Cybersecurity Trends and Commentary

The Security Triangle

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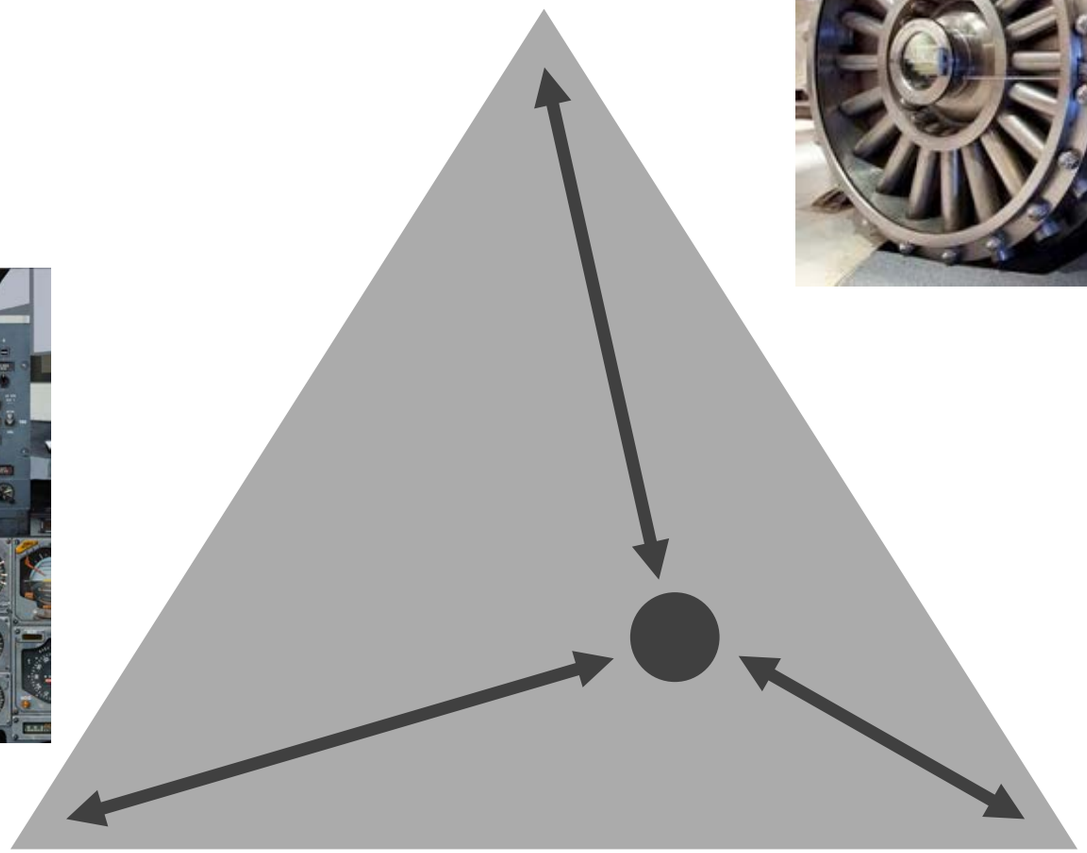
Security



Functionality

Ease of Use

Statistics and Trends

Everyone is a Target

- **98% of organizations experienced cyber attacks in 2016.** (Radware Global Application & Network Security Report)

- **62% of all cyber attacks are against small and mid-sized businesses, about 4000 per day.** (IBM Security)

- **Over 1 billion credentials stolen last year, 3x greater than the previous high in 2013.** (Verizon Data Breach Investigations Report)

Ransomware

- **“There are estimates that the total damages due to ransomware will reach approximately $5 billion in 2017.”** (Acalvio Senior Director Abhishek Singh to SC Media)

- **Over $1 billion in ransoms were paid last year.** (FBI Internet Crime Complaint Center)

- **Last year, 49% of all companies surveyed suffered at least one cyber ransom incident.** (Radware Global Application & Network Security Report)

Statistics and Trends

Business Email Compromise / Spear-Phishing

- **$5.3 billion in losses due to BEC from October 2013 to December 2016** (Internet Crime Complaint Center)

