

VB100 COMPARATIVE REVIEW ON WINDOWS SERVER 2012 R2

INTRODUCTION

This VB100 test looks at the range of products available to users and admins of *Microsoft's Windows 2012 Server*. Our server tests usually see a somewhat reduced field of participants compared with desktop tests, since some consumer-oriented vendors don't support server platforms. From a testing perspective this is generally a double win, as not only do we have fewer products to wrestle with, but server-based products also tend to be more stable, and less prone to unwanted surprises. This month's field of participants consisted almost entirely of products which take part regularly in our comparatives, most of which routinely perform well, so we looked forward to a relatively trouble-free test.

PLATFORM AND TEST SETS

Windows 2012 Server has been around for a few years and has yet to be superseded by the forthcoming 2016 edition, which is due for release later this year. With the platform having appeared in several of our tests already, minimal preparation work was required – it was simply a matter of our lab team digging out and dusting off the test system images used in previous comparatives, with a few minor tweaks and updates to ensure all was working smoothly.

This allowed us a little extra time to focus on decluttering and expanding our clean test sets, which are due for a full-scale overhaul fairly soon but which, for now, continue to combine swathes of items added immediately before each comparative, with the most prevalent and widely deployed items from the last few years. The other part of our certification set was based on version 4.027 of the WildList, which was released some time prior to the test deadline thanks to there having been some labour problems with the company that maintains the list (which, thankfully, were resolved swiftly). There were

few changes to our performance tests, thus allowing reasonably close comparison of these results with those of previous tests on similar platforms, and the sample sets used for the RAP detection scores were gathered in the usual manner, combining the most common items in widespread distribution among researchers in the few days prior to testing.

With preparations completed, we moved on to the testing phase.

Avast Business Security

Main version: 11.1.2510

Update versions: 160427-0, 11.2.2511/160509-0, 160516-1, 160523-0

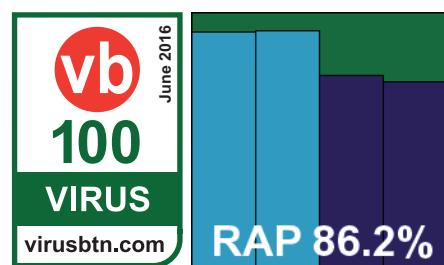
Last 6 tests: 6 passed, 0 failed, 0 no entry

Last 12 tests: 11 passed, 1 failed, 0 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Stable

Avast's recent test record is pretty exemplary, with just a single fail almost falling off the end of our two-year history listing. This



month, stability was reasonable with only minor problems, performance was good, with an acceptable slowdown of our set of tasks, and detection was generally pretty strong. With a clear run through the certification sets, *Avast* gets this test off to a good start with a VB100 award.

AVG AntiVirus Business Edition

Main version: 16.61.7539

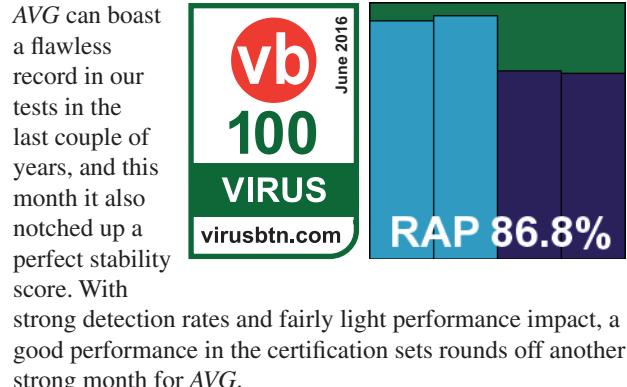
Update versions: 45631/12098, 4568/12198, 4568/12241, 4568/12282

Last 6 tests: 6 passed, 0 failed, 0 no entry

Last 12 tests: 12 passed, 0 failed, 0 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Solid



Avira Antivirus Server

Main version: 15.0.17.273

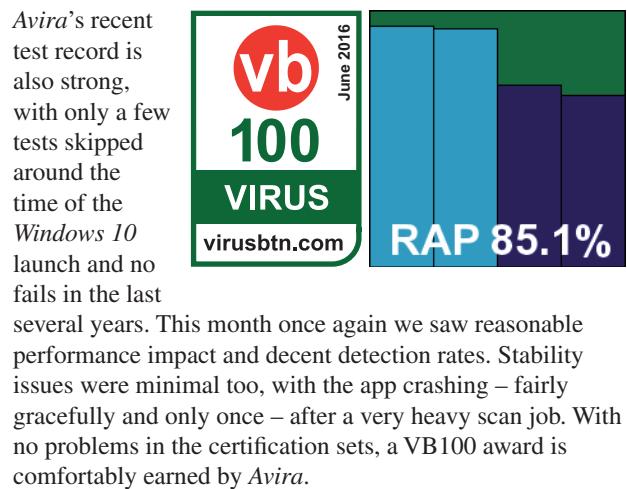
Update versions: 8.12.83.224, 8.12.89.34, 8.12.91.56, 8.12.93.58

Last 6 tests: 4 passed, 0 failed, 2 no entry

Last 12 tests: 9 passed, 0 failed, 3 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Stable



Bitdefender Endpoint Security

Main version: 6.2.9.751

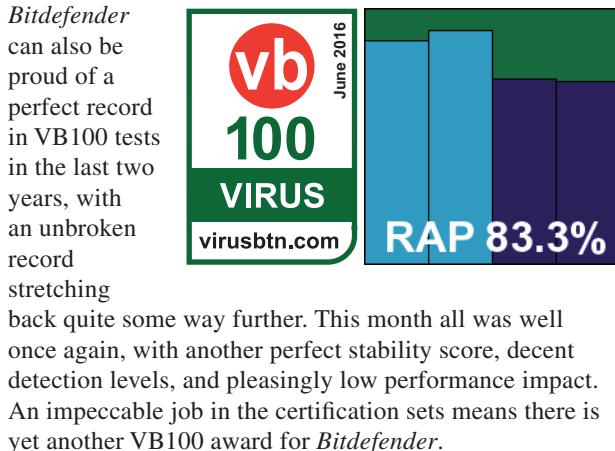
Update versions: 7.65333/6465228, 7.65509/6627012, 7.65382/6652494, 7.65654/6683016

Last 6 tests: 6 passed, 0 failed, 0 no entry

Last 12 tests: 12 passed, 0 failed, 0 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Solid



CYREN Command Anti-Malware

Main version: 5.1.38

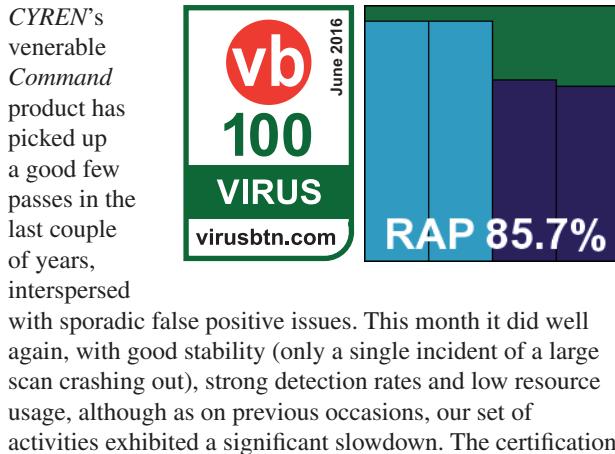
Update Versions: 5.4.25

Last 6 tests: 3 passed, 2 failed, 1 no entry

Last 12 tests: 4 passed, 6 failed, 2 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Stable



sets were dealt with properly once again though, and another VB100 award goes to *CYREN*.

