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Identification

The Broadcaster
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Introduction

The broadcaster is an i/o system outer module attached with the type ioname. It is used to "broadcast" write calls on one or more ionames. With the broadcaster, it is possible to obtain multiple copies of output on a variety of devices.

Attachment

The broadcaster maintains a list of all of the broadcast attachments in a structure array with the following declaration:

```
dc1
  1 structure based(p),
  2 number_attachments fixed bin,
  2 attachments(100),
  3 lock fixed bin,
  3 (ioname1, ioname2) char(32);
```

On the first broadcast attachment in a process, the structure is allocated in system storage and a pointer to it is kept in internal static. On each attachment, number_attachments is incremented by one, (from an initial value of zero), and ioname1 and ioname2 are set from the corresponding parameters from the attach call. (See MSPM BF.1.01). In this way, the structure contains a list of all broadcast attachments in a process. The 100th entry is used as scratch, so there is a limit of 99 broadcast attachments per process. Attachments exceeding this limit are rejected.

Detachment

When a detach call is directed to the broadcaster, the structure is searched for the ioname1, ioname2 pair. If there is no pair in the structure, the detach call is rejected. If the pair is found, number_attachments is decremented by one and the remaining attachments are reordered to occupy consecutive locations in the structure. If the broadcast pair is the only pair with ioname1, then the attach table entry for ioname1 is deleted on return through the switch by setting bit 52 of the status. (See MSPM BF.2.04)

Write

When a write call is directed to the broadcaster, the structure is searched for all pairs with ioname1. On each pair, the lock is checked for zero. If the lock is zero, the broadcaster

forwards the write call on ioname2 of the pair. Before forwarding the call the lock is set to one, and after returning, the lock is set back to zero. This is done to prevent loops during broadcasting. If the lock is non-zero on entry, the write call is rejected. Note that the rejection is done only after all zero lock broadcast pairs have been called. The status returned is either good, or is the most recent bad status recieved from the write calls made.