- **Over 400 companies targeted in BEC spear-phishing campaigns every day.** (Symantec Internet Security Threat Report)

Malware and Spyware

- **1 in 131 emails contain malware, the highest rate in 5 years.** (Symantec Internet Security Threat Report)

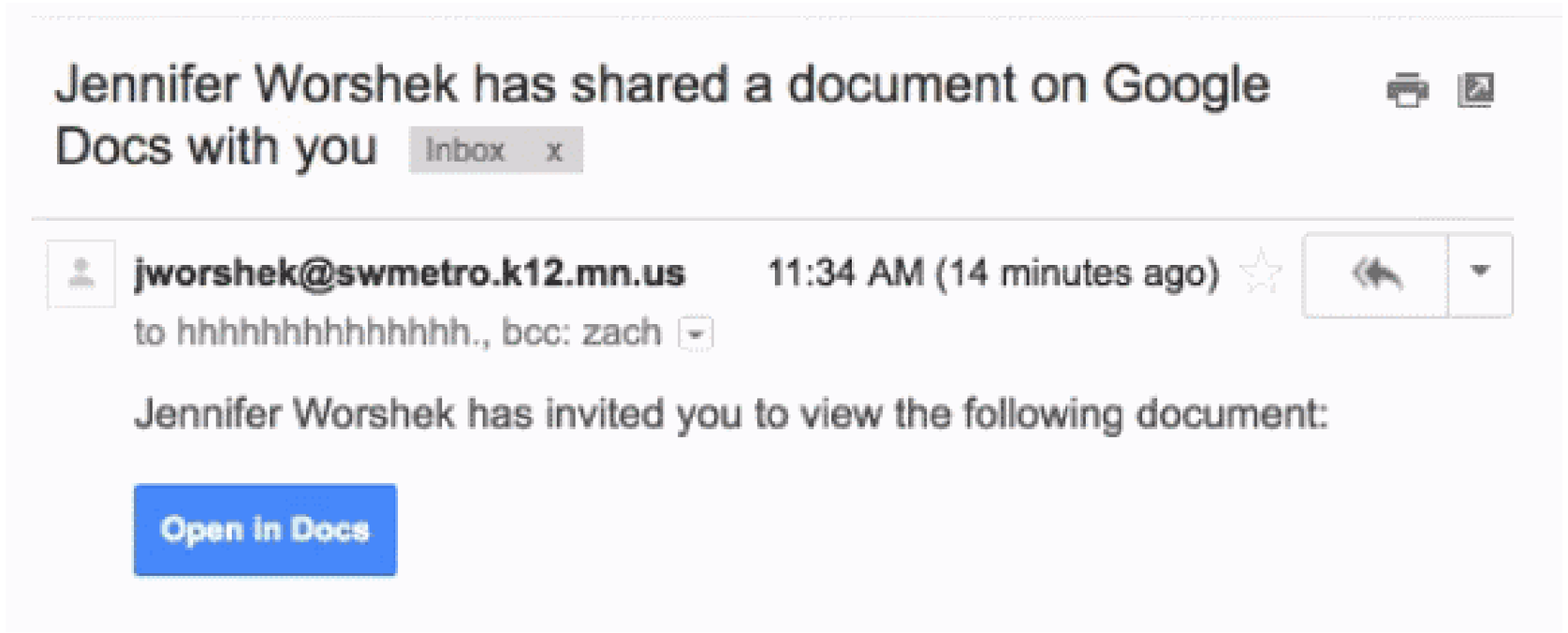
- **“25% of organizations surveyed monthly were infected by [spyware].”** (Cisco Security Research)

- Citadel Banking Trojan - malware offered for sale to interested criminals. Harvests bank credentials from victims, has caused $500 million in losses and counting.

