Physical Security for Infosec Pros

(Breaking and Entering 101)

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About this talk

This talk is:

- An entry level discussion of physical security

This talk is not:

- How to pick locks
- How to break into places without permission
- Approved by Marketing

CORE SECURITY

Hi! I’m Bobby.

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Please say “Hi Bobby”

A couple of things to start with

Disclaimer

- This presentation does not represent the views of Core Security
- Do not attempt any of the bypass techniques anywhere you do not own, or have written permission in advance.

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A couple of things to start with

Seriously, don’t do it.

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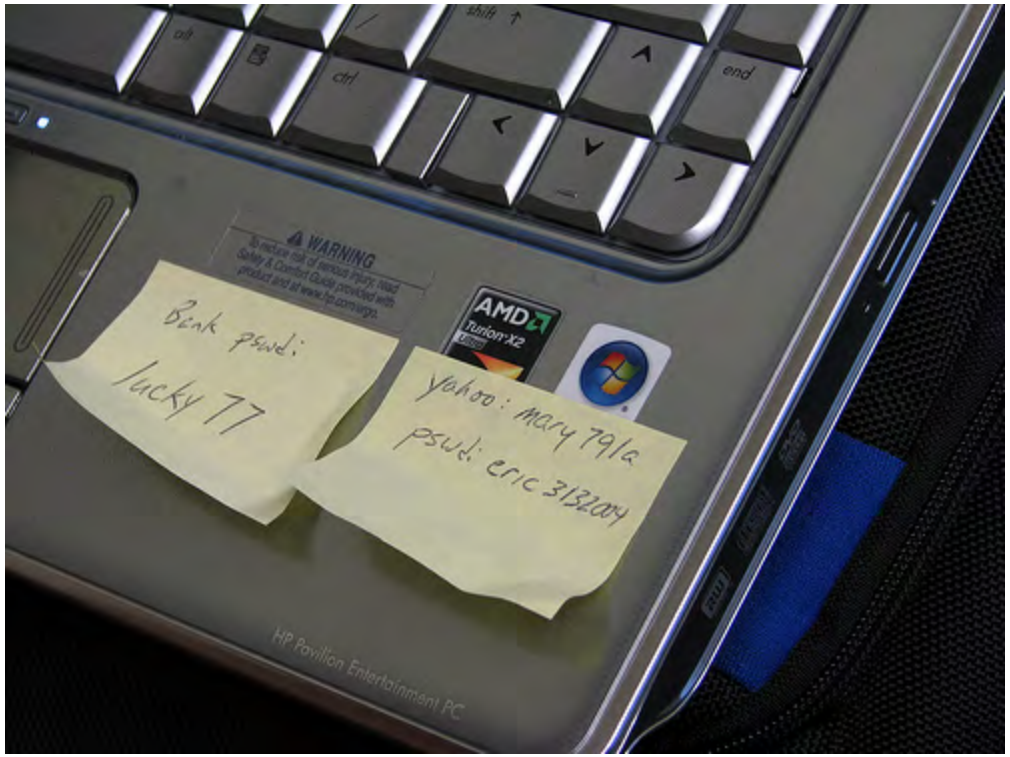
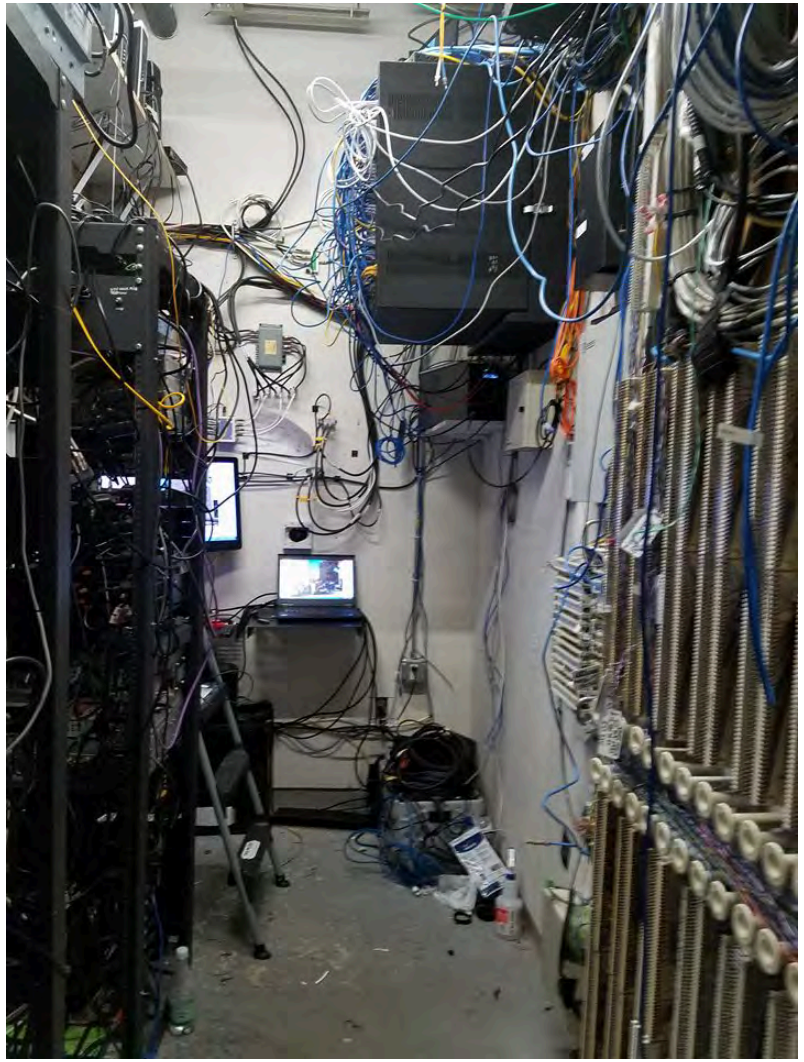
If I can touch it, it’s not your computer/network anymore.

