



Threat Level

 **Red**

 **CISA: AA24-207A**

HiveForce Labs

# THREAT ADVISORY



ACTOR REPORT

## Andariel: North Korea's Evolving Cyber Threat Landscape

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Admiralty code

A2

TA Number

TA2024288

# Summary

**First Appearance:** 2009

**Actor Name:** Andariel (aka APT45, Onyx Sleet, formerly PLUTONIUM, DarkSeoul, Silent Chollima, and Stonefly)

**Targeted Countries:** United States, Brazil, India, Japan, South Korea, United Kingdom, Germany, France, Nigeria

**Malware:** Atharvan, ELF Backdoor, Jupiter, MagicRAT, No Pineapple, TigerRAT, Valefor/VSingle, ValidAlpha, YamaBot, NukeSped, Goat RAT, Black RAT, AndarLoader, DurianBeacon, Trifaux, KaosRAT, Preft, Andariel Scheduled Task Malware, BottomLoader, NineRAT, DLang, Nestdoor, Artprint, Artshow, Blackcanvas, Deimos2, Falsejade, Hiddengift, Hollowdime, Messyhelp, Pineapple, Quartzfire, Redthorn, Rifle, Sonicboom, SHATTEREDGLASS ransomware and MAUI ransomware

**Targeted Industries:** Critical Infrastructure, Defense, Aerospace, Government, Financial, Healthcare, Pharmaceutical, Engineering, Telecommunications, Transportation, Technology, Biotech, Chemicals, Education, Energy, Insurance, Legal, Medical Equipment, Nuclear Power, Retail, Utilities, and Agricultural

## Actor Map



Andariel

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# Attack Details

## #1

Andariel, a North Korean cyber espionage group active since 2009, is known for its evolution from destructive attacks to specialized cyber espionage and ransomware operations. This group poses a significant and ongoing threat to various industry sectors worldwide. Initially focused on espionage campaigns targeting government agencies and defense industries, Andariel has expanded into financially motivated operations, setting it apart from other North Korean cyber operators like TEMP.Hermit and APT43. The group frequently targets critical infrastructure, reflecting the strategic priorities of the DPRK.

## #2

Andariel employs a range of sophisticated techniques and custom tools across various stages of the cyber kill chain. The group gains initial access through exploiting web server vulnerabilities, like Log4j, or phishing for initial compromise. They establish footholds using tools like PowerShell and Visual Basic. They maintain presence and escalate privileges through methods such as scheduled tasks and process injection, utilizing tools like ARTSHOW and IRONSTORM.

## #3

Andariel's reconnaissance activities include utilizing publicly available internet scanning tools to identify vulnerable hosts. The group has been observed conducting scans for over 40 CVEs and targeting them for infiltration and other nefarious activities. They employ a mix of publicly available tools and custom malware, characterized by unique code reuse and encoding techniques for execution, credential access, lateral movement, and data exfiltration. The group's malware library is distinct from other North Korean operators. Their command and control operations use sophisticated tunneling techniques to maintain communication with compromised systems, disguising malware traffic to evade detection.

## #4

The operations of Andariel have evolved with North Korea's shifting geopolitical interests. While the group's early activities were predominantly espionage-focused, targeting government and defense entities, it began targeting the financial sector by 2016 and nuclear facilities by 2019. This shift underscores Andariel's role in supporting North Korean state objectives. The group's suspected development of ransomware indicates a dual focus on funding its operations and supporting broader state goals.

## #5

Even during the COVID-19 pandemic, Andariel, like other North Korean operators, targeted the healthcare and pharmaceutical sectors. However, Andariel has continued to focus on these sectors longer than its peers, suggesting an ongoing mandate to collect related information. They have been observed launching ransomware attacks and conducting cyber espionage operations simultaneously against targeted entities.

# #6

Andariel is linked to North Korea's Reconnaissance General Bureau (RGB), and the U.S. government has offered a \$10 million reward for information leading to the capture of Rim Jong Hyok, who is connected to Andariel's cyber activities. The group's advanced espionage campaigns highlight the severe threat they pose, emphasizing the need for organizations to implement robust cybersecurity measures to defend against such threats.

## Actor Group

NAME	ORIGIN	TARGET REGIONS	TARGET INDUSTRIES
Andariel	North Korea	United States, Brazil, India, Japan, South Korea, United Kingdom, Germany, France, Nigeria	Critical Infrastructure, Defense, Aerospace, Government, Financial, Healthcare, Pharmaceutical, Engineering, Telecommunications, Transportation, Technology, Biotech, Chemicals, Education, Energy, Insurance, Legal, Medical Equipment, Nuclear Power, Retail, Utilities, and Agricultural
	<b>MOTIVE</b>		
	Espionage and Information theft, Financial gain		

# Recommendations



**Implement Email Security Solutions:** Deploy email filtering and security solutions to detect and block phishing emails containing malicious attachments or links. Educate employees on recognizing phishing attempts.



