



# Current Cybersecurity and Payment Threats: Best Practices & Insurance Strategies to Reduce Risk

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Don Boian,  
Security Outreach Director

Ashley Bauer,  
VP P&C Insurance Product Manager



Welcome:

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## Agenda

- Business Email Compromise – Best Practices
- Ransomware Prevention - Best Practices
- Cyber Liability Insurance
- Q&A



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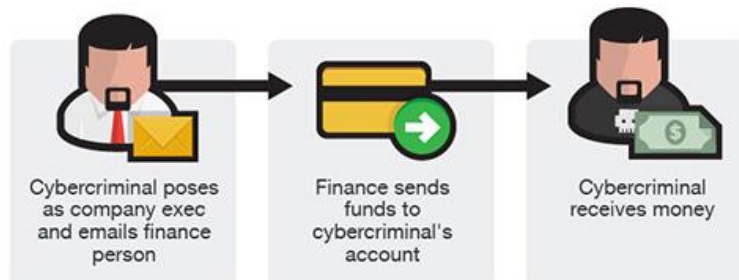
# Welcome.

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## Business E-mail Compromise (BEC)

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Fraudulent communications luring employees to take actions which generally results in the movement of funds or disclosure of information



*Is it really email compromise?*

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## BEC VS. Phishing

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**Phishing** generally involves the sending of fraudulent e-mails with the intent of luring a user to click a link or open a document, while **BEC** is typically a fraudster spoofing a users email address to send fraudulent emails on their behalf.

### Phishing typically results in:

- Compromise of the system: malware or ransomware
- Compromise of credentials: usernames, passwords, etc.

### BEC typically results in:

- Disclosure of sensitive and/or personal information
- Movement of funds

BEC prevention training shares the common safeguards used with anti-phishing education courses

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## BEC Tactics

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- Sense of urgency
- Timing – often near close of business on Friday
- Use of current crisis as topic or to increase urgency
- Increase in target development and sophistication
  - Gathering intelligence
  - Open source, social media
  - Social Engineering



Source: <https://www.bankinfosecurity.com/bec-campaign-targets-hr-departments-report-a-13997>  
<https://www.databreachtoday.com/ta505-apt-group-returns-new-techniques-report-a-13678>

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## BEC: Case Study – Invoicing, Electronic Payment

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### Construction invoicing (St. Ambrose Catholic Parish)

1. Parish email server compromised
2. Fraudsters monitor communications
3. Valid invoice submitted to parish for payment
4. Fraudster spoofs message, as construction firm, to parish requesting a change in payment wire instructions



**\$1.75M LOST**

Source: <https://threatpost.com/bec-hack-cons-catholic-church/144212/>  
<https://www.cleveland.com/crime/2019/04/email-hackers-steal-175-million-from-st-ambrose-catholic-parish-in-brunswick.html>  
<https://www.news5cleveland.com/news/local-news/oh-cuyahoga/saint-ambrose-catholic-parish-victim-of-sophisticated-business-email-scheme-fbi-says>  
<https://www.scmagazine.com/home/security-news/cybercrime/st-ambrose-catholic-parish-in-brunswick-ohio-was-hit-with-a-business-email-compromise-scam/>

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## Detecting BEC - Red Flags:

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### The E-mail Bait

- E-mail address variation (user or domain name)
- Misspelling
- Sense of urgency in the request
- Change in email tone
- Removal of addressees on the email chain (cc or other addresses)

Caution! This message was sent from outside your organization.



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## Detecting BEC - Red Flags:

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### Procedural Clues

- Requests outside of normal procedures
- Change in payment instructions
- Change in vendor
- Changes to phone number
- Beneficiary changes (from account to account)
- Name/Account mismatch; Returned wires

### Know your customer

- If client phone is never answered or goes directly to VM
- Cultural changes/differences; Changes in customer behavior

### Know your suppliers

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## Best Practices:

