

# Panda Software: Competitive Benchmark

*Test report prepared under contract from Panda Software*

## Executive summary

Panda Software commissioned VeriTest to replicate an internal test bed and verify test results.

Panda Software requested VeriTest to install and configure World Bench testing software in conjunction with competitive antivirus applications on a Windows XP Professional workstation. The products to be tested were as follows:

### RETAIL PRODUCTS

#### MCAFEE

- McAfee Internet Security 2007 [7.0.329]

#### SYMANTEC

- Norton Internet Security 2007 [10.0.0.86]

#### PANDA SOFTWARE

- Panda Internet Security 2007 [11.00.02]

#### KASPERSKY INTERNET SECURITY

- Kaspersky Internet Security [6.0.0.303]

#### TREND MICRO

- PC-cillin Internet Security 2007 [15.00.1433]

The purpose of the first test was to demonstrate the performance impact that the presence of an antivirus application has on a computer. Utilizing WorldBench 5.0 software from the PC World Test Center, VeriTest Engineers were able to obtain a baseline performance average of a computer with no antivirus software installed. Each individual antivirus application was then installed and tested for PC performance impact using WorldBench 5.0 software.

The second test tracked the length of time necessary to scan a 1GB file set. This file set consisted of many levels of folders and many different file types, including compressed files. Known infected files were included in order to assure that each product was scanning for viruses.

### Key findings

- ❑ In regards to total time to process the WorldBench 5.0 test suite, the Panda Internet Security 2007 solution had the least impact on system performance over all Security Suites tested.
- ❑ Panda Internet Security 2007 demonstrated a clear advantage over the competition when scanning a large number of files and folders.

## Testing methodology

VeriTest configured three identical Windows XP Professional workstations. Each workstation was a Dell Optiplex GX 620 with 3.4 GHz processor and 1 GB of RAM. An ATI Radeon 9250 video card was also added to each PC. VeriTest engineers installed and configured a fully patched installation of Windows XP Professional on each PC.

### ***Test One: Impact on World Bench 5 Performance***

For this first test, WorldBench 5.0 was then installed and configured. Using Norton Ghost, a hard drive image was saved to a remote storage device so that the PC may be returned to a fresh baseline when needed.

Utilizing WorldBench 5.0 software, a “Full Run” test was executed on each PC. This test included three iterations wherein all tests would be completed three times to achieve an average result. WorldBench 5.0 software executed a series of tests to determine the time taken to complete each complex task. Upon completion of the “Full Run” series of testing, the results were exported. The PC was then returned to a fresh baseline state via restoration of drive image. These “Full Run” results provide the baseline performance statistics required to compare future test results against.

The WorldBench 5.0 benchmark software is very sensitive to other applications running in the same environment in which it operates. Due to this, some of the products being tested required configuration changes in order to suppress pop-up messages. These configuration changes are listed in Appendix B.

Immediately after installation, each antivirus application was instructed to complete all available updates and patches via the Internet. Utilizing WorldBench 5.0, a “Full Run” test was executed twice, completing six iterations of each World Bench 5 application test. The results from each test were exported and averaged to produce the results shown in the Test Results.

WorldBench 5.0 is a tool for measuring a computers “real-world” performance capability. WorldBench 5.0 automatically executes functions within popular desktop applications. WorldBench 5.0 times the completion of these functions to produce its scoring results.

WorldBench 5.0 executes tests through automated functions using the following bundled software:

1. ACD Systems ACDSave PowerPack 5.0
2. Adobe Photoshop 7.0.1
3. Adobe Premier 6.5
4. Ahead Software Nero Express 6.0.0.3
5. Discreet 3ds Max 5.1 (DirectX)
6. Discreet 3ds max 5.1 (OpenGL)
7. Microsoft Office XP with SP-2
8. Microsoft Windows Media Encoder 9.0
9. Mozilla 1.4
10. Multitasking: Mozilla and Windows Media Encoder
11. Musicmatch Jukebox 7.10
12. Roxio VideoWave Movie Creator 1.5
13. WinZip Computing WinZip 8.1

## Test Two: One GB File System Scan

For the second test, first, the individual product baseline image was restored using the Ghost image created during the first test. Next, a standard file system, contained within one test folder and consisting of 63 folders and 13,799 files was copied onto the hard disk. Then a scan of this test folder was initiated. The time to complete the scan was measured. To ensure that the products were actually scanning for viruses, there were known viruses included in this test folder. All products found most or all of the viruses. This test was run twice for each product in order to verify the results and to calculate an average. In between the two tests, the product baseline image was reloaded onto the PC in order to remove any cached information.