Recent Examples

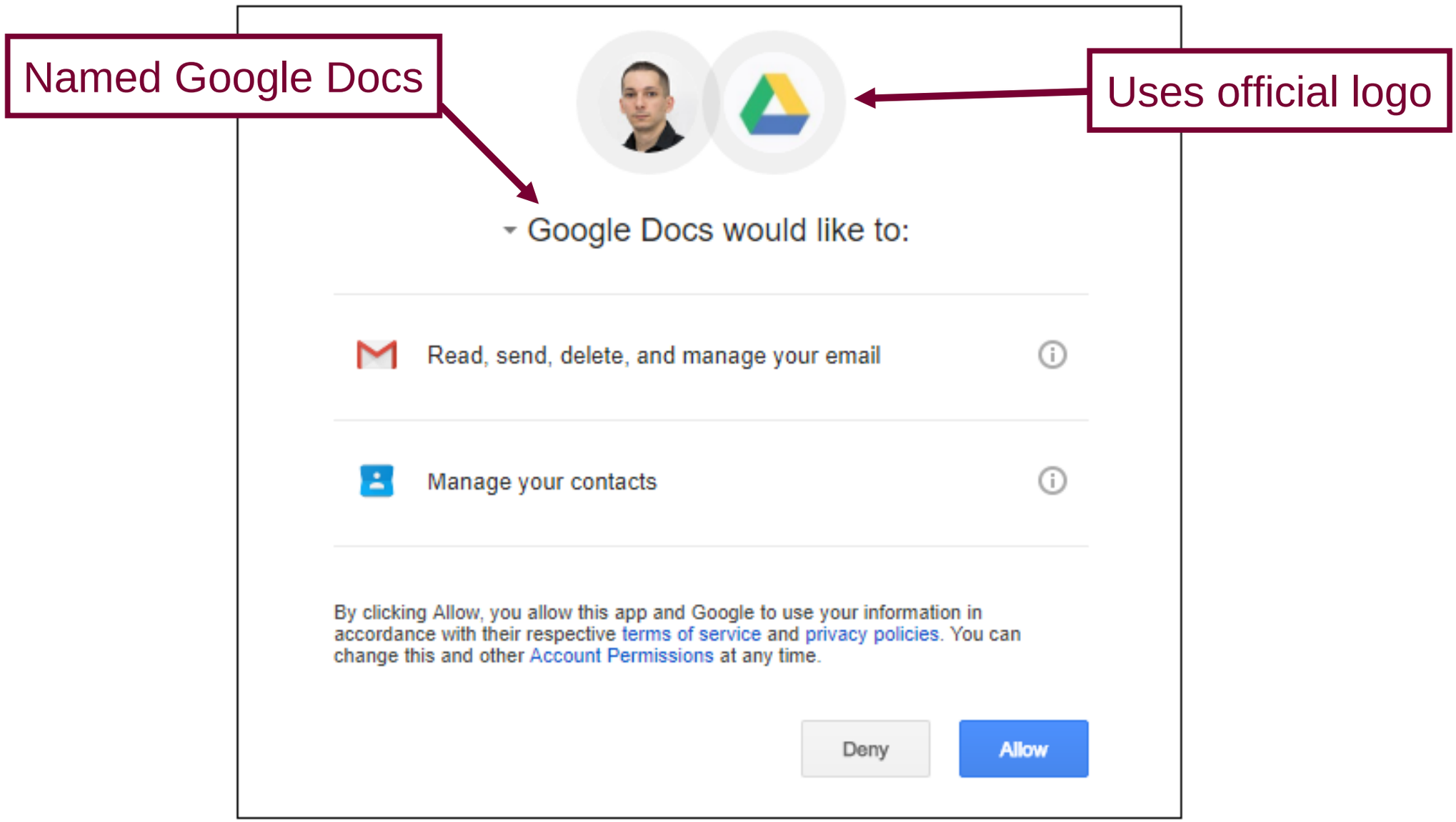
Google Docs Phishing Scam

- Emails appearing to be legitimate Google Doc sharing requests from other users you know asking you to grant permission for a “Google Drive” app to access your email and contacts.
- Affected over 1 million victims.



