Security Definitions

**Cyber Threat**
A malicious act that can harm your system

**Vulnerability**
A weakness in software/hardware

**Risk**
Exposure to the probability/possibility of harm

**Breach**
Access to information gained via an unauthorized method

**Exploit**
Software/script to take advantage of a vulnerability

**Malware**
A term for malicious software that is designed to disrupt

- **Trojans**
  Software/script that allows a remote user to access a computer

- **Worms**
  Software/script that replicates itself spreading infection to other computers

- **Ransomware**
  Software/script that prevents access to data unless a ransom is paid

- **Virus**
  Software/script that will erase, corrupt, change data
IOT – Internet of Things

Devices that have Internet functionality built into them

- TV's
- Home Appliances
  - Washers
  - Dryers
  - Refrigerators
- Thermostats
- Home Locks
- Alarms
- Lighting
- Irrigation
- Cameras
Compromised Records
According to Gemalto

First Half of 2018 there were 3,353,172,708 records compromised

First Half of 2017 there were 1,901,866,611 records compromised

56.7% Increase

Lost/stolen records per day: 18,525,816
Lost/stolen records per hour: 771,909
Lost/stolen records per minute: 12,865
Lost/stolen records per second: 214

Breach Incidents by Type

Identity Theft 65%
Financial Access 17%
Existential Data 1%
Account Access 15%
Nuisance 4%
Breach Incidents by Industry

- Healthcare: 96%
- Financial: 14%
- Education: 9%
- Professional: 7%
- Government: 7%
- Retail: 6%
- Technology: 4%
- Other: 17%
- Industrial: 3%
- Hospitality: 2%
- Insurance: 2%
- Entertainment: 1%
- Non-Profit: 1%
- Social Media: <1%

Breach by Region

- North America: 559 Incidents (59%)
- Europe: 36 Incidents (4%)
- Asia / Pacific: 338 Incidents (36%)
- Middle East: 7 Incidents (<1%)
- Africa: 3 Incidents (<1%)
- Global: 1 Incident (<1%)

<1%
TOP Breaches 2018

**Aadhaar (India)**
1.1 Billion
March, 2018 via WhatsApp
Info Exposed: Personal Citizen Information

**Under Armour (MyFitnessPal)**
150 Million
Feb 2018 App Hacked
Info Exposed: Mostly nutritional information.

**Marriott Starwood**
500 Million
Sept 2018 Hackers accessed reservation system
Info Exposed: Guest information, phone numbers, passport info, account info, etc.

**Quora**
100 Million
Dec 2018 Still Uncertain – malicious 3rd party accessed system
Info Exposed: Names, profile data, addresses, etc.

**Exactis**
340 Million
June 2018 2 terabytes of data were somehow moved to a public site
Info Exposed: Phone numbers, email and physical interests, pet ownership, age.

**MyHeritage**
92 Million
June 2018 Outside server with sensitive info
Info Exposed: Email addresses and hashed passwords.

**FaceBook**
87 Million
Sept 2018 Cambridge Analytica Scandal – user info illegally harvested
Info Exposed: Profile info, political beliefs, private messages, friend networks.

**Newegg**
50 Million
Sep 2018 Hack/credit card skimmer by Magecart
Info Exposed: Credit card info

**Elasticsearch**
82 Million
Nov 2018 Unknown – audit revealed an unguarded database
Info Exposed: Individual and business information – names, addresses, phone numbers, IP addresses, etc.

**Chegg**
40 Million
Sep 2018 Unauthorized party gained access from chegg.com database
Info Exposed: Names, email addresses, usernames, passwords, shipping addresses

**Google+**
52.5 Million
Nov 2018 Software Glitch
Info Exposed: Exposed profiles, job titles, email addresses, birth dates, age, relationship status

**Panera**
37 Million
April 2018 Website weakness
Info Exposed: Names, addresses, birthdate, last 4 digit customer info, email addresses.
Every business or agency must report breaches
California Civil Code § 1798.29(e);
California Civil Code § 1798.82(f)
Current List: https://oag.ca.gov/privacy/databreach/list

What to Expect in 2019
- Ransomware Continue
  - Maybe Not as Prevalent
  - More Sophisticated
- Privacy Laws Get More Complex/Stronger– e.g. California
- Multi Factor Authentication will Increase
  - Biometrics instead of Passwords?
- Security Will Increase
  - Expect Microsoft to Re-Position its Advanced Protection
  - Other Security Enhancements
- Surveillance will be a Bigger Target (as will IOT Devices)
What to Expect in 2019

- Shortage of Cyber Security Experts
- Malware to be More Sophisticated
- Securing Cloud Data will Continue to Pose a Challenge
- Phishing will Get More Targeted and More Sophisticated
- End Users will be Smarter and More Educated
- Major Cloud Provider Breach??

California Privacy Law

- Begins January 2020
  - New Disclosures for Personal Data
    - Businesses must disclose
  - New Rights to Deletion
    - Personal data must be deleted upon request
  - New Rights to Opt-Out
  - New Requirements for Children/Teen Data
  - Non-Discrimination
    - Can’t deny goods/services, provide different level of services, quality, price, etc.
  - New Employee Training Requirements
  - New Website Notice Requirements
  - Can’t Sell Personal Information

- Local Governments will have to comply with provisions
What can you do as an Organization?

Security Program

- Firewalls
- Windows Application Firewall (WAF)
- AntiVirus
- Spam Filters
- Penetration Tests
- Security Assessment
- Breach Notification
- Cyber Insurance
- Access/Rights Management
- Strong Policies
- User Education
- Privacy Policy
- Hire CISO/Security Lead
- Leverage Security Orgs
- Compliance (HIPAA, PCI, CLETS)
- Cloud Considerations

Risk Management

Identity Management

Threat Management

Cyber Operations

What can you do Personally (at work)?

- Be Informed
  - Know patterns of email messages
  - Hover over the return address
  - If you aren’t expecting it – don’t click on it
  - Financial Organizations don’t send general emails
- Have a strong password and change it often
- Educate yourself on current trends
  - Via your IT Department, etc.
- Use Mobile Devices with Care
  - Many apps have permissions.
Resources and Organizations

- Virus/Security vendor
  - Trend
  - Sophos
  - Symantec
- Security Companies
  - Optiv
  - AMS.Net
- Security Organizations
  - MS-ISAC
  - ISACA
- MISAC
  - Security Committee
  - ListServ
  - Annual Conference Sept 27th – Oct 2nd (Monterey, CA)

Websites to Visit

- Thycotic – Data Breaches
- SecureWorld Cyber Maps
  [https://www.secureworldexpo.com/industry-news/6-live-cyber-attack-maps](https://www.secureworldexpo.com/industry-news/6-live-cyber-attack-maps)
- Gemalto Security
  [https://www.gemalto.com/review](https://www.gemalto.com/review)
- CSO – 9 Cyber Security Predictions for 2019
- California Office of the Attorney General Data Security Breaches
  [https://oag.ca.gov/privacy/databreach/list](https://oag.ca.gov/privacy/databreach/list)
- Breach Level Index
  [https://breachlevelindex.com/](https://breachlevelindex.com/)
Q&A

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