## Test Results

### Test One: Impact on WorldBench 5.0 Performance

Product	WB SCORE	1	2	3	4	5	6	7	8	9	10	11	12	13
BASELINE PC	90	563	360	475	477	392	1140	533	377	524	692	490	304	377
Panda Internet Security 2007	85	583	370	486	531	407	1155	567	387	588	756	485	326	397
Kaspersky Internet Security 6.0	85	623	365	486	537	413	1161	557	384	576	759	499	314	421
Trend Micro PC-cillin Internet Security 2007	83	577	374	489	520	412	1171	583	382	619	807	493	310	397
Norton Internet Security 2007	78	587	371	503	590	420	1167	722	382	582	782	495	315	430
McAfee Internet Security Suite 2007	78	585	403	492	514	433	1187	686	384	707	922	495	317	390

**Table 1: WorldBench 5.0 Results**

The Baseline PC was a computer of which had no antivirus software installed. The Baseline PC was a Dell Optiplex GX620 workstation running Windows XP Professional with Service Pack 2. WorldBench 5.0 was instructed to complete a "Full Test" and the results of that test are shown below. The top row is the WorldBench test number and the bottom row is the number of seconds taken to complete that individual test.

As shown in Table 1 above, Panda Internet Security 2007 and Kaspersky Internet Security 6.0 Antivirus + Antispyware achieved a score of 85 by WorldBench 5.0. Trend Micro PC-cillin Internet Security 2007 received a significantly lower (slower) score, while Norton Internet Security 2007 and McAfee Internet Security proved to affect more system performance than any of the competitors tested.