**Threat Exposure Management:** Implement a robust threat exposure management framework to continuously assess, prioritize, and mitigate cybersecurity risks across the organization's digital footprint.



**Zero-Trust Architecture:** Adopt a Zero-Trust approach by verifying every request as though it originates from an open network, regardless of whether it originates from inside or outside the network perimeter. Implement strict access controls based on identity, device health, and other contextual factors.



**Security-by-Design Principles:** Incorporate security considerations into the design and development phases of systems and applications. Follow secure coding practices, conduct architecture reviews, and integrate automated security testing tools into the CI/CD pipeline.



**Advanced Threat Detection and Response:** Deploying advanced threat detection and response solutions is essential for identifying and mitigating sophisticated attacks. This includes using Endpoint Detection and Response (EDR) tools, Intrusion Detection Systems (IDS), and Intrusion Prevention Systems (IPS). These tools can detect unusual activity and provide alerts on potential intrusions, allowing for quicker response times.

## Potential MITRE ATT&CK TTPs

<b><u>TA0001</u></b> Initial Access	<b><u>TA0002</u></b> Execution	<b><u>TA0004</u></b> Privilege Escalation	<b><u>TA0042</u></b> Resource Development
<b><u>TA0003</u></b> Persistence	<b><u>TA0007</u></b> Discovery	<b><u>TA0008</u></b> Lateral Movement	<b><u>TA0043</u></b> Reconnaissance
<b><u>TA0009</u></b> Collection	<b><u>TA0011</u></b> Command and Control	<b><u>TA0006</u></b> Credential Access	<b><u>TA0010</u></b> Exfiltration
<b><u>TA0005</u></b> Defense Evasion	<b><u>T1566</u></b> Phishing	<b><u>T1566.001</u></b> Spearphishing Attachment	<b><u>T1566.002</u></b> Spearphishing Link
<b><u>T1057</u></b> Process Discovery	<b><u>T1082</u></b> System Information Discovery	<b><u>T1083</u></b> File and Directory Discovery	<b><u>T1053</u></b> Scheduled Task/Job
<b><u>T1053.005</u></b> Scheduled Task	<b><u>T1059.001</u></b> PowerShell	<b><u>T1059.006</u></b> Python	<b><u>T1059</u></b> Command and Scripting Interpreter
<b><u>T1059.005</u></b> Visual Basic	<b><u>T1059.003</u></b> Windows Command Shell	<b><u>T1055.012</u></b> Process Hollowing	<b><u>T1055</u></b> Process Injection
<b><u>T1055.003</u></b> Thread Execution Hijacking	<b><u>T1134</u></b> Access Token Manipulation	<b><u>T1098</u></b> Account Manipulation	<b><u>T1543.003</u></b> Windows Service
<b><u>T1543</u></b> Create or Modify System Process	<b><u>T1021.001</u></b> Remote Desktop Protocol	<b><u>T1021</u></b> Remote Services	<b><u>T1021.002</u></b> SMB/Windows Admin Shares
<b><u>T1007</u></b> System Service Discovery	<b><u>T1087</u></b> Account Discovery	<b><u>T1591</u></b> Gather Victim Org Information	<b><u>T1592</u></b> Gather Victim Host Information

<b><u>T1595</u></b> Active Scanning	<b><u>T1596</u></b> Search Open Technical Databases	<b><u>T1003</u></b> OS Credential Dumping	<b><u>T1048</u></b> Exfiltration Over Alternative Protocol
<b><u>T1090</u></b> Proxy	<b><u>T1560</u></b> Archive Collected Data	<b><u>T1572</u></b> Protocol Tunneling	<b><u>T1587.001</u></b> Malware
<b><u>T1587.004</u></b> Exploits	<b><u>T1190</u></b> Exploit Public-Facing Application	<b><u>T1027</u></b> Obfuscated Files or Information	<b><u>T1071</u></b> Application Layer Protocol
<b><u>T1039</u></b> Data from Network Shared Drive	<b><u>T1567</u></b> Exfiltration Over Web Service		

