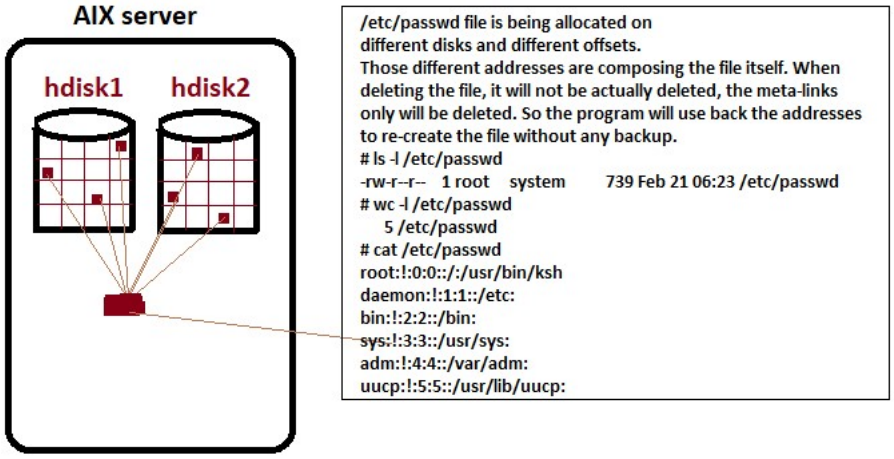
Enhancing IBM AIX to restore data using disks metadata

The package contains two executable commands

a. Location address collection:
   metacollect ---> Collects all files metadata/location
   Addresses, i-node info for a given VG,
   Beneficial for restoring missing files
   Based on addresses.

b. Recovering the data without a backup:
   recover ---> Recovers deleted file(s) using the map
   File collected by metacollect program in
   Case no backups are available in place.



The idea talks about a deleted data and/or missing files(s), and Restoring them without backups – just using their old physical Addresses on the disk blocks.

Sometimes, the filesystems on the disks are not available and may be Corrupted for some reasons – in which we cannot mount the data back, However – if we just focused on the disks metadata location addresses, We can get the data/file(s) back without depending on the filesystem, Or any backups in place.

This tool can either be individually run against certain file Inside IBM AIX system, or can be grouped automatically for several Files restoration process.

Location addresses of certain files can be collected individually to return 3 different outputs based on file blocks allocation

- **First: Files allocated in only one block in one disk.**
- **Second: Files allocated into contiguous blocks in one disk.**
- **Third: Files allocated into different blocks ranges in Different disks.**

The file types also can vary; either normal text files or binary files.

In case the file falls into one of the three mentioned above files Allocated scenarios above, However the second and third file types Will have extra steps – because every exact block or contiguous blocks In exact disk will be treated as a part of the file.
In other word - If a file has 4 blocks in 2 disks, then a recovery Process will take place in two steps to process the restore:

- **Part_1: Will dump the 2 blocks of the first disk.**
- **Part_2: Will dump the 2 blocks of the second disk.**

Then those two dumps outputs will be compiled together to shape the exact file and we finally get the file.

Moreover, an automation process can be applied by collecting all files Metadata.
I.e. All files location addresses from all disk blocks redirecting this output into a new .MF manifest file.

Then using this manifest file with my recovery tool – which uses the Disk dumping to copy the contents of the blocks to recover the files.

The recovery tool is only used to ease the process (To handle those different files scenario as mentioned earlier).
However, a manual process is always existing with no issues.
Since surely this can be done (by a schedule or a cron job) with no impact to the system or affecting system performance.
The aim is to ease/speed the recovery of the data loss.

Note, a customized mksysb command has been also modified (for my own testing) to integrate the recovery tool and the purpose of data consistency.

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