

What You Need to Know About InfoSec and Why You Should Care

Paul Gilzow



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TL;DR



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TL;DR

Minimizing Risk



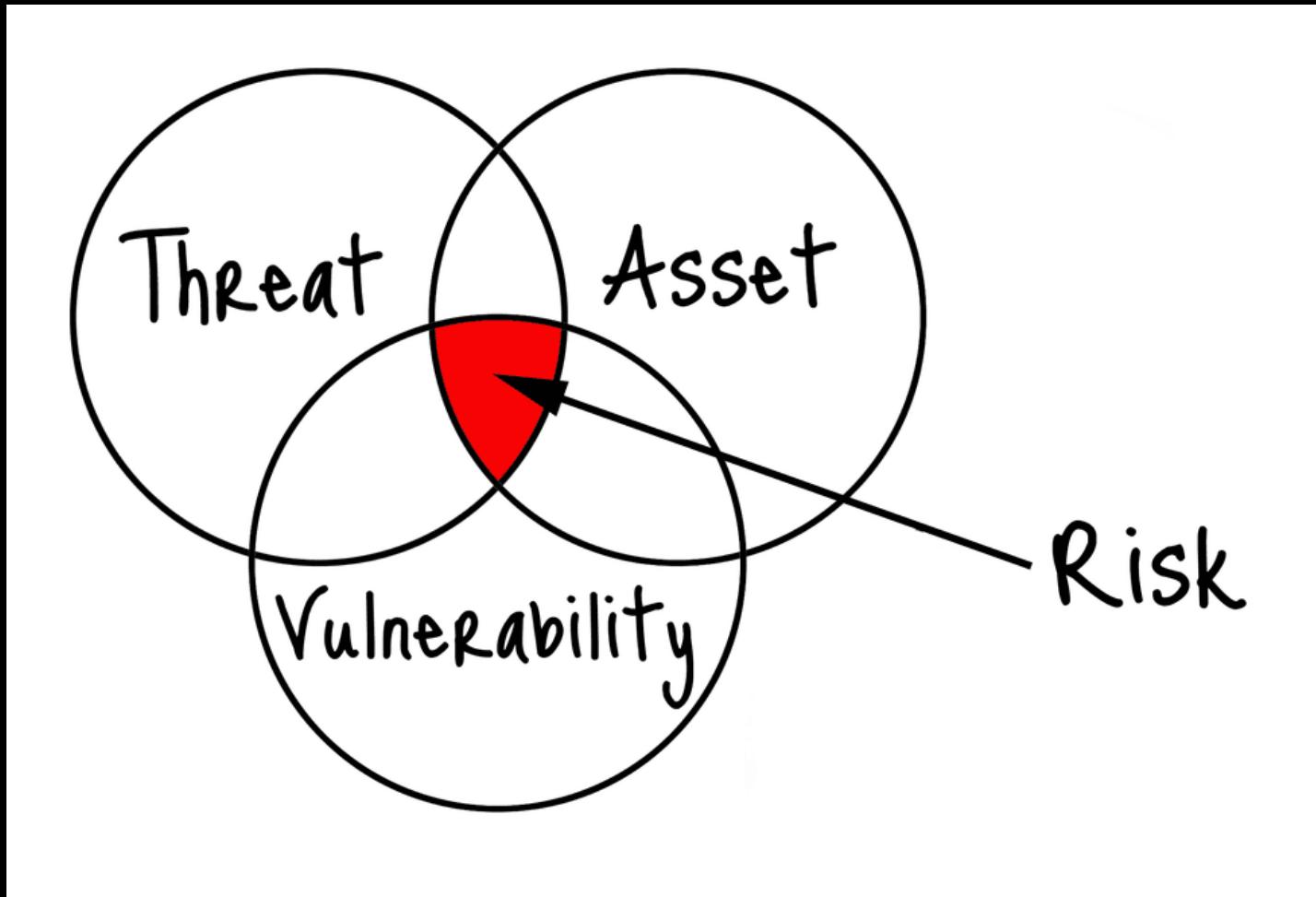
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What is “Risk”?