Emsisoft Anti-Malware

Main version: 11.6.2.6338

Update versions: 3.5.0.656/11.0.1.12, 11.7.0.6394

Last 6 tests: 5 passed, 0 failed, 1 no entry

Last 12 tests: 10 passed, 0 failed, 2 no entry

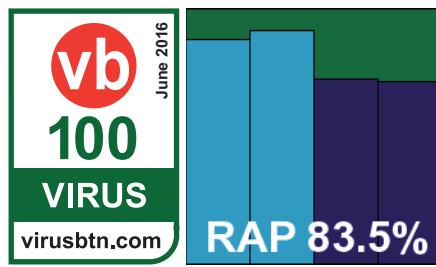
ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Solid

Another product that has not failed a VB100 test in the last two years, and which has only skipped our annual visits to

Linux, *Emsisoft*

also pulled off a perfect stability rating, along with good detection and fairly low performance impact. A similarly strong showing in the certification sets means there is another VB100 award for *Emsisoft*.



eScan ISS Server Edition

Main version: 14.0.1400.1789

Update versions: 14.0.1400.1879, 14.0.1400.1849, 14.0.1400.1879

Last 6 tests: 6 passed, 0 failed, 0 no entry

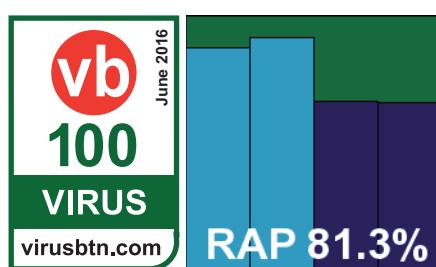
Last 12 tests: 12 passed, 0 failed, 0 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Stable

Another vendor joining the ranks of those with a perfect 12 out of 12 in the last two years of VB100 testing, *eScan* put in another creditable

showing this month, with decent stability, light performance impact and reasonable detection rates. The core certification sets were handled well, and *eScan*'s run of success continues with another VB100 award.



ESET Endpoint Antivirus

Main version: 6.3.2016.0

Update versions: 13398, 13466, 13495, 13538

Last 6 tests: 6 passed, 0 failed, 0 no entry

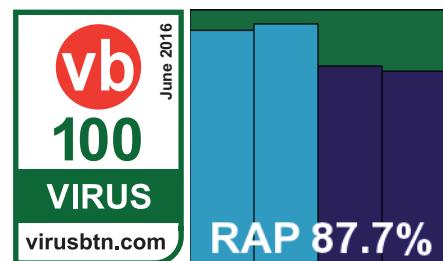
Last 12 tests: 12 passed, 0 failed, 0 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Stable

Although far from the only product this month to boast a recent record of 12 passes from 12 tests, *ESET*'s run of excellence stretches

back significantly further than that, with *all* tests entered and passed for many years now. This time all was pretty splendid once again, with a good showing in all parts of the test and decent stability. With yet another flawless run over the certification sets, *ESET*'s tally of VB100 awards increases still further.



ESTsoft ALYac

Main version: 3.0.1.1

Update versions: 16.2.22.1/589613.2016042717/7.65325 /6450540.20160427, 16.2.22.1/590797.2016051116/7.65 509/6627012.20160511, 16.2.22.1/591498.2016051817/ 7.65580/6653493.20160518, 16.2.22.1/592362.2016052 516/7.65653/6681104.20160525

Last 6 tests: 5 passed, 0 failed, 1 no entry

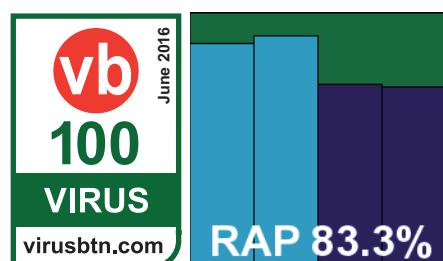
Last 12 tests: 10 passed, 0 failed, 2 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Solid

Just missing out on a perfect record thanks to the lack of a *Linux* product to enter into our *Linux* tests, *ESTsoft* can be proud of a very strong chain

of passes in the last few years. This month all was in order, with impeccable stability, low resource usage, reasonable



impact on our set of activities, and another good showing in the core sets, all of which earns ALYac another VB100 award.

Fortinet FortiClient

Main version: 5.0.9.1349

Update versions: 5.223/34.269, 5.233/35.105, 34.701, 34.865

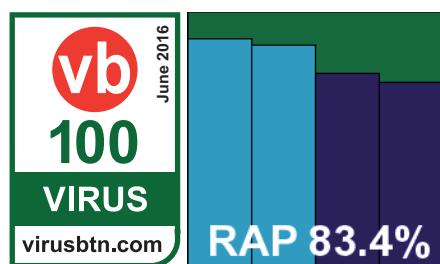
Last 6 tests: 5 passed, 0 failed, 1 no entry

Last 12 tests: 10 passed, 0 failed, 2 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Stable

Fortinet's desktop product is another strong performer in our tests, and once again put in a good performance this month with



just a few fairly minor stability issues, decent detection rates, low use of RAM while CPU use was a little on the high side, and a reasonable hit on the speed of our set of common tasks. The certification sets presented no difficulties, and *Fortinet* adds another VB100 award to its collection.

G Data Business

Main version: N/A

Update versions: N/A, 13.2.0.257/AVA 25.6855/GD 25.7011, AVA 25.6787/GD 25.6971, AVA 25.6707/GD 25.6937

Last 6 tests: 5 passed, 0 failed, 1 no entry

Last 12 tests: 10 passed, 0 failed, 2 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Stable

G Data's business product generally appears in our server tests, putting in similarly strong performances to the consumer versions we see in desktop comparatives. This month was no different, with another excellent set of detection numbers in the reactive sets; some issues at submission time meant we were not able to collect proactive/



offline figures. Stability was good, with just a single scan crash, performance impact was pretty high with a fairly serious slowdown of our set of activities, but with awesome coverage and a perfect run through the certification sets, a VB100 award is earned comfortably.

Ikarus anti.virus

Main version: 2.9.26

Update versions: 98177, 98220, 98241, 98260

Last 6 tests: 4 passed, 1 failed, 1 no entry

Last 12 tests: 8 passed, 1 failed, 3 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Solid

Ikarus generally puts in good performances in our tests, and this month did well once again with a perfect stability rating.

Detection was strong, performance impact pretty reasonable, and with another perfect run through our certification sets, another VB100 award is easily earned.

iSheriff Security from the Cloud

Main version: 5.8.3.000

Update versions: 3.71, 5.8.2.0.506/3.71, 5.8.2.0515/3.71, 5.8.3.0000/3.71

Last 6 tests: 3 passed, 2 failed, 1 no entry

Last 12 tests: 8 passed, 2 failed, 2 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Solid

The *iSheriff* solution has had some wobbles in recent tests, with a couple of short-lived bursts of false positives, but otherwise it usually does well. Another perfect stability rating was notched up this month, alongside some good detection rates

and minimal performance drag. The core certification sets were covered well, with help from the *Bitdefender* engine, and a VB100 award is earned.

