



# SecManiac

Security Zone

Making Sense of (in)Security

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# About Me

- Creator of the Social-Engineer Toolkit, Fast-Track
- CSO of a Fortune 1000
- Co-Founder of DerbyCon
- Author of new book from NoStarch Press on Metasploit
- Back|Track Development Team
- Exploit-DB Development Team
- Exploit Writer
- Penetration Tester



What this talk is about...



Who here feels they're company can withstand a targeted attack?





# General Reaction...



Why?



We aren't secure...



We are scared of....





Where were we...during...







We were here..





We prayed ... please don't let us be next.



So we watched and waited....



**RSA**

SECURITY



**SecManiac**

**COMODO**

Creating Trust Online™



**SecManiac**



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**HB**  **Gary**  
**Federal**



**U·S AIRWAYS**



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And a lot more...

SONY

SONY

SONY



SONY

SONY

epsilon.

Marketing As Usual. Not A Chance.™

LOCKHEED MARTIN



SONY

SONY



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So we hire...consultants...



to fix our challenges

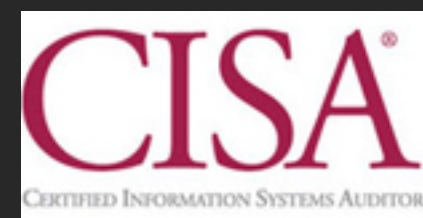


And we get..





certifications...

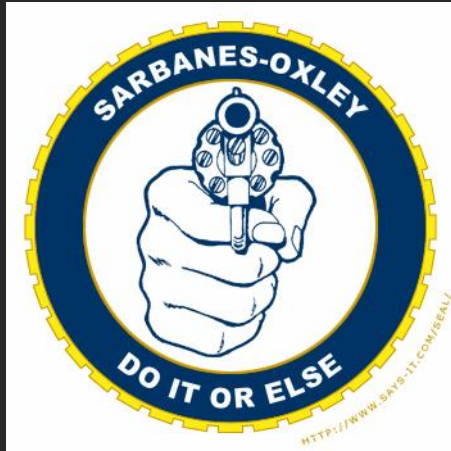


To expand our knowledge.



And we conform to..





compliance...





To secure our organization.



We prioritize our weaknesses with



# risk management...



We create complexity



# And add risk formulas

$\Delta \mathbf{x} = \mathbf{x}_f - \mathbf{x}_i$     $\Delta \mathbf{v} = \mathbf{v}_f - \mathbf{v}_i$     $v = \sqrt{v_x^2 + v_y^2}$     $\theta = \tan^{-1}(\frac{v_y}{v_x})$   
 $\bar{\mathbf{v}} = \frac{\Delta \mathbf{r}}{\Delta t}$     $\bar{\mathbf{a}} = \frac{\Delta \mathbf{v}}{\Delta t}$     $v_x = v \cos(\theta)$     $\theta = \cos^{-1}(\frac{v_x}{v})$     $\theta = \sin^{-1}(\frac{v_y}{v})$   
 $\mathbf{v} = \mathbf{v}_0 + \mathbf{a}t$     $\mathbf{x} = \mathbf{x}_0 + \mathbf{v}_0 t + \frac{\mathbf{a}t^2}{2}$     $\mathbf{x} \rightarrow x, y$     $\mathbf{x}_0 \rightarrow x_0, y_0$   
 $v^2 - v_0^2 = 2\mathbf{a}(\mathbf{x} - \mathbf{x}_0)$     $\mathbf{v} \rightarrow v_x, v_y$     $\mathbf{v}_0 \rightarrow v_{0x}, v_{0y}$   
 $\bar{\mathbf{v}} = \frac{\mathbf{v}_f + \mathbf{v}_i}{2}$     $\Delta \mathbf{x} = \bar{\mathbf{v}} \Delta t$     $\mathbf{a} \rightarrow a_x, a_y$