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What is “Risk”?



Asset

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Asset

- People



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Asset

- People
- Property



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Asset

- People
- Property
- Information/Data



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Asset

- People
- Property
- Information/Data
- An asset is what we are trying to protect



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Threat



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Threat

- Anything that represents a potential danger to an asset, whether deliberately or by accident



Threat

- Anything that represents a potential danger to an asset, whether deliberately or by accident
- A threat is what we're trying to protect against

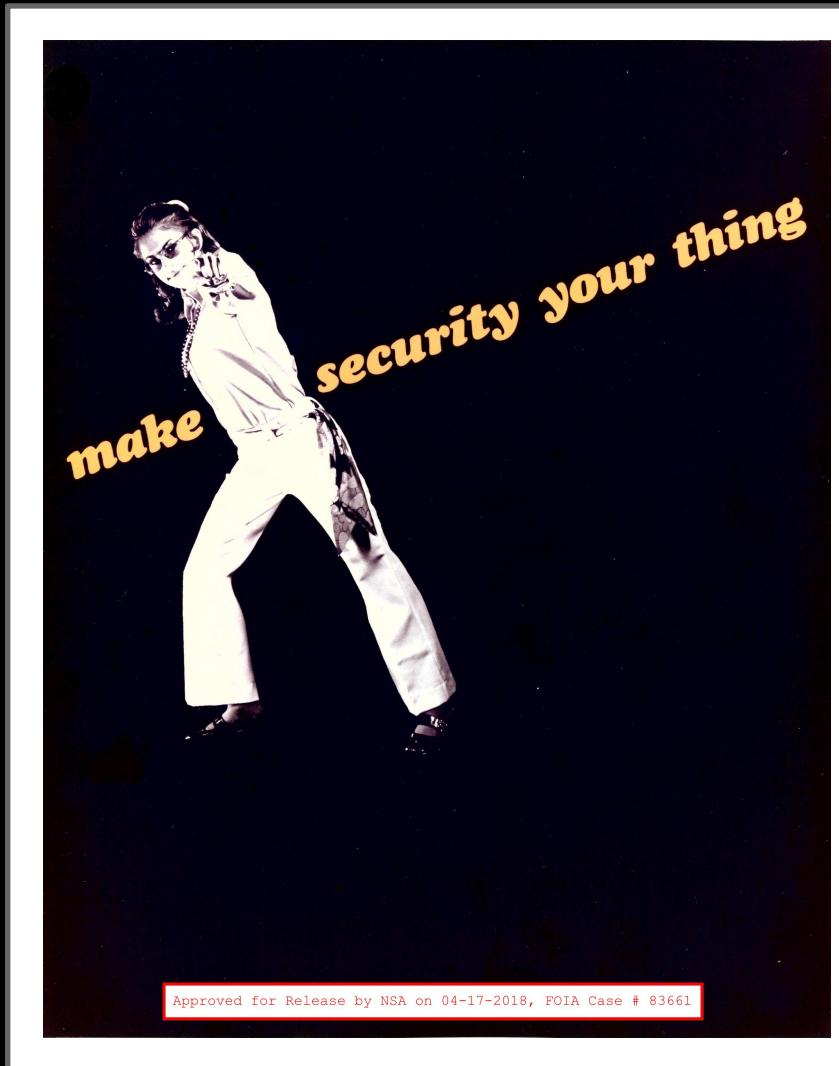


Threat

- Anything that represents a potential danger to an asset, whether deliberately or by accident
- A threat is what we're trying to protect against
- *Threat Agent* is a group or individual who exploits a vulnerability to manifest or cause a threat to occur