K7 Total Security

Main version: 15.1.0291

Update versions: 9.223.19443, 9.224.19552, 9.225.19604, 15.1.0292/9.226.19682

Last 6 tests: 5 passed, 0 failed, 1 no entry

Last 12 tests: 10 passed, 0 failed, 2 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Stable

K7's Total Security product has become familiar over the last few years, with its rugged looks reflecting the general

stability of the product, which routinely scores well in our stability measures. This month stability was not quite as good as we're used to, although the only issue we encountered – a complaint about a memory error shortly after installation – did not seem to cause any discernible problems. Elsewhere detection was good and performance impact light. A clear run through the core sets earns *K7* another VB100 award.

Kaspersky Small Office Security 4

Main version: 15.0.2.361(c)

Update versions: 15.0.2.361(e), 15.0.2.361(e), 15.0.2.361(f)

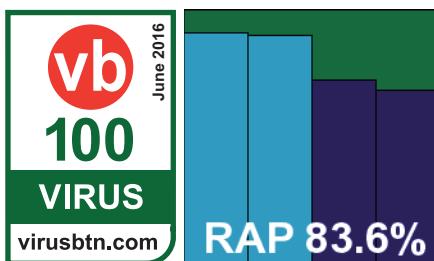
Last 6 tests: 4 passed, 0 failed, 2 no entry

Last 12 tests: 9 passed, 0 failed, 3 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Solid

Kaspersky Lab's Small Office solution appears in many, if not all of our tests, and this month caused our testers minimal trouble with no stability problems to interrupt the flow. Performance impact was not excessive. There are no RAP detection figures to report, but a clean sweep in the certification sets earns *Kaspersky* another VB100 award.



Microsoft System Center Endpoint Protection

Main version: 4.9.219.0

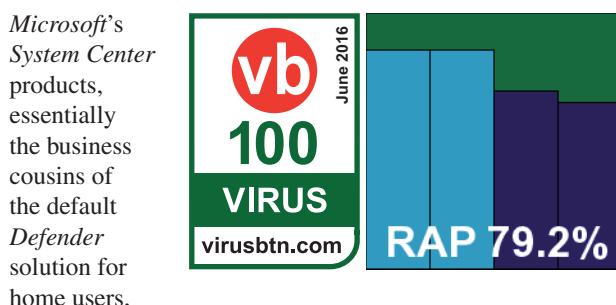
Update versions: 1.1.12706.0/1.219.0.0, 1.219.1356.0, 1.219.1973.0, 1.1.128040/1.221.397.0

Last 6 tests: 4 passed, 0 failed, 2 no entry

Last 12 tests: 9 passed, 0 failed, 3 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Solid



Microsoft's System Center products, essentially the business cousins of the default *Defender* solution for home users, routinely put in dependable performances in our tests. This month we saw another perfect round in terms of stability, coupled with acceptable detection levels and average system impact. The certification sets presented no problems, and a VB100 award is duly granted.

Qihoo 360

Main version: 5.0.20.6221

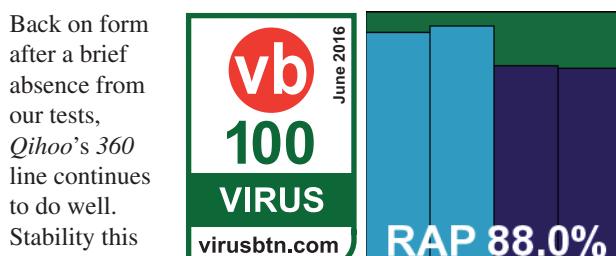
Update versions: N/A

Last 6 tests: 3 passed, 0 failed, 3 no entry

Last 12 tests: 6 passed, 0 failed, 6 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Stable



Back on form after a brief absence from our tests, *Qihoo's 360* line continues to do well. Stability this month was decent, with just one minor glitch during an update and another which froze a browser during a speed test. Detection was strong and performance impact negligible, with our set of activities running through very rapidly indeed. The certification sets presented no problems, and a VB100 award is easily earned.

Tencent PC Manager

Main version: 11(11.4.26179.901)

Update versions: 11(11.4.26183.901),

11(11.4.26190.901), 11(11.4.26194.901)

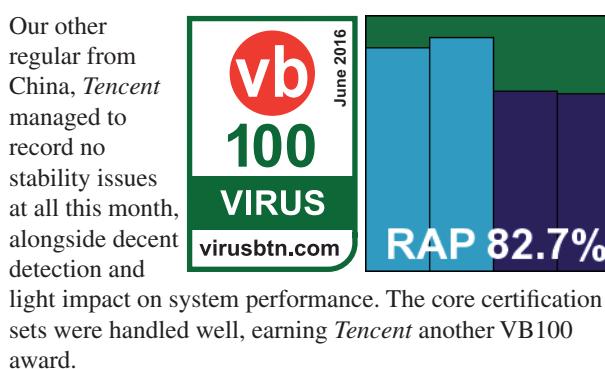
Last 6 tests: 5 passed, 0 failed, 1 no entry

Last 12 tests: 8 passed, 0 failed, 4 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0

Stability: Solid



TrustPort Antivirus 2016

Main version: 2016(16.0.0.56668)

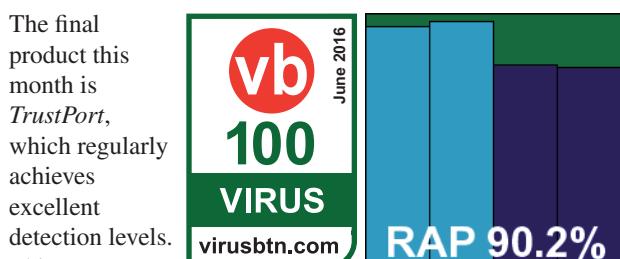
Update versions: N/A

Last 6 tests: 4 passed, 0 failed, 2 no entry

Last 12 tests: 7 passed, 0 failed, 5 no entry

ItW on demand: 100.00% **ItW on access:** 100.00%

False positives: 0 **Stability:** Solid



no different this month with very high scores in all sets, coupled with impeccable stability and reasonably light impact on performance. With no problems to report in the certification sets, *TrustPort* also earns a VB100 award.

CONCLUSIONS

As mentioned in the introduction to this report, the products we see submitted for server tests tend to be more reliable and higher quality on average, and this month's line-up

proves this rule – with all participating products achieving certification. We also saw minimal stability issues, with no participant rated lower than 'stable'. The high pass mark does not imply any reduction in the rigour of the VB100 process, but rather a better effort on the part of the participants – by design, the certification components of our test should be achievable on a regular basis by all respectable anti-malware solutions, and a single pass should be considered far less significant an event than a fail. To get a clear picture of how a product performs in the long term, it is important for readers to consider the history data we record in these reports, as well as in more detail on our website (www.virusbulletin.com).