Recent Examples

Google Docs Phishing Scam



Recent Examples

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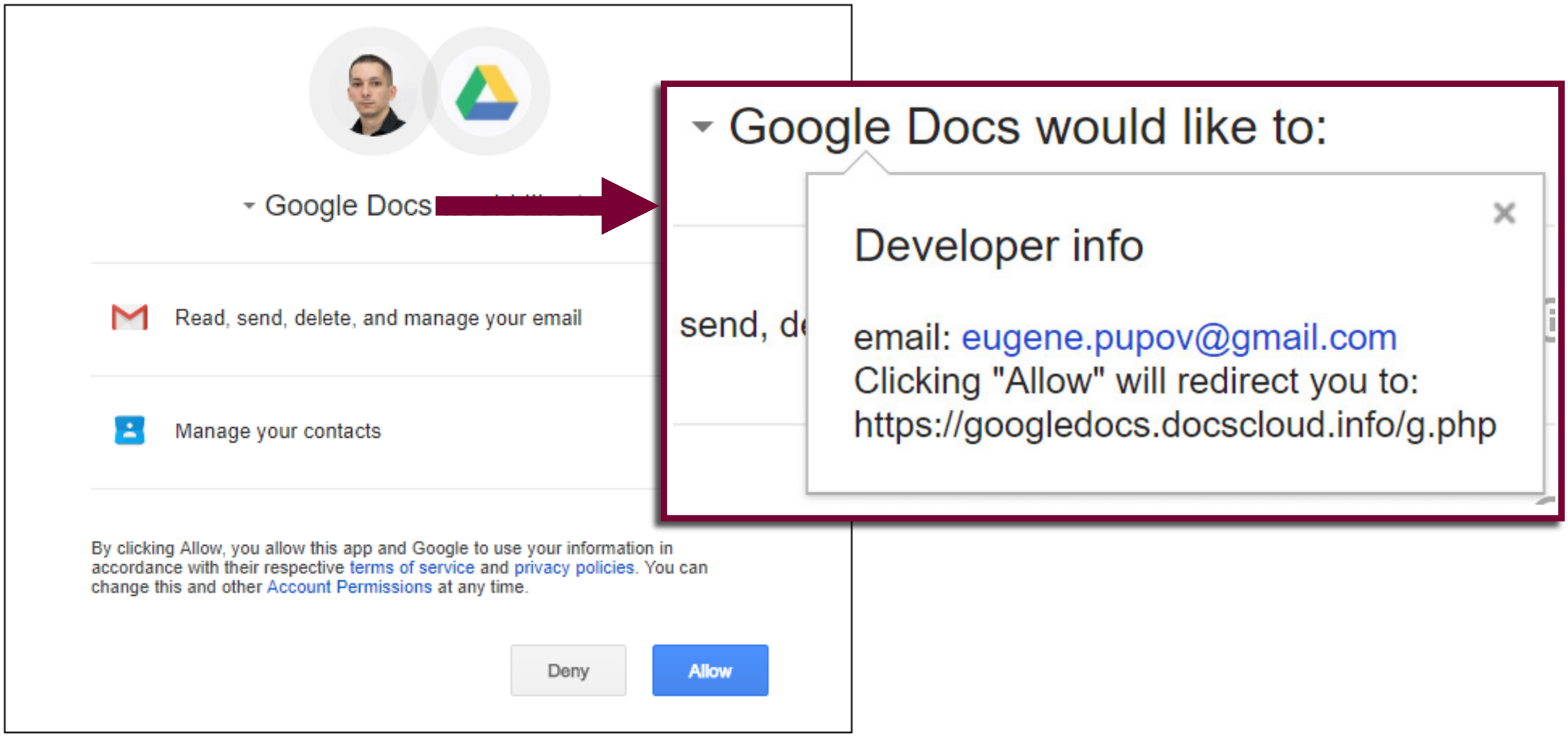
Google Docs Phishing Scam



Recent Examples

Other Examples

- **WannaCry**
- **NotPetya**
- **Mirai Botnet**

Big Issues

- **Delayed or Neglected Patching**
- **Insecure Configurations**
- **Social Engineering**
- **Emerging: Insecure IoT Devices**
- **Emerging: PDoS / Phlashing / Bricking**

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Incident Response Steps

- **Discovery** - a breach is detected or reported by an internal or external source and is escalated within the organization.
- **Analysis** - IT, cybersecurity, and forensic experts determine what happened.
- **Containment** - Ensure the breach is not ongoing, identify and contain the damage.
- **Eradication** - Address the vulnerabilities that led to the breach, eliminate the threat from the environment.
- **Recovery and Post Incident** - Restore normal working operations, perform post-mortem evaluations.