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People	<ul style="list-style-type: none"> <li>• Educate your employees – Share BEC threats and scams</li> <li>• Limit publicly available information             <ul style="list-style-type: none"> <li>▪ Contact, organizational structure, process info</li> </ul> </li> </ul>
Process	<ul style="list-style-type: none"> <li>• Well documented processes; Periodically reviewed/updated</li> <li>• Evaluate all processes for potential fraud trouble spots</li> <li>• Implement multiple controls             <ul style="list-style-type: none"> <li>▪ Call back procedures for verification (e.g. payment change)</li> <li>▪ Voice Approval</li> <li>▪ Use phone numbers that are on file (not passed in email) for call back</li> <li>▪ Dual authorization – look out for each other!]</li> </ul> </li> </ul>
Technology	<ul style="list-style-type: none"> <li>• Independent assessment or “Red team” all processes/controls</li> <li>• Report and save all emails of suspected BEC</li> <li>• Use two-factor authentication on accounts that support it. Never disable it</li> <li>• Disable or monitor the use of email auto-forward</li> <li>• Protect your brand/domain – monitor for spoofed domain; Implement DMARC, BIMI</li> </ul>

Source: <https://www.fbi.gov/scams-and-safety/common-scams-and-crimes/business-email-compromise>

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## What to do if you suspect BEC

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If you or your company fall victim to a BEC scam, it's important to act quickly:

- Contact your financial institution immediately to request that they contact the financial institution where the transfer was sent.
- Report the crime to your FBI Field Office.
- File a complaint with the FBI's Internet Crime Complaint Center.
- Contact your Cybersecurity Insurance Carrier and engage forensic and remediation services

Source: <https://www.fbi.gov/contact-us/field-offices>  
<https://www.ic3.gov/default.aspx>

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## Ransomware - Definition

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**ransomware** noun

 Save Word

ran·som·ware | \ ˈran(t)-səm-, wer \

**Definition of ransomware**

: malware that requires the victim to pay a ransom to access encrypted files

// In September of 2013, security for small accounting offices changed forever with the appearance of a new class of threats called *ransomware*. ... you open a file attached to an innocent-looking e-mail, and the program encrypts key files and drives so they cannot be accessed. The files are locked until you pay a ransom.  
 — Dave McClure

// With *ransomware*, a hacker slips into a system, then puts encryption controls in place that locks users out. The hackers then demand money to "unlock" the data.  
 — Elizabeth Millard

// Today's *ransomware* scammers often demand payment in bitcoin because the digital currency is easy to use, fast and provides a heightened anonymity for the scammers, according to the FBI warning.  
 — Susan Tompor

Source: <https://www.merriam-webster.com/dictionary/ransomware?search-dict=hed>  
 Logo -

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```

1  --- Welcome. Again. ---
2
3  [+] Whats Happen? [+]
4
5  Your files are encrypted, and currently unavailable. You can check it: all files on
6  you computer has expansion {EXT}.
7  By the way, everything is possible to recover (restore), but you need to follow our
8  instructions. Otherwise, you cant return your data (NEVER).
9
10 [+] What guarantees? [+]
11
12 Its just a business. We absolutely do not care about you and your deals, except
13 getting benefits. If we do not do our work and liabilities - nobody will not
14 cooperate with us. Its not in our interests.
15 To check the ability of returning files, You should go to our website. There you
16 can decrypt one file for free. That is our guarantee.
17 If you will not cooperate with our service - for us, its does not matter. But you
18 will lose your time and data, cause just we have the private key. In practise -
19
20
21
22
23
24
25
26 Warning: secondary website can be blocked, thats why first variant much better and
27 more available.
28 When you open our website, put the following data in the input form:
29 Key:
30
31 {KEY}
32
33 Extension name:
34
35 {EXT}
36

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**Your computer has been infected!**



Your documents, photos,  
databases and other important files  
encrypted



To decrypt your files you need to  
buy our special software -  
9781xsd4-Decryptor



You can do it right now. Follow the  
instructions below. But remember  
that you do not have much time

