Total Networks

Backup, Disaster Recovery: Defining & Managing Your Risk

Dave Kinsey - 5/9/17

Smart Business... also, generally a **Compliance Requirement**

Shareholders generally do and absolutely ***should*** care that backup & disaster recovery risks are properly managed

Clients are increasingly validating firms are appropriately managing risks

Many compliance regulations, like HIPAA, ***require*** a data backup & recovery plan

ER 1.1 & ER 1.6 require competence in safeguarding client information

STATE BAR OF ARIZONA

DEPARTMENT OF HEALTH & HUMAN SERVICES · USA

HIPAA
Health Insurance Portability & Accountability Act

Risk Management Process

Risk Assessment – Prioritize based on Probability & Impact

Document & Plan to Remediate Risks based on probability, impact, legal requirements, cost of mitigation

Execute Your Plan

Repeat periodically – ROUTINE, SCHEDULED, BAKED INTO BUSINESS

How do you define a DISASTER?

Are these on your list?

Hurricanes??

Tornadoes??

Fires?

Floods?

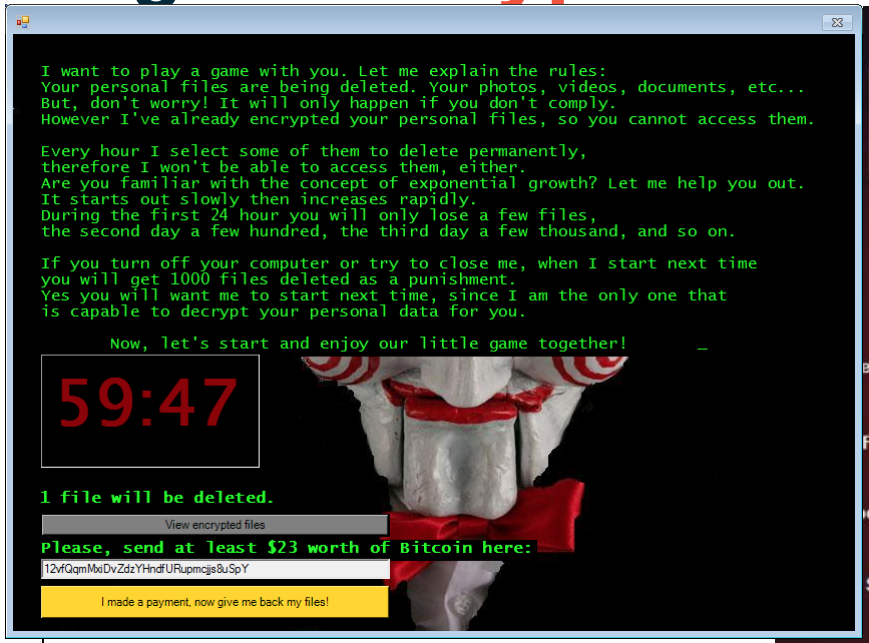
Power/network outages

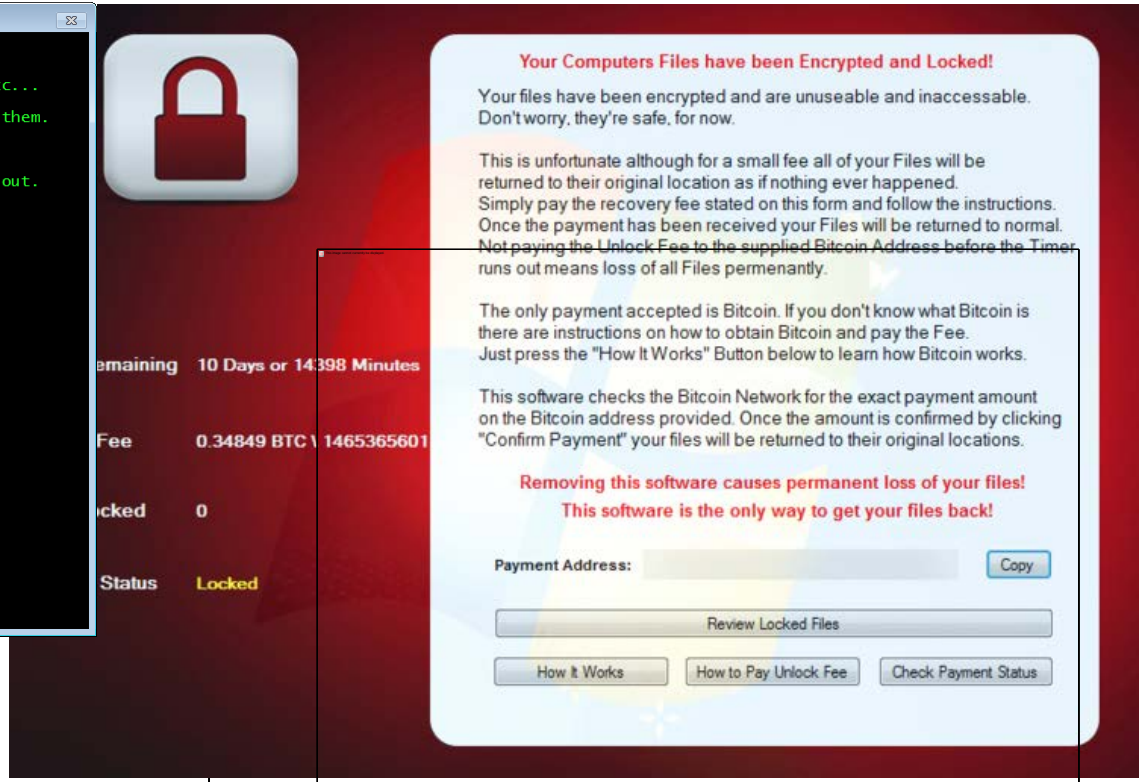
Mechanical or system failure

Human error

Ransomware

Jigsaw CryptoWall CryptoHost CryptXXX





Ransomware had a **BIG 2016**

So big, that it has cost US businesses upwards of **$75 billion dollars** in downtime and other costs

