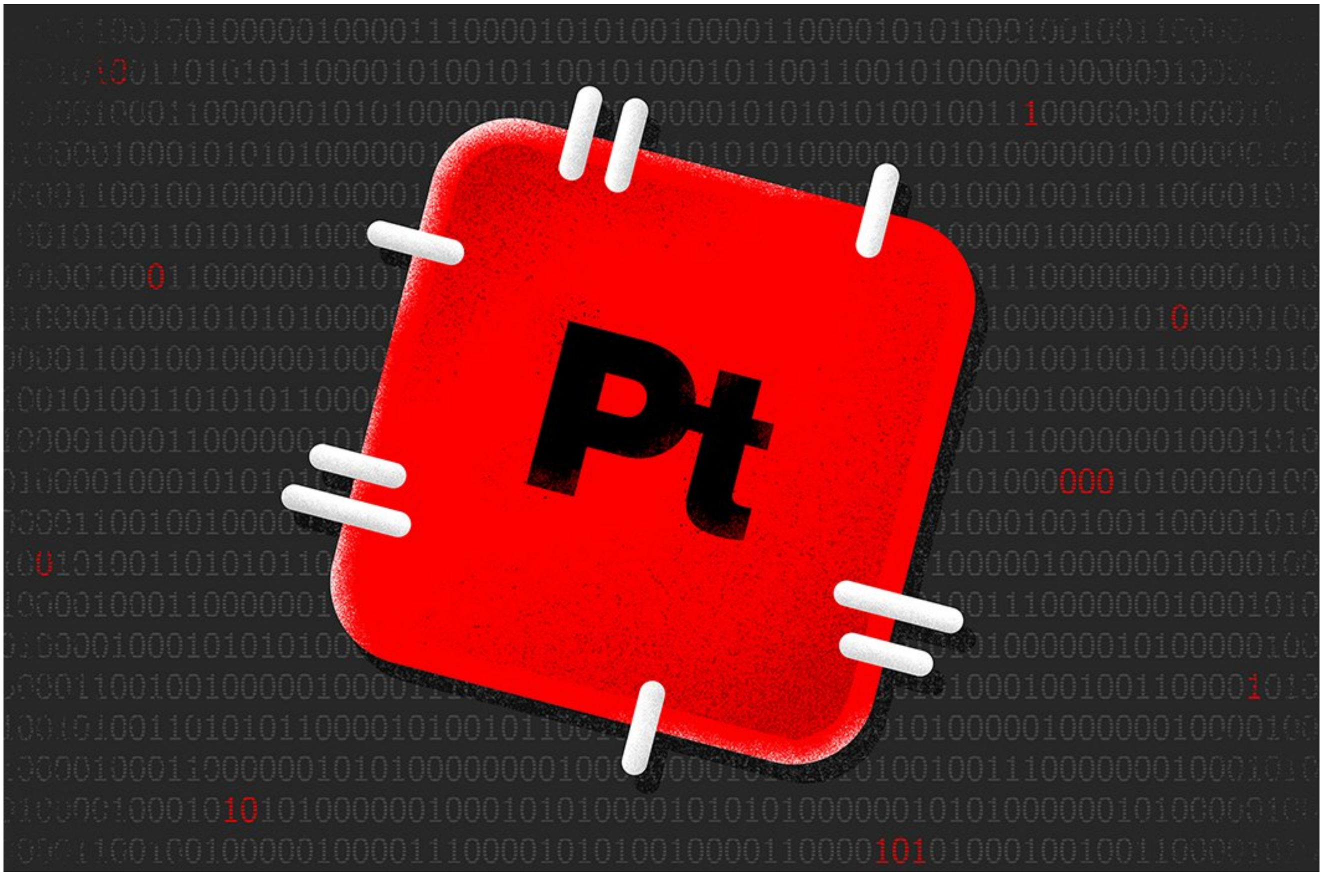
June 2021 Patch Tuesday: Updates and Analysis

crowdstrike.com/blog/patch-tuesday-analysis-june-2021/

Falcon Spotlight Team

June 10, 2021



This month’s patch update covers 50 vulnerabilities, with 6 of them actively exploited – the highest number we’ve seen so far in 2021. Five of these in-the-wild exploits affect default Windows components, and one is a zero-day targeting MSHTML. All of them should be reviewed and prioritized quickly to protect against an attack.

