Are Large Scale Data Breaches Inevitable?

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Large Scale Breaches

- What is a large scale data breach?
- Why are they important?
- Where do these breaches occur?

Information on Data Breaches

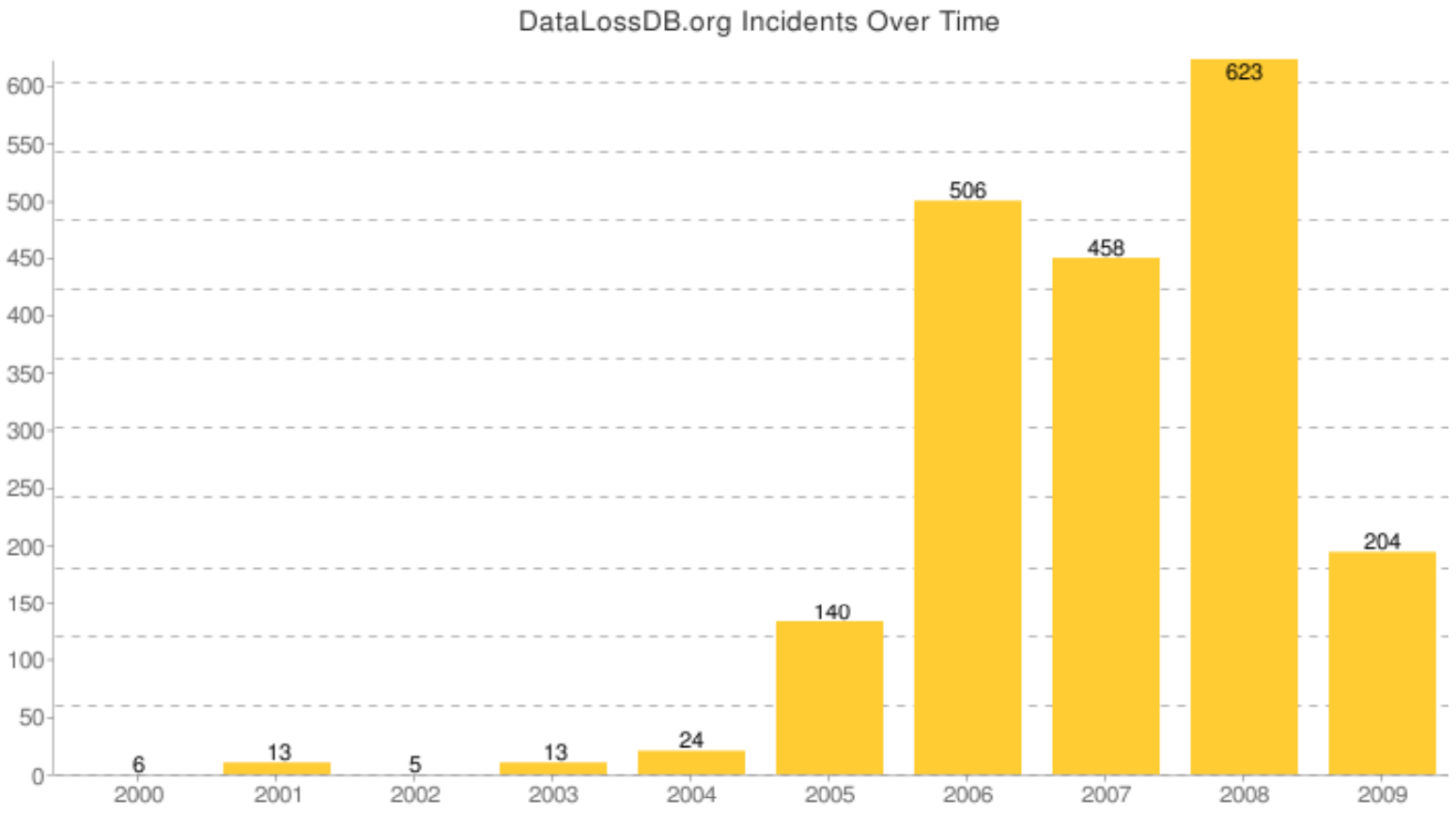
- State Breach notification Laws
- Federal Breach Notification Laws
- Role of State Attorney Generals
- Breach notification letters
- Civil and criminal prosecutions
- Company press releases and announcements
- SEC Filings

