Reliability, a Lullaby for the Complacent

When to consider extending your IT warranties

"Is continuing to use a computer system, even a reliable system which is out of warranty, worth the risks?"

On a cold dark November morning in 1979, U.S. national security adviser, Zbigniew Brzezinski, was awakened to the news that the North American Aerospace Defense Command (NORAD) was reporting a Soviet missile attack.[1] The Pentagon ordered B-52 bombers throughout North America to start their engines so the planes could take off quickly and avoid destruction by a Russian nuclear attack.

It was a false alarm.

The cause? An unreliable computer system.

[1] Barry Goldwater and Gary Hart, Recent False Alerts from the Nation's Missile Attack Warning System, Report to the Committee on Armed Services, United States Senate (Washington, D.C.: Government Printing Office, 1980

Risk versus reward

Flash forward to 1998 and the classic academic treatise, *Reliable Computer Systems: Design and Evaluation,* observes "both hardware and software have become increasingly more reliable. The processors and operating systems have improved dramatically."[2]

Now, nearly two decades later, computer reliability has reached a new zenith. Here's a recent quote from a lab that runs annual hardware reliability tests, "...instead of listing all the different CPU models that are extremely reliable, we are simply going to say that every CPU made in 2014 is incredibly reliable."[3]

We depend on these reliable computers to drive the most critical systems in the world: robotic surgery, airplane and rocket design, power grids for millions, entire manufacturing lines, managing disaster recoveries, hunting a cure for the latest virus, and so much more.
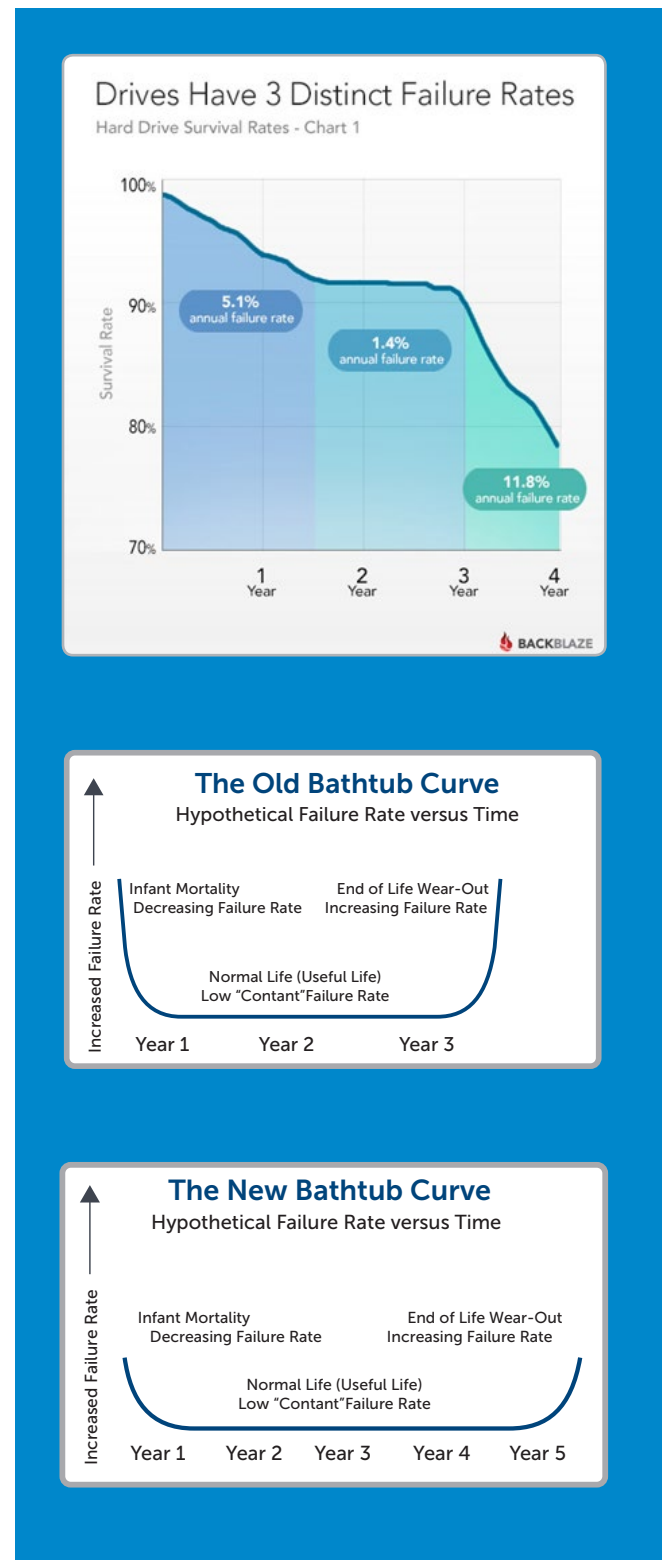
So what's the problem?

The problem is that with IT reliability so high we are lulled into believing there is less likelihood of a major breakdown. That can make us complacent. And that can be a big mistake.

As system components get older, there are still predictable failure rates. For example, cloud backup provider, Backblaze, has recently identified three distinct failure rates for drives over time. For drives that are three to four years old, they found the annual failure rate to be nearly 12%.[4]

The classic "bathtub reliability curve" still exists. It may be longer and flatter, but components will still wear out. Is continuing to use a computer system, even a reliable system which is out of warranty, worth the risks?