$\mathbf{v} = \omega \mathbf{r}$     $\mathbf{a} = \alpha \mathbf{r}$     $\omega = \frac{\Delta \theta}{\Delta t}$     $\alpha = \frac{\Delta \omega}{\Delta t}$   
 $\omega = 2\pi f$     $f = \frac{1}{T}$   
 $\omega = \omega_0 + \alpha t$   
 $\theta = \theta_0 + \omega_0 t + \frac{1}{2} \alpha t^2$   
 $\omega^2 - \omega_0^2 = 2\alpha(\theta - \theta_0)$   
 $\tau = r_{\perp} F = r F_{\perp}$     $\tau = I \alpha$   
 $L = r_{\perp} p = mvr_{\perp}$     $L = I \omega$     $\tau = \frac{\Delta L}{\Delta t}$     $\tau = I \alpha$   
 $\frac{1}{2} I \omega^2$     $\sum_i \bar{\mathbf{F}}_i = 0$     $\sum_i \bar{\tau}_i = 0$

$\mathbf{F}_{\text{tot}} = m \mathbf{a}$     $a = \frac{v^2}{R}$     $v = \lambda f$   
 $E = K + U$     $\Delta Q = (\text{quant.}) C_{\text{cond}} \Delta T$     $\Delta S \geq 0$   
 $W = F d_{\parallel} = F_{\parallel} d$     $E_i = E_f$     $\Delta Q_{\text{into}} = \Delta W_{\text{by}} + \Delta E$     $\Delta Q = 1 \Delta(\text{quant.})$     $PV = nRT$   
 $W_{\text{tot}} = \Delta(\text{KE})$     $\frac{1}{2} m v^2$     $\frac{RT}{2} \Big|_{\text{deg. freedom}}$     $C_p = C_v + R$     $e = \frac{\Delta W}{\Delta Q}$     $e = 1 - \frac{T_L}{T_H}$     $P = \frac{F}{A}$   
 $\Delta U = -W_{\text{if}}$     $x = A \cos(\omega t)$  {or}  $A \sin(\omega t)$     $v = A \omega \sin(\omega t)$  {or}  $A \omega \cos(\omega t)$     $a = A \omega^2 \cos(\omega t)$  {or}  $-A \omega^2 \sin(\omega t)$     $\frac{GM_e}{R_e} = g R_e$     $\frac{GMm}{r^2}$     $M = \rho V$     $P_1 = P_2$   
 $\frac{1}{2} kx^2$     $\omega = \sqrt{\frac{k}{m}}$     $\frac{GM_e}{R_e}$     $\frac{GMm}{r^2}$     $\Delta P = \rho g \Delta h$   
 $p = m v$     $\frac{GM_e}{R_e}$     $\frac{GMm}{r^2}$     $B = \rho_{\text{liq}} V_{\text{disp}} g$   
 $\vec{P}_{\text{init}} = \vec{P}_{\text{final}}$     $M_e = 5.97(10)^{24} \text{ Kg}$     $\frac{GMm}{r^2}$     $A_1 v_1 = A_2 v_2$   
 $\left( \sum_j m_j \vec{v}_j \right)_{\text{init}} = \left( \sum_j m_j \vec{v}_j \right)_{\text{final}}$     $R_e = 6.37(10)^6 \text{ m}$     $\frac{GMm}{r}$     $P + \frac{1}{2} \rho v^2 = \text{const.}$   
 $G = 6.67(10)^{-11} \text{ N m}^2/\text{Kg}^2$



And spend...



For what??????



To be secure?





Are we?



We are a young industry.

Still finding our ways.

Is the path we are going right now the right one?



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In order to answer this...



We need to understand



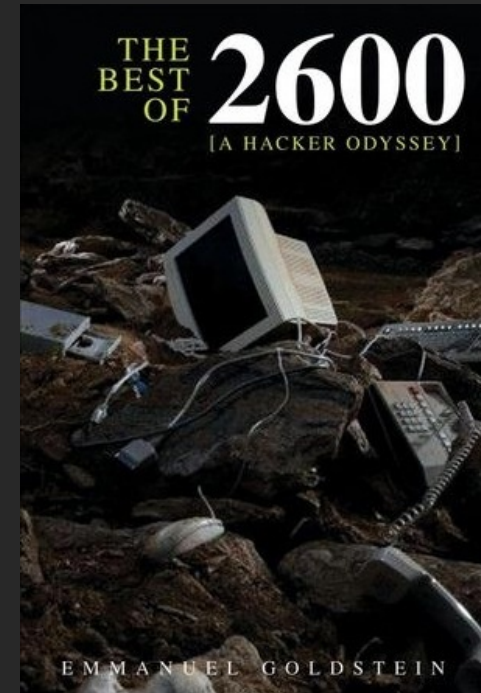


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Maybe 15 years ago formally?



