

New low-level disk file actions:

## 1. Exchange contents of two files:

- IPI: ECS Incarn {
  - IP2: ECS Incarn }
- requires "exchange" option bit

Both files must be open only to requesting process.  
 An ECS system crash during this action may cause  
 file IP2 to be empty; file IPI is guaranteed to  
 contain either its old contents or the contents of IP2.

The disk address, unique name, and funding account  
 of both files remain the same. The shape, ECS  
 Incarnation, fixed disk images, etc are all exchanged.

Restriction: probably won't accept one-level files.

## 2. Fix current content of file:

IPI: ECS Incarnation

This action causes all blocks which have been  
 modified and are not attached by any process to  
 appear in the fixed disk image of the file (i.e.  
 survive ECS system restarts). Blocks which are  
 attached may or may not appear in the fixed image.