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Drives Have 3 Distinct Failure Rates
Hard Drive Survival Rates - Chart 1

5.1% annual failure rate
1.4% annual failure rate
11.8% annual failure rate

The Old Bathtub Curve
Hypothetical Failure Rate versus Time

Infant Mortality Decreasing Failure Rate

End of Life Wear-Out Increasing Failure Rate

Normal Life (Useful Life) Low "Contant" Failure Rate

Year 1   Year 2   Year 3

The New Bathtub Curve
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Normal Life (Useful Life) Low "Contant" Failure Rate

Year 1   Year 2   Year 3   Year 4   Year 5

[2] Reliable Computer Systems: Design and Evaluation by Daniel Siewiorek, Robert Swarz; A K Peters, 3rd Edition, 1998
[3] https://www.pugetsystems.com/labs/articles/Most-Reliable-PC-Hardware-of-2014-616/
[4] https://www.backblaze.com/blog/how-long-do-disk-drives-last/

Consider your automobile

Are there parallels in other sophisticated systems in our lives?

Cars last longer now than they did before the turn of the century. And they are certainly more reliable. Statistics show that we are more likely to keep our car past its manufacturer's warranty period.[5]

But the longer we keep our daily commuter, and with the increase in electronics and technology in today's vehicles, the greater the odds of a major repair. And major repairs, such as replacing a hybrid battery, are likely to be very expensive. Out of warranty costs for a replacement hybrid battery pack can be over $4,000.[6]

While some pundits questioned the value of extended warranties for automobiles in the past, that advice is starting to turn. The cost to repair today's high tech vehicles is rising. Most of us don't want to get stuck with an expensive repair bill down the road.

Best Reviews Hub advises, "These [extended] warranties offer savings on maintenance and repairs if you want to keep your car for a longer time than what it was originally covered for. They offer prolonged car parts protection and come in handy in case of sudden major car trouble."[7]

Consider your IT systems

If you called today for support regarding an IT system with an expired warranty, you could be in for a big surprise costing time and money.

Let's say a system running your business intelligence analytics goes down and won't reboot.

If the system had been covered by a service contract, after your initial triage conversation, your call would have likely gone directly into the support queue.

If your system is out of warranty, the support expert will diagnose the fault to determine the solution then transfer you to a queue for an out-of-warranty repair quote for parts and service. And most likely, you will not be eligible for software support for that system.

"If you called today for support regarding an IT system with an expired warranty, you could be in for a big surprise."

[5] http://www.ctvnews.ca/autos/americans-keeping-old-cars-longer-as-quality-makes-them-more-reliable-1.1399352
[6] http://www.forbes.com/sites/tonybradley/2014/04/09/replacing-a-dead-prius-hybrid-battery-doesnt-have-to-cost-thousands-of-dollars/#2ee327ed79c4
[7] http://www.bestreviewshub.com/extended-auto-warranty/

"Keeping your IT systems covered with extended service contracts helps ensure the availability of critical applications and workloads."

Just to give you a feel for the potential costs, here are some standard price estimates, including parts, labor and shipping: $209 for a solid state drive, $299 for a motherboard, and $269 for an LCD screen. If you need the parts, say in four hours, it could cost an additional $600 to upgrade the shipping.

If your system is still within the warranty grace period, usually 30 days for most manufacturers, you may have the option to *extend* the warranty by speaking to your after-point-of-sale representative. Then you could call back and get into the support queue.

If your system warranty has expired beyond the grace period, you will have to *reinstate* the warranty. To do that, the system has to be certified as healthy. This means you have to get the system back into a healthy state at your expense, and then reinstate the warranty.

You may also be charged a reinstatement fee, and in some countries, the warranty may be backdated to the end of the expiration date of the previous warranty period, depending on the age of the system and warranty length.

If the service doesn't require any physical parts, you'll have the option of paying a fee for technical support without parts. For example, for issues like BIOS password resets, part number queries, etc.

You see, keeping your active IT systems covered with extended service contracts helps ensure the availability of critical applications and workloads – without wasting your valuable IT resources.

RISKS

Allowing the warranty to expire on systems that you are still using increases the risks of:

- Productivity loss during system failure
- Delayed access to support
- Increased costs of repair (parts and labor)

REWARDS

Extending your warranty on systems still in use helps ensure workload availability through:

- Access to timely support, parts and labor
- Reduce repair and replacement costs

We can help with your choices

Our experts can tailor extended service contracts to fit your IT environment and budget.

And while you are considering your warranty extension options, you might also consider other support options. You may want to upgrade to a level of support that provides:

- Single point of contact for all your hardware and software issues

- Proactive, automated tools and innovative technology

- Access to certified hardware and software experts and escalation management

- Onsite parts and labor response options such as next business day, 8-hour, 4-hour or 2-hour response.

Here's the bottom line: If you plan to use critical systems beyond their original warranty period, consider (1) extending the warranties on those systems before they expire and (2) upgrading to a level of support that fits the criticality of those systems and the workloads they drive.

For more information about **extending your Dell warranties** please contact your Dell Representative.