



## Diagnose and resolve a hard drive issue in less time with Dell ProSupport Plus

Dell ProSupport Plus with SupportAssist enabled us to resolve a problem in less time and fewer steps than top-tier HP and Lenovo support plans

While resolving a hardware issue on an employee laptop normally takes time, effort, and can disrupt the normal flow of business, Dell claims their ProSupport Plus service plan with SupportAssist technology can proactively detect hardware issues and resolve them without significant user intervention. Does this claim hold up? And how does their service compare to support service from other vendors?

At Principled Technologies, we installed a failed hard drive on a Dell Latitude™ 3400 laptop and documented the effort required to accurately diagnose and resolve the problem using Dell ProSupport Plus with SupportAssist. We also performed this test with an HP ProBook 440 G6 and a Lenovo® ThinkPad™ E495 with equivalent levels of support and compared our experiences.

Dell ProSupport Plus with SupportAssist correctly diagnosed our issue and ordered a replacement hard drive for us in just six hands-on steps and 5 minutes, 24 seconds without the need to contact technical support. By contrast, the HP and Lenovo devices required us to contact technical support, resulting in significantly more time and steps before we could resolve our issue.



**Faster time to resolution**  
Save up to 27 minutes



**Simpler support process**  
Up to 16 fewer steps

# Saving time and effort with Dell ProSupport Plus

We ordered the following devices using the top-tier service plan for each vendor:

- **Dell Latitude 3400** (ProSupport Plus with SupportAssist technology, Next Day Business Onsite with Accidental Damage and Keep Your Hard Drive)
- **HP ProBook 440 G6** (HP CarePack with Next Business Day Onsite with Accidental Damage Protection Plan-G2 and Defective Media Retention for Notebooks)
- **Lenovo ThinkPad E495** (Premier Care Onsite Support with Accidental Damage Protection and Keep Your Drive)

For our tests, we replaced the functioning hard drive in each device with the same broken hard drive. Dell ProSupport Plus with SupportAssist proactively and automatically diagnosed our failed hard drive and ordered a new one, thus sparing us the effort of calling tech support for assistance. By contrast, HP and Lenovo required us to speak to a tech support person to troubleshoot manually. Lenovo technical support staff had us run a diagnostic scan that ran for hours overnight without completing, leaving us with no other option but to call again the next day. Below are the times and steps required to resolve the hard drive failure with each service plan.

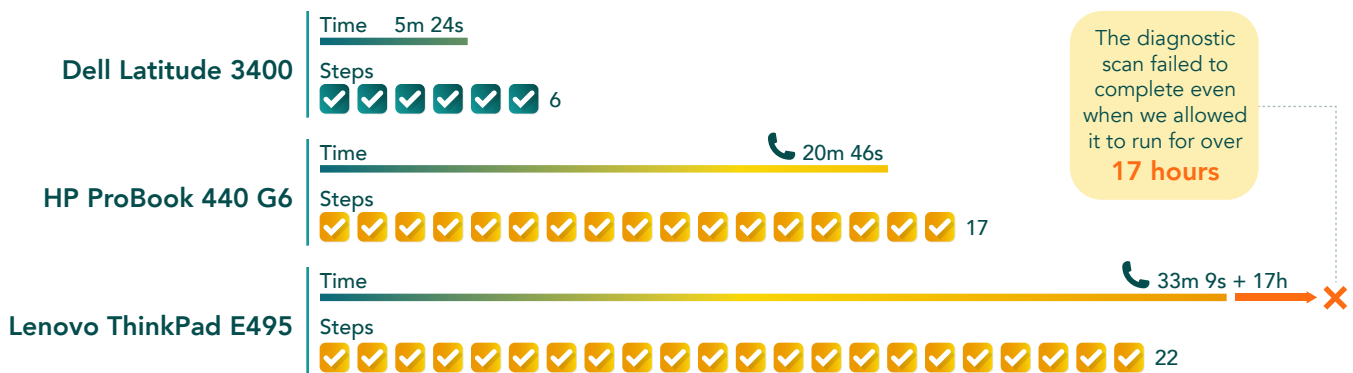


Figure 1: Time to resolve a failed hard drive with each support service. Lower is better. Resolving the issue with Dell ProSupport Plus was largely automatic. HP and Lenovo required we contact technical support. A Lenovo tech support person had us run a diagnostic test that ran for 17h 39m without completion, prompting a second call. Source: Principled Technologies



## Details of our experience

### Dell Latitude 3400 with Dell ProSupport Plus with SupportAssist technology, Next Day Business Onsite with Accidental Damage and Keep Your Hard Drive

Dell ProSupport Plus with SupportAssist resolved our problem quickly and with little effort. After we powered on the system, the SupportAssist Pre-Boot System Performance Check automatically detected an issue and started a scan for proper diagnosis. SupportAssist presented us with a Failed Hard Drive error message along with instructions for how to proceed.

The instructions gave us two options: Navigate to the SupportAssist website via a second computer/phone, or scan a QR code to take us to the website directly. We chose the QR code method. After we verified the information on-screen, the website supplied us with a recommended course of action: obtaining a replacement hard drive with our warranty coverage. We verified our shipping information, and with that, the process was complete.



### HP ProBook 440 G6 with HP CarePack Next Business Day Onsite with Accidental Damage Protection Plan-G2 and Defective Media Retention for Notebooks

Resolving our problem on the HP system required more time. The HP system booted to a screen with an error message that included a website to navigate to for more information. After logging onto the HP website from a second computer, we found the number for technical support and spoke with a support person for several minutes as they guided us through two rounds of troubleshooting. On the second attempt, the support person successfully diagnosed our issue and arranged delivery of a replacement hard drive. After verifying our contact information, the call ended.

### Lenovo ThinkPad E495 with Premier Care Onsite Support with Accidental Damage Protection and Keep Your Drive

When we powered on the Lenovo system, the laptop would not progress past a splash screen. We waited two minutes to see whether the screen would change. When it didn't, we moved to another computer to visit the Lenovo website and search for the technical support phone number.

Once on the phone with a Lenovo technical support person, we explained our issue and relayed the serial number of our system. The support person walked us through three standard system checks. When these did not work, the support specialist had us run a diagnostic test and warned that the test could take 60 to 90 minutes to complete. In reality, the test took much longer and was still running at the end of the day. We left it running overnight, and chose to stop it the next morning—17 hours and 39 minutes later. The inconclusive test meant we had to call the support hotline once more and explain our situation all over again. A new support specialist said that because the diagnostic test was taking so long, our issue was likely a hard drive failure. The support person set up a next-day, onsite hard drive replacement, gave us a case number to follow up on our support status, verified our contact information, and ended the call.



The diagnostic test added a significant amount of time to resolution. Customers with other issues may get an answer sooner than we did; however, our test engineer noted that the Lenovo support person did not seem surprised by the long runtime, and in fact used this as the basis for diagnosis. This suggests that other users with failed hard drives may have a similarly lengthy experience. The long wait for a diagnostic tool to complete could mean more delays for your staff. Dell ProSupport Plus with SupportAssist does this work for you, simplifying the process and delivering faster resolution.



## Conclusion

Even with robust backup policies, hardware issues such as a failed hard drive can still reduce employee productivity and require significant time and effort from your IT staff. In hands-on tests, a Dell Latitude 3400 with ProSupport Plus with SupportAssist was able to automatically diagnose a failed hard drive and order a replacement in just 6 steps and under five and a half minutes of our time—without requiring us to contact tech support. By contrast, resolving the same hardware issue with HP and Lenovo devices required more time and steps. In the case of the Lenovo device, we were left waiting for more than 17 hours on a diagnostic tool that never completed, prompting the need to call tech support twice in two days. Faster time to tech support resolution can help ensure employees can get back to their work sooner.

Read the science behind this report at <http://facts.pt/hs9rp86> ►



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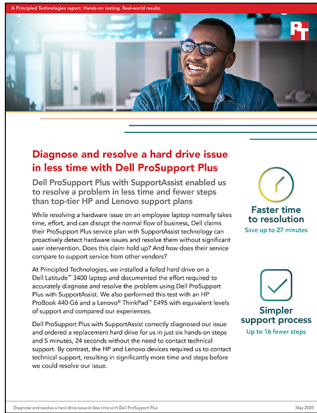
This project was commissioned by Dell Technologies.

**Disclaimer:**

*The content on the following pages includes appendices and methodologies from our hands-on work.*

*We will publish this content as a separate document linked to the report.*

*We must receive your approval on both the report and this document before taking them public simultaneously.*



The science behind the report:

# Diagnose and resolve a hard drive issue in less time with Dell ProSupport Plus

This document describes what we tested, how we tested, and what we found. To learn how these facts translate into real-world benefits, read the report [Diagnose and resolve hard drive issue in less time with Dell ProSupport Plus](#).

We concluded our hands-on testing on April 20, 2020. During testing, we determined the appropriate hardware and software configurations and applied updates as they became available. The results in this report reflect configurations that we finalized on February 10, 2020 or earlier. Unavoidably, these configurations may not represent the latest versions available when this report appears.

# Our results

Table 1: Steps for problem diagnosis

Steps	Dell Latitude 3400	HP ProBook 440 G6	Lenovo ThinkPad E495
	1 Year ProSupport Plus with SupportAssist technology, Next Business Day Onsite with Accidental Damage and Keep Your Hard Drive	HP CarePack with 3 Year Next Business Day Onsite with Accidental Damage Protection Plan-G2 & Defective Media Retention for Notebooks	1 Year Premier Onsite Support with Accidental Damage Protection and Keep your Drive
1	Power on and start timer simultaneously.	Power on and start timer simultaneously.	Power on and start timer simultaneously.
2	SupportAssist Pre-Boot System Performance Check will automatically detect a problem and start a scan. You should receive an error message pertaining to a Failed Hard drive and instructions on how to proceed.	In our case, the system booted to a screen, stating, "Boot device not found. For more information please visit <a href="http://www.hp.com/go/techcenter/startup">www.hp.com/go/techcenter/startup</a> ."	In our experience, the system booted to the Lenovo splash screen, but would not progress. We allowed the system to sit for two minutes before moving to the next step.
3	The Diagnostic result screen will ask you to navigate to <a href="https://supportassist.dell.com">https://supportassist.dell.com</a> either from a separate computer or by scanning a QR code with a smartphone. We chose the QR code option.	On another computer, navigate to <a href="http://www.hp.com/go/techcenter/startup">www.hp.com/go/techcenter/startup</a> , which is the HP Customer Support – Knowledge Base.	On another computer, navigate to the main Lenovo website at <a href="https://www.lenovo.com/us/en/pc">https://www.lenovo.com/us/en/pc</a> .
4	Verify the error code information, and press the Submit button on the smartphone.	Click United States.	Click the Support Gear Icon, which takes you to <a href="https://pcsupport.lenovo.com/us/en/">https://pcsupport.lenovo.com/us/en/</a> .
5	The diagnosis will appear on-screen with the recommended action: "Your replacement part is free under your warranty coverage." Sign into your Dell account.	Click Support.	Scroll down to the bottom of the screen. Under How can we help you?, click Contact Us.
6	Verify shipping information, and press Submit.	Log into your HP account.	Enter the serial number of the system into the search box, and press Enter.
7		Click Contact an HP agent for support.	At the Is this your product? dialog, click Yes.
8		From the Your Products list, select the ProBook 440 G6	Click Call for Premier Support.
9		You will see an option for either Chat or Phone. We chose Phone.	Using a phone, call the Premier phone line at 855-669-3600.
10		Using a phone, call 800-334-5144.	Explain the issue, and read the serial number of the system to the Lenovo technical support person.
11		Explain the issue, and read the serial number of the system to the HP technical support person.	The technician will walk you through a troubleshooting attempt. From this point on, your experience may differ from ours significantly.  Power on the system. At the Lenovo Splash screen, press Enter. Pressing the Enter key at this screen did nothing.
12		The support person will walk you through a troubleshooting attempt. From this point on, your experience may differ from ours significantly.  To run Hardware Diagnostics, press F2.	If the first troubleshooting attempt did not reveal the problem, the support technician may walk you through a second attempt, as was the case with us.  Power the system off, turn it over, and look for the "NOVO" hole on the bottom of the laptop. This laptop does not have a "NOVO" button anywhere on it.

Steps	Dell Latitude 3400	HP ProBook 440 G6	Lenovo ThinkPad E495
13		Select Hard Drive Check.	If the second troubleshooting attempt did not reveal the problem, the support technician may walk you through a third attempt, as was the case with us.  Unplug the system, and hold down the power button for 15 seconds to reset the battery.
14		Select Quick Check Test.	If the third troubleshooting attempt did not reveal the problem, the support technician may walk you through a fourth attempt, as was the case with us.
15		Read Failure ID code to HP tech.	Simultaneously power the system on and press the Enter Key. This launched the Startup Interrupt Menu.
16		In our case, the HP technical support person arranged delivery of a replacement hard drive.	To Diagnose Hardware, press F10.
17		Verify your contact information, and receive a Case Number.	At the Diagnostics screen, select Run All.
18			Select Full Scan.  <b>Note:</b> The Lenovo technical support person warned that it would “take a long time (1 to 1 ½ hours). When it is finished, it will generate a code. Call us back when you have that code, and we will continue with the support ticket.”  In our case, this diagnostic step never completed, even after 17 hours and 39 minutes. We had to call Lenovo technical support back the following morning.
19			The next morning, call the Premier phone line at 855-669-3600.
20			Give the Service Request number to the Lenovo Technical support person.
21			We explained that the system never completed the diagnostics test (and was actually still going). The Lenovo Technical support person correctly assumed it was a hard drive issue and set up an onsite hard drive replacement for the next business day.
22			Verify your contact information, and receive a Case Number.
Total steps	6	17	22
Total time	5 minutes, 24 seconds	20 minutes, 46 seconds	18 hours, 12 minutes, 9 seconds, or 33 minutes, 9 seconds without the diagnostic test



# System configuration information

Table 2: Detailed information on the systems we tested.

System	Dell Latitude 3400	HP ProBook 440 G6	Lenovo ThinkPad E495
Processor			
Vendor	Intel®	Intel	AMD®
Model number	Core™ i5-8265U	Core i5-8265U	Ryzen™ 5 3500U
Core frequency (GHz)	1.6 – 3.9	1.6 – 3.9	2.1 – 3.7
Cache (MB)	6	6	4
Memory			
Amount (GB)	8	8	8
Type	DDR4	DDR4	DDR4
Speed (MHz)	2,400	2,400	2,400
Graphics			
Vendor	Intel	Intel	AMD
Model number	UHD Graphics 620	UHD Graphics 620	Radeon™ Vega Graphics
Storage			
Amount	1TB	1TB	1TB
Type	5,400 spindle	5,400 spindle	5,400 spindle

Read the report at <http://facts.pt/ddv0ne9> ►

This project was commissioned by Dell Technologies.



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