Best Practice Guide

CCSS
Monitoring your systems

Topic:
Four Things You Should Know About Cache Battery

Summary:
Cache Battery life may be more important than you think. Learn why cache battery matters to your business, the challenge of cache battery management, the consequences of a failed battery, and the value of cache battery monitoring.

Four Things You Should Know About Cache Battery

Why Cache Battery Life Matters to Your Business

During the course of typical processing, before data is written to disk, it is stored in the cache which is supported by specialist batteries. These cache batteries help keep the data viable in the event of unexpected downtime.

When a battery is near the end of its life, the system issues a message to alert the operators to check the battery status and to make an appointment for an IBM engineer to replace it. However, if this message is missed or ignored, the consequences could result in the corruption of critical data, system downtime, or even significant financial loss.

For instance, if the message is issued out of hours or is simply overlooked by a busy operations team, a battery or multiple batteries will fail causing the system to write data directly to disk. This process can degrade system performance, affect users, and potentially cause system failure. Furthermore, the last data collection stored on the cache will be lost.

The Challenge of Cache Battery Management

Managing this problem is difficult and time consuming for most sites running on IBM i servers. The manual process of checking cache battery status presents the challenge of entering the SST (System Service Tools) menu to perform a number of commands. The SST menu is a sensitive area that is, in most cases, only accessible to a few authorized people.

The Consequences of a Failed Cache Battery

"On our system, we had a cache battery go into warning. The operators missed the message and the battery went into "Error State." Once in Error State, the iSeries stopped using the Write Cache, losing important data. The effect of not having Write Cache on a string of disks caused a ten minute batch job to take two and a half hours. This extra run time extended end-of-day processing into the workday, causing the main business application to be unavailable. The cost to the bank was immense."

Operations Analyst, Bank, UK

"Our operators missed an out of hours message meant to inform us that our cache batteries were nearing end of life. As a result, when we ran out of battery life, all the data began writing directly to disk. Had this happened during operating hours we would have noticed the system degradation and the impact on users. But because it was late at night, the system crashed. What's worse is that we lost critical information as the last data collection was stored on cache. It was the worst case scenario and must never happen again."

Systems Administrator, Manufacturing Company, US

The Value of Cache Battery Monitoring

Implementing performance monitoring software on IBM i servers gives operators the unique ability to track battery life with dedicated monitors. With this functionality, they can pro-actively manage battery replacement and, as a result, be a step ahead of costly data loss or downtime.

Preventing Downtime and System Degradation is a primary benefit of performance monitoring. But when it comes to Cache Battery Monitoring, there are several, important advantages for data centers:

- **Graphical Display of All Batteries:** Operators have a fast means of checking the life of each battery network-wide, at any time. This eliminates the laborious checking of each battery of each card on each system.
- **Reduced Security Risks:** Cache battery information is available and clearly visible on a graphical user interface. Operators no longer need to enter SST which in turn eliminates the security risk of manual checks.
- **Increased Efficiency:** Operators can check all batteries and schedule a single engineer visit to replace several low batteries at once rather than wait for the individual expiry messages which would require multiple visits and more time.
- **Instant Notification:** When battery life is low, the software can issue alerts to the IT team in real-time. With messaging software, users can define escalation procedures to notify appropriate staff via email or phone. This functionality greatly reduces the likelihood that an event is overlooked in the data center.

Monitoring Cache Battery Life with QSystem Monitor

CCSS offers Cache Battery Monitoring in the performance monitoring and reporting tool, QSystem Monitor. The QSystem Monitor console offers a view of all cache batteries on a single screen. Battery life is represented by easy to read bars, and a table below lists information needed to monitor battery performance. Details available through QSystem Monitor include Days On, Adjusted Days On, Days to Warn and Days to Error. See the next page for an example view of the Cache Battery monitor.

"As a major off price retailer, we have multiple locations worldwide. We support everything from a central location and have found the CCSS products invaluable to monitor all of our systems. After using QSystem Monitor's Cache Battery Monitoring for the first time, we immediately discovered that two of our remote sites had multiple batteries with less than 20 days of life left. We put in an urgent support call to change the batteries, averting what, no doubt, would have been a couple of serious downtime events."