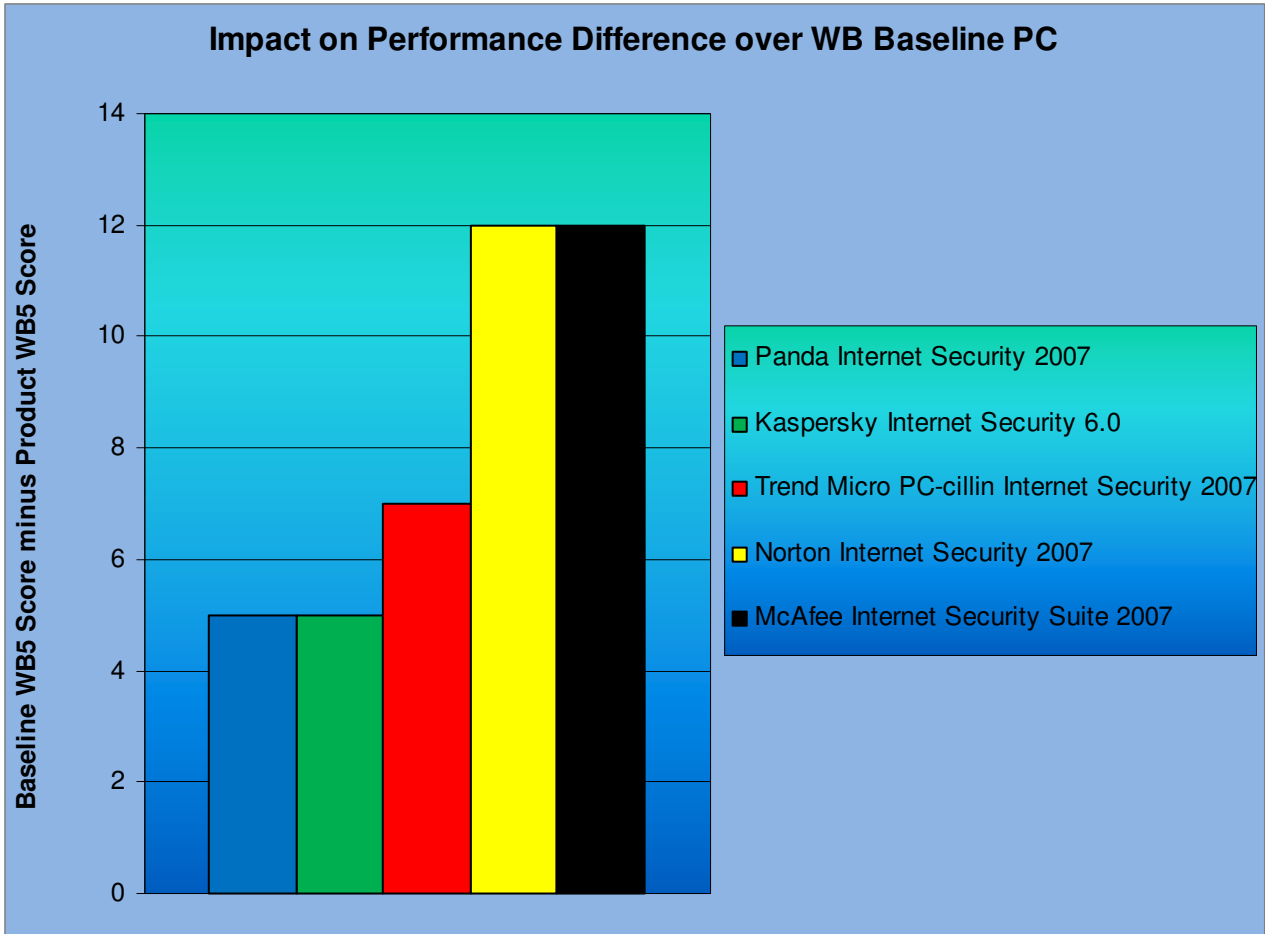


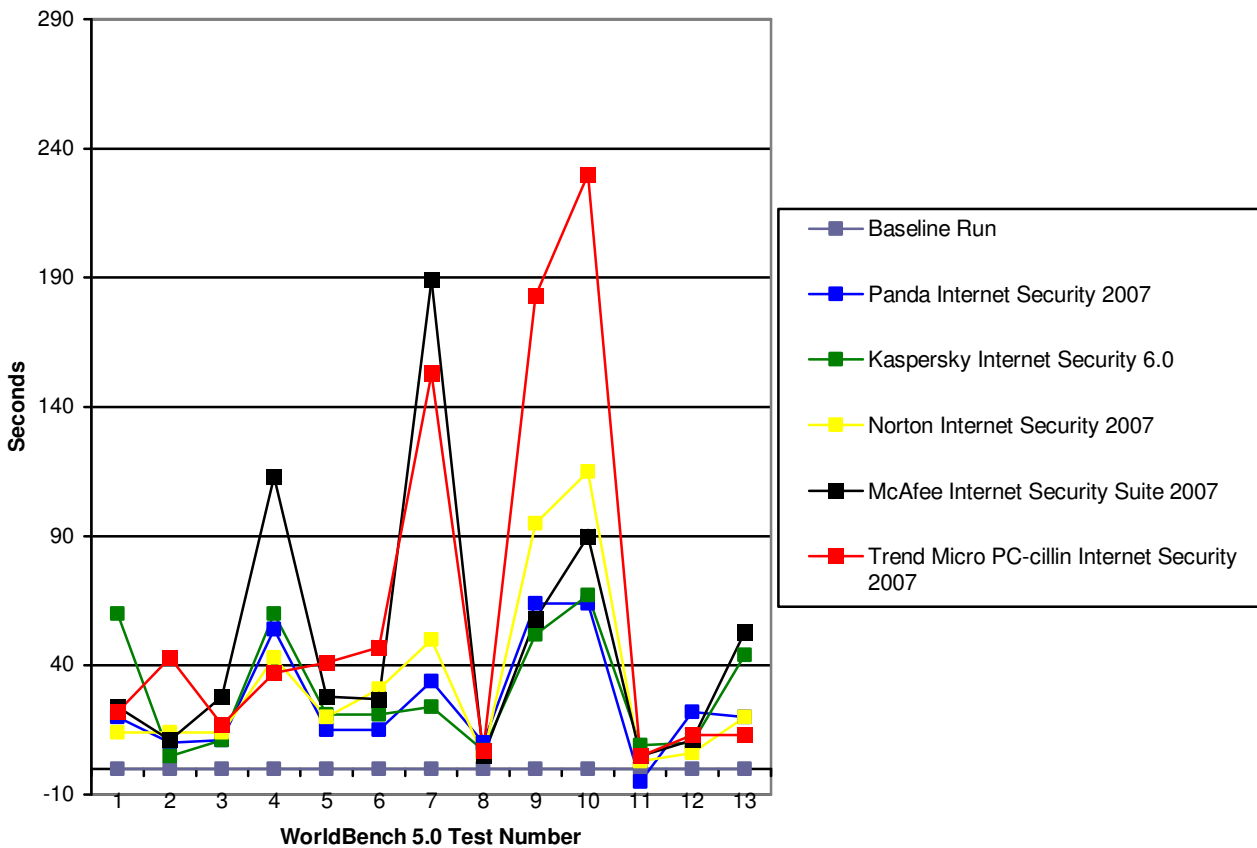
Figure 1: Impact on WorldBench 5.0 Scores