## ✂ Indicator of Compromise (IOCs)

TYPE	VALUE
<b>MD5</b>	<p>befba41ba023bb72f70b5ef904517d8f,  f8f7eced1411d76e2a0319151ecf80b7,  4d30612a928faf7643b14bd85d8433cc,  0f9b876031ffc16c7eedfeaf2ca9dc5b,  0d696d27bae69a62def82e308d28857a,  152b264288bcf5dc02222cee49587b8e,  dd9625be4a1201c6dfb205c12cf3a381,  17335705966160a4c5da10b596d83f72,  4bb54e135302bf3c21bff89177f70759,  3e9ee5982e3054dc76d3ba5cc88ae3de,  3a3bad366916aa3198fd1f76f3c29f24,  cf236bf5b41d26967b1ce04ebbdb4041,  640e70b0230dc026eff922fb1e44c2ea,  2e18350194e59bc6a2a3f6d59da11bd8,  cdae978f3293f4e783761bc61b34810,  2cc302d80050dd10e8d8c489e5873a1c,  31b6d895da1f7be17d45b3905b71bdb94,  41882402c8937f2ba2c4791c081f54c3,  7c30ed6a612a1fd252565300c03c7523,  11ec5eb513e5a4d9d35be0b8c3335099,  6c2b947921e7c77d9af62ce9a3ed7621,  0ed084c48634e8497c7eda51570793c1,  b48a887f303c6e01ce054353f8318523,  769617b07d0a455fd666418bafbdae1b,  43e756d80225bdf1200bc34eef5adca8,  9767aa592ec2d6ae3c7d40b6049d0466,</p>

TYPE	VALUE
MD5	<p>0055a266aa536b2fdadb3336ef8d4fba,  eb4c52b2c9564583f244570528f3f6a1,  0a5a3d31346f91bffcfc69950bac18c3,  028693c655be9ced65a5fdd419f870c1,  88f9824b5a76591d62d391e6b1ef1d31,  6dad4ad013a1991695302bdd34fbb566,  f49c34718ad43d37624d4bddf70fe79b,  c027d641c4c1e9d9ad048cda2af85db6,  9b9d4cb1f681f19417e541178d8c75d7,  079b4588eaa99a1e802adf5e0b26d8aa,  59ec24539c786e6ac9467dad3183c280,  88a7c84ac7f7ed310b5ee791ec8bd6c5,  6ab4eb4c23c9e419fbba85884ea141f4,  97ce00c7ef1f7d98b48291d73d900181,  0873b5744d8ab6e3fe7c9754cf7761a3,  0ecf4bac2b070cf40f0b17e18ce312e6,  17c46ed7b80c2e4dbea6d0e88ea0827c,  1f2410c3c25dadf9e0943cd634558800,  2968c20a07cfc97a167aa3dd54124cda,  33e85d0f3ef2020cdb0fc3c8d80e8e69,  4118d9adce7350c3eedeb056a3335346,  4aa57e1c66c2e01f2da3f106ed2303fa,  58ad3103295afcc22bde8d81e77c282f,  5c41cbf8a7620e10f158f6b70963d1cb,  61a949553d35f31957db6442f36730c5,  72a22afde3f820422cfdbba7a4cbabde,  84bd45e223b018e67e4662c057f2c47e,  86465d92f0d690b62866f52f5283b9fc,  8b395cc6ecdec0900facf6e93ec48fbb,  97f352e2808c78eef9b31c758ca13032,  a50f3b7aa11b977ae89285b60968aa67,  afd25ce56b9808c5ed7eade75d2e12a7,  afdeb24975a318fc5f20d9e61422a308,  b697b81b341692a0b137b2c748310ea7,  bcac28919fa33704a01d7a9e5e3ddf3f,  c892c60817e6399f939987bd2bf5dee0,  d0f310c99476f1712ac082f78dd29fdc,  d8da33fae924b991b776797ba8cde24c,  e230c5728f9ea5a94e390e7da7bf1ffa,  f4d46629ca15313b94992f3798718df7,  fb84a392601fc19aeb7f8ce11b3a4907,  ff3194d3d5810a42858f3e22c91500b1,  13b4ce1fc26d400d34ede460a8530d93,  41895c5416fdc82f7e0babc6bb6c7216,  c2f8c9bb7df688d0a7030a96314bb493,  33a3da2de78418b89a603e28a1e8852c,  4896da30a745079cd6265b6332886d45,  73eb2f4f101aab6158c615094f7a632a,  7f33d2d2a2ce9c195202acb59de31eee,  e1afd01400ef405e46091e8ef10c721c,</p>