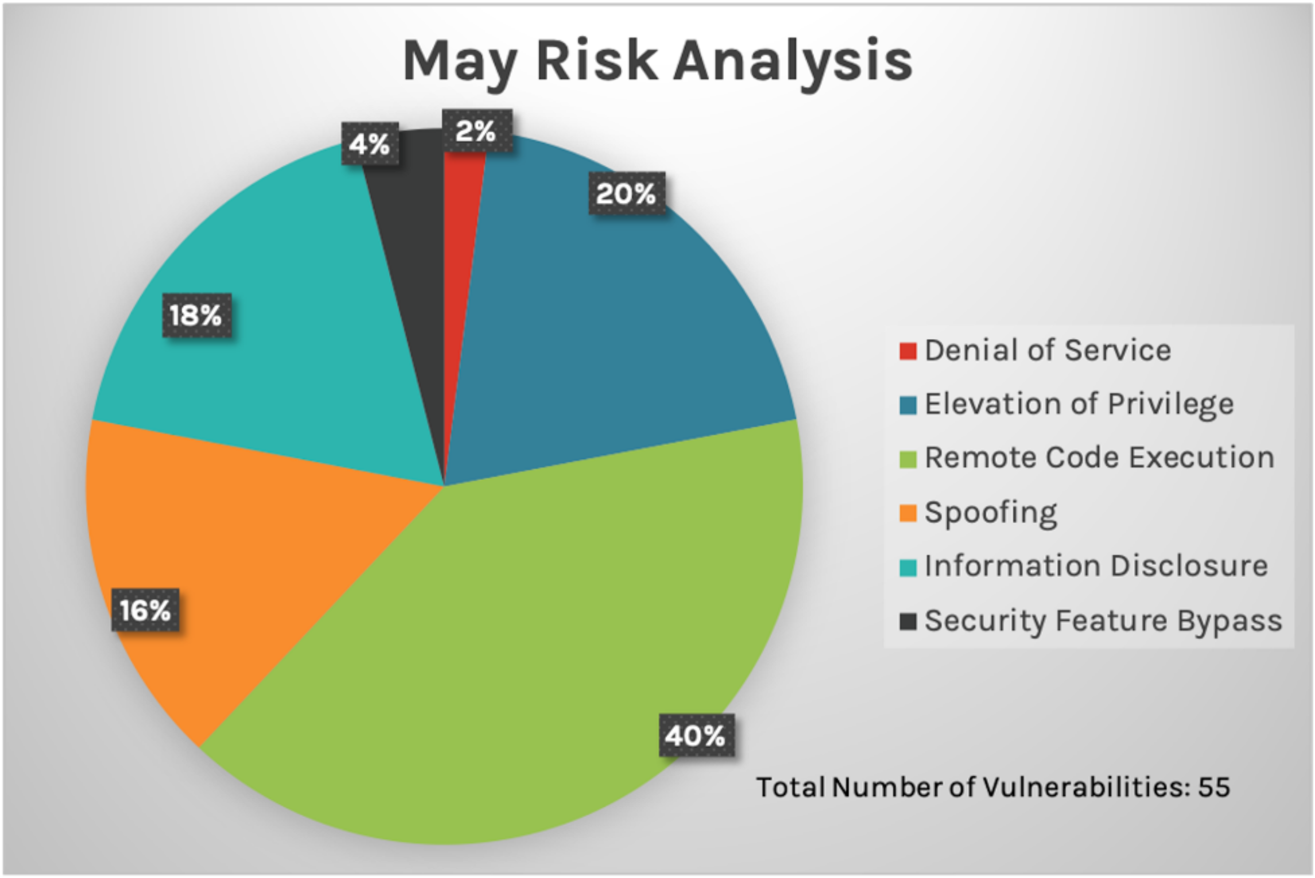
Also of note: Due to the severity of one of the in-the-wild threats, Microsoft pushed out a cumulative out-of-band update for CVE-2021-33741 on June 4 (right before this month’s Patch Tuesday release). This vulnerability uses the Internet Explorer HTML engine to execute commands on affected systems and could occur within any application using MSHTML to render HTML content. We’ve included this CVE in our vulnerability review this month under “Other Important Vulnerabilities to Consider,” as this update was released last week.