YIKES!

Ransomware is NOT 100% Preventable

1. Harden defenses: significantly minimize expected infection frequency

2. Minimize impact of infections:
   - Limit/segment/compartmentalize access
   - Ensure high confidence in timely & complete recovery from backup
   - Assess likelihood of data breach & respond appropriately

3. Learn from any incidents for use in ongoing risk assessment & management process

Layers of Defense, Constant Review, Updates

- No “magic bullet” for security
- Many layers and approaches work in concert
- A Harder Target:
  - Well trained people
  - Limited access, eliminate non-business activity
  - Tested, evaluated, maintained defenses
  - Layer upon layer (redundant, with different vendors) defenses
- Security as a process and a culture
- Double-checks, verifications, independent audits

Malware Prevention
Administrative & Technical Safeguards

- Patch systems
- Maintain anti-virus, anti-malware
- Restrict permissions
- Block suspect email and attachments
- Network restrictions: update/maintain IPS/IDS, network AV/AM, block TOR, I2P, restrict unnecessary countries
- PC security (prevent apps running from %APPDATA%, %TEMP% - other)
- App whitelisting
- Provide phishing & other security training
- ***Ensure robust, segregated backups***

Disaster Recovery Plan

Off-site & on-site

File & folder vs. server images

Verify Completeness ON A ROUTINE BASIS:

- Complete inventory of data
- Complete inventory of backups
- Anything missing? By accident? By design? Who approves reviews approves omitting items from a backup?

Recovery Point Objective (RPO) & Recovery Time Objective (RTO)

Recovery Point Objective (RPO):

- How often is everything backed up? How much backup history is retained?
- **What CAN I recover?**

Recovery Time Objective (RTO):

- Depending on the disaster, and your plan/capabilities, it could take a LONG time to get back up and running
- Best Case, Worst Case
- **WHEN CAN I GET IT?**

Total Networks Approach for On-Site Servers

- Backup & Failover Server on-site (encrypted on-site)
- Image-level backup, generally every hour
- Encrypted backup transfer to two secure data centers (encrypted in-transit and on-site at remote location)
- RPO: from last hourly backup on-site, from last completed off-site replication off-site
- RTO: can be within minutes on-site to standby hardware, in under an hour to off-site
- Verification: monitoring and alerting throughout the day for any failures, daily review of system boot screenshots onsite and off, simulated DR tests performed every 2 months (first step in review process – manual audit of all data, manual audit of backups, nothing new/missing)

Privacy & Ethical Considerations

- Carefully review and vet vendors (and review your client and legal requirements and disclosures)
- Don’t let your systems OR BACKUPS **cause** a data breach
- HIPAA Business Associate Agreement (BAA) may be required and can be a HUGE HELP

It’s in the cloud… I don’t need backups…

- **Good** cloud applications can ***reduce*** your backup/recovery risk – especially from obvious disaster. Carries obvious risks as well.
- Diligence & review absolutely still required. Consider separate backup of hosted data. **Total Networks uses Mimecast for backup & DR AND ARCHIVING of both on-premise Exchange & Office 365.**
- Some example risk management questions… do you have risks with…
  - emails accidentally deleted 2 months ago?
  - emails to be placed on legal hold due to a complaint filed against you by a former employee?
  - items on an employee’s C: drive?

Beyond Backup & DR Plan… **Business Continuity Plan**

Think through the various risk scenarios. For EACH scenario (type of issue, expected duration) document your planned response:

- Managing Communication (with employees, clients)
- Everybody Work from Home?
- Physical Meeting Rally Point?
- Testing Your Plan
- Plans Readily Available During Disaster?

Use this thought experiment to refine your plans.

complianceKIT

Total Networks new offering:

- **complianceKIT** provides practical guidance and resources to help businesses manage their security & compliance.
- No matter where you are at in your risk management process, we believe we can help.
- **complianceKIT** provides a framework, templates, coaching, consulting, ***employee training***, and security awareness tools that help business owners succeed.
- **Simulated PHISHING emails**…provide online training to your people (ongoing, plus new hire), see who **still** gets tricked and clicks, provide follow-up training for those folks.

complianceKIT

Total Networks' Compliance Consulting Services & Tools

We can help you assess and manage your risk & compliance.
Information conveniently delivered through a web portal

THANK YOU FOR YOUR TIME!
Questions?

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Next CLE…
State Bar Convention, Friday, June 16th
“Protecting the Client & Serving the Public in the Digital Age”
3 Hour (ethics)