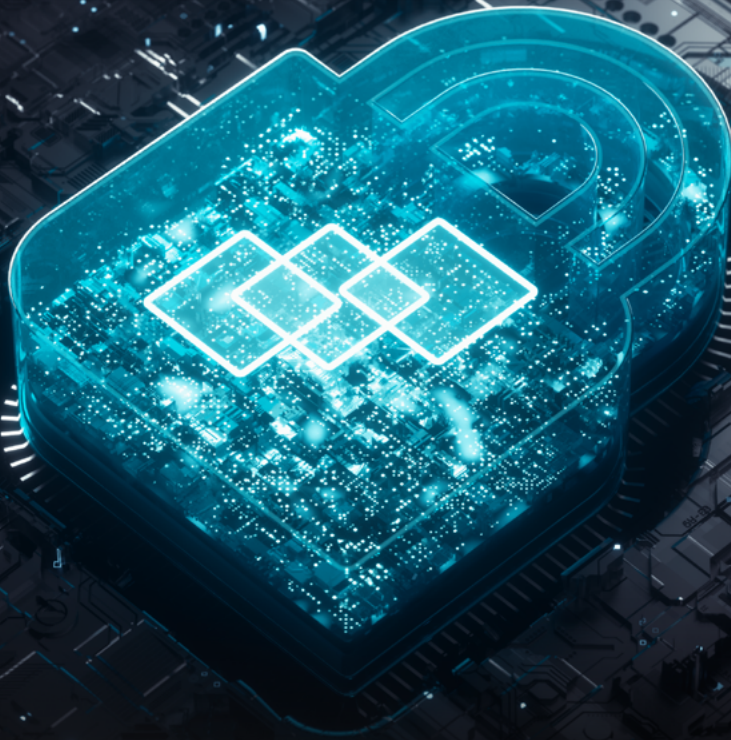


THE WORLD'S  
**MOST SECURE AND  
MANAGEABLE  
WORKSTATIONS<sup>1</sup>**



A COMPLETE GUIDE TO Z BY HP SECURITY





## CHOOSING A WORKSTATION IS A SECURITY DECISION

Global cybersecurity investment will be an estimated \$5.2 trillion by 2023<sup>2</sup> as threats to information security continue to grow in frequency, variety, and scope.

Hardware-enforced security in every device is critical to the overall protection of your business. We engineer our Z workstations to be resilient with security features that can self-monitor and self-heal. Measures designed to protect your company's devices and sensitive data are embedded below, in, and above the operating system.

# EVERY 4 SECONDS

A NEW MALWARE  
SPECIMEN EMERGES<sup>3</sup>

# \$5.2 TRILLION

ESTIMATED WORLDWIDE  
CYBERSECURITY COST  
BY 2023<sup>2</sup>

# 4X MORE DEADLY

ZERO-DAY ATTACKS MORE LIKELY TO COMPROMISE ORGANIZATIONS<sup>6</sup>

## CATCH ZERO-DAY ATTACKS BEFORE THEY OCCUR

More than 350,000 new malware variants are created every day. To keep you and your users safe, we engineer our Z workstations and laptops with numerous security features such as HP Sure Sense, a proprietary deep-learning algorithm and advanced neural-network technology to recognize malware and protect against never-before-seen attacks.

# 12% YEAR- ON-YEAR RISE IN BREACH COSTS<sup>4</sup>

# OVER 350,000 NEW MALWARE VARIANTS EVERY DAY<sup>5</sup>

# AI DESIGN INCREASINGLY USED BY HACKERS<sup>7</sup>



# PROTECT SENSITIVE DATA AND IP WITH HARDWARE-ENFORCED SECURITY

The average cost of a security breach is \$3.6 million.<sup>8</sup> Each year the cost of a data breach rises, and in a never-ending arms race, security spending increases in tandem.

The value of security goes far beyond a price tag to include protection for your company's sensitive data, reputation, and perhaps most importantly of all—your valuable intellectual property. Our unmatched hardware-enforced controls include:

## HP ENDPOINT SECURITY CONTROLLER

HP Security Endpoint Controller is the hardware component at the foundation of the security architecture of Z by HP PCs. Its physically isolated and cryptographically protected hardware creates the root of trust that enables hardware-enforced, self-healing, manageable security solutions like HP Sure Start, HP Sure Run, and HP Sure Recover.

**\$150**

AVERAGE COST OF A STOLEN RECORD<sup>12</sup>

## HP SURE START GEN6

HP Sure Start is the world's first self-healing BIOS.<sup>9</sup> It continually inspects the system BIOS and it automatically self-heals if the BIOS is damaged by malware, rootkits, or corruption, restoring BIOS code from a protected

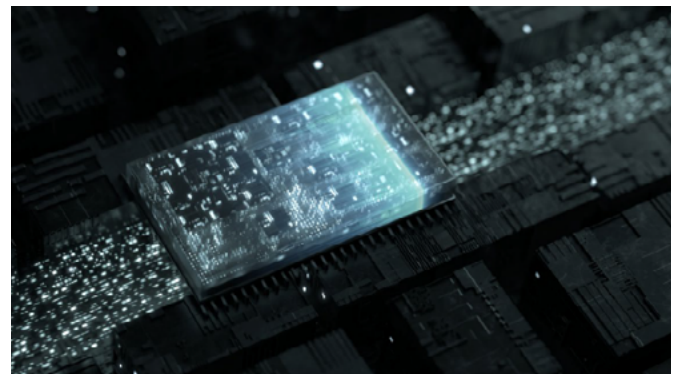
"gold copy." By ensuring that only trusted BIOS code is executed, HP Sure Start protects your PC or workstation at its most fundamental level. Plus, Sure Start Gen6 features real-time monitoring of hardware root of trust and pre-boot direct memory access (DMA) protection.

## HP SURE RUN GEN3

HP Sure Run Gen3<sup>10</sup> keeps your fleet of devices from infecting each other by isolating them on your network and employs protection to ensure critical processes continue to run, even if malware tries to shut them down. Backed by the HP Endpoint Security Controller, HP Sure Run monitors key processes, alerts users and IT of any changes, and restarts them automatically if they are stopped. With dynamic persistence, network isolation, and kill prevention, Sure Run gets your PCs up and running and quickly as possible.

## HP SURE RECOVER GEN3

Built into system hardware and firmware, HP Sure Recover Gen3<sup>11</sup> is fast, secure, and automated, enabling your users to restore their machines quickly and securely to the latest OS image using only a network connection, or an embedded flash chip on some models. It can even allow your IT department to schedule reimaging for the entire fleet.





# SECURITY THAT PROTECTS YOUR ENTIRE FLEET OF DEVICES

There were more than 3,800 data breaches in the first half of 2019 alone, up 54%<sup>13</sup> compared to the same time the year before. Now, with the evolving workplace, remote-friendly environments, and employees spread out across multiple locations, the threat continues to grow.

It's hard to stop attacks entirely, but the smartest IT teams recover the quickest. HP's suite of security products can recover devices without requiring manual intervention, making it easy for your IT department to manage the PC and workstation fleet throughout your company.

## HP SURE CLICK

Web browsers are a primary attack vector for malware and other online threats. HP Sure Click is a hardware-enforced secure browsing solution that protects against malicious websites, downloads, and attachments. It isolates web content in a CPU-enforced micro-virtual machine, where malware cannot affect other tabs, applications, or the operating system.<sup>14</sup>

## HP SURE SENSE

Traditional antivirus can't always recognize new attacks. HP Sure Sense harnesses the power of deep learning AI to identify and quarantine 99% of never-before-seen attacks, helping prevent infections before they happen.<sup>15</sup> Working in tandem with Sure Click, Sure Sense uses a lightweight agent to scan each file that enters your device and determine if it is malicious.

## HP SURE VIEW

Even the best security software can't prevent visual hacking—unauthorized users viewing confidential information on an unguarded display. At the touch of a button, HP Sure View activates an integrated privacy screen that makes data visible only to the user sitting directly in front of it.<sup>16</sup>

## HP SECURE ERASE

Simply deleting files from a hard drive doesn't make them unrecoverable. HP Secure Erase is a BIOS-level feature that permanently destroys sensitive information from hard drives and solid-state drives, so it can never be recovered or compromised.<sup>17</sup>

## HP PRO AND ENTERPRISE SECURITY

HP has developed security solutions for small, medium, and enterprise businesses to meet every customer requirement. This security portfolio includes HP Pro Security Edition,<sup>19</sup> HP Proactive Security,<sup>20</sup> and HP Sure Click Enterprise.<sup>21</sup> Providing a multi-layered, protection-first approach to meet needs unique to larger organizations, we offer advanced protection options including threat enforcement, analysis, and monitoring for your entire fleet. These solutions are easy to deploy and are equipped with out-of-the-box manageability.