Before security, a breed of hackers were born...



Technology progressed...

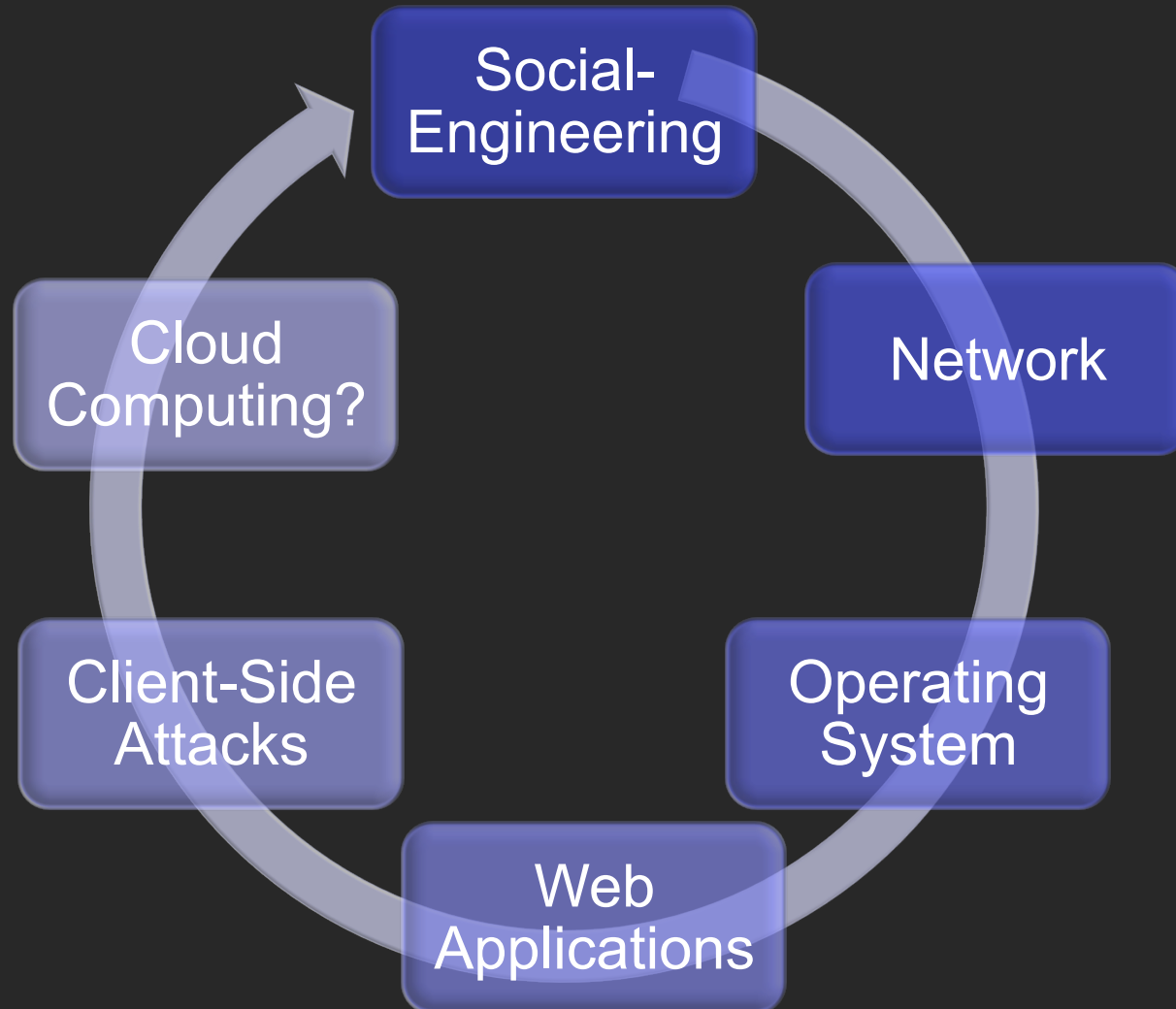




So did hackers...



