

RESOLVING SERVER PROBLEMS WITH DELL PROSUPPORT PLUS AND SUPPORTASSIST AUTOMATED MONITORING AND RESPONSE

Sometimes, a power fluctuation can damage a memory module, or a hard drive can fail, threatening your data's safety. When these kinds of things happen, how soon can your IT staff solve the problem and return your systems to optimal performance? For an issue with our Dell server, we found that Dell ProSupport™ Plus with SupportAssist™ was proactive and handled our issue quickly to maximize server uptime.

In the Principled Technologies datacenter, we simulated a hard drive failure on a Dell server in three scenarios. In the first scenario, without SupportAssist and under Basic Limited Hardware Warranty coverage, resolving the hard drive problem required an hour and 21 minutes from one of our administrators. It took a mix of phone calls and email to diagnose the problem and reach resolution.

In the second scenario, under ProSupport Plus coverage but without SupportAssist enabled in the environment, our response to the situation was delayed by having to identify the failure ourselves. We then had to call the technical support team to fully diagnose the problem and acquire a replacement, which took 14 minutes.

In our third scenario, with SupportAssist enabled and under ProSupport Plus coverage, SupportAssist quickly identified the problem and created a case for it in just one minute. Then, the Dell technical support team reached out via email to let us know about the failure. On our end, our communication with Dell required only eight minutes of data entry from one of our IT administrators. **ProSupport Plus with SupportAssist reduced the amount of IT administrator involvement by up to 90.1 percent.**

PROACTIVE SUPPORT WITH DELL PROSUPPORT PLUS FOR SERVERS

Dell offers ProSupport Plus with SupportAssist technology for servers as a premium support service. The service allows IT staff to get a jump on hardware issue resolution by having the Dell technical support team contact *them* the first time an issue occurs. With SupportAssist automated monitoring and response, Dell alerts an IT staff member when a server component fails. A friendly, knowledgeable tech support person requests contact information and asks how the IT staff member would like to handle the replacement. That can save time and hassle over monitoring internally, taking time to notice a failed component, and then spending time troubleshooting the problem.

We compared our experience seeking help from Dell with and without SupportAssist technology enabled under ProSupport Plus coverage as well as a scenario with only Basic Limited Hardware Warranty coverage and without SupportAssist. Each scenario began with the simulated hard drive failure and ended when Dell confirmed that we would receive a replacement hard drive. For details on our test system, see [Appendix A](#). For details on our test procedure, see [Appendix B](#).



THE PROBLEM: HARD DRIVE FAILURE

Depending on the size of your business, a hard drive failure can be anything from an inconvenience to a major setback. In any instance, replacing the hard drive and minimizing downtime requires the problem to be identified and resolved quickly. For Dell servers, there are three different paths to resolution after such an incident.

Dell Basic Limited Hardware Warranty without SupportAssist

Without ProSupport Plus or SupportAssist technology under a Basic Limited Hardware Warranty coverage for the server, your IT admin can't start fixing a problem until the admin has noticed and identified the problem. Once aware, the admin may have to reschedule meetings and delay other tasks to make time for the call to Dell. The admin wouldn't know, though, how long the call might take or if there would be a need for additional communication.

Dell ProSupport Plus without SupportAssist enabled

Choosing to operate without SupportAssist automated monitoring and response enabled means your IT admin won't be immediately notified of a server problem such as a hard drive failure. However, after identifying the problem, the admin will have the support of Dell technical support staff and can receive necessary replacement parts quickly.

Dell ProSupport Plus with SupportAssist

With SupportAssist, your IT admin would receive a call or email shortly after the hard drive failure occurred; the admin wouldn't have to notice the problem on their own. SupportAssist technology recognizes when a component fails and immediately opens a case with the Dell technical support team, automatically providing them with the right information. It's like automatically sending out a signal for a superhero to come save the day.

Soon after a device fails, your IT admin would rest easy, knowing a replacement is on its way from Dell. Technical support staff would even know the correct model of the hardware to ship without contacting your admin, thanks to SupportAssist's ability to gather system hardware logs.

WHAT WE FOUND

In the scenario without ProSupport Plus or SupportAssist, one of our admins spent 56 minutes on the phone and 25 minutes on email with Dell to resolve the hard drive failure.

In our scenario without SupportAssist enabled, we found that ProSupport Plus did a good job handling the hard drive failure. Although Dell recommends the use of SupportAssist for automated proactive monitoring and response, in this scenario we opted not to deploy the tool. Instead, when our test team noticed the drive failure, one

of our admins contacted the technical support team and was on the phone for only 14 minutes before resolution—when Dell issued a replacement drive due to arrive for the requested replacement window.

In our final scenario featuring Dell SupportAssist automated monitoring and response, the Dell server promptly notified Dell technical support after the simulated hard drive failure occurred. Dell then emailed us to let us know that the problem was being resolved. With SupportAssist, getting the replacement hard drive did not require us to call Dell. Technical support staff reached out to us when necessary and required only eight minutes of involvement via email from one of our IT admins. **ProSupport Plus with SupportAssist reduced the amount of IT administrator involvement by 90.1 percent compared to Basic Warranty Coverage without SupportAssist. ProSupport Plus with SupportAssist reduced the amount of IT administrator involvement by 42.9 percent compared to ProSupport Plus without SupportAssist enabled.**

Figure 1 breaks down the time to resolve the three scenarios by getting a replacement hard drive after becoming aware of the drive failure.

	Basic Limited Hardware Warranty without SupportAssist	ProSupport Plus without SupportAssist	ProSupport Plus with SupportAssist
Phone: Collecting basic information	0:22	0:08	
Phone: Troubleshooting	0:31	0:02	
Phone: Collecting ordering information	0:03	0:04	
Email	0:25		0:08
Total	1:21	0:14	0:08

Figure 1: Times in hours:minutes to resolve each scenario.

CONCLUSION

Keeping your business moving means having a swift and accurate response when a problem arises. We found that Dell ProSupport Plus with SupportAssist automated monitoring and response was proactive and required little effort from us when dealing with a simulated hard drive failure. Dell technical support contacted *us* to resolve our issues, with knowledge of what happened from the system itself. By enabling SupportAssist automated monitoring and response, Dell also provided a good overall experience by accurately identifying and resolving the issue and shipping necessary replacement parts, reducing active IT administrator time by up to 90.1 percent.

APPENDIX A – SYSTEM CONFIGURATION INFORMATION

Figure 2 details the configurations of our test systems.

	Dell PowerEdge™ R720 (four)
Power supplies	
Total number	2
Vendor and model number	Dell D750E-S1
Wattage of each (W)	750
Cooling fans	
Total number	6
Vendor and model number	San Ace® 60 9GA0612P1K641
Dimensions (h × w) of each	2.5" × 2.5"
Volts	12
Amps	0.95
General	
Number of processor packages	2
Number of cores per processor	8
Number of hardware threads per core	2
System power management policy	Balanced
CPU	
Vendor	Intel®
Name	Xeon®
Model number	E5-2640 v2
Stepping	M1
Socket type	LGA2011
Core frequency (GHz)	2.00
Bus frequency	7.2 GT/s
L1 cache	32 KB + 32 KB (per core)
L2 cache	256 KB (per core)
L3 cache (MB)	20
Platform	
Vendor and model number	Dell PowerEdge R720
BIOS name and version	Dell 2.5.2
BIOS settings	Default
Memory module(s)	
Total RAM in system (GB)	144
Vendor and model number	Hynix HMT41GR7AFR4A-PB
Type	PC3-12800R
Speed (MHz)	1600
Speed running in the system (MHz)	1333
Timing/Latency (tCL-tRCD-tRP-tRASmin)	11-11-11-35
Size (GB)	8 GB
Number of RAM module(s)	8
Chip organization	Double Sided

	Dell PowerEdge™ R720 (four)
Rank	1
Operating system	
Name	VMware® vSphere® 5.5
Build number	2068190
Language	English
Graphics	
Vendor and model number	Matrox® G200e
Graphics memory (MB)	256
Disk controller	
Type	PERC H710P Mini Mono
Firmware version	21.3.1-0004
Cache size (MB)	1,024
Hard drives	
First Disk	
Vendor and model number	Dell ST9300653SS
Number of drives	3
Size (GB)	300 GB
RPM	15k
Type	SAS 6.0
Second Disk	
Vendor and model number	Dell ST91000640SS
Number of drives	13
Size (GB)	1,000
RPM	7,200
Type	SAS 6.0
Ethernet adapters	
First network adapter	
Vendor and model number	Intel 10G Dual Port Ethernet Controller X520/I350
Type	Integrated
Second network adapter	
Vendor and model number	Intel Dual Port Ethernet Controller X520/I350
Type	PCIe®

Figure 2: Detailed configuration information for our servers.

APPENDIX B – HOW WE TESTED

Simulating a hard drive failure

Dell installed the SupportAssist service on the Dell system with ProSupport Plus. Using a tool provided by Dell, we simulated a hard drive failure that produced a hard drive failure alert in Dell SupportAssist. Dell SupportAssist automated monitoring and response gathered information on the issue and sent that information to Dell Support.

The differences in hard drive failure methodology between the Dell system with SupportAssist technology and the system without it do not affect the tech support data, because the cause of the failure is irrelevant to Dell technical support staff, who works only to resolve the issue for the customer. We measured only the time to resolve the issue and not the drive failure simulation.

Running the hard drive failure test

On the Dell system with SupportAssist technology

1. Remove the good disk, and insert the bad disk for testing.
2. Allow SupportAssist to capture the failure details.
3. Wait for Dell Support to contact us via email or phone.
4. Note the date and time, and stop the clock.

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