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HOW **INNOVATIVE HOSTING** COULD SAVE YOU FROM A SERIOUS SYSTEM FAILURE

PICTURE **THIS:**

It's finals week and your library is packed with students cramming for exams and researching papers that make up half of their final grade. **Suddenly, your server crashes, leaving them unable to access the resources they need.**

Or it's the first day of your summer reading program. You have a line out the door of eager young readers ready to spend their summer with Harry Potter, Will Wilder and Captain Underpants, when your hard drive crashes, sending your integrated library system (ILS) offline indefinitely.

These scenarios are a library director's worst nightmare. But if you're using on-site hardware and software that's more than five years old to run your ILS, it's not a question of if a nightmare scenario like this will happen, it's a question of when.

Computer hardware and software has a finite life. It's complicated and time-consuming to maintain. And it can fail you in a variety of ways. If you don't have a large IT staff dedicated to keeping all the moving pieces in order—or even if you do—your library could be one overlooked update or broken component away from a system failure that takes days to fix.
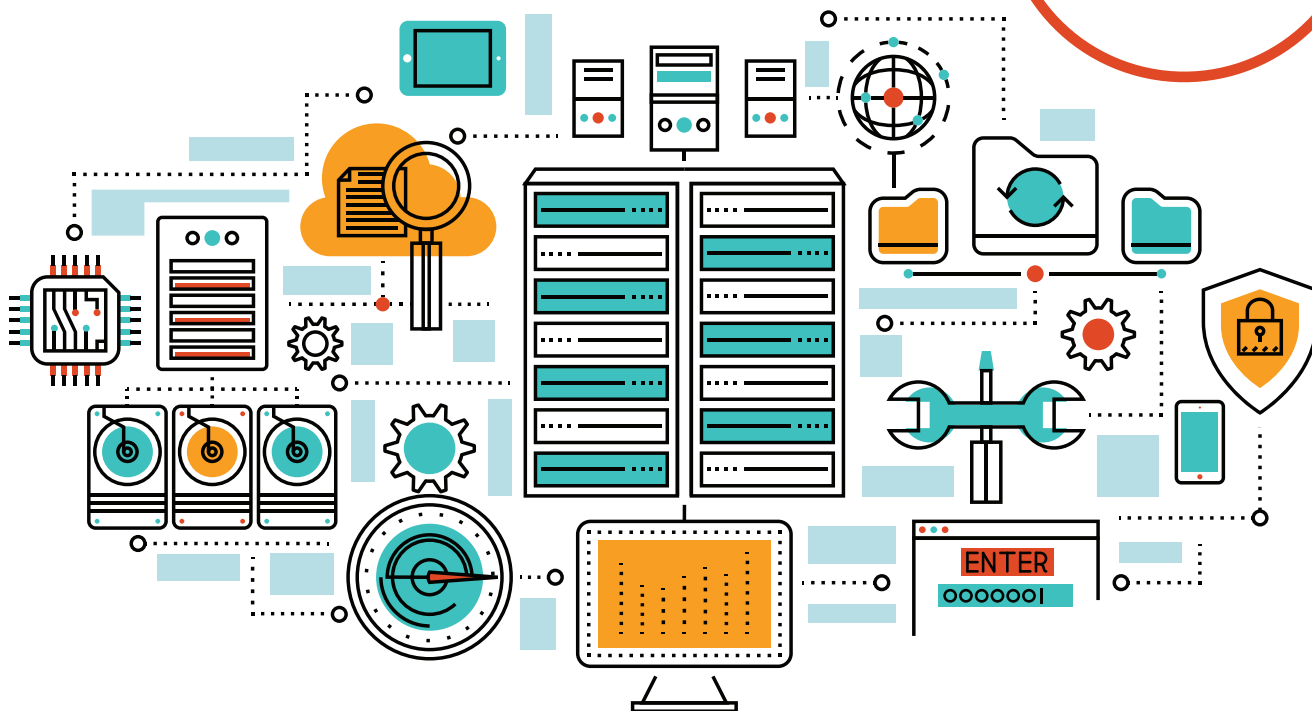
HOW LONG WILL YOUR HARDWARE REALLY LAST?

Server hardware isn't designed to last forever. The average server's lifespan is three years.[1] With proper maintenance, some servers can last for five years or longer.[2] But the older they are, the costlier they are to maintain. Research shows that maintenance costs increase 200 percent for servers after three years.

Even if your server does last longer than three years, you'll notice changes in your server's performance as it ages. Market research firm International Data Corporation (IDC) reports that your server's performance declines by about 14 percent each year.[3] That means, by the time your server is five years old, it's only operating at 40 percent of its original capacity.[3]

As your server ages, there will be **obvious warning signs its performance is struggling**. It might:

- SLOW DOWN
- MAKE NEW NOISES, INCLUDING GRINDING OR LOUD FAN NOISES
- HAVE AN AMBER ALERT LIGHT
- REQUIRE FREQUENT RE-BOOTING DUE TO RANDOM FAILURES
- BOOT UP AND REBOOT SLOWLY
- DISPLAY CORRUPT FILE MESSAGES
- DIVERT TO "READ ONLY" IN THE FILE SYSTEM FOR NO CLEAR REASON

These signs show a hardware failure isn't far off.