## CERTIFIED SELF- ENCRYPTING DRIVES

Self-encrypting hard drives and solid-state drives employ hardware-based encryption to protect their contents even after the drive is removed from the PC. And because the data encryption process is hardware-based, there's little or no discernible impact on performance.<sup>18</sup>



# EASILY MANAGE ALL YOUR IT SECURITY

At HP, we design security into our Z workstations to provide a complete, easy-to-manage ecosystem. This includes the HP Endpoint Security Controller, which sits at the heart of security infrastructure, plus a range of identity and management tools to make everyday operations seamless.

## REMOTE SOLUTIONS:

### HP ZCentral

HP ZCentral is a complete, single-source hardware and software solution to power a remote workforce and simplify the management and sharing of centralized workstations with multiple users.

### HP ZCentral Remote Boost<sup>22</sup>

A single-source remote solution designed to simplify the management and sharing of centralized workstations with multiple users. Easily assign workstations to individuals, or assign shared access to specific machines, all from a single console and streamlined interface. Plus, you can trust that your company's sensitive information will be protected—we transfer only encrypted pixels over the network to remote users. All your important data stays right where it belongs—in your data closet.

## MANAGEABILITY:

### HP ZCentral Connect<sup>23</sup>

ZCentral Connect is a single-sourced remote workstation solution designed to simplify the management and sharing of centralized workstations with multiple users. Easily assign workstations to individuals or assign pools all from a single console and streamlined interface.

### HP Manageability Integration Kit

The HP Manageability Integration Kit (MIK) is designed to integrate with Microsoft System Center Configuration Manager (SCCM) to help IT administrators update and maintain software and security settings across your fleet of PCs and workstations.<sup>24</sup>

### HP Image Assistant

HP Image Assistant helps your IT department develop and maintain a robust software image, ensure that it remains up to date with the latest patches and upgrades, and implement it consistently on all systems throughout your business.

## IDENTITY:

### HP Client Security Manager

HP Client Security Manager helps users and IT professionals configure and control a variety of security features embedded in HP PCs, including HP Sure Run, SpareKey, and more.



### HP Multi-Factor Authenticate

HP Multi-Factor Authenticate helps keep your network and VPN safe from unauthorized access by requiring up to three factors of authentication for login—including optional fingerprint reader and IR camera facial recognition—with policies enforced at the silicon level.<sup>25</sup>

### HP SpareKey

If users forget their Windows passwords, HP SpareKey can reset passwords and restore access to locked PCs without intervention from IT personnel, by taking the user through a series of predetermined security questions.







## STAYING AT THE FRONT LINE IN TODAY'S EVOLVING WORKPLACE

The digital security landscape is shifting ground, especially as many employees around the world are adjusting to a new normal of remote work. As technical and creative pros integrate new connected products and services into their lives, HP Security Lab is looking holistically at emerging security concerns.

This lab, part of the famed HP labs, exists to help HP build the most secure workstations in the world. Its members are leading researchers, engineers, white hat hackers, and security experts providing insights from the front lines.

By pursuing original systems security research, HP Security Lab ensures that we deliver safe and assured products, services, and experiences, continually setting the pace for the industry in cybersecurity.