Organizations that track breaches

- Open Security Foundation: DataLoss DB project http://datalossdb.org/
- Privacy Rights Clearing House http://www.privacyrights.org/
- Federal Trade Commission http://www.ftc.gov

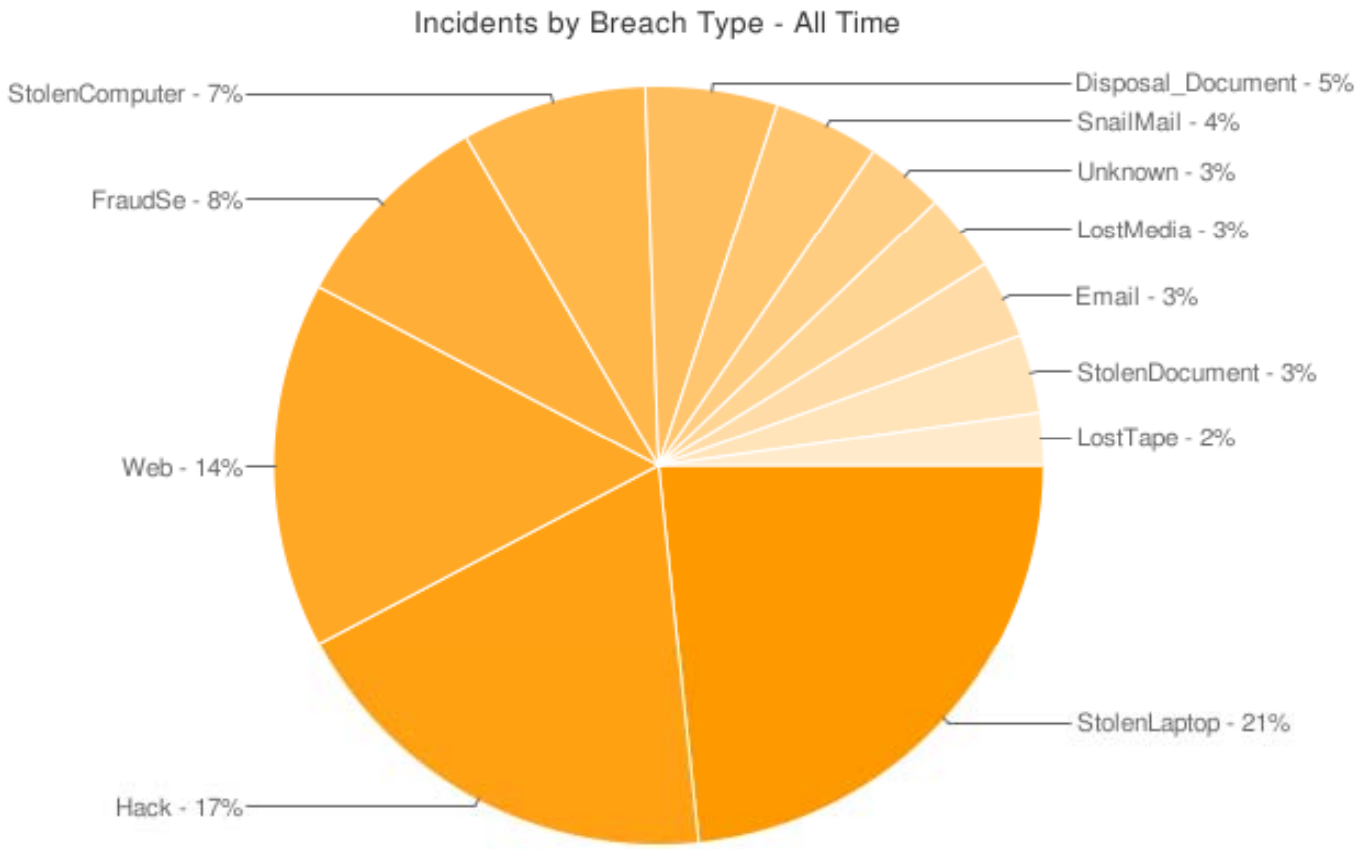
Breach Incidents 2000-2009

(source: Open Security Foundation)