While the small and stable group of participants made for a pleasingly painless month for the test team, there were, as always, plenty of things to keep us busy, contributing to the late distribution and rather curtailed nature of this report. To combat these issues, and free up more time for the lab team to work on the development of new and more demanding tests, we are investigating several proposals, including further simplification of the VB100 process and a shift to a more settled pattern of test platforms, as well as the separating out of the performance tests to their own standalone setup, with results published more frequently. As always, we welcome thoughts, comments and feedback from our readers – contact us on vbtest@virusbulletin.com.

Test environment: All tests were run on identical systems with AMD A6-3670K Quad Core 2.7GHz processors, 4GB DUAL DDR3 1600MHz RAM, dual 500GB and 1TB SATA hard drives and gigabit networking, running *Microsoft Windows Server 2012 R2 Update*.

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Certification tests	On demand	On access	Clean sets		VB100
	Standard WildList	Standard WildList	FP	Warnings	
Avast Business Security	100.00%	100.00%			
AVG AntiVirus Business Edition	100.00%	100.00%		2	
Avira Antivirus Server	100.00%	100.00%			
Bitdefender Endpoint Security	100.00%	100.00%			
CYREN Command Anti-Malware	100.00%	100.00%			
Emsisoft Anti-Malware	100.00%	100.00%			
eScan ISS Server Edition	100.00%	100.00%			
ESET Endpoint Antivirus	100.00%	100.00%			
ESTsoft ALYac	100.00%	100.00%			
Fortinet FortiClient	100.00%	100.00%			
G Data Business	100.00%	100.00%			
Ikarus anti.virus	100.00%	100.00%			
iSheriff Security from the Cloud	100.00%	100.00%			
K7 Total Security	100.00%	100.00%			
Kaspersky Small Office Security 4	100.00%	100.00%			
Microsoft System Center Endpoint Protection	100.00%	100.00%			
Qihoo 360	100.00%	100.00%			
Tencent PC Manager	100.00%	100.00%			
TrustPort Antivirus 2016	100.00%	100.00%			

Product information	Install time (m)*	Reboot required	Fully 64-bit	Third-party engine technology †	Stability score	Stability rating
Avast Business Security	6:00	√	√		1	Stable
AVG AntiVirus Business Edition	3:00	X	X		0	Solid
Avira Antivirus Server	3:45	√	X		1	Stable
Bitdefender Endpoint Security	7:15	X	√		0	Solid
CYREN Command Anti-Malware	2:45	X	√		1	Stable
Emsisoft Anti-Malware	5:00	√	√	Bitdefender	0	Solid
eScan ISS Server Edition	15:25	√	X	Bitdefender	2	Stable
ESET Endpoint Antivirus	14:30	X	√		2	Stable
ESTsoft ALYac	31:45	X	√	Bitdefender	0	Solid
Fortinet FortiClient	3:45	X	X		4	Stable
G Data Business	33:45	√	X	Bitdefender	2	Stable
Ikarus anti.virus	0:45	X	X		0	Solid
iSheriff Security from the Cloud	11:30	X	X	Bitdefender	0	Solid
K7 Total Security	3:00	X	X		1	Stable
Kaspersky Small Office Security 4	21:00	X	X		0	Solid
Microsoft System Center Endpoint Protection	5:45	X	√		0	Solid
Qihoo 360	5:00	X	√		2	Stable
Tencent PC Manager	15:00	X	X	Bitdefender	0	Solid
TrustPort Antivirus 2016	8:30	√	X	AVG, Bitdefender	0	Solid

0 = Solid 0.1 – 4.9 = Stable 5 – 14.9 = Fair 15 – 29.9 = Buggy 30+ = Flaky

* Install time includes initial updates and time to enable on-access protection (assuming reasonable typing speed and familiarity with product operation)

† Only records presence of third-party scanning engines, most products will include additional in-house technologies

Archive scanning		ACE	CAB	EXE-RAR	EXE-ZIP	JAR	LZH	RAR	TGZ	ZIP	7z	TBZ2	ZIPX	EXT*
Avast Business Security	OD	√	√	√	√	√	√	√	√	√	√	√	√	√
	OA	X/√	X/√	1/√	X/√	X/√	X/√	X/√	X/√	X/√	X/√	X/√	X/√	X/√
AVG AntiVirus	OD	√	√	√	√	√	√	√	√	√	√	√	√	√
	OA	X	X	7	8	X	X	X	X	X	X	X	X	√
Avira Antivirus Server	OD	√	√	√	√	√	√	√	√	√	√	√	√	√
	OA	√	√	√	√	√	√	√	√	√	√	√	√	X/√
Bitdefender ES	OD	√	√	√	√	√	√	√	√	√	√	√	√	√
	OA	X	X	X	X	1	X	X	X	1	X	X	1	√
CYREN Command	OD	5	5	5	5	5	√	5	2	5	3	2	5	√
	OA	2/4	2/4	2/4	2/4	2/4	√	2/4	1/2	2/4	1/2	1/2	2/4	√
Emsisoft Anti-Malware	OD	√	√	8	8	√	√	√	8	√	√	8	√	√
	OA	X	X	X	X	1	X	X	X	1	X	X	X/1	X/√
eScan ISS Server	OD	√	√	5/√	6/√	1/√	√	√	5/√	1/√	√	√	1/√	√
	OA	√	√	√	√	1/√	√	√	√	1/√	√	√	√	√
ESET Endpoint Antivirus	OD	√	√	√	√	√	√	√	5	√	√	5	√	√
	OA	X	X	X	X	X	X	X	X	X	X	X	X	√
ESTsoft ALYac	OD	√	√	X	X	X/1	X	√	X	X/1	√	X	X	√
	OA	√	√	√	√	√	√	√	√	√	√	√	√	√
Fortinet FortiClient	OD	√	√	√	√	√	√	√	6	√	√	√	√	√
	OA	√	X	√	√	√	X	X	X	X	X	√	√	√

Key:

√ - Detection of EICAR test file up to ten levels of nesting

X - No detection of EICAR test file

X/√ - default settings/all files

(Please refer to text for full product names.)

Ex - Works on execute

1-9 - Detection of EICAR test file up to specified nesting level

If just z-exe detection in ext, then X

*Detection of EICAR test file with randomly chosen file extension

Archive scanning contd.		ACE	CAB	EXE-RAR	EXE-ZIP	JAR	LZH	RAR	TGZ	ZIP	7z	TBZ2	ZIPX	EXT*
G Data Business	OD	√	√	√	√	√	√	√	8	√	9	8	√	√
	OA	3	2	√	√	2	3	3	1	2	2	1	2	√
Ikarus anti.virus	OD	√	√	√	2	√	√	√	√	√	√	√	√	√
	OA	√	√	√	2	√	√	√	√	√	√	√	√	√
iSheriff Security from the Cloud	OD	√	√	√	√	√	√	√	√	√	√	√	√	√
	OA	X	X	X	X	X	X	X	X	X	X	X	X	√
K7 Total Security	OD	X	X	X	X	X	X	X	X	X	X	X	X	√
	OA	X	X	X	X	X	X	X	X	X	X	X	X	√
Kaspersky SOS 4	OD	√	√	√	√	√	√	√	√	√	√	√	√	√
	OA	√	√	1/√	1/√	√	√	√	√	√	√	√	√	√
Microsoft System Center EP	OD	√	√	√	√	√	√	√	√	√	√	√	√	√
	OA	X	X	X	X	X	X	X	X	X	X	X	X	√
Qihoo 360	OD	√	√	√	√	√	√	√	√	√	√	√	1	√
	OA	X	X	X	X	1	X	X	X	1	X	X	1	X/√
Tencent PC Manager	OD	√	√	7	7	√	√	√	7	√	√	7	√	√
	OA	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex/√
TrustPort Antivirus 2016	OD	√	√	√	√	√	√	√	√	√	√	√	√	√
	OA	√	√	7/√	8/√	1/√	√	√	√	1/√	√	√	1/√	√

Key:

√ - Detection of EICAR test file up to ten levels of nesting

X - No detection of EICAR test file

X/√ - default settings/all files

(Please refer to text for full product names.)

