

United States Senate
WASHINGTON, DC 20510

August 1, 2024

VIA ELECTRONIC TRANSMISSION

Mr. Satya Nadella
Chairman and Chief Executive Officer
Microsoft Corporation

Dear Mr. Nadella:

On Friday, July 19, 2024, Microsoft experienced one of the largest global information technology outages in history.¹ The outage was caused by a CrowdStrike cybersecurity software update and impacted computers running the Microsoft Windows operating system.² Despite CrowdStrike deploying a fix within hours of the outage,³ the effects of the outage had crippling effects across nearly every major business sector.⁴ According to Microsoft, the outage affected over 8.5 million Windows devices and impacted airlines, railroads, state and federal agencies, banks, 911 services, and hospitals.⁵ Microsoft must explain how the CrowdStrike software update debilitated its devices and what is being done to ensure a failure like this does not happen again.

I've previously raised concerns about the need to strengthen and protect the U.S. supply chain and critical infrastructure.⁶ I wrote to the Department of Energy (DOE) on June 1, 2023,

¹ Alexander Smith, et al, *What we know about the global Microsoft outage*, NBC NEWS (July 19, 2024), <https://www.nbcnews.com/tech/tech-news/microsoft-outage-crowdstrike-global-airlines-windows-fix-rcna162685>.

² *Id.*

³ *CrowdStrike deploys fix for issue causing global tech outage*, REUTERS (July 19, 2024), <https://www.reuters.com/technology/crowdstrike-says-actively-working-with-customers-impacted-by-outage-2024-07-19/>.

⁴ *Airlines, government and businesses rush to get back on track after global tech disruption*, CBS NEWS (July 20, 2024), <https://www.cbsnews.com/news/microsoft-crowdstrike-outage-airlines-government-businesses-rush-to-get-back-on-track/>; Zoe Sottile, et al., *Hundreds of US flights are canceled for the 4th straight day. Here's the latest on the global tech outage*, CNN (July 22, 2024), <https://www.cnn.com/2024/07/22/us/microsoft-power-outage-crowdstrike-it/index.html>.

⁵ *Id.*; Press Release, David Weston, Microsoft Vice President, Enterprise and OS Security, Helping our customers through the CrowdStrike outage (July 20, 2024), <https://blogs.microsoft.com/blog/2024/07/20/helping-our-customers-through-the-crowdstrike-outage/>; Ty Roush, et al, *CrowdStrike's Massive Global Tech Outage: Airlines, Hospitals, Banks, 911, Governments Impacted*, FORBES (July 19, 2024), <https://www.forbes.com/sites/tylerroush/2024/07/19/crowdstrikes-massive-global-tech-outage-airlines-banks-911-state-services-impacted/>.

⁶ See, e.g., press release, Sen. Charles E. Grassley, Ranking Member, Senate Budget Committee, *Grassley, Haggerty: DOE's Newly Proposed Standards Would Weaken Domestic Manufacturing, Exacerbate Supply Chain Shortages* (June 1, 2023), <https://www.grassley.senate.gov/news/news-releases/grassley-haggerty-does-newly-proposed-standards-would-weaken-domestic-manufacturing-exacerbate-supply-chain-shortages>; press release, Sen. Charles E. Grassley, Ranking Member, Senate Budget Committee, *Grassley: Federal Agencies Must Stop 'Dragging Their Feet' On Bolstering Cybersecurity Defense* (Apr. 8, 2024),

regarding a proposed rule that threatened to undermine our energy and national security, domestic supply chains, and workforce.⁷ On April 8, 2024, I wrote letters to seven of the Sector Risk Management Agencies responsible for overseeing our nation's critical infrastructure to highlight the threat of cyberattacks on our critical infrastructure sectors.⁸ Earlier this month, I also wrote to the Cybersecurity and Infrastructure Security Agency (CISA) regarding a recent cyberattack, which resulted in the release of "critical information about the operation of U.S. infrastructure."⁹

To ensure the strength of U.S. networks, supply chains, and critical infrastructure, it's crucial that Microsoft ensure software updates from vendors don't cause outages and other harms.

Accordingly, so Congress may conduct objective and independent oversight concerning the July 19, 2024, outage, please provide answers to the following no later than August 15, 2024:

1. How soon after the launch of the CrowdStrike update did Microsoft learn about the outage to its Windows devices? What safety mechanisms does Microsoft have in place to detect outages? Provide all records, including a detailed timeline of all events and communications with CrowdStrike from July 18-19, 2024.¹⁰
2. Did Microsoft communicate with federal agencies related to the outages? If so, which ones?
3. Describe the steps Microsoft took on July 19 to remediate impacted Windows devices. Since the outage, what has Microsoft done to assist affected customers?
4. What is the standard operating procedure for testing and launching cybersecurity software updates on Windows devices? Did Microsoft conduct any testing on the

<https://www.grassley.senate.gov/news/news-releases/grassley-federal-agencies-must-stop-dragging-their-feet-on-bolstering-cybersecurity-defense>; letter from Sen. Charles E. Grassley, Ranking Member, Senate Budget Committee, to the Honorable Jen Easterly, Director, Cybersecurity and Infrastructure Security Agency (July 3, 2024), https://www.grassley.senate.gov/imo/media/doc/grassley_to_cisa_-_cyberattack.pdf.

⁷ Grassley, Haggerty: DOE's Newly Proposed Standards Would Weaken Domestic Manufacturing, Exacerbate Supply Chain Shortages, *supra* note 6; see also Energy Conservation Program: Energy Conservation Standards for Distribution Transformers, 88 Fed. Reg. 1722 (proposed Jan. 11, 2023) (to be codified at 10 C.F.R. 431).

⁸ Grassley: Federal Agencies Must Stop 'Dragging Their Feet' On Bolstering Cybersecurity Defense, *supra* note 6.

⁹ Letter from Sen. Charles E. Grassley, Ranking Member, Senate Budget Committee, to the Honorable Jen Easterly, Director, Cybersecurity and Infrastructure Security Agency (July 3, 2024), https://www.grassley.senate.gov/imo/media/doc/grassley_to_cisa_-_cyberattack.pdf.

¹⁰ "Records" include any written, recorded, or graphic material of any kind, including letters, memoranda, reports, notes, electronic data (emails, email attachments, and any other electronically created or stored information), calendar entries, inter-office communications, meeting minutes, phone/voice mail or recordings/records of verbal communications, and drafts (whether they resulted in final documents).

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CrowdStrike update before it launched? Provide all records, including any internal testing and communications with CrowdStrike.

5. What percentage of Microsoft devices are equipped with CrowdStrike cybersecurity software?¹¹ What other cybersecurity providers does Microsoft partner with?

Thank you for your prompt review. If you have any questions, please contact Tucker Akin on my Committee staff at (202) 224-0642.

Sincerely,



Charles E. Grassley
Ranking Member
Committee on the Budget

¹¹ Weston, *supra* note 5. According to Microsoft, less than one percent of all Windows machines were impacted by the CrowdStrike update.