VB100 COMPARATIVE REVIEW – APRIL 2017

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There are many common misconceptions about anti-virus (or anti-malware) software. For example, there is the belief that it protects your computer against *all* threats and, at the other end of the scale, the belief that, in practice, it rarely protects your machine. Both are wrong, and both can have harmful consequences if you take them to be the truth.

Anti-malware should always be used as part of a layered approach against malware threats, in which it is both the first and last line of defence. As the first line of defence, it can block a lot of threats simply by scanning files that are downloaded or copied onto a device, and as the last line of defence, if everything else has failed, its runtime protection will often stop the threat.

Virus Bulletin's anti-malware tests have always focused on the first-line aspect: how well does a solution protect users against malware that it is asked to scan, or that is copied onto a device under its control? The VB100 award is earned by products that block all files from the WildList (malware reported as having been seen in the wild by security professionals), while generating no false positives when scanning *Virus Bulletin*'s large and regularly updated collection of clean files.

VB100 is a baseline award: the standards it requires are the minimum one should expect of a well-performing product. It is also an award that a good product should achieve regularly – thus it is also important to check a product's VB100 history. A product that achieves a VB100 award all or at least *most* of the time can be assumed to be a decent anti-virus product.

In this test, we put 30 solutions from 27 different vendors on our test bench; 21 of them achieved a VB100 award, thus not only showing that there are plenty of good anti-malware

solutions on the market, but also justifying vendors' efforts to distinguish their products in other ways.

CHANGES TO THE VB100 TESTING SET-UP

As the threat landscape continues to change, we have made some changes to our VB100 test set-up.

Tests are still run every two months, but rather than changing the platform on which the test is run each time, we now test every product every time on the two most popular desktop operating systems – currently, these are *Windows 7* and *Windows 10*. A product earns VB100 certification if, *on both platforms*, it blocks all files from the WildList, and doesn't generate any false positives when scanning the full clean set.

As on-demand scanning for malware has become increasingly rarely used, the test now focuses solely on on-access scanning of malware. In practice, this means that both malware samples and clean files are copied into a directory on a machine onto which the anti-malware product has been installed, with its latest updates downloaded and, generally, with a connection to the cloud.
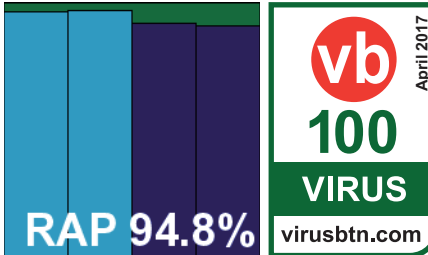
Testing on two operating systems rather than one means that we have had to focus on the automation of the tests, as well as on reducing the number of indicators we report; we believe this makes the reports easier to read and to digest, which is important given the large number of available solutions.

This is thus the first of the new-style bi-monthly reports. It is also the first test report written by a new author, which wouldn't be complete without a thank you to my predecessor, John Hawes, for the 64 VB100 reports he put together, during the course of which he tested almost 2,000 products. It will not be easy to fill John's shoes, but thanks to the work of a great team, I expect both the test results and the reports that go with them to be just as interesting.
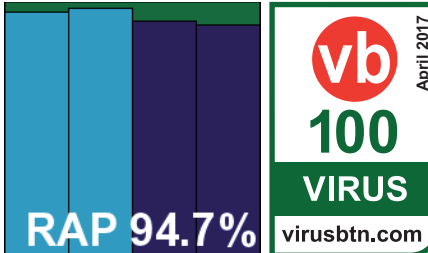
RESULTS

In the following results, the RAP images display an average of the RAP scores across the two platforms.

adaware antivirus free

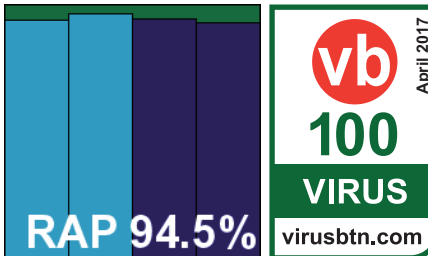|	Windows 7	Windows 10
Main version	12.0.649.11190	12.0.649.11190
Update versions	7.70283, 7.71133, 7.71177, 7.71067	7.70283, 7.71083, 7.71108, 7.71044
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 94.8%

adaware antivirus pro

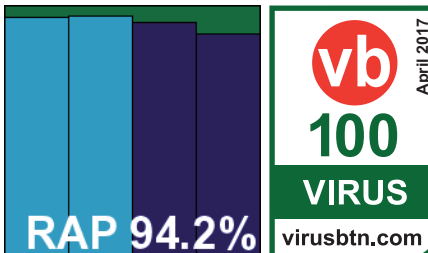|	Windows 7	Windows 10
Main version	12.0.649.11190	12.0.649.11190
Update versions	7.70284, 7.71150, 7.71089	7.70284, 7.71091, 7.71118, 7.71051
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 94.7%

