9.4.3 Battery Recalibration Facts

Under normal use, it is common for a laptop battery power meter to incorrectly report the amount of charge remaining in the battery. Typically, this means that the power meter reports less available power than actually exists. This becomes a problem because Windows Power Schemes use the power meter to automatically turn off the laptop when the battery level reaches a certain level (such as 5% remaining). When the power meter becomes incorrect, the system may shut down even when there is sufficient battery power remaining.

The way to correct this problem is to calibrate the battery. Calibration synchronizes the power meter to the actual charge capacity of the battery. Many laptops come with a software tool for calibrating the battery, while some include a function in the BIOS. If your laptop does not include a calibration tool, you can calibrate the battery by following these steps:

1. Charge the battery to 100%. Because you might not be able to trust the power meter that shows in Windows, be sure to allow sufficient charging time.
2. In Windows, change the Power Scheme settings so that the system is not shut down automatically when the battery level reaches a low level.
3. Unplug the laptop and run it on battery power only.
4. When the battery level drops below 3%, turn the laptop off.
5. Plug the laptop in and fully charge the battery.
6. Restart the computer and restore your previous Power Scheme settings.

Be aware of the following when working with laptop batteries:

- Some manufacturers recommend calibrating the battery when you first use it and every 3 months thereafter.
- Extreme high or low temperatures shorten the battery life.
- To provide more working time when running on battery power, turn down the display brightness, avoid watching DVDs or playing CDs, turn off wireless networking when not in use, use Power Scheme settings to power off unused devices, and adjust processor power settings (if available).
- If you will not use the battery for longer than 2 weeks (for example, if you are not using the laptop or are running it only on AC power), remove the battery and store it separately.
- Storing a battery longer than 3 months without use might affect its ability to hold a charge.
- Depending on how you use them, most batteries will last between 1-3 years. Under normal conditions, the battery will gradually lose capacity over time. If the battery the battery life is still low after calibration, the only solution is to replace the battery.