

Known Problem with the Dell Power Edge

Issue

The Dell Power Edge does not meet the PCI -12V requirements of 100mA per slot. NOTE: This has been noted by Ai-Logix running the Dell Power Edge 2600 model.

Products Affected

Ai-Logix SmartTAP NGX (REV C or earlier) and SmartTAP PT boards running under Microsoft Windows 2000 Server and Windows XP.

Symptoms

Customers report a blue screen when using multiple cards on their system.

Description

SmartTAP NGX boards with two expansion cards draws 165 mA from a -12V power supply. When three (3) or more 24 channel NGX cards are installed in Dell 2600 Power Edge, the -12V drops below acceptable limits (-20%).

The following table illustrates how the voltage on the backplane is affected as the number of NGX boards increases.

TABLE 1: DELL POWER EDGE 2600 AND NGX REV. C OR EARLIER

# of Boards	-12 Volts	+12 Volts	+3.3 Volts	+5 Volts
0	-11.92	11.93	3.28	5.009
1	-11.7	11.92	3.28	5.008
2	-4.7	11.92	3.28	5.010
3	-2.37	11.91	3.279	5.009
4	-2.1	11.89	3.276	5.011
5	-2	11.89	3.2	5.010

When this process is repeated using a Compaq ML 370, the -12V does not drop below acceptable limits. Table 2 shows these results.

TABLE 2: COMPAQ ML 370 AND NGX REV. C OR EARLIER

# of Boards	-12 Volts	+12 Volts	+3.3 Volts	+5 Volts
0	-12.38	12.22	3.334	5.159
1	-12.09	12.22	3.334	5.149
2	-11.87	12.22	3.331	5.149
3	-11.65	12.22	3.330	5.149
4	-11.44	12.22	3.330	5.149
5	-11.22	12.22	3.328	5.148

SmartTAP NGX Rev. D or Later

One option of correcting this problem is by using the SmartTAP NGX Rev. D or later. The following table illustrates how the voltage on the backplane is affected as the number of NGX boards increases.

TABLE 3: DELL POWER EDGE AND NGX (REV. D OR LATER)

# of Boards	-12 Volts	+12 Volts	+3.3 Volts	+5 Volts
0	-11.931	11.950	3.282	5.008
1	-11.930	11.950	3.280	5.007
2	-11.930	11.930	3.278	5.007
3	-11.920	11.930	3.273	5.006
4	-11.920	11.930	3.270	5.006
5	-11.910	11.920	3.266	5.002

Resolution

For configurations where three or more SmartTAP NGX boards are required, Ai-Logix recommends three options:

- using a comparable system such as the Compaq ML370G3
- SmartTAP NGX Rev. D or later
- monitor the number of cards inserted -

TABLE 4: