



Performance Test



ESET Endpoint Security

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Commissioned by ESET

Introduction

This Performance benchmark has been commissioned by ESET.

Time of test: 1st of September till 14th of September 2017

Tested products

- ESET Endpoint Security 6.6
- Kaspersky Endpoint Security 10.3
- McAfee Endpoint Security 10.5
- Sophos Endpoint Advanced 11.5
- Symantec Endpoint Protection 14.0 MP2
- Trend Micro OfficeScan XG 12.0

Machine Specification

All tests were performed on the same machine type. We created an image of the system to ensure a level playing field for each product/test. Before installing each product, we reverted the system back to the base-image, for which we updated all drivers and the operating system. No updates were installed during the test period.

High End

Machine type	Lenovo E560
Operating system	Windows 10 RS2 64-bit
Chipset	Intel i5-6200U
RAM	8GB
Hard disk	SSD
Screen Resolution	1920x1080
Network	Ethernet

Machine Configuration

All tests were done on a clean installation of Windows. The following additional changes were made:

- Disabling of all services of the operating system which might influence the result
- Installation of the performance-testing software "PCMark"
- Installation of Microsoft Windows Assessment and Deployment Toolkit (ADK)
- Installation of Microsoft Office 365 (updates disabled)

Test cases and methodology

All tests are executed automatically using an in-house implemented testing framework (latest version August 2017).

1. Open Websites

Goal: Measure the time to open popular websites with Google Chrome.

Methodology: We used 35 of the most popular websites. The test was automated using a script. First, an instance of Google Chrome is opened (empty page). The time to completely load and display the website was measured. We only measure the time to navigate to the website when an instance of the browser is already started.

2. Launch Applications

Goal: Measure the time to open popular office applications

Methodology: The time is measured to open documents in popular office applications (Microsoft Word 2016, Microsoft Excel 2016, Microsoft Power Point 2016, Adobe Reader DC 15). Some documents contain (harmless) macro scripts.

3. Installation of 3rd Party Software

Goal: Measure the time needed for installing and uninstalling 3rd party software.

Methodology: We measure the overall time for installing and uninstalling five popular applications.

4. Download Files

Goal: Measure the time for downloading files from a web server to the local disk.

Methodology: Files are downloaded from a local web server using the command line utility "WGET.exe" via HTTP.

5. Archiving

Goal: Measure the time for archiving and unarchiving files on local disk.

Methodology: Common file types are archived and unarchived using the command line utility 7zip.

6. Copy Files to External Drive

Goal: Measure the time to for copying files from local disk to an external HDD.

Methodology: Common file types are copied from the local disk to an external HDD. Copying is performed using xcopy. The external HDD is connected to the machine with USB 3.0.

7. PC Mark

Goal: Compare AV products by recording the PC Mark score.

Methodology: The machine is restarted after each iteration. The machine is in idle for 30 minutes before the test starts. We record the score reported by PC Mark test "Run Conventional". We used PC Mark version 5.1.620.0.

Results and Discussion

In this section, we provide the values for the single-run tests, and the average values for those tests which were executed multiple times. For interpretation of the results: Please note that measurements of performance aspects of a product can be influenced by factors which cannot be controlled, such as system processes running on the machine, background tasks etc. We executed the tests multiple times to provide the most accurate values possible. The results should be interpreted with caution.

PC Mark

All PC Mark scores are in comparison to the baseline.

Product	PC Mark Score
ESET	98.3
Kaspersky Lab	98.0
McAfee	87.6
Sophos	94.9
Symantec	92.8
Trend Micro	92.2

AV-C Performance Score

Rating for performing in individual test cases. The testers defined the categories slow, mediocre, fast and very fast consulting statistical methods.



		ESET	Kaspersky Lab	McAfee	Sophos	Symantec	Trend Micro
Browsing Websites							
Launching Applications	On first run						
	On subsequent runs						
Installing / Uninstalling Applications							
Downloading Files							
Archiving / Unarchiving							
Copying to external drive	On first run						
	On subsequent runs						

Overall Performance Rating

The overall rating is a combination of the results from the individual test cases (max 90 pts.) and the PC Mark score (max. 100 pts.). The overall max score is 190 pts. Each of the eight individual test cases can earn 15 pts. max. For the copying test cases a mean score for the first and subsequent runs is taken. For the launching applications we only take the results from the subsequent runs.

Product	Total Points	Percent of Maximum	Impact score
ESET	183.3	96.5%	6.7
Kaspersky Lab	178.0	93.7%	12.0
McAfee	157.6	82.9%	22.4
Sophos	164.9	86.8%	25.1
Symantec	177.8	93.6%	12.2
Trend Micro	147.2	77.5%	42.8

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