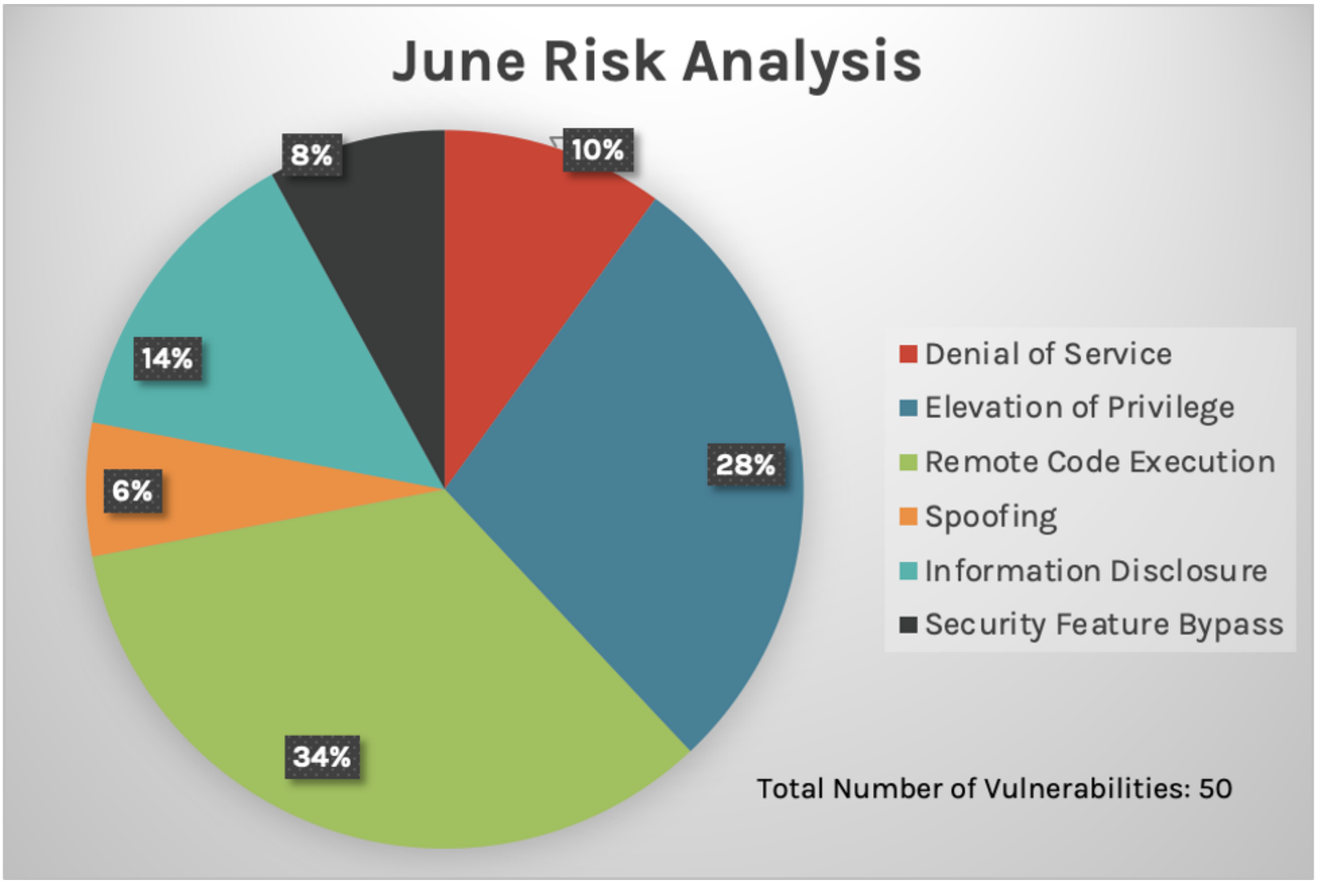
With the multiple active exploits for Windows, extra consideration should be given to expediting patching on these systems.

