
# Remote Office Internet Goes Down Frequently After Modem Replacement

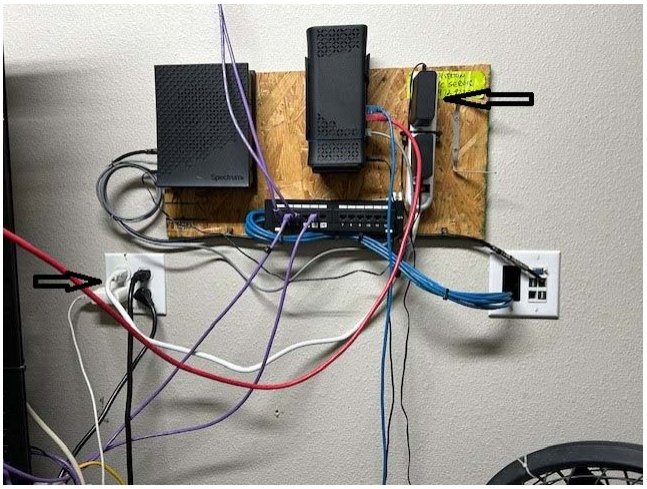
*Zerowait Corporation*
*707 Kirkwood Hwy*
*Wilmington DE 19805*

*Tel: (302) 996-9408*
*Email: engineering@zerowait.com*

**Prepared by:**

Zerowait Engineering
Email: engineering@zerowait.com

**Situation:** During our regular monthly audit of systems, we performed a standard generator test at our remote Texas office. In general, during this test, no systems experience downtime. On this day, however, the internet was off for at least 5 minutes. Upon investigation we learned that when our replacement, new modem had been installed a few weeks before, the provider's technician had put the power from the two new devices into a power strip on the wall, which in turn plugged into a wall socket and not into a UPS. After a complete power off and restart of the modem it takes about 4 minutes for internet signal to resume.



We have two UPS units in the server room. The one in the system cabinet powers the power distribution strips along the side of the cabinet. These accept special NEMA 13 type power cords. The Spectrum modem and its partner unit have regular computer cords with NEMA 15 110v ends. We have other devices with NEMA 15 cords, and thus had an additional UPS (Cyberpower CP550SLG) on the floor to support them.

**Task:** Find out what was causing this and fix it! The plan for early the next morning, before work, was to relocate the power strip lower so it could reach the floor UPS. When it was plugged into the UPS, we immediately discovered that the UPS batteries had failed and the "Surge/Battery" side of the UPS had no working outlets. The "Surge" side was working. Our Room Alert device was plugged into the "Surge" side. There were no other important devices on the UPS.

We have been experiencing frequent power fluctuations at this location in Texas, as documented by our Room Alert system. With this new UPS discovery, we now believe it is possible that our frequent internet service interruptions from the Spectrum circuit had been caused in part by the lack of a properly functioning UPS to keep the modem up long enough for generator power to take over.

**Action:**

- **Replace Failed UPS:** We had a spare CyberPower CP1500AVRLCD3 that we had recently replaced the batteries in.
- **Connect power to the Modem power Strip:** Using the repaired UPS, we reconnected the modem to power and tested the internet connection. We also ensured that all systems in the rack were operational and working optimally.
- **Cleaned up the Server room**: The remote office's server room had quite a few redundant and unused Cat-5 cables and power cords, cluttering the area. These were removed.



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**Result:**

- Research indicates that fluctuating power can degrade older batteries in UPS units and cause them to completely fail much faster than they would otherwise. Further, many posters report that the LED on the front of CP1500AVRLCD3 units may indicate good batteries when they are not.
- Spectrum is a good service provider and responsive. After seeing the non-working UPS it makes sense that they would plug the power strip into the wall. They could have checked with us at the time, and didn't; that would be the only downside to report. The Cyberpower UPS units we have are very good—until they aren't after several years in service. We now know to be more vigilant.
- **Lessons Learned:** We have discussed implementing changes to our Monthly Audit to include monitoring the age of our company-wide UPSs and noting when batteries have been replaced. We may also proactively change out the batteries within a 3-year period rather than waiting for failure for any UPS units on critical systems.

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