

Release A CDR RID Report

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Document Data Server

RID ID	CDR 43
Review	SDPS/CSMS
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Priority	2

Section

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Figure Table

Category Name Data Server (DSS) Design

Actionee ECS

Sub Category

Subject Garbage Collection in Resource Allocation

Description of Problem or Suggestion:

Resource Managers such as those in the data server are susceptible to being confused and misled by applications dealing with them, leading to the accumulation of garbage, inefficient resource usage, and eventual paralysis.

Originator's Recommendation

Add synchronization, integrity checkers and/or garbage collector utilities to the Data Servers resource manager to clean orphan files, correct resource manager "knowledge" about free resources, etc., invoked manually and/or on a timed basis.

GSFC Response by:

GSFC Response Date

HAIS Response by: Glen Cordrey

HAIS Schedule 9/6/95

HAIS R. E. Glen Cordrey

HAIS Response Date 10/25/95

We plan to address the cause of possible "garbage collection" problems, rather than the symptoms, by ensuring that the software is correctly designed and tested. Numerous aspects of thorough unit, integration, and system testing will identify deficiencies in this area, which will result in discrepancy reports being generated and code corrections made. For example, commercial memory leak detectors (e.g., Purify) will be used to identify memory which is not properly deallocated. Integration and system tests which compare directory contents before and after extended tests will identify instances where files are not being properly deleted.

In most cases the software will be able to clean up as it goes along - for example, by freeing up resources when the request for which the resources were allocated completes. In cases such as catastrophic system failure (e.g., power outage) where the software can not clean up as it goes along, cleanup will occur automatically because on (re)starting the software will identify and release any "garbage" resources still allocated from before the failure.

Status **Closed**

Date Closed **10/27/95**

Sponsor **Kobler**

***** Attachment if any *****