### 9781xsd4-Decryptor price

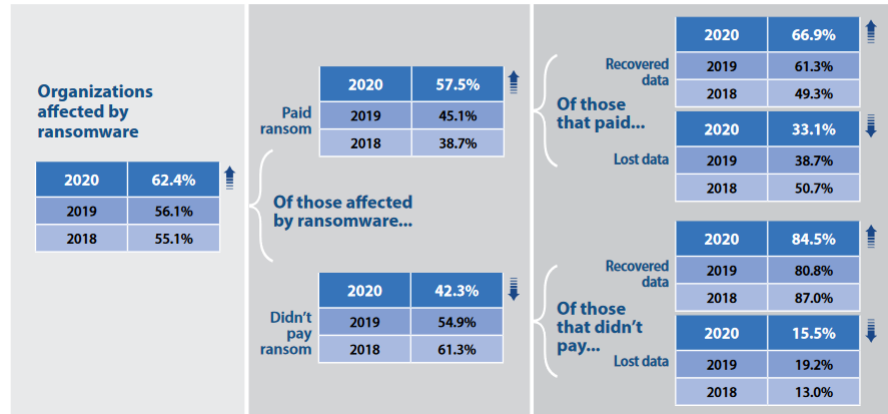
You have <b>3 days, 23:59:32</b>	Current price	0.20319454 BTC ≈ 2,500 USD
<ul style="list-style-type: none"> <li>• If you do not pay on time, <u>the price will be doubled</u></li> <li>• Time ends on Jul 12, 22:12:16</li> </ul>	After time ends	0.40638908 BTC ≈ 5,000 USD

Sodinokibi/REvil self-service decryptor page, reachable by the anonymizing Tor browser (Source: Secureworks)

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### Responding to Ransomware

If victimized by ransomware in the past 12 months, did your organization pay a ransom (using Bitcoins or other anonymous currency) to recover data? (n=1,182)



Source: <https://cyber-edge.com/wp-content/uploads/2020/03/CyberEdge-2020-CDR-Report-v1.0.pdf>

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### As if getting your data back wasn't bad enough ...

- Hush Money
- Name and Shame
- Leak Prevention
- Auction Prevention
- Deletion Promise



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**U.S. DEPARTMENT OF THE TREASURY**

ABOUT TREASURY SECRETARY MNUCHIN POLICY ISSUES DATA SERVICES NEWS

For small businesses seeking direct relief from COVID-19, [CLICK HERE to learn more about Paycheck Protection](#)

HOME > OFFICE OF FOREIGN ASSETS CONTROL - SANCTIONS PROGRAMS AND INFORMATION > OFAC RECENT ACTIONS

**RECENT ACTIONS**

**Ransomware Advisory**

Date: 10/01/2020

The U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC) is issuing an advisory to alert companies that engage with victims of ransomware attacks of the potential sanctions risks for facilitating ransomware payments. This advisory highlights OFAC's designations of malicious cyber actors and those who facilitate ransomware transactions under its cyber-related sanctions program. It identifies U.S. government resources for reporting ransomware attacks and provides information on the factors OFAC generally considers when determining an appropriate enforcement response to an apparent violation, such as the existence, nature, and adequacy of a sanctions compliance program. The advisory also encourages financial institutions and other companies that engage with victims of ransomware attacks to report such attacks to and fully cooperate with law enforcement, as these will be considered significant mitigating factors.

Enforcement Actions

General Licenses

Misc./Other

Regulations and Guidance

Sanctions List Updates

Source: <https://home.treasury.gov/policy-issues/financial-sanctions/recent-actions/20201001>

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## Ransomware – Increasing Threat