Ex - Works on execute

1-9 - Detection of EICAR test file up to specified nesting level

If just z-exe detection in ext, then X

* Detection of EICAR test file with randomly chosen file extension

Performance measures	Idle RAM usage increase	Busy RAM usage increase	Busy CPU usage increase	Standard activities - time increase
Avast Business Security	9.93%	7.18%	41.39%	46.39%
AVG AntiVirus Business Edition	12.41%	8.53%	11.59%	27.62%
Avira Antivirus Server	8.35%	7.60%	40.03%	47.80%
Bitdefender Endpoint Security	7.74%	5.13%	5.23%	7.66%
CYREN Command Anti-Malware	4.76%	-1.90%	24.25%	231.64%
Emsisoft Anti-Malware	4.10%	6.43%	8.61%	28.60%
eScan ISS Server Edition	4.78%	5.73%	4.43%	23.71%
ESET Endpoint Antivirus	9.59%	10.63%	16.75%	33.14%
ESTsoft ALYac	2.33%	1.22%	13.61%	43.42%
Fortinet FortiClient	7.81%	4.07%	43.81%	43.18%
G Data Business	58.72%	59.16%	38.81%	127.90%
Ikarus anti.virus	12.41%	10.24%	12.41%	34.54%
iSheriff Security from the Cloud	6.08%	4.58%	6.14%	7.36%
K7 Total Security	5.04%	6.51%	8.28%	18.31%
Kaspersky Small Office Security 4	9.08%	7.55%	23.48%	33.03%
Microsoft System Center Endpoint Protection	8.27%	4.61%	20.47%	40.30%
Qihoo 360	9.10%	7.50%	6.14%	-10.04%
Tencent PC Manager	9.63%	7.11%	11.92%	15.24%
TrustPort Antivirus 2016	6.70%	7.75%	13.73%	35.29%

Reactive and Proactive (RAP) tests	VB100	Reactive		Proactive		Reactive average	Proactive average	Weighted average [‡]
		Set -2*	Set -1*	Set +1 [†]	Set +2 [†]			
Avast Business Security		92.1%	92.6%	75.1%	72.9%	92.4%	74.0%	86.2%
AVG AntiVirus Business Edition		92.8%	94.6%	73.3%	72.5%	93.7%	72.9%	86.8%
Avira Antivirus Server		93.7%	92.9%	70.6%	66.9%	93.3%	68.7%	85.1%
Bitdefender Endpoint Security		87.2%	91.1%	72.1%	71.0%	89.2%	71.6%	83.3%
CYREN Command Anti-Malware		94.0%	93.7%	70.6%	68.4%	93.8%	69.5%	85.7%
Emsisoft Anti-Malware		87.5%	91.3%	72.2%	71.1%	89.4%	71.7%	83.5%
eScan ISS Server Edition		87.1%	91.0%	66.1%	65.6%	89.1%	65.8%	81.3%
ESET Endpoint Antivirus		91.9%	94.4%	77.9%	75.9%	93.1%	76.9%	87.7%
ESTsoft ALYac		87.9%	90.6%	71.6%	71.0%	89.3%	71.3%	83.3%
Fortinet FortiClient		89.3%	87.0%	75.6%	72.3%	88.1%	73.9%	83.4%
G Data Business		97.9%	96.9%	N/A	N/A	97.4%	N/A	N/A
Ikarus anti.virus		93.0%	93.1%	76.2%	74.9%	93.1%	75.5%	87.2%
iSheriff Security from the Cloud		86.2%	90.1%	70.9%	69.6%	88.2%	70.2%	82.2%
K7 Total Security		90.7%	89.9%	72.2%	68.1%	90.3%	70.2%	83.6%
Microsoft System Center Endpoint Protection		85.2%	85.2%	69.4%	64.8%	85.2%	67.1%	79.2%
Qihoo 360		92.0%	94.0%	78.6%	77.5%	93.0%	78.1%	88.0%
Tencent PC Manager		87.2%	91.2%	70.1%	69.5%	89.2%	69.8%	82.7%
TrustPort Antivirus 2016		94.5%	96.7%	79.7%	78.7%	95.6%	79.2%	90.2%

*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.

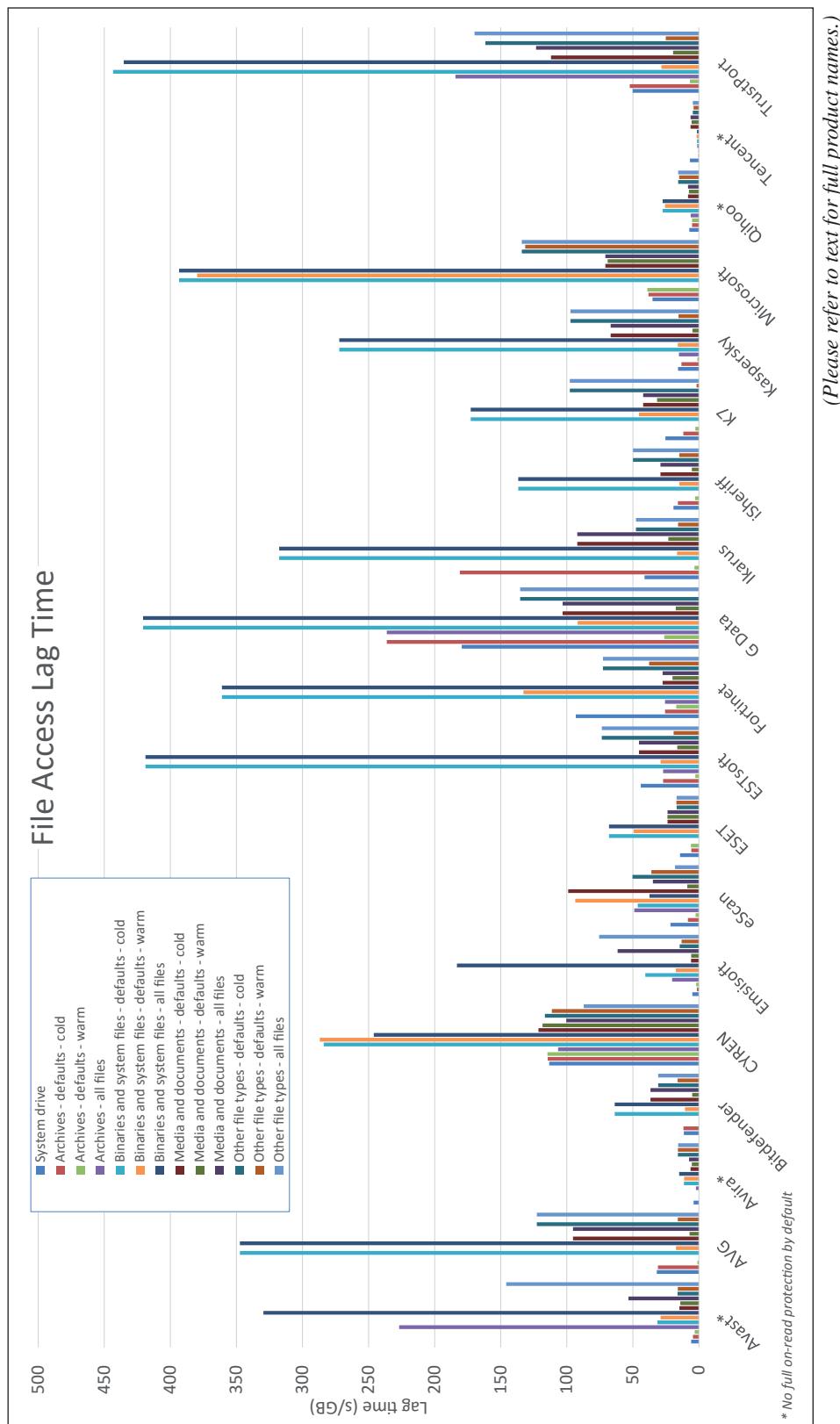
[‡]Weighted average gives equal emphasis to the two reactive weeks and the whole proactive part.