Cyber Incident Costs

- **Legal and Regulatory Consequences**
- **Communications**
- **Customer Concessions**
- **Business Interruption**
- **Other Costs**

Cyber Incident Costs

The Numbers

- **One instance of a single PHI record compromised cost almost $2 million.** (NetDiligence Cyber Claims Study)

- $7.35 million average total cost of breach. 5% increase, **a record high.***

- $225 average cost per lost or stolen record. 2% increase, **a record high.***

- $690,000 is the average cost to a small business to clean up after a cyber attack. Over $1m for middle market.*****

- **$4.8 Million Transfer** in Medidata Case.

** IBM Security and Ponemon Institute Cost of Data Breach Study*

Cyber Incident Costs

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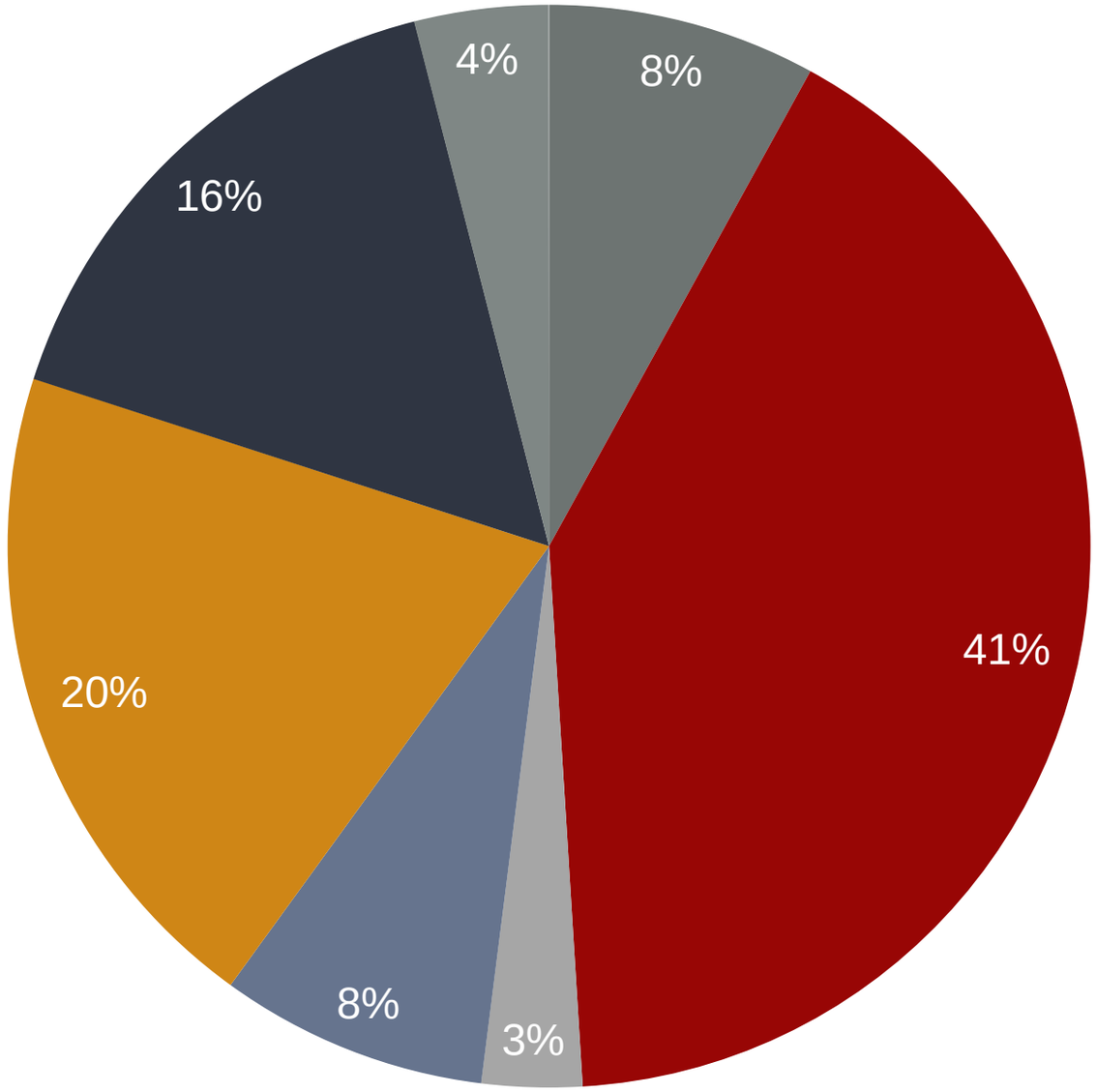
Cost Allocation

