



# Trend Micro SMB Endpoint Comparative Report Performed by AV-Test.org

---

A test commissioned by Trend Micro and performed by AV-Test GmbH

## Executive Summary

---

In May of 2011, AV-Test.org performed endpoint security benchmark testing on six market-leading SMB endpoint solutions from Symantec, Sophos, McAfee, ESET, Kaspersky and Trend Micro.

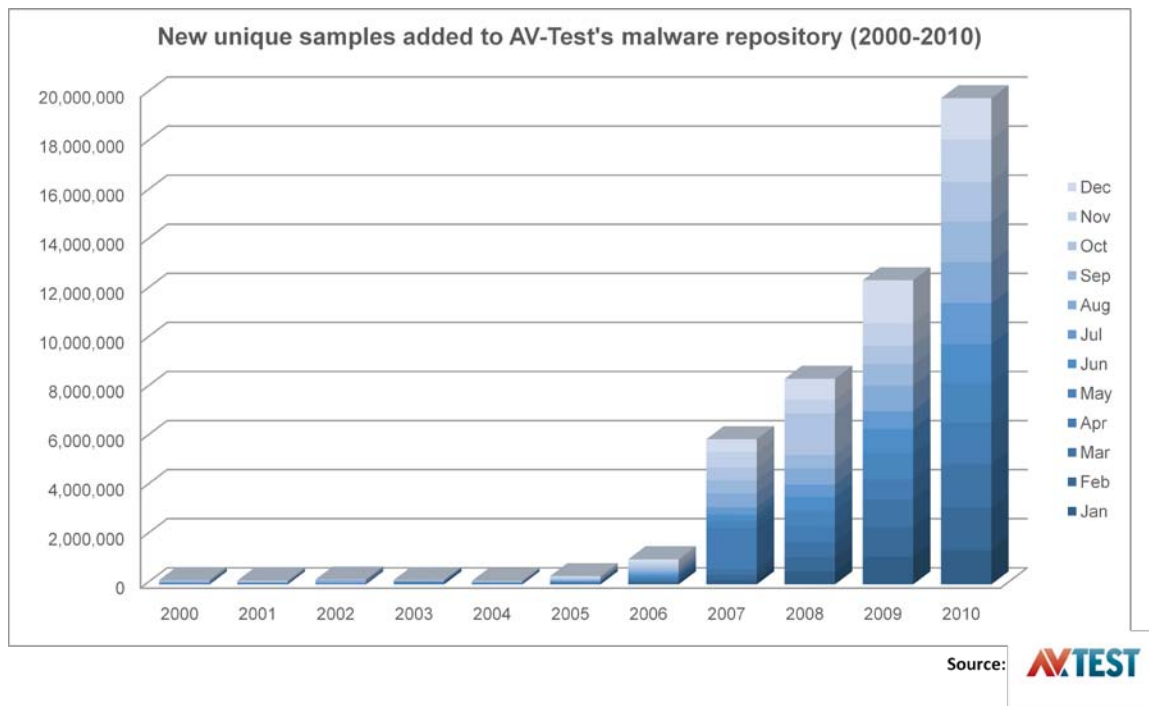
AV-Test.org tested zero-day attacks actually occurring in the wild by sourcing malicious URLs which have malware associated with them. The testing occurred simultaneously across all vendors' platforms to ensure no biases during the test runs. Products were configured to block or detect the threats at multiple levels, thereby giving each vendor maximum ability to protect against these threats.

In these tests, Trend Micro Worry-Free Business Security v7 emerged as the overall winner blocking over 95% of the threats initially and 95.5% after 1 hour, 3% higher than the next competitor. Trend Micro also demonstrated a decided advantage in blocking these threats at their source, the URL by blocking over 88% of the threats.

## Overview

---

Traditionally, endpoint testing has been done by updating each product's signatures, removing the device from the network, and then copying a test set of malicious files onto the device to determine how many can be caught. That was fine when only a small number of malicious files were being introduced to the world, but today, according to the latest statistics from AV-Test.org, they saw 19 million unique samples in 2010.