Arcabit Antivirus

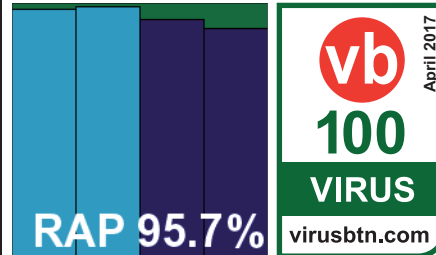|	Windows 7	Windows 10
Main version	2017.03.20	2017.03.20
Update versions	2017.04.28, 2017.04.27, 2017.04.06	2017.04.26, 2017.04.27, 2017.04.06
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 94.5%

Avast Free Antivirus

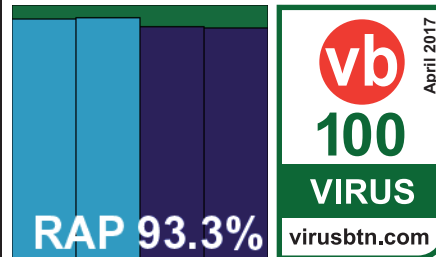|	Windows 7	Windows 10
Main version	17.2.2288	17.2.2288
Update versions	17032000, 17032200, 17.4.2294/17050500, 17.3.2291/17040602	17032000, 17032105, 17.3.2290/17032801, 17.3.2291/17040602
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 94.2%

AVG Internet Security

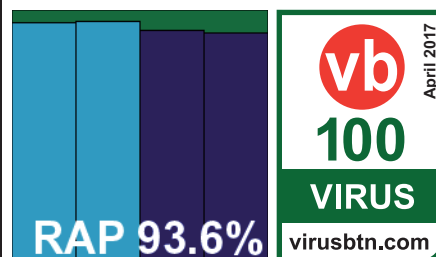|	Windows 7	Windows 10
Main version	17.2.3008	17.2.3008
Update versions	17032000, 17.3.3011/17042700, 17.3.3011/17042402, 17040602/17040602	17032000, 17.3.3011/17050400, 17042600, 17040602
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 95.7%

vb 100 VIRUS virusbtn.com   April 2017

Bitdefender GravityZone Security for Endpoints

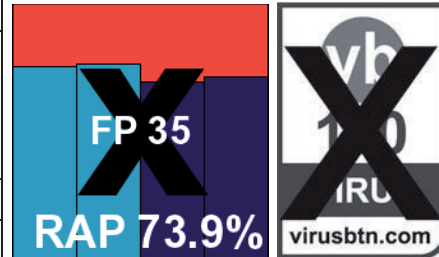|	Windows 7	Windows 10
Main version	6.2.18.884	6.2.18.884
Update versions	7.70282, 7.70325, 7.70474, 6.2.19.894/7.70667	7.70282, 7.70323, 6.2.19.899/7.71098, 6.2.19.894/7.70671
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 93.3%

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BullGuard Antivirus

	Windows 7	Windows 10
Main version	17.0.330.2	17.0.330.2
Update versions	16.0.0.87	16.0.0.88, 17.0.330.2, 17.0.330.2, 17.0.331.2
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 93.1%

vb 100 VIRUS virusbtn.com   April 2017
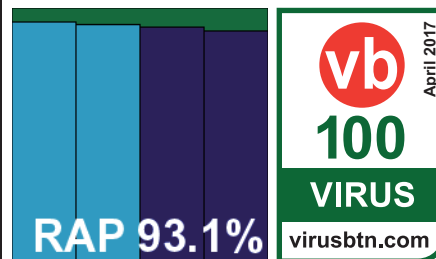
CompuClever Antivirus Plus