Lost Customer Business	41%
Legal Defense and Legal Compliance	20%
Investigations and Forensics	16%
Customer Acquisition Cost	8%
Public Relations, Communications	8%
Auditing and Consulting	4%
Service giveways, discounts, identity protection	3%



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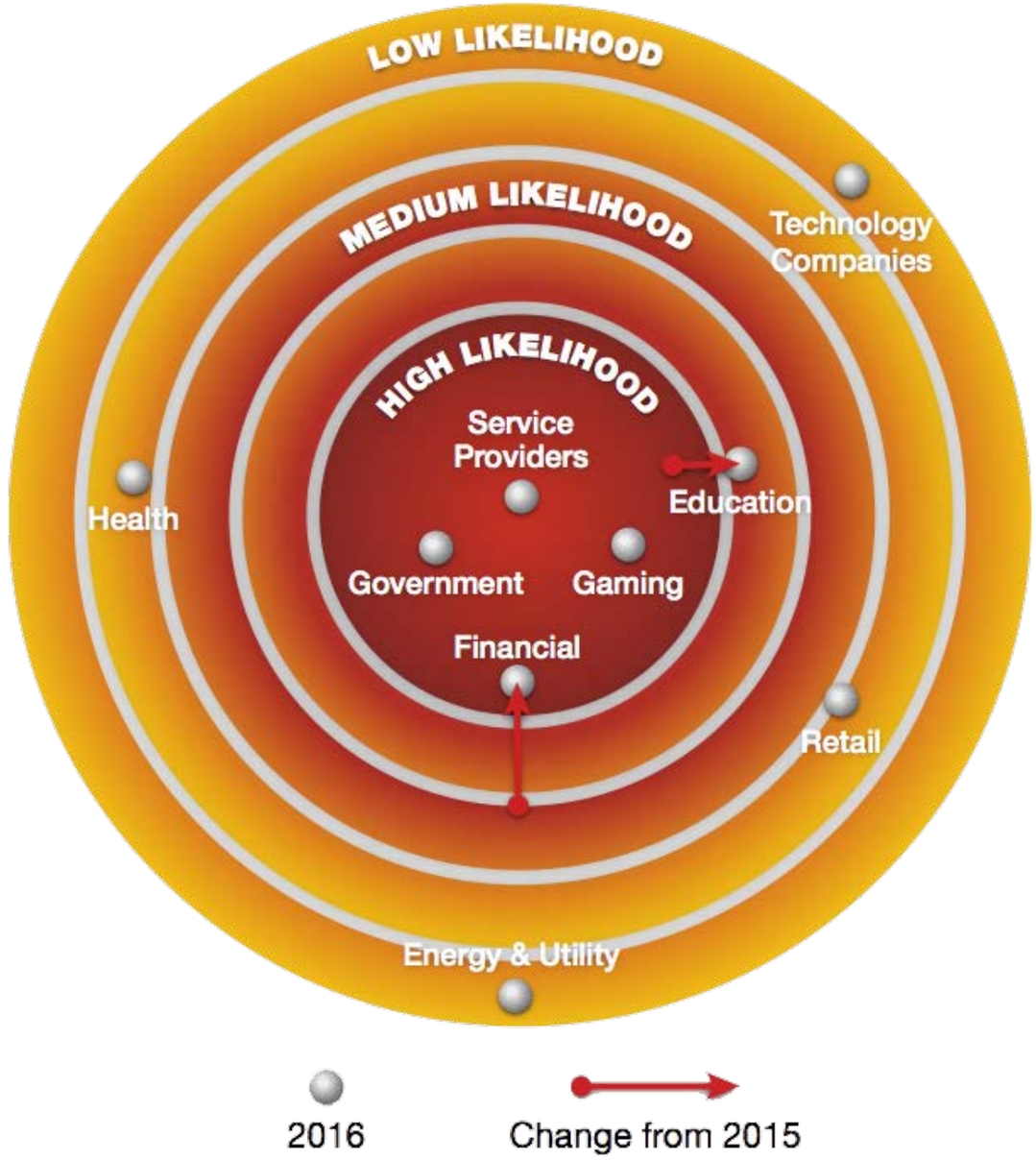
Cyber Incident Costs