### Exposure Layer Detection and Blocking Reduces Risk

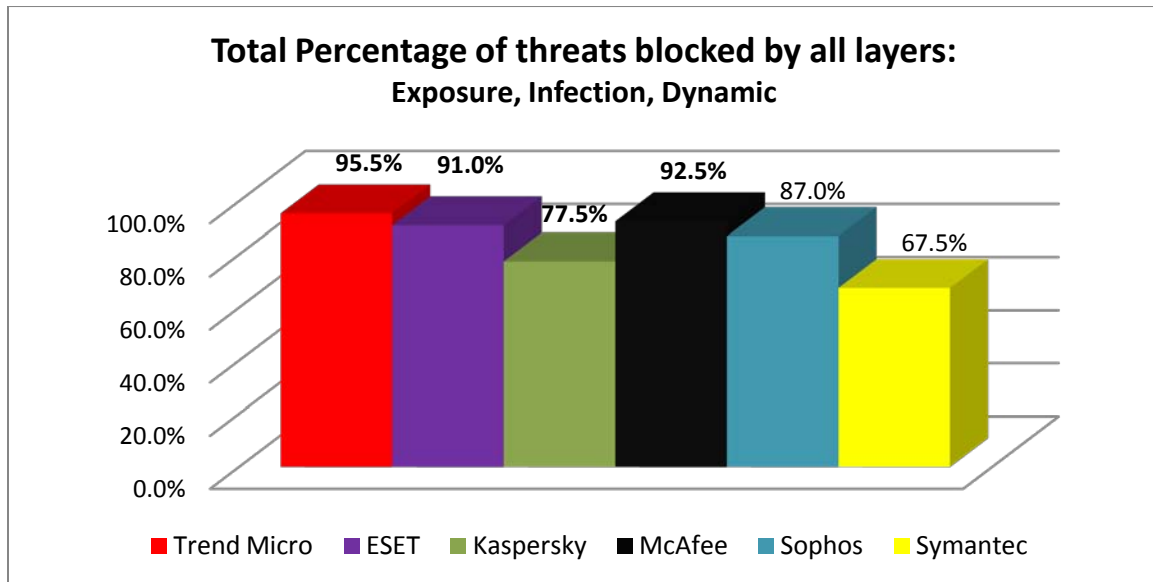
This “threat of volume” is creating issues for all vendors who attempt to keep up with these new emerging threats simply using file-based detection methods. File-based detection requires that each threat have an analogous signature file created and distributed by the antivirus company. Additionally, the majority of threats now come from the Internet via compromised webpages, BSEO (Blackhat Search Engine Optimization) and the use of social engineering. New technologies need to be used to combat these new threat vectors.

As such, AV-Test.org performed a more real-world test of endpoint solutions that doesn’t just score how well a product can detect file-based threats (Infection Layer), but includes the ability to block the threat at its source (Exposure Layer) and detect/block the threat during execution (Dynamic Layer). The ability of a solution to source, analyze and block new threats that it cannot identify is becoming critical, due to the rapid rise in the amount of threats being released in the wild. Exposure Layer blocking reduces the risk to the network because fewer threats will impact network bandwidth, or require computing resources to block them at the endpoint. In this test, only threats that were not blocked by a previous layer were tested against the next layer, and so on. Another aspect of the test performed by AV-Test.org is retesting after 1 hour to determine if any vendors have added new protection for threats missed in the initial run (a.k.a. “Time to Protect”).

In May 2011, AV-Test.org tested six market-leading Small Business endpoint solutions from Symantec, Sophos, McAfee, ESET, Kaspersky and Trend Micro. The results of the test showed

that Trend Micro was the overall winner, with an advantage in both Exposure layer protection and time to protect.

As shown below, Trend Micro Worry-Free Business Security ranked #1 in Overall Protection against these leading vendors in number of threats blocked.