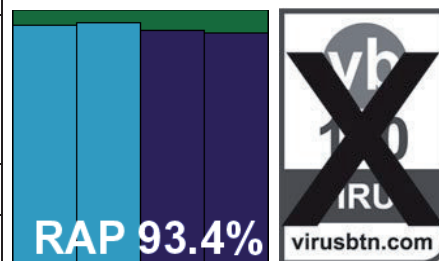|	Windows 7	Windows 10
Main version	19.6.0.326	19.6.0.326
Update versions	7.70284/7877508, 7.70327/7875994, 7.70480/7970995, 7.71041/8688235	7.70284/7877508, 7.70320/7876235, 7.71092/8739627, 7.70707/8354620
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 93.6%

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Cyren Command Anti-Malware

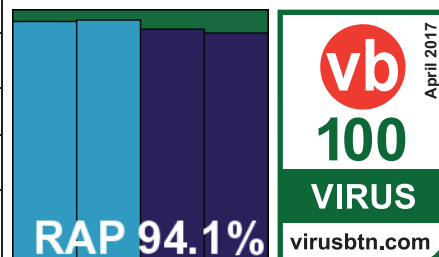|	Windows 7	Windows 10
Main version	5.1.38	5.1.38
Update versions	5.4.25/201703201028, 5.4.25/201703221959, 5.4.25/201703291153, 5.4.25/201704071514	5.4.25
ItW catch rate	100.00%	100.00%
False positives	35	35

FP 35
RAP 73.9%

Defenx Security Suite

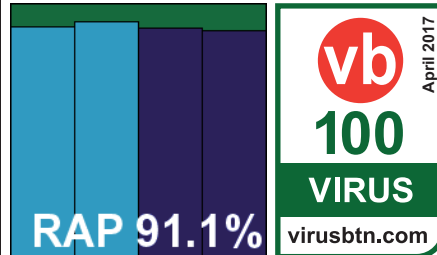|	Windows 7	Windows 10
Main version	15.1.0103	15.1.0103
Update versions	10.6.22769, 15.1.0104/10.10.23222, 10.7.22847, 15.1.0104/10.8.22943	10.6.22769, 15.1.0104/10.9.23160, 15.1.0103/10.7.22847, 15.1.0104/10.8.22943
ItW catch rate	100.00%	100.00%
False positives	2	2

FP 2
RAP 84.3%
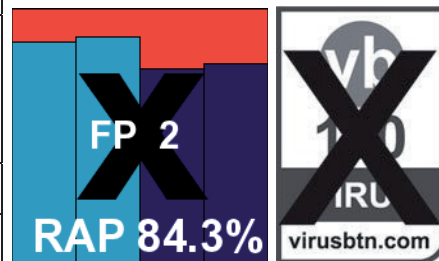
Emsisoft Anti-Malware

	Windows 7	Windows 10
Main version	7.70282	7.70282
Update versions	7879563, 7.71078/8732080, 7.71057/8708161, 7.70769/8408438	7.70315, 7.70451, 7.70669
ItW catch rate	99.76%	99.76%
False positives	0	0

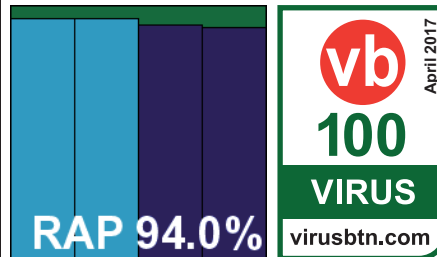RAP 93.4%

eScan Internet Security Suite

	Windows 7	Windows 10
Main version	14.0.1400.1979	14.0.1400.1979
Update versions	N/A	N/A
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 94.1%

ESET Internet Security

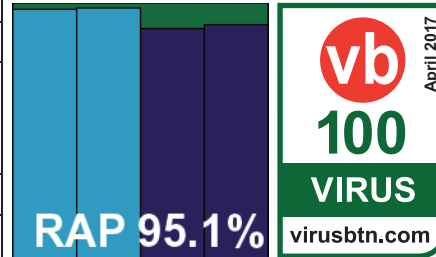|	Windows 7	Windows 10
Main version	10.0.390.0	10.0.386.0
Update versions	15117, 15126, 15160, 15220	15117, 15126, 15194, 15216
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 91.1%

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Essentware PCKeeper Antivirus PRO

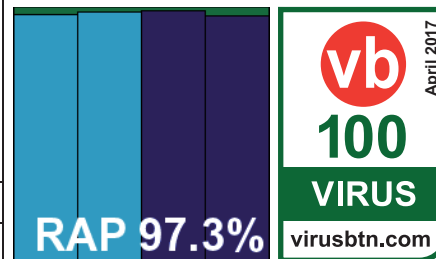|	Windows 7	Windows 10
Main version	8.3.44.10	8.3.44.10
Update versions	8.12.160.44, 8.12.156.166, 8.12.160.148, 8.3.44.18/8.12.161.88	8.12.160.44, 8.3.44.18/8.12.161.2, 8.12.161.88, 8.3.44.32/8.12.162.158
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 94.0%

