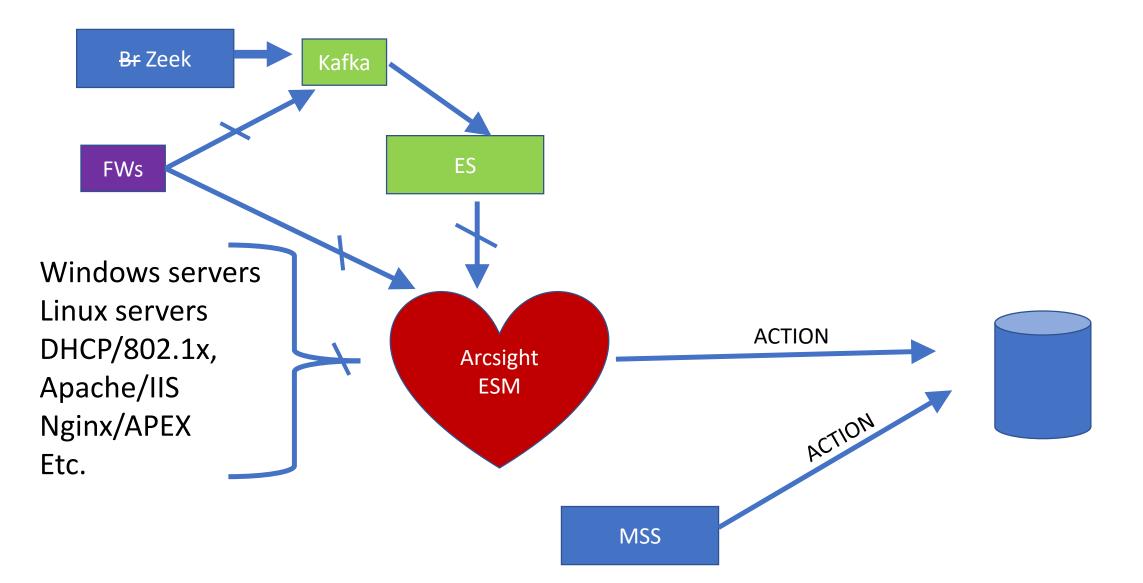
Windows servers Linux servers DHCP/802.1x, Apache/IIS Nginx/APEX Etc.

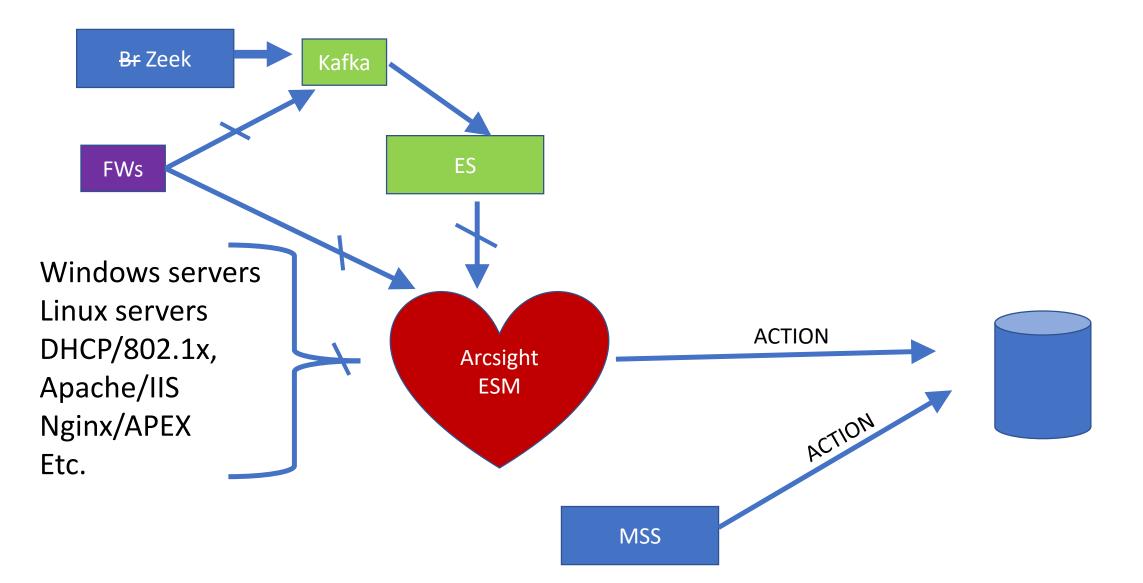












#### Normal Event 'flow'

- Taps feed <del>br</del> zeek
- Zeek feeds elasticsearch (ES) via a kafka buffer
- Analyst can search in ES using kibana
- ES sends filtered things to the SIEM
- SIEM does correlation, add user detail, etc
  - No sense in rebuilding the SIEM
- SIEM alerts on "bad things" and sends alert to tix