Physical Security Matters

Ahem..

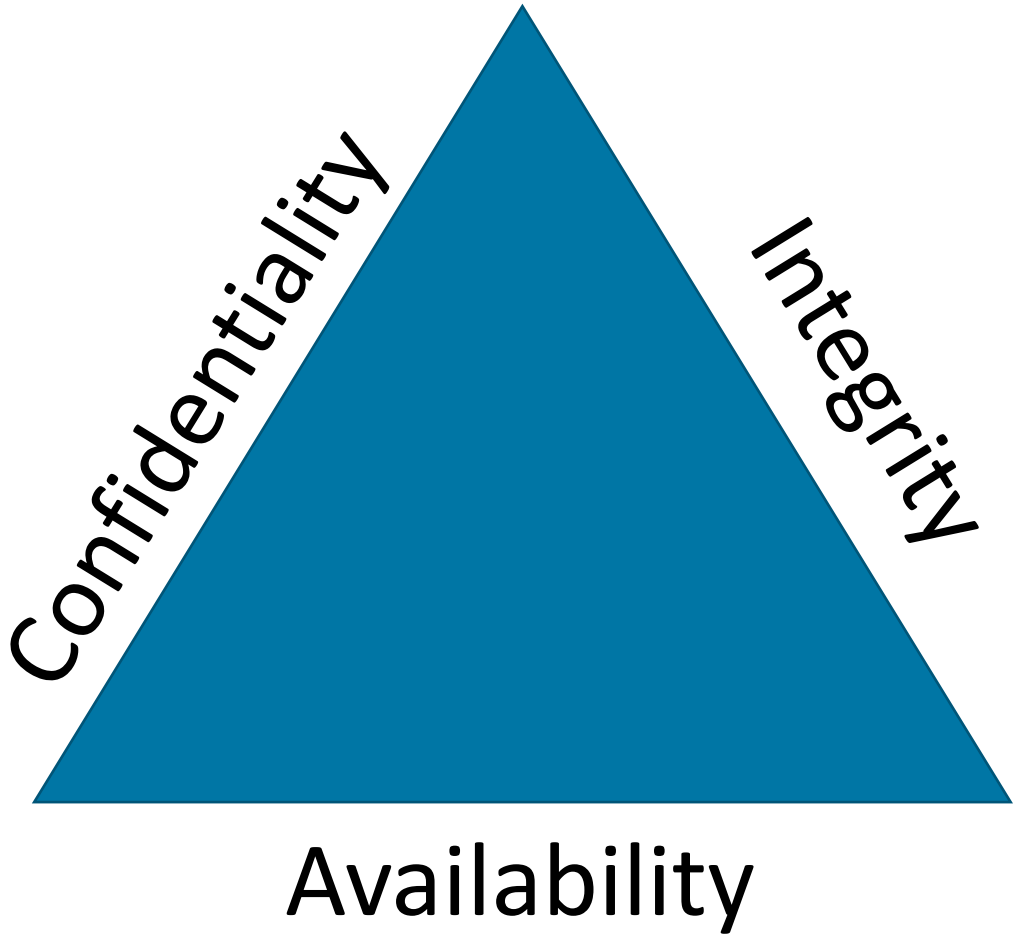


Can you spot the RasPi with the cell modem?



Wiring closet at Fenway Park during a game, Boston. Photo Credit: Rayanne Buchianico

