02/13/07 - BDAM vs VSAM

BDAM datasets with fixed length blocks can be mapped into VSAM with fixed length records providing excellent results. Each fixed length block in BDAM becomes a logical record in VSAM. Any dummy BDAM blocks become empty record slots (if VSAM RRDS is used) and the KEY and DATA portion of the BDAM block can be combined into a single record entry in an ESDS or RRDS.

Because keyed BDAM has unblocked format and VSAM has a blocked format there is potentially much better space utilization in VSAM. As a result the number of cylinders and consequently the average seek time is generally less for an ESDS or RRDS than for BDAM.

A read by key in BDAM causes the channel and device to be busy until the block is found, resulting in high channel and device times when searching by KEY. In VSAM RRDS retrieval the channel and device are busy only for the duration of the data transfer. During an extended search for a record in VSAM, sequential processing can be used to read several Control Intervals (CIs) worth of records with a single I/O (EXCP).

Direct retrieval of a VSAM reecord is significantly better than BDAM retrieval in total elapse time per record, but uses slightly more processor cycles.

In general all operations using VSAM are better than BDAM in elapsed time. Again, VSAM operations tend to use more processor cycles than BDAM whereas BDAM uses more channel time than VSAM.

NOTE: The formatting of an RRDS is a small fraction of the time required to format a BDAM dataset with dummy records. The initial random loading of a BDAM, ESDS or RRDS data set are nearly equivalent. AND it is assumed that random loading will not occur frequently. Backup and recovery is done sequentially which should be faster with VSAM.