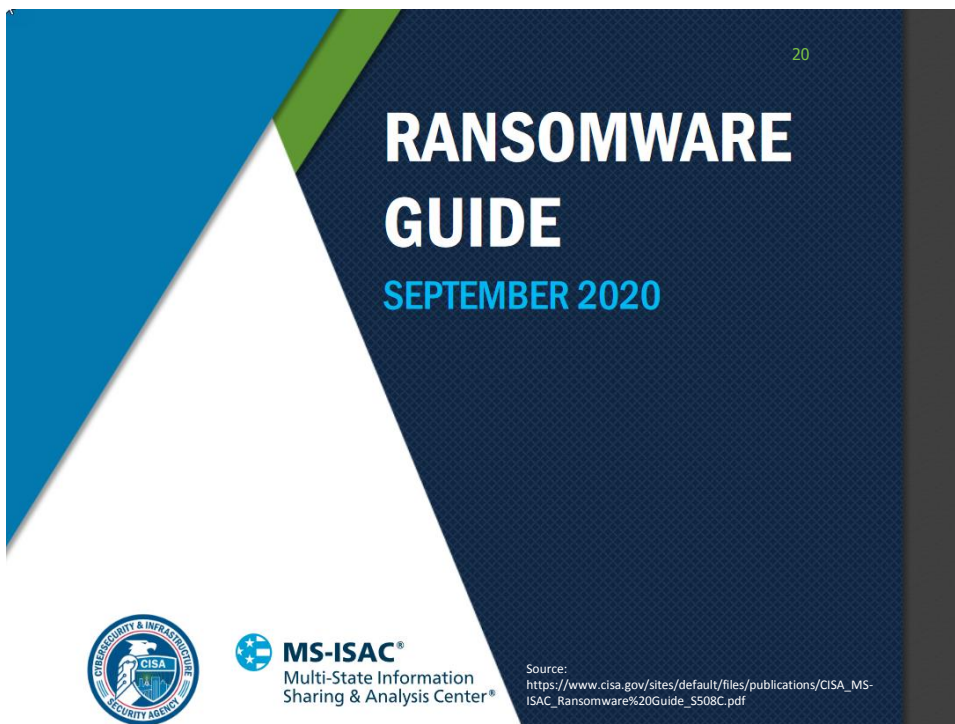
- 7 per hour (and increasing)
- 65,000 attacks last year (2020) costing \$1.4B
  - Only those that were reported
- Average Down Time – 21 days
- Average Days to recover - 287
- \$350M paid in ransom (2020)
- Average Ransome Payment \$312,493 (2020)
- Cybercrime damage in 2021 estimated to be \$6T

### Recent Ransomware Attacks

- Howard University – Sep 2021 – unknown
- Accenture – Aug 2021 - \$50M
- Kaseya (1500 organizations) – Jul 2021 - \$70M
- Ireland Health Service Executive – May 2021 - \$20M
- Colonial Pipeline – May 2021 - \$4.4M
- Brenntag – May 2021 – \$7.5M
- Acer – May 2021- \$50M
- JBS Foods – May 2021 - \$11M
- Washington DC Police - May 2021 - \$4M
- AXA – May 2021 – Unknown
- Ireland's Health Service Executive (HSE) – May 2021 - Unknown
- Quanta – Apr 2021 - \$50M
- NBA – Apr 2021 – Unknown
- CNA – Mar 2021 – \$40M
- Acer – Mar 2021 - \$50M
- Buffalo Public Schools – Mar 2021 - Unknown
- CD Projekt – Feb 2021 -
- KIA Motors – Feb 2021 -

Source: <https://cybersecurityventures.com/annual-cybercrime-report-2017/>  
<https://securityandtechnology.org/wp-content/uploads/2021/06/IST-Ransomware-Task-Force-Report.pdf>

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## Cybersecurity Ransomware Prevention

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- ☐ Backups
- ☐ Create/Update Incident Response Plan
- ☐ Educate users to prevent falling victim to phishing
- ☐ Patch Operating Systems and Applications
- ☐ Network Segmentation
- ☐ Remove/Block unnecessary and outdated protocols/services (e.g., RDP, SMB)
- ☐ Disable MS Office macros
- ☐ Ensure antivirus and anti-malware software is operating and up to date
- ☐ Use application "allowlisting" to authorize only legitimate software



Source: [https://www.cisa.gov/sites/default/files/publications/CISA\\_MS-ISAC\\_Ransomware%20Guide\\_S508C.pdf](https://www.cisa.gov/sites/default/files/publications/CISA_MS-ISAC_Ransomware%20Guide_S508C.pdf)  
<https://www.mcafee.com/blogs/other-blogs/mcafee-labs/cybercriminals-actively-exploiting-rdp-to-target-remote-organizations/>

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## Cybersecurity Ransomware Prevention

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### Third-Party Cybersecurity

- Infection vector may come from connected Third-Party Providers
- Know your Third-Party Providers
- Evaluate their cybersecurity
- Evaluate contract language; liability
- Managed Service Providers (MSPs)
  - Limit access to your systems to minimum necessary (least privilege)
  - Treat all Third-Party connections as untrusted