TYPE	VALUE
MD5	fe25c192875ec1914b8880ea3896cda2, 232586f8cfe82b80fd0dfa6ed8795c56, c1f266f7ec886278f030e7d7cd4e9131, 49bb2ad67a8c5dfbfe8db2169e6fa46e, beb199b15bd075996fa8d6a0ed554ca8, 4053ca3e37ed1f8d37b29eed61c2e729, 3a0c8ae783116c1840740417c4fbe678, 0414a2ab718d44bf6f7103cff287b312, ca564428a29faf1a613f35d9fa36313f, ad6d4eb34d29e350f96dc8df6d8a092e, dc70dc9845aa747001ebf2a02467c203, 3d2ec58f37c8176e0dbcc47ff93e5a76, 0a09b7f2317b3d5f057180be6b6d0755, 1ffccc23fef2964e9b1747098c19d956, 9112efb49cae021abebd3e9a564e6ca4, ac0ada011f1544aa3a1cf27a26f2e288, 0211a3160cc5871cbcd4e5514449162b, 7416ea48102e2715c87edd49ddb1526, a2aefb7ab6c644aa8eeb482e27b2dbc4, e7fd7f48fbf5635a04e302af50dfb651, 33b2b5b7c830c34c688cf6ced287e5be, e5410abaaac69c88db84ab3d0e9485ac, eb35b75369805e7a6371577b1d2c4531, 5a3f3f75048b9cecc177838fb8b40b945, 9d7bd0caed10cc002670faff7ca130f5, 8434cdd34425916be234b19f933ad7ea, bbaee4fe73ccff1097d635422fdc0483, 79e474e056b4798e0a3e7c60dd67fd28, 95c276215dcc1bd7606c0cb2be06bf70, 426bb55531e8e3055c942a1a035e46b9, cfae52529468034dbbb40c9a985fa504, deae4be61c90ad6d499f5bdac5dad242, bda0686d02a8b7685adf937cbcd35f46, 6de6c27ca8f4e00f0b3e8ff5185a59d1, c61a8c4f6f6870c7ca0013e084b893d2, 5291aed100cc48415636c4875592f70c, f4795f7aec4389c8323f7f40b50ae46f, cf1a90e458966bcba8286d46d6ab052c, 792370eb01e16ac3dc511143932d0e1d, 612538328e0c4f3e445fb58ef811336a, b22fd0604c4f189f2b7a59c8f48882dd, e53ca714787a86c13f07942a56d64efa, c7b09f1dd0a5694de677f3ecceda41b7, c8346b39418f92725719f364068a218d, 730bff14e80ffd7737a97cdf11362ab5, 9a481bc83fea1dea3e3bdf5e154d44, ddb1f970371fa32faae61fc5b8423d4b, 977d30b261f64cc582b48960909d0a89, 7ce51b56a6b0f8f78056ddfc5b5de67c, ecb4a09618e2aba77ea37bd011d7d7f7,



TYPE	VALUE
<p><b>MD5</b></p>	<p>0fd8c6f56c52c21c061a94e5765b27b4,  c90d094a8fbaea8a0083c7372bfc1897,  55bb271bbbf19108fec73d224c9b4218,  0c046a2f5304ed8d768795a49b99d6e4,  f34664e0d9a10974da117c1ca859dba8,  a2c2099d503fcc29478205f5aef0283b,  e439f850aa8ead560c99a8d93e472225,  81738405a7783c09906da5c7212e606b,  eb7ba9f7424dffdb7d695b00007a3c6d,  073e3170a8e7537ff985ec8316319351,  9b0e7c460a80f740d455a7521f0eada1,  2d02f5499d35a8dfffb4c8bc0b7fec5c2,  0984954526232f7d05910aa5b07c5893,  4156a7283284ece739e1bae05f99e17c,  3026d419ee140f3c6acd5bff54132795,  7aa132c0cc63a38fb4d1789553266fc7,  1a0811472fad0ff507a92c957542fffd,  f8aef59d0c5afe8df31e11a1984fbc0a,  82491b42b9a2d34b13137e36784a67d7,  0a199944f757d5615164e8808a3c712a,  9c97ea18da290a6833a1d36e2d419efc,  16f768eac33f79775a9672018e0d64f5</p>
<p><b>SHA256</b></p>	<p>0c5e0a81efc0ccc406e5e6eaa222a79b491f4aa2938cf7cc72d0d027b53a9  d99,  0e416e3cc1673d8fc3e7b2469e491c005152b9328515ea9bbd7cf96f1d23  a99f,  1177105e51fa02f9977bd435f9066123ace32b991ed54912ece8f3d4fbee  ade4,  152743ffa9df246e5f8c5687381121d8a66dfc05ca2ec2e58000caf964abaf  c2,  16db0063e4aa666d94752414549fa09fb33142481d894b01a0fae45b339  a09fb,  2e500b2f160f927b1140fb105b83300ca21762c21bb6195c44e8dc613f7d  7b12,  2eb16dbc1097a590f07787ab285a013f5fe235287cb4fb948d4f9cce9efa5  dbc,  3cf63d516c580d8f988aa4f9b7d482bbdf3901dce435356dbca83eb311c3  2382,  42daf0f3080b50a0a1f14291f5ae3fa8fa400d838a915618f68a8f059777b  cd4,  4e5e42b1acb0c683963caf321167f6985e553af2c70f5b87ec07cc4a8c09b  4d8,  0c5e0a81efc0ccc406e5e6eaa222a79b491f4aa2938cf7cc72d0d027b53a9  d99,  58fef66f346fe3ed320e22640ab997055e54c8704fc272392d71e367e2d1  c2bb,  60425a4d5ee04c8ae09bfe28ca33bf9e76a43f69548b2704956d0875a0f2  5145,</p>

TYPE	VALUE
SHA256	<p>6319102bac226dfc117c3c9e620cd99c7eafbf3874832f2ce085850aa042f19c,  655aa64860f1655081489cf85b77f72a49de846a99dd122093db4018434b83ae,  6ca3c2a6001f1149ff75ab46402dee40d97602bab0b43ac144ca70fbd2101404,  782791c9ec3550cd522fd27b992e75381d5c5bc4d95b2f3934f9af6b6d5a57f4,  789c3aeb31700b078f6449cb310b4a2b7d8c03aefeed46a69b1dcb40a18001a7,  846c2a02505dc1463019cab021969f7f6095215efb63ec374da1d055e778390,  8aa6612c95c7cef49709596da43a0f8354f14d8c08128c4cb9b1f37e548f083b,  8bc74559c3678d299826755f29d5ba75b1148b0f8d1fa71a120b2f879f85f08b,  90fb0cd574155fd8667d20f97ac464eca67bdb6a8ee64184159362d45d79b6a4,  a0a0b0dd33b5b685317f6abe7b4caf0610938f548f6d178919bf43c24e1a3a4b,  a1990d863e0b5c7661358dab72ce9223e2d54570915105707374ea8cf68828bd,  ac5e0ec03658a281bb57e8b1b17f1fa1da2c819a373524577459c63b0b9d9a75,  afb2d4d88f59e528f0e388705113ae54b7b97db4f03a35ae43cc386a48f263a0,  b7435d23769e79fcbe69b28df4aef062685d1a631892c2354f96d833eae467be,  c28bb61de4a6ad1c5e225ad9ec2eaf4a6c8ccfff40cf45a640499c0adb0d8740,  c8fb5988ad3f71412cb5b4f1248df7ddf82c8c5f3dce60c73c4787b6e443b7b0,  c9724eecab6cfb1c312d4538630fdac0d30434c0cffa131f9190e5a76bef6304,  cb4d45338798b97177d8d96eea82dae22481dada40174dda0386026d11136209,  d30abdf9db88da8a23dcc8188cd4caff48bc437bb3eb3ad576a013ff675161a,  e263aa0e7e6a6a1d59677eaf2d4ccb848fe65a84035ab4f24c4e26a1ab089c79,  e8e61112e8b896ad00ddefb42feb33e5d0fc38d2fb462b9f980606fe79d42571,  ed8ec7a8dd089019cfd29143f008fa0951c56a35d73b2e1b274315152d0c0ee6,  f5f6e538001803b0aa008422caf2c3c2a79b2eeee9ddc7feda710e4aba96fea4,  f67ee77d6129bd1bcd5d856c0fc5314169b946d32b8abaa4e680bb98130b38e7,</p>