**Retail Product Ranking:**

1. Panda Internet Security 2007 (average 7,038 seconds per WorldBench pass)
2. Kaspersky Internet Security 6.0 (average 7,095 seconds per WorldBench pass or 0.81% slower)
3. Trend Micro PC-cillin Internet Security 2007 (7,217 seconds per WorldBench pass or 2.54% slower)
4. Norton Internet Security 2007 (average 7,346 seconds per WorldBench pass or 4.38% slower)
5. McAfee Internet Security Suite 2007 (average 7,515 seconds per WorldBench pass or 6.78% slower)

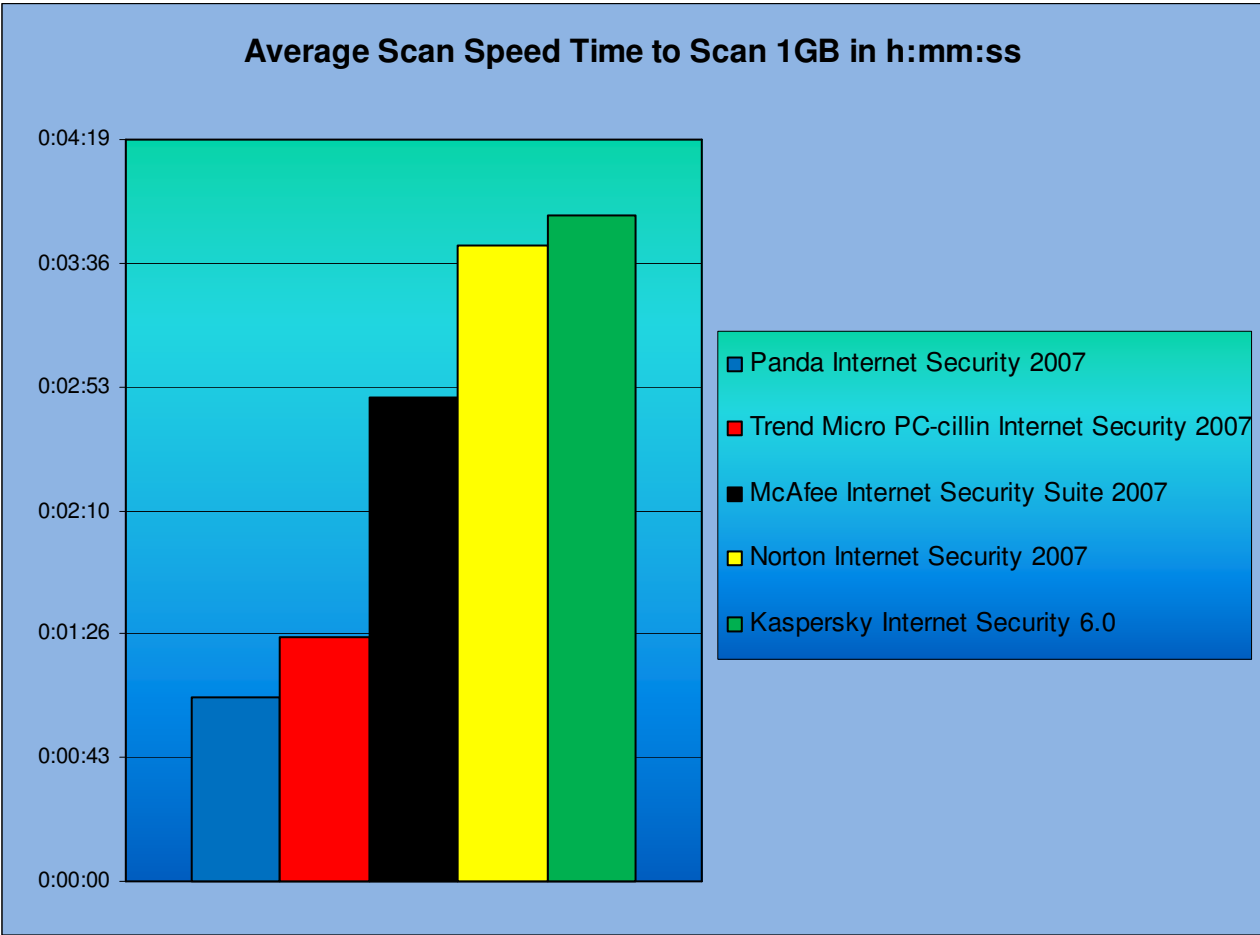
The next chart, Figure 2, demonstrates the number of seconds each test took to complete over the Baseline. It is clear that although Panda Software product only used the least amount of time to complete five of the 13 tests; it consistently maintained the lowest average time during the entire series of 13 WorldBench tests which allowed it to come in with the lowest overall time for a WorldBench 5.0 test pass.

## Seconds to Completion Over Baseline Run



**Figure 2: WorldBench 5.0 Individual Test Numbers**

**Test Two: One GB File System Scan**



**Figure 3: Time Scan 1GB File System**

As shown in Table 3 above, Panda Internet Security 2007 achieved the lowest average time for scanning a 1 GB file system at one minute and four seconds. Trend Micro PC-cillin Internet Security 2007 was second in line with an average scanning time of one minute and 26 seconds. McAfee Internet Security came in third with an average scanning time two minutes and 49 seconds. In fourth place was Norton Internet Security 2007 with an average scanning time of three minutes and 42 seconds. Kaspersky Internet Security 6.0 Antivirus + Antispyware finished in last place with a time of three minutes and 53 seconds.

## Conclusion

In regards to System performance, although the second place finisher, Kaspersky, was close, the Panda Internet Security 2007 application demonstrated an advantage in the amount of overall performance degradation. In comparing the Trend Micro PC-cillin product with Panda Internet Security 2007 application, the performance difference is more pronounced. Finally, when compared to the McAfee and Norton retail products tested, the performance advantage of the Panda Software product was very pronounced.

When comparing the time necessary to scan a test folder of almost 14,000 files, the Panda Software product showed a clear performance advantage over its competitors.

Panda Internet Security 2007 product provided outstanding overall PC performance and scanning performance and is one of the leaders in this area when compared with products from other manufacturers.

# Appendix A: Test Bed Configuration

## Hardware

PC 1: Dell Optiplex GX 620 - 3.4 GHz processor - 1 GB of RAM - ATI Radeon 9250 256 MB

PC 2: Dell Optiplex GX 620 - 3.4 GHz processor - 1 GB of RAM - ATI Radeon 9250 256 MB

PC 3: Dell Optiplex GX 620 - 3.4 GHz processor - 1 GB of RAM - ATI Radeon 9250 256 MB

## Software

### Operating System Platform

Windows XP Professional Operating System with Service Pack 2.  
World Bench 5 Software, with latest Patch.

### Products

#### MCAFEE

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## Appendix B: Application Configuration

As stated earlier, the WorldBench 5 application is sensitive to pop-up messages and sometimes will not complete the test suite properly unless the application in question is configured to suppress these messages.

### ***Panda Internet Security 2007***

It was not necessary to make any changes in Panda Suite in order to get it to work with WorldBench 5.0.

### ***Kaspersky.***

WorldBench \*.trc files have to be excluded of any analysis type otherwise WorldBench applications will stop running. To exclude the files:

- Go to Kaspersky Configuration Window.
- Select "Protection"
- Select "Confidence Zones"
- Select Add
- Select Object
- Select the name of the object (\*.trc)
- And select all analysis types

The WorldBench Office iterations use office macros. Kaspersky Proactive Defense has a utility that stops macro executions. We disabled it.

- Go to Kaspersky Configuration Windows
- Select "Proactive Defense"
- Unmark the last check (Office Watch)

Additional changes:

- Select the Antispam section and set the sensitivity to the lowest setting.
- Uncheck the "Activate components for Microsoft Office" box.
- Uncheck "Show mail distributor when receiving mail".

Save all the changes and reboot.

### ***McAfee.***

McAfee has a utility called SystemGuards that stops WorldBench 's system modifications, and needs to be disabled.

- Go to computer & files.
- Click configure.
- Select SystemGuard protection
- Disable it.
- In common tasks select home.
- If you receive a message saying that you are not protected, select ignore.

### ***PC-cillin.***

WorldBench and all the software included are "suspicious applications" for Pc-cillin, so we need to disable the Suspicious Software detection.

- Select Virus & Spyware control.
- Select "Suspicious Software" configuration.
- Disable the system.
- Select Accept.

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