Note: Results are based on the T+60 minute results

## Products Tested

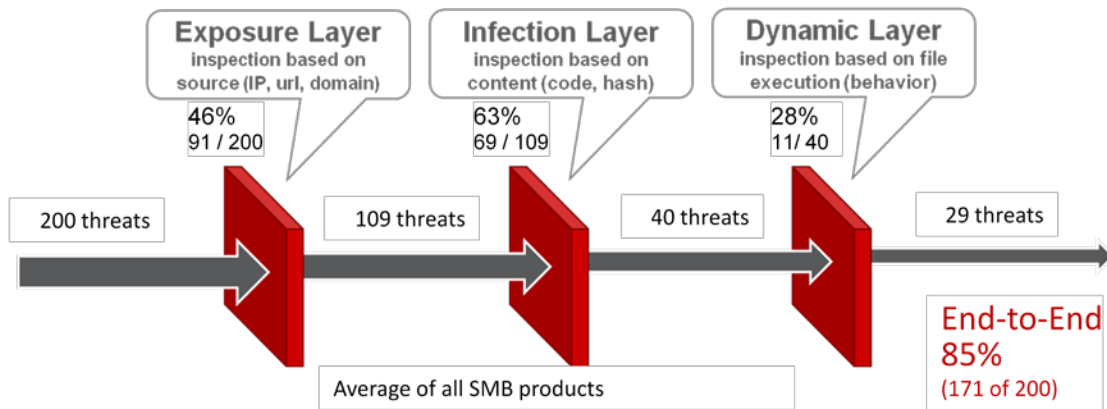
---

AV-Test.org tested the following five products during May 2011:

- Trend Micro Worry-Free Business Security v7.0.1638
  - Sophos Endpoint Security and Control v9.7.1
  - Symantec Endpoint Protection Small Business Edition v12.0.1001.95
  - McAfee SaaS Total Protection v5.2.1
  - ESET Smart Security 4 Business Edition v4.2.71.2
  - Kaspersky Anti-Virus 6.0 for Windows Workstations v6.0.4.1424 d.f
-

## Results and Analysis

Trend Micro received the top rankings among all products for Exposure, Dynamic and End-to-End layers.



Threats prevented at each layer (of total threats that reached that layer)

	Trend Micro	ESET	Kaspersky	McAfee	Sophos	Symantec
Exposure Layer	88% (175 of 200)	48% (95 of 200)	62% (123 of 200)	0% (0 of 200)	75% (150 of 200)	0% (0 of 200)
Infection Layer	40% (10 of 25)	82% (86 of 105)	31% (24 of 77)	79% (157 of 200)	18% (9 of 50)	63% (126 of 200)
Dynamic Layer	40% (6 of 15)	5% (1 of 19)	15% (8 of 53)	65% (28 of 43)	37% (15 of 41)	12% (9 of 74)
<b>All Layers</b>	<b>96%</b> <b>(191 of 200)</b>	<b>91%</b> <b>(182 of 200)</b>	<b>78%</b> <b>(155 of 200)</b>	<b>93%</b> <b>(185 of 200)</b>	<b>87%</b> <b>(174 of 200)</b>	<b>68%</b> <b>(135 of 200)</b>

NOTE: Prevention percentages at each layer do not add up to overall score. For example, with Trend Micro WFBS: Exposure layer prevented 175 of 200 threats (88%); Infection layer prevented 10 of 25 threats (40%); Dynamic layer prevented 6 of 15 threats (40%); Overall prevented 191 of 200 threats (96%).

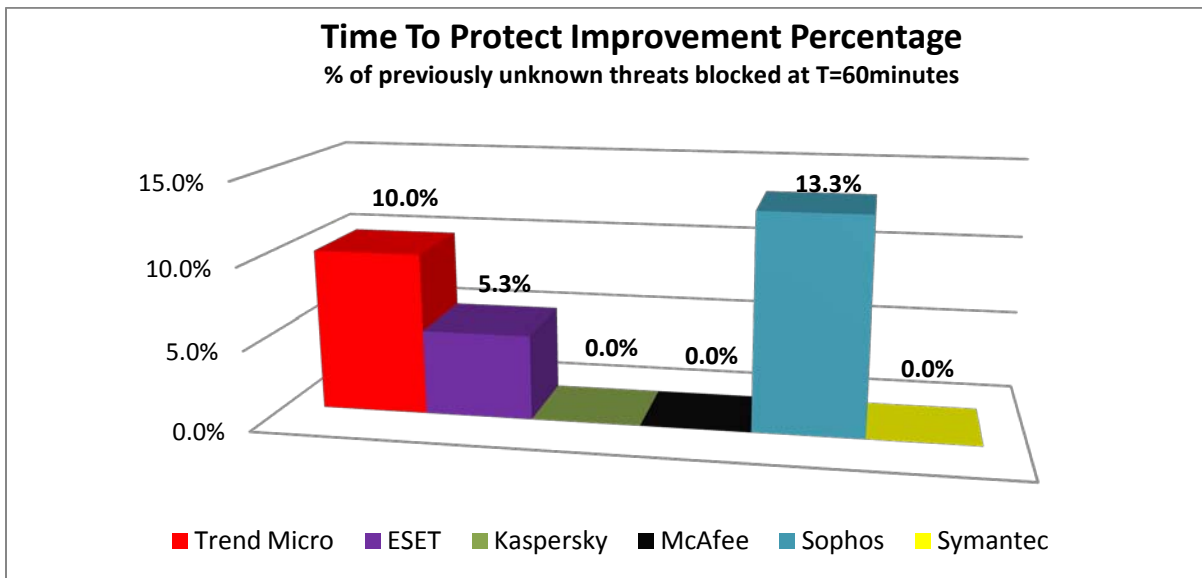
Trend Micro appears to have the most robust technology to block threats at their source (13% higher than closest competitor), thereby, ensuring no file is downloaded prior to detection. This ensures these threats do not require bandwidth to download them, nor does the threat need to be detected at the machine layer, meaning this threat never entered the PC or network.