Let’s get started.

New Patches for 50 Vulnerabilities

This month’s Patch Tuesday update includes fixes for 50 vulnerabilities. As with last month, it is unfortunate that Microsoft chose to patch a low quantity of vulnerabilities, considering the high number of active exploits occurring. And again we see remote code execution and elevation of privilege as the top two types of vulnerabilities, which we also saw in May. The charts below show the breakdown of impact types for May and June 2021.





Six Vulnerabilities Exploited in the Wild

Let's examine in detail the six in-the-wild vulnerabilities being exploited in this Patch Tuesday update.

CVE-2021-33742

CVE-2021-33742 is a **Critical** remote code execution vulnerability in the MSHTML engine, which powers Internet Explorer (IE). Although IE's retirement has been announced by Microsoft, browsing activity, while low, is still active — hence we'll likely still see patches for MSHTML. This time, we see updates for all Windows versions: 10, 8.1, 7, Server 2019, 2016, 2012 and 2008. CrowdStrike recommends patching this vulnerability first by installing applicable security updates to your platform.

CVE-2021-33739

CVE-2021-33739 is an elevation of privilege vulnerability for Microsoft DWM Core Library dwm.exe and dwmcore.dll. It was found and reported by researchers in the wild. There are indicators of it being a variant of CVE-2021-28310. The community has attributed it to the Bitter APT group (tracked by CrowdStrike as HAZY TIGER), and a security patch for CVE-2021-28310 was released in April Patch Tuesday.

CVE-2021-31955 and CVE-2021-31956

Vulnerabilities CVE-2021-31955 and CVE-2021-31956 are possibly chained together to achieve information leak and privilege escalation in the Windows Kernel context. Although the CVE-2021-31955 is only applicable to the newer Windows 10 and Server 2019, CVE-2021-31956 has patches released for as far back as Windows 7 and Server 2008.

CVE-2021-31199 and CVE-2021-31201

CVE-2021-31199 and CVE-2021-31201 are privilege escalation vulnerabilities that occur in Microsoft Enhanced Cryptographic Provider. These vulnerabilities were caught in the wild and were likely chained together with Adobe Reader CVE-2021-28550 to escape the sandbox. (Enhanced Provider is an essential part of all Windows systems that supports more robust security through longer keys.) Related patches have been rolled out for all Windows versions – 10, 8.1, 7, Server 2019, 2016, 2012, 2008.

Further inspection shows that the range of attack types for this particular collection of CVEs includes a remote code execution, four privilege escalations and an information leak. Fortunately, most attackers wouldn't be able to gain access to critical systems without an existing footprint in those systems; however, it remains vitally important to prioritize these patches to improve your security posture for hosts containing these Windows systems and applications.

Rank	CVSS Score	CVE	Description
Critical	7.5	CVE-2021-33742	Windows MSHTML Platform Remote Code Execution Vulnerability
Important	8.4	CVE-2021-33739	Microsoft DWM Core Library Elevation of Privilege Vulnerability
Important	7.8	CVE-2021-31956	Windows NTFS Elevation of Privilege Vulnerability
Important	5.5	CVE-2021-31955	Windows Kernel Information Disclosure Vulnerability
Important	5.2	CVE-2021-31199	Microsoft Enhanced Cryptographic Provider Elevation of Privilege Vulnerability
Important	5.2	CVE-2021-31201	Microsoft Enhanced Cryptographic Provider Elevation of Privilege Vulnerability

Four More Critical CVEs

In addition to CVE-2021-33742 already discussed, Microsoft has released patches for four more **Critical** CVEs.