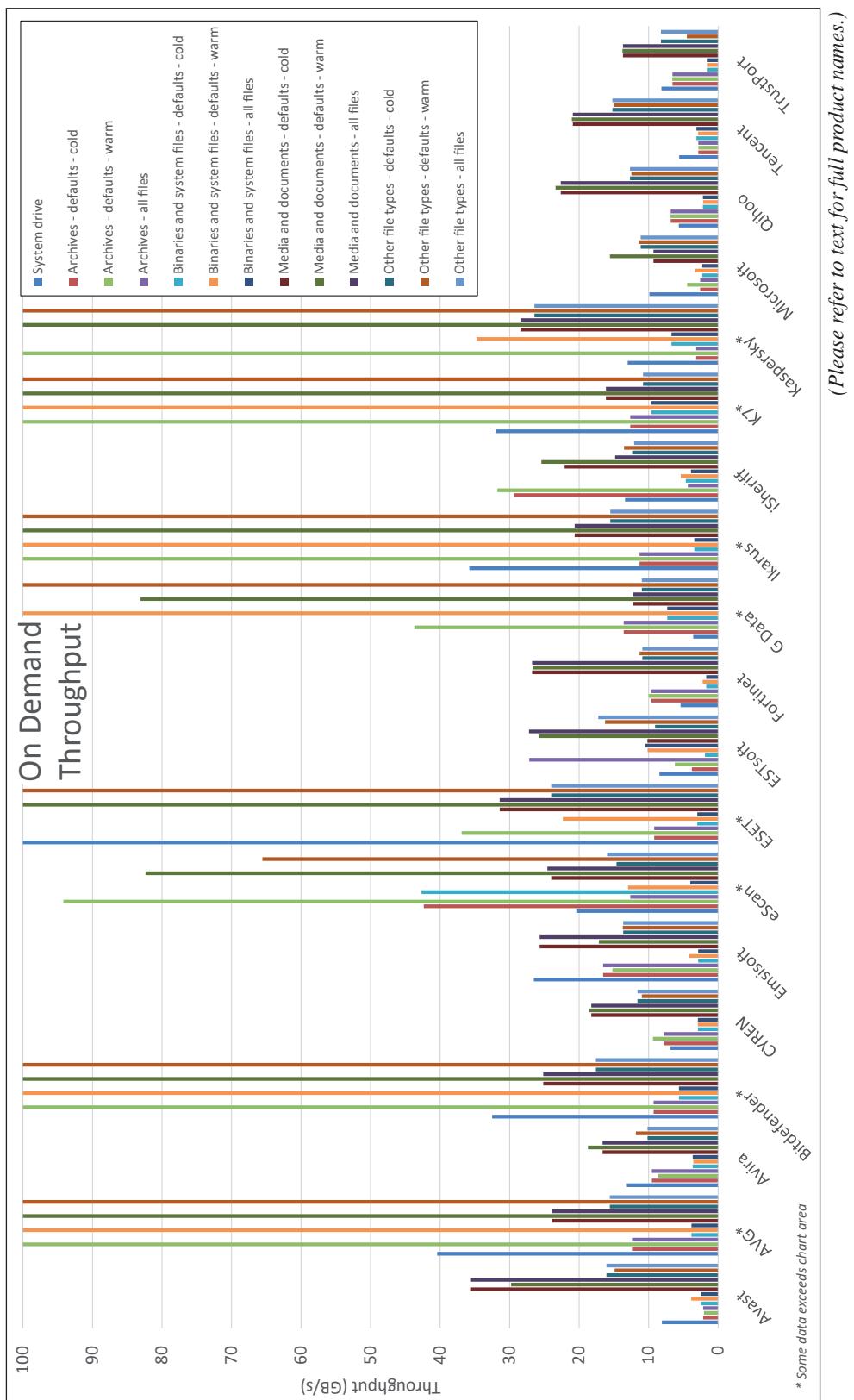
On-access lag time (s/GB)	Archive files				Binaries and system files				Media and documents				Other file types	
	System drive [¶]	Default (cold)	Default (warm)	All files	Default (cold)	Default (warm)	All files	Default (cold)	Default (warm)	All files	Default (cold)	Default (warm)	All files	
Avast Business Security*	5.84	4.52	3.20	226.82	31.38	29.04	329.54	14.78	14.14	53.30	16.19	16.04	145.79	
AVG AntiVirus Business Edition	31.90	30.99	1.16	N/A	347.39	17.33	347.39	95.30	7.13	95.30	122.65	16.02	122.65	
Avira Antivirus Server*	4.04	0.02	0.10	2.20	11.29	11.25	14.94	6.31	5.38	7.53	15.87	15.94	15.68	
Bitdefender Endpoint Security	11.38	11.74	0.09	N/A	63.76	10.54	63.76	36.66	5.08	36.66	30.80	16.21	30.80	
CYREN Command Anti-Malware	113.26	114.46	114.62	106.59	283.92	286.92	246.12	121.41	118.37	100.42	116.51	111.30	87.16	
Emsisoft Anti-Malware	5.02	1.60	2.04	20.35	40.59	17.57	183.09	6.01	5.85	61.55	14.58	13.10	75.51	
eScan ISS Server Edition	21.60	8.31	2.57	48.91	46.33	93.57	37.47	98.92	8.81	34.87	50.23	35.99	18.10	
ESET Endpoint Antivirus	14.24	5.75	6.05	N/A	68.01	49.30	68.01	23.76	23.87	23.76	16.90	17.02	16.90	
ESTsoft ALYac	44.00	27.15	2.68	27.15	418.85	29.03	418.85	45.42	16.40	45.42	73.46	19.13	73.46	
Fortinet FortiClient	93.19	25.64	17.20	25.64	360.95	132.80	360.95	27.51	20.00	27.51	72.64	37.77	72.64	
G Data Business	179.51	236.24	26.23	236.24	420.62	91.76	420.62	103.15	17.54	103.15	135.33	0.19	135.33	
Ikarus anti.virus	41.16	180.91	3.41	N/A	317.58	16.63	317.58	92.02	23.19	92.02	47.70	15.80	47.70	
iSheriff Security from the Cloud	19.23	15.93	2.87	N/A	136.69	14.85	136.69	29.13	5.36	29.13	49.91	14.91	49.91	
K7 Total Security	25.38	11.81	2.67	N/A	172.69	45.37	172.69	42.23	31.74	42.23	97.71	1.78	97.71	
Kaspersky SOS 4	15.84	13.19	1.20	15.19	272.19	16.05	272.19	66.82	4.93	66.82	97.20	15.47	97.20	
Microsoft System Center EP	35.13	38.21	39.02	N/A	393.35	379.74	393.35	70.84	69.13	70.84	134.10	131.44	134.10	
Qihoo 360	7.32	5.22	5.18	6.25	27.51	25.71	27.51	8.25	7.63	8.25	15.69	14.99	15.69	
Tencent PC Manager*	6.85	0.38	0.52	1.25	1.43	1.77	1.43	6.33	5.61	6.33	4.67	4.06	4.67	
TrustPort Antivirus 2016	50.13	52.33	6.87	184.25	443.31	28.35	435.32	111.96	19.58	123.24	161.62	25.13	169.79	

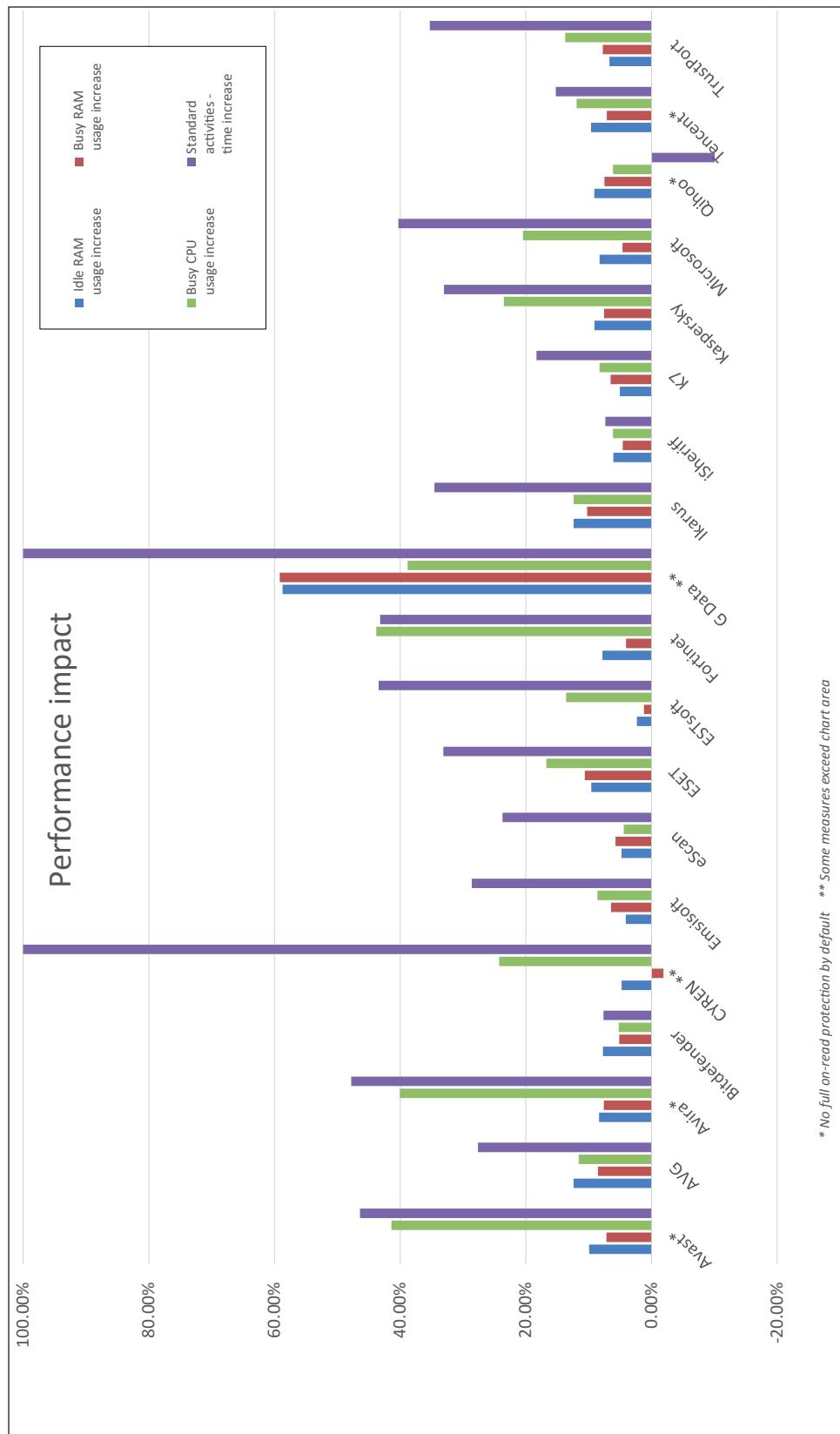
* No on-read protection provided. [¶]System drive size measured before product installation.
(Please refer to text for full product names.)

On-demand throughput (MB/s)	System drive*	Archive files				Binaries and system files				Media and documents				Other file types	
		Default (cold)	Default (warm)	All files	Default (cold)	Default (warm)	All files (cold)	Default (warm)	All files	Default (cold)	All files	Default (cold)	All files	Default (warm)	All files
Avast Business Security	8.08	2.16	2.03	2.16	2.52	3.88	2.52	35.68	29.79	35.68	16.07	14.89	16.07		
AVG AntiVirus Business Edition	40.42	12.39	341.45	12.39	3.85	135.32	3.85	23.92	180.43	23.92	15.59	326.64	15.59		
Avira Antivirus Server	13.12	9.53	8.63	9.53	3.66	3.58	3.66	16.62	18.74	16.62	10.17	11.83	10.17		
Bitdefender Endpoint Security	32.51	9.29	683.03	9.29	5.64	3157.44	5.64	25.16	3790.44	25.16	17.59	3157.44	17.59		
CRYEN Command Anti-Malware	6.91	7.82	9.37	7.82	2.91	2.93	2.91	18.25	18.57	18.25	11.61	10.98	11.61		
Emsisoft Anti-Malware	26.51	16.55	15.22	16.55	2.87	4.18	2.87	25.67	17.16	25.67	13.67	13.72	13.67		
eScan ISS Server Edition	20.40	42.35	94.19	12.65	42.67	12.96	4.01	24.01	82.37	24.57	14.62	65.55	15.99		
ESET Endpoint Antivirus	149.71	9.20	36.91	9.20	3.00	22.34	3.00	31.42	574.08	31.42	24.01	902.13	24.01		
ESTsoft ALYac	8.46	3.79	6.24	27.18	1.89	10.17	10.51	10.19	25.74	27.22	9.07	16.28	17.25		
Fortinet FortiClient	5.41	9.63	10.01	9.63	1.72	2.24	1.72	26.76	26.68	26.76	10.91	11.30	10.91		
G Data Business	3.60	13.59	43.70	13.59	7.33	526.24	7.33	12.24	83.09	12.24	10.98	112.10	10.98		
Ikarus anti.virus	35.79	11.31	1820.96	11.31	3.44	350.83	3.44	20.64	757.82	20.64	15.52	676.62	15.52		
iSheriff Security from the Cloud	13.39	29.37	31.76	4.36	4.67	5.39	3.92	22.08	25.43	14.82	12.38	13.54	12.10		
K7 Total Security	32.02	12.65	780.52	12.65	9.60	653.31	9.60	16.15	823.75	16.15	10.81	823.75	10.81		
Kaspersky SOS 4	13.03	3.17	1820.96	3.17	6.71	347.6	6.71	28.45	1894.65	28.45	26.42	242.88	26.42		
Microsoft System Center EP	9.89	2.59	4.46	2.59	2.29	3.36	2.29	9.31	15.58	9.31	11.14	11.43	11.14		
Qihoo 360	5.67	6.82	6.85	6.82	2.20	2.16	2.20	22.63	23.39	22.63	12.68	12.49	12.68		
Tencent PC Manager	5.62	2.85	2.84	3.13	2.89	3.13	20.91	21.05	20.91	15.22	15.05	15.22			
TrustPort Antivirus 2016	8.16	6.57	6.61	6.57	1.63	1.61	1.63	13.70	13.77	13.70	8.23	4.51	8.23		

*System drive size measured before product installation. (Please refer to text for full product names.)

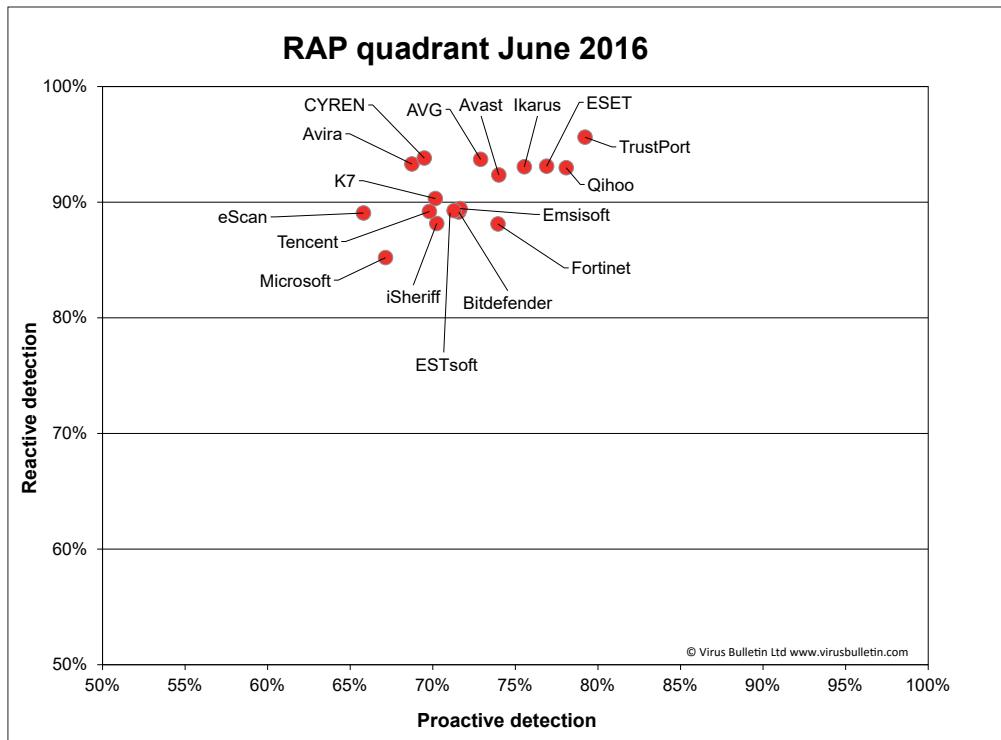




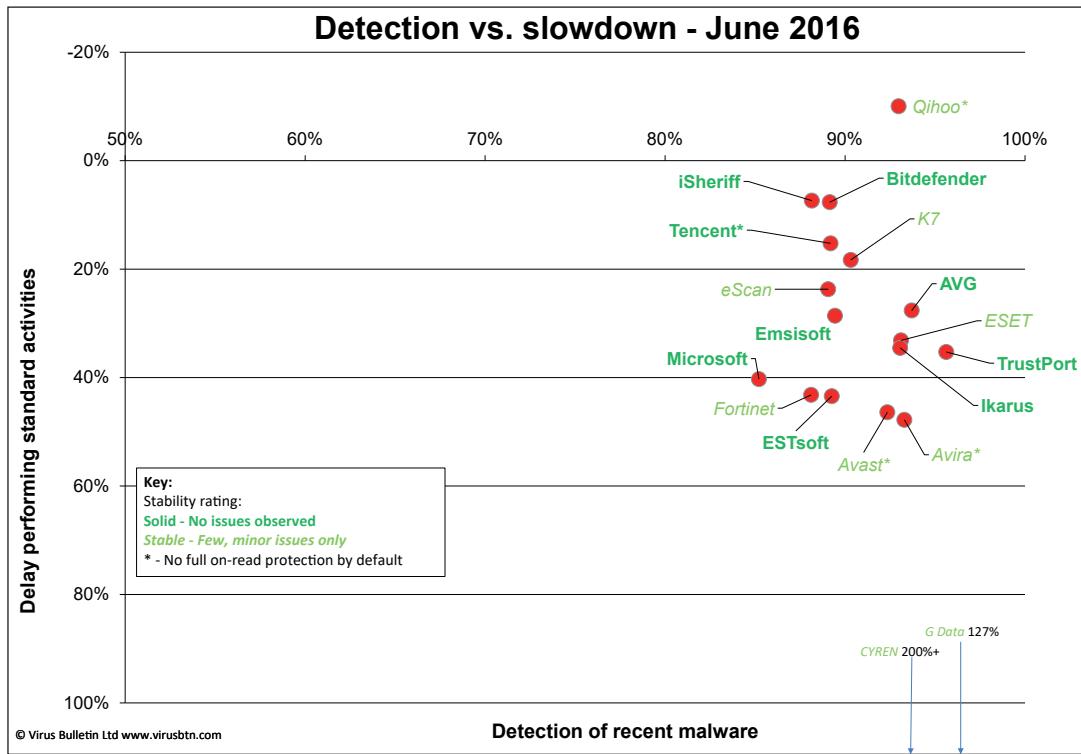


* No full on-read protection by default ** Some measures exceed chart area

(Please refer to text for full product names.)



(Please refer to text for full product names.)



(Please refer to text for full product names.)