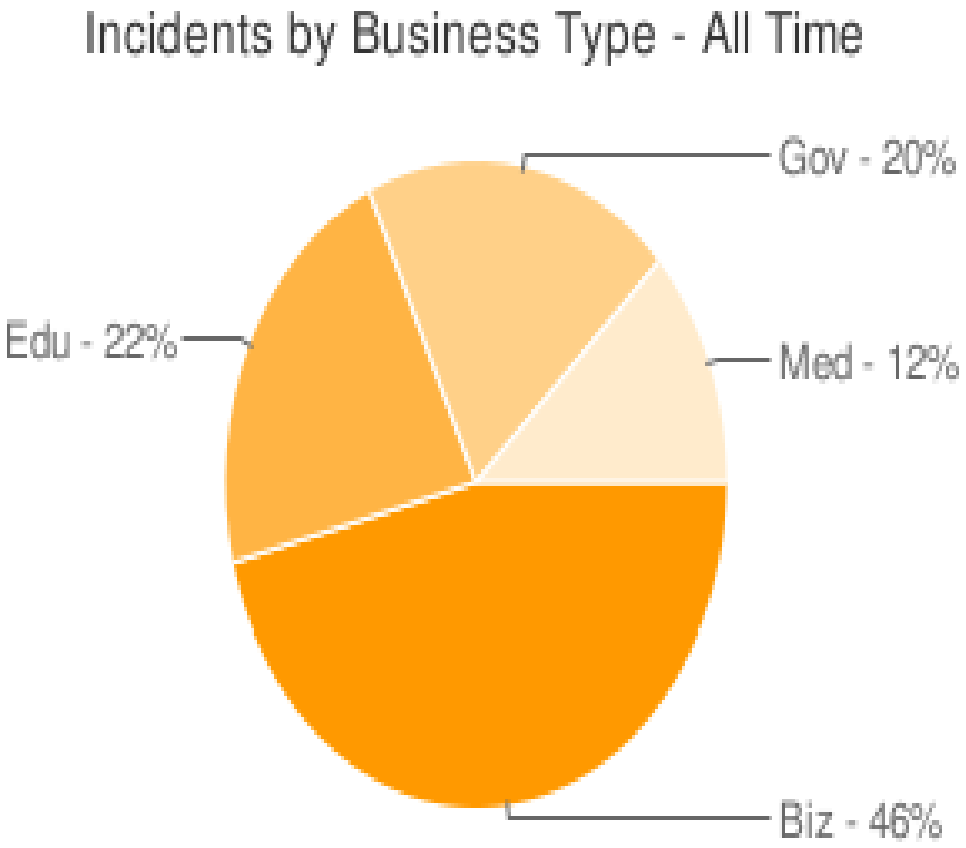
Incidents By Breach Type

(source: Open Security Foundation)