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ESTsecurity ALYac

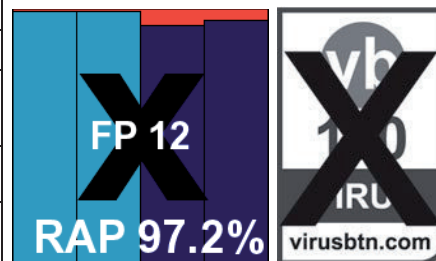|	Windows 7	Windows 10
Main version	3.0.1.3	3.0.1.3
Update versions	16.7.12.1, 16.7.12.1, 16.7.12.1, 8.3.44.18/8.12.161.88	16.7.12.1/3.0.1.3.30307/634381.2017032021/7.70278/7885509.20170320, 7.70304/7871350.20170321/634555.2017032215, 635702.2017032819/7.70455/7953332.20170328, 637514.2017040723/7.70669/8404894.20170407
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 93.5%

vb 100 VIRUS
April 2017
virusbtn.com
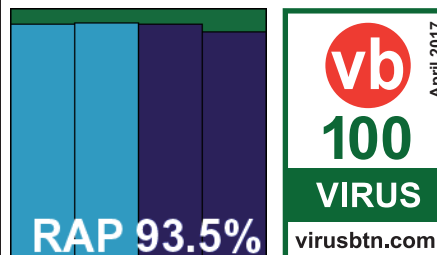
Fortinet FortiClient

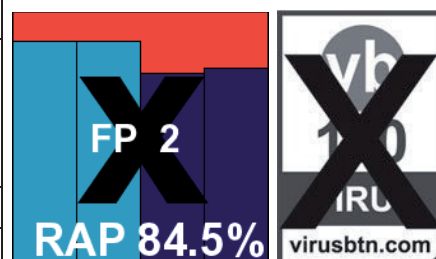|	Windows 7	Windows 10
Main version	5.4.1.0840	5.4.1.0840
Update versions	5.00233/45.00497, 45.00527, 45.00671, 45.00931	5.00233/45.00497, 46.00482, 45.00820, 45.00906
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 95.1%

vb 100 VIRUS — April 2017 — virusbtn.com

G DATA Antivirus

	Windows 7	Windows 10
Main version	25.3.0.1	25.3.0.1
Update versions	AVA 25.11295/GD 25.9129, AVA 25.12171/GD 25.9423, AVA 25.10892/GD 25.8963, AVA 25.11706/GD 25.9280	AVA 25.11296/GD 25.9129, AVA 25.11341/GD 25.9146, AVA 25.11697/GD 25.9277
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 97.3%

vb 100 VIRUS — April 2017 — virusbtn.com

IKARUS anti.virus

	Windows 7	Windows 10
Main version	2.13.19	2.13.19
Update versions	99180, 99293, 99203, 99232	99180, 99187, 99203, 99233
ItW catch rate	100.00%	100.00%
False positives	12	12

FP 12
RAP 97.2%

K7 Total Security

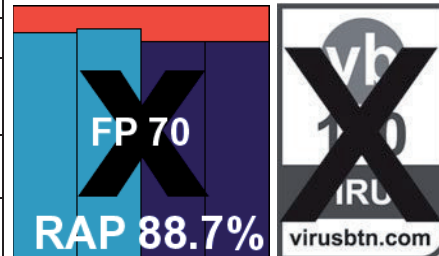|	Windows 7	Windows 10
Main version	15.1.0304	15.1.0304
Update versions	10.6.22771, 10.10.23224, 10.7.22857, 10.9.23100	10.6.22771, 10.6.22799, 10.7.22861, 10.22969
ItW catch rate	100.00%	100.00%
False positives	2	2