TYPE	VALUE
<p><b>SHA256</b></p>	<p>f93ddb2377e02b0673aac6d540a558f9e47e611ab6e345a39fd9b1ba9f37cd22,  db6a9934570fa98a93a979e7e0e218e0c9710e5a787b18c6948f2eedd9338984,  773760fd71d52457ba53a314f15dddb1a74e8b2f5a90e5e150dea48a21aa76df,  05e9fe8e9e693cb073ba82096c291145c953ca3a3f8b3974f9c66d15c1a3a11d,  e3027062e602c5d1812c039739e2f93fc78341a67b77692567a4690935123abe,  1962ebb7bf8d2b306c6f3b55c3dcd69a755eeff1a17577b7606894b781841c3a,  f226086b5959eb96bd30dec0ffcbf0f09186cd11721507f416f1c39901addafb,  6db57bbc2d07343dd6ceba0f53c73756af78f09fe1cb5ce8e8008e5e7242eae1,  66415464a0795d0569efa5cb5664785f74ed0b92a593280d689f3a2ac68dca66,  def2f01fbd4be85f48101e5ab7ddd82efb720e67daa6838f30fd8dcda1977563,  323cbe7a3d050230cfaa822c2a22160b4f8c5fe65481dd329841ee2754b522d9,  74529dd15d1953a47f0d7ecc2916b2b92865274a106e453a24943ca9ee434643,  1e4de822695570421eb2f12fdfe1d32ab8639655e12180a7ab3cf429e7811b8f,  8ce219552e235dcaf1c694be122d6339ed4ff8df70bf358cd165e6eb487ccfc5,  c2904dc8bbb569536c742fca0c51a766e836d0da8fac1c1abd99744e9b50164f,  dda53eee2c5cb0abdbf5242f5e82f4de83898b6a9dd8aa935c2be29bafc9a469,  452ca47230afd4bb85c45af54fcacbf544208ef8b4604c3c5caefe3a64dcc19,  199ba618efc6af9280c5abd86c09cdf2d475c09c8c7ffc393a35c3d70277aed1,  ce779e30502ecee991260fd342cc0d7d5f73d1a070395b4120b8d300ad11d694,  34d5a5d8bec893519f204b573c33d54537b093c52df01b3d8c518af08ee94947,  664f8d19af3400a325998b332343a9304f03bab9738ddab1530869eff13dae54,  772b06f34facf6a2ce351b8679ff957cf601ef3ad29645935cb050b4184c8d51,  aa29bf4292b68d197f4d8ca026b97ec7785796edcb644db625a8f8b66733ab54,  9a5504dcfb7e664259bfa58c46cfd33e554225daf1cedea2ec2a9d83bbbfe238,  c2500a6e12f22b16e221ba01952b69c92278cd05632283d8b84c55c916efe27c,  38f0f2d658e09c57fc78698482f2f638843eb53412d860fb3a99bb6f51025b07</p>

TYPE	VALUE
SHA1	<p>3c5f4caf1a9d08d939a7d31f5ddb232806746b56,  f632336918ab18ba397a5dd2f956d58c58a5f6ab,  d35ee806e383e2aac359d8c29174505ac123fceb,  fec0156d8cc2e4bca6ed943b361b99a978c8409a,  9076b865017a06a5f1ce918896f592c237ccaf44,  596977d016edc850f3dfcc91296724c68bc22f2,  a058be590bdbe6f6e1781bbaf555da0aa32902f1,  630e8bcade0d273eb6499aa681dfe8377eb51655,  a4e5925b566684b6530613fe1ab0df49ce9b6e2b,  6799f1fbf3ebb1cbf9962aedec58d2fd551ee42,  3c5f4caf1a9d08d939a7d31f5ddb232806746b56,  f632336918ab18ba397a5dd2f956d58c58a5f6ab,  d35ee806e383e2aac359d8c29174505ac123fceb,  fec0156d8cc2e4bca6ed943b361b99a978c8409a,  9076b865017a06a5f1ce918896f592c237ccaf44,  596977d016edc850f3dfcc91296724c68bc22f2,  a058be590bdbe6f6e1781bbaf555da0aa32902f1,  630e8bcade0d273eb6499aa681dfe8377eb51655,  a4e5925b566684b6530613fe1ab0df49ce9b6e2b,  bad180a18e0ffd789eafcff14be48c8a67c8dc4f,  feb79a5a2bdf0bcf0777ee51782dc50d2901bb91,  5d83eb9efbf6e9dfdb704f7e14b968e767403abf,  2a7433dc09218ba98c0e530bb8a76f5f2a05005b,  0768165c77d91993ca64f3ad9c756c0483cbc763,  5a1878d0eea07c514da9256e0c378eb0f79ca325,  55e1b54424fde8f2ab93d75e97ced908757072d5,  e5ea8cb6dc3c090530fc88424ee6f26ccc3875c4,  67f9a8047d21b8e8261dce1d699e3377b7abeb5d,  7bd97c0c277f4b3e73784a6a38d18e83bce8002f,  a6d63439404b38f28606566f8b95298c624bc1e1,  29a7cd7ac2bb8c6d0fc02ddec05d7867607e293f,  0c998e4a5ba1d2d7d39532380d3d55a76ddf9e7d,  d9b1e15bbfdb0ded59de8d7bb6a387ef641bfffd1,  01a5e1c618fced0173e666ce8debd6027725806e,  8caff714b0a10d9bf36297a1fc0b4aaf71063a1d,  9b0156f0fa11a9ecd0f676727040763f157cbae0,  9e123e022f97f7b0d35c0dd148c45a8d27ead334,  6624fa0b0a3fb9a83ce1f98705964bc1b7e77a89,  f0f33f02b3fe363b629f4bea14651b1f6684cb1d,  793d959e047486be9738521908a3383364a009a2,  71be418950af763c50595fb3cc0bed0309c16cb0,  09f61bf55f552246c98bdba61b8e83015e9b2548,  f141f9dfc7e082521c9d26980bfc8bf100bb2f61,  3b665481a57096c026c5dcb62be17eb1714dc4c0,  e1ff89f8b2830778ee9bdae64ab94fc64d16af5a,  8bab70bdfb7f8df0356727d9cb3c6024acb383a2</p>

