

| (P) Preparation | (I) Identification | (C) Containment |
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| <div>1. Patch asset vulnerabilities</div> <div>2. Perform routine inspections of controls/weapons</div> <div>3. Ensure antivirus/endpoint protection software is installed on workstations and laptops</div> <div>4. Confirm that servers and workstations are logging to a central location</div> <div>5. Review firewall, IDS, and IPS rules routinely and update based on the needs of the environment</div> <div>6. Restrict access to critical assets as needed</div> <div>7. Conduct employee security awareness training</div> <div>8. Restrict users to the least privileges required</div> <div>9. Use application control and/or script blocking to block unapproved applications ^[1]</div> <div>10. Ensure "Hide Microsoft Entries" and "Hide Windows Entries" are both deselected in Autoruns ^[2]</div> <div>11. Utilize Windows Group Policy to manage root certificates ^[2]</div> | <div>1. Monitor for:<div>a. Abnormal attempts to modify extended file attributes with utilities such as “xattr” ^[2]</div><div>b. Deviations in expected Autoruns activity ^[2]</div><div>c. Unexpected certificates installed on a system ^[3]</div><div>d. Deviations in registered SIPs and trust providers ^[2]</div><div>e. Outliers in signing certificate metadata ^[2]</div></div> <div>2. Investigate and clear ALL alerts associated with the impacted assets</div> <div>3. Routinely check firewall, IDS, IPS, and SIEM logs for any unusual activity</div> | <div>1. Inventory (enumerate & assess)</div> <div>2. Detect Deny Disrupt Degrade Deceive Destroy</div> <div>3. Observe -> Orient -> Decide -> Act</div> <div>4. Issue perimeter enforcement for known threat actor locations</div> <div>5. Archive scanning related artifacts such as IP addresses, user agents, and requests</div> <div>6. Determine the source and pathway of the attack</div> <div>7. Contain any DLL loaded by processes that are not supposed to be loaded by that process</div> |
| (E) Eradication | (R) Recovery | (L) Lessons/Opportunities |
| <div>1. Close the attack vector by applying the Preparation steps listed above</div> <div>2. Perform endpoint/AV scans on targeted systems</div> <div>3. Reset any compromised passwords</div> <div>4. Inspect ALL assets and user activity for IOC consistent with the attack profile</div> <div>5. Inspect backups for IOC consistent with the attack profile PRIOR to system recovery</div> <div>6. Patch asset vulnerabilities</div> | <div>1. Restore to the RPO within the RTO</div> <div>2. Address any collateral damage by assessing exposed technologies</div> <div>3. Resolve any related security incidents</div> <div>4. Restore affected systems to their last clean backup</div> | <div>1. Perform routine cyber hygiene due diligence</div> <div>2. Engage external cybersecurity-as-a-service providers and response professionals</div> <div>3. Implement policy changes to reduce future risk</div> <div>4. Utilize newly obtained threat signatures</div> <div>5. Remember that data and events should not be viewed in isolation but as part of a chain of behavior that could lead to other activities</div> <div>References:<div>1. MITRE ATT&CK Technique M1038: https://attack.mitre.org/mitigations/M1038/</div><div>2. MITRE ATT&CK Technique T1553: https://attack.mitre.org/techniques/T1553/</div><div>3. Code Signing Certificate Cloning Attacks and Defenses https://posts.specterops.io/code-signing-certificate-cloning-attacks-and-defenses-6f98657fc6ec</div></div> |

Resources:

→ GuardSight GSVSOC Incident Response Plan: https://github.com/guardsight/gsvsoc_cybersecurity-incident-response-plan

→ IT Disaster Recovery Planning: <https://www.ready.gov/it-disaster-recovery-plan>

→ Report Cybercrime: <https://www.ic3.gov/Home/FAQ>