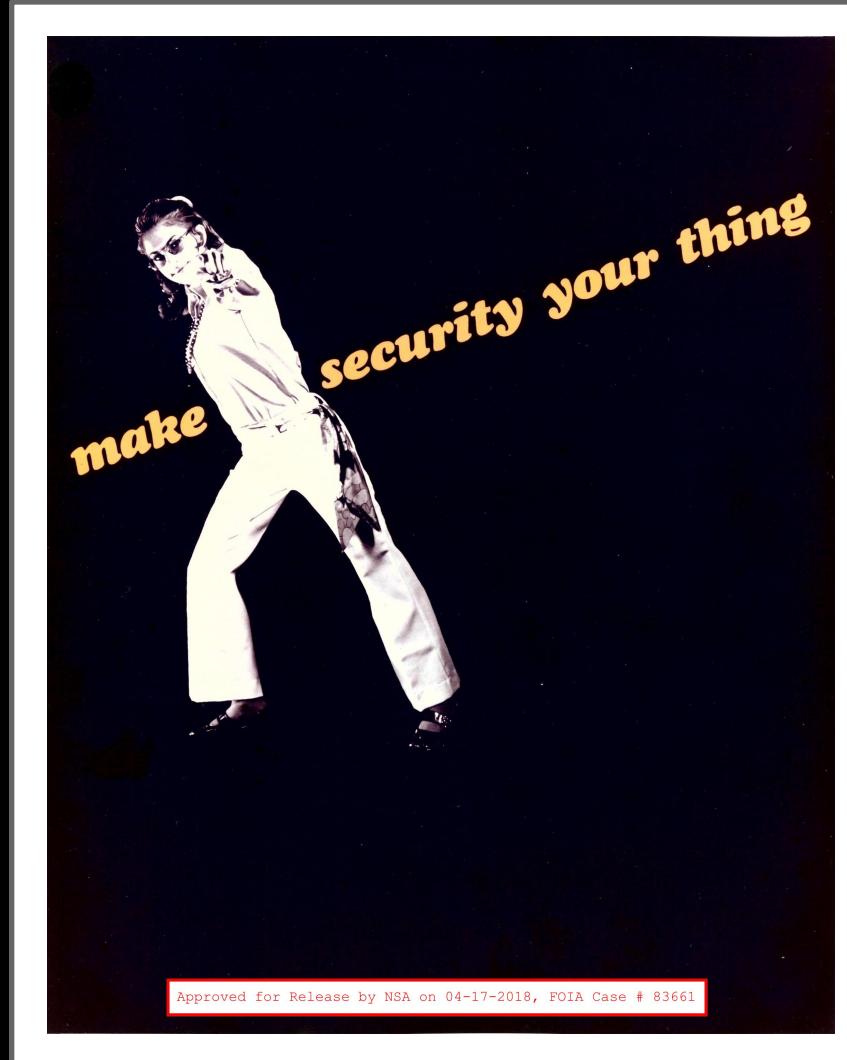
Vulnerability



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Vulnerability

- Weakness or holes/ gaps in security procedures or program that can be exploited by a threat to affect assets



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What is “Risk”?



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What is “Risk”?

- Asset = You



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What is “Risk”?

- Asset = You
- Vulnerability = Hole in your umbrella



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What is “Risk”?

- Asset = You
- Vulnerability = Hole in your umbrella
- Threat = Getting wet



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What is “Risk”?

- Asset = You
- Vulnerability = Hole in your umbrella
- Threat = Getting wet
- Risk = Rain



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What is “Risk”?