- "they will watch stuff as we sleep"
- They run snort; we get tickets when they see "stuff"
- Snort is uni-directional; there are a lot of false positives in "stuff"

- "they will watch stuff as we sleep"
- They run snort; we get tickets when they see "stuff"
- Snort is uni-directional; there are a lot of false positives in "stuff"
- We wrote a script to log into their ticketing system:
  - 1. Grab IP, port, timestamp
  - 2. Search ES for the zeek conn log
  - 3. If connection not blocked -> generate a ticket for us.
  - 4. If port is 80 and http\_resoonse is 200 -> generate a ticket to us.
  - 5. Else, close vendor ticket

- "they will watch stuff as we sleep"
- They run snort; we get tickets when they see "stuff"
- Snort is uni-directional; there are a lot of false positives in "stuff"
- We wrote a script to log into their ticketing system:
  - 1. Grab IP, port, timestamp
  - 2. Search ES for the zeek conn log
  - 3. If connection not blocked -> generate a ticket for us.
  - 4. If port is 80 and http\_resoonse is 200 -> generate a ticket to us.
  - 5. Else, close vendor ticket

- "they will watch stuff as we sleep"
- They run snort; we get tickets when they see "stuff"
- Snort is uni-directional; there are a lot of false positives in "stuff"
- We wrote a script to log into their ticketing system:
  - 1. Grab IP, port, timestamp
  - 2. Search ES for the zeek conn log
  - 3. If connection not blocked -> generate a ticket for us.
  - 4. If port is 80 and http\_response is 200 -> generate a ticket to us.
  - 5. Else, close vendor ticket

- "they will watch stuff as we sleep"
- They run snort; we get tickets when they see "stuff"
- Snort is uni-directional; there are a lot of false positives in "stuff"
- We wrote a script to log into their ticketing system:
  - 1. Grab IP, port, timestamp
  - 2. Search ES for the zeek conn log
  - 3. If connection not blocked -> generate a ticket for us.
  - 4. If port is 80 and http\_response is 200 -> generate a ticket to us.
  - 5. Else, close vendor ticket

- Hey! We run snort, too!
- Let's verify other snort alerts
  - Did the RDP actually succeeed? (Nope -> blocked at FW)
  - Was the remote shell attempt successful? (# bytes in conn.log)
  - Did the exploit actually succeed?

- Hey! We run snort, too!
- Let's verify other snort alerts
  - Did the RDP actually succeeed? (Nope -> blocked at FW)
  - Was the remote shell attempt successful? (# bytes in conn.log)
  - Did the exploit actually succeed?
- Put zeek behind the F5 (SSL-decryptor)
  - Did bad stuff seen in decrypted traffic hit other servers encrypted?
    - Zeek to the rescue.

- Hey! We run snort, too!
- Let's verify other snort alerts
  - Did the RDP actually succeeed? (Nope -> blocked at FW)
  - Was the remote shell attempt successful? (# bytes in conn.log)
  - Did the exploit actually succeed?
- Put zeek behind the F5 (SSL-decryptor)
  - Did bad stuff seen in decrypted traffic hit other servers encrypted?
    - Zeek to the rescue.

- Hey! We run snort, too!
- Let's verify other snort alerts
  - Did the RDP actually succeed? (Nope -> blocked at FW)
  - Was the remote shell attempt successful? (# bytes in conn.log)
  - Did the exploit actually succeed?
- Put zeek behind the F5 (SSL-decryptor)
  - Did bad stuff seen in decrypted traffic hit other servers encrypted?
    - Zeek to the rescue.
- Can we skim 10% off the coin miner traffic?
  - Keep tuition low  $\ensuremath{\textcircled{}}$

- Hey! We run snort, too!
- Let's verify other snort alerts
  - Did the RDP actually succeed? (Nope -> blocked at FW)
  - Was the remote shell attempt successful? (# bytes in conn.log)
  - Did the exploit actually succeed?
- Put zeek behind the F5 (SSL-decryptor)
  - Did bad stuff seen in decrypted traffic hit other servers encrypted?
    - Zeek to the rescue.
- Can we skim 10% off the coin miner traffic?
  - Keep tuition low  $\ensuremath{\textcircled{}}$

# Always looking for more ideas ③

Pat Cain

pcain@coopercain.com