# SOURCES AND DISCLAIMERS

1. Based on HP's unique and comprehensive security capabilities at no additional cost and HP's Manageability Integration Kit's management of every aspect of a PC including hardware, BIOS, and software management using Microsoft System Center Configuration Manager on HP Elite PCs and HP Workstations with Windows and 8th Gen and higher Intel® processors or AMD Ryzen™ 4000 processors and higher.
2. <https://www.accenture.com/us-en/insights/cybersecurity/acnmedia-Thought-Leadership-Assets/PDF/Accenture-Securing-the-Digital-Economy-Reinventing-the-Internet-for-Trust.pdf#zoom=50>
3. AV-TEST, Security Report 2018/2019, [https://www.av-test.org/fileadmin/pdf/security\\_report/AV-TEST\\_Security\\_Report\\_2018-2019.pdf](https://www.av-test.org/fileadmin/pdf/security_report/AV-TEST_Security_Report_2018-2019.pdf)
4. Ponemon, 2019, The cost of cybercrime, <https://www.accenture.com/acnmedia/pdf-96/accenture-2019-cost-of-cybercrime-study-final.pdf>
5. AV-TEST Institute
6. Ponemon, 2018, Endpoint Security Risk Report, <https://www.ponemon.org/news-2/82>
7. DataCenter Knowledge, June 2019, Why It's Time to Prepare for AI-Wielding Hackers, <https://www.datacenterknowledge.com/machine-learning/why-its-time-prepare-ai-wielding-hackers>
8. <https://newsroom.accenture.com/news/cybercrime-could-cost-companies-us-5-2-trillion-over-next-five-years-according-to-new-research-from-accenture.htm>, page 16
9. HP Sure Start Gen6 is available on select HP PCs.
10. HP Sure Run Gen3 is available on select Windows-10 based HP Pro, Elite, and Workstation PCs with select Intel® or AMD processors.
11. HP Sure Recover Gen3 is available on select HP PCs and requires an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data.
12. IBM, 2019 Cost of a Data Breach Report, [https://www.ibm.com/security/data-breach?cm\\_mc\\_uid=21400672026815717196148&cm\\_mc\\_sid\\_50200000=99136091571719614838](https://www.ibm.com/security/data-breach?cm_mc_uid=21400672026815717196148&cm_mc_sid_50200000=99136091571719614838) TechRepublic, August 2019, Data breaches increased 54% in 2019 so far, <https://www.techrepublic.com/article/data-breaches-increased-54-in-2019-so-far/>
13. HP Sure Click requires Windows 10 Pro or Enterprise and supports Microsoft® Internet Explorer, Google Chrome, and Chromium™. Supported attachments include Microsoft Office (Word, Excel, PowerPoint) and PDF files in read-only mode, when Microsoft Office or Adobe Acrobat are installed.
14. HP Sure Sense requires Windows 10 Pro or Enterprise. See product specifications for availability.
15. HP Sure View is available on select mobile workstations, is designed to function in landscape orientation, and must be configured at purchase.
16. HP Secure Erase conforms to the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 "Clear" sanitation method.
17. Self-encrypting drives are available as an option on select HP PCs.
18. HP Pro Security Edition is available preloaded on select HP PCs and includes HP Sure Click Pro and HP Sure Sense Pro. 3-year license required.
20. HP Proactive Security is sold separately. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product. For full system requirements, please visit [www.hpdaas.com/requirements](http://www.hpdaas.com/requirements).
21. HP Sure Click Enterprise requires Windows 8 or 10, and Microsoft Internet Explorer, Google Chrome, Chromium or Firefox are supported. Supported attachments include Microsoft Office (Word, Excel, PowerPoint) and PDF files, when Microsoft Office or Adobe Acrobat are installed.
22. HP ZCentral Remote Boost does not come preinstalled on Z Workstations but can be downloaded and run on all Z desktop and laptops without license purchase. With non-Z sender devices, purchase of perpetual individual license or perpetual floating license per simultaneously executing versions and purchase of ZCentral Remote Boost Software Support is required. RGS requires Windows, RHEL (7 or 8), UBUNTU 18.04 LTS, or HP ThinPro 7 operating systems. MacOS (10.13 or newer) operating system is only supported on the receiver side. Requires network access. The software is available for download at [hp.com/ZCentralRemoteBoost](http://hp.com/ZCentralRemoteBoost).
23. HP ZCentral Connect Software requires purchase of a perpetual floating license per simultaneous connection and purchase of 1-year ZCentral Connect Software Support Service and requires download at [hp.com/ZCentral](http://hp.com/ZCentral). Requires HP ZCentral Remote Boost Software which can be downloaded at [hp.com/ZCentralRemoteBoost](http://hp.com/ZCentralRemoteBoost), a Windows 10, Windows Server 2016 or newer operating system, Microsoft Active Directory, and Intel Active Management Technology for select features.
24. HP Manageability Integration Kit can be downloaded from [hp.com/go/clientmanagement](http://hp.com/go/clientmanagement).
25. HP Multi-Factor Authenticate Gen2 requires Windows, a 7th- or 8th generation Intel Core™ processor, Intel integrated graphics, and Intel WLAN. Microsoft System Center Configuration Manager is required for deployment. Three-factor authentication requires Intel vPro™.

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