The potential for loss, damage or destruction of an asset(s) as a result of a threat exploiting a vulnerability multiplied by the impact of the threat occurring



Higher Education Assets

Higher Education Assets

- Network bandwidth and availability

Higher Education Assets

- Network bandwidth and availability
- Computing power

Higher Education Assets

- Network bandwidth and availability
- Computing power
- SEO reputation

Higher Education Assets

- Network bandwidth and availability
- Computing power
- SEO reputation
- Brand and reputation

Higher Education Assets

- Network bandwidth and availability
- Computing power
- SEO reputation
- Brand and reputation
- Social Media accounts

Higher Education Assets

Higher Education Assets

- Personally Identifiable Information (PII) / Sensitive Personal Information (SPI)

Higher Education Assets

- Personally Identifiable Information (PII) / Sensitive Personal Information (SPI)
- Protected Health Information (PHI)

Higher Education Assets

- Personally Identifiable Information (PII) / Sensitive Personal Information (SPI)
- Protected Health Information (PHI)
- Confidential Intellectual Property

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- Personally Identifiable Information (PII) / Sensitive Personal Information (SPI)
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- Export Controlled Data

Higher Education Assets

- Personally Identifiable Information (PII) / Sensitive Personal Information (SPI)
- Protected Health Information (PHI)
- Confidential Intellectual Property
- Export Controlled Data
- National Security Interest (NSI)

Know Your Assets



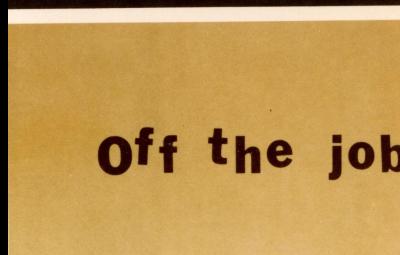
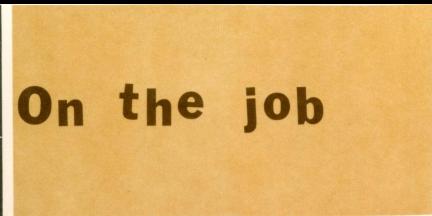
Off the job

SECURITY is up to you

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Know Your Assets

- You can't protect what you don't know you have



SECURITY is up to you

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Know Your Assets

- You can't protect what you don't know you have
- Know your assets intimately



SECURITY is up to you

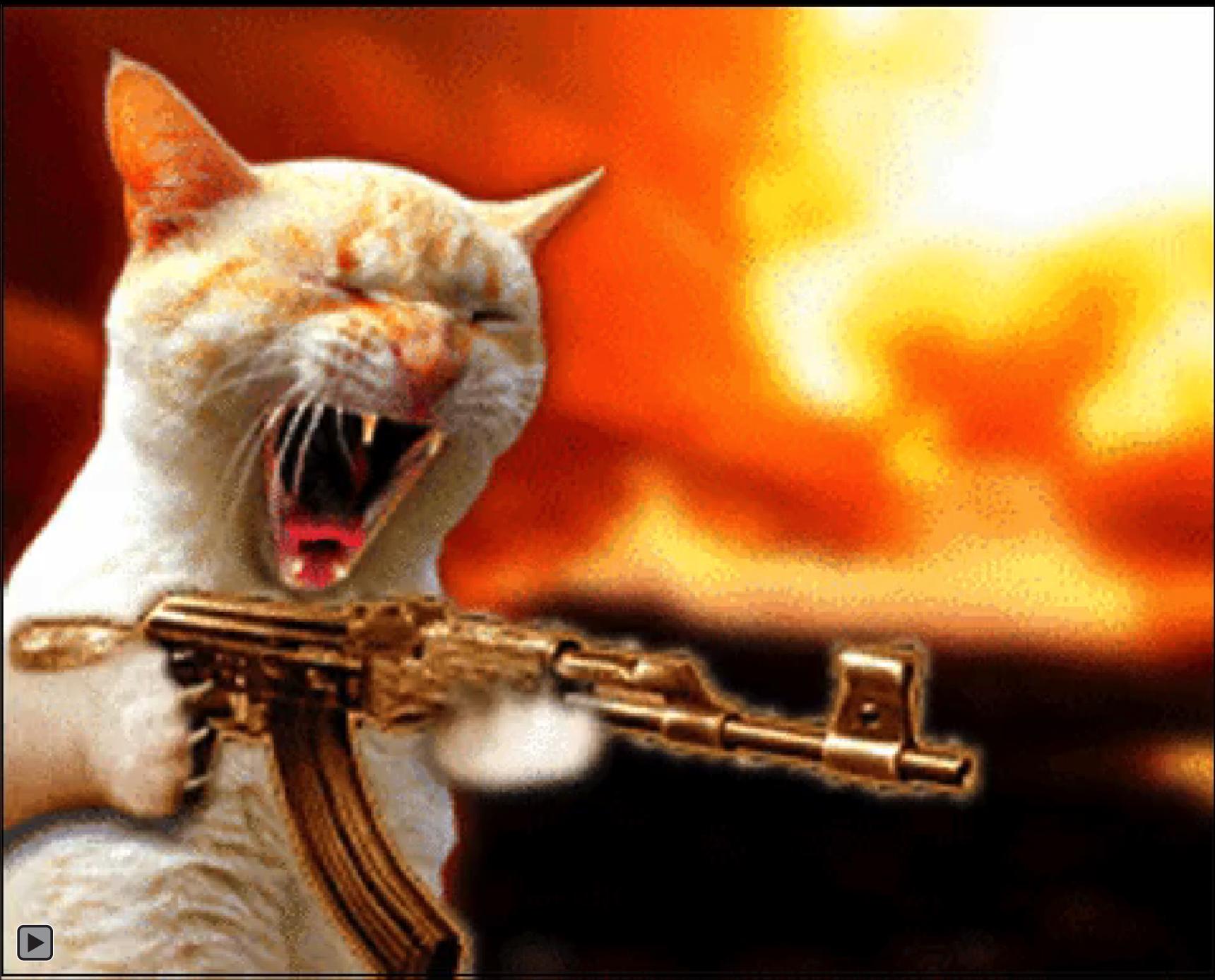
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Defense-in-Depth