# Evolution of Hacking



A new era was born.  
The Security Industry.



Flash forward - Today..





the present



# 2009 to 2010

- Security conferences reported record numbers.
- Security staffing decreased...then increased.
- Estimated 1 billion spent on Vista and Win 7.





# 2008 Breaches (PrivacyRights.org)

- In 2008 there was a total of 354 reported public data breaches.
- You might remember this one:
- RBS Worldpay, Atlanta Georgia



# 2009 Breaches (PrivacyRights.org)

- In 2009 there was a total of 252 reported public data breaches.
- We got better! ... Wait?
- Largest breaches in history, largest amount of records disclosed, large amount of PII, PCI, PHI disclosed in one year ever.





# 2010 Breaches (PrivacyRights.org)

- We spent so much more this year... Estimated 34% increase on our budget.
- In 2010 there was a total of 594 reported public data breaches. Over double that of last year.



We are only the second industry that can  
continue to spend **WAY** more each year and  
get **WORSE**.

The first. Weatherman.



So we buy products to protect us.



But buy this, it will fix it.

Data Loss Prevention



But buy this, it will fix it.

Intrusion Prevention



But buy this, it will fix it.

Host Based Intrusion Prevention



But buy this, it will fix it.

Web Application Firewall



But buy this, it will fix it.

File integrity monitoring





But buy this, it will fix it.

Firewall



But buy this, it will fix it.

Anti-Virus



But buy this, it will fix it.

Whitelisting/Blacklisting



But buy this, it will fix it.

Patching Solution



But buy this, it will fix it.

Vulnerability Scanners



But buy this, it will fix it.

Network Access Control



But buy this, it will fix it.

APT Preventer



But buy this, it will fix it.

Data Loss Prevention





But buy this, it will fix it.

Anomaly Detection



But buy this, it will fix it.

Heuristics



But buy this, it will fix it.

Shiny stuff.



We buy technology to automate and prevent / detect human-based attacks.



So...



We have consultants.



Somehow they know our business better  
and how to secure us....



And we spend





And spend...



And spend...



Because we're told it will fix our problem...



This stuff doesn't stop me....