4 WAYS HARDWARE CAN FAIL YOU

If you're unprepared for a hardware failure, it can bring your ILS down for days—or even longer. That's why you need to understand the potential ways your server can fail you and plan ahead. Here are a few of the most common ways server hardware fails:

As a car owner, you know that your brakes need replacement every 50,000 miles or so. This applies to disk drives too. Your ILS runs every hour of every day. That means disk drives are spinning nonstop and are bound to wear out eventually. When the online backup company BackBlaze performed a study on disk drive failure rates, they found that **90 percent of disk drives last for three years** and 80 percent of disk drives last four years. But by the sixth year, at least 50 percent of disk drives fail.[4]

1. HARD DISK DRIVES FAIL

2. TAPE DRIVES WEAR OUT

New technology has made tape drives less popular for everyday data storage.[5] But many companies and organizations still rely on tape drives in their server systems. Like disk drives, tape drives are moving pieces of machinery, which means they're vulnerable to wear and tear. Unfortunately, since tape drives are an older technology, finding replacements can be time-consuming or even impossible.

4 WAYS HARDWARE CAN FAIL YOU

Room temperature is critical when maintaining servers. If a server room is too hot, it gradually fries a server's internal circuitry.[6] Eventually, this causes servers to overheat. Ideal server room temperature is between 68 and 71°F.[7] And the server room temperature should never drop below 50°F or rise above 82°F.[7] Servers can also overheat when a server fan breaks down.[8]

3. OVERHEATING

4. ELECTRONIC COMPONENTS FAIL

Even if you keep the server room temperature ideal, electronic components like resistors, transistors, capacitors and the power supply often fail.[8] Unfortunately, when one electronic component malfunctions, you typically have to replace the whole motherboard.[8]

Clearly, maintaining hardware is hard. But software isn't any easier. It requires upgrades, patches, restarts and other types of maintenance daily. And neglecting software leaves you just as vulnerable to a server failure as neglecting hardware. Using an outdated operating system, installing software improperly and failing to install critical patches can all cause serious server problems.

WHY IT'S TIME TO **RETIRE THAT TURNKEY SYSTEM**

So, if you have on-site hardware and software, you have a lot to manage—even if you have a turnkey system.

There was a time when a turnkey system was the simplest way to implement your ILS. You didn't need a large IT staff. The system came with all the hardware and software necessary to get up and running right away. But times have changed, and so has technology.

In the era of cloud computing, turnkeys are unnecessarily complicated. As a library with a turnkey system, you have to provide racking, power supplies and an air-conditioned room to

house the physical server. You have to keep a close eye on the physical server too, watching out for new noises or changes in the alert lights. You're also responsible for backups and software updates. And then, of course, there are issues like unexpected hardware failure and natural disaster damage.

All this adds up to a lot of time and money spent on IT upkeep, when it could be dedicated toward the real business of running a library: collections, patron services and finding new ways to use technology to deliver a revolutionary library experience.

HOW **INNOVATIVE HOSTING** CAN HELP

If turnkey systems aren't the simplest way to run your ILS anymore, what is?

INNOVATIVE HOSTING.

Through our cloud hosting service, we take full responsibility for your ILS software, system and security. That means no more on-site servers to manage. We take care of upgrades, maintenance, patches, restarts, disaster recovery and more, freeing up your IT staff for high-value projects.

The migration is quick and easy. It takes four to six weeks from start to finish, with only a single day of downtime. And we're an Amazon Web Services Advanced Technology Partner. So, once it's up and running, your ILS will be working and available 99.9 percent of the time. Plus, we offer 24/7 customer support in case you have questions or need help.

Basically, Innovative hosting is the easiest and most reliable way to prevent a serious system failure from stressing out your staff and inconveniencing your patrons. If you're ready to make ILS management simpler, safer and more cost-effective for your library, learn about the details of Innovative hosting today.

CONTACT US TO GET STARTED
(510) 655.6200 · info@iii.com
www.iii.com/services/hosting

ENDNOTES

1   https://www.techrepublic.com/blog/data-center/infographic-the-life-cycle-of-a-server/
2   https://www.datacenterknowledge.com/how/why-expected-server-lifetime-eye-beholder
3   https://www.emc.com/collateral/analyst-reports/idc-why-upgrade-server-infrastructure.pdf
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8   https://www.makeuseof.com/tag/computer-dies-learn-parts-fail/

THIS EBOOK IS BASED
ON A PRESENTATION BY
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A librarian by education, Hilary's affinity for libraries runs deep. During her 20-year tenure with Innovative, Hilary has served a wide-range of roles, including trainer, Help Desk manager, product manager, manager of the Circulation Team in Product Development, Director of Implementation Services, and Vice President of Development. She's personally experienced the full lifecycle of the Innovative client experience, giving her extensive knowledge and invaluable perspective. Today, she serves as out Client Support and Success Leader with a focus on Library Success. She holds an MLS from the University of North Texas and won a distinguished alumna award from her alma mater in 2015.

ABOUT INNOVATIVE

Innovative builds and delivers technology solutions that enable libraries to connect people with information all over the world. Innovative offers one of the most comprehensive portfolios of library automation products on the market today, serving academic, public, national, corporate, special libraries, and consortia. Headquartered in Emeryville, California, Innovative has a global presence—serving thousands of libraries in 66 countries and offices worldwide.

To learn how Innovative can help your library meet people with new experience for today's digital world, contact us at sales@iii.com.

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