Allocation Control Center (ACC) & SMS Storage Groups — Pooling Enhancements

Sub Pooling, Alternate Pools, and Alternate Volume Selection Algorithms

DFSMS/MVS offers good, basic data set placement. Using the ACS language, you create routines, typically based on data set name, and ultimately assign an SMS Storage Group. The Storage Group can contain one or many individual volumes, and you can designate volumes for use if the volumes in the primary group are full or ineligible for allocation. Some of the ways to make this task easier are included here.

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SMS uses device performance criteria provided in the Storage Class, to determine which volumes in the storage group to consider for an allocation. SMS uses the MVS System Resource Manager (SRM) to decide the order of the list — from best choice to least favorite choice. SRM makes decisions based on a complex formula, but considerable weight is given to the channel path utilization at that moment. No consideration is given to the amount or distribution of free space on a volume. With Allocation Control Center (ACC) you can enhance the data set placement decision making using several techniques.

One of the techniques many of our customers like is to redefine several SMS storage groups into a single SMS storage group. They then use ACC to divide this one large SMS storage group into three ACC sub pools - equivalent to the original three storage groups. You can then dynamically move volumes among the three ACC pools with a simple operator REFRESH command. Also, the same volume can belong to more than one of the ACC pools.

A technique our customers benefit from is the use of alternate volume selection algorithms. Using ACC, you can tell MVS to select the volume within the assigned storage group (or ACC pool) based on the amount of free space on each volume. You can also use algorithms based on picking the least fragmented pack or the volume where the request will fit best. A popular use of the performance based algorithm is selecting volumes for large temporary files — you can ask that the volume delivering the actual best response time over some time frame (e.g., the last 2 minutes) is chosen. MVS picks volumes based on the response time documented for the volume type, regardless of the actual performance delivered recently.

Our customers also like ACC's flexibility in defining alternate pools. You can chain volumes one at a time or in groups indefinitely. The only rule is that you don't chain two pools so that each is pointing directly to the other. However, you can redefine one of the pools with an alternate pool name different than the primary pool and accomplish the desired chaining. Remember, the same volume can be defined in multiple pools.

ACC

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