# CVEs

CVE	NAME	AFFECTED PRODUCT	ZERO-DAY	CISA KEV	PATCH
CVE-2021-44228	Apache Log4j2 Remote Code Execution Vulnerability	Apache Log4j2			
CVE-2023-46604	Apache ActiveMQ Deserialization of Untrusted Data Vulnerability	Apache ActiveMQ			
CVE-2023-42793	JetBrains TeamCity Authentication Bypass Vulnerability	JetBrains TeamCity			
CVE-2023-3519	Citrix NetScaler ADC and NetScaler Gateway Code Injection Vulnerability	Citrix NetScaler ADC and NetScaler Gateway			
CVE-2023-35078	Ivanti Endpoint Manager Mobile Authentication Bypass Vulnerability	Ivanti Endpoint Manager Mobile (EPMU)			
CVE-2023-34362	Progress MOVEit Transfer SQL Injection Vulnerability	Progress MOVEit Transfer			
CVE-2023-33246	Apache RocketMQ Command Execution Vulnerability	Apache RocketMQ			
CVE-2023-32784	KeePass Password Dump Vulnerability	KeePass			
CVE-2023-32315	Ignite Realtime Openfire Path Traversal Vulnerability	Ignite Realtime Openfire			
CVE-2023-3079	Google Chromium V8 Type Confusion Vulnerability	Google Chromium V8			
CVE-2023-28771	Zyxel Multiple Firewalls OS Command Injection Vulnerability	Zyxel Multiple Firewalls			

CVE	NAME	AFFECTED PRODUCT	ZERO-DAY	CISA KEV	PATCH
CVE-2023-33010	Zyxel Multiple Firewalls Buffer Overflow Vulnerability	Zyxel Multiple Firewalls			
CVE-2023-2868	Barracuda Networks ESG Appliance Improper Input Validation Vulnerability	Barracuda Networks Email Security Gateway (ESG) Appliance			
CVE-2023-27997	Fortinet FortiOS and FortiProxy SSL-VPN Heap-Based Buffer Overflow Vulnerability	Fortinet FortiOS and FortiProxy SSL-VPN			
CVE-2023-25690	Apache HTTP Smuggling Vulnerability	Apache			
CVE-2023-21932	Oracle Unauthorized Access Vulnerability	Oracle Hospitality OPERA 5 Property Services			
CVE-2023-0669	Fortra GoAnywhere MFT Remote Code Execution Vulnerability	Fortra GoAnywhere MFT			
CVE-2022-47966	Zoho ManageEngine Multiple Products Remote Code Execution Vulnerability	Zoho ManageEngine			
CVE-2022-41352	Zimbra Collaboration (ZCS) Arbitrary File Upload Vulnerability	Zimbra Collaboration (ZCS)			
CVE-2022-27925	Zimbra Collaboration (ZCS) Arbitrary File Upload Vulnerability	Zimbra Collaboration (ZCS)			
CVE-2022-30190	Microsoft Windows Support Diagnostic Tool (MSDT) Remote Code Execution Vulnerability	Microsoft Windows			
CVE-2022-25064	TP-LINK Remote Code Execution Vulnerability	TP-LINK			
CVE-2022-24990	TerraMaster OS Remote Command Execution Vulnerability	TerraMaster			