Defense-in-Depth

- Strategy of protection using a series of defensive mechanisms such that if one mechanism fails, another will already be in place to thwart an attack.



Minimize the Attack Surface



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Minimize the Attack Surface

- The sum of all paths for data/commands into and out of the application



Minimize the Attack Surface

- The sum of all paths for data/commands into and out of the application
- Plus all of the code that protects those paths



Minimize the Attack Surface

- The sum of all paths for data/commands into and out of the application
- Plus all of the code that protects those paths
- Plus all of the data used in the application



Minimize the Attack Surface

- The sum of all paths for data/commands into and out of the application
- Plus all of the code that protects those paths
- Plus all of the data used in the application
- Plus all of the code that protects this data



What is “Attack Surface”?



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Principle of Least Privilege

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- Grant necessary permissions required to perform the intended activities
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- But with the *minimum* rights required for the task(s)

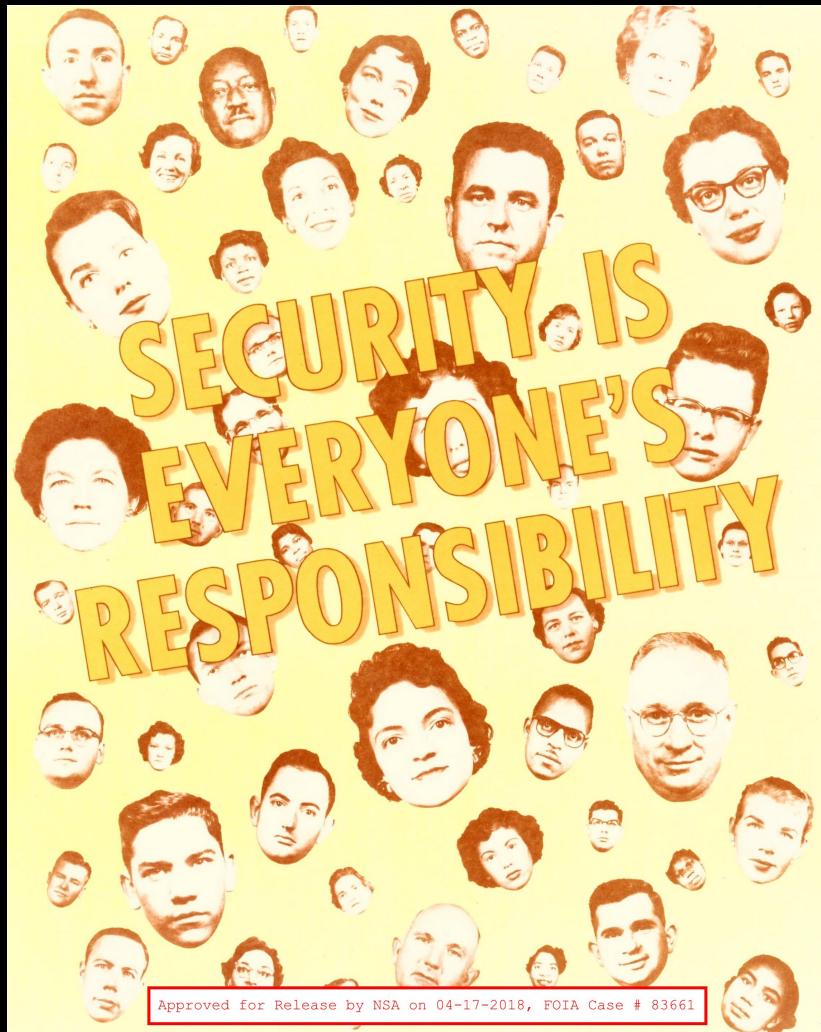
Principle of Least Privilege

- Grant necessary permissions required to perform the intended activities
- For a limited time
- But with the *minimum* rights required for the task(s)
- Removing permissions when no longer needed