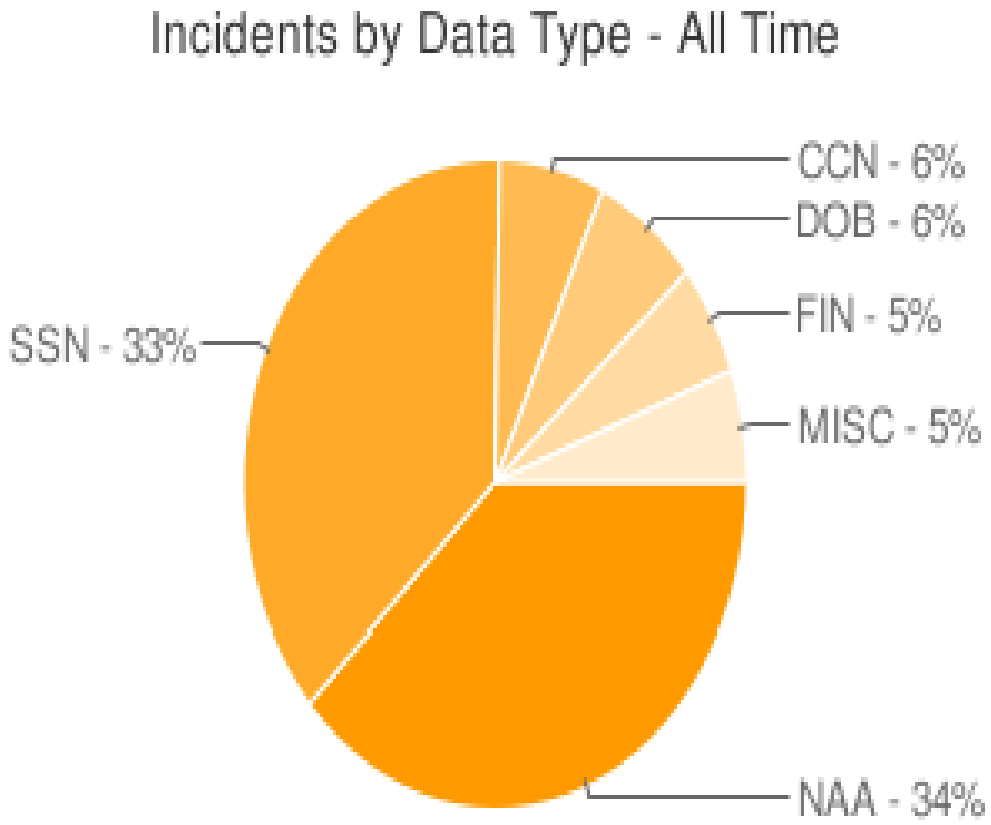


Incidents Business

(source: Open Security Foundation)



Incidents by Data Type
(source: Open Security Foundation)



Notable large scale breaches in the Data Aggregation Industry

- What is the data aggregation industry?
- Who buys information from a data aggregator?
- What types of information do these companies provide?

Breaches in the Data Aggregation: methods, costs and consequences

- Acxiom breaches 2001-2004
- Choice Point breaches 2004
- LexisNexis (Accurint) breaches 2005,2007

Breaches in the Retail and Card Payment Industry

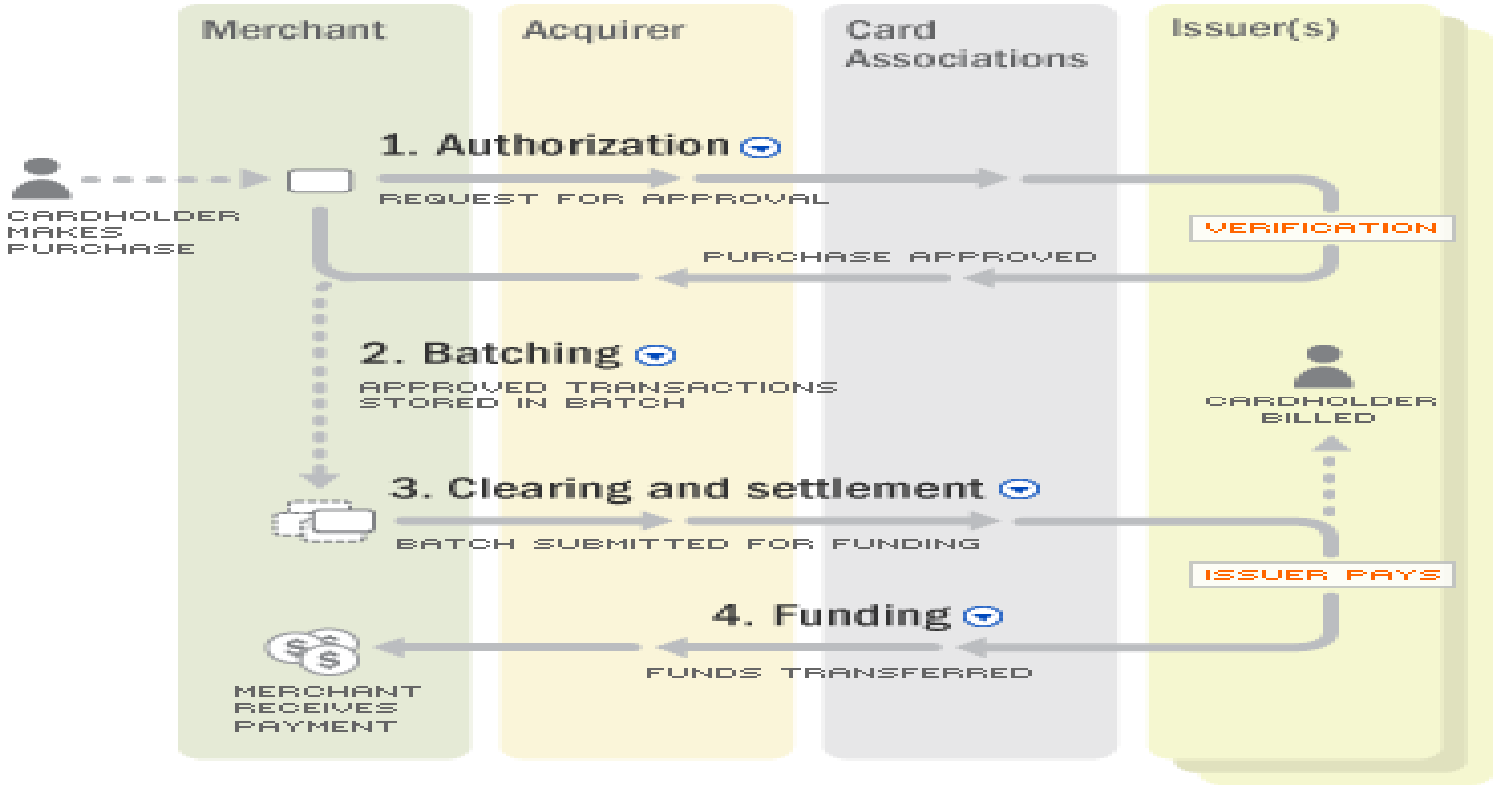
- What is the card payment processing industry?
- Why is this industry targeted and by whom?
- What do you do with 45 million credit card numbers?