CVE	NAME	AFFECTED PRODUCT	ZERO -DAY	CISA KEV	PATCH
CVE-2021-45837	TerraMaster Remote Code Execution Vulnerability	TerraMaster	✗	✗	✗
CVE-2022-24785	Moment.js Path Traversal Vulnerability	Moment.js	✗	✗	✓
CVE-2022-24665	PHP Everywhere Code Injection Vulnerability	PHP	✗	✗	✓
CVE-2022-22965	Spring Framework JDK 9+ Remote Code Execution Vulnerability	VMware Spring Framework	✓	✓	✓
CVE-2022-22947	VMware Spring Cloud Gateway Code Injection Vulnerability	VMware Spring Cloud Gateway	✓	✓	✓
CVE-2022-22005	Microsoft SharePoint Server Remote Code Execution Vulnerability	Microsoft SharePoint Server	✗	✗	✓
CVE-2022-21882	Microsoft Win32k Privilege Escalation Vulnerability	Microsoft Win32k	✓	✓	✓
CVE-2021-44142	Samba Code Execution vulnerability	Samba	✗	✗	✓
CVE-2021-43226	Windows Common Log File System Driver Elevation of Privilege Vulnerability	Windows	✗	✗	✓
CVE-2021-41773	Apache HTTP Server Path Traversal Vulnerability	Apache HTTP Server	✓	✓	✓
CVE-2021-40684	Talend ESB Remote Code Execution Vulnerability	Talend ESB	✗	✗	✓
CVE-2021-3018	IPeakCMS SQL Injection Vulnerability	IPeakCMS	✗	✗	✓

CVE	NAME	AFFECTED PRODUCT	ZERO -DAY	CISA KEV	PATCH
CVE-2021-20038	SonicWall SMA 100 Appliances Stack-Based Buffer Overflow Vulnerability	SonicWall SMA 100 Appliances	✗	✓	✓
CVE-2021-20028	SonicWall Secure Remote Access (SRA) SQL Injection Vulnerability	SonicWall Secure Remote Access (SRA)	✗	✓	✓
CVE-2019-15637	Tableau XXE Vulnerability	Tableau	✗	✗	✓
CVE-2019-7609	Kibana Arbitrary Code Execution	Elastic Kibana	✗	✓	✓
CVE-2019-0708	Microsoft Remote Desktop Services Remote Code Execution Vulnerability	Microsoft Remote Desktop Services	✗	✓	✓
CVE-2017-4946	VMware V4H and V4PA Privilege Escalation Vulnerability	VMware V4H and V4PA	✗	✗	✓

## Patch Links

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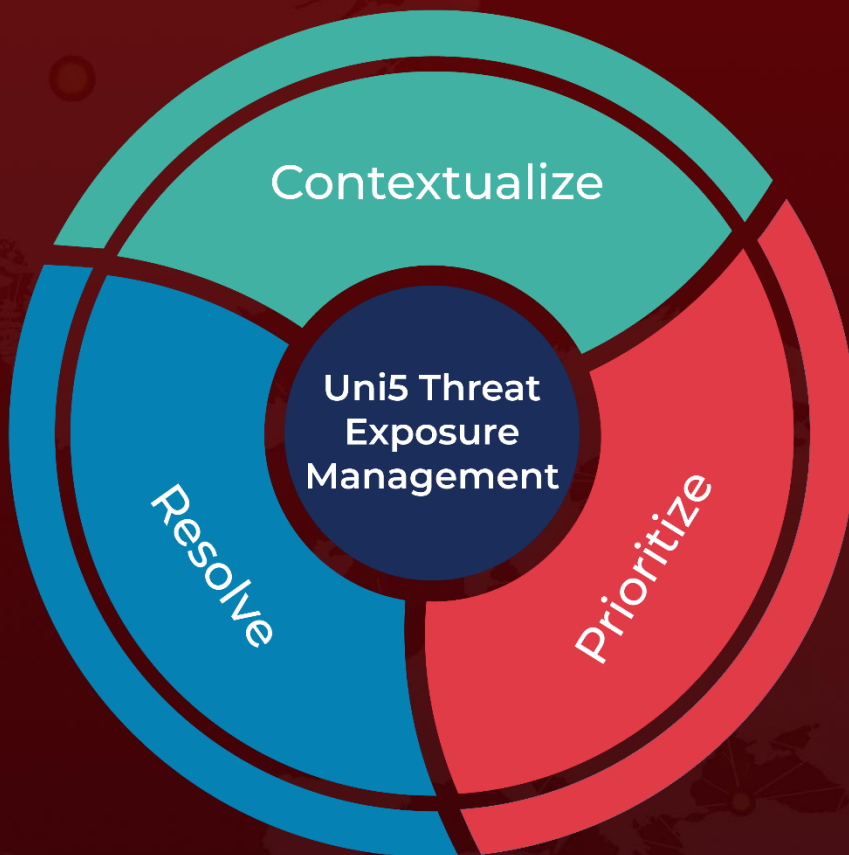
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# What Next?

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