ESET, McAfee & Symantec performed similar at the Infection layer, but as seen above, the number of files requiring scanning is different for each vendor. This could cause issues as more malicious files are released to the wild and not blocked at the Exposure layer. Also, depending on file- and signature-based methods requires more work to create the signature files, distribute

and update these files on each endpoint. As a result, the network and the endpoint computer resources will be increasingly used for protection, as threats multiply. At the Dynamic layer, McAfee scored the best, but also scanned many files due to less protection at the previous two layers.

Overall, the scores are lower than you would normally see in many of today's file-based tests. This may be due to the fact that the corpus of URLs and files were sourced very shortly prior to the test, thereby not allowing the vendors much time to obtain the samples through the normal industry sharing process.

The amount of threats today requires vendors to improve their ability to source, analyze and block unknown threats. For this reason, the methodology utilized by AV-Test.org in this test is to re-run the samples again after 1 hour. This gives vendors products a chance to automatically source the threats which bypassed their technologies in the first run, analyze each of the URLs and files and ultimately provide protection prior to the next run. The plus one-hour tests should have improved if the products have built in automation to manage this process.



NOTE: Time-to-protect improvement is the percentage of threats missed at T=0min that are subsequently prevented at T=60min. For example, with Trend Micro WFBS 7: At T=0min, 190 threats were prevented while 10 threats were missed. Of the 10 threats missed at T=0min, 1 were prevented at T=60min (1 of 10 equals 10%).

In the Time to Protect aspect of this test, Sophos improved the most at 13.3%, with Trend Micro improving 10% from the first test run.

## Rankings, Corpus, and Methodology

---

### Scoring and Rankings

The overall scores were derived by adding up the total number of threats blocked by each solution, regardless of which layer blocked it.

Note that these rankings do not consider performance, scalability, user interface, features, or functionality — only protection effectiveness against the October 2010 corpus.

### The Corpus

AV-Test.org compiled the corpus for testing by searching the Internet for malicious URLs that have associated malware. For this test they sourced 200 malicious URL samples and the associated 200 malicious file samples to conduct the test.

The URLs/files that AV-Test.org uses for testing are gathered from sites in the wild, using a variety of proprietary discovery, analysis, and verification techniques. They are neither supplied by, nor known to, any of the companies whose products were tested.

### Test Methodology

The test methodology can be found at the following webpage.

[http://www.av-test.org/services\\_and\\_testing](http://www.av-test.org/services_and_testing)

### In Summary

Some conclusions we can make from the data presented here.

1. Vendors like Trend Micro that have invested in and provided solutions that block threats at multiple layers (Exposure, Infection & Dynamic) provide better overall security against the new threats propagating today. They improve protection by keeping threats completely off the network or computer using proactive technologies like Web reputation instead of waiting for malicious files to be downloaded.
2. Zero-day threats are more difficult to defend against, which is why the overall scores are lower than traditional detection rate tests, and why the Time to Protect factor has to be included in any real-world tests. This shows the effectiveness of a vendor at sourcing, analyzing and providing protection for any previously unobserved threats.

*This comparative review, conducted independently by AV-Test.org in May 2011, was sponsored by Trend Micro. AV-Test.org aims to provide objective, impartial analysis of each product based on hands-on testing in its security lab.*