FP 2
RAP 84.5%

Kaspersky Internet Security

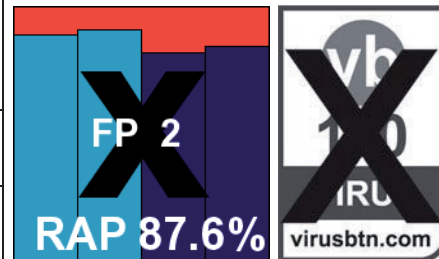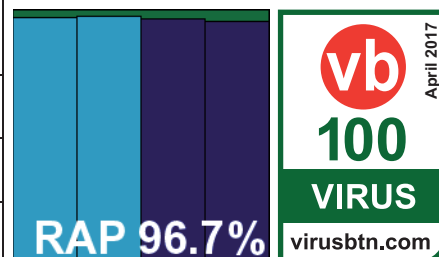|	Windows 7	Windows 10
Main version	10.0.0.611	17.0.0.611d
Update versions	N/A	17.0.0.611e, 17.0.0.611d, 17.0.0.611d
ItW catch rate	100.00%	100.00%
False positives	0	0

(Product not included in RAP tests)

MSecure Endpoint ATP

	Windows 7	Windows 10
Main version	99181	99180
Update versions	99181, 99309, 99206, 99240	99316, 99310, 99233
ItW catch rate	100.00%	100.00%
False positives	70	70

NANO Antivirus Pro

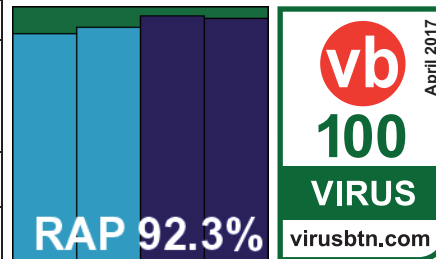|	Windows 7	Windows 10
Main version	1.0.70.81193	1.0.70.81193
Update versions	0.14.27.9233, 0.14.27.9125, 0.14.27.9270, 0.14.27.9325	0.14.27.9233,1.0.70.81508/0.14.27.9245, 0.14.27.9270/1.0.70.81508, 0.14.27.9341/1.0.72.81720
ItW catch rate	100.00%	100.00%
False positives	1	2

Quick Heal Seqrite Endpoint Security

	Windows 7	Windows 10
Main version	17.00 (10.0.1.26) 64bit	17.00
Update versions	N/A	10.2.3.1
ItW catch rate	100.00%	100.00%
False positives	0	0

Quick Heal Total Security

	Windows 7	Windows 10
Main version	17.00 (1.2.3.1) 64bit	17.00
Update versions	N/A	10.0.1.26
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 96.5%

vb 100 VIRUS
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virusbtn.com
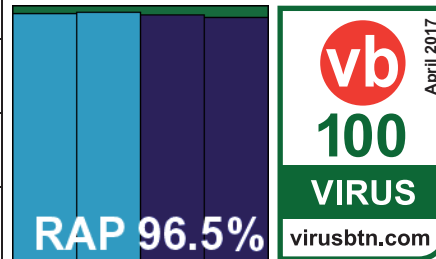
Tencent PC Manager

	Windows 7	Windows 10
Main version	12.1.26390.901	12.1.26390.901
Update versions	12.3.26413.901, 12.1.26375.901	12.3.26413.901, 12.3.26415.901, 12.3.26397.901
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 92.3%

vb 100 VIRUS
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virusbtn.com

ThreatTrack VIPRE Internet Security Pro 2016

	Windows 7	Windows 10
Main version	9.3.6.3	9.3.6.3
Update versions	56782, 56858, 56976, 57228	56782, 56856, 56980, 57288
ItW catch rate	99.21%	100.00%
False positives	0	0
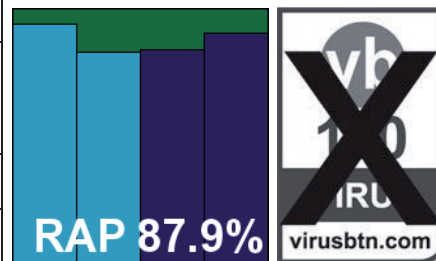
RAP 87.9%

vb 100 IRU
April 2017
virusbtn.com

Total Defense Internet Security

	Windows 7	Windows 10
Main version	9.0.0.645	9.0.0.645
Update versions	3.0.0.6767, 3.0.2.1015	3.0.2.1015
ItW catch rate	100.00%	100.00%
False positives	0	0
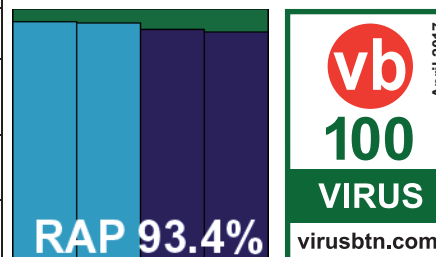
RAP 93.4%