Be Paranoid

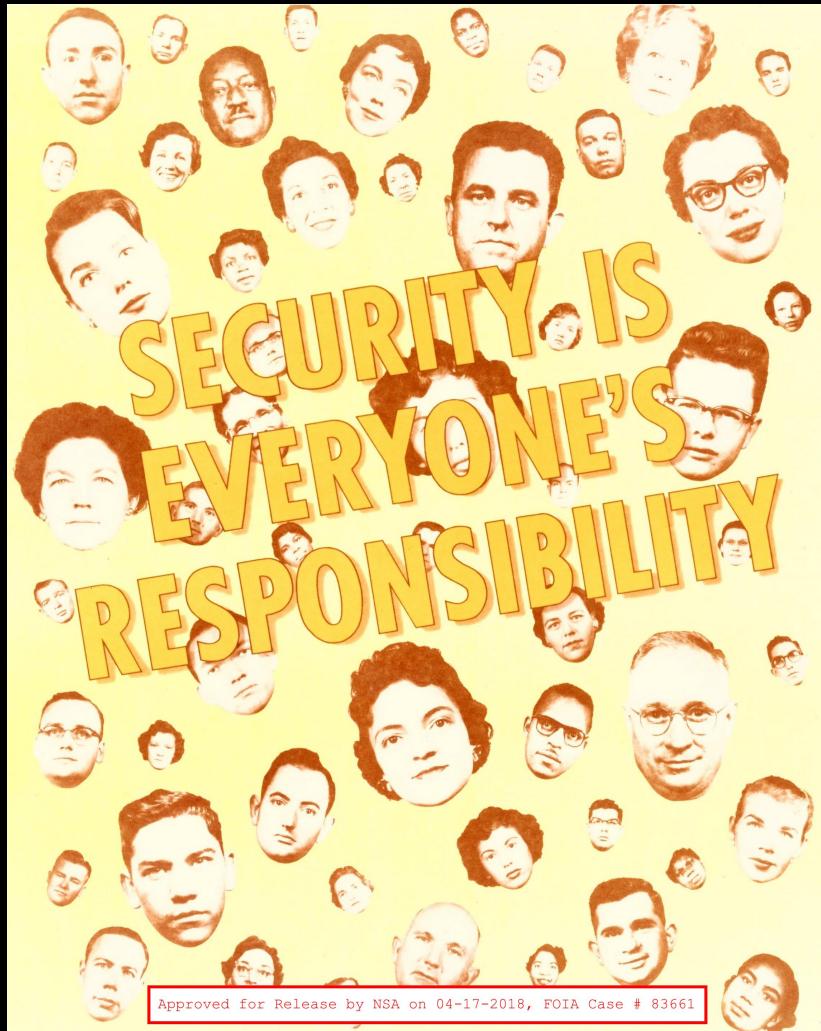


Ok, How About: “Be Skeptical”



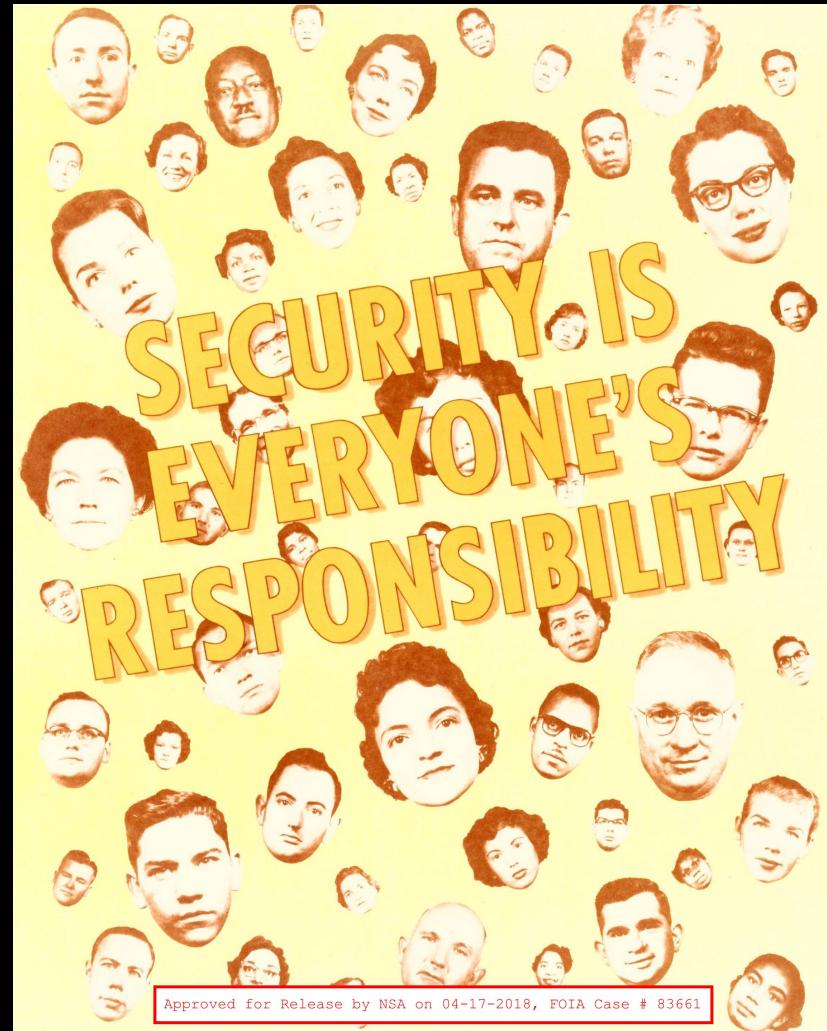
Ok, How About: “Be Skeptical”

- *Treat all third party code/
data as tainted and hostile*



Ok, How About: “Be Skeptical”

- *Treat all third party code/ data as tainted and hostile*
- Humans remain the weakest link in the InfoSec armor



Security is a continual process;
you're never “finished”

Your Challenge

Always be thinking in terms of
how you can reduce risk

Any way you look at it...



SECURITY

IS

YOUR

RESPONSIBILITY

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NSA SECURITY EDUCATION PROGRAM 35

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