Source: [https://www.cisa.gov/sites/default/files/publications/CISA\\_MS-ISAC\\_Ransomware%20Guide\\_5508C.pdf](https://www.cisa.gov/sites/default/files/publications/CISA_MS-ISAC_Ransomware%20Guide_5508C.pdf)

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## What to do if you are a victim

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If you or your company fall victim, it's important to act quickly:

- Contact your Cybersecurity Insurance Carrier and engage forensic and remediation services
- Report the crime to your FBI Field Office
- File a complaint with the FBI's Internet Crime Complaint Center.
- Contact your financial institution to request that they contact the ensure that ransom payment does not violate OFAC sanctions

Source: <https://www.fbi.gov/contact-us/field-offices>  
<https://www.ic3.gov/default.aspx>

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## Cyber Liability Insurance



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## Traditional Fraud and Crime Insurance

- Employee Theft
  - Unlawful taking of money, securities, other property by **employees** either on their own or in collusion with others
- Forgery or Alteration
  - Losses customer experiences from forgery or alteration of **their checks**, drafts, promissory notes and similar
  - Includes signing of name of another person or organization with intent to deceive
    - Forged Name
    - Altered Account
- Money Orders, Counterfeit Money
  - Pays for losses insured **accepts** in good faith
    - Money orders issued not paid (altered)
    - Counterfeit money
- Computer and Funds Transfer Fraud
  - Loss from **fraudulent entry** of electronic data or computer program information
  - Change of insured information causing money, securities, property to be transferred or account to be debited or deleted
  - Loss from fraudulent instruction which directs a financial institution to debit insured's account and pay money, securities from account

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## Cyber Insurance First Party (Client Expenses) Coverage

Insurance will cover costs the insured faces out of a cyber incident:



### Breach Response/Crisis Management

Coverage responds to a network or privacy breach. Coverage includes: breach notification, public relations, forensic consultants, and credit monitoring costs



### Cyber Extortion or Loss

Coverage responds to a threat by third party to commit a network security or privacy breach



### Business Interruption Extra Expense Loss

Coverage responds to loss of income resulting from a network security breach or a network attack and extra expenses incurred to restore network to original condition



### Data Restoration Coverage

Coverage responds to cost to restore data destroyed or altered as a result of a network security breach

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## Cyber Insurance Third Party (Liability) Coverage



Insurance will cover claim expenses and damages the insured is legally obligated to pay to others as a result of the following:



### Network Security Liability

Provides coverage for actions that the Insured is legally liable for claims made against the Insured for a Network Security Breach or Failure



### Privacy Liability

Provides coverage for actions that the Insured is legally liable for claims made against the Insured for a Privacy Breach of PII, PHI or Corporate Confidential Information



### Regulatory Coverage

Provides coverage for actions or proceedings and fines/penalties against the Insured by a regulatory agency resulting from a violation of a Privacy Law



### Website Media / Multimedia

Provides coverage for actions that the Insured is legally liable for claims made against the Insured for a Media Peril of content on the Insured's Internet Site or may cover general Media Perils



### Professional Liability

Provides coverage for acts, errors or omissions in the rendering or failure to render professional services to a client of the Insured

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## Incident Response



Insurance will cover costs the insured faces out of a cyber incident:



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## Fraud Insurance Tools

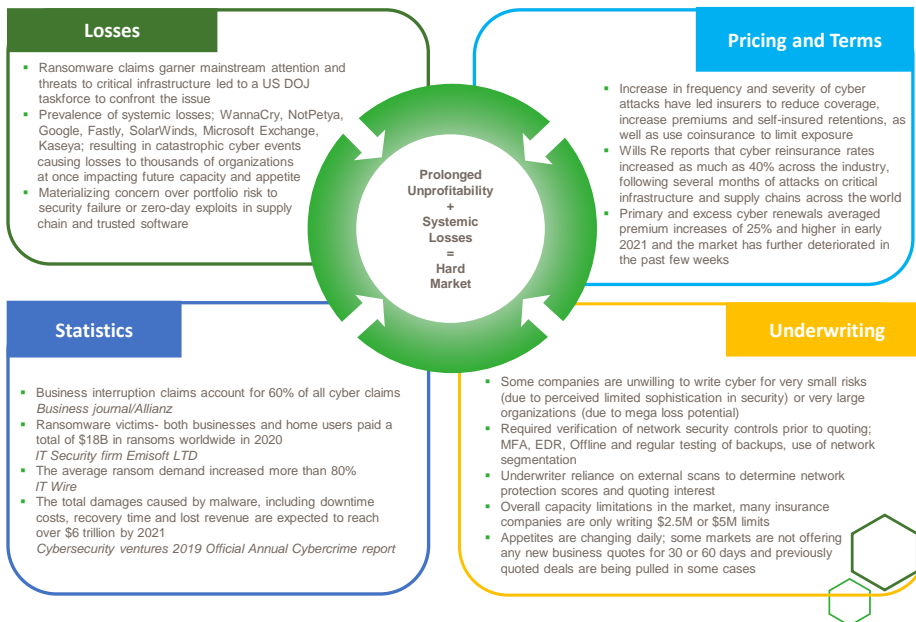
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Insurance Product	Product Description
<b>Cyber Liability</b> <i>Typically a separate policy</i>	Coverage for damages when private, personal and financial information is compromised due to a data breach or network intrusion. While not all cyber policies are the same, typical coverage includes incident management, regulatory defense, business interruption and extra expense, network extortion, digital assets, privacy liability, network security liability, and internet media liability.
<b>Computer Fraud</b> <i>Part of a Crime or Cyber Policy</i>	Coverage for the theft of money, securities, or property by using a computer to transfer covered property from the insured's premises or bank to another person or place.
<b>Funds Transfer Fraud</b> <i>Part of a Crime or Cyber Policy</i>	Coverage for the erroneous transferring of funds to or from a financial account of the insured based upon instructions fraudulently transmitted by a non-employee.
<b>Business Email Compromise/Masquerading</b> <i>Added by Endorsement to either Cyber or Crime</i>	Coverage for criminals deceptively gaining the confidence of an employee to induce him or her to voluntarily part with money or securities.
<b>Invoice Manipulation</b> <i>Part of a Cyber Policy</i>	Reimbursement to existing customers or clients for their direct financial losses resulting from a phishing attack.

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## State of the Cyber Insurance Market

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Q&A

Thank you.



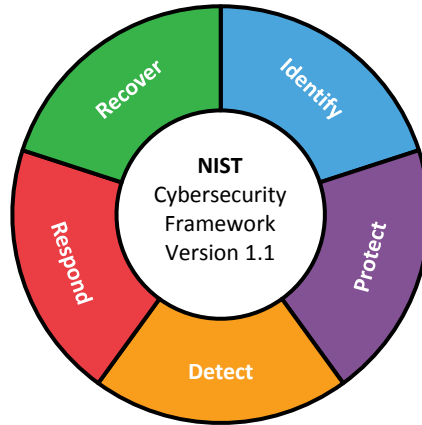
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## The NIST Cybersecurity Framework

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Source: <https://www.nist.gov/news-events/news/2018/04/nist-releases-version-1.1-its-popular-cybersecurity-framework>

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## Corporate Cybersecurity Basics\*

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Identify	<ul style="list-style-type: none"> <li>• Inventory sensitive data (know where it is stored and processed, know what 3<sup>rd</sup> parties have your sensitive data)</li> <li>• Inventory systems and software (necessary for Vulnerability Mgt, etc)</li> <li>• Establish policies and procedures around Cybersecurity (WiFi, breach, etc)</li> <li>• Independently assess your security and that of your 3<sup>rd</sup> parties</li> </ul>
Protect	<ul style="list-style-type: none"> <li>• Employee training/awareness (Phishing, BEC, Social Engineering, Fraud, ...)</li> <li>• Updated/Current OS and Applications (patch management)</li> <li>• Practice good password management; Use Multi-factor Authentication</li> <li>• Implement E-mail security (DMARC, SPF, DKIM), external banner, block spam/junk</li> <li>• Backup data (conduct, maintain and test)</li> </ul>
Detect	<ul style="list-style-type: none"> <li>• Monitor your logs for anomalies (or outsource it – MSSP)</li> <li>• Antivirus, Endpoint encryption, Data Loss Prevention - software up to date</li> <li>• Increase network defensive barriers (Firewalls, IDS, IPS, ...)</li> <li>• Checks and Balances in ALL processes (Segregation of duties, least privilege, invoice/payment processing, ...)</li> <li>• Plan (and exercise) for the worst (malware, outage, breach, ...)</li> </ul>
Respond	<ul style="list-style-type: none"> <li>• Establish and practice crisis management policies and procedures</li> </ul>
Recover	<ul style="list-style-type: none"> <li>• Cybersecurity Insurance – Purchase and/or update policies &amp; know your coverage</li> </ul>