vb 100 VIRUS
April 2017
virusbtn.com

Total Defense Premium Internet Security

	Windows 7	Windows 10
Main version	9.0.0.645	9.0.0.645
Update versions	3.0.2.1015	3.0.2.1015
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 92.6%

vb100 VIRUS virusbtn.com — April 2017
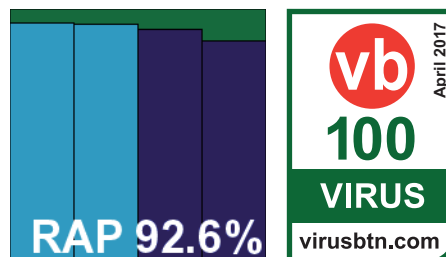
TrustPort Antivirus Sphere

	Windows 7	Windows 10
Main version	17.0.0.6026	17.0.0.6026
Update versions	N/A	N/A
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 98.0%

vb100 VIRUS virusbtn.com — April 2017
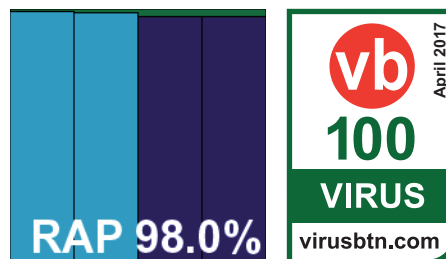
Vir.IT eXplorer PRO

	Windows 7	Windows 10
Main version	8.3.87	8.3
Update versions	8.3.91, 8.4.17, 8.3.74	8.3.87, 8.3.91, 8.3.94, 8.4.3
ItW catch rate	100.00%	100.00%
False positives	0	0

RAP 61.4%

vb100 VIRUS virusbtn.com — April 2017
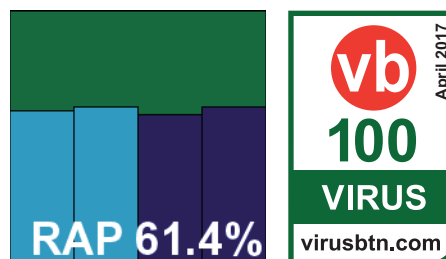
CONCLUSION

We were pleased to find that all but two participating solutions detected the full WildList – after all, this is the minimum one should expect from an anti-malware product.

Of course, a good detection rate is only relevant if the product doesn't regularly cause disruption by blocking legitimate files. It was thus disappointing to see six products blocking one or more legitimate programs (noting that the clean set had been purged of uncommon programs and those that showed suspicious behaviour).

Overall though, we are excited about this next step in *Virus Bulletin*'s anti-malware testing and we are looking forward to further developing the tests in line with the ever-changing threat landscape.

APPENDIX: THE TEST SET-UP

The main test on each platform was run in three parts, over three consecutive weeks. Products were installed on clean installations of both *Windows 7* and *Windows 10*. At the beginning of each part of the test we made sure the latest updates were downloaded, while throughout the test, products were connected to the Internet, thus allowing for real-time cloud look-ups.

For each part of the test, we used the most recent version of the WildList, together with one third of our constantly updated collection of widely used legitimate software. Using a shared drive, the files were copied onto the client machine and we recorded whether (and how) files were blocked by the anti-malware product.

If files weren't blocked, a custom-built tool was used to open the file, thus triggering AV detection by products that don't (always) scan files on being copied.

As mentioned in the introduction, a product passed the test if, and only if, *on both platforms* it blocked all files from the WildList, and didn't generate any false positives (i.e. incorrect detections) when scanning the full clean set.

The clean set consists of more than 400,000 files, all widely used programs, with any files that show suspicious behaviour being excluded from the set.

For the 'RAP' (reactive and proactive) test, the same set-up was used, but for the proactive part of the test products were not connected to the Internet. This allowed us to measure their proactive detection abilities by having a 'frozen' version of each product scan two sets of malware files: those seen in the wild between one day and five days after the product 'freeze' date, and those seen in the wild between six and 10 days after this date.

Note: A slightly different approach when it comes to tidying up the set of malware, as well as a different approach to testing, means the individual RAP scores should not be compared with those seen in previous tests.