Project Leader, Discount Retailer, USA

"We've had some very bad experiences with Cache Battery before implementing a monitoring tool. We lost critical data because a battery was changed on the fly, on a running system. At that time, only the one battery was changed. The others were ignored. As a result, we had to put in several calls for battery replacement which made us very uncomfortable. Now, we can be in control, scheduling multiple replacements at once and at a convenient time."

IT Director, Foodservice Retailer, Germany

Cache Battery for All Systems

	582	575	555	178	527	564	575	576	555	575	542	542	732
	SYS01	SYS02	SYS03	SYS04	SYS05	SYS06	SYS07	SYS08	SYS09	SYS10	SYS11	SYS12	SYS13

Cache Battery

Cache Battery

System	Resource	Serial	Card Type	Position	Days On	Adj Days On	Days to Warn	Days to Error
SYS01	DC01	1C-6310043	2780-001	3C96-C02	328	353	547	632
SYS01	DC04	0C-6173117	2780-001	3C9C-C02	369	401	498	582
SYS02	DC01	1C-6307094	2780-001	3C90-C02	307	359	497	575
SYS02	DC04	1C-6307107	2780-001	3C94-C02	305	357	498	576
SYS02	DC05	1C-6316066	2780-001	3C92-C02	304	337	547	629
SYS02	DC06	0C-6237045	2780-001	3C18-C02	305	357	499	577
SYS03	DC01	1C-6313128	2780-001	3C17-C02	326	358	532	615
SYS03	DC04	1C-6310150	2780-001	3CA1-C02	326	382	477	555
SYS03	DC05	1C-6316131	2780-001	3C8E-C02	326	382	477	555
SYS04	DC01	0A-52490CF	5709-001	3C00-C8	703	846	130	199
SYS04	DC03	2A-5260080	2780-001	3C02-C02	703	824	100	178
SYS04	DC04	2A-5259129	2780-001	3C03-C02	702	823	101	178
SYS04	DC05	2A-5257064	2780-001	3C01-C02	703	824	100	178
SYS05	DC01	1C-6313208	2780-001	3C9E-C02	352	414	450	527
SYS05	DC26	0C-6277068	2780-001	3C95-C02	352	384	511	595
SYS06	DC01	1C-6314104	2780-001	3C8C-C02	318	370	490	568
SYS06	DC04	0C-6277070	2780-001	3C98-C02	318	349	539	622
SYS06	DC05	1C-6243019	2780-001	3C99-C02	319	373	486	564
SYS07	DC01	1C-6310257	2780-001	3C8D-C02	339	383	495	575
SYS07	DC04	1C-6308020	2780-001	3C8F-C02	341	375	516	599
SYS08	DC01	0C-6277196	2780-001	3C8B-C02	304	357	499	576
SYS08	DC04	1C-6313160	2780-001	3C9F-C02	304	356	500	577
SYS09	DC01	1C-6307108	2780-001	3C07-C02	327	360	529	611
SYS09	DC04	1C-6314127	2780-001	3C93-C02	325	360	523	605
SYS09	DC05	0C-6237076	2780-001	3C9A-C02	325	381	478	555
SYS10	DC01	1C-6310247	2780-001	3C9D-C02	307	359	497	575
SYS10	DC04	0C-6277025	2780-001	3C8A-C02	304	356	500	577
SYS11	DC01	1C-6313165	2780-001	3C97-C02	339	396	466	544
SYS11	DC04	0C-6277306	2780-001	3C9B-C02	339	397	464	542
SYS12	DC01	1C-6310040	2780-001	3C91-C02	341	397	469	548
SYS12	DC04	0C-6262209	2780-001	3CA0-C02	339	397	465	542
SYS13	DC01	02-630400A	573D-001	3C00-C9	354	354	648	732

PTF Status updated for system: SYS06   NUM   1/17/2008 2:19:09 PM

The QSystem Monitor console offers a visual representation of all cache batteries. Details available on the console include Days On, Adjusted Days On, Days to Warn, and Days to Error.

www.ccssltd.com