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From: Al Hood – Sr Database Engineer - Lead
Subject: Responsive System Buffer Pool Tool & Optimizer vs IBM Bufferpool Analyzer Bench
Mark testing results

Installation and Maintenance:

Responsive Systems BPT & BFO -

The Responsive Systems bufferpool tool and optimizer is a quick and easy 20 minute installation. This involves uploading binary load, dbrm and control libraries to the mainframe and unterring those files. Then applying product authorization keys, then using the supplied jcl members and control cards to create the BPT DB2 database and binding the DB2 BPT & BFO plan, granting authorization and you're done. Applying maintenance to Responsive Systems BPT & BFO only requires downloading the maintenance files from Responsive Systems website then uploading and replacing the existing load library, then re-applying the product authorization keys. Again this can be achieved in 20 minutes or less.

IBM BPA -

The IBM bufferpool analyzer requires a SMPE installation and requires that DB2PE and the DB2PM warehouse database objects (53) be installed on the mainframe as well as DB2PE & DB2PM client and agent software on your desktop and this process took 4 to 6 hours. Applying maintenance requires ordering the PTF's from the IBM link, once the order is available, downloading to your desktop then uploading, unterring and performing the SMPE (receive, apply & accept) process. The process depends on when the PTF order becomes available, but once available the maintenance process can be achieved in 30 minutes or less.

Batch Collection of Bufferpool Statistics:

The ITS DBA's found that when attempting to collection bufferpool statistics over a eight hour batch cycle window on Wednesday 01/17/07 (18:00 – 03:00), there where no problems with Responsive Systems BPT, but experienced abends with IBM's BPA. BPA abended with FPEM0832W getmain failures of the 4096 KB for READA buffers. Because of this a shorter time frame of 3 hours was used for collection.

Using IBM's BPA, ITS DBA were unable to collect the data needed to analyze a eight hour batch cycle. This is vital for tuning DB2 bufferpools for a nightly batch cycle. Only after continuously adjusting the job memory up to REGION=0M where the DBA's successful in gather 8 hours of data. Because IBM's BPA extracts large amounts of performance trace records the collection had to be placed on VTAPE, which made the collected data unavailable for downloading to the desktop for statistical, simulation and object placement analysis. IBM's BPA requires that the collected trace file be downloaded. Because of this limitation only three hours of collected data which required 2 3390-9 Dasd volumes was used and the download to the desktop took 30 minutes.

Batch Reporting of Bufferpool Statistics:

The ITS DBA's were surprised and shocked at the amount of CPU consumed by IBM's BPA vs Responsive Systems BPT, and in the additional elapsed time to execute the IBM's BPA reports vs Responsive Systems BPT reports. For the same time period of data reporting, IBM's BPA took 28.42 minutes of CPU and ran for 38.7 minutes. Responsive system BPT took 28 seconds of CPU and ran for 2.5 minutes. Thus Responsive system results in CPU \$ cost savings.

- A.** Responsive system BPT can produce batch simulation, object placement and consolidation Reports and produce the DB2 ALTER statements without requiring a download to the desktop. IBM's BPA can not produce mainframe batch simulation, object placement or consolidation reports. IBM's BPA can produce the simulation and object placement reports only after downloading the mainframe collected data to a desktop .BPD or .TRACE file. The ALTER statements must be uploaded to the mainframe for use.
- B.** IBM BPA does not produce bufferpool percentages for read/write activity.
- C.** IBM BPA does not produce average page residency times.
- D.** IBM BPA does not produce percentages for read/write I/O.
- E.** IBM BPA does not produce counts of page reads/writes per second.
- F.** IBM BPA does not produce counts of page read/write I/O per second.
- G.** IBM BPA does not produce RID list counts or percentages for each individual buffer pool.
- H.** Responsive systems reports are grouped in a more logical and understandable order.