Certification tests	Windows 7				Windows 10				VB100
	FPs	FP rate	WildList misses	WildList catch rate	FPs	FP rate	WildList misses	WildList catch rate	
adaware antivirus free	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
adaware antivirus pro	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
Arcabit Antivirus	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
Avast Free Antivirus	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
AVG Internet Security	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
Bitdefender GravityZone Security for Endpoints	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
BullGuard Antivirus	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
CompuClever Antivirus Plus	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
Cyren Command Anti-Malware	35	0.01%	0	100.00%	35	0.01%	0	100.00%	X
Defenx Security Suite	2	0.00%	0	100.00%	2	0.00%	0	100.00%	X
Emsisoft Anti-Malware	0	0.00%	6	99.76%	0	0.00%	6	99.76%	X
eScan Internet Security Suite	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
ESET Internet Security	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
Essentware PCKeeper Antivirus PRO	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
ESTsecurity ALYac	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100

Certification tests contd.	Windows 7				Windows 10				VB100
	FPs	FP rate	WildList misses	WildList catch rate	FPs	FP rate	WildList misses	WildList catch rate	
Fortinet FortiClient	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
G DATA Antivirus	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
IKARUS anti.virus	12	0.00%	0	100.00%	12	0.00%	0	100.00%	X
K7 Total Security	2	0.00%	0	100.00%	2	0.00%	0	100.00%	X
Kaspersky Internet Security	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
MSecure Endpoint ATP	70	0.02%	0	100.00%	70	0.02%	0	100.00%	X
NANO Antivirus Pro	1	0.00%	0	100.00%	2	0.00%	0	100.00%	X
Quick Heal Seqrite Endpoint Security	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
Quick Heal Total Security	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
Tencent PC Manager	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
ThreatTrack VIPRE Internet Security Pro 2016	0	0.00%	20	99.21%	0	0.00%	0	100.00%	X
Total Defense Internet Security	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
Total Defense Premium Internet Security	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
TrustPort Antivirus Sphere	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100
Vir.IT eXplorer PRO	0	0.00%	0	100.00%	0	0.00%	0	100.00%	VIRUS 100

RAP (Reactive And Proactive) tests – Windows 7	Reactive		Reactive average	Proactive		Proactive average	RAP weighted average ‡
	Set -2*	Set -1*		Set +1†	Set +2†		
adaware antivirus free	95.9	97.0	96.5	91.8	90.6	91.2	94.7
adaware antivirus pro	94.9	97.1	96.0	92.1	90.6	91.4	94.4
Arcabit Antivirus	94.0	96.3	95.1	95.9	95.3	95.6	95.3
Avast Free Antivirus	93.5	94.0	93.7	93.5	89.9	91.7	93.1
AVG Internet Security	97.9	98.2	98.1	93.3	89.8	91.6	95.9
Bitdefender GravityZone Security for Endpoints	93.9	94.0	93.9	91.5	90.6	91.1	93.0
BullGuard Antivirus	94.1	93.5	93.8	92.1	90.6	91.3	93.0
CompuClever Antivirus Plus	95.0	94.9	94.9	91.8	90.6	91.2	93.7
Cyren Command Anti-Malware	73.8	78.7	76.3	69.4	71.3	70.3	74.3
Defenx Security Suite	86.3	88.5	87.4	76.0	78.0	77.0	83.9
Emsisoft Anti-Malware	95.4	95.5	95.4	92.0	90.6	91.3	94.1
eScan Internet Security Suite	94.7	95.5	95.1	92.1	90.8	91.4	93.9
ESET Internet Security	90.2	92.6	91.4	90.0	89.5	89.7	90.9
Essentware PCKeeper Antivirus PRO	94.7	95.1	94.9	92.5	91.5	92.0	93.9
ESTsecurity ALYac	93.9	94.6	94.3	92.7	90.8	91.8	93.4
Fortinet FortiClient	97.1	97.7	97.4	89.6	91.2	90.4	95.1
G DATA Antivirus	96.5	97.9	97.2	98.3	96.5	97.4	97.2
IKARUS anti.virus	98.7	98.6	98.7	93.3	95.1	94.2	97.2
K7 Total Security	90.0	90.1	90.1	76.0	78.0	77.0	85.7
MSecure Endpoint ATP	91.3	90.1	90.7	85.9	85.7	85.8	89.1
NANO Antivirus Pro	88.4	91.5	89.9	81.7	84.2	82.9	87.6
Quick Heal Seqrite Endpoint Security	97.4	97.2	97.3	96.1	95.2	95.7	96.8
Quick Heal Total Security	96.9	97.0	96.9	96.1	95.2	95.7	96.5
Tencent PC Manager	83.1	88.1	85.6	96.3	95.2	95.8	89.0
ThreatTrack VIPRE Internet Security Pro 2016	93.3	86.9	90.1	87.3	90.1	88.7	89.7
Total Defense Internet Security	93.7	93.5	93.6	91.8	90.6	91.2	92.8
Total Defense Premium Internet Security	94.0	93.5	93.7	91.8	84.2	88.0	91.8
TrustPort Antivirus Sphere	98.5	98.5	98.5	96.8	96.7	96.7	97.9
Vir.IT eXplorer PRO	61.1	61.4	61.2	59.1	62.4	60.7	61.1

*Set -1 = Samples discovered 1 to 5 days before testing; Set -2 = Samples discovered 6 to 10 days before testing.

