IBM

Technical Update

IBM @server BladeCenter JS20 Type 8842 NEBS/ETSI environment update

The information in this technical update supplements the information in the *IBM® @server® BladeCenter™ JS20 Type 8842 Installation and User's Guide* and provides additional information about the power-management capability.

The following table provides a summary of the features and specifications of the BladeCenter JS20 Type 8842 in a NEBS/ETSI environment. This includes model-specific information.

Microprocessor:	Size:	Environment (NEBS):

• Two IBM Power PC® microprocessors with 512 KB ECC L2 cache	• Height: 24.5 cm (9.7 inches)
	• Depth: 44.6 cm (17.6 inches)
	• Width: 2.9 cm (1.14 inches)
	• Maximum weight: 5.4 kg (12 lb)
		• Air temperature:
		  – Blade server on: 5° to 40°C (41° to 104°F). Altitude: -60 to 1800 m (-197 to 6000 ft)
		  – Blade server on (short term): -5° to 55°C (23° to 131°F) Altitude: -60 to 1800 m (-197 to 6000 ft)
		  – Blade server on: 5° to 30°C (41° to 86°F). Altitude: 1800 to 4000 m (6000 to 13 000 ft)
		  – Blade server on (short term): -5° to 45°C (23° to 113°F). Altitude: 1800 to 4000 m (6000 to 13 000 ft)
		  – Blade server off: -40° to 70°C (-40° to 158°F)

Memory: • Four DDR PC2700 sockets • Minimum: 1 GB • Maximum: 4 or 8 GB (depends on the blade server model)	**Integrated functions:** • One dual-port Gigabit Ethernet controller • Light path diagnostics • Local service processor • One IDE hard disk drive controller with two channels • RS-485 interface for communication with BladeCenter management module • Serial over LAN	

IDE devices:
• NEBS application does not support internal drives
		• Humidity:
		  – Blade server on: 5% to 80%
		  – Blade server on (short term): 5% to 90% but not to exceed 0.024 kg water/kg of dry air
		  – Blade server off: uncontrolled

	Predictive Failure Analysis® (PFA) alerts: • Microprocessors • Memory	**Note:** "Short term" refers to a period of not more than 96 consecutive hours and a total of not more than 15 days in 1 year. (This refers to a total of 360 hours in any year, but no more than 15 occurrences during that 1-year period.) **Electrical input:** • Input voltage: 12 V dc

Notes:

1. The operating system in the blade server must provide USB support for the blade server to recognize and use the CD drive and an external diskette drive. The BladeCenter T unit uses USB for internal communication with these devices.

2. BladeCenter JS20 models that are designed for the NEBS environment contain a power-management capability that provides the maximum possible operating time for your system. Power management is invoked only when the blade server is installed in a BladeCenter T unit and only under the short term extended thermal conditions that are described in the preceding table as "short term" in the high end of the NEBS extended temperature range, 40° to 55°C (104° to 131°F). Instead of shutting down or failing in short term extended thermal conditions, the JS20 blade server automatically reduces the frequency of the processor to maintain acceptable thermal levels. The processor frequency automatically returns to normal as thermal conditions improve. The BladeCenter management module is notified when power management starts and again when it stops.

The following entries are made in the event log:

- `Frequency throttling process is now active.`
  (This message indicates that power reduction is in effect.)
- `Frequency throttling process is now idling.`
  (This message indicates that power reduction was previously invoked but is no longer in effect.)

Do not restart the blade server when power reduction is in effect.

3. Some applications are sensitive to processor frequency changes. Check with your application vendors to determine if there are any possible impacts to your applications from the effects of the JS20 blade server power-management capability in the short term extended thermal conditions of the NEBS environment.