



IT@Intel Technology Tips

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Intel IT creates and publishes articles for Intel employees to educate them on a variety of information technology subjects. Our goal is to help them improve productivity, take advantage of new IT services and raise awareness on other IT topics of interest. We've modified these articles from their original version for sharing with external audiences.

How to get the most out of your computer's battery

Squeeze the most mileage out of your notebook's battery without harming your computer—or yourself

All hail the lithium-ion battery, that wonderful device that keeps your notebook running when you're away from the docking station, or when someone accidentally knocks your power cord out of the wall. Where would you be without one?

Virtually tied to your desk, for one thing. Much less efficient at your job, for another. So, it's time to give your battery a little bit of respect for all the work it quietly allows you to do.

There are, of course, a number of things to keep in mind about that wonderful stick-shaped block of metal under your keyboard. It's not eternal, and like everything, needs a bit of care. But treat it well, and the two of you will get along for years. Here are some ways to keep your notebook's battery (and yourself) running at peak efficiency:

It's no secret that a battery's charge doesn't last forever—the typical unit, when new, may run for two or three hours (probably less); an "extended life" battery might go for up to eight—meaning you need to be careful with how you use your operating minutes. On top of that, a battery's capacity to hold a charge declines over time, typically dropping to about 80 percent of normal after 12 to 18 months of service (see Figure 1). But you won't even get that kind of mileage if you're always hooked up to a charger. At least once a week, work off battery power for as long as possible (burn off at least 20 percent of the total capacity in any event).

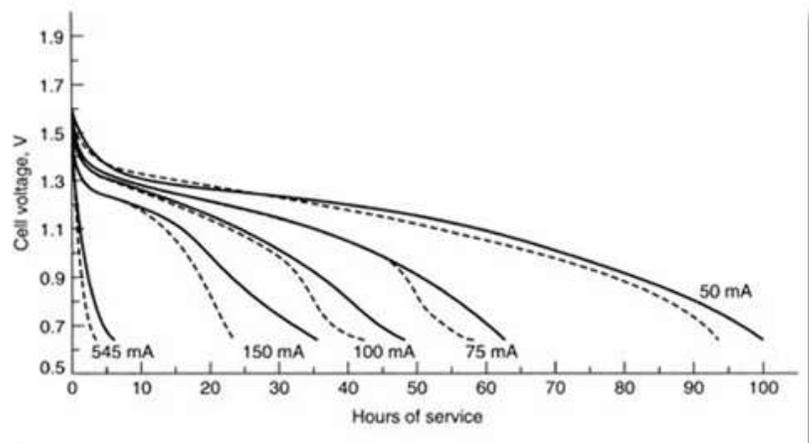


Figure 1: The more often a PC battery is recharged, the less-effective that charge (and the battery) becomes.

Charge me up

If your battery is new, keep it plugged in for at least 12 hours before use. You'll want to cycle the battery (drain it completely, then fully recharge) three times before you can be a little more flexible with its usage. The cycling is also recommended if you have stored the battery for a few months. Keep note of how often you have to charge your battery; if the battery does not have a charge after 12 hours of charging, or if you find yourself recharging the unit several times a day, it should be replaced.

I need my maintenance

Regular upkeep of your notebook will keep it rolling along with minimum strain on its battery. At least once per week, defragment your hard drive, however, don't do this when you're only on battery power. Also, keep the machine clean. Use a can of compressed air to clean the notebook's fans and vents at least once a week, and clean the battery's metal contacts every month or so with a rubbing alcohol-moistened cloth.

Keep me breathing

Consistent airflow is a necessity to keep the notebook from running hot. Avoid merely placing the unit in your lap when you work, or setting it down on a blanket or pillow "for a few minutes" when you tend to something else. Try to keep the notebook elevated and well-ventilated while working, such as with a cooling stand or portable/laptop desk.

Don't cook me or freeze me

Extreme temperatures—too hot or too cold—can have a major impact on how fast your battery drains. When storing the notebook, don't keep it in a hot car interior or in direct sunlight, or leave it in the vehicle during extremely cold weather. If you do the latter, remove the battery and let it warm up to room temperature first (this may take several hours) to avoid internal notebook damage from rapid condensation. The same goes for spare batteries, which can be wrapped in plastic and stored in the refrigerator (drain battery to 50 percent power first) to prolong their lifespan. The preferred temperature for lithium-ion batteries is 60 degrees to 75 degrees Fahrenheit.

Give me less to work on

Turn off any unused applications and avoid several power-eating habits, such as multitasking, unnecessary use of the CD/DVD player and internal speakers, and downloading or installing major applications while living off the battery (this will also speed up your notebook's performance). Also, dim the screen a bit, by 10 percent to 25 percent, to give you a few more minutes of power.

Check my settings

Your notebook's Power Options setting may give you the option of using a pre-selected Maximum Battery Life setting that self-adjusts items such as display lighting, hibernation and sleep modes. If you have the option, select Hibernate instead of Standby. Standby mode saves some power and allows you to instantly resume where you left off, but the hibernate function saves more energy because it stores your PC's current state before completely shutting itself down.

Don't play doctor with me

It should be obvious, but every so often someone feels the need to crack open a battery just to "see what's inside." Don't. Lithium-ion batteries contain safety mechanisms that can ignite or explode if damaged. Also avoid crushing or puncturing the battery, or disposing of the battery in fire or water.

Replace me with one of my peers

When the time comes to finally put a new battery in your notebook, only use the recommended model(s) for your machine.

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