Breaches in the Retail and Card Payment Processing Industries: methods, costs and consequences

- CardSystems Solutions – 45 million card numbers
- TJX Companies – 94 million cards
- RBS World Pay – 1.5 million financial records
- Heartland Payment Systems – 100 million cards

Card Payment Industry

(source: Card Processing Basics, Bank of America)



Monetizing the Crime

- Carding sites
- Cashing on a world-wide basis
- Targeted attacks, e.g., scanners and cameras

Breaches and Fraud

- Percentage of revenue lost to on-line fraud – about 1.4% for the past six years, 3.6% in 2001
- Card present fraud rate continues to decline
- ATM fraud is rising(?)
- “Identity fraud” is rising (?)
- Fraud in international card transactions is unacceptable (One in nine on-line purchases rejected)

Large scale breaches: The costs to businesses

- Breach notification costs
- Class action suites to recover costs
- Loss of confidence by business partners and clients

Remedies

- Industry wide attempts at security – PCI DSS in the payment processing industry
- Enhanced roles of the chief information security and information privacy officers
- The increasing importance of information privacy polices

Challenges

- Breach details seldom revealed, even long after the breach.
- Until recently, there were no industry wide clearing houses for breach information. (Payments processing Information Sharing Council)
- Risks of keeping breach information secret

A few IT Community Challenges

- Knowing where the data is
- Rapid system wide updating and patching
- Integration of legacy systems
- Automated fraud detection tools at each level
- Implementing end-to-end encryption
- Better systems for authorization and auditing

Law Enforcement Challenges

- Immediate notification in the event of a breach
- Improved intelligence on carding sites and cashing techniques
- Critical need for international law enforcement and governmental cooperation

Information Security Policy Challenges

- Privacy polices based on need-to-know (limit data collection and retention)
- Comingling of systems on public and private networks.
- Polices to protect large data repositories

Trends

- Breach costs will continue to grow
- National Breach Notification Legislation is coming (health care now, other sectors soon.)
- Breach notification will give FTC and HHS Dept. more authority to regulate the use of PII.

Concluding Remarks

- Breach notification laws are changing the way organizations view information security and privacy.
- Breaches of PII such as SSNs, names, addresses are especially dangerous for individuals.
- More on privacy and data breaches at the Center for Cybercrime Studies