

tech tips

TECHNICAL INFORMATION AND PRODUCT SOLUTIONS

ONEAC's Response to Nortel Network's Technical Bulletin on the Business Communications Manager Release 3.5

Many Nortel users are accustomed to the commercial-grade protection provided by ONEAC UPSs (and required for Nortel Meridian Systems). Now, Nortel has decided to provide PowerChute shutdown software in their Business Communications Manager (BCM) release 3.5. For those accustomed to choosing the higher level of reliability inherent in ONEAC power conditioned battery back-up solutions, we invite you to consider the broader context:

At the heart of the matter is the ability to maintain communications during extended power outages. Only with non-critical applications involving stand-alone PCs do battery backup systems typically offer 5-7 minutes of runtime and require the shutdown of the system. In more critical applications such as a Business Communications System, battery backup systems normally offer at least 30 minutes of runtime (but more likely, several hours), making the need for a controlled shutdown a much smaller priority. In fact, most PC-driven hardware from Nortel or other OEMs does not allow for the possibility of a controlled shutdown – it simply hasn't been a priority.

ONEAC is not discounting the need for controlled server shutdown; we offer shutdown options as well for all operating systems. However, it is important to measure this single feature against the total value of a quality battery backup unit:

- **Protection** - ONEAC ON Series UPS products are fully power conditioned; featuring a full-time isolation transformer-based technology which ensures protected equipment lasts longer, and run more reliably.
 - The ON Series UPS features let-through performance that is 20 times better than the APC SmartUPS.
 - The ON Series UPS features electrical load isolation, a feature strongly recommended by Nortel*.
- **Longer Runtime** - ON Series UPSs feature more robust heavy-duty chargers to support longer runtimes. With longer runtimes, the possibility of completely draining the batteries is dramatically reduced.
- **Maximum Battery Life** - ON Series UPSs feature the highest quality batteries and we've taken careful steps to assure battery integrity and typical battery life-span of 4-7 years.
 - Controlled Charging - Quick recharge to 60%, but then slowed and controlled to preserve battery life vs. conventional charging systems, linear in nature
 - Temperature Compensation - A temperature-compensated charging system varies charging rates based upon external temperatures
 - Heat Protection - A heat-shielded compartment thermally isolates batteries from the remainder of the UPS.
- **Battery Maintenance** - The ON Series UPS features a true hot-swap, user-replaceable design, so ONEAC batteries can be quickly and easily changed out with no interruption to the BCM.
- **Self-Diagnostics/Advanced Notice** - ONEAC ON Series UPSs give visual & audible alarms alerting users to aging batteries so replacement can be made well before battery life is depleted.
- **Warranty** - ON Series UPSs are backed by a 5-Year Warranty – the best assurance of product quality and performance in the industry.
- **Flexible Mounting Options** - The ON Series Universal-Mount UPS can be rack-mounted in 19" two-post (center) or four-post rack configurations. A 23" rack-mount option is also available.
- **Slim-Line Design Conserves Space** – ON Series Universal-Mount UPSs are only 2U and external batteries are also 2U.

*ON Series output qualifies as a separately derived source per the National Electrical Code (NEC) and Nortel grounding practices. Nortel strongly recommends electrical isolation for a clean ground reference to reduce/eliminate data errors.

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With ONEAC's power conditioning, longer battery life, low battery alarm, hot-swap design, and flexible/space-saving mounting options, it still makes sense to include the ON Series Universal-Mount UPS as part of your Nortel Networks BCM solutions. In the truest sense of the word, a BCM that is supported by ONEAC never has to experience a power loss.

Power consumption of configured systems

The approximate power consumption of a configured system can be calculated by adding the power consumption of the empty unit (BCM Base or Expansion, Table 2) with the power consumption figures of the individual MBMs (Table 4) installed. For the station MBMs, this will give the maximum power consumption of a configured system if the maximum number of sets is connected. Please note that the actual power consumption of any particular system may vary somewhat from the calculated consumption.

Table 1: BCM 3.5 power supply specifications

Power Supply	Rating	Input Voltage	Current	Frequency	BTU	Platforms
Standard PS	300 Watts	Auto-Switching 90/264 VAC	6.0 A/3.0 A	60/50 Hz	88	BCM400, BCM200, Expansion Cabinet
Redundant PS	350 Watt	Auto-Switching 90/264 VAC	7.0 A/3.5 A	60/50 Hz	103	BCM400, Expansion Cabinet

Table 2: BCM 3.5 power consumption and heat dissipation – Empty

System	Maximum	BTU
Base Unit BCM400 Standard PS	136.2 Watts	37
Base Unit BCM400 Redundant PS	163.2 Watts	45
Base Unit BCM200	126 Watts	37
Expansion Unit Standard PS	12.4 Watts	4
Expansion Unit Redundant PS	13.1 Watts	4

Table 3: BCM maximum power consumption and heat dissipation

System	Low	High	High BTU
Main Unit BCM400 Standard	138.5 Watts	356 Watts	104
Main Unit BCM400 Redundant	155.5 Watts	383 Watts	112
Main Unit BCM200	128.5 Watts	241 Watts	71
Expansion Unit	15 Watts	357 Watts	105

Note: Table 3 gives the maximum power consumption when one MBM is installed under the "Low" column and when the maximum number of MBMs is installed in the "High" column. Only valid configurations determined by the BCM configuration tool should be considered. The High power consumption is based on 4 DSM32+s in the BCM400, 2 DSM32+s in the BCM200, and 6 DSM32+s in the Expansion Unit.

Table 4: BCM Media Bay Module power consumption

MBM	Watts	MBM	Watts
BCM-DTM	4	BCM-DSM16+	17.25**
BCM-BRI S/T	3	BCM-DSM32+	34.5**
BCM-GATM4	1.5	BCM-ASM8	35**
BCM-GATM8	1.5	BCM-FEM	4
BCM-4X16 Combo	20**	BCM-DDIM	2.5
BCM-DDIM	2.5		

** Note: For the BCM-4X16 Combo, BCM-DSM16+, BCM-DSM32+, and BCM-ASM8, the actual power consumption depends upon the number of station sets connected to the module. The figures given for these modules represent the power consumption with the maximum number of sets connected respectively.

Table 5: Run time

ONEAC UPS	No. of External Batteries	300 Watts	400 Watts	800 Watts
ON700XAU-SN	0	25 minutes	18 minutes	--
ON700XAU-SN1	1	2 hours, 16 minutes	1 hour, 36 minutes	--
ON700XAU-SN2	2	4 hours, 39 minutes	3 hours, 17 minutes	--
ON700XAU-SN3	3	7 hours, 24 minutes	5 hours, 13 minutes	--
ON1500XAU-SN	0	24 minutes	17 minutes	7 minutes
ON1500XAU-SN1	1	2 hours, 21 minutes	1 hour, 39 minutes	41 minutes
ON1500XAU-SN2	2	4 hours, 53 minutes	3 hours, 26 minutes	1 hour, 26 minutes
ON1500XAU-SN3	3	7 hours, 47 minutes	5 hours, 29 minutes	2 hours, 17 minutes