INTERCHIP

RTD XFR

Introduction

RTD/XFR INTRODUCTION

RTD/XFR Highlights

RTD/XFR can be described briefly as follows:

° **An easily installed and administered package which provides 24 hour x 7 day installation-controlled optimisation of z/OS DASD volumes.**

In the case of DASD on FlashCopy Version 2 and Virtual Array Fast Replication devices, this can be extended to:

° **An easily installed and administered package which provides 24 hour x 7 day installation-controlled optimisation of z/OS DASD volumes and optimal use of the DASD subsystem fast replication capabilities.**

The following expands these brief descriptions a little, and introduces the chief features of RTD/XFR.

DASD Volume Optimisation Functions.

RTD/XFR optimises DASD volumes through three functions which optimise DASD free space. Two of these functions are dataset-oriented, and the third is volume-oriented.

° The RTD/XFR **RELEASE** function is a dataset-oriented function, which can release some or all of any unused space at the end of each dataset it processes. Since RTD/XP Version 6.2.0, PDS datasets may be compressed before the RELEASE function is executed.

° The RTD/XFR **COMBINE** function is another dataset-oriented function, which, by relocating the extents of each multi-extent dataset it processes, can consolidate the various extents into one contiguous extent, or optionally into a maximum of three extents.

° The RTD/XFR **DEFRAG** function is a volume-oriented function, which, by strategically relocating dataset extents on each volume it processes, can consolidate the various free space extents into larger contiguous free extents. Since any de-fragmentation exercise is always a trade-off between cost and benefit, the RTD/XFR DEFRAG function uses sophisticated optimising algorithms to bring as much de-fragmentation as possible, with the minimum of effort.

FRO FlashCopy® and Preserve Mirror Optimisation Functions.

RTD/XFR provides optimal use of advanced storage devices such as IBM TotalStorage® devices by using FlashCopy V2 functions for data movement. This causes the actual data movement to be performed in the background on the controller, thus reducing the time that datasets are enqueued and greatly reducing channel, CPU and main storage usage in comparison to data movement with EXCP.

RTD/XFR supports the use of IBM Preserve Mirror (Remote Pair FlashCopy) capabilities to optimize data movement operations in a PPRC/FlashCopy mirroring environment.

FlashCopy and Preserve Mirror Support are both separately licensable features, not included in the standard RTD/XFR configuration.

Continual Execution, with Frequent Automatic Action.

RTD/XFR runs as a never-ending, generally dormant task, which wakes up at specified intervals to perform RTD/XFR functions against specified volumes. This means that no operator or space manager actions are necessary to perform volume maintenance functions once RTD/XFR is up and running. RTD/XFR will recognise new volumes matching its selection parameters, or determine that old volumes no longer exist. Well set up using the control facilities described later, RTD/XFR is almost invisible to operations, systems programmers and space managers alike.

RTD/XFR Advantages

Typical "Defrag" Advantages

RTD/XFR benefits include those which are typical of "defrag" products:

° <u>Minimisation of the potential, when allocating or extending datasets, for allocation failures</u> which can arise from volume space fragmentation - not enough contiguous free space to satisfy requests.

° <u>Minimisation of the potential, when extending datasets, for B37 abends</u> which can arise from exceeding the maximum number of extents allowed for a dataset, or of forcing new extents onto additional volumes.

° <u>Support for a simulation mode, as well as active processing mode.</u> In simulation mode, RTD/XFR simply reports on the situation, what it would do to improve it, and how much the improvement would be - but with no real action.

Is "Defrag" Necessary in the Modern z/OS World?

Although it has often been argued that suitable strategies with SMS (system managed storage) or use of virtual arrays to allow large numbers of partly filled volumes ("overloading" the actual array storage) eliminate the necessity for "defrag" and similar volume maintenance, actual experience shows that this is far from the truth:

° According to world-wide studies, many production datasets are still not SMS managed.

° The more volumes, the more administrative overhead for backup and problem fixing.

° Overloaded virtual arrays can actually run out storage or cause licensing of more physical storage capacity unless careful control of storage usage is exercised.

° X37 abends due to maximum extents reached (even now, the most commonly used non-VSAM datasets are limited to 16 extents) and lack of contiguous extents on volumes are by far the most common causes of disruption to production and user jobs.

How RTD/XFR Extends the Space Manager's Options

As well as providing these benefits, RTD/XFR has unique advantages over related products (such as DFSMSdss with its RELEASE and DEFRAG facilities). RTD/XFR unique advantages include:

° non-disruptive processing,

° frequent and automatic action,

° partial dataset space release,

° dataset space release for VSAM datasets,

° direct combine function for dataset extents, and

° superior controllability