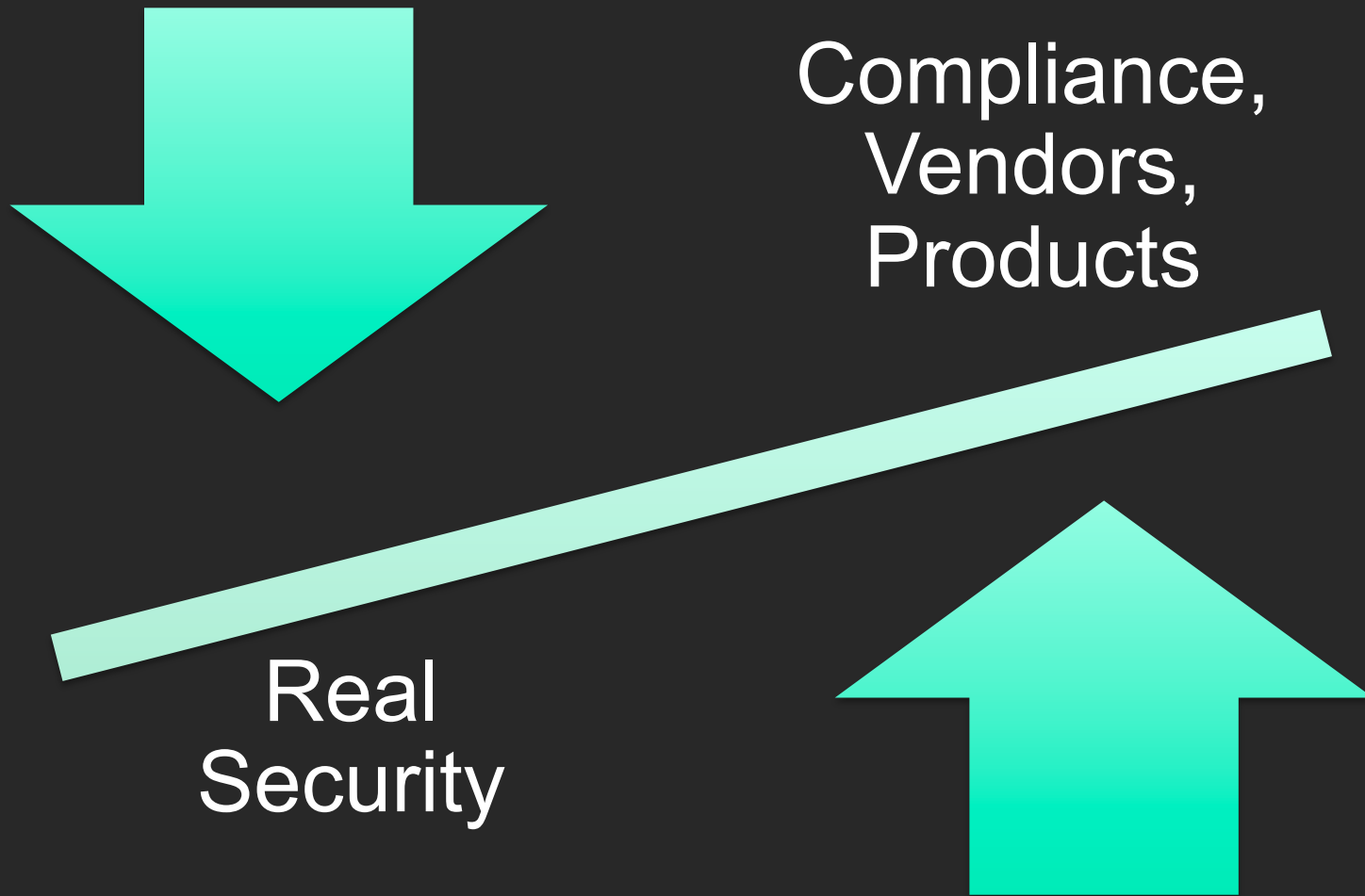
It barely stops her...



So why?



# We aren't balanced....



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We are taught risk management, risk acceptance, risk formulas. We are taught to be aligned with the business.



But we are in tune with “the business”



Does the business know security?

Do they know how to make decisions based on security?



Experience a Breach



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We are so scared of a breach.



Breaches can be a good thing.

It almost takes a breach for something to move.

Come to the realization that we will never win 100 percent of the time.



In most cases: A breach will not destroy your company.

Sometimes a breach isn't as bad as it sounds..

It can help us.

So you can't get security funded.....

Get breached.



# Option 1

- You get popped.
- It sucks. Yea.
- But use this. Inject security into the company.



# Option 2

- Simulate a breach.
- Penetration testing.

Who here has had a “penetration test”.

A penetration test was never what it was designed to be.

Our tests today are vulnerability scans and validation of testing.



How is that a simulated breach?

A penetration test is a simulation of an attacker attempting to cause impact to the companies ability to generate revenue.



They are designed to simulate a breach.

Penetration Test == Breach Simulation

You need to jack a company up.

You need to make them hurt, you need to be able to show you could destroy that company and everything it does.



Who here has had a “penetration test”?

So what now?



# The Future..?





That's up to us...





It could be this...



We need to invest in our people  
and do some hard work...



Or if we...



Impact change....



Secure critical assets that make  
companies money...



# Move away from risk formulas and auditors...

$\Delta x = x_f - x_i$     $\Delta v = v_f - v_i$     $v = \sqrt{v_x^2 + v_y^2}$     $\theta = \tan^{-1}(\frac{v_y}{v_x})$   
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$\left( \sum_j m_j \vec{v}_j \right)_{init} = \left( \sum_j m_j \vec{v}_j \right)_{final}$



Ignore the fear mongering...





# Throw away the 5 year plans



And secure your stuff.. You got it.



The easiest thing to remember is



Find out what makes your company  
money.

Protect that.

Simple.



Invest in people.

Not technology.



# Get Back to Reality



## REALITY

Worst game ever.



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Breaking stuff.



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Thanks.







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