†Set +1 = Samples discovered 1 to 5 days after updates frozen; Set +2 = Samples discovered 6 to 10 days after updates frozen.

‡Weighted average gives equal emphasis to the two reactive weeks and the whole proactive part.

RAP (Reactive And Proactive) tests – Windows 10	Reactive		Reactive average	Proactive		Proactive average	RAP weighted average ‡
	Set -2*	Set -1*		Set +1†	Set +2†		
adaware antivirus free	96.6	96.6	96.6	91.8	90.6	91.2	94.8
adaware antivirus pro	96.6	97.0	96.8	92.1	90.6	91.4	95.0
Arcabit Antivirus	93.8	95.9	94.8	92.4	90.7	91.6	93.7
Avast Free Antivirus	97.4	98.0	97.7	93.5	87.6	90.6	95.3
AVG Internet Security	97.0	97.9	97.4	93.5	89.7	91.6	95.5
Bitdefender GravityZone Security for Endpoints	94.2	95.2	94.7	91.5	90.6	91.1	93.5
BullGuard Antivirus	94.7	93.4	94.1	92.1	90.6	91.4	93.2
CompuClever Antivirus Plus	94.2	95.2	94.7	91.8	90.6	91.2	93.5
Cyren Command Anti-Malware	76.7	73.6	75.1	69.4	71.3	70.3	73.5
Defenx Security Suite	87.4	89.3	88.4	76.0	78.0	77.0	84.6
Emsisoft Anti-Malware	92.5	94.3	93.4	92.0	90.6	91.3	92.7
eScan Internet Security Suite	95.4	96.0	95.7	92.1	90.8	91.4	94.3
ESET Internet Security	90.8	93.1	92.0	90.0	89.5	89.7	91.2
Essentware PCKeeper Antivirus PRO	95.1	94.8	95.0	92.5	91.5	92.0	94.0
ESTsecurity ALYac	93.5	94.1	93.8	94.4	91.0	92.7	93.5
Fortinet FortiClient	97.3	97.6	97.4	89.7	91.2	90.5	95.1
G DATA Antivirus	97.2	97.3	97.3	98.3	96.5	97.4	97.3
IKARUS anti.virus	98.6	98.7	98.7	93.3	95.1	94.2	97.2
K7 Total Security	86.2	86.5	86.3	76.0	78.0	77.0	83.2
MSecure Endpoint ATP	87.4	91.6	89.5	85.9	85.7	85.8	88.3
NANO Antivirus Pro	89.3	90.3	89.8	81.6	84.2	82.9	87.5
Quick Heal Seqrite Endpoint Security	96.6	97.4	97.0	96.1	95.2	95.7	96.6
Quick Heal Total Security	96.4	97.4	96.9	96.1	95.2	95.7	96.5
Tencent PC Manager	95.2	95.8	95.5	96.3	95.2	95.8	95.6
ThreatTrack VIPRE Internet Security Pro 2016	93.9	78.9	86.4	80.2	90.3	85.3	86.0
Total Defense Internet Security	95.5	95.4	95.4	91.8	90.6	91.2	94.0
Total Defense Premium Internet Security	94.4	94.1	94.3	91.8	90.6	91.2	93.3
TrustPort Antivirus Sphere	98.6	98.5	98.5	97.1	96.9	97.0	98.0
Vir.IT eXplorer PRO	60.9	63.2	62.1	59.1	62.4	60.7	61.6

*Set -1 = Samples discovered 1 to 5 days before testing; Set -2 = Samples discovered 6 to 10 days before testing.

†Set +1 = Samples discovered 1 to 5 days after updates frozen; Set +2 = Samples discovered 6 to 10 days after updates frozen.

‡Weighted average gives equal emphasis to the two reactive weeks and the whole proactive part.

RAP quadrant - April 2017

Strikethrough denotes false positives noted
(Please refer to text for full product names.)

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