

TO: Operations
 FROM: Steve Webber
 DATE: 10/05/73
 SUBJECT: Reconfiguration of the Bulk Store

This document is meant to be a reference guide for dynamically and statically reconfiguring the Bulk Store. Refer to MOSN-4.6.6 and MOSN-6.6 for more information about actual Bulk Store switches as well as an overall outlook on reconfiguration in general.

BOS configuration cards

The BOS configuration deck has several configuration cards which have a direct bearing on the working of the Bulk Store. The cards of interest are:

PAGE

PART PAGE

PART PMAP

The PAGE card is used to specify which regions of the Bulk Store are configured to the system. In particular it specifies the total allowable size of the Bulk Store as well as certain regions of the Bulk Store which are not to be used immediately at bootload time. The format of the PAGE card is:

PAGE BULK first count first1 next1 ... firstn nextn

where

first is the Bulk Store record number of the first record of the Bulk Store that is configured (or even will be

configured) to the current system.

count is the total number of Bulk Store records that can ever be used with the current system.

frecc is the first record of a region of the Bulk Store which should be deconfigured at bootload time and hence not used until explicitly added with an "addpag" request.

nrecq is the number of Bulk Store records in the region to be deconfigured at bootload time. Note that there can be up to six pairs of "frecc-nrecq" numbers giving up to six regions which can be omitted from the initial set of Bulk Store pages being used.

The normal PAGE card will be either:

PAGE BULK J 4000

or

PAGE BULK J 4000 3400 400

The first card above specifies that the entire Bulk Store should be used as soon as the system is bootloaded. The second card specifies that the system should have the capability of running the entire Bulk Store but that initially the last 400 (octal) records (256 decimal) will not be used. This would be the case if the development machine were using these records at the time of the service bootload.

The PART PAGE card is used to test the paging device for errors.

It should be written:

PART PAGE J 4000 0 0 J 0 0 0 0 0

or

PART PAGE 0 3400 0 0 0 0 0 0 0

depending on the actual amount of Bulk Store that is being used. (If you try to TEST a region of the Bulk Store that is being used by development you will get errors because of the hardware protect features.)

The PART PMAP card is used to clear the paging device when the data on it is no longer needed. In particular it is only necessary to clear the "map" region of the paging device which indicates how each record on the paging device is being used. If it is desired to "clear" the paging device (which should happen only after a salvager has just run) the following BOS command should be given:

TEST PART PMAP WRITE

Note that this only zeros the map area of the paging device.

Dynamically Reconfiguring the Bulk Store

To dynamically add or delete pages from the paging device the "addpag" and "delpag" commands are used. These commands add and delete exactly those records specified as arguments to the command. In particular, typing merely:

addpag

with no arguments is an error. The format of the addpag and delpag commands is:

addpag first count

and

delpag first count

where "first" is the record number of the first Bulk Store record of a region to be added or deleted and "count" is the number of records in the region. Both first and count should be octal numbers (see the table at the end of this document for octal addresses of some of the more commonly referenced regions of the Bulk Store).

Notes

There are certain restrictions which the operator must be aware of when trying to reconfigure the Bulk Store. These are:

- 1) The paging device "map" always exists in the first few records of the paging device partition being used by the system. The map itself can not be deleted. If there are errors trying to write the map out no reconfiguration will solve the problem.
- 2) Recent changes in the Bulk Store reconfiguration code have been made to ease operations in configuring the Bulk Store. In particular, it is now possible to request records to be added which are already there. This is not reported as an error. Similarly, it is possible to delete records which have already been deleted or are not part of the current configuration (but are part of the allowable configuration). This is particularly convenient when trying to delete a CSM which has had a few records deleted automatically by the

software.

As a special case of the above, since the software no longer accepts delete requests for pages not configured or not part of the current pool; the low order CSM can be addressed as starting at 0. This is convenient when deleting the entire Bulk Store. (The low order CSM cannot be reconfigured physically unless the entire Bulk Store is reconfigured, because it contains the mac).

Examples

The following examples illustrate some of the more common requests which might be performed:

Example 1: A given CSM (Bulk Store core storage module) goes down. If this happens it is probably best to deconfigure the entire CSM (256 decimal records). If the second CSM goes down and is to be deconfigured the following request could be used:

```
delpag 400 400
```

Example 2: The entire Bulk Store is to be deleted for T&D work. If the entire Bulk Store is being used the following command will deconfigure it:

```
delpag 0 4000
```

Useful Bulk Store Addresses

The following table gives octal addresses of certain regions of the Bulk Store:

REGION	FIRST RECORD	LAST RECORD	SIZE
lap	0	10	11
DSM 1	0	377	400
DSM 2	400	777	400
DSM 3	1000	1377	400
DSM 4	1400	1777	400
DSM 5	1800	2377	400
DSM 6	2400	2777	400
DSM 7	3000	3377	400
DSM 8	3400	3777	400
Normal Development	3400	3777	400