

Preventing Delayed Write Failures Causing Data Loss and Out Of Balance Reports

I have been doing exhaustive testing here and have finally reproduced the behavior some of you have experienced and determined this to be the likely cause for the balancing issues that have been reported. The solution is to disable some power saving features in Windows that turn off the network adapter and hard disks after a certain period of inactivity.

In prior testing I have never been able to reproduce the behavior because I have brought the systems online, tested everything, and finding nothing, logged them off. What I missed was that when the whole system has sat idle for a while unused, some Windows power saving features have shut off the LAN adapters and powered down the hard drives. When the system would be woken up by a terminal being used for the first time in a while there would pretty regularly be a "Windows Delayed Write Failure" that prevented data from the local terminal from being written to the server. The balloon notification of this was obscured by the application running in full screen mode blocking its view. Unless you happened to log out of the software immediately after it appeared you would have never seen it.

By doing the following things I was able to stop the behavior.

The solution is three fold.

- 1) On your server machine (where your database is stored), Open the Control Panel -> System Icon -> Hardware Tab -> Device Manager. Look for the "Network" heading and expand the tree. Locate your Wired LAN adapter and highlight it. From the Menu, select "Action" then "Properties." Next, choose the "Power Management" Tab. **Uncheck** the check box that says "Allow the computer to turn off this device to save power." Make sure the other checkboxes are ALSO **unchecked**.
- 2) On your server machine (where your database is stored), Open the Control Panel -> System Icon -> Hardware Tab -> Device Manager. Look for the "Disk Drives" heading and expand the tree. Locate your Hard Disk and highlight it. From the Menu, select "Action" then "Properties." Next, choose the "Policies" Tab. **Uncheck** the check box that says "Enable write caching on the disk." If your system has a RAID configuration or has more than one hard disk drive you must do this on all of them that have this option.
- 3) On your server machine (where your database is stored), individually log into each user account and Open the Control Panel -> **Power Options** Icon. Set the properties for "Turn of hard disks" to **Never** and for "System Standby" to **Never**. This is a Windows registry setting that is unique for each user. Be sure the setting is the same no matter who is logged into the computer! **Note:** If a certain user has limited

account privileges you must first make the account an administrator, set these settings then change it back to a Standard or "Limited" user account.

If you need further assistance with these settings, please e-mail support@sensiblecinema.com or call for a support incident at (615) 799-6366.

May 31, 2010