Targeted Industries



Radware Ring of Fire from the Radware Global Application & Network Security Report

Common Problems

- **Inadequate InfoSec Policy & Procedure**
- **Data Hoarding**
- **IT Not Following Security Best Practices**
- **Weak Password Practices**
- **Ignorance is NOT bliss!**

Role of Insurance Policy

- **Types of data breach costs and the insurance policies' response**

1) First Party Coverages

2) Third Party Coverages

3) Remediation Costs

4) Combined and separated "webs" of insurance policies.

Network security and privacy GAP analysis

	Property	General liability	Crime	K&R	E&O	Network security & privacy
1st party privacy/network risks						
Physical damage to data only		x		x		✓
Virus/hacker damage to data only		x	x	x		✓
Denial of service (DOS) attack		x	x	x		✓
Business interruption loss from security event		x	x	x	x	✓
Extortion or threat	x	x	x	✓	x	✓
Employee sabotage of data only	x	x		x		✓
Impostor fraud	x	x		x	x	
3rd party privacy/network risks						
Theft/disclosure of private information	x		x	x		✓
Confidential corporate information breach	x		x	x		✓
Technology E&O	x	x	x	x	✓	x
Media liability (electronic content)	x		x	x		✓
Privacy breach expense and notification	x	x	x	x		✓
Damage to 3rd party's data only	x			x		✓
Regulatory privacy defense / fines	x	x	x	x		✓
Virus/malicious code transmission	x		x	x		✓

x - No Coverage - Possible Coverage ✓ - Coverage

Reporting for cyber losses

- **Setting up protocols**
- **Interfacing with the insurers and counsel**
- **Communication, billing, etc.**
- **Strategies for mitigating transactional costs**
- **“Setting priorities” among multiple insurers in the coverage “webs”.**

Monoline or Package?

Coverage Pitfalls to look for:

- Employee Claims
- Personal Injury

  -Carve back of bodily injury exclusion
- Independent Contractors
- Data in any format
- Third Party Vendors (On & off site)
- Theft of corporate information

  -Confidentiality agreements required?

Potential Exclusions

- Failure to maintain or upgrade their security
- Failure of software security to match that reported on app
- Unencrypted Device or Wireless Signal Exclusion
- Actions of independent contractors or third party vendors
- Bodily Injury Exclusion
- Withdrawal of software or technical software by a vendor
- Chargeback Exclusion (offset by Credit Card company)
- PCI Exclusion
- Wild Virus Exclusion
- Actions by rogue employees

“Cybercrime costs will grow to $6 trillion annually by 2021.”

–Cybersecurity Ventures

Questions?