CYBER DIVISION

FEDERAL BUREAU OF INVESTIGATION

Ransomware

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UNCLASSIFIED

Overview

- Background/History
- Impact
- Prevention, Protection, and Response
- Role of the FBI

What is Ransomware?

Ransomware is a malware that encrypts a user's files and computers, making them inaccessible until a ransom is paid.

- Victim's computer is infected with the malware.
- Encrypts victim's data and/or systems, making them unreadable.
  - Networked backups are encrypted or deleted
- Announces Itself unlike other malware
  - Actor demands payment to decrypt files or network.
  - Cryptocurrency (BTC)
- Constantly evolving
  - People pay
  - Enterprise attacks on the rise

Ransomware Background

- Modern day ransomware began around 2013
  - Cryptolocker
  - Ransoms were $300 - $700

- Primary Actors Deploying Ransomware
  - Cyber-criminals
  - Financially motivated

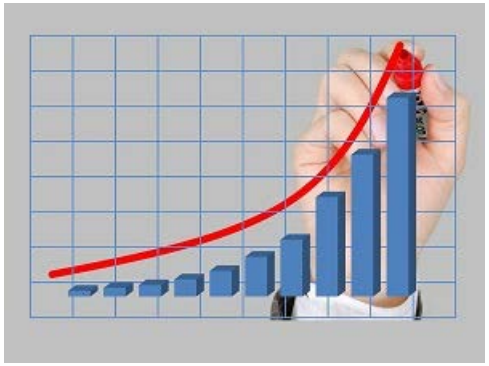
- Difficult to investigate
  - All aspects are supported by anonymization
  - Initial intrusion
  - TOR (Darkweb)
  - Virtual Currency

Ransomware Statistics

- FBI Internet Criminal Complaint Center (IC3)
  - 2016 = 2,673 (51% associated with enterprises)
  - 2017 = 1,783 (65% associated with enterprises)
  - 2018 = 1,498 (73% associated with enterprises)
  - 2019 = 915 (Increasing)
    - As of 07/01/2019

Global Impact

- Government, Health, Emergency Services, Hospitals, Police & Fire
- Loss of critical work
  - City records/planning documents, LE evidence, DNA
  - Patient Records, imaging, degradation of care
  - 911 dispatch and EMS response
- Remediation Costs
  - Can be in the millions
- Paying a ransom vs not
  - FBI recommendation



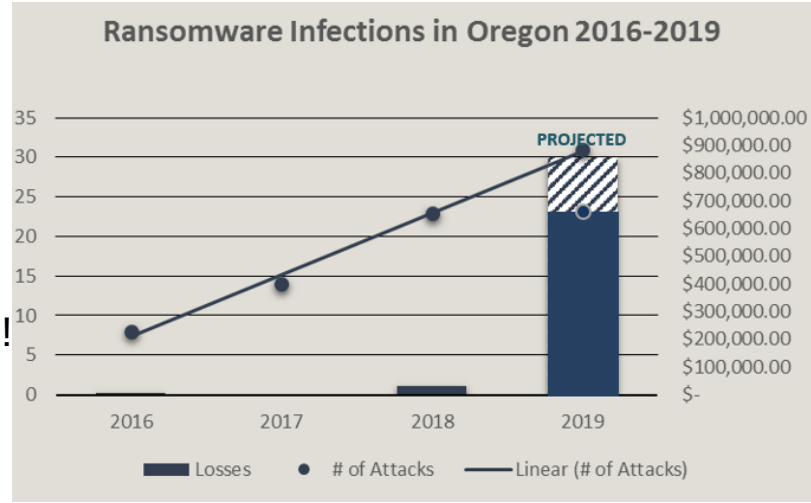
Global Impact Costs

- Risk to Government, Health, and Emergency Services
  - UK NHS: $120M
  - Baltimore: $18M
  - Alabama/Texas Hospitals

- Private Sector Impact
  - Danish Co: $80M
  - Maersk/FEDEX: $300M

Oregon Impact

- In 2019, 1740 IC3 complaints, 23 in Oregon[1]
- Average Ransom Demand = $36,000 (Prolific Variants = $350,000)
- Non-Ransom Costs:
  - $900,000 Average Cost for Small Companies[2]
    - Remediation
    - Legal Fees
    - Lost business
    - Downtime
  - Larger companies paying in multi-millions
  - Most costs must be paid even if you pay ransom!
- Oregon attacks typically 2-3 per month
  - In October there were 7 reported attacks



- Top targets: medical, government, academics, manufacturing, retail, technology

1. Source: IC3, as of 1 November 2014
2 Source: https://threatpost.com/ransomware-a-persistent-scourge-requiring-corporate-action-ow/145731/##targetText=A%20ransomware%20attack%20will%20be, remediation%2C%20legal%20costs%20and%20more

Mitigation/Recovery From Ransomware

- Offline Backups
  - Networked vs Offline
  - Backup regularly and often
  - Restore procedures

- Identify and fix the underlying problem
  - Employee Training/Awareness
  - Vulnerability Testing

- Contact the FBI
  - Basic reporting requests
  - Decryption capabilities in limited circumstances

What is the FBI Doing About Ransomware?

- Hold actors accountable
- Target the criminal ecosystem
- Outreach/education

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Monday, August 13, 2018

Washington State Man Sentenced to Prison for Role in Connection with Reveton Ransomware

A former Microsoft employee was sentenced today to 18 months in prison after pleading guilty to conspiracy to commit money laundering in connection with the spread of a particular type of ransomware commonly referred to as Reveton.

Assistant Attorney General Brian A. Benczkowski of the Justice Department's Criminal Division, U.S. Attorney Benjamin C. Greenberg for the Southern District of Florida and Special Agent in Charge Matthew J. DeSarno of the FBI Washington Field Office's Criminal Division made the announcement.

Raymond Odigie Uadiale, 41, of Maple Valley, Washington, was sentenced by U.S. District Court Judge William P. Dimitrouleas for the Southern District of Florida following his June 4 guilty plea. The indictment charged Uadiale with one count of conspiracy to commit money laundering and one count of substantive money laundering. As part of the plea agreement, the government dismissed the substantive count. In addition to his prison sentence, Uadiale was also sentenced

FBI Cyber Task Forces and their role

- CTF Personnel
  - Agents, Analysts, Computer Scientists, Task Force Officers, etc
- FBI Field Office Territory
  - Respond to cyber incidents and conduct investigations
  - Maintain relationships and information sharing with key companies and institutions
- National Efforts
  - Provide surge capability for national level cyber incidents

Why join a Cyber Task Force?

- Develop Cyber Expertise and Technical Capabilities within your department
  - Funded Cyber Training
  - OJT Investigative Experience
- Conduct Cyber Investigations and prosecutions under state or federal authorities
- Access to FBI/USIC intelligence on cyber threats
- Partner with FBI to handle increased victim reporting
- Better serve entities in your jurisdiction

FBI Cyber Resources

NCIJTF
FBI Led
24 Partner Agencies

National Cyber-Forensics & Training Alliance
Non-profit; shares resources to identify and stop emerging cyber threats

CyWatch
24/7 Operation
(855) 292-3937
cywatch@ic.fbi.gov

Internet Crime Complaint Center
www.ic3.gov

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