The Traditional Security Triad



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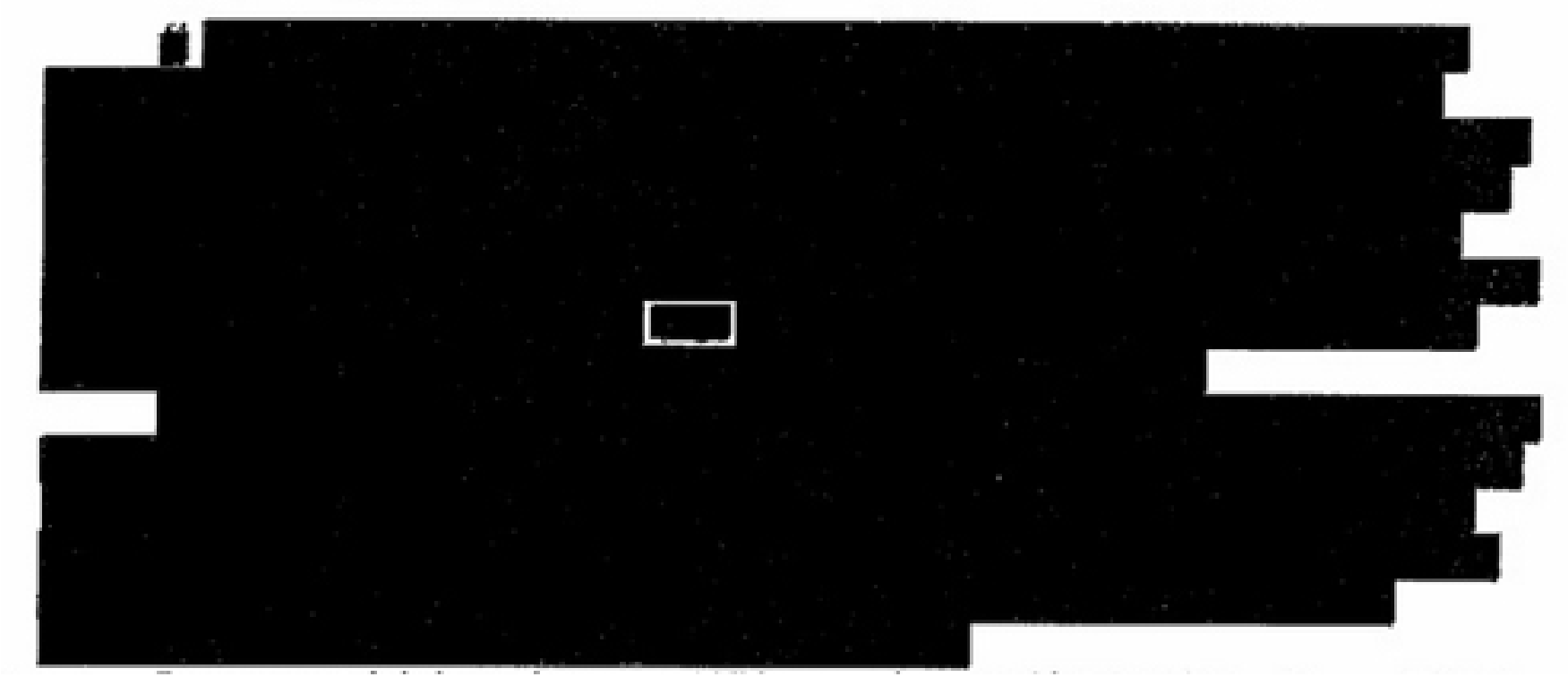

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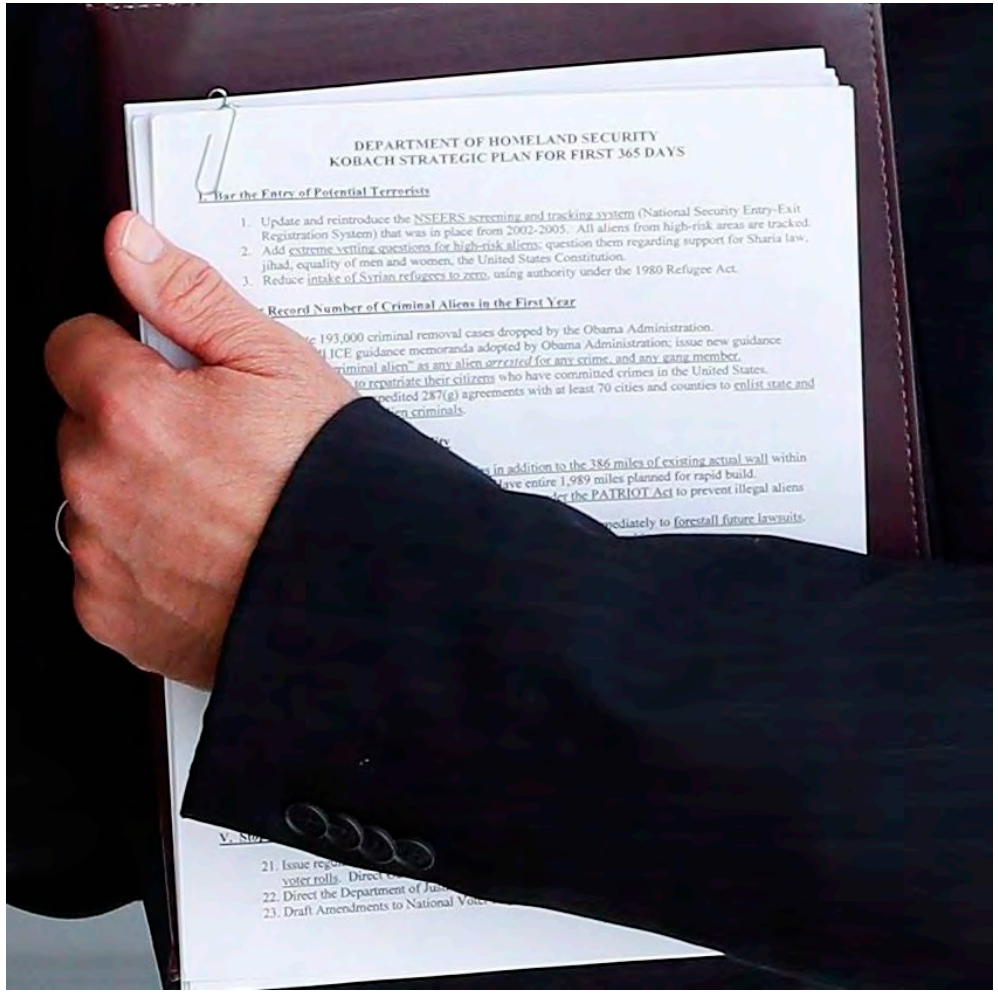