\* Start with these, but don't stop there once you've mastered them

**BE BRILLANT AT THE BASICS**

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## Appendix



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## Personal Cybersecurity Basics\*

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1. Raise awareness (Phishing, Social Engineering, ...) – know the threats
2. Passwords – NO reuse; Complex; Passphrase; Use a Password Manager
3. Backup data
4. Updated/Current OS and Applications – allow auto-update
5. Antivirus, Firewall, Home network – change default passwords!
6. Terms of Service; Beware of free services – YOU'RE the product
7. Geolocation/Location based services
8. Reputable applications and what they have access to
9. Home IoT Devices – Change default passwords; Security
10. WiFi Security
11. Credit Cards – Transaction Alerts (CNP); Use mobile app locking
12. Credit Reporting Bureaus - Freeze/Lock credit
13. Application Settings - Security & Privacy – periodically review/reset

## BE BRILLANT AT THE BASICS

\* Start with these, but don't stop there once you've mastered them

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## References

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- **Huntington - Privacy & Security**
  - <https://www.huntington.com/Privacy-Security>
- **FBI**
  - Internet Crime Complaint Center (IC3)
    - <https://www.ic3.gov/default.aspx>
  - Public Service Announcements
    - <https://www.ic3.gov/media/default.aspx>
- **Federal Trade Commission**
  - Cybersecurity for Small Business
    - <https://www.ftc.gov/tips-advice/business-center/small-businesses/cybersecurity>
  - Identity Theft
    - <http://www.identitytheft.gov/>
- **NIST Cybersecurity Framework**
  - <https://www.nist.gov/cyberframework/framework>
- **Center for Internet Security**
  - <https://www.cisecurity.org/>
- **Cloud Security Alliance**
  - <https://cloudsecurityalliance.org/>



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## References

| 40 | 




- **Credit Reporting Agencies**
  - Equifax (888)766-0008 <http://www.equifax.com/CreditReportAssistance> 
  - Experian (888)397-3742
    - Fraud - <https://www.experian.com/fraud>
    - Freeze - <https://www.experian.com/freeze/center.html>
  - TransUnion (800)680-7289
    - Fraud – <https://www.transunion.com/solution/fraud-detection>
    - Freeze - <https://www.transunion.com/blog/identity-protection/credit-freeze-vs-credit-lock>
- **Federal Trade Commission – Complaint**
  - <http://www.ftc.gov/complaint>
- **National Automated Clearing House Association**
  - <https://www.nacha.org/case-studies/business-email-compromise-and-vendor-impersonation-fraud-what-you-need-know>

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## References – Cybersecurity Careers & Education

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- **Careers in Cybersecurity – CyberSeek**
  - <https://www.cyberseek.org/heatmap.html>
  - <https://www.cyberseek.org/pathway.html>
- **National Institute of Standards and Technology (NIST)**
  - National Initiative for Cybersecurity Education (NICE) Framework
    - <https://www.nist.gov/itl/applied-cybersecurity/nice/resources/nice-cybersecurity-workforce-framework>

- **National Initiative for Cybersecurity Careers and Studies (NICCS)**
  - <https://niccs.us-cert.gov/>
- **STOP. THINK. CONNECT.**
  - <https://www.stopthinkconnect.org/>
- **FBI – Safe Online Surfing**
  - <https://sos.fbi.gov/en/>


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