Two of these vulnerabilities, CVE-2021-31967 and CVE-2021-31985, will be updated automatically, without any action required. CVE-2021-31967 is a remote code execution vulnerability in the VP9 Video Extensions. This component is distributed from the Microsoft Store and will automatically be updated if enabled. CVE-2021-31985 is a remote code execution vulnerability in Microsoft Defender. This vulnerability will only be applicable if Microsoft Defender is enabled on the system. According to Microsoft, this vulnerability will be patched under automated updates for Defender.

CVE-2021-31963 is a critical remote code execution vulnerability in Microsoft SharePoint Server. This is one of six SharePoint vulnerabilities disclosed this month, continuing the SharePoint activity seen in recent months. The remaining SharePoint vulnerabilities have CVSS scores ranging from 5.7 to 7.6, with impacts including information disclosure, spoofing and remote code execution. It’s important to note that Microsoft released a standalone set of Sharepoint security updates to fix these vulnerabilities. These security updates are not patched by OS updates. Because of this, organizations should consider accelerating Sharepoint updates.

CVE-2021-31959 is a memory corruption vulnerability in the Scripting Engine. This vulnerability also has patches released for all Windows versions: 10, 8.1, 7, Server 2019, 2016, 2012 and 2008.

Rank	CVSS Score	CVE	Description
Critical	7.8	CVE-2021-31967	VP9 Video Extensions Remote Code Execution Vulnerability
Critical	7.8	CVE-2021-31985	Microsoft Defender Remote Code Execution Vulnerability
Critical	7.1	CVE-2021-31963	Microsoft SharePoint Server Remote Code Execution Vulnerability
Critical	6.4	CVE-2021-31959	Scripting Engine Memory Corruption Vulnerability

Other Important Vulnerabilities to Consider

Rank	CVSS Score	CVE	Description
Important	9.4	CVE-2021-31962	Kerberos AppContainer Security Feature Bypass Vulnerability
Important	8.6	CVE-2021-31977	Windows Hyper-V Denial of Service Vulnerability

Important	8.2	CVE-2021-33741	Microsoft Edge (Chromium-based) Elevation of Privilege Vulnerability
Important	8.1	CVE-2021-31980	Microsoft Intune Management Extension Remote Code Execution Vulnerability

The Impact and Importance of Patching

With the broad number of active, exploited vulnerabilities, organizations could be exposed unless they take an active role in patching the hosts containing the above-listed vulnerabilities. Default configuration systems are impacted and variants of the previously disclosed CVEs have been uncovered — this should alert IT staff that these vulnerabilities are not to be taken lightly.

Of course, if immediate patching isn't possible, take appropriate action to defend your hosts and servers until you can install the proper security updates.

Finally, if you have hosts still using Internet Explorer, take action to sunset the browser completely.

Learn More

Watch this video on Falcon Spotlight™ vulnerability management to see how you can quickly monitor and prioritize vulnerabilities within the systems and applications in your organization.

About CVSS Scores

The Common Vulnerability Scoring System (CVSS) is a free and open industry standard that CrowdStrike and many other cybersecurity organizations use to assess and communicate software vulnerabilities' severity and characteristics. The CVSS Base Score ranges from 0.0 to 10.0, and the National Vulnerability Database (NVD) adds a severity rating for CVSS scores. Learn more about vulnerability scoring in this article.

Additional Resources

- *Learn more on how Falcon Spotlight can help you discover and manage vulnerabilities in your environments.*
- *See how Falcon Complete stops Microsoft exchange server zero-day exploits.*
- *Make prioritization painless and efficient. Watch how Falcon Spotlight enables IT staff to improve visibility with custom filters and team dashboards.*
- *Read last month's Patch Tuesday for more information on critical vulnerabilities your organization should prioritize.*
- *Learn about the recent Baron Samedit vulnerability and CrowdStrike's custom dashboard.*

- *Test CrowdStrike next-gen AV for yourself. Start your free trial of Falcon Prevent™ today.*