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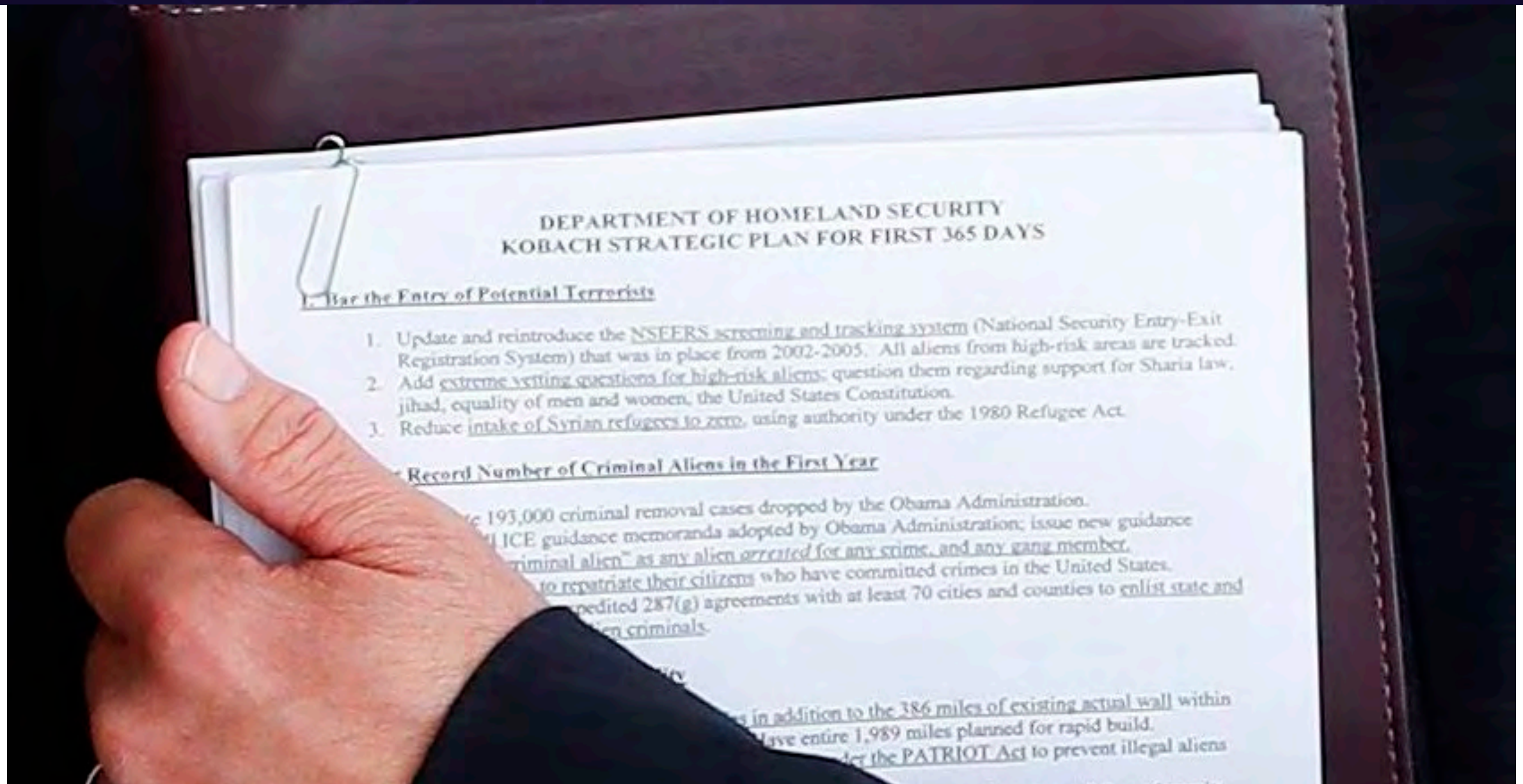

Integrity


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ORDER OF THE ATTORNEY GENERAL OF THE UNITED STATES
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Availability

Incoming MIT President finds his office does not exist.
October 15, 1990

What does Physical Security do?

Attempt to control access to a restricted area

What does Physical Security do?

Buy time for detection or response

A Venn diagram, just because

Credit: Daniel Schatz (@Virtuity)

Physical Security’s 5 D’s

- Deter
- Detect
- Deny
- Delay
- Defend

Notice that there’s nothing about STOPPING attackers

Fences

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Fences

Story time!

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Guards

Provide real-time response

Able to improvise

Expensive

They get bored

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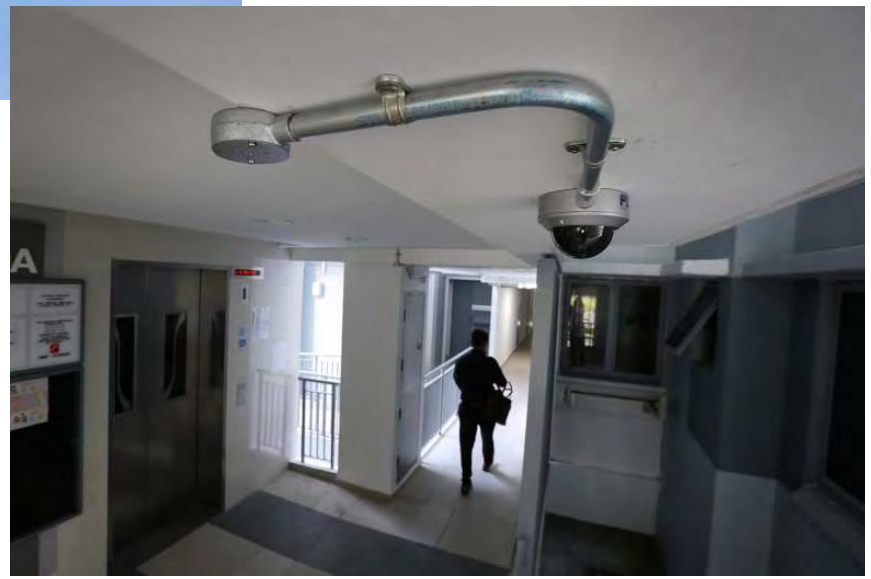
Cameras



Focused on Entry and Egress Points

Rarely monitored in real time

Cost of recording retention

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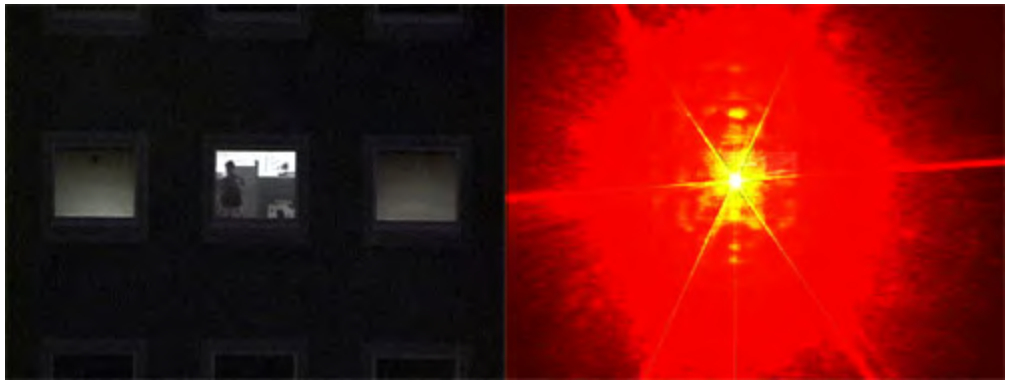
Fracking Lasers!



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IP Cameras

If you can get access to the Ethernet line, check out Looping Surveillance Cameras through Live Editing from DEFCON 23

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Door open/close sensors

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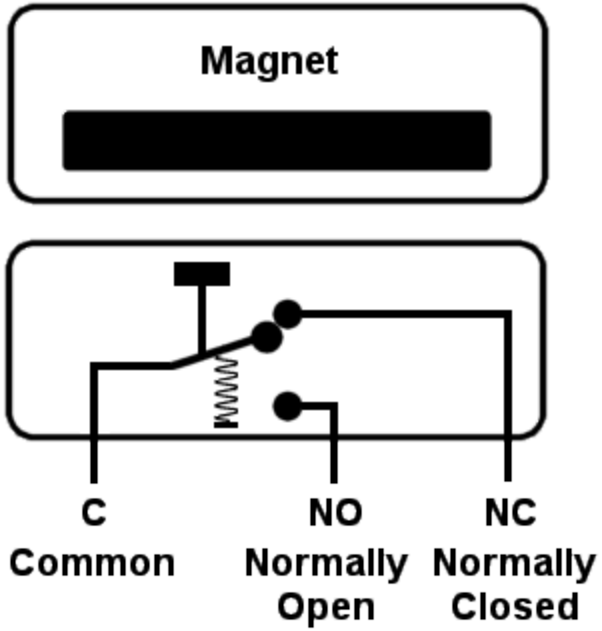
Operate on magnetic fields



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Motion Sensors

Some use Ultrasound

Some use Infrared

They can be tuned to increase or decrease sensitivity

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Motion Sensors

Degrades the sensitivity of sensors

Requires prior placement

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Lasers Again

Don’t use too much

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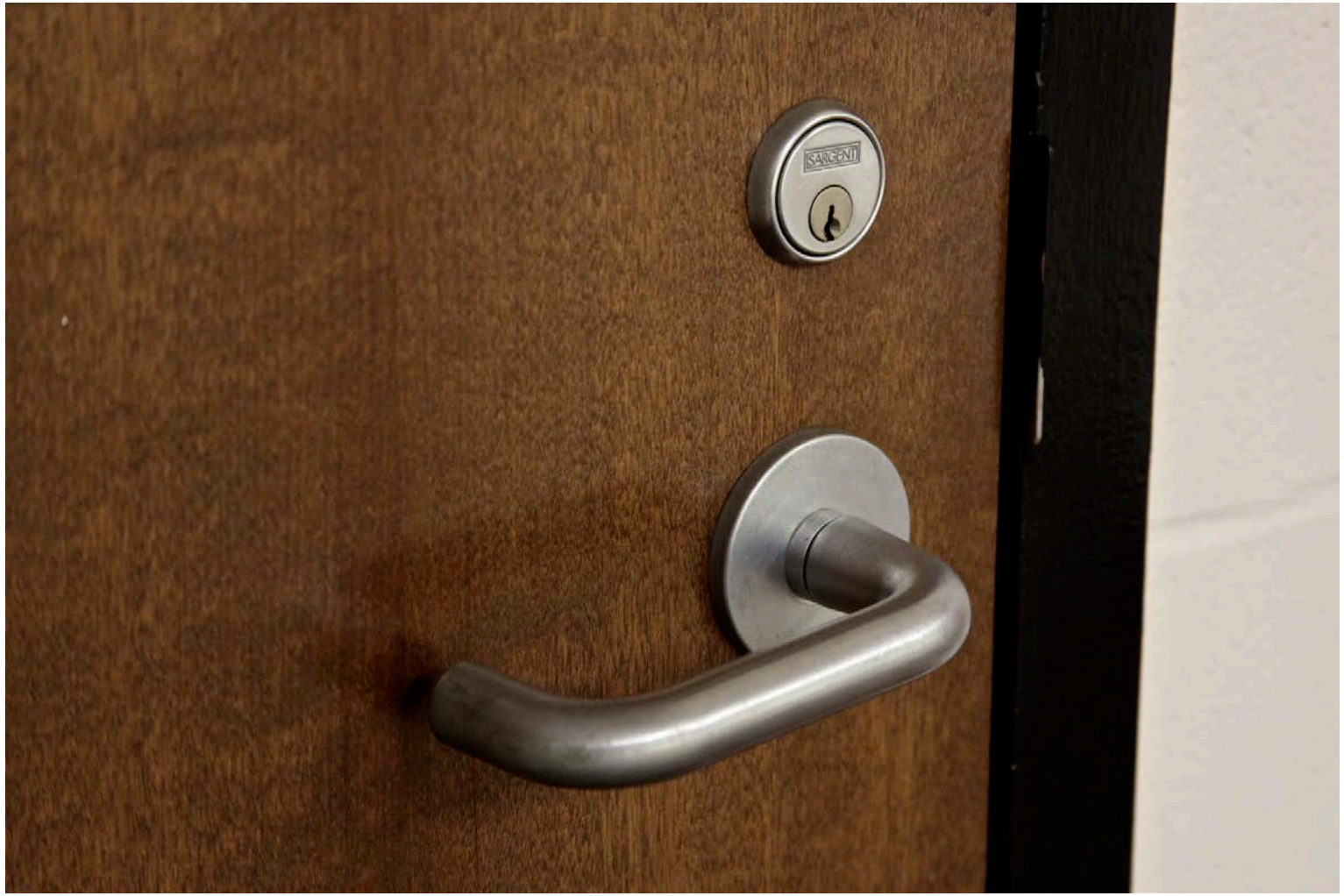
Motion Sensors

Used for Exit

Check for door gaps

Fun with doors



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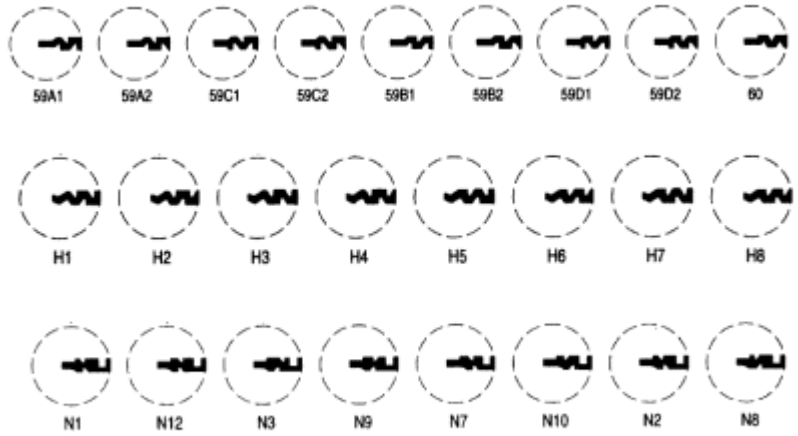
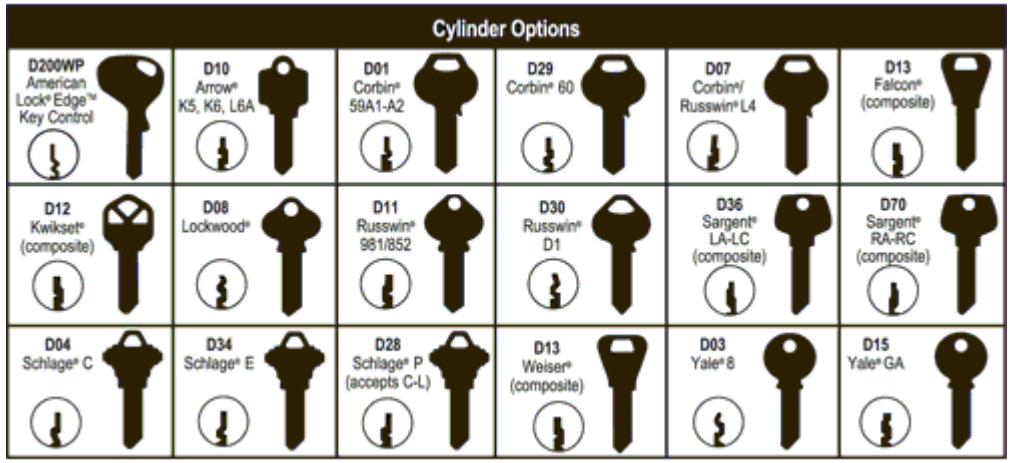
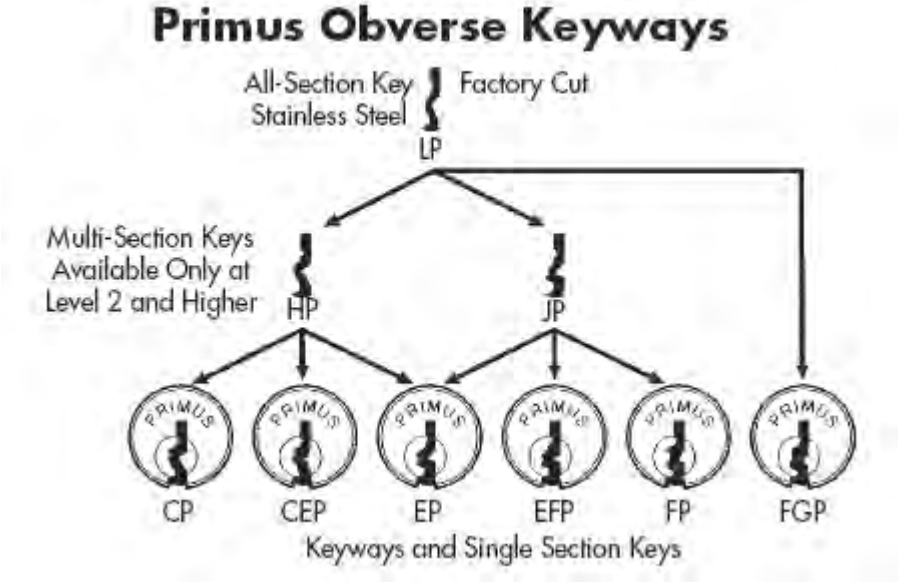
Keys are bad







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Picks

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Guns

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Bump Keys

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Destructive bits

Do not try this at home,
work, school,
or really anywhere.

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Strikes

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Guards and Blocks

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The most versatile bypass tools

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The most versatile bypass tools

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Proximity Cards

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Prox Cards

“Short” range RFID

Authentication, but not authorization

Trivial to clone

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Biometrics

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Cloning fingerprints

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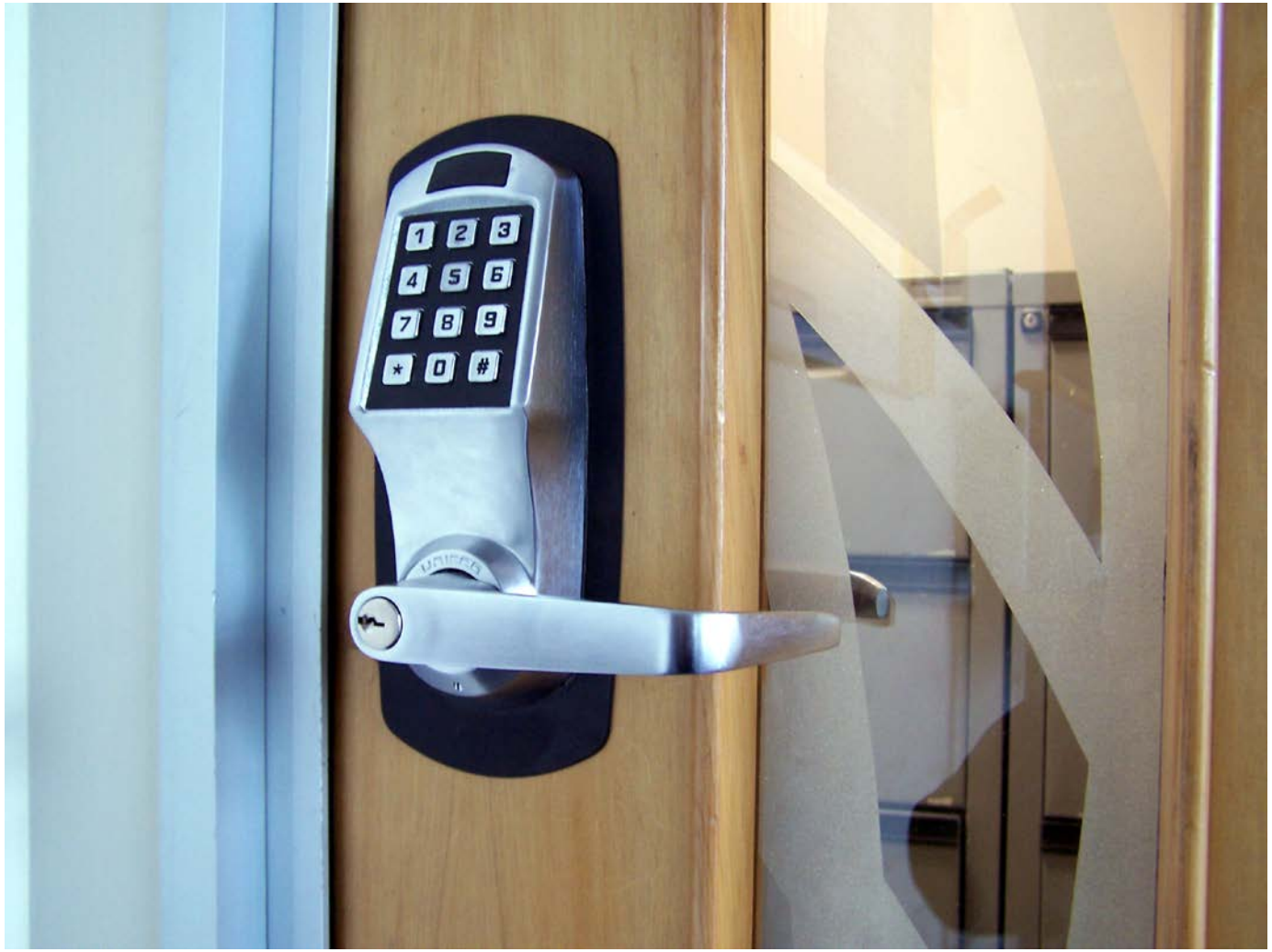
Electronic locks



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Electronic locks

- Default codes… sometimes
- People reuse codes
- When in doubt…

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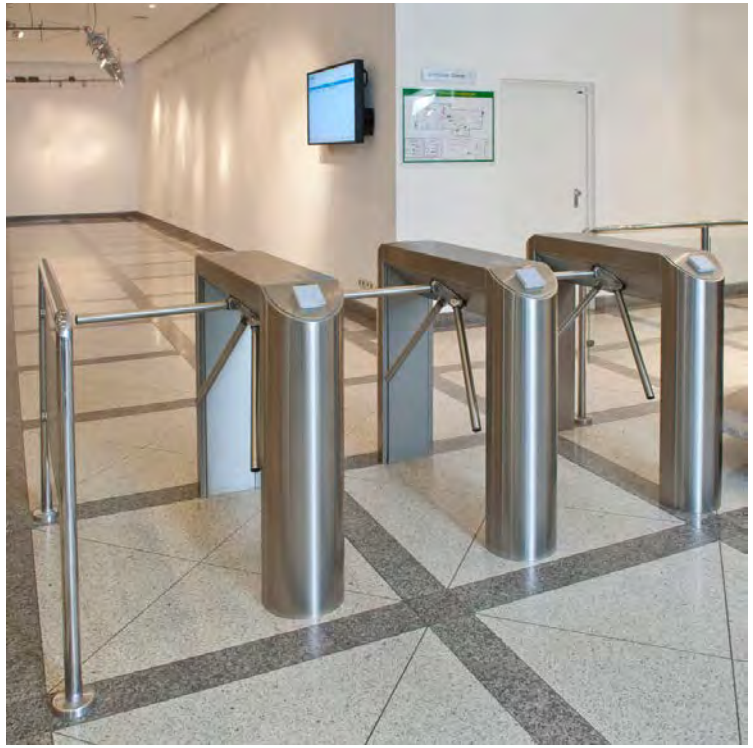
Turnstiles and Mantraps



Personnel Barriers

Cargo and freight have to come in somehow.

Find it.

Elevators

LAFD REQUIREMENT #75: KEY ACCESS BOX STANDARD

PRINT

FIRE PREVENTION & PUBLIC SAFETY BUREAU

REQUIREMENT #75: KEY ACCESS BOX STANDARD

Fire Service Keys

Universal Fire Service Key Set

Brand: ElevatorKeys.com
Product Code: KSUFS16
Availability: 2 - 3 Days

$124.95

Qty

Fire Codes are your friend

- All buildings must comply
- Exit doors must be operable
- Bitings for fire service keys may be specified
- Or Knox Boxes

Note: Don’t post pictures of your keys online.

← New Berlin, Wisconsin Knox Box key

Social Engineering and OSINT

Receptionists are your friend. Until they aren’t.

Collect OSint for SE

- LinkedIn to mine employees
- Link to “personal” social profiles
- Look for ID badges and keys

Acting like you belong

Service Provider Uniforms = Invisible

Alarm Systems

Can be spoofed and disrupted

Multiple false alarms in a night = Disabled

Cellular connected systems can be jammed or MitM